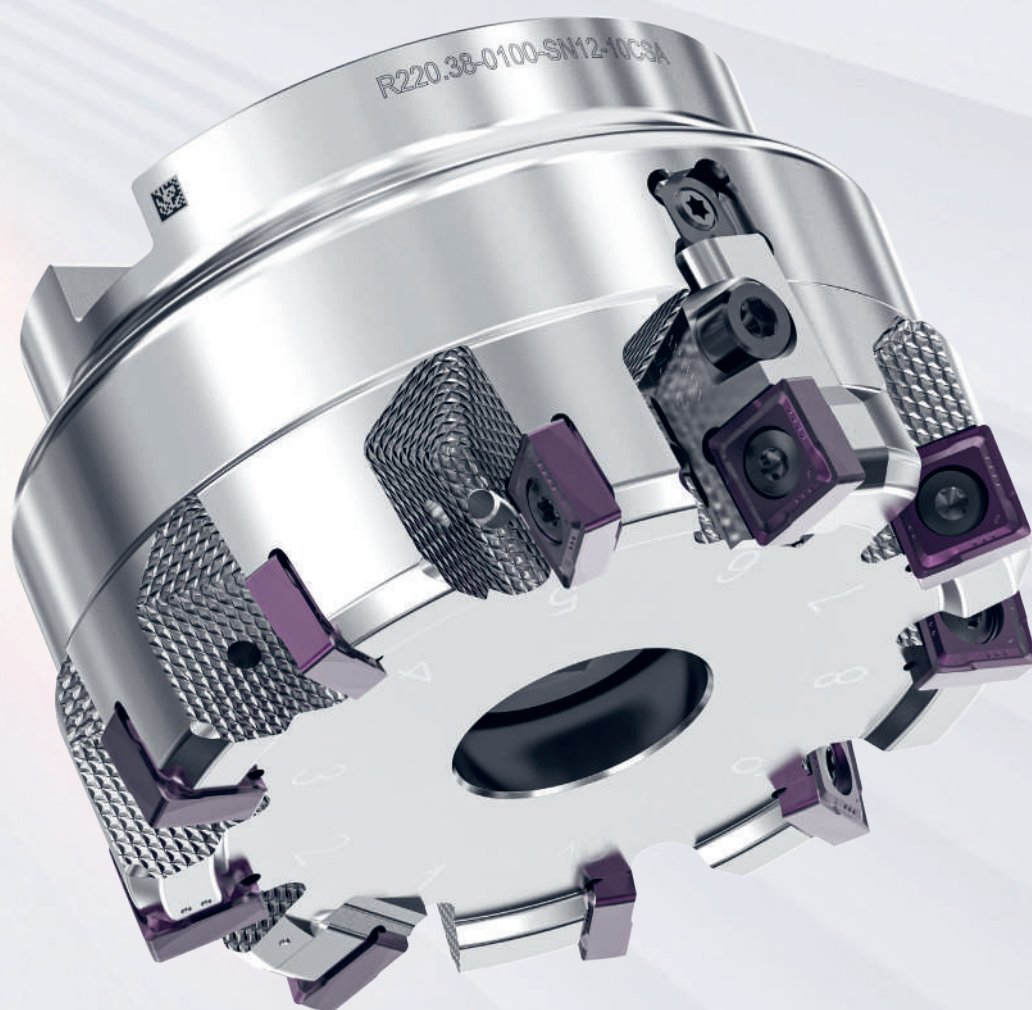


Catalog & technical guide

Milling 2026.1





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

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

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

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

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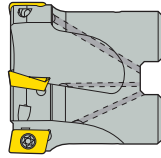
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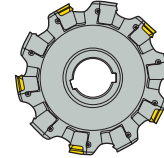
Mounting type

Type – Arbor (Shell end)



Ex.: R220.69-0050-12-5AN

Type – Arbor hole



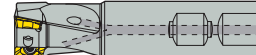
Ex.: 335.25-160.15.40-7N

Type 0 – Cylindrical



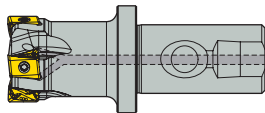
Ex.: R217.69-1616.0-10-2A

Type 3 – Weldon Tool chucks acc. to ISO 5414 DIN 1835



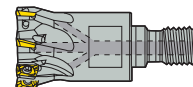
Ex.: R217.69-2525.3-12-3AN

Type 3S – Seco/Weldon® Tool chucks acc. to ISO 5414 DIN 1835



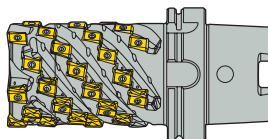
Ex.: R217.69-2532.3S-12-4AN

Type RE – Combimaster



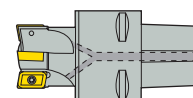
Ex.: R217.69-1225.RE-12-3AN

Type HSK



Ex.: R217.94-HSK100A-080-104-12.5SA

Type Cx – Seco-Capto™



Ex.: C5-R217.69-054-10-5A

Insert clamping system

Clamping by umbrella screw-S



The inserts are clamped by an inclined screw which holds the insert in position in its seat.

Clamping by wedge -W or -M



The inserts are held in position by a wedge and a screw which clamps the insert onto the seat.
(Example shows milling cutter with cassettes).

Clamping by center lock screw -S



The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Clamping by spring action



The inserts are retained by a clamping/spring action into a fixed insert seat

Square T4

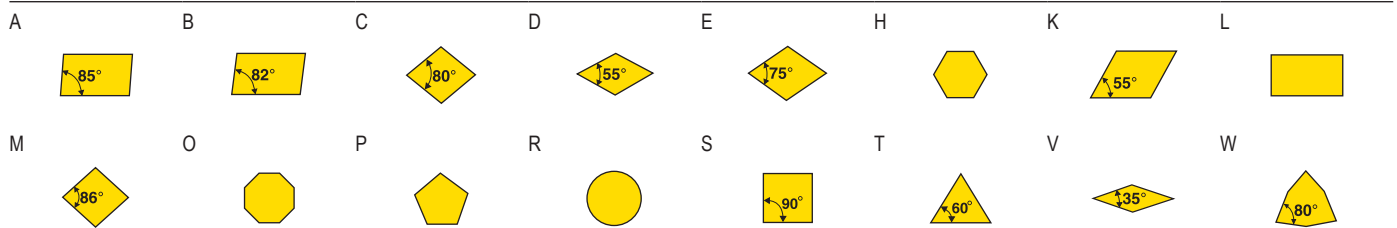


The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Code key inserts

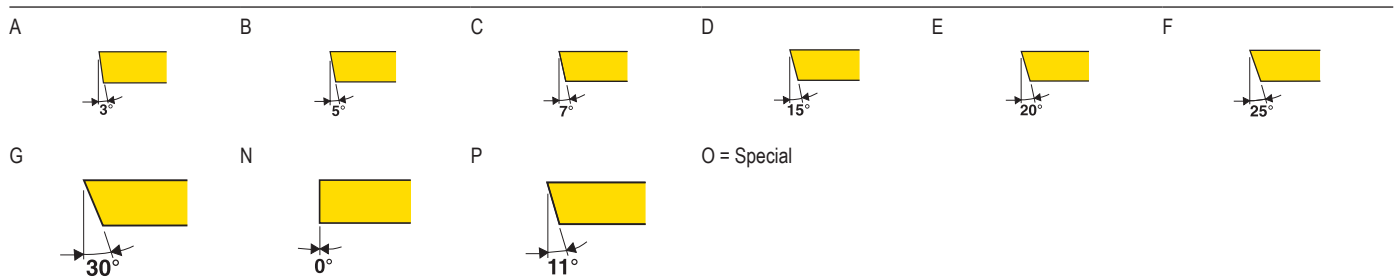
S	E	M	X	12	04	AF	T	N	-	ME12
1	2	3	4	5	6	7	8	9		10

1. Insert shape



X=Special shapes Z=Special shapes

2. Insert side clearance angle



Code key inserts

3. Tolerances

Tolerance class	Tolerances: +/- mm/in				For IC, dimension in mm/in																							
					0.125	3,175*	3,969	4,064	0.187	4,760	0.250	6,350	0.375	9,525	0.500	12,700	0.625	15,875	0.750	19,050	20,000	1,000	25,400	1,250	31,750	1,500	38,100	
	S mm	IC mm	S inch	IC inch																								
A	0,025	0,025	0.0010	0.0010	•				•		•		•		•		•		•		•		•		•		•	
C	0,025	0,025	0.0010	0.0010	•	•		•	•		•		•		•		•		•		•		•		•		•	
E	0,025	0,025	0.0010	0.0010	•				•		•		•		•		•		•		•		•		•		•	
F	0,025	0,013	0.0010	0.0005	•				•		•		•		•		•		•		•		•		•		•	
G	0,050*	0,025	0.0020	0.0010	•				•		•																	
G	0,130	0,025	0.0051	0.0010									•		•		•		•		•		•		•		•	
H	0,025	0,013	0.0010	0.0005	•				•		•		•		•		•		•		•		•		•		•	
J	0,025	0,050	0.0010	0.0020	•				•		•		•		•													
J	0,025	0,080	0.0010	0.0031												•												
J	0,025	0,100	0.0010	0.0039														•		•		•						
J	0,025	0,130	0.0010	0.0051																			•					
J	0,025	0,150	0.0010	0.0059																					•		•	
K	0,025	0,050	0.0010	0.0020	•				•		•		•															
K	0,025	0,080	0.0010	0.0031												•												
K	0,025	0,100	0.0010	0.0039														•		•		•						
K	0,025	0,130	0.0010	0.0051																				•				
K	0,025	0,150	0.0010	0.0059																					•		•	
M	0,050*	0,050	0.0020	0.0020	•				•		•																	
M	0,130	0,050	0.0051	0.0020										•														
M	0,130	0,080	0.0051	0.0031												•												
M	0,130	0,100	0.0051	0.0039														•		•		•						
M	0,130	0,130	0.0051	0.0051																				•				
M	0,130	0,150	0.0051	0.0059																					•		•	
U	0,050*	0,080	0.0020	0.0031	•				•		•																	
U	0,130	0,080	0.0051	0.0031										•														
U	0,130	0,130	0.0051	0.0051												•												
U	0,130	0,180	0.0051	0.0071														•		•		•						
U	0,130	0,250	0.0051	0.0098																				•		•		•

* Not ISO

4. Type

A	B	G	M	N	R
					
T	U	W	X=Special shapes		Z=Special shapes
					

5. Cutting edge length

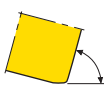
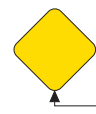
A, B, K	C, D, E, M, V	H, O, P	L	R	S	T	W
							

Code key inserts

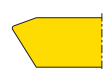
6. Thickness

			01 = 1,59 mm T1 = 1,98 mm 02 = 2,38 mm 03 = 3,18 mm	01 = 0.0626 Inch T1 = 0.0780 Inch 02 = 0.0937 Inch 03 = 0.1252 Inch	T3 = 3,97 mm 04 = 4,76 mm 05 = 5,56 mm 06 = 6,35 mm	T3 = 0.1563 Inch 04 = 0.1874 Inch 05 = 0.2189 Inch 06 = 0.2500 Inch	07 = 7,94 mm 08 = 8,00 mm 09 = 9,52 mm	07 = 0.3126 Inch 08 = 0.3150 Inch 09 = 0.3748 Inch
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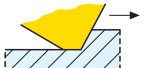
7. Corner configuration

1st letter	2nd letter	nose radius		
 A = 45° D = 60° E = 75° F = 85° P = 90° Z = Special	 A = 45° B = 5° C = 7° D = 15° E = 20° F = 25° G = 30° N = 0° P = 11° Z = Special	 M0 = round inserts 005 = 0,05 mm 01 = 0,1 mm 02 = 0,2 mm 04 = 0,4 mm 08 = 0,8 mm 12 = 1,2 mm etc.	M0 = round inserts 005 = 0.0020 Inch 01 = 0.0039 Inch 02 = 0.0079 Inch 04 = 0.0157 Inch 08 = 0.0315 Inch 12 = 0.0472 Inch etc.	

8. Cutting edge condition

F	E	T	S
			

9. Direction of cutting

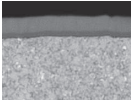
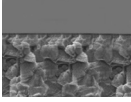
R	L	N
		
		Neutral (R- and L- rotated)

10. Internal designations

Machining conditions
 E=Easy
 ME=Medium Easy
 M=Medium
 MD=Medium Difficult
 D=Difficult

Insert grades

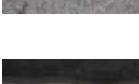
PVD Coated Grades

MH1051			Extremely hard high wear resistant grade for milling hardened steels. Also suitable for finishing operations in cast iron. (Ti,Si)N – (Ti,Al)N
F15M			Hard and wear resistant grade for milling in aluminium and non-ferrous alloys. Excellent grade, in combination with protected cutting edges, for high speed machining in hardened steel. (Ti, Al) N – TiN
MK2050			PVD-coated grade for cast iron, Improved edge integrity. First choice in all cast iron materials. Excellent for milling with and without coolant. (Ti,Si)N/(Ti,Al)N
F30M			Basic grade for Minimaster inserts and thread milling inserts. Also suitable for milling stainless steel, hardened steel and superalloys. (Ti, Al) N – TiN
F32M			Universal grade for R335.14 replaceable head offering an excellent combination of strength and toughness. The F32M shows an exceptionally broad application range and is applicable in all type of material with this type of tool. (Ti, Al) N – TiN
MP3000			Highly wear resistant optimized grade for milling in steel. (Ti;Al)N
MS2050			PVD-coated grade first choice for machining titanium alloys. Can also be used as a complementary grade for milling stainless steels when increased toughness is needed. (Ti;Al) N – NbN
F40M			PVD-coated grade for fine to medium rough milling. First choice for milling with small feeds and/or low cutting speeds. Excellent for milling when there is a risk of vibrations and when coolant is used. Recommended for machining superalloys. (Ti, Al) N – TiN
MP2050			PVD-coated grade for tough machining conditions and high temperatures in martensitic and austenitic stainless steels, dry and wet machining possible. Alternative in super alloys in unstable conditions. (Ti,Si)N/(Ti,Al)N
MP2051			PVD-coated grade with high heat resistance and good toughness, for rough machining in high alloyed steel, precipitation hardened steel and martensitic stainless steel (Ti,Si)N/(Ti,Al)N

For more information go to www.secotools.com

Insert grades

CVD Coated Grades

MK1501			CVD-coated grade based on Duratomic™ coating. High performance grade for milling cast iron and nodular cast iron, with or without coolant. Ti (C, N) – Al ₂ O ₃
MP1501			CVD-coated grade based on Duratomic™ coating. Grade for high performance and productivity in steel material under stable conditions and for milling hardened steel. Excellent grade for grey and nodular cast iron. Ti (C, N) – Al ₂ O ₃
MP2501			CVD-coated grade based on Duratomic™ coating. Grade for high versatility when dealing with variations in productivity, cutting data and workpiece material requirements in steel and stainless steel Ti (C, N) – Al ₂ O ₃
MS2500			Optimization grade for superalloy materials, also suitable for rough milling in tool steel. Ti (C, N) – Al ₂ O ₃
MP3501			CVD-coated grade based on Duratomic™ coating. Basic choice for unstable conditions in steel and cast iron material, alternative choice when machining stainless steels. Ti (C, N) – Al ₂ O ₃
MM4500			Extremely tough grade for duplex stainless steel. Can also be used for a wide range of materials when cutting conditions are unstable. Ti(C, N)-Al ₂ O ₃

Uncoated Grades

H15			Hard, wear resistant grade for milling in aluminium.
H25			Tough micro-grain carbide grade for milling in superalloys and aluminium.

For more information go to www.secotools.com

Insert grades

Cemented carbide is an alloy of tungsten carbide (WC) and cobalt (Co). Cubic carbides like tantalum carbide (TaC), titanium carbide (TiC) and niobium carbide (NbC) can also be added. Tungsten carbide is the main component and gives the hardness. Cobalt is the binder phase and gives the toughness. Cubic carbides are added in order to affect properties like hot hardness, deformation resistance and chemical wear resistance.

Most modern grades are coated with either CVD (Chemical Vapour Deposition) or PVD (Physical Vapour Deposition) technique.

The coating improves the wear resistance of the grade.

CVD-coated grades are suitable for wear resistance in demanding applications with high feed rates and intermediate to high cutting speed.

PVD-coated grades are recommended for applications with low feed rate where high edge toughness is required. PVD-coated grades are suitable for applications with low to intermediate cutting speed.

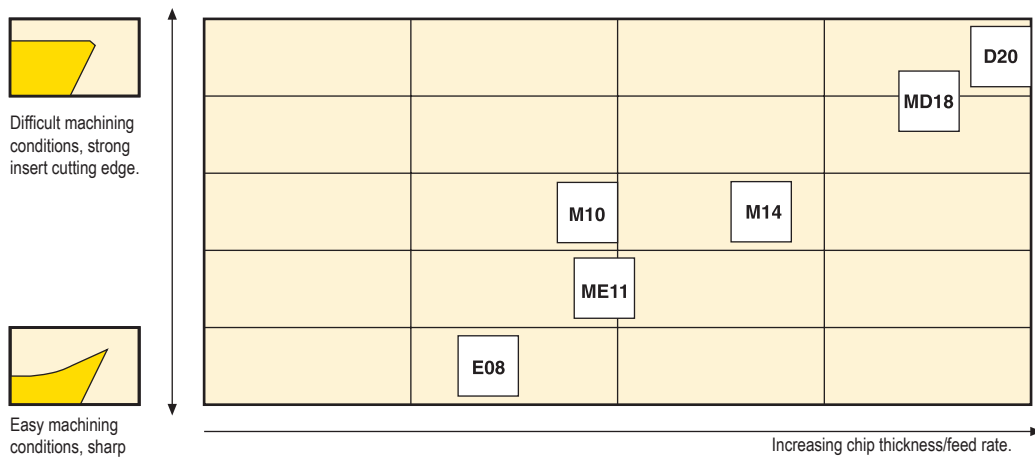
		P					M					K					N				S				H				
		P01	P10	P20	P30	P40	P50	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40	N01	N10	N20	N30	S01	S10	S20	S30	H01	H10	H20	H30
PVD	MH1051																												
	F15M																												
	MK2050																												
	F25M																												
	F30M																												
	MP3000																												
	MS2050																												
	F40M																												
	MP2051																												
MP2050																													
CVD	MK1501																												
	MP1501																												
	MP2501																												
	MS2500																												
	MP3501																												
	MM4500																												
PCD	H15																												
	H25																												
	PCD05																												
	PCD20																												
	PCD30																												
CBN	PCD30M																												
	CBN200																												
	CBN300																												
	CS300																												
	CW100																												

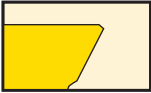
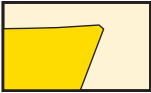
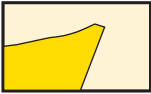
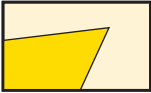
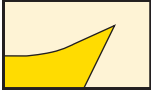
H15 and H25 = uncoated
CS300 and CW100 = ceramic

The black oval circle areas in the chart indicate an inserts main ISO application groups.
The white oval circle area in the chart indicate an inserts other complementary ISO application groups.

For TGP45 use ISO application area for MP2501
For CP500 and CP600 use ISO application area respectively for F30M and F40M

Insert geometries – Designation system



	..AFTN-D20	Negative and very protected cutting edge
	..AFTN-MD18	Negative and protected cutting edge
	..AFTN-M14	Positive and protected cutting edge
	..AFTN-ME11	Very positive and protected cutting edge
	..AFN-M10	Positive and sharp cutting edge
	..AFN-E08	Very positive and very sharp cutting edge

ISO attribute

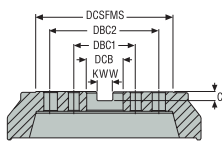
ISO attribute	Explanation
APMXE	Depth of cut maximum in feed direction end
APMXS	Depth of cut maximum in feed direction side
AZ	Plunge depth maximum
BD	Body diameter
BHTA	Body half taper angle
BS	Wiper edge length
C	Keyway depth
CBTHN	Connection body thickness
CCER	Curved cutting edge radius
CDX	Cutting depth maximum
CF	Spot chamfer
CHW	Corner chamfer width
Cmax	Helical interpolation hole diameter maximum
Cmin	Helical interpolation hole diameter minimum
CPNDIA	Connection pin diameter
CTMS	Connection text machine side
CW	Cutting width
CWN	Cutting width minimum
CWX	Cutting width maximum
DC	Cutting diameter
DCB	Connection bore diameter
DCB1	Connection bore diameter 1
DCSFMS	Contact surface diameter machine side
DCSFWS	Contact surface diameter work piece side
DCX	Cutting diameter maximum
DMM	Shank diameter
FDESU	Feed direction suitability end
FDP	Feed direction primary
FDSSU	Feed direction suitability side
GAMF	Rake angle radial
GAMO	Rake angle orthogonal
GAMP	Rake angle axial
HC	Thread height actual
IC	Inscribed circle diameter
INS	Insert diameter
INSL	Insert length
KAPRE	Tool cutting edge angle in feed direction end
KAPRS	Tool cutting edge angle in feed direction side
KCH	Corner chamfer angle
KWW	Keyway width
L	Cutting edge length
LB	Body length
LE	Cutting edge effective length
LF	Functional length
LS	Shank length
LUX	Usable length maximum
OAL	Overall length
PDX	Profile distance ex
PNA	Profile included angle
RE	Corner radius
RP	Programming radius
RMPX	Ramping angle maximum
RPMX	Rotational speed maximum
S	Insert thickness
S1	Insert thickness alt 1
UTCN	Uncut thickness
TDZ	Thread diameter size
THUB	Hub thickness
TTL	True tip length
W1	Insert width
ZEFP	Peripheral effective cutting edge count
ZNP	Peripheral mounted insert count
SA	sphere angle
TACH	Cutting half taper angle
DC1	Cutting diameter 1
LPR	Protruding length
FHA	Flute helix angle
PL	Point length
SIG	Point angle
BEC	Back end chamfer angle
DN	Neck diameter
RA	Relief angle

Code keys metric and inch

R	217	69	25	32	3S	12	4	AN
1	2	3	4	5	6	7	8	9

R	217	69	01.25	3S	12	4	AN
1	2	3	5	6	7	8	9

1.	2.	3.
Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4. (Not applicable for inch designation)	5.	6.
Shank diameter	Cutter diameter	Shank type 0 = Cylindrical 3 = Weldon 3S = Seco Weldon RE = Combimaster
7.	8.	9.
Insert size and shape	Effective No. of teeth (ZEFP)	A = With through coolant supply AD = Anti vibration material with through coolant supply T = Close pitch version for contouring operations C = With adjustable cassettes N = Coated



Dimensions in mm						Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C	DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	—	—	8,4	5,6	0.500	1.181 - 1.378	—	—	0.258	0.165
22	42-47	—	—	10,4	6,3	0.750	1.378 - 1.850	—	—	0.321	0.193
27	48-62	—	—	12,4	7	1.000	1.803 - 2.441	—	—	0.382	0.224
32	60-90	—	—	14,4	8	1.250	2.250 - 3.031	—	—	0.508	0.287
40	90-130	66,7	—	16,4	9	1.500	2.750 - 3.543	—	—	0.630	0.382
60	130-270	101,6	177,8	25,7	14	2.000	4.331	—	—	0.756	0.445
						2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Metric

Cutter	Insert	Recommended a_p		Material suitability						Corner radius (mm)					
				P	M	K	N	S	H						
Double Turbo	ZOMX11 	5	10	■	▣	■	□	▣	▣	0,8	■	▣	-	▣	▣
	ZOMX16 	7	15	■	▣	■	□	▣	▣	0,8/1,6	□	■	-	-	▣
Turbo	XO..06 	3	5	■	■	■	■	■	▣	0,2/0,4/0,8/1,6	■	□	■	■	▣
	XO..10 	5	9	■	■	■	■	■	▣	0,2/0,4/0,8/1,2/1,6/2,0/2,4/3,1	■	▣	■	■	▣
	XO..12 	6	11	■	■	■	■	■	▣	0,2/0,4/0,8/1,2/1,6/2,0/2,4/3,1/4,0/5,0/6,3	▣	■	■	■	▣
	XOMX16 	8	15	■	■	■	■	■	▣	0,2/0,4/0,8/1,2/1,6/2,0/2,4/3,1/4,0/5,0/6,3	□	■	■	■	▣
	XO..18 	9	17	■	▣	■	■	▣	▣	0,4/0,8/1,2/1,6/2,0/2,4/3,1/4,0/5,0/6,3	□	■	■	■	▣
Square T4	LO..08 	3	7	■	▣	■	□	□	▣	0,4/0,8/1,2/1,6	■	▣	▣	-	□
	LO..12 	6	10	■	■	■	■	■	▣	0,4/0,8/1,2/1,6/2,0/2,4/3,1/4,0/5,0/6,3	■	▣	▣	-	□
Square 6	XN..04..R 	2	3	■	▣	■	-	□	▣	0,4/0,8	■	□	▣	-	▣
	XN..08..R 	4	7	■	▣	■	-	□	▣	0,4/0,8/1,2/1,6	□	■	□	-	▣
ABEX	ABEX26 	13	20	■	▣	■	-	-	▣	1,6	□	■	□	-	▣

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



Ramping ability



Possible choice



Not recommended



Plunging ability



Selection – Metric

Cutter	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																										See page
			10	12	14	16	18	20	22	25	32	40	44	50	52 54	63	66	80	84	100	125	160	200	250	315				
Double Turbo 11	4							2		2	3	4		5		6		7		8	11	12	14			23			
										3	4	5		6		8		9		11	13	12	14						
Double Turbo 16	4										2	3		4		5		6		8	10	12	14			38, 39			
											3	4		5		6		8		10	12	14	16						
Turbo 06	2		2	2	3	3	4	4																		45			
				3		4		5		7	8	10																	
Turbo 10	2					2	2	2		3	3	4	4	5	5	5	5	8								53			
								3		4	5	6		7		8		10		12									
Turbo 12	2							2		2	3	4	4	5	5	6	6	7	7	8	8	10	10	12	16	63			
										3	4	5		7		8		10		12	14								
Turbo 16	2									2	2	3		4	5	5	6	6		8	8	10	10	11	12	16	73		
											3	4		5/6		6/7		8/9	8	10	12	13							
Turbo 18	2										2	3		4	4	4/5	5	5/6	6	7	8	7/8	7/9	10	12	16	84		
											3	4		5		6		8		9	11	12							
Square T4 08	4					2	2	2	3	3	3	4		5	5	6										91			
								3		4	5	6		7		9													
Square T4 12	4									2	3	3/4	4	5	5	6	6	7		9	12					100			
												5		6		8		10		12									
Square 6 04	6									4	5	5		6		7										107			
								3		5	6	7		8/9		9													
Square 6 08	6											3	3	4	4	6	7	5/7	7	6/8	7/11	12	8	10		117			
												4	4	5	5	7		9		11	14	16	12						
ABEX	2															5		5			7	8	10	12	14				
																6													

x	Fixed pocket (x indicates number of teeth)
x	With cassette (x indicates number of teeth)

	Slotting and contouring
	Optimized for contouring

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Inch

Cutter	Insert	Recommended a_p		Material suitability						Corner radius (inch)					
				P	M	K	N	S	H						
Double Turbo	ZOMX11 	0.197	0.394	■	▣	■	□	▣	▣	.031	□	▣	-	▣	▣
	ZOMX16 	0.276	0.590	■	▣	■	□	▣	▣	.031/.063	□	■	-	-	▣
Turbo	XO..06 	0.118	0.197	■	■	■	■	■	▣	.008/.016 .031/.063	■	□	■	■	▣
	XO..10 	0.197	0.354	■	■	■	■	■	▣	.016/.031 .047/.063 .079/.094 .122	■	▣	■	■	▣
	XO..12 	0.236	0.433	■	■	■	■	■	▣	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	▣	■	■	■	▣
	XOMX16 	0.315	0.590	■	■	■	■	■	▣	.016/.031 .047/.063 .079/.095 .122/.157 .197/.248	▣	■	■	■	▣
	XO..18 	0.354	0.669	■	▣	■	■	▣	▣	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	▣
Square T4	LO..08 	0.118	0.276	■	▣	■	□	□	▣	.016/.031 .047/.063	■	▣	▣	-	□
	LO..12 	0.276	0.393	■	■	■	■	■	▣	.079/.031/.047 .063/.094	■	▣	▣	-	□
Square 6	XN..04..R 	0.079	0.118	■	▣	■	-	□	▣	.016/.031	■	□	▣	-	▣
	XN..08..R 	0.157	0.276	■	▣	■	-	□	▣	.016/.031 .047/.063	□	■	□	-	▣

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



Ramping ability



Possible choice



Not recommended



Plunging ability



Selection – Inch

Cutter	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth																See page
			0.375	0.50	0.625	0.75	0.875	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	
Double Turbo 11	4							2		4	5	6	7	8					23
								3	4	5	6	8	9	11					
Double Turbo 16	4								2	3	4	5	6	8	10				30
									3	4	5	6	8	10	12				
Turbo 06	2		2	2	3	4	5	6											38, 39
				3	4	5		7	8	10									
Turbo 10	2			1	2	2	3	3		4	5								45
						3		4	5	6	7		10						
Turbo 12	2					2	2	2	3/4	4	4/5	4	4/7	5/8					53
								3	4	5	7	6	10	12					
Turbo 16	2							2	2	3	4	5	6	8	9	12			63
									3	4	5/6	6	8	10					
Turbo 18	2							2	2	3	3/4	5	4/6	5	8	9			73
									3	4	5	6	8	7/9	11	12			
Square T4 08	4				2			3	4	4	5								84
						3		4											
Square T4 12	4							2	3	4	5	6	8	10	12	14			91
											6	8							
Square 6 04	6								5	6									100
						3		5			9								
Square 6 08	6									3	4	4	5	6	7	12			107
											5	6/7	7/9	8/11	11				

x	Fixed pocket (x indicates number of teeth)
x	With cassette (x indicates number of teeth)

	Slotting and contouring
	Optimized for contouring

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

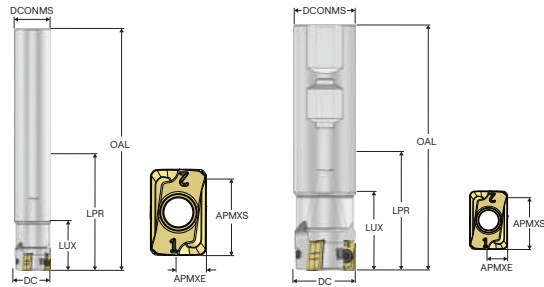


Double Turbo

Using the most positive helix cutting angle geometry on the market today means less power consumption, smoother cutting, and longer tool life. Together with the impressive 90-degree angle accuracy and the double-sided inserts with 4 cutting edges, this generates a good surface finish and reduces costs. ZOMX11 inserts have a depth of cut capability of 10mm (0.39"), while ZOMX16 inserts can handle a depth of cut up to 15mm (0.59"), providing versatility for various machining needs.

- Double Turbo 11, insert type ZOMX11, cutter range metric, Ø 20-125 mm (Imperial Ø 1.000-4.000 inch)
- Double Turbo 16, insert type ZOMX16, cutter range metric, Ø 32-200 mm (Imperial Ø 1.250-5.000 inch)

Double Turbo 11 – R217.64-ZO11 – Metric



- For insert selection and cutting data recommendations, see page(s) 28–29
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.64-2020.3-ZO11-2A	10310365	Weldon	20,0	2	10,0	3,4	20,0	65,0	29,0	40,0	90,0	1,7	33,8	39,1	19400	0,2	ZOMX1107
R217.64-2525.3-ZO11-2A	10310366	Weldon	25,0	2	10,0	3,4	25,0	68,0	32,0	44,0	100,0	1,2	43,8	49,1	17400	0,4	ZOMX1107
R217.64-2525.3-ZO11-3A	10310367	Weldon	25,0	3	10,0	3,4	25,0	68,0	32,0	44,0	100,0	1,2	43,8	49,1	17400	0,4	ZOMX1107
R217.64-3232.3-ZO11-4A	10310368	Weldon	32,0	4	10,0	3,4	32,0	74,0	37,0	50,0	110,0	0,8	57,8	63,1	15400	0,7	ZOMX1107
R217.64-1820.0-ZO11-2A	10310355	Cylindrical	20,0	2	10,0	3,4	18,0	–	70,0	70,0	120,0	1,7	33,8	39,1	19400	0,3	ZOMX1107
R217.64-2020.0-ZO11-2A	10310356	Cylindrical	20,0	2	10,0	3,4	20,0	–	30,0	70,0	120,0	1,7	33,8	39,1	19400	0,3	ZOMX1107
R217.64-2525.0-ZO11-2A	10310357	Cylindrical	25,0	2	10,0	3,4	25,0	–	35,0	94,0	150,0	1,2	43,8	49,1	17400	0,6	ZOMX1107
R217.64-2525.0-ZO11-3A	10310358	Cylindrical	25,0	3	10,0	3,4	25,0	–	35,0	94,0	150,0	1,2	43,8	49,1	17400	0,6	ZOMX1107
R217.64-3232.0-ZO11-3A	10310359	Cylindrical	32,0	3	10,0	3,4	32,0	–	40,0	110,0	170,0	0,8	57,8	63,1	15400	1,1	ZOMX1107
R217.64-3232.0-ZO11-4A	10310360	Cylindrical	32,0	4	10,0	3,4	32,0	–	40,0	110,0	170,0	0,8	57,8	63,1	15400	1,0	ZOMX1107

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217/220.64-..	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

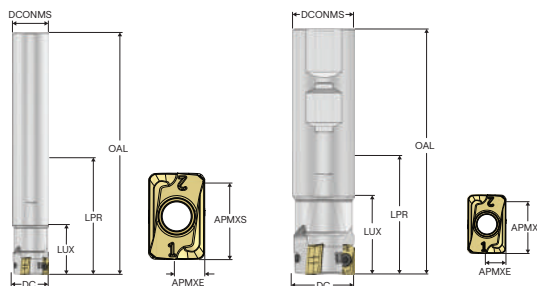
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Double Turbo 11 – R217.64-ZO11 – Inch



—For insert selection and cutting data recommendations, see page(s) 28-29
 —For complete insert programme, see page(s) 927
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.64-01.00-3-ZO11-3A	10310384	Weldon	1.000	3	0.394	0.134	1.000	2.795	1.260	1.732	3.937	1,2	1.795	1.965	17200	0.880	ZOMX1107
R217.64-01.25-3-ZO11-4A	10310385	Weldon	1.250	4	0.394	0.134	1.250	3.189	1.457	1.969	4.331	0,8	2.256	2.465	15400	1.540	ZOMX1107
R217.64-01.00-0-ZO11-2A	10310379	Cylindrical	1.000	2	0.394	0.134	1.000	—	1.378	3.701	5.906	1,2	1.795	1.965	17200	1.320	ZOMX1107
R217.64-01.00-0-ZO11-3A	10310380	Cylindrical	1.000	3	0.394	0.134	1.000	—	1.378	3.701	5.906	1,2	1.795	1.965	17200	1.320	ZOMX1107
R217.64-01.25-0-ZO11-4A	10310381	Cylindrical	1.250	4	0.394	0.134	1.250	—	1.575	4.331	6.693	0,8	2.256	2.465	15200	2.200	ZOMX1107

Spare Parts, included in delivery

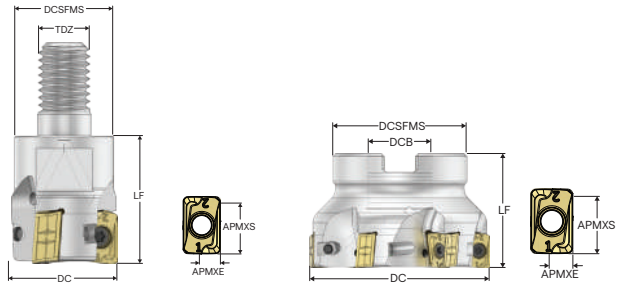
For cutter	Insert key	Insert screw
		
R217/220.64-...	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Double Turbo 11 – R217.64-ZO11 – Metric



- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm		mm	mm		kg	
R217.64-1020.RE-ZO11-2A	10310361	Combimaster	20,0	2	10,0	3,4	—	19,0	M10	28,0	1,7	33,8	39,1	19400	0,1	ZOMX1107
R217.64-1225.RE-ZO11-2A	10310362	Combimaster	25,0	2	10,0	3,4	—	23,0	M12	30,0	1,2	43,8	49,1	17400	0,2	ZOMX1107
R217.64-1225.RE-ZO11-3A	10310363	Combimaster	25,0	3	10,0	3,4	—	23,0	M12	30,0	1,2	43,8	49,1	17400	0,1	ZOMX1107
R217.64-1632.RE-ZO11-4A	10310364	Combimaster	32,0	4	10,0	3,4	—	30,0	M16	40,0	0,8	57,8	63,1	15400	0,3	ZOMX1107
R220.64-0040-ZO11-4A	10310341	Arbor	40,0	4	10,0	3,4	16,0	35,0	—	40,0	0,5	73,8	79,1	13600	0,3	ZOMX1107
R220.64-0040-ZO11-5A	10310342	Arbor	40,0	5	10,0	3,4	16,0	35,0	—	40,0	0,5	73,8	79,1	13600	0,3	ZOMX1107
R220.64-0050-ZO11-5A	10310343	Arbor	50,0	5	10,0	3,4	22,0	47,0	—	40,0	0,4	93,8	99,1	12300	0,4	ZOMX1107
R220.64-0050-ZO11-6A	10310344	Arbor	50,0	6	10,0	3,4	22,0	47,0	—	40,0	0,4	93,8	99,1	12300	0,4	ZOMX1107
R220.64-0063-ZO11-6A	10310345	Arbor	63,0	6	10,0	3,4	22,0	47,0	—	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-6A-27	10310347	Arbor	63,0	6	10,0	3,4	27,0	56,0	—	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-8A	10310346	Arbor	63,0	8	10,0	3,4	22,0	47,0	—	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-8A-27	10310348	Arbor	63,0	8	10,0	3,4	27,0	56,0	—	40,0	0,3	119,8	125,1	10900	0,7	ZOMX1107
R220.64-0080-ZO11-7A	10310349	Arbor	80,0	7	10,0	3,4	27,0	62,0	—	50,0	0,23	153,8	159,1	9700	1,2	ZOMX1107
R220.64-0080-ZO11-9A	10310350	Arbor	80,0	9	10,0	3,4	27,0	62,0	—	50,0	0,23	153,8	159,1	9700	1,2	ZOMX1107
R220.64-0100-ZO11-11A	10310352	Arbor	100,0	11	10,0	3,4	32,0	77,0	—	50,0	0,18	193,8	199,1	8700	2,0	ZOMX1107
R220.64-0100-ZO11-8A	10310351	Arbor	100,0	8	10,0	3,4	32,0	77,0	—	50,0	0,18	193,8	199,1	8700	2,2	ZOMX1107
R220.64-0125-ZO11-11A	10310353	Arbor	125,0	11	10,0	3,4	40,0	90,0	—	63,0	0,1	243,8	249,1	7800	3,9	ZOMX1107
R220.64-0125-ZO11-13A	10310354	Arbor	125,0	13	10,0	3,4	40,0	90,0	—	63,0	0,1	243,8	249,1	7800	3,7	ZOMX1107

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

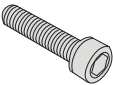
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Spare Parts, included in delivery

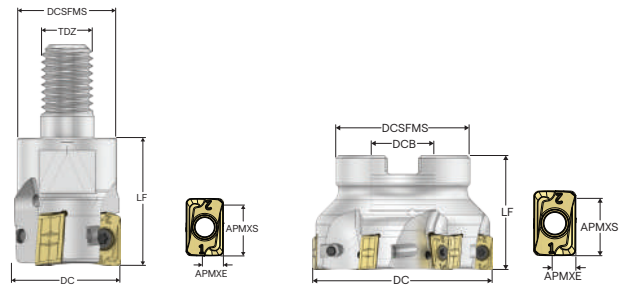
For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	-	1/4HEX-T10PX50	C03509-T10P
R220.64-0040	TCEI0825	1/4HEX-T10PX50	C03509-T10P
R220.64-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P
R220.64-0063-27	MLC6S12X30	1/4HEX-T10PX50	C03509-T10P
R220.64-0080	MC6S12X35	1/4HEX-T10PX50	C03509-T10P
R220.64-0100	MC6S16X35	1/4HEX-T10PX50	C03509-T10P
R220.64-0125	MC6S20X40	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

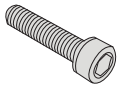
Double Turbo 11 – R217.64-ZO11 – Inch



- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch		inch	inch		lbs	
R217.64-01.00-12RE-ZO11-3A	10310382	Combimaster	1.000	3	0.394	0.134	—	0.906	M12	1.575	1,2	1.795	1.965	17200	0.440	ZOMX1107
R217.64-01.25-16RE-ZO11-4A	10310383	Combimaster	1.250	4	0.394	0.134	—	1.181	M16	1.575	0,8	2.256	2.465	15400	0.660	ZOMX1107
R220.64-01.50-ZO11-4A	10310369	Arbor	1.500	4	0.394	0.134	0.750	1.378	—	1.575	0,55	2.756	2.965	14000	0.660	ZOMX1107
R220.64-01.50-ZO11-5A	10310370	Arbor	1.500	5	0.394	0.134	0.750	1.378	—	1.575	0,55	2.756	2.965	14000	0.660	ZOMX1107
R220.64-02.00-ZO11-5A	10310371	Arbor	2.000	5	0.394	0.134	0.750	1.850	—	1.575	0,4	3.756	3.965	12200	1.100	ZOMX1107
R220.64-02.00-ZO11-6A	10310372	Arbor	2.000	6	0.394	0.134	0.750	1.850	—	1.575	0,4	3.756	3.965	12200	1.100	ZOMX1107
R220.64-02.50-ZO11-6A	10310373	Arbor	2.500	6	0.394	0.134	0.750	1.850	—	1.575	0,3	4.756	4.965	10900	1.100	ZOMX1107
R220.64-02.50-ZO11-8A	10310374	Arbor	2.500	8	0.394	0.134	0.750	1.850	—	1.575	0,3	4.756	4.965	10900	2.200	ZOMX1107
R220.64-03.00-ZO11-7A	10310375	Arbor	3.000	7	0.394	0.134	1.000	2.441	—	1.969	0,2	5.756	5.965	9900	2.650	ZOMX1107
R220.64-03.00-ZO11-9A	10310376	Arbor	3.000	9	0.394	0.134	1.000	2.441	—	1.969	0,2	5.756	5.965	9900	2.650	ZOMX1107
R220.64-04.00-ZO11-11A	10310378	Arbor	4.000	11	0.394	0.134	1.500	3.031	—	1.969	0,18	7.756	7.965	8700	5.070	ZOMX1107
R220.64-04.00-ZO11-8A	10310377	Arbor	4.000	8	0.394	0.134	1.500	3.031	—	1.969	0,18	7.756	7.965	8700	4.850	ZOMX1107

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	—	1/4HEX-T10PX50	C03509-T10P
R220.64-01.50	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.64-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P
R220.64-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.64-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key	Torque value
					
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30	—
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	—	T00-10P30

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.64-11 – Insert selection – Metric/ Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	ZOMX110708TR-ME10 F40M	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
	P2	ZOMX110708TR-ME10 F40M	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
Helical milling cutters	P3	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,28 0.011
	P4	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,28 0.011
	P5	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P6	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P7	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P8	ZOMX110708TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,28 0.011
	P11	ZOMX110708TR-M12 MP3501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
Face milling cutters	P12	ZOMX110708TR-M12 MP3501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	M1	ZOMX110708R-M08 F40M	5,0 0.20	0,12 0.0048	0,13 0.0050	0,19 0.0075
Disc milling cutters	M2	ZOMX110708R-M08 F40M	5,0 0.20	0,11 0.0044	0,12 0.0048	0,18 0.0070
	M3	ZOMX110708R-M08 F40M	4,0 0.16	0,085 0.0034	0,095 0.0038	0,14 0.0055
	M4	ZOMX110708R-M08 MS2050	3,0 0.12	0,075 0.0030	0,080 0.0032	0,13 0.0050
	M5	ZOMX110708R-M08 MS2050	3,0 0.12	0,075 0.0030	0,080 0.0032	0,13 0.0050
	K1	ZOMX110708TR-M12 MK2050	5,0 0.20	0,17 0.0065	0,19 0.0075	0,30 0.012
High feed milling cutters	K2	ZOMX110708TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K3	ZOMX110708TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K4	ZOMX110708TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K5	ZOMX110708TR-M12 MK2050	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
	K6	ZOMX110708TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
Copy milling cutters	K7	ZOMX110708TR-M12 MK2050	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
	S1	ZOMX110708R-M08 F40M	3,0 0.12	0,075 0.0030	0,080 0.0032	0,13 0.0050
	S2	ZOMX110708R-M08 F40M	3,0 0.12	0,075 0.0030	0,080 0.0032	0,13 0.0050
Plunge milling cutters	S3	ZOMX110708R-M08 F40M	3,0 0.12	0,070 0.0028	0,075 0.0030	0,12 0.0048
	S11	ZOMX110708R-M08 MS2050	3,5 0.14	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S12	ZOMX110708R-M08 MS2050	3,5 0.14	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S13	ZOMX110708R-M08 MS2050	3,0 0.12	0,075 0.0030	0,080 0.0032	0,13 0.0050
	H5	ZOMX110708TR-MD14 MP3000	4,0 0.16	0,13 0.0050	0,14 0.0055	0,22 0.0085
Chamfer milling cutters	H8	ZOMX110708TR-MD14 MP3000	3,5 0.14	0,095 0.0038	0,11 0.0044	0,16 0.0065
	H11	ZOMX110708TR-MD14 MP1501	4,0 0.16	0,13 0.0050	0,14 0.0055	0,22 0.0085
	H12	ZOMX110708TR-MD14 MP1501	3,5 0.14	0,095 0.0038	0,11 0.0044	0,16 0.0065
	H21	ZOMX110708TR-MD14 MP1501	3,5 0.14	0,095 0.0038	0,11 0.0044	0,16 0.0065

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.64-11 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265 870	345 1125	415 1350	245 800	330 1075	390 1275	290 950	370 1225	425 1400	230 750	285 940	325 1075	385 1275	475 1550	550 1800	390 1275	485 1600	560 1825	400 1300	490 1600	550 1800
P2	255 840	340 1125	405 1325	240 790	320 1050	380 1250	275 900	355 1175	415 1350	225 740	275 900	320 1050	375 1225	465 1525	530 1750	380 1250	470 1550	540 1775	380 1250	470 1550	530 1750
P3	225 740	295 970	350 1150	210 690	290 950	335 1100	245 800	310 1025	360 1175	200 660	245 800	275 900	330 1075	405 1325	460 1500	335 1100	410 1350	465 1525	335 1100	410 1350	460 1500
P4	200 660	260 850	315 1025	185 610	255 840	295 970	215 710	275 900	320 1050	180 590	225 740	265 870	290 950	355 1175	410 1350	295 970	360 1175	420 1375	295 970	360 1175	405 1325
P5	190 620	255 840	300 980	185 610	245 800	290 950	205 670	270 890	305 1000	170 560	210 690	235 770	280 920	345 1125	390 1275	280 920	350 1150	400 1300	280 920	350 1150	390 1275
P6	215 710	285 940	335 1100	205 670	270 890	325 1075	240 790	300 980	345 1125	190 620	235 770	265 870	310 1025	390 1275	440 1450	315 1025	395 1300	450 1475	325 1075	395 1300	440 1450
P7	200 660	270 890	315 1025	195 640	255 840	310 1025	225 740	285 940	325 1075	180 590	220 720	250 820	295 970	365 1200	415 1350	300 980	375 1225	425 1400	305 1000	370 1225	415 1350
P8	190 620	250 820	295 970	180 590	245 800	285 940	205 670	260 850	305 1000	170 560	205 670	230 750	280 920	340 1125	385 1275	280 920	345 1125	390 1275	280 920	345 1125	390 1275
P11	195 640	260 850	310 1025	190 620	250 820	300 980	220 720	275 900	315 1025	175 570	215 710	245 800	285 940	355 1175	405 1325	290 950	360 1175	410 1350	295 970	360 1175	405 1325
P12	130 425	170 560	200 660	130 425	170 560	205 670	140 460	175 570	200 660	120 395	145 475	160 520	185 610	230 750	255 840	190 620	235 770	260 850	185 610	225 740	250 820
M1	—	—	—	175 570	230 750	270 890	200 660	265 870	320 1050	160 520	210 690	250 820	—	—	—	195 640	255 840	305 1000	200 660	265 870	320 1050
M2	—	—	—	145 475	190 620	225 740	165 540	225 740	260 850	130 425	175 570	205 670	—	—	—	160 520	215 710	255 840	165 540	225 740	260 850
M3	—	—	—	115 375	155 510	180 590	135 445	180 590	210 690	105 345	140 460	165 540	—	—	—	130 425	175 570	200 660	135 445	180 590	210 690
M4	—	—	—	95 310	120 395	140 460	105 345	140 460	165 540	85 280	110 360	130 425	—	—	—	105 345	135 445	160 520	105 345	140 460	165 540
M5	—	—	—	75 245	100 330	120 395	90 295	115 375	135 445	70 230	95 310	110 360	—	—	—	85 280	115 375	135 445	90 295	115 375	135 445
K1	280 920	365 1200	435 1425	185 610	245 800	285 940	—	—	—	155 510	205 670	245 800	380 1250	470 1550	540 1775	385 1275	475 1550	550 1800	385 1275	470 1550	540 1775
K2	245 800	325 1075	385 1275	165 540	215 710	260 850	—	—	—	140 460	185 610	220 720	325 1100	420 1375	475 1550	340 1125	425 1400	485 1600	340 1125	425 1400	470 1550
K3	205 670	275 900	325 1075	140 460	185 610	220 720	—	—	—	115 375	155 510	185 610	285 940	355 1175	400 1300	290 950	360 1175	410 1350	290 950	360 1175	400 1300
K4	200 660	265 870	310 1025	135 445	175 570	210 690	—	—	—	110 360	150 490	175 570	270 890	340 1125	385 1275	275 900	345 1125	390 1275	275 900	340 1125	380 1250
K5	120 395	165 540	190 620	80 260	105 345	125 410	—	—	—	70 230	90 295	105 345	170 560	205 670	230 750	170 560	210 690	235 770	170 560	205 670	230 750
K6	175 570	230 750	275 900	115 375	155 510	185 610	—	—	—	100 330	130 425	155 510	240 790	295 970	335 1100	240 790	305 1000	345 1125	245 800	300 980	335 1100
K7	155 510	210 690	245 800	105 345	140 460	160 520	—	—	—	90 295	120 395	135 445	215 710	265 870	295 970	220 720	270 890	305 1000	215 710	265 870	295 970
S1	—	—	—	43 140	55 180	65 215	50 165	65 215	75 245	40 130	50 165	60 195	—	—	—	—	—	—	50 165	65 215	75 245
S2	—	—	—	35 115	46 150	55 180	40 130	50 165	60 195	32 105	42 140	49 160	—	—	—	—	—	—	40 130	50 165	60 195
S3	—	—	—	31 100	40 130	47 155	35 115	46 150	55 180	28 90	37 120	43 140	—	—	—	—	—	—	35 115	46 150	55 180
S11	—	—	—	60 195	80 260	90 295	70 230	90 295	105 345	55 180	70 230	85 280	—	—	—	—	—	—	70 230	90 295	105 345
S12	—	—	—	41 135	55 180	65 215	48 155	65 215	75 245	38 125	50 165	60 195	—	—	—	—	—	—	48 155	65 215	75 245
S13	—	—	—	24 80	32 105	37 120	28 90	37 120	43 140	22 70	29 95	34 110	—	—	—	—	—	—	28 90	37 120	43 140
H5	44 145	60 195	70 230	36 120	48 155	55 180	—	—	—	33 110	43 140	50 165	49 160	65 215	75 245	—	—	—	44 145	55 180	65 215
H8	47 155	60 195	75 245	40 130	50 165	60 195	—	—	—	35 115	47 155	55 180	55 180	70 230	80 260	—	—	—	46 150	60 195	70 230
H11	55 180	75 245	85 280	46 150	60 195	75 245	—	—	—	42 140	55 180	65 215	60 195	80 260	95 310	—	—	—	55 180	70 230	85 280
H12	80 260	110 360	125 410	75 245	100 330	115 375	—	—	—	65 215	85 280	100 330	95 310	125 410	145 475	—	—	—	85 280	110 360	130 425
H21	47 155	60 195	75 245	40 130	50 165	60 195	—	—	—	35 115	47 155	55 180	55 180	70 230	80 260	—	—	—	46 150	60 195	70 230

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

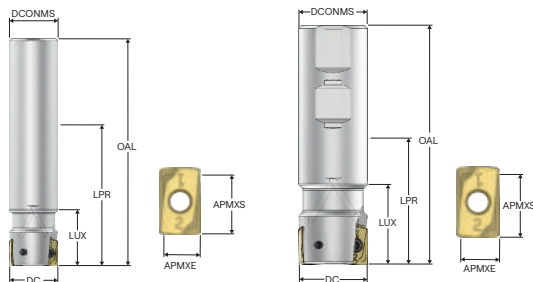
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Double Turbo 16 – R217.64-ZO16 – Metric



- For insert selection and cutting data recommendations, see page(s) 35–36
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.64-3232.3-ZO16-2A	03290222	Weldon	32,0	2	15,0	5,0	32,0	74,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX1607
R217.64-3232.3-ZO16-3A	10107617	Weldon	32,0	3	15,0	5,0	32,0	74,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX1607
R217.64-3240.3-ZO16-3A	03290223	Weldon	40,0	3	15,0	5,0	32,0	74,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX1607
R217.64-3240.3-ZO16-4A	03290224	Weldon	40,0	4	15,0	5,0	32,0	74,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX1607
R217.64-3232.0-ZO16-2A	03290227	Cylindrical	32,0	2	15,0	5,0	32,0	–	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,9	ZOMX1607
R217.64-3232.0-ZO16-3A	10107618	Cylindrical	32,0	3	15,0	5,0	32,0	–	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,8	ZOMX1607
R217.64-3240.0-ZO16-3A	03290228	Cylindrical	40,0	3	15,0	5,0	32,0	–	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,9	ZOMX1607
R217.64-3240.0-ZO16-4A	03290229	Cylindrical	40,0	4	15,0	5,0	32,0	–	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,8	ZOMX1607

Spare Parts, included in delivery

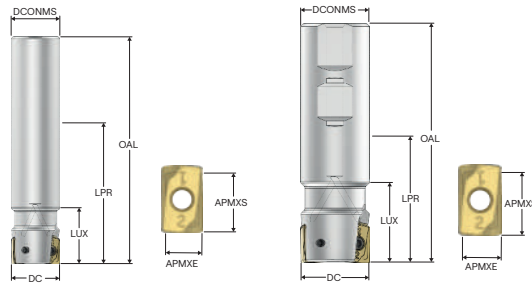
For cutter	Insert key	Insert screw
		
R217.64-3232-3240	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Turbo 16 – R217.64-ZO16 – Inch



- For insert selection and cutting data recommendations, see page(s) 35–36
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.64-01.25-3-ZO16-2A	03290225	Weldon	1.250	2	0.591	0.197	1.250	3.189	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX1607
R217.64-01.25-3-ZO16-3A	10107620	Weldon	1.250	3	0.591	0.197	1.250	3.189	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX1607
R217.64-01.50-3-ZO16-3A	03290226	Weldon	1.500	3	0.591	0.197	1.250	3.189	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX1607
R217.64-01.50-3-ZO16-4A	10107621	Weldon	1.500	4	0.591	0.197	1.250	3.189	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX1607
R217.64-01.25-0-ZO16-2A	03290230	Cylindrical	1.250	2	0.591	0.197	1.250	–	1.378	3.701	7.677	0,35	1.890	2.402	11400	2.430	ZOMX1607
R217.64-01.50-0-ZO16-3A	03290231	Cylindrical	1.500	3	0.591	0.197	1.250	–	3.701	3.701	7.677	0,25	2.402	2.913	10000	2.650	ZOMX1607

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.64-..	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

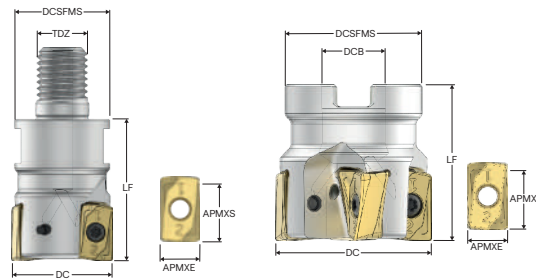
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Double Turbo 16 – R217/220.64-ZO16 – Metric

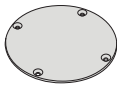


—For insert selection and cutting data recommendations, see page(s) 35–36
 —For complete insert programme, see page(s) 927
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

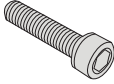
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.64-1632.RE-ZO16-3A	10107619	Combimaster	32,0	3	15,0	5,0	–	30,0	M16	30,0	45,0	0,35	49,0	62,0	11400	0,3	ZOMX1607
R217.64-2040.RE-ZO16-3A	03290233	Combimaster	40,0	3	15,0	5,0	–	36,5	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R217.64-2040.RE-ZO16-4A	03290234	Combimaster	40,0	4	15,0	5,0	–	36,5	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0040-ZO16-3A	03290237	Arbor	40,0	3	15,0	5,0	16,0	35,0	–	16,0	40,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0040-ZO16-4A	03290238	Arbor	40,0	4	15,0	5,0	16,0	35,0	–	16,0	40,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0050-ZO16-4A	03290239	Arbor	50,0	4	15,0	5,0	22,0	47,0	–	22,0	40,0	0,2	85,0	98,0	9000	0,3	ZOMX1607
R220.64-0050-ZO16-5A	03290240	Arbor	50,0	5	15,0	5,0	22,0	47,0	–	22,0	40,0	0,2	85,0	98,0	9000	0,4	ZOMX1607
R220.64-0063-ZO16-5A	03290241	Arbor	63,0	5	15,0	5,0	22,0	47,0	–	22,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-5A-27	10000039	Arbor	63,0	5	15,0	5,0	27,0	56,0	–	27,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-6A	03290242	Arbor	63,0	6	15,0	5,0	22,0	47,0	–	22,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-6A-27	10000040	Arbor	63,0	6	15,0	5,0	27,0	56,0	–	27,0	40,0	0,15	111,0	124,0	8200	0,6	ZOMX1607
R220.64-0080-ZO16-6A	03290243	Arbor	80,0	6	15,0	5,0	27,0	62,0	–	27,0	50,0	0,1	145,0	158,0	7200	0,9	ZOMX1607
R220.64-0080-ZO16-8A	03290244	Arbor	80,0	8	15,0	5,0	27,0	62,0	–	27,0	50,0	0,1	145,0	158,0	7200	1,0	ZOMX1607
R220.64-0100-ZO16-8A	03290245	Arbor	100,0	8	15,0	5,0	32,0	77,0	–	32,0	50,0	0,0	–	–	6500	1,6	ZOMX1607
R220.64-0100-ZO16-10A	03290246	Arbor	100,0	10	15,0	5,0	32,0	77,0	–	32,0	50,0	0,0	–	–	6500	1,5	ZOMX1607
R220.64-0125-ZO16-10A	03290247	Arbor	125,0	10	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5800	3,0	ZOMX1607
R220.64-0125-ZO16-12A	03290248	Arbor	125,0	12	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5800	2,9	ZOMX1607
R220.64-8160-ZO16-12A	03307754	Arbor	160,0	12	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5100	5,1	ZOMX1607
R220.64-8160-ZO16-14A	03307755	Arbor	160,0	14	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5100	9,6	ZOMX1607
R220.64-8200-ZO16-14A	03307756	Arbor	200,0	14	15,0	5,0	60,0	130,0	–	60,0	63,0	0,0	–	–	4500	6,7	ZOMX1607
R220.64-8200-ZO16-16A	03307757	Arbor	200,0	16	15,0	5,0	60,0	130,0	–	60,0	63,0	0,0	–	–	4500	6,8	ZOMX1607

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.64-1632-2040	-	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0040	220.17-690	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0050-0063	220.17-692	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0063-27	MLC6S12X30	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0080-0125	MC6S12X35	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0080-0125	MLC6S16X35	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-0080-0125	MC6S20X40	1/4HEX-T15PX50	C04011B-T15P	-	-
R220.64-8160	-	1/4HEX-T15PX90	C04011B-T15P	SC-160-90	MF6S4X10
R220.64-8200	-	1/4HEX-T15PX90	C04011B-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.64-1632-0125	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.64-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.64-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

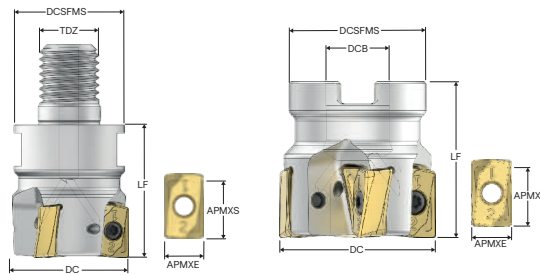
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Double Turbo 16 – R217/220.64-ZO16 – inch

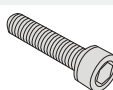


- For insert selection and cutting data recommendations, see page(s) 35–36
- For complete insert programme, see page(s) 927
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.64-01.25-16RE-ZO16-2A	03290235	Combimaster	1.250	2	0.591	0.197	–	1.181	M16	1.181	1.772	0,35	1.890	2.402	11400	0.660	ZOMX1607
R217.64-01.50-20RE-ZO16-3A	03290236	Combimaster	1.500	3	0.591	0.197	–	1.437	M20	1.437	1.772	0,25	2.402	2.913	10000	0.660	ZOMX1607
R220.64-02.00-ZO16-4A	03290250	Arbor	2.000	4	0.591	0.197	0.750	1.850	–	0.750	1.575	0,2	3.386	3.898	9000	0.880	ZOMX1607
R220.64-02.00-ZO16-5A	03290251	Arbor	2.000	5	0.591	0.197	0.750	1.850	–	0.750	1.575	0,2	3.386	3.898	9000	0.880	ZOMX1607
R220.64-02.50-ZO16-5A	03290252	Arbor	2.500	5	0.591	0.197	0.750	1.850	–	0.750	1.575	0,15	4.409	4.921	8200	1.320	ZOMX1607
R220.64-02.50-ZO16-6A	03290253	Arbor	2.500	6	0.591	0.197	0.750	1.850	–	0.750	1.575	0,15	4.409	4.921	8200	1.100	ZOMX1607
R220.64-03.00-ZO16-6A	03290254	Arbor	3.000	6	0.591	0.197	1.000	2.441	–	1.000	1.969	0,1	5.394	5.906	7200	2.200	ZOMX1607
R220.64-03.00-ZO16-8A	03290255	Arbor	3.000	8	0.591	0.197	1.000	2.441	–	1.000	1.969	0,1	5.394	5.906	7200	1.980	ZOMX1607
R220.64-04.00-ZO16-8A	03290256	Arbor	4.000	8	0.591	0.197	1.500	3.031	–	1.500	1.969	0,0	–	–	6500	3.970	ZOMX1607
R220.64-04.00-ZO16-10A	03290257	Arbor	4.000	10	0.591	0.197	1.500	3.031	–	1.500	1.969	0,0	–	–	6500	3.530	ZOMX1607
R220.64-05.00-ZO16-10A	03290258	Arbor	5.000	10	0.591	0.197	1.500	3.543	–	1.500	2.480	0,0	–	–	5800	5.730	ZOMX1607
R220.64-05.00-ZO16-12A	03290259	Arbor	5.000	12	0.591	0.197	1.500	3.543	–	1.500	2.480	0,0	–	–	5800	7.500	ZOMX1607

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	–	1/4HEX-T15PX50	C04011B-T15P
R220.64-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011B-T15P
R220.64-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P
R220.64-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.64-16 – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	ZOMX160708TR-ME10 F40M	7,0	0,14	0,15	0,24
		0,28	0,0055	0,0060	0,0095
P2	ZOMX160708TR-ME10 F40M	7,0	0,14	0,16	0,24
		0,28	0,0055	0,0065	0,0095
P3	ZOMX160708TR-M12 MP2501	7,0	0,16	0,18	0,28
		0,28	0,0065	0,0070	0,011
P4	ZOMX160708TR-M12 MP2501	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
P5	ZOMX160708TR-M12 MP2501	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
P6	ZOMX160708TR-M12 MP2501	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
P7	ZOMX160708TR-M12 MP2501	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
P8	ZOMX160708TR-M12 MP2501	7,0	0,16	0,18	0,28
		0,28	0,0065	0,0070	0,011
P11	ZOMX160708TR-M12 MS2500	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
P12	ZOMX160708TR-M12 MS2500	6,0	0,11	0,12	0,18
		0,24	0,0044	0,0048	0,0070
M1	ZOMX160708TR-ME10 F40M	7,0	0,14	0,16	0,24
		0,28	0,0055	0,0065	0,0095
M2	ZOMX160708TR-ME10 F40M	7,0	0,13	0,14	0,22
		0,28	0,0050	0,0055	0,0085
M3	ZOMX160708TR-ME10 F40M	6,0	0,10	0,11	0,18
		0,24	0,0040	0,0044	0,0070
M4	ZOMX160708TR-ME10 MS2050	4,5	0,095	0,10	0,15
		0,18	0,0038	0,0040	0,0060
M5	ZOMX160708TR-ME10 MS2050	4,5	0,095	0,10	0,15
		0,18	0,0038	0,0040	0,0060
K1	ZOMX160708TR-M12 MK2050	7,0	0,17	0,19	0,28
		0,28	0,0065	0,0075	0,011
K2	ZOMX160708TR-M12 MK2050	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
K3	ZOMX160708TR-M12 MK2050	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
K4	ZOMX160708TR-M12 MK2050	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
K5	ZOMX160708TR-M12 MK2050	7,0	0,14	0,15	0,24
		0,28	0,0055	0,0060	0,0095
K6	ZOMX160708TR-M12 MK2050	7,0	0,16	0,17	0,26
		0,28	0,0065	0,0065	0,010
K7	ZOMX160708TR-M12 MP3000	7,0	0,14	0,15	0,24
		0,28	0,0055	0,0060	0,0095
S1	ZOMX160708TR-ME10 MS2050	4,5	0,095	0,10	0,15
		0,18	0,0038	0,0040	0,0060
S2	ZOMX160708TR-ME10 MS2050	4,5	0,095	0,10	0,15
		0,18	0,0038	0,0040	0,0060
S3	ZOMX160708TR-ME10 MS2050	4,5	0,085	0,095	0,14
		0,18	0,0034	0,0038	0,0055
S11	ZOMX160708TR-ME10 MS2050	5,0	0,11	0,12	0,18
		0,20	0,0044	0,0048	0,0070
S12	ZOMX160708TR-ME10 MS2050	5,0	0,11	0,12	0,18
		0,20	0,0044	0,0048	0,0070
S13	ZOMX160708TR-ME10 MS2050	4,5	0,095	0,10	0,15
		0,18	0,0038	0,0040	0,0060
H5	ZOMX160708TR-M12 MP3000	6,0	0,11	0,12	0,18
		0,24	0,0044	0,0048	0,0070
H8	ZOMX160708TR-M12 MP3000	5,0	0,080	0,090	0,14
		0,20	0,0032	0,0036	0,0055
H11	ZOMX160708TR-M12 MP1501	6,0	0,11	0,12	0,18
		0,24	0,0044	0,0048	0,0070
H12	ZOMX160708TR-M12 MP1501	5,0	0,080	0,090	0,14
		0,20	0,0032	0,0036	0,0055
H21	ZOMX160708TR-M12 MP1501	5,0	0,080	0,090	0,14
		0,20	0,0032	0,0036	0,0055

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.64-16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265	355	420	275	370	435	280	365	420	235	295	330	390	490	550	380	480	540	340	430	485
	870	1175	1375	900	1225	1425	920	1200	1375	770	970	1075	1275	1600	1800	1250	1575	1775	1125	1400	1600
P2	260	340	410	265	350	425	275	350	405	230	280	320	380	470	540	370	460	530	330	410	475
	850	1125	1350	870	1150	1400	900	1150	1325	750	920	1050	1250	1550	1775	1225	1500	1750	1075	1350	1550
P3	230	300	355	235	310	365	235	305	360	200	245	275	335	410	465	325	400	455	290	360	410
	750	980	1175	770	1025	1200	770	1000	1175	660	800	900	1100	1350	1525	1075	1300	1500	950	1175	1350
P4	200	270	315	205	280	330	215	270	315	180	230	265	295	365	415	285	360	410	255	325	365
	660	890	1025	670	920	1075	710	890	1025	590	750	870	970	1200	1350	940	1175	1350	840	1075	1200
P5	190	255	305	200	265	315	205	265	300	170	210	240	280	350	395	275	345	390	245	310	350
	620	840	1000	660	870	1025	670	870	980	560	690	790	920	1150	1300	900	1125	1275	800	1025	1150
P6	215	285	340	220	300	355	230	295	340	190	235	270	315	395	445	310	385	440	275	345	395
	710	940	1125	720	980	1175	750	970	1125	620	770	890	1025	1300	1450	1025	1275	1450	900	1125	1300
P7	205	270	320	210	285	335	215	280	320	180	225	255	295	370	420	290	365	415	260	325	370
	670	890	1050	690	940	1100	710	920	1050	590	740	840	970	1225	1375	950	1200	1350	850	1075	1225
P8	190	250	295	200	260	305	200	255	300	170	205	235	280	345	390	275	340	385	245	305	345
	620	820	970	660	850	1000	660	840	980	560	670	770	920	1125	1275	900	1125	1275	800	1000	1125
P11	195	265	310	205	275	325	210	270	310	175	215	245	290	360	410	285	355	400	250	315	360
	640	870	1025	670	900	1075	690	890	1025	570	710	800	950	1175	1350	940	1175	1300	820	1025	1175
P12	130	170	205	140	185	215	140	175	200	120	145	160	190	230	260	185	230	255	170	205	230
	425	560	670	460	610	710	460	570	660	395	475	520	620	750	850	610	750	840	560	670	750
M1	—	—	—	185	245	295	200	265	315	160	210	255	—	—	—	190	250	300	175	235	280
	—	—	—	610	800	970	660	870	1025	520	690	840	—	—	—	620	820	980	570	770	920
M2	—	—	—	155	205	245	165	220	260	135	175	210	—	—	—	155	210	245	145	195	230
	—	—	—	510	670	800	540	720	850	445	570	690	—	—	—	510	690	800	475	640	750
M3	—	—	—	125	165	200	135	180	210	110	145	170	—	—	—	125	170	205	120	155	190
	—	—	—	410	540	660	445	590	690	360	475	560	—	—	—	410	560	670	395	510	620
M4	—	—	—	100	130	155	105	140	165	85	110	130	—	—	—	100	130	155	95	125	145
	—	—	—	330	425	510	345	460	540	280	360	425	—	—	—	330	425	510	310	410	475
M5	—	—	—	80	110	130	90	115	135	70	95	110	—	—	—	85	110	130	80	105	120
	—	—	—	260	360	425	295	375	445	230	310	360	—	—	—	280	360	425	260	345	395
K1	280	370	440	200	260	310	—	—	—	160	210	250	385	475	540	375	465	530	335	415	480
	920	1225	1450	660	850	1025	—	—	—	520	690	820	1275	1550	1775	1225	1525	1750	1100	1350	1575
K2	245	330	390	175	235	275	—	—	—	140	185	220	340	425	480	330	415	470	295	370	425
	800	1075	1275	570	770	900	—	—	—	460	610	720	1125	1400	1575	1075	1350	1550	970	1225	1400
K3	210	280	330	150	200	235	—	—	—	120	160	185	285	360	405	280	350	400	250	315	360
	690	920	1075	490	660	770	—	—	—	395	520	610	940	1175	1325	920	1150	1300	820	1025	1175
K4	200	265	315	140	190	225	—	—	—	115	150	180	275	340	390	270	335	380	240	300	340
	660	870	1025	460	620	740	—	—	—	375	490	590	900	1125	1275	890	1100	1250	790	980	1125
K5	125	165	190	85	115	135	—	—	—	70	95	110	170	210	235	165	205	230	150	185	210
	410	540	620	280	375	445	—	—	—	230	310	360	560	690	770	540	670	750	490	610	690
K6	175	235	280	125	165	195	—	—	—	100	135	155	240	300	340	235	295	335	210	265	300
	570	770	920	410	540	640	—	—	—	330	445	510	790	980	1125	770	970	1100	690	870	980
K7	160	210	245	110	150	175	—	—	—	90	120	140	215	270	300	215	265	295	190	240	265
	520	690	800	360	490	570	—	—	—	295	395	460	710	890	980	710	870	970	620	790	870
S1	—	—	—	46	60	70	49	65	75	40	50	60	—	—	—	—	—	—	44	60	70
	—	—	—	150	195	230	160	215	245	130	165	195	—	—	—	—	—	—	145	195	230
S2	—	—	—	37	49	60	40	50	60	32	42	50	—	—	—	—	—	—	35	46	55
	—	—	—	120	160	195	130	165	195	105	140	165	—	—	—	—	—	—	115	150	180
S3	—	—	—	33	43	50	35	45	55	28	37	43	—	—	—	—	—	—	31	41	48
	—	—	—	110	140	165	115	150	180	90	120	140	—	—	—	—	—	—	100	135	155
S11	—	—	—	—	—	—	70	90	105	55	70	85	—	—	—	—	—	—	60	80	95
	—	—	—	—	—	—	230	295	345	180	230	280	—	—	—	—	—	—	195	260	310
S12	—	—	—	—	—	—	47	65	75	38	50	60	—	—	—	—	—	—	42	55	65
	—	—	—	—	—	—	155	215	245	125	165	195	—	—	—	—	—	—	140	180	215
S13	—	—	—	—	—	—	28	36	43	22	29	35	—	—	—	—	—	—	25	32	38
	—	—	—	—	—	—	90	120	140	70	95	115	—	—	—	—	—	—	80	105	125
H5	44	60	70	39	50	60	—	—	—	33	44	50	49	65	75	—	—	—	38	50	60
	145	195	230	130	165	195	—	—	—	110	145	165	160	215	245	—	—	—	125	165	195
H8	48	65	75	42	55	65	—	—	—	36	47	55	55	70	80	—	—	—	42	55	65
	155	215	245	140	180	215	—	—	—	120	155	180	180	230	260	—	—	—	140	180	215
H11	55	75	90	49	65	75	—	—	—	42	55	65	65	85	100	—	—	—	49	65	75
	180	245	295	160	215	245	—	—	—	140	180	215	215	280	330	—	—	—	160	215	245
H12	85	110	130	80	105	125	—	—	—	65	85	100	95	125	145	—	—	—	75	95	115
	280	360	425	260	345	410	—	—	—	215	280	330	310	410	475	—	—	—	245	310	375
H21	48	65	75	42	55	65	—	—	—	36	47	55	55	70	80	—	—	—	42	55	65
	155	215	245	140	180	215	—	—	—	120	155	180	180	230	260	—	—	—	140	180	215

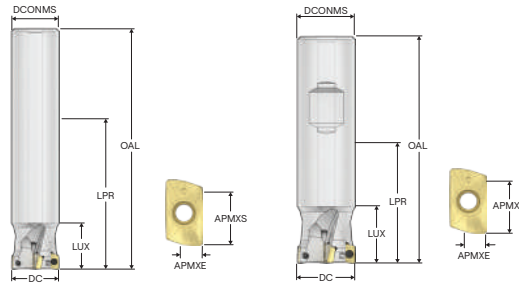


Turbo cutters

The Turbo family takes square shoulder milling to the max. Suitable for most roughing, semi-finishing and finishing operations, these highly versatile cutters offer long tool life and high precision via optimized properties that reduce heat generation and cutting forces.

- Turbo 06 Insert size 06, cutter range metric, Ø 10–40 mm (Imperial Ø 0.375–1.500 inch)
- Turbo 10 Insert size 10, cutter range metric, Ø 16–100mm (Imperial Ø 0.500–3.000 inch)
- Turbo 12 Insert size 12, cutter range metric, Ø 20–250 mm (Imperial Ø 0.750–4.000 inch)
- Turbo 16 Insert size 16, cutter range metric, Ø 25–250 mm (Imperial Ø 1.000–6.000 inch)
- Turbo 18 Insert size 18, cutter range metric, Ø 32–250 mm (Imperial Ø 1.000–6.000 inch)

Turbo 06 – R217.69-06 – Metric



—For insert selection and cutting data recommendations, see page(s) 43–44
 —For complete insert programme, see page(s) 917
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1616.3-06-3AN	02690646	Weldon	16,0	3	5,0	3,0	16,0	46,0	20,0	22,0	70,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.3-06-4AN	02690647	Weldon	16,0	4	5,0	3,0	16,0	46,0	20,0	42,0	70,0	4,0	26,5	31,0	48000	0,1	XO.X0602
R217.69-2020.3-06-4AN	02690648	Weldon	20,0	4	5,0	3,0	20,0	55,0	20,0	30,0	80,0	2,5	34,5	39,0	44000	0,2	XO.X0602
R217.69-2020.3-06-5AN	02690649	Weldon	20,0	5	5,0	3,0	20,0	60,0	20,0	35,0	85,0	2,5	34,5	39,0	44000	0,2	XO.X0602
R217.69-2025.3-06-7AN	02690650	Weldon	25,0	7	5,0	3,0	20,0	65,0	40,0	40,0	90,0	2,5	44,5	49,0	37600	0,2	XO.X0602
R217.69-0810.0-06-2AN	02690707	Cylindrical	10,0	2	5,0	3,0	8,0	—	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-0810.0-06-2N	02690736	Cylindrical	10,0	2	5,0	3,0	8,0	—	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2AD	00035456	Cylindrical	10,0	2	5,0	3,0	10,0	—	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2AN	02690714	Cylindrical	10,0	2	5,0	3,0	10,0	—	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2N	02690737	Cylindrical	10,0	2	5,0	3,0	10,0	—	18,0	62,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1012.0-06-2AN	02690712	Cylindrical	12,0	2	5,0	3,0	10,0	—	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1012.0-06-2N	02690738	Cylindrical	12,0	2	5,0	3,0	10,0	—	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-2AN	02690715	Cylindrical	12,0	2	5,0	3,0	12,0	—	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-2N	02690739	Cylindrical	12,0	2	5,0	3,0	12,0	—	18,0	75,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-3AD	00035457	Cylindrical	12,0	3	5,0	3,0	12,0	—	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,2	XO.X0602
R217.69-1212.0-06-3AN	02690724	Cylindrical	12,0	3	5,0	3,0	12,0	—	18,0	18,0	60,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1214.0-06-3AN	02690708	Cylindrical	14,0	3	5,0	3,0	12,0	—	95,0	95,0	140,0	5,0	22,5	27,0	51200	0,2	XO.X0602
R217.69-1416.0-06-3AN	02690713	Cylindrical	16,0	3	5,0	3,0	14,0	—	115,0	115,0	160,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.0-06-3AN	02690717	Cylindrical	16,0	3	5,0	3,0	16,0	—	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.0-06-4AD	00035458	Cylindrical	16,0	4	5,0	3,0	16,0	—	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,3	XO.X0602
R217.69-1616.0-06-4AN	02690718	Cylindrical	16,0	4	5,0	3,0	16,0	—	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1618.0-06-4AN	02690710	Cylindrical	18,0	4	5,0	3,0	16,0	—	132,0	132,0	180,0	3,0	30,5	35,0	45600	0,3	XO.X0602
R217.69-1820.0-06-4AN	02690711	Cylindrical	20,0	4	5,0	3,0	18,0	—	150,0	150,0	200,0	2,5	34,5	39,0	44000	0,4	XO.X0602
R217.69-2020.0-06-4AN	02690703	Cylindrical	20,0	4	5,0	3,0	20,0	—	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X0602
R217.69-2020.0-06-5AD	00035459	Cylindrical	20,0	5	5,0	3,0	20,0	—	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,5	XO.X0602
R217.69-2020.0-06-5AN	02690720	Cylindrical	20,0	5	5,0	3,0	20,0	—	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X0602
R217.69-2025.0-06-7AN	02690721	Cylindrical	25,0	7	5,0	3,0	20,0	—	65,0	65,0	115,0	2,5	44,5	49,0	37600	0,3	XO.X0602
R217.69-2532.0-06-8AN	02690723	Cylindrical	32,0	8	5,0	3,0	25,0	—	74,0	74,0	130,0	1,5	58,5	63,0	33600	0,5	XO.X0602
R217.69-3240.0-06-10AN	02690725	Cylindrical	40,0	10	5,0	3,0	32,0	—	80,0	80,0	140,0	1,0	74,5	79,0	28000	0,9	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	T06P-2	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

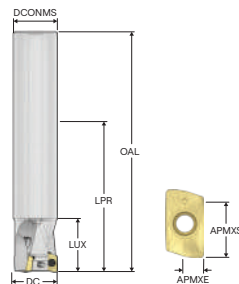
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 06 – R217.69-06 – Inch



—For insert selection and cutting data recommendations, see page(s) 43–44
 —For complete insert programme, see page(s) 917
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.375-0-06-2AN	02694880	Cylindrical	0.375	2	0.197	0.118	0.375	0.669	0.669	2.165	10,0	0.531	0.709	60000	0.220	XO.X0602
R217.69-00.375-0-06-2LAN	02694883	Cylindrical	0.375	2	0.197	0.118	0.313	2.362	2.362	3.937	10,0	0.531	0.709	60000	0.220	XO.X0602
R217.69-00.50-0-06-2AN	02694884	Cylindrical	0.500	2	0.197	0.118	0.500	0.709	1.378	3.150	6,5	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.50-0-06-2LAN	02694886	Cylindrical	0.500	2	0.197	0.118	0.375	2.362	2.362	3.937	6,5	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.50-0-06-3AN	02694887	Cylindrical	0.500	3	0.197	0.118	0.500	0.709	0.709	2.362	6,0	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.625-0-06-3AN	02694889	Cylindrical	0.625	3	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.625-0-06-3LAN	02694890	Cylindrical	0.625	3	0.197	0.118	0.500	3.150	3.150	4.921	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.625-0-06-4AN	02694891	Cylindrical	0.625	4	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.75-0-06-4AN	02694892	Cylindrical	0.750	4	0.197	0.118	0.750	0.787	1.969	3.937	2,0	1.280	1.457	44000	0.660	XO.X0602
R217.69-00.75-0-06-4LAN	02694898	Cylindrical	0.750	4	0.197	0.118	0.625	4.016	4.016	5.906	2,0	1.280	1.457	44000	0.440	XO.X0602
R217.69-00.75-0-06-5AN	02694896	Cylindrical	0.750	5	0.197	0.118	0.750	0.787	1.969	3.937	2,5	1.280	1.457	44000	0.440	XO.X0602
R217.69-00.875-0-06-5LAN	02694899	Cylindrical	0.875	5	0.197	0.118	0.750	3.937	3.937	5.906	2,0	1.535	1.713	44000	0.880	XO.X0602
R217.69-01.00-0-06-6LAN	02694903	Cylindrical	1.000	6	0.197	0.118	0.750	5.906	5.906	7.874	1,0	1.772	1.949	37600	0.880	XO.X0602
R217.69-01.25-0-06-8AN	02694907	Cylindrical	1.250	8	0.197	0.118	1.000	2.913	2.913	5.118	1,0	2.283	2.461	33600	1.100	XO.X0602

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

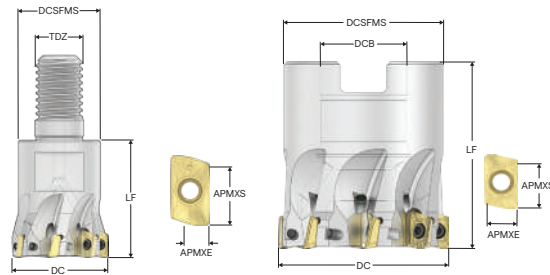
For cutter	Insert key	Insert screw
		
R217.69-..	T06P-2	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217/220.69-06 – Metric

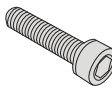


- For insert selection and cutting data recommendations, see page(s) 43–44
- For complete insert programme, see page(s) 917
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.69-0816.RE-06-4AN	02690643	Combimaster	16,0	4	5,0	3,0	–	13,5	M8	13,5	23,0	7,5	26,5	31,0	48000	0,1	XO.X0602
R217.69-1020.RE-06-5AN	02690641	Combimaster	20,0	5	5,0	3,0	–	18,0	M10	18,0	28,0	4,5	34,5	39,0	44000	0,1	XO.X0602
R217.69-1225.RE-06-7AN	02690642	Combimaster	25,0	7	5,0	3,0	–	21,0	M12	21,0	30,0	2,5	44,5	49,0	37600	0,1	XO.X0602
R217.69-1632.RE-06-8AN	02690638	Combimaster	32,0	8	5,0	3,0	–	28,0	M16	28,0	35,0	1,5	58,5	63,0	33600	0,2	XO.X0602
R217.69-1640.RE-06-10AN	02690639	Combimaster	40,0	10	5,0	3,0	–	28,0	M16	28,0	40,0	1,0	74,5	79,0	28000	0,3	XO.X0602
R220.69-0032-06-8AN	02690741	Arbor	32,0	8	5,0	3,0	16,0	30,0	–	16,0	35,0	1,5	58,5	63,0	33600	0,2	XO.X0602
R220.69-0040-06-10AN	02690742	Arbor	40,0	10	5,0	3,0	16,0	35,0	–	16,0	35,0	1,0	74,5	79,0	18600	0,2	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	T06P-2	C01804-T06P
R220.69-..	TCEI0825	T06P-2	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

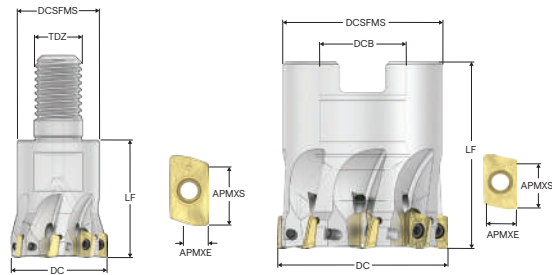
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 06 – R217/220.69-06 – Inch

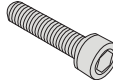


- For insert selection and cutting data recommendations, see page(s) 43–44
- For complete insert programme, see page(s) 917
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-06-7AN	02695013	Combimaster	1.000	7	0.197	0.118	–	0.906	M12	0.906	1.378	1,5	1.772	1.949	37600	0.220	XO.X0602
R220.69-01.50-06-10AN	02694915	Arbor	1.500	10	0.197	0.118	0.500	1.378	–	0.500	1.378	1,0	2.776	2.953	28000	0.660	XO.X0602

Modification of the cutter body needed for radii > 0.031 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	T06P-2	C01804-T06P
R220.69-..	UC6S1/4UNFX1	T06P-2	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217/220.69-06 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX060204R-M05 F40M	2,5 0.10	0,070 0.0028	0,080 0.0032	0,12 0.0048
P2	XOMX060204R-M05 F40M	2,5 0.10	0,070 0.0028	0,080 0.0032	0,12 0.0048
P3	XOMX060204R-M05 F40M	2,5 0.10	0,070 0.0028	0,075 0.0030	0,12 0.0048
P4	XOMX060204R-M05 F40M	2,5 0.10	0,065 0.0026	0,075 0.0030	0,11 0.0044
P5	XOMX060204R-M05 F40M	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
P6	XOMX060204R-M05 F40M	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
P7	XOMX060204R-M05 F40M	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
P8	XOMX060204R-M05 F40M	2,5 0.10	0,070 0.0028	0,075 0.0030	0,12 0.0048
P11	XOMX060204R-M05 MP3000	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
P12	XOMX060204R-M05 MP3000	2,0 0.080	0,046 0.0018	0,050 0.0020	0,075 0.0030
M1	XOMX060204R-M05 F40M	2,5 0.10	0,070 0.0028	0,080 0.0032	0,12 0.0048
M2	XOMX060204R-M05 F40M	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
M3	XOMX060204R-M05 F40M	2,0 0.080	0,055 0.0022	0,060 0.0024	0,090 0.0036
M4	XOMX060204R-M05 MS2050	1,5 0.060	0,048 0.0019	0,050 0.0020	0,080 0.0032
M5	XOMX060204R-M05 MS2050	1,5 0.060	0,048 0.0019	0,050 0.0020	0,080 0.0032
K1	XOMX060204R-M05 MP3000	2,5 0.10	0,070 0.0028	0,080 0.0032	0,12 0.0048
K2	XOMX060204R-M05 MP3000	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
K3	XOMX060204R-M05 MP3000	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
K4	XOMX060204R-M05 MP3000	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
K5	XOMX060204R-M05 MP3000	2,5 0.10	0,060 0.0024	0,065 0.0026	0,10 0.0040
K6	XOMX060204R-M05 MP3000	2,5 0.10	0,065 0.0026	0,070 0.0028	0,11 0.0044
K7	XOMX060204R-M05 MP3000	2,5 0.10	0,060 0.0024	0,065 0.0026	0,10 0.0040
N1	XOEX060204FR-E03 H15	2,5 0.10	0,075 0.0030	0,080 0.0032	0,12 0.0048
N2	XOEX060204FR-E03 H15	2,5 0.10	0,075 0.0030	0,080 0.0032	0,12 0.0048
N3	XOEX060204FR-E03 H15	2,5 0.10	0,075 0.0030	0,080 0.0032	0,12 0.0048
N11	XOEX060204FR-E03 H15	2,5 0.10	0,075 0.0030	0,080 0.0032	0,12 0.0048
S1	XOMX060204R-M05 F40M	1,5 0.060	0,048 0.0019	0,050 0.0020	0,080 0.0032
S2	XOMX060204R-M05 F40M	1,5 0.060	0,048 0.0019	0,050 0.0020	0,080 0.0032
S3	XOMX060204R-M05 F40M	1,5 0.060	0,044 0.0017	0,048 0.0019	0,075 0.0030
S11	XOMX060204R-M05 MS2050	1,7 0.065	0,055 0.0022	0,060 0.0024	0,090 0.0036
S12	XOMX060204R-M05 MS2050	1,7 0.065	0,055 0.0022	0,060 0.0024	0,090 0.0036
S13	XOMX060208R-M05 MS2050	1,5 0.060	0,050 0.0020	0,055 0.0022	0,085 0.0034
H5	XOMX060208R-M05 MH1051	2,0 0.080	0,048 0.0019	0,050 0.0020	0,080 0.0032
H8	XOMX060208R-M05 MH1051	1,7 0.065	0,038 0.0015	0,040 0.0016	0,065 0.0026
H11	XOMX060208R-M05 MH1051	2,0 0.080	0,048 0.0019	0,050 0.0020	0,080 0.0032
H12	XOMX060208R-M05 MH1051	1,7 0.065	0,038 0.0015	0,040 0.0016	0,065 0.0026
H21	XOMX060208R-M05 MH1051	1,7 0.065	0,038 0.0015	0,040 0.0016	0,065 0.0026

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

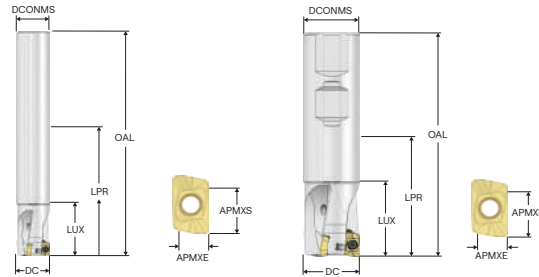
Chamfer milling
cutters

Spot facing
cutters

Inserts

secotools.com

Turbo 10 – R217.69-10 – Metric



- For insert selection and cutting data recommendations, see page(s) 50-52
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1616.3-10-2A	02769180	Weldon	16,0	2	9,0	6,0	16,0	54,0	24,0	30,0	78,0	7,5	21,0	30,5	29400	0,1	XO.X10T3
R217.69-2018.3-10-2A	02772254	Weldon	18,0	2	9,0	6,0	20,0	60,0	29,0	30,0	85,0	6,0	25,0	34,5	27800	0,2	XO.X10T3
R217.69-2020.3-10-2A	02769210	Weldon	20,0	2	9,0	6,0	20,0	65,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10T3
R217.69-2020.3-10-3A	02769212	Weldon	20,0	3	9,0	6,0	20,0	65,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10T3
R217.69-2525.3-10-3A	02769225	Weldon	25,0	3	9,0	6,0	25,0	69,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,3	XO.X10T3
R217.69-2525.3-10-4A	02769227	Weldon	25,0	4	9,0	6,0	25,0	69,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,3	XO.X10T3
R217.69-3232.3-10-3A	02769232	Weldon	32,0	3	9,0	6,0	32,0	74,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,7	XO.X10T3
R217.69-3232.3-10-5A	02769233	Weldon	32,0	5	9,0	6,0	32,0	74,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,6	XO.X10T3
R217.69-1416.0-10-2A	02772250	Cylindrical	16,0	2	9,0	6,0	14,0	–	112,0	112,0	160,0	7,5	21,0	30,5	29400	0,2	XO.X10T3
R217.69-1616.0-10-2A	02769179	Cylindrical	16,0	2	9,0	6,0	16,0	–	30,0	87,0	135,0	7,5	21,0	30,5	29400	0,2	XO.X10T3
R217.69-1618.0-10-2A	02772252	Cylindrical	18,0	2	9,0	6,0	16,0	–	112,0	112,0	160,0	6,0	25,0	34,5	27800	0,3	XO.X10T3
R217.69-1820.0-10-2A	02769205	Cylindrical	20,0	2	9,0	6,0	18,0	–	150,0	150,0	200,0	4,5	29,0	38,5	26300	0,4	XO.X10T3
R217.69-2020.0-10-2A	02769206	Cylindrical	20,0	2	9,0	6,0	20,0	–	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,3	XO.X10T3
R217.69-2020.0-10-3A	02769209	Cylindrical	20,0	3	9,0	6,0	20,0	–	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,4	XO.X10T3
R217.69-2225.0-10-3A	02772253	Cylindrical	25,0	3	9,0	6,0	22,0	–	150,0	150,0	200,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-2525.0-10-3A	02769218	Cylindrical	25,0	3	9,0	6,0	25,0	–	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-2525.0-10-4A	02769224	Cylindrical	25,0	4	9,0	6,0	25,0	–	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-3232.0-10-3A	02769230	Cylindrical	32,0	3	9,0	6,0	32,0	–	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,1	XO.X10T3
R217.69-3232.0-10-5A	02769231	Cylindrical	32,0	5	9,0	6,0	32,0	–	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,1	XO.X10T3

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

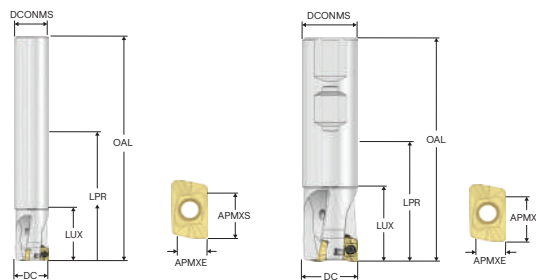
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Turbo 10 – R217.69-10 – inch



—For insert selection and cutting data recommendations, see page(s) 50-52
 —For complete insert programme, see page(s) 918, 919
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.50-3-10-1A	03058730	Weldon	0.500	1	0.354	0.236	0.625	2.299	1.083	1.378	3.252	3,0	1.516	1.890	33100	0.440	XO.X10T3
R217.69-00.62-3-10-2A	02772634	Weldon	0.625	2	0.354	0.236	0.625	2.299	1.083	1.362	3.252	7,5	0.827	1.201	29400	0.440	XO.X10T3
R217.69-00.75-3-10-2A	02772637	Weldon	0.750	2	0.354	0.236	0.750	2.374	1.189	1.374	3.390	5,0	1.063	1.437	26300	0.440	XO.X10T3
R217.69-00.750-3-10-3A	02903111	Weldon	0.750	3	0.354	0.236	0.750	2.374	1.189	1.575	3.390	4,5	1.083	1.457	26300	0.220	XO.X10T3
R217.69-00.87-3-10-3A	02772720	Weldon	0.875	3	0.354	0.236	0.750	2.374	1.421	1.421	3.390	5,0	1.319	1.693	25000	0.440	XO.X10T3
R217.69-01.00-3-10-3A	02772711	Weldon	1.000	3	0.354	0.236	1.000	2.638	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.660	XO.X10T3
R217.69-01.00-3-10-4A	02772713	Weldon	1.000	4	0.354	0.236	1.000	2.638	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.880	XO.X10T3
R217.69-01.25-3-10-5A	02772731	Weldon	1.250	5	0.354	0.236	1.250	2.858	1.240	1.736	4.000	2,0	2.067	2.441	20800	1.100	XO.X10T3
R217.69-01.50-3-10-4A	02773428	Weldon	1.500	4	0.354	0.236	1.250	2.858	1.736	1.736	4.000	1,5	2.579	2.953	18600	1.320	XO.X10T3
R217.69-00.62-0-10-2A	02772633	Cylindrical	0.625	2	0.354	0.236	0.625	–	1.083	3.425	5.315	7,5	0.807	1.181	29400	0.440	XO.X10T3
R217.69-00.75-0-10-2A	02772636	Cylindrical	0.750	2	0.354	0.236	0.750	–	1.181	3.937	5.906	5,0	1.063	1.437	26300	0.660	XO.X10T3
R217.69-00.87-0-10-3A	02772719	Cylindrical	0.875	3	0.354	0.236	0.750	–	3.937	3.937	5.906	5,0	1.299	1.673	26300	0.880	XO.X10T3
R217.69-01.00-0-10-3A	02772707	Cylindrical	1.000	3	0.354	0.236	1.000	–	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.540	XO.X10T3
R217.69-01.00-0-10-4A	02772710	Cylindrical	1.000	4	0.354	0.236	1.000	–	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.320	XO.X10T3
R217.69-01.25-0-10-5A	02772728	Cylindrical	1.250	5	0.354	0.236	1.250	–	1.240	5.315	7.677	2,0	2.067	2.441	20800	2.650	XO.X10T3

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

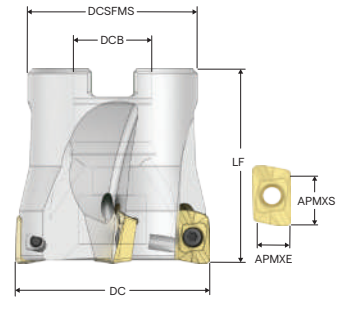
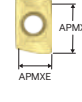
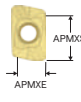
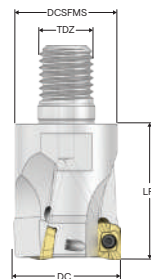
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217/220.69-10 – Metric



- For insert selection and cutting data recommendations, see page(s) 50-52
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	LUX	RMPX°	Cmin	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm	mm	mm	kg	
C4-R217.69-044-10-4A	02824179	Seco-Capto	44,0	4	9,0	6,0	—	40,0	—	40,0	60,0	60,0	1,3	77,0 86,5	28000	XO.X10T3
C5-R217.69-054-10-5A	02824181	Seco-Capto	54,0	5	9,0	6,0	—	50,0	—	50,0	60,0	60,0	1,2	97,0 106,5	14200	XO.X10T3
R217.69-0816.RE-10-2A	02769181	Combimaster	16,0	2	9,0	6,0	—	14,0	M8	14,0	23,0	—	7,5	21,0 30,5	29400	XO.X10T3
R217.69-1020.RE-10-2A	02769213	Combimaster	20,0	2	9,0	6,0	—	19,0	M10	19,0	28,0	—	4,5	29,0 38,5	26300	XO.X10T3
R217.69-1020.RE-10-3A	02769214	Combimaster	20,0	3	9,0	6,0	—	19,0	M10	19,0	28,0	—	4,5	29,0 38,5	26300	XO.X10T3
R217.69-1225.RE-10-3A	02769228	Combimaster	25,0	3	9,0	6,0	—	23,0	M12	23,0	30,0	—	3,0	39,0 48,5	23500	XO.X10T3
R217.69-1225.RE-10-4A	02769229	Combimaster	25,0	4	9,0	6,0	—	23,0	M12	23,0	30,0	—	3,0	39,0 48,5	23500	XO.X10T3
R217.69-1632.RE-10-3A	02769234	Combimaster	32,0	3	9,0	6,0	—	30,0	M16	30,0	40,0	—	2,0	53,0 62,5	20800	XO.X10T3
R217.69-1632.RE-10-5A	02769235	Combimaster	32,0	5	9,0	6,0	—	30,0	M16	30,0	40,0	—	2,0	53,0 62,5	20800	XO.X10T3
R217.69-2040.RE-10-4A	02769295	Combimaster	40,0	4	9,0	6,0	—	36,5	M20	36,5	40,0	—	1,5	69,0 78,5	18600	XO.X10T3
R217.69-2040.RE-10-6A	02769296	Combimaster	40,0	6	9,0	6,0	—	36,5	M20	36,5	40,0	—	1,5	69,0 78,5	18600	XO.X10T3
R220.69-0032-10-4A	02840940	Arbor	32,0	4	9,0	6,0	16,0	30,0	—	16,0	35,0	—	2,0	53,0 62,5	20800	XO.X10T3
R220.69-0032-10-5A	02841295	Arbor	32,0	5	9,0	6,0	16,0	30,0	—	16,0	35,0	—	2,0	53,0 62,5	20800	XO.X10T3
R220.69-0040-10-4A	02769302	Arbor	40,0	4	9,0	6,0	16,0	35,0	—	16,0	40,0	—	1,5	69,0 78,5	18600	XO.X10T3
R220.69-0040-10-6A	02769304	Arbor	40,0	6	9,0	6,0	16,0	35,0	—	16,0	40,0	—	1,5	69,0 78,5	18600	XO.X10T3
R220.69-0044-10-4A	02969079	Arbor	44,0	4	9,0	6,0	16,0	35,0	—	16,0	40,0	—	1,3	77,0 86,5	18600	XO.X10T3
R220.69-0050-10-5A	02769710	Arbor	50,0	5	9,0	6,0	22,0	47,0	—	22,0	40,0	—	1,2	89,0 98,5	16600	XO.X10T3
R220.69-0050-10-7A	02769713	Arbor	50,0	7	9,0	6,0	22,0	47,0	—	22,0	40,0	—	1,2	89,0 98,5	16600	XO.X10T3
R220.69-0052-10-5A	02969080	Arbor	52,0	5	9,0	6,0	22,0	47,0	—	22,0	40,0	—	1,2	93,0 102,5	16400	XO.X10T3
R220.69-0063-10-5A	02770205	Arbor	63,0	5	9,0	6,0	27,0	52,0	—	27,0	40,0	—	0,9	115,0 124,5	14800	XO.X10T3
R220.69-0063-10-8A	02770206	Arbor	63,0	8	9,0	6,0	27,0	52,0	—	27,0	40,0	—	0,9	115,0 124,5	14800	XO.X10T3
R220.69-0066-10-5A	02969081	Arbor	66,0	5	9,0	6,0	27,0	52,0	—	27,0	40,0	—	0,9	121,0 130,5	14800	XO.X10T3
R220.69-0080-10-8A	02770207	Arbor	80,0	8	9,0	6,0	27,0	62,0	—	27,0	50,0	—	0,5	149,0 158,5	13200	XO.X10T3
R220.69-0080-10-10A	02770208	Arbor	80,0	10	9,0	6,0	27,0	62,0	—	27,0	50,0	—	0,5	149,0 158,5	13200	XO.X10T3
R220.69-0100-10-12A	02770209	Arbor	100,0	12	9,0	6,0	32,0	77,0	—	32,0	50,0	—	0,5	189,0 198,5	11800	XO.X10T3

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.69/220.69-0080-0100	-	1/4HEX-T07PX50	C02506-T07P
R220.69-0032	220.17-690	1/4HEX-T07PX50	C02506-T07P
R220.69-0040-0044	MC6S8X30	1/4HEX-T07PX50	C02506-T07P
R220.69-0050-0052	220.17-692	1/4HEX-T07PX50	C02506-T07P
R220.69-0063-0066	220.17-693	1/4HEX-T07PX50	C02506-T07P

Helical milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

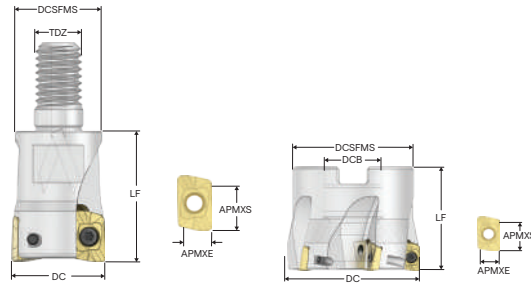
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 10 – R217/220.69-10 – Inch

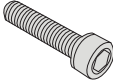


- For insert selection and cutting data recommendations, see page(s) 50–52
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.62-08RE-10-2A	02772627	Combimaster	0.625	2	0.354	0.236	–	0.531	M8	0.531	0.906	7,5	0.807	1.181	29400	0.220	XO.X10T3
R217.69-00.75-10RE-10-2A	02772635	Combimaster	0.750	2	0.354	0.236	–	0.728	M10	0.728	1.378	5,0	1.063	1.437	26300	0.220	XO.X10T3
R217.69-01.00-12RE-10-3A	02772703	Combimaster	1.000	3	0.354	0.236	–	0.906	M12	0.906	1.575	2,5	1.555	1.929	23500	0.220	XO.X10T3
R217.69-01.00-12RE-10-4A	02772705	Combimaster	1.000	4	0.354	0.236	–	0.906	M12	0.906	1.575	2,5	1.555	1.929	23500	0.220	XO.X10T3
R217.69-01.25-16RE-10-5A	02772725	Combimaster	1.250	5	0.354	0.236	–	1.181	M16	1.181	1.575	1,5	2.067	2.441	20800	0.440	XO.X10T3
R217.69-01.50-20RE-10-6A	03170244	Combimaster	1.500	6	0.354	0.236	–	1.457	M20	1.457	1.575	1,5	2.559	2.933	18600	0.880	XO.X10T3
R220.69-01.50-10-4A	02773432	Arbor	1.500	4	0.354	0.236	0.750	1.378	–	0.750	1.575	1,5	2.559	2.933	18600	0.440	XO.X10T3
R220.69-01.50-10-6A	02773433	Arbor	1.500	6	0.354	0.236	0.750	1.378	–	0.750	1.575	1,5	2.559	2.933	18600	0.660	XO.X10T3
R220.69-02.00-10-5A	02773434	Arbor	2.000	5	0.354	0.236	0.750	1.850	–	0.750	1.575	1,0	3.563	3.937	16600	1.100	XO.X10T3
R220.69-02.00-10-7A	02773435	Arbor	2.000	7	0.354	0.236	0.750	1.850	–	0.750	1.575	1,0	3.563	3.937	16600	0.880	XO.X10T3
R220.69-03.00-10-10A	02773438	Arbor	3.000	10	0.354	0.236	1.000	2.441	–	1.000	1.969	0,5	5.551	5.925	13200	2.430	XO.X10T3

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T07PX50	C02506-T07P
R220.69-01.50 - 02.00	UC6S3/8UNFX1	1/4HEX-T07PX50	C02506-T07P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.69-10 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX10T308TR-ME07 F40M	4,5 0.18	0,10 0.0040	0,11 0.0044	0,17 0.0065
	P2	XOMX10T308TR-ME07 F40M	4,5 0.18	0,10 0.0040	0,11 0.0044	0,17 0.0065
Helical milling cutters	P3	XOMX10T308TR-ME07 MP2501	4,5 0.18	0,095 0.0038	0,11 0.0044	0,16 0.0065
	P4	XOMX10T308TR-ME07 MP2501	4,5 0.18	0,095 0.0038	0,10 0.0040	0,16 0.0065
Face milling cutters	P5	XOMX10T308TR-M09 MP2501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P6	XOMX10T308TR-M09 MP2501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
Disc milling cutters	P7	XOMX10T308TR-M09 MP2501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P8	XOMX10T308TR-M09 MP2501	4,5 0.18	0,12 0.0048	0,14 0.0055	0,20 0.0080
High feed milling cutters	P11	XOMX10T308TR-M09 MP3501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P12	XOMX10T308TR-M09 MS2500	3,5 0.14	0,080 0.0032	0,090 0.0036	0,14 0.0055
Copy milling cutters	M1	XOEX10T308R-M06 F40M	4,5 0.18	0,085 0.0034	0,085 0.0038	0,15 0.0060
	M2	XOEX10T308R-M06 F40M	4,5 0.18	0,080 0.0032	0,085 0.0034	0,13 0.0050
Plunge milling cutters	M3	XOEX10T308R-M06 F40M	3,5 0.14	0,065 0.0026	0,070 0.0028	0,11 0.0044
	M4	XOEX10T308R-M06 MS2050	2,5 0.10	0,055 0.0022	0,065 0.0026	0,095 0.0038
Chamfer milling cutters	M5	XOEX10T304R-M06 MS2050	2,5 0.10	0,055 0.0022	0,060 0.0024	0,090 0.0036
	K1	XOMX10T308TR-M09 MK1501	4,5 0.18	0,13 0.0050	0,14 0.0055	0,22 0.0085
Spot facing cutters	K2	XOMX10T308TR-M09 MK1501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K3	XOMX10T308TR-M09 MK2050	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
Inserts	K4	XOMX10T308TR-M09 MK2050	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K5	XOMX10T308TR-M09 MK2050	4,5 0.18	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K6	XOMX10T308TR-M09 MK2050	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K7	XOMX10T308TR-M09 MK2050	4,5 0.18	0,11 0.0044	0,12 0.0048	0,18 0.0070
	N1	XOEX10T308FR-E05 H15	4,5 0.18	0,095 0.0038	0,10 0.0040	0,15 0.0060
	N2	XOEX10T308FR-E05 H15	4,5 0.18	0,095 0.0038	0,10 0.0040	0,15 0.0060
	N3	XOEX10T308FR-E05 H15	4,5 0.18	0,095 0.0038	0,10 0.0040	0,15 0.0060
	N11	XOEX10T308FR-E05 H15	4,5 0.18	0,095 0.0038	0,10 0.0040	0,15 0.0060
	S1	XOEX10T308R-M06 F40M	2,5 0.10	0,055 0.0022	0,065 0.0026	0,095 0.0038
	S2	XOEX10T308R-M06 F40M	2,5 0.10	0,055 0.0022	0,065 0.0026	0,095 0.0038
	S3	XOEX10T308R-M06 F40M	2,5 0.10	0,055 0.0022	0,060 0.0024	0,090 0.0036
	S11	XOEX10T308R-M06 MS2050	3,0 0.12	0,065 0.0026	0,070 0.0028	0,11 0.0044
	S12	XOEX10T308R-M06 MS2050	3,0 0.12	0,065 0.0026	0,070 0.0028	0,11 0.0044
	S13	XOEX10T308R-M06 MS2050	2,5 0.10	0,055 0.0022	0,065 0.0026	0,095 0.0038
	H5	XOMX10T308TR-M09 MH1051	3,5 0.14	0,080 0.0032	0,090 0.0036	0,14 0.0055
	H8	XOMX10T308TR-M09 MH1051	3,0 0.12	0,065 0.0026	0,070 0.0028	0,11 0.0044
	H11	XOMX10T308TR-M09 MH1051	3,5 0.14	0,080 0.0032	0,090 0.0036	0,14 0.0055
	H12	XOMX10T308TR-M09 MH1051	3,0 0.12	0,065 0.0026	0,070 0.0028	0,11 0.0044
	H21	XOMX10T308TR-M09 MH1051	3,0 0.12	0,065 0.0026	0,070 0.0028	0,11 0.0044

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

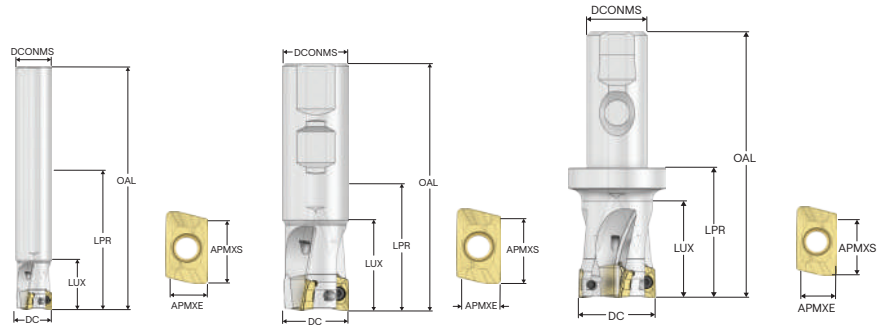
R217/220.69-10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	285	380	445	300	395	460	315	395	455	305	365	410	430	530	590	330	430	510	—	—	—
	—	—	—	940	1250	1450	980	1300	1500	1025	1300	1500	1000	1200	1350	1400	1750	1925	1075	1400	1675	—	—	—
P2	—	—	—	280	370	435	290	385	450	305	385	440	300	355	400	420	520	580	320	420	500	—	—	—
	—	—	—	920	1225	1425	950	1275	1475	1000	1275	1450	980	1175	1300	1375	1700	1900	1050	1375	1650	—	—	—
P3	—	—	—	245	325	380	260	340	400	265	335	380	260	310	345	365	445	495	280	365	430	—	—	—
	—	—	—	800	1075	1250	850	1125	1300	870	1100	1250	850	1025	1125	1200	1450	1625	920	1200	1400	—	—	—
P4	—	—	—	215	285	335	230	300	350	235	295	340	230	280	320	325	395	435	245	320	385	—	—	—
	—	—	—	710	940	1100	750	980	1150	770	970	1125	750	920	1050	1075	1300	1425	800	1050	1275	—	—	—
P5	415	550	650	205	275	320	220	285	335	225	285	325	220	265	295	310	375	415	235	310	365	—	—	—
	1350	1800	2125	670	900	1050	720	940	1100	740	940	1075	720	870	970	1025	1225	1350	770	1025	1200	—	—	—
P6	465	620	730	230	305	360	245	320	380	250	320	365	245	295	330	345	425	465	265	350	410	—	—	—
	1525	2025	2400	750	1000	1175	800	1050	1250	820	1050	1200	800	970	1075	1125	1400	1525	870	1150	1350	—	—	—
P7	440	590	690	220	290	340	230	305	360	240	300	345	230	280	310	325	400	440	250	330	390	—	—	—
	1450	1925	2275	720	950	1125	750	1000	1175	790	980	1125	750	920	1025	1075	1300	1450	820	1075	1275	—	—	—
P8	415	550	650	205	275	320	220	285	335	225	280	320	220	260	290	310	375	415	235	310	360	—	—	—
	1350	1800	2125	670	900	1050	720	940	1100	740	920	1050	720	850	950	1025	1225	1350	770	1025	1175	—	—	—
P11	425	570	670	210	280	330	225	295	350	230	290	335	225	270	300	285	430	540	240	320	375	—	—	—
	1400	1875	2200	690	920	1075	740	970	1150	750	950	1100	740	890	980	940	1400	1775	790	1050	1225	—	—	—
P12	300	385	450	140	180	215	150	195	220	150	185	205	145	170	190	170	245	295	155	205	240	—	—	—
	980	1275	1475	460	590	710	490	640	720	490	610	670	475	560	620	560	800	970	510	670	790	—	—	—
M1	—	—	—	—	—	—	195	260	305	220	285	340	200	260	310	335	500	630	230	300	355	—	—	—
	—	—	—	—	—	—	640	850	1000	720	940	1125	660	850	1025	1100	1650	2075	750	980	1175	—	—	—
M2	—	—	—	—	—	—	165	215	255	180	240	280	165	215	255	270	405	510	190	250	295	—	—	—
	—	—	—	—	—	—	540	710	840	590	790	920	540	710	840	890	1325	1675	620	820	970	—	—	—
M3	—	—	—	—	—	—	135	175	205	145	190	220	130	175	200	210	305	380	150	200	230	—	—	—
	—	—	—	—	—	—	445	570	670	475	620	720	425	570	660	690	1000	1250	490	660	750	—	—	—
M4	—	—	—	—	—	—	105	135	160	115	150	175	105	135	155	155	220	270	120	155	180	—	—	—
	—	—	—	—	—	—	345	445	520	375	490	570	345	445	510	510	720	890	395	510	590	—	—	—
M5	—	—	—	—	—	—	85	115	130	95	125	145	85	110	130	130	185	225	100	130	150	—	—	—
	—	—	—	—	—	—	280	375	425	310	410	475	280	360	425	425	610	740	330	425	490	—	—	—
K1	560	750	880	300	400	465	210	275	325	—	—	—	195	255	305	—	—	—	—	—	—	—	—	—
	1825	2450	2875	980	1300	1525	690	900	1075	—	—	—	640	840	1000	—	—	—	—	—	—	—	—	—
K2	500	670	790	265	355	415	185	245	290	—	—	—	175	230	270	—	—	—	—	—	—	—	—	—
	1650	2200	2600	870	1175	1350	610	800	950	—	—	—	570	750	890	—	—	—	—	—	—	—	—	—
K3	425	570	670	225	300	350	155	205	245	—	—	—	145	195	225	—	—	—	—	—	—	—	—	—
	1400	1875	2200	740	980	1150	510	670	800	—	—	—	475	640	740	—	—	—	—	—	—	—	—	—
K4	405	540	640	215	285	335	150	200	235	—	—	—	140	185	215	—	—	—	—	—	—	—	—	—
	1325	1775	2100	710	940	1100	490	660	770	—	—	—	460	610	710	—	—	—	—	—	—	—	—	—
K5	250	330	395	130	175	205	90	120	145	—	—	—	85	110	130	—	—	—	—	—	—	—	—	—
	820	1075	1300	425	570	670	295	395	475	—	—	—	280	360	425	—	—	—	—	—	—	—	—	—
K6	355	475	560	190	250	295	130	175	205	—	—	—	125	160	190	—	—	—	—	—	—	—	—	—
	1175	1550	1825	620	820	970	425	570	670	—	—	—	410	520	620	—	—	—	—	—	—	—	—	—
K7	320	425	500	170	220	260	115	155	185	—	—	—	110	140	170	—	—	—	—	—	—	—	—	—
	1050	1400	1650	560	720	850	375	510	610	—	—	—	360	460	560	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1450	1925	2275	—	—	—	—	—	—	1525	2000	2350
	—	—	—	—	—	—	—	—	—	—	—	—	4750	6325	7475	—	—	—	—	—	—	5000	6550	7700
N2	—	—	—	—	—	—	—	—	—	—	—	—	590	770	920	—	—	—	—	—	—	610	800	950
	—	—	—	—	—	—	—	—	—	—	—	—	1925	2525	3025	—	—	—	—	—	—	2000	2625	3125
N3	—	—	—	—	—	—	—	—	—	—	—	—	390	520	610	—	—	—	—	—	—	410	540	630
	—	—	—	—	—	—	—	—	—	—	—	—	1275	1700	2000	—	—	—	—	—	—	1350	1775	2075
N11	—	—	—	—	—	—	—	—	—	—	—	—	445	590	700	—	—	—	—	—	—	470	610	720
	—	—	—	—	—	—	—	—	—	—	—	—	1450	1925	2300	—	—	—	—	—	—	1550	2000	2350
S1	—	—	—	—	—	—	48	65	75	55	70	80	49	65	75	60	75	90	60	75	90	—	—	—
	—	—	—	—	—	—	155	215	245	180	230	260	160	215	245	195	245	295	195	245	295	—	—	—
S2	—	—	—	—	—	—	39	50	60	43	55	65	39	50	60	47	60	70	47	60	70	—	—	—
	—	—	—	—	—	—	130	165	195	140	180	215	130	165	195	155	195	230	155	195	230	—	—	—
S3	—	—	—	—	—	—	34	45	50	37	49	55	34	44	50	41	55	60	41	55	60	—	—	—
	—	—	—	—	—	—	1																	

R217/220.69-10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	420	510	580	410	510	570	395	490	550	370	455	510	235	300	345
	—	—	—	1375	1675	1900	1350	1675	1875	1300	1600	1800	1225	1500	1675	770	980	1125
P2	—	—	—	410	500	560	400	495	550	385	475	540	360	445	495	230	290	335
	—	—	—	1350	1650	1825	1300	1625	1800	1275	1550	1775	1175	1450	1625	750	950	1100
P3	—	—	—	360	440	490	355	430	485	335	415	470	315	390	435	200	255	290
	—	—	—	1175	1450	1600	1175	1400	1600	1100	1350	1550	1025	1275	1425	660	840	950
P4	—	—	—	315	385	430	310	380	425	295	365	415	280	340	385	190	245	280
	—	—	—	1025	1275	1400	1025	1250	1400	970	1200	1350	920	1125	1275	620	800	920
P5	—	—	—	300	370	415	295	365	410	285	350	395	265	325	365	170	215	245
	—	—	—	980	1225	1350	970	1200	1350	940	1150	1300	870	1075	1200	560	710	800
P6	—	—	—	340	415	465	335	410	460	320	395	445	300	365	410	190	240	275
	—	—	—	1125	1350	1525	1100	1350	1500	1050	1300	1450	980	1200	1350	620	790	900
P7	—	—	—	320	390	435	315	385	430	300	370	420	280	345	390	180	225	260
	—	—	—	1050	1275	1425	1025	1275	1400	980	1225	1375	920	1125	1275	590	740	850
P8	—	—	—	300	370	415	295	365	410	285	350	395	265	325	365	170	215	245
	—	—	—	980	1225	1350	970	1200	1350	940	1150	1300	870	1075	1200	560	710	800
P11	—	—	—	310	380	425	305	375	420	290	360	405	275	335	380	175	220	250
	—	—	—	1025	1250	1400	1000	1225	1375	950	1175	1325	900	1100	1250	570	720	820
P12	—	—	—	200	240	265	195	235	260	190	225	255	180	210	235	110	135	155
	—	—	—	660	790	870	640	770	850	620	740	840	590	690	770	360	445	510
M1	—	—	—	—	—	—	205	270	315	220	295	345	190	250	295	150	200	230
	—	—	—	—	—	—	670	890	1025	720	970	1125	620	820	970	490	660	750
M2	—	—	—	—	—	—	170	225	260	185	240	285	155	210	245	125	165	190
	—	—	—	—	—	—	560	740	850	610	790	940	510	690	800	410	540	620
M3	—	—	—	—	—	—	140	180	210	150	195	230	130	170	195	100	135	155
	—	—	—	—	—	—	460	590	690	490	640	750	425	560	640	330	445	510
M4	—	—	—	—	—	—	110	140	165	115	155	175	100	130	150	80	105	120
	—	—	—	—	—	—	360	460	540	375	510	570	330	425	490	260	345	395
M5	—	—	—	—	—	—	90	120	135	100	130	150	85	110	125	65	85	100
	—	—	—	—	—	—	295	395	445	330	425	490	280	360	410	215	280	330
K1	350	610	830	410	510	570	405	500	560	245	325	380	365	450	500	—	—	—
	1150	2000	2725	1350	1675	1875	1325	1650	1825	800	1075	1250	1200	1475	1650	—	—	—
K2	310	530	730	365	445	500	360	440	495	215	285	335	320	395	445	—	—	—
	1025	1750	2400	1200	1450	1650	1175	1450	1625	710	940	1100	1050	1300	1450	—	—	—
K3	245	360	445	310	375	420	305	370	415	185	245	285	270	335	375	—	—	—
	800	1175	1450	1025	1225	1375	1000	1225	1350	610	800	940	890	1100	1225	—	—	—
K4	235	345	425	295	360	405	290	355	400	175	230	270	260	320	360	—	—	—
	770	1125	1400	970	1175	1325	950	1175	1300	570	750	890	850	1050	1175	—	—	—
K5	145	210	260	180	215	245	175	215	240	105	140	165	160	195	220	—	—	—
	475	690	850	590	710	800	570	710	790	345	460	540	520	640	720	—	—	—
K6	210	300	375	260	315	355	255	315	350	155	205	240	230	280	315	—	—	—
	690	980	1225	850	1025	1175	840	1025	1150	510	670	790	750	920	1025	—	—	—
K7	185	265	330	230	280	310	225	275	310	135	180	215	205	245	280	—	—	—
	610	870	1075	750	920	1025	740	900	1025	445	590	710	670	800	920	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	75	85	47	60	70	24	32	37
	—	—	—	—	—	—	—	—	—	180	245	280	155	195	230	80	105	120
S2	—	—	—	—	—	—	—	—	—	46	60	70	38	50	55	19	25	29
	—	—	—	—	—	—	—	—	—	150	195	230	125	165	180	60	80	95
S3	—	—	—	—	—	—	—	—	—	40	55	60	33	43	50	17	22	26
	—	—	—	—	—	—	—	—	—	130	180	195	110	140	165	55	70	85
S11	—	—	—	—	—	—	—	—	—	80	105	120	65	85	100	34	44	50
	—	—	—	—	—	—	—	—	—	260	345	395	215	280	330	110	145	165
S12	—	—	—	—	—	—	—	—	—	55	75	85	45	60	70	31	41	47
	—	—	—	—	—	—	—	—	—	180	245	280	150	195	230	100	135	155
S13	—	—	—	—	—	—	—	—	—	32	42	49	26	35	40	18	24	27
	—	—	—	—	—	—	—	—	—	105	140	160	85	115	130	60	80	90
H5	—	—	—	55	70	80	—	—	—	47	60	70	41	55	65	—	—	—
	—	—	—	180	230	260	—	—	—	155	195	230	135	180	215	—	—	—
H8	—	—	—	55	75	85	—	—	—	49	65	75	44	55	65	—	—	—
	—	—	—	180	245	280	—	—	—	160	215	245	145	180	215	—	—	—
H11	—	—	—	70	90	105	—	—	—	60	75	90	50	70	80	—	—	—
	—	—	—	230	295	345	—	—	—	195	245	295	165	230	260	—	—	—
H12	—	—	—	100	130	155	—	—	—	100	130	150	80	100	120	—	—	—
	—	—	—	330	425	510	—	—	—	330	425	490	260	330	395	—	—	—
H21	—	—	—	55	75	85	—	—	—	49	65	75	44	55	65	—	—	—
	—	—	—	180	245	280	—	—	—	160	215	245	145	180	215	—	—	—

Turbo 12 – R217.69-12 – Metric



- For insert selection and cutting data recommendations, see page(s) 60-62
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-2020.3-12-2AN	02676817	Weldon	20,0	2	11,0	7,0	—	20,0	60,0	30,0	35,0	85,0	8,0	27,5	38,0	23200	0,2	XO.X1204
R217.69-2525.3-12-3AN	02676819	Weldon	25,0	3	11,0	7,0	—	25,0	63,0	32,0	39,0	95,0	5,0	37,5	48,0	20800	0,3	XO.X1204
R217.69-3232.3-12-3AN	02676820	Weldon	32,0	3	11,0	7,0	—	32,0	69,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-3232.3-12-4AN	02676823	Weldon	32,0	4	11,0	7,0	—	32,0	69,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-2025.3S-12-3AN	02676812	Seco-Weldon	25,0	3	11,0	7,0	35,0	20,0	—	36,0	50,0	100,0	5,0	37,5	48,0	20800	0,3	XO.X1204
R217.69-2532.3S-12-4AN	02676814	Seco-Weldon	32,0	4	11,0	7,0	40,0	25,0	—	40,0	54,0	110,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-3240.3S-12-5AN	02676815	Seco-Weldon	40,0	5	11,0	7,0	50,0	32,0	—	46,0	60,0	120,0	2,5	67,5	78,0	16400	0,8	XO.X1204
R217.69-1820.0-12-2AN	02676791	Cylindrical	20,0	2	11,0	7,0	—	18,0	—	100,0	100,0	150,0	8,0	27,5	38,0	23200	0,3	XO.X1204
R217.69-2020.0-12-2AN	02676793	Cylindrical	20,0	2	11,0	7,0	—	20,0	—	30,0	100,0	150,0	8,0	27,5	38,0	23200	0,4	XO.X1204
R217.69-2225.0-12-2AN	02676794	Cylindrical	25,0	2	11,0	7,0	—	22,0	—	114,0	114,0	170,0	5,0	37,5	48,0	20800	0,5	XO.X1204
R217.69-2525.0-12-2AN	02676795	Cylindrical	25,0	2	11,0	7,0	—	25,0	—	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X1204
R217.69-2525.0-12-3AN	02676800	Cylindrical	25,0	3	11,0	7,0	—	25,0	—	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X1204
R217.69-3032.0-12-3AN	02676801	Cylindrical	32,0	3	11,0	7,0	—	30,0	—	135,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204
R217.69-3232.0-12-3AN	02676802	Cylindrical	32,0	3	11,0	7,0	—	32,0	—	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204
R217.69-3232.0-12-4AN	02676803	Cylindrical	32,0	4	11,0	7,0	—	32,0	—	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-... Ø20-25	1/4HEX-T10PX50	C03507-T10P
R217.69-... Ø32	1/4HEX-T10PX50	C03508-T10P
R217.69-... Ø40	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

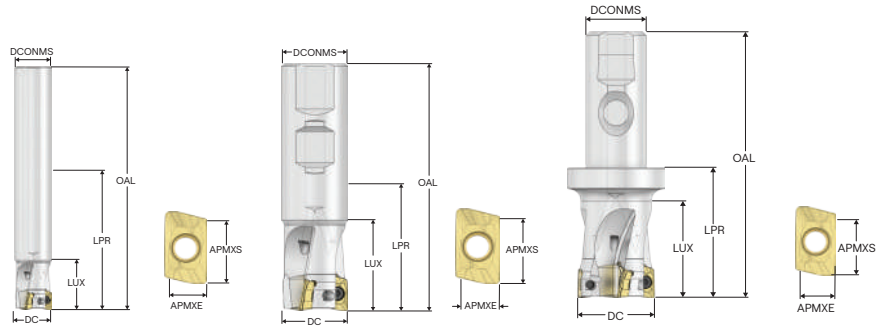
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Turbo 12 – R217.69-12 – inch



- For insert selection and cutting data recommendations, see page(s) 60-62
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.75-3-12-2AN	02688950	Weldon	0.750	2	0.433	0.276	—	0.750	2.362	1.170	1.417	3.378	8,0	1.004	1.417	23200	0.440	XO.X1204
R217.69-00.87-3-12-2AN	02688951	Weldon	0.875	2	0.433	0.276	—	0.750	2.362	1.409	1.409	3.378	6,0	1.240	1.654	22000	0.440	XO.X1204
R217.69-01.00-3-12-3AN	02688954	Weldon	1.000	3	0.433	0.276	—	1.000	2.858	1.575	1.795	4.000	5,0	1.496	1.909	20800	0.660	XO.X1204
R217.69-01.25-3-12-3AN	02688957	Weldon	1.250	3	0.433	0.276	—	1.250	3.110	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X1204
R217.69-01.25-3-12-4AN	02688960	Weldon	1.250	4	0.433	0.276	—	1.250	3.110	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X1204
R217.69-01.00-3S-12-3AN	02688974	Seco-Weldon	1.000	3	0.433	0.276	1.378	0.750	—	1.480	2.031	4.000	5,0	1.496	1.909	20800	0.660	XO.X1204
R217.69-01.25-3S-12-4AN	02688976	Seco-Weldon	1.250	4	0.433	0.276	1.575	1.000	—	1.260	1.811	4.252	3,0	2.008	2.421	18400	1.100	XO.X1204
R217.69-01.50-3S-12-5AN	02688996	Seco-Weldon	1.500	5	0.433	0.276	1.969	1.250	—	1.787	2.339	4.780	2,5	2.500	2.913	16400	1.760	XO.X1204
R217.69-00.75-0-12-2AN	02688842	Cylindrical	0.750	2	0.433	0.276	—	0.750	—	1.181	3.937	5.906	8,0	1.004	1.417	23200	0.660	XO.X1204
R217.69-00.87-0-12-2AN	02688849	Cylindrical	0.875	2	0.433	0.276	—	0.750	—	3.937	3.937	5.906	6,0	1.240	1.654	22000	0.880	XO.X1204
R217.69-01.00-0-12-2AN	02688853	Cylindrical	1.000	2	0.433	0.276	—	1.000	—	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.540	XO.X1204
R217.69-01.00-0-12-3AN	02688854	Cylindrical	1.000	3	0.433	0.276	—	1.000	—	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.320	XO.X1204
R217.69-01.25-0-12-3AN	02688855	Cylindrical	1.250	3	0.433	0.276	—	1.250	—	1.575	5.315	7.677	3,0	1.988	2.421	18400	2.430	XO.X1204

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

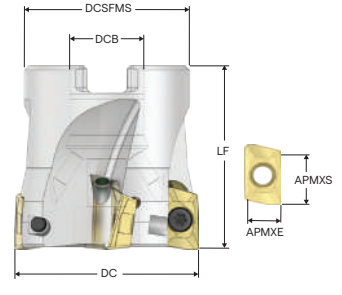
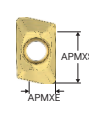
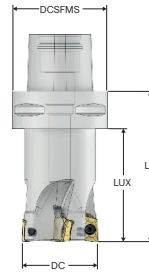
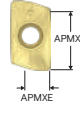
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T10PX50	C03507-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Metric



- For insert selection and cutting data recommendations, see page(s) 60-62
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
C5-R217.69-040-12-4AN	02677616	Seco-Capto	40,0	4	11,0	7,0	–	50,0	–	80,0	57,0	2,5	67,5	78,0	16400	0,9	XO.X12..
C5-R217.69-054-12-5AN	02677619	Seco-Capto	54,0	5	11,0	7,0	–	50,0	–	60,0	60,0	1,7	95,5	106,0	14200	1,0	XO.X12..
R217.69-1020.RE-12-2AN	02676828	Combimaster	20,0	2	11,0	7,0	–	18,0	M10	28,0	–	8,0	27,5	38,0	23200	0,1	XO.X12..
R217.69-1225.RE-12-3AN	02676833	Combimaster	25,0	3	11,0	7,0	–	23,0	M12	30,0	–	5,0	37,5	48,0	20800	0,1	XO.X12..
R217.69-1632.RE-12-3AN	02676838	Combimaster	32,0	3	11,0	7,0	–	30,0	M16	40,0	–	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1632.RE-12-4AN	02676839	Combimaster	32,0	4	11,0	7,0	–	30,0	M16	40,0	–	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1640.RE-12-4AN	02676840	Combimaster	40,0	4	11,0	7,0	–	30,0	M16	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-1640.RE-12-5AN	02676845	Combimaster	40,0	5	11,0	7,0	–	30,0	M16	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-2040.RE-12-4AN	02972700	Combimaster	40,0	4	11,0	7,0	–	36,5	M20	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-2040.RE-12-5AN	02972704	Combimaster	40,0	5	11,0	7,0	–	36,5	M20	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R220.69-0032-12-3AN	02841296	Arbor	32,0	3	11,0	7,0	16,0	30,0	–	35,0	–	3,0	51,5	62,0	18400	0,1	XO.X12..
R220.69-0032-12-4AN	02841297	Arbor	32,0	4	11,0	7,0	16,0	30,0	–	35,0	–	3,0	51,5	62,0	18400	0,1	XO.X12..
R220.69-0040-12-4AN	02677566	Arbor	40,0	4	11,0	7,0	16,0	35,0	–	40,0	–	2,5	67,5	78,0	16400	0,2	XO.X12..
R220.69-0040-12-5AN	02677570	Arbor	40,0	5	11,0	7,0	16,0	35,0	–	40,0	–	2,5	67,5	78,0	16400	0,2	XO.X12..
R220.69-0044-12-4AN	02969083	Arbor	44,0	4	11,0	7,0	16,0	36,0	–	40,0	–	2,2	75,5	86,0	15600	0,3	XO.X12..
R220.69-0050-12-5AN	02677572	Arbor	50,0	5	11,0	7,0	22,0	47,0	–	40,0	–	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0050-12-7AN	02677573	Arbor	50,0	7	11,0	7,0	22,0	47,0	–	40,0	–	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0052-12-5AN	02497527	Arbor	52,0	5	11,0	7,0	22,0	47,0	–	40,0	–	1,7	91,5	102,0	14200	0,4	XO.X12..
R220.69-0063-12-6AN	02677576	Arbor	63,0	6	11,0	7,0	27,0	52,0	–	40,0	–	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0063-12-8AN	02677578	Arbor	63,0	8	11,0	7,0	27,0	52,0	–	40,0	–	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0066-12-6AN	02969085	Arbor	66,0	6	11,0	7,0	27,0	52,0	–	40,0	–	1,5	119,5	130,0	13200	0,6	XO.X12..
R220.69-0080-12-7AN	02677608	Arbor	80,0	7	11,0	7,0	27,0	62,0	–	50,0	–	1,0	147,5	158,0	11600	1,0	XO.X12..
R220.69-0080-12-10AN	02677581	Arbor	80,0	10	11,0	7,0	27,0	62,0	–	50,0	–	1,0	147,5	158,0	11600	1,0	XO.X12..
R220.69-0084-12-7AN	02969086	Arbor	84,0	7	11,0	7,0	27,0	62,0	–	50,0	–	1,0	155,5	166,0	11300	1,1	XO.X12..
R220.69-0100-12-8AN	02677610	Arbor	100,0	8	11,0	7,0	32,0	77,0	–	50,0	–	0,5	187,5	198,0	10400	1,7	XO.X12..
R220.69-0100-12-12AN	02677609	Arbor	100,0	12	11,0	7,0	32,0	77,0	–	50,0	–	0,5	187,5	198,0	10400	1,7	XO.X12..
R220.69-0125-12-10AN	02677611	Arbor	125,0	10	11,0	7,0	40,0	90,0	–	63,0	–	0,5	237,5	248,0	9200	3,2	XO.X12..
R220.69-0125-12-14AN	02677613	Arbor	125,0	14	11,0	7,0	40,0	90,0	–	63,0	–	0,5	237,5	248,0	9200	2,9	XO.X12..

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
C5-R217.69-..	-	1/4HEX-T10PX50	C03509-T10P
R217.69-.. Ø20-25	-	1/4HEX-T10PX50	C03507-T10P
R217.69- Ø32	-	1/4HEX-T10PX50	C03508-T10P
R217.69- Ø40	-	1/4HEX-T10PX50	C03509-T10P
R220.69-0032	220.17-690	1/4HEX-T10PX50	C03507-T10P
R220.69-0040-0044	MC6S8X30	1/4HEX-T10PX50	C03509-T10P
R220.69-0050-0052	220.17-692	1/4HEX-T10PX50	C03509-T10P
R220.69-0063-0066	220.17-693	1/4HEX-T10PX50	C03509-T10P
R220.69-0080-0084	-	1/4HEX-T10PX50	C03509-T10P
R220.69-0100-0125	-	1/4HEX-T10PX90	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

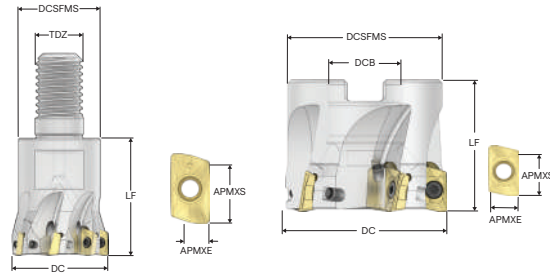
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 12 – R217/220.69-12 – inch



- For insert selection and cutting data recommendations, see page(s) 60–62
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.75-10RE-12-2AN	02689794	Combimaster	0.750	2	0.433	0.276	–	0.709	M10	0.709	1.378	8,0	1.004	1.417	23200	0.440	XO.X1204
R217.69-01.00-12RE-12-3AN	02689797	Combimaster	1.000	3	0.433	0.276	–	0.906	M12	0.906	1.575	5,0	1.496	1.909	20800	0.220	XO.X1204
R217.69-01.25-16RE-12-3AN	02689799	Combimaster	1.250	3	0.433	0.276	–	1.181	M16	1.181	1.575	3,0	2.008	2.421	18400	0.660	XO.X1204
R217.69-01.25-16RE-12-4AN	02689801	Combimaster	1.250	4	0.433	0.276	–	1.181	M16	1.181	1.575	3,0	2.008	2.421	18400	0.660	XO.X1204
R217.69-01.50-16RE-12-4AN	02689802	Combimaster	1.500	4	0.433	0.276	–	1.181	M16	1.181	1.575	2,5	2.500	2.913	16400	0.880	XO.X1204
R217.69-01.50-16RE-12-5AN	02689805	Combimaster	1.500	5	0.433	0.276	–	1.181	M16	1.181	1.575	2,5	2.500	2.913	16400	0.660	XO.X1204
R220.69-01.50-12-4AN	02689808	Arbor	1.500	4	0.433	0.276	0.750	1.378	–	0.750	1.575	2,5	2.500	2.913	16400	0.660	XO.X1204
R220.69-01.50-12-5AN	02689809	Arbor	1.500	5	0.433	0.276	0.750	1.378	–	0.750	1.575	2,5	2.500	2.913	16400	0.440	XO.X1204
R220.69-02.00-12-4AN	02689812	Arbor	2.000	4	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	1.100	XO.X1204
R220.69-02.00-12-5AN	02689813	Arbor	2.000	5	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	0.880	XO.X1204
R220.69-02.00-12-7AN	02689815	Arbor	2.000	7	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	1.100	XO.X1204
R220.69-02.50-12-4AN	02689816	Arbor	2.500	4	0.433	0.276	0.750	1.850	–	0.750	1.575	1,5	4.508	4.921	13200	1.320	XO.X1204
R220.69-02.50-12-6AN	02689817	Arbor	2.500	6	0.433	0.276	0.750	1.850	–	0.750	1.575	1,5	4.508	4.921	13200	1.320	XO.X1204
R220.69-03.00-12-4AN	02689820	Arbor	3.000	4	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.200	XO.X1204
R220.69-03.00-12-7AN	02689822	Arbor	3.000	7	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.430	XO.X1204
R220.69-03.00-12-10AN	02689821	Arbor	3.000	10	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.650	XO.X1204
R220.69-04.00-12-5AN	02689824	Arbor	4.000	5	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	4.850	XO.X1204
R220.69-04.00-12-8AN	02689826	Arbor	4.000	8	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	5.070	XO.X1204
R220.69-04.00-12-12AN	02689825	Arbor	4.000	12	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	5.070	XO.X1204

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-00.75 - 01.25	-	1/4HEX-T10PX50	C03507-T10P
R217.69- 01.50	-	1/4HEX-T10PX50	C03509-T10P
R220.69-01.50	220.17-698	1/4HEX-T10PX50	C03509-T10P
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.69-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T10PX90	C03509-T10P

Helical milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

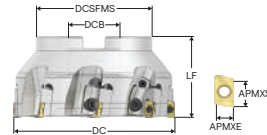
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 12 – R217/220.69-12 – Metric

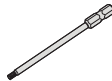


- For insert selection and cutting data recommendations, see page(s) 60–62
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

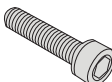
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-12-8CN	02706936	Arbor	125,0	8	11,0	7,0	40,0	90,0	40,0	63,0	0,5	237,5	248,0	9200	3,1	XO.X1204
R220.69-8160-12-10CN	02706940	Arbor	160,0	10	11,0	7,0	40,0	90,0	40,0	63,0	0,3	307,5	318,0	8200	5,3	XO.X1204
R220.69-8200-12-12CN	02706943	Arbor	200,0	12	11,0	7,0	60,0	130,0	60,0	63,0	0,3	387,5	398,0	7300	7,4	XO.X1204
R220.69-8250-12-16CN	02706945	Arbor	250,0	16	11,0	7,0	60,0	130,0	60,0	63,0	0,2	487,5	498,0	6500	14,8	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO12PRN	FS96018	1/4HEX-T10PX90	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	—	1/4HEX-S-HANDLE	3.0NM	T00-10P30
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.0NM	T00-10P30
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.69-12 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX120408TR-ME08 F40M	5,0 0.20	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P2	XOMX120408TR-ME08 F40M	5,0 0.20	0,12 0.0048	0,13 0.0050	0,19 0.0075
Helical milling cutters	P3	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,28 0.011
	P4	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,26 0.010
Face milling cutters	P5	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P6	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
Disc milling cutters	P7	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P8	XOMX120408TR-M12 MP2501	5,0 0.20	0,16 0.0065	0,18 0.0070	0,28 0.011
High feed milling cutters	P11	XOMX120408TR-M12 MP3501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	P12	XOMX120408TR-M12 MP3000	4,5 0.18	0,11 0.0044	0,12 0.0048	0,18 0.0070
Copy milling cutters	M1	XOEX120408R-M07 F40M	5,0 0.20	0,13 0.0050	0,14 0.0055	0,22 0.0085
	M2	XOEX120408R-M07 F40M	5,0 0.20	0,12 0.0048	0,13 0.0050	0,20 0.0080
Plunge milling cutters	M3	XOEX120408R-M07 F40M	4,5 0.18	0,095 0.0038	0,10 0.0040	0,16 0.0065
	M4	XOEX120408R-M07 MS2050	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
Chamfer milling cutters	M5	XOEX120408R-M07 MS2050	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
	K1	XOMX120408TR-M12 MK1501	5,0 0.20	0,17 0.0065	0,19 0.0075	0,30 0.012
Spot facing cutters	K2	XOMX120408TR-M12 MK1501	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K3	XOMX120408TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
Inserts	K4	XOMX120408TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K5	XOMX120408TR-M12 MK2050	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
Chamfer milling cutters	K6	XOMX120408TR-M12 MK2050	5,0 0.20	0,16 0.0065	0,17 0.0065	0,26 0.010
	K7	XOMX120408TR-M12 MK2050	5,0 0.20	0,14 0.0055	0,16 0.0065	0,24 0.0095
Spot facing cutters	N1	XOEX120408FR-E06 H15	5,0 0.20	0,13 0.0050	0,14 0.0055	0,22 0.0085
	N2	XOEX120408FR-E06 H15	5,0 0.20	0,13 0.0050	0,14 0.0055	0,22 0.0085
Chamfer milling cutters	N3	XOEX120408FR-E06 H15	5,0 0.20	0,13 0.0050	0,14 0.0055	0,22 0.0085
	N11	XOEX120408FR-E06 H15	5,0 0.20	0,13 0.0050	0,14 0.0055	0,22 0.0085
Spot facing cutters	S1	XOEX120408R-M07 F40M	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S2	XOEX120408R-M07 F40M	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
Chamfer milling cutters	S3	XOEX120408R-M07 F40M	3,0 0.12	0,080 0.0032	0,085 0.0034	0,13 0.0050
	S11	XOEX120408R-M07 MS2050	4,0 0.16	0,095 0.0038	0,10 0.0040	0,16 0.0065
Spot facing cutters	S12	XOEX120408R-M07 MS2050	4,0 0.16	0,095 0.0038	0,10 0.0040	0,16 0.0065
	S13	XOEX120408R-M07 MS2050	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
Spot facing cutters	H5	XOMX120408TR-MD13 MH1051	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	H8	XOMX120408TR-MD13 MH1051	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060
Spot facing cutters	H11	XOMX120408TR-MD13 MH1051	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	H12	XOMX120408TR-MD13 MH1051	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060
Spot facing cutters	H21	XOMX120408TR-MD13 MH1051	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

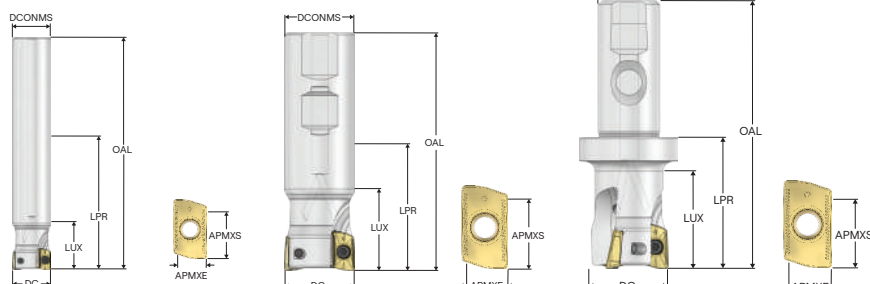
R217/220.69-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15			Square should and slot mill cutters	
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%		
P1	—	—	—	260	340	405	265	350	420	280	360	410	270	330	370	410	520	600	300	395	465	—	—	—	Helical milling cutters	
	—	—	—	850	1125	1325	870	1150	1375	920	1175	1350	890	1075	1225	1350	1700	1975	980	1300	1525	—	—	—		
P2	—	—	—	255	330	395	260	340	410	275	350	400	265	325	360	400	510	580	290	385	450	—	—	—	Helical milling cutters	
	—	—	—	840	1075	1300	850	1125	1350	900	1150	1300	870	1075	1175	1300	1675	1900	950	1275	1475	—	—	—		
P3	—	—	—	220	290	340	230	300	350	240	310	355	235	285	320	350	445	500	255	340	400	—	—	—	Helical milling cutters	
	—	—	—	720	950	1125	750	980	1150	790	1025	1175	770	940	1050	1150	1450	1650	840	1125	1300	—	—	—		
P4	—	—	—	195	255	305	205	265	320	215	270	310	210	260	295	310	395	440	225	300	350	—	—	—	Helical milling cutters	
	—	—	—	640	840	1000	670	870	1050	710	890	1025	690	850	970	1025	1300	1450	740	980	1150	—	—	—		
P5	350	465	570	185	250	290	195	260	305	205	260	300	195	240	270	300	375	425	215	285	335	—	—	—	Helical milling cutters	
	1150	1525	1875	610	820	950	640	850	1000	670	850	980	640	790	890	980	1225	1400	710	940	1100	—	—	—		
P6	390	540	640	210	280	325	215	290	340	230	290	340	220	270	305	340	420	475	240	320	380	—	—	—	Helical milling cutters	
	1275	1775	2100	690	920	1075	710	950	1125	750	950	1125	720	890	1000	1125	1375	1550	790	1050	1250	—	—	—		
P7	370	510	600	195	260	310	205	275	320	215	275	320	210	255	290	320	400	450	230	300	360	—	—	—	Face milling cutters	
	1225	1675	1975	640	850	1025	670	900	1050	710	900	1050	690	840	950	1050	1300	1475	750	980	1175	—	—	—		
P8	340	465	550	185	245	285	195	255	295	205	260	300	195	240	270	295	375	420	215	285	335	—	—	—	Face milling cutters	
	1125	1525	1800	610	800	940	640	840	970	670	850	980	640	790	890	970	1225	1375	710	940	1100	—	—	—		
P11	360	495	580	190	255	300	200	265	315	210	265	310	200	245	280	285	430	540	220	295	350	—	—	—	Face milling cutters	
	1175	1625	1900	620	840	980	660	870	1025	690	870	1025	660	800	920	940	1400	1775	720	970	1150	—	—	—		
P12	255	340	405	125	165	195	135	180	205	140	175	200	135	160	180	175	255	310	145	190	225	—	—	—	Face milling cutters	
	840	1125	1325	410	540	640	445	590	670	460	570	660	445	520	590	570	840	1025	475	620	740	—	—	—		
M1	—	—	—	—	—	—	—	180	240	285	200	265	310	180	240	280	325	495	630	210	275	325	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	590	790	940	660	870	1025	590	790	920	1075	1625	2075	690	900	1075	—	—	—	
M2	—	—	—	—	—	—	—	150	200	235	165	215	255	150	200	230	270	405	520	170	230	265	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	490	660	770	540	710	840	490	660	750	890	1325	1700	560	750	870	—	—	—	
M3	—	—	—	—	—	—	—	120	160	190	135	180	205	120	160	185	215	315	390	140	185	215	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	395	520	620	445	590	670	395	520	610	710	1025	1275	460	610	710	—	—	—	
M4	—	—	—	—	—	—	—	95	125	150	105	135	160	95	125	145	160	235	290	110	145	165	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	310	410	490	345	445	520	310	410	475	520	770	950	360	475	540	—	—	—	
M5	—	—	—	—	—	—	—	80	105	125	90	115	135	80	105	120	135	195	240	90	120	140	—	—	—	High feed milling cutters
	—	—	—	—	—	—	—	260	345	410	295	375	445	260	345	395	445	640	790	295	395	460	—	—	—	
K1	455	630	740	270	355	425	190	250	300	—	—	—	180	235	275	—	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1500	2075	2425	890	1175	1400	620	820	980	—	—	—	590	770	900	—	—	—	—	—	—	—	—	—	—	
K2	420	560	690	240	320	375	170	225	265	—	—	—	160	210	245	—	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1375	1825	2275	790	1050	1225	560	740	870	—	—	—	520	690	800	—	—	—	—	—	—	—	—	—	—	
K3	355	475	580	205	270	320	145	190	225	—	—	—	135	175	205	—	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1175	1550	1900	670	890	1050	475	620	740	—	—	—	445	570	670	—	—	—	—	—	—	—	—	—	—	
K4	340	455	550	195	260	305	135	185	215	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—	—	Copy milling cutters
	1125	1500	1800	640	850	1000	445	610	710	—	—	—	425	560	660	—	—	—	—	—	—	—	—	—	—	
K5	220	285	340	120	160	185	85	115	130	—	—	—	80	100	120	—	—	—	—	—	—	—	—	—	—	Copy milling cutters
	720	940	1125	395	520	610	280	375	425	—	—	—	260	330	395	—	—	—	—	—	—	—	—	—	—	
K6	300	400	490	170	230	270	120	160	190	—	—	—	110	150	175	—	—	—	—	—	—	—	—	—	—	Copy milling cutters
	980	1300	1600	560	750	890	395	520	620	—	—	—	360	490	570	—	—	—	—	—	—	—	—	—	—	
K7	280	365	435	155	205	235	110	145	170	—	—	—	100	130	155	—	—	—	—	—	—	—	—	—	—	Copy milling cutters
	920	1200	1425	510	670	770	360	475	560	—	—	—	330	425	510	—	—	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1300	1725	2025	—	—	—	—	—	—	1400	1850	2175	Plunge milling cutters	
	—	—	—	—	—	—	—	—	—	—	—	—	4275	5650	6650	—	—	—	—	—	—	4600	6075	7125		
N2	—	—	—	—	—	—	—	—	—	—	—	—	530	700	820	—	—	—	—	—	—	570	750	880	Plunge milling cutters	
	—	—	—	—	—	—	—	—	—	—	—	—	1750	2300	2700	—	—	—	—	—	—	1875	2450	2875		
N3	—	—	—	—	—	—	—	—	—	—	—	—	350	470	550	—	—	—	—	—	—	380	500	580	Plunge milling cutters	
	—	—	—	—	—	—	—	—	—	—	—	—	1150	1550	1800	—	—	—	—	—	—	1250	1650	1900		
N11	—	—	—	—	—	—	—	—	—	—	—	—	400	530	630	—	—	—	—	—	—	430	570	670	Plunge milling cutters	
	—	—	—	—	—	—	—	—	—	—	—	—	1300	1750	2075	—	—	—	—	—	—	1400	1875	2200		
S1	—	—	—	—	—	—	45	60	70	49	65	75	45	60	70	55	75	85	55	70	80	—	—	—	Chamfer milling cutters	
	—	—	—	—																						

R217/220.69-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	465	530	370	455	520	415	510	580	330	410	470	245	315	360
	—	—	—	1250	1525	1750	1225	1500	1700	1350	1675	1900	1075	1350	1550	800	1025	1175
P2	—	—	—	370	455	520	360	445	510	400	500	560	325	400	455	240	305	350
	—	—	—	1225	1500	1700	1175	1450	1675	1300	1650	1825	1075	1300	1500	790	1000	1150
P3	—	—	—	325	395	445	320	390	440	355	435	490	285	350	395	210	265	305
	—	—	—	1075	1300	1450	1050	1275	1450	1175	1425	1600	940	1150	1300	690	870	1000
P4	—	—	—	285	350	400	280	345	395	310	385	435	250	305	355	200	255	290
	—	—	—	940	1150	1300	920	1125	1300	1025	1275	1425	820	1000	1175	660	840	950
P5	—	—	—	270	340	380	265	335	375	295	365	415	240	300	335	175	225	255
	—	—	—	890	1125	1250	870	1100	1225	970	1200	1350	790	980	1100	570	740	840
P6	—	—	—	305	380	430	300	375	420	335	410	470	270	335	380	200	250	290
	—	—	—	1000	1250	1400	980	1225	1375	1100	1350	1550	890	1100	1250	660	820	950
P7	—	—	—	290	360	405	285	355	400	315	390	445	255	315	355	190	240	275
	—	—	—	950	1175	1325	940	1175	1300	1025	1275	1450	840	1025	1175	620	790	900
P8	—	—	—	270	335	375	265	325	370	295	365	415	240	295	330	175	225	255
	—	—	—	890	1100	1225	870	1075	1225	970	1200	1350	790	970	1075	570	740	840
P11	—	—	—	280	350	395	275	340	385	305	380	430	245	305	345	185	230	265
	—	—	—	920	1150	1300	900	1125	1275	1000	1250	1400	800	1000	1125	610	750	870
P12	—	—	—	185	225	250	180	220	245	195	240	265	165	200	220	115	140	160
	—	—	—	610	740	820	590	720	800	640	790	870	540	660	720	375	460	520
M1	—	—	—	—	—	—	185	240	290	230	305	360	170	225	270	155	205	240
	—	—	—	—	—	—	610	790	950	750	1000	1175	560	740	890	510	670	790
M2	—	—	—	—	—	—	150	200	240	190	255	295	140	190	220	130	170	200
	—	—	—	—	—	—	490	660	790	620	840	970	460	620	720	425	560	660
M3	—	—	—	—	—	—	125	165	195	155	205	240	115	155	180	105	140	160
	—	—	—	—	—	—	410	540	640	510	670	790	375	510	590	345	460	520
M4	—	—	—	—	—	—	100	130	150	120	160	185	90	120	140	80	110	125
	—	—	—	—	—	—	330	425	490	395	520	610	295	395	460	260	360	410
M5	—	—	—	—	—	—	80	105	125	100	135	155	75	100	115	70	90	105
	—	—	—	—	—	—	260	345	410	330	445	510	245	330	375	230	295	345
K1	325	570	790	375	460	520	365	450	510	255	340	395	325	400	460	—	—	—
	1075	1875	2600	1225	1500	1700	1200	1475	1675	840	1125	1300	1075	1300	1500	—	—	—
K2	285	500	690	330	410	460	325	400	455	225	300	355	290	360	410	—	—	—
	940	1650	2275	1075	1350	1500	1075	1300	1500	740	980	1175	950	1175	1350	—	—	—
K3	225	330	410	280	345	390	275	340	385	190	255	300	245	305	345	—	—	—
	740	1075	1350	920	1125	1275	900	1125	1275	620	840	980	800	1000	1125	—	—	—
K4	215	315	390	265	330	375	260	325	365	185	240	285	235	290	330	—	—	—
	710	1025	1275	870	1075	1225	850	1075	1200	610	790	940	770	950	1075	—	—	—
K5	130	195	235	165	205	225	160	200	225	110	145	175	145	180	200	—	—	—
	425	640	770	540	670	740	520	660	740	360	475	570	475	590	660	—	—	—
K6	185	275	345	235	290	330	230	285	325	160	215	250	205	255	290	—	—	—
	610	900	1125	770	950	1075	750	940	1075	520	710	820	670	840	950	—	—	—
K7	170	245	305	210	260	290	205	255	285	145	190	225	185	230	255	—	—	—
	560	800	1000	690	850	950	670	840	940	475	620	740	610	750	840	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	43	55	65	25	33	38
	—	—	—	—	—	—	—	—	—	195	260	295	140	180	215	80	110	125
S2	—	—	—	—	—	—	—	—	—	48	65	75	35	45	55	20	27	31
	—	—	—	—	—	—	—	—	—	155	215	245	115	150	180	65	90	100
S3	—	—	—	—	—	—	—	—	—	42	55	65	31	40	46	18	23	27
	—	—	—	—	—	—	—	—	—	140	180	215	100	130	150	60	75	90
S11	—	—	—	—	—	—	—	—	—	85	110	125	60	75	90	35	46	55
	—	—	—	—	—	—	—	—	—	280	360	410	195	245	295	115	150	180
S12	—	—	—	—	—	—	—	—	—	55	75	90	41	55	65	32	43	49
	—	—	—	—	—	—	—	—	—	180	245	295	135	180	215	105	140	160
S13	—	—	—	—	—	—	—	—	—	34	44	50	24	31	37	19	25	29
	—	—	—	—	—	—	—	—	—	110	145	165	80	100	120	60	80	95
H5	—	—	—	48	65	75	—	—	—	—	—	—	37	49	55	—	—	—
	—	—	—	155	215	245	—	—	—	—	—	—	120	160	180	—	—	—
H8	—	—	—	50	70	80	—	—	—	—	—	—	40	50	60	—	—	—
	—	—	—	165	230	260	—	—	—	—	—	—	130	165	195	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	47	60	75	—	—	—
	—	—	—	195	260	310	—	—	—	—	—	—	155	195	245	—	—	—
H12	—	—	—	95	120	140	—	—	—	—	—	—	70	95	110	—	—	—
	—	—	—	310	395	460	—	—	—	—	—	—	230	310	360	—	—	—
H21	—	—	—	50	70	80	—	—	—	—	—	—	40	50	60	—	—	—
	—	—	—	165	230	260	—	—	—	—	—	—	130	165	195	—	—	—

Turbo 16 – R217.69-XO16 – Metric



- For insert selection and cutting data recommendations, see page(s) 70–72
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-2525.3-XO16-2A	03336092	Weldon	25,0	2	15,0	9,0	–	25,0	68,0	38,0	44,0	100,0	11,0	33,5	47,7	16700	0,3	XO.X1605
R217.69-3232.3-XO16-2A	03336093	Weldon	32,0	2	15,0	9,0	–	32,0	74,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X1605
R217.69-3232.3-XO16-3A	03336094	Weldon	32,0	3	15,0	9,0	–	32,0	74,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X1605
R217.69-2025.3S-XO16-2A	03336095	Seco-Weldon	25,0	2	15,0	9,0	35,0	20,0	–	40,0	50,0	100,0	11,0	33,5	47,7	16700	0,3	XO.X1605
R217.69-2532.3S-XO16-2A	03336096	Seco-Weldon	32,0	2	15,0	9,0	40,0	25,0	–	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X1605
R217.69-2532.3S-XO16-3A	03336097	Seco-Weldon	32,0	3	15,0	9,0	40,0	25,0	–	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X1605
R217.69-3240.3S-XO16-3A	03336098	Seco-Weldon	40,0	3	15,0	9,0	50,0	32,0	–	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X1605
R217.69-3240.3S-XO16-4A	03336099	Seco-Weldon	40,0	4	15,0	9,0	50,0	32,0	–	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X1605
R217.69-2525.0-XO16-2A	03336100	Cylindrical	25,0	2	15,0	9,0	–	25,0	–	35,0	114,0	170,0	11,0	33,5	47,7	16700	0,6	XO.X1605
R217.69-3232.0-XO16-2A	03336101	Cylindrical	32,0	2	15,0	9,0	–	32,0	–	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X1605
R217.69-3232.0-XO16-3A	03336102	Cylindrical	32,0	3	15,0	9,0	–	32,0	–	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-2525-2532	1/4HEX-T15PX50	C04008-T15P
R217.69-3240	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

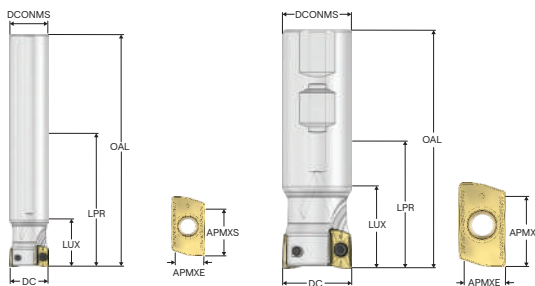
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Turbo 16 – R217.69-XO16 – inch



- For insert selection and cutting data recommendations, see page(s) 70-72
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-3-XO16-2A	03336130	Weldon	1.000	2	0.591	0.354	1.000	2.795	1.575	1.732	3.937	10,0	1.350	1.909	16600	0.660	XO.X1605
R217.69-01.25-3-XO16-3A	03336131	Weldon	1.250	3	0.591	0.354	1.250	3.189	1.575	1.969	4.331	6,0	1.850	2.409	14800	1.320	XO.X1605
R217.69-01.50-3-XO16-3A	03336132	Weldon	1.500	3	0.591	0.354	1.250	3.583	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X1605
R217.69-01.50-3-XO16-4A	03336133	Weldon	1.500	4	0.591	0.354	1.250	3.583	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X1605
R217.69-01.00-0-XO16-2A	03336134	Cylindrical	1.000	2	0.591	0.354	1.000	—	1.378	4.488	6.693	9,0	1.350	1.909	16600	1.320	XO.X1605
R217.69-01.50-0-XO16-3A	03336136	Cylindrical	1.500	3	0.591	0.354	1.250	—	5.906	5.906	8.268	4,0	2.350	2.909	13500	2.650	XO.X1605
R217.69-01.50-0-XO16-4A	03336137	Cylindrical	1.500	4	0.591	0.354	1.250	—	5.906	5.906	8.268	4,0	2.350	2.909	13500	2.650	XO.X1605

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

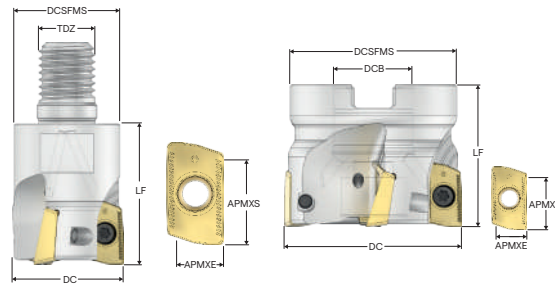
For cutter	Insert key	Insert screw
		
R217.69-01.00-01.25	1/4HEX-T15PX50	C04008-T15P
R217.69-01.50	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217/220.69-XO16 – Metric



- For insert selection and cutting data recommendations, see page(s) 70–72
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	OAL	RMPX°	Cmin	RPMX	Weight	Insert	
			mm		mm	mm	mm	mm		mm	mm	mm	mm	mm	kg		
R217.69-1225.RE-XO16-2A	03336103	Combimaster	25,0	2	15,0	9,0	–	23,0	M12	23,0	40,0	40,0	11,0	33,5	47,7	16700	XO.X1605
R217.69-1632.RE-XO16-2A	03336104	Combimaster	32,0	2	15,0	9,0	–	30,0	M16	30,0	40,0	40,0	6,0	47,5	61,7	14800	XO.X1605
R217.69-1632.RE-XO16-3A	03336105	Combimaster	32,0	3	15,0	9,0	–	30,0	M16	30,0	40,0	40,0	6,0	47,5	61,7	14800	XO.X1605
R217.69-2040.RE-XO16-3A	03336106	Combimaster	40,0	3	15,0	9,0	–	36,5	M20	36,5	45,0	45,0	3,5	63,5	77,7	13200	XO.X1605
R217.69-2040.RE-XO16-4A	03336107	Combimaster	40,0	4	15,0	9,0	–	36,5	M20	36,5	45,0	45,0	3,5	63,5	77,7	13200	XO.X1605
R220.69-0040-XO16-3A	03336108	Arbor	40,0	3	15,0	9,0	16,0	35,0	–	16,0	40,0	–	3,5	63,5	77,7	13200	XO.X1605
R220.69-0040-XO16-4A	03336109	Arbor	40,0	4	15,0	9,0	16,0	35,0	–	16,0	40,0	–	3,5	63,5	77,7	13200	XO.X1605
R220.69-0050-XO16-4A	03336110	Arbor	50,0	4	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	XO.X1605
R220.69-0050-XO16-5A	03336111	Arbor	50,0	5	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	XO.X1605
R220.69-0050-XO16-6A	10010246	Arbor	50,0	6	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	XO.X1605
R220.69-0052-XO16-5A	03336112	Arbor	52,0	5	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,5	87,5	101,7	11600	XO.X1605
R220.69-0063-XO16-5A	03336113	Arbor	63,0	5	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10500	XO.X1605
R220.69-0063-XO16-6A	03336115	Arbor	63,0	6	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10500	XO.X1605
R220.69-0063-XO16-7A	10010247	Arbor	63,0	7	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10549	XO.X1605
R220.69-0066-XO16-6A	03336117	Arbor	66,0	6	15,0	9,0	27,0	56,0	–	27,0	40,0	–	1,8	115,5	129,7	10300	XO.X1605
R220.69-0080-XO16-6A	03336118	Arbor	80,0	6	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	XO.X1605
R220.69-0080-XO16-8A	03336119	Arbor	80,0	8	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	XO.X1605
R220.69-0080-XO16-9A	10010248	Arbor	80,0	9	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	XO.X1605
R220.69-0084-XO16-8A	03336120	Arbor	84,0	8	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,3	151,5	165,7	9100	XO.X1605
R220.69-0100-XO16-8A	03336121	Arbor	100,0	8	15,0	9,0	32,0	77,0	–	32,0	50,0	–	1,1	183,5	197,7	8300	XO.X1605
R220.69-0100-XO16-10A	03336122	Arbor	100,0	10	15,0	9,0	32,0	77,0	–	32,0	50,0	–	1,1	183,5	197,7	8300	XO.X1605
R220.69-0125-XO16-10A	03336123	Arbor	125,0	10	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,85	233,5	247,7	7400	XO.X1605
R220.69-0125-XO16-12A	03336124	Arbor	125,0	12	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,85	233,5	247,7	7400	XO.X1605
R220.69-8160-XO16-11A	03336125	Arbor	160,0	11	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,65	303,5	317,7	6600	XO.X1605
R220.69-8160-XO16-13A	03336126	Arbor	160,0	13	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,65	303,5	317,7	6600	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

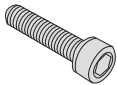
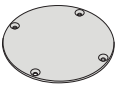
Plunge milling cutters

Chamfer milling cutters

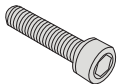
Spot facing cutters

Inserts

Spare Parts, included in delivery

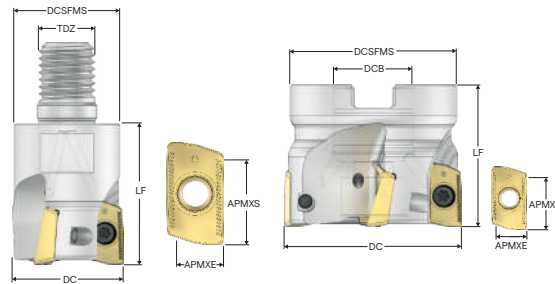
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-1225-1632	-	1/4HEX-T15PX50	C04008-T15P	-	-
R217.69-2040	-	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-0050-0052	220.17-692	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-0063-0066	MLC6S12X30	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-0080-0084	MC6S12X35	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-0100-0125	MLC6S16X35	1/4HEX-T15PX90	C04009-T15P	-	-
R220.69-0100-0125	MC6S20X40	1/4HEX-T15PX90	C04009-T15P	-	-
R220.69-8160	-	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-1225-0125	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217/220.69-XO16 – inch



- For insert selection and cutting data recommendations, see page(s) 70–72
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMX	SAPMXE	DCB	DCSFMS	TDZ	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert	
			inch		inch	inch	inch	inch		inch	inch	inch	inch	inch		lbs		
R217.69-01.00-12RE-XO16-2A	03336138	Combimaster	1.000	2	0.591	0.354	–	0.906	M12	0.906	1.575	1.575	11,0	1.350	1.909	16600	0.440	XO.X1605
R217.69-01.25-16RE-XO16-3A	03336139	Combimaster	1.250	3	0.591	0.354	–	1.181	M16	1.181	1.575	1.575	6,0	1.850	2.409	14800	0.440	XO.X1605
R217.69-01.50-20RE-XO16-4A	03336140	Combimaster	1.500	4	0.591	0.354	–	1.437	M20	1.437	1.772	1.772	4,0	2.350	2.909	13500	0.880	XO.X1605
R220.69-01.50-XO16-4A	03336141	Arbor	1.500	4	0.591	0.354	0.500	1.378	–	0.500	1.575	–	4,0	2.350	2.909	13500	0.660	XO.X1605
R220.69-02.00-XO16-4A	03336142	Arbor	2.000	4	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.880	XO.X1605
R220.69-02.00-XO16-5A	03336143	Arbor	2.000	5	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.880	XO.X1605
R220.69-02.00-XO16-6A	03336144	Arbor	2.000	6	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.660	XO.X1605
R220.69-02.50-XO16-5A	03336145	Arbor	2.500	5	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,0	4.350	4.909	10500	1.320	XO.X1605
R220.69-02.50-XO16-6A	03336146	Arbor	2.500	6	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,0	4.370	4.882	10500	1.320	XO.X1605
R220.69-03.00-XO16-6A	03336147	Arbor	3.000	6	0.591	0.354	1.000	2.441	–	1.000	1.969	–	1,5	5.354	5.906	9500	2.430	XO.X1605
R220.69-03.00-XO16-8A	03336148	Arbor	3.000	8	0.591	0.354	1.000	2.441	–	1.000	1.969	–	1,5	5.354	5.906	9500	2.430	XO.X1605
R220.69-04.00-XO16-8A	03336149	Arbor	4.000	8	0.591	0.354	1.500	3.543	–	1.500	1.969	–	1,1	7.362	7.874	8300	4.410	XO.X1605
R220.69-04.00-XO16-10A	03336150	Arbor	4.000	10	0.591	0.354	1.500	3.543	–	1.500	1.969	–	1,1	7.362	7.874	8300	5.070	XO.X1605
R220.69-05.00-XO16-9A	03336151	Arbor	5.000	9	0.591	0.354	1.500	3.543	–	1.500	2.480	–	0,85	9.370	9.882	7400	7.940	XO.X1605
R220.69-06.00-XO16-12A	10000967	Arbor	6.000	12	0.591	0.354	2.000	4.331	–	2.000	2.480	–	0,7	11.378	11.890	6700	10.360	XO.X1605

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

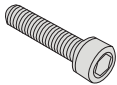
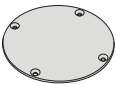
Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-01.00-01.25	-	1/4HEX-T15PX50	C04008-T15P	-	-
R217.69-01.50	-	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P	-	-
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04009-T15P	-	-
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P	-	-
R220.69-06.00	-	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-01.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

High feed milling
cutters

Copy milling
cutters

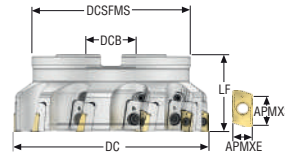
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 16 – R220.69-XO16 – Metric

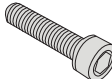
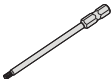
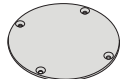


- For insert selection and cutting data recommendations, see page(s) 70-72
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

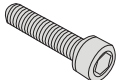
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-XO16-8CA	03336127	Arbor	125,0	8	15,0	9,0	40,0	90,0	40,0	63,0	0,85	233,5	247,7	7400	2,8	XO.X1605
R220.69-8160-XO16-10CA	10000966	Arbor	160,0	10	15,0	9,0	40,0	90,0	40,0	63,0	0,65	303,5	317,7	6600	0,2	XO.X1605
R220.69-8200-XO16-12CA	03336128	Arbor	200,0	12	15,0	9,0	60,0	130,0	60,0	63,0	0,5	383,5	397,7	5900	6,6	XO.X1605
R220.69-8250-XO16-16CA	03336129	Arbor	250,0	16	15,0	9,0	60,0	130,0	60,0	63,0	0,4	483,5	497,7	5200	13,3	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
								
R220.69-0125	AU1114T-T15P	MC6S20X40	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	-	-
R220.69-8160	AU1114T-T15P	-	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10
R220.69-8200	AU1114T-T15P	-	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-200-90	MF6S4X8
R220.69-8250	AU1114T-T15P	-	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-250-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	-	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8160-8200	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.69-16 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX160508TR-ME11 F40M	7,0 0.28	0,16 0.0065	0,17 0.0065	0,26 0.010
	P2	XOMX160508TR-ME11 F40M	7,0 0.28	0,16 0.0065	0,17 0.0065	0,26 0.010
Helical milling cutters	P3	XOMX160508TR-M13 MP2501	7,0 0.28	0,18 0.0070	0,19 0.0075	0,30 0.012
	P4	XOMX160508TR-M13 MP2501	7,0 0.28	0,17 0.0065	0,19 0.0075	0,30 0.012
Face milling cutters	P5	XOMX160508TR-M13 MP2501	7,0 0.28	0,17 0.0065	0,19 0.0075	0,28 0.011
	P6	XOMX160508TR-M13 MP2501	7,0 0.28	0,17 0.0065	0,18 0.0070	0,28 0.011
Disc milling cutters	P7	XOMX160508TR-M13 MP2501	7,0 0.28	0,17 0.0065	0,18 0.0070	0,28 0.011
	P8	XOMX160508TR-M13 MP2501	7,0 0.28	0,18 0.0070	0,19 0.0075	0,30 0.012
High feed milling cutters	P11	XOMX160508TR-M13 MP3501	7,0 0.28	0,17 0.0065	0,18 0.0070	0,28 0.011
	P12	XOMX160508TR-M13 MP3000	6,0 0.24	0,12 0.0048	0,13 0.0050	0,19 0.0075
Copy milling cutters	M1	XOEX160508R-M09 F40M	7,0 0.28	0,13 0.0050	0,14 0.0055	0,22 0.0085
	M2	XOEX160508R-M09 F40M	7,0 0.28	0,12 0.0048	0,13 0.0050	0,20 0.0080
Plunge milling cutters	M3	XOEX160508R-M09 F40M	6,0 0.24	0,095 0.0038	0,10 0.0040	0,16 0.0065
	M4	XOEX160516R-M09 MS2050	4,5 0.18	0,085 0.0034	0,095 0.0038	0,15 0.0060
Chamfer milling cutters	M5	XOEX160516R-M09 MS2050	4,5 0.18	0,085 0.0034	0,095 0.0038	0,15 0.0060
	K1	XOMX160508TR-M13 MK1501	7,0 0.28	0,19 0.0075	0,20 0.0080	0,32 0.013
Spot facing cutters	K2	XOMX160508TR-M13 MK1501	7,0 0.28	0,17 0.0065	0,19 0.0075	0,28 0.011
	K3	XOMX160508TR-M13 MK2050	7,0 0.28	0,17 0.0065	0,19 0.0075	0,28 0.011
Inserts	K4	XOMX160508TR-M13 MK2050	7,0 0.28	0,17 0.0065	0,19 0.0075	0,28 0.011
	K5	XOMX160508TR-M13 MK2050	7,0 0.28	0,15 0.0060	0,17 0.0065	0,26 0.010
Spot facing cutters	K6	XOMX160508TR-M13 MK2050	7,0 0.28	0,17 0.0065	0,19 0.0075	0,28 0.011
	K7	XOMX160508TR-M13 MK2050	7,0 0.28	0,15 0.0060	0,17 0.0065	0,26 0.010
Spot facing cutters	N1	XOEX160508FR-E07 H25	7,0 0.28	0,13 0.0050	0,14 0.0055	0,22 0.0085
	N2	XOEX160508FR-E07 H25	7,0 0.28	0,13 0.0050	0,14 0.0055	0,22 0.0085
Spot facing cutters	N3	XOEX160508FR-E07 H25	7,0 0.28	0,13 0.0050	0,14 0.0055	0,22 0.0085
	N11	XOEX160508FR-E07 H25	7,0 0.28	0,13 0.0050	0,14 0.0055	0,22 0.0085
Spot facing cutters	S1	XOEX160516R-M09 F40M	4,5 0.18	0,085 0.0034	0,095 0.0038	0,15 0.0060
	S2	XOEX160516R-M09 F40M	4,5 0.18	0,085 0.0034	0,095 0.0038	0,15 0.0060
Spot facing cutters	S3	XOEX160516R-M09 F40M	4,5 0.18	0,080 0.0032	0,090 0.0036	0,13 0.0050
	S11	XOEX160508R-M09 MS2050	5,0 0.20	0,095 0.0038	0,10 0.0040	0,16 0.0065
Spot facing cutters	S12	XOEX160508R-M09 MS2050	5,0 0.20	0,095 0.0038	0,10 0.0040	0,16 0.0065
	S13	XOEX160508R-M09 MS2050	4,5 0.18	0,085 0.0034	0,090 0.0036	0,14 0.0055
Spot facing cutters	H5	XOMX160508TR-MD14 MH1051	6,0 0.24	0,12 0.0048	0,14 0.0055	0,20 0.0080
	H8	XOMX160508TR-MD14 MH1051	5,0 0.20	0,095 0.0038	0,10 0.0040	0,16 0.0065
Spot facing cutters	H11	XOMX160508TR-MD14 MH1051	6,0 0.24	0,12 0.0048	0,14 0.0055	0,20 0.0080
	H12	XOMX160508TR-MD14 MH1051	5,0 0.20	0,095 0.0038	0,10 0.0040	0,16 0.0065
Spot facing cutters	H21	XOMX160508TR-MD14 MH1051	5,0 0.20	0,095 0.0038	0,10 0.0040	0,16 0.0065

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

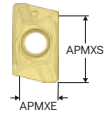
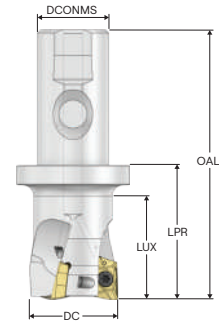
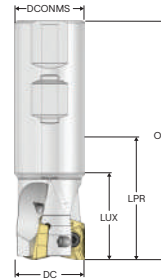
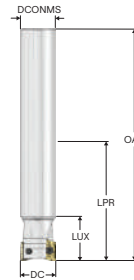
R217/220.69-16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25			Square should and slot mill cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	250	330	390	305	405	470	270	345	395	260	320	355	340	465	540	285	380	445	—	—	—	Helical milling cutters
	—	—	—	820	1075	1275	1000	1325	1550	890	1125	1300	850	1050	1175	1125	1525	1775	940	1250	1450	—	—	—	
P2	—	—	—	240	320	375	300	395	455	260	335	385	250	310	345	335	450	530	280	370	435	—	—	—	Helical milling cutters
	—	—	—	790	1050	1225	980	1300	1500	850	1100	1275	820	1025	1125	1100	1475	1750	920	1225	1425	—	—	—	
P3	—	—	—	210	280	330	265	345	405	230	295	340	225	275	305	300	400	465	245	325	380	—	—	—	Helical milling cutters
	—	—	—	690	920	1075	870	1125	1325	750	970	1125	740	900	1000	980	1300	1525	800	1075	1250	—	—	—	
P4	—	—	—	185	245	295	235	305	355	205	260	300	200	250	285	265	355	410	215	285	335	—	—	—	Helical milling cutters
	—	—	—	610	800	970	770	1000	1175	670	850	980	660	820	940	870	1175	1350	710	940	1100	—	—	—	
P5	310	415	510	180	235	280	220	290	340	195	250	285	185	230	255	250	335	390	205	275	320	—	—	—	Face milling cutters
	1025	1350	1675	590	770	920	720	950	1125	640	820	940	610	750	840	820	1100	1275	670	900	1050	—	—	—	
P6	345	470	570	200	270	315	250	330	390	215	280	325	210	255	295	285	380	445	230	305	365	—	—	—	Face milling cutters
	1125	1550	1875	660	890	1025	820	1075	1275	710	920	1075	690	840	970	940	1250	1450	750	1000	1200	—	—	—	
P7	325	440	540	190	255	300	235	310	365	205	265	305	200	245	275	265	355	420	220	290	345	—	—	—	Face milling cutters
	1075	1450	1775	620	840	980	770	1025	1200	670	870	1000	660	800	900	870	1175	1375	720	950	1125	—	—	—	
P8	300	415	490	175	235	275	220	290	340	195	250	285	185	230	255	250	335	390	205	275	320	—	—	—	Face milling cutters
	980	1350	1600	570	770	900	720	950	1125	640	820	940	610	750	840	820	1100	1275	670	900	1050	—	—	—	
P11	320	430	520	185	245	290	230	300	355	200	255	300	195	235	270	240	380	500	210	280	335	—	—	—	Face milling cutters
	1050	1400	1700	610	800	950	750	980	1175	660	840	980	640	770	890	790	1250	1650	690	920	1100	—	—	—	
P12	235	305	370	120	160	190	155	195	225	135	170	190	130	155	175	165	245	310	140	185	215	—	—	—	Face milling cutters
	770	1000	1225	395	520	620	510	640	740	445	560	620	425	510	570	540	800	1025	460	610	710	—	—	—	
M1	—	—	—	—	—	—	200	265	310	190	255	295	175	230	270	270	435	560	200	265	310	—	—	—	Disc milling cutters
	—	—	—	—	—	—	660	870	1025	620	840	970	570	750	890	890	1425	1825	660	870	1025	—	—	—	
M2	—	—	—	—	—	—	165	220	260	155	210	245	145	190	225	230	360	470	165	220	255	—	—	—	Disc milling cutters
	—	—	—	—	—	—	540	720	850	510	690	800	475	620	740	750	1175	1550	540	720	840	—	—	—	
M3	—	—	—	—	—	—	135	180	210	130	170	200	115	155	180	195	300	375	135	180	205	—	—	—	Disc milling cutters
	—	—	—	—	—	—	445	590	690	425	560	660	375	510	590	640	980	1225	445	590	670	—	—	—	
M4	—	—	—	—	—	—	105	140	160	100	130	155	90	120	140	150	225	285	105	140	160	—	—	—	Disc milling cutters
	—	—	—	—	—	—	345	460	520	330	425	510	295	395	460	490	740	940	345	460	520	—	—	—	
M5	—	—	—	—	—	—	90	115	135	85	110	130	75	100	115	125	190	235	85	115	135	—	—	—	High feed milling cutters
	—	—	—	—	—	—	295	375	445	280	360	425	245	330	375	410	620	770	280	375	445	—	—	—	
K1	405	550	660	255	345	405	215	280	330	—	—	—	170	225	265	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1325	1800	2175	840	1125	1325	710	920	1075	—	—	—	560	740	870	—	—	—	—	—	—	—	—	—	
K2	375	500	610	230	305	365	190	250	295	—	—	—	150	200	235	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1225	1650	2000	750	1000	1200	620	820	970	—	—	—	490	660	770	—	—	—	—	—	—	—	—	—	
K3	315	425	520	195	255	305	160	210	250	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—	High feed milling cutters
	1025	1400	1700	640	840	1000	520	690	820	—	—	—	425	560	660	—	—	—	—	—	—	—	—	—	
K4	300	405	495	185	245	295	150	200	235	—	—	—	120	160	190	—	—	—	—	—	—	—	—	—	Copy milling cutters
	980	1325	1625	610	800	970	490	660	770	—	—	—	395	520	620	—	—	—	—	—	—	—	—	—	
K5	190	255	305	115	150	180	95	125	145	—	—	—	75	100	115	—	—	—	—	—	—	—	—	—	Copy milling cutters
	620	840	1000	375	490	590	310	410	475	—	—	—	245	330	375	—	—	—	—	—	—	—	—	—	
K6	265	360	435	165	215	260	135	180	210	—	—	—	105	140	165	—	—	—	—	—	—	—	—	—	Copy milling cutters
	870	1175	1425	540	710	850	445	590	690	—	—	—	345	460	540	—	—	—	—	—	—	—	—	—	
K7	245	330	390	150	195	230	120	155	185	—	—	—	95	125	150	—	—	—	—	—	—	—	—	—	Copy milling cutters
	800	1075	1275	490	640	750	395	510	610	—	—	—	310	410	490	—	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	1950	—	—	—	—	—	—	1350	1775	2100	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	4175	5500	6400	—	—	—	—	—	—	4425	5825	6900	
N2	—	—	—	—	—	—	—	—	—	—	—	—	510	670	790	—	—	—	—	—	—	540	720	850	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1675	2200	2600	—	—	—	—	—	—	1775	2350	2800	
N3	—	—	—	—	—	—	—	—	—	—	—	—	340	450	530	—	—	—	—	—	—	360	480	560	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1125	1475	1750	—	—	—	—	—	—	1175	1575	1825	
N11	—	—	—	—	—	—	—	—	—	—	—	—	390	510	600	—	—	—	—	—	—	415	550	650	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	1975	—	—	—	—	—	—	1350	1800	2125	
S1	—	—	—	—	—	—	—	—	—	47	60	70	42	55	65	50	65	80	50	65	80	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	155	195	230	140	180	215	165	215	260	165	215	260	—			

R217/220.69-16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	450	510	355	440	510	315	395	450
	—	—	—	1200	1475	1675	1175	1450	1675	1025	1300	1475
P2	—	—	—	350	440	490	340	430	480	300	385	430
	—	—	—	1150	1450	1600	1125	1400	1575	980	1275	1400
P3	—	—	—	305	385	430	300	375	425	265	335	380
	—	—	—	1000	1275	1400	980	1225	1400	870	1100	1250
P4	—	—	—	275	335	385	270	330	380	240	295	340
	—	—	—	900	1100	1275	890	1075	1250	790	970	1125
P5	—	—	—	260	320	370	255	315	365	230	280	325
	—	—	—	850	1050	1225	840	1025	1200	750	920	1075
P6	—	—	—	295	365	415	285	360	405	255	320	365
	—	—	—	970	1200	1350	940	1175	1325	840	1050	1200
P7	—	—	—	275	345	390	270	340	385	240	305	345
	—	—	—	900	1125	1275	890	1125	1275	790	1000	1125
P8	—	—	—	255	320	365	250	315	355	225	280	320
	—	—	—	840	1050	1200	820	1025	1175	740	920	1050
P11	—	—	—	270	335	380	265	330	375	235	295	335
	—	—	—	890	1100	1250	870	1075	1225	770	970	1100
P12	—	—	—	175	215	245	175	215	240	155	190	215
	—	—	—	570	710	800	570	710	790	510	620	710
M1	—	—	—	—	—	—	175	235	275	165	220	255
	—	—	—	—	—	—	570	770	900	540	720	840
M2	—	—	—	—	—	—	145	190	230	135	180	215
	—	—	—	—	—	—	475	620	750	445	590	710
M3	—	—	—	—	—	—	120	155	185	110	145	175
	—	—	—	—	—	—	395	510	610	360	475	570
M4	—	—	—	—	—	—	95	125	145	85	115	135
	—	—	—	—	—	—	310	410	475	280	375	445
M5	—	—	—	—	—	—	80	105	120	75	95	110
	—	—	—	—	—	—	260	345	395	245	310	360
K1	315	550	760	350	445	495	340	435	485	305	385	435
	1025	1800	2500	1150	1450	1625	1125	1425	1600	1000	1275	1425
K2	280	485	670	315	390	445	310	380	440	275	340	395
	920	1600	2200	1025	1275	1450	1025	1250	1450	900	1125	1300
K3	215	310	395	265	330	380	260	325	370	235	290	330
	710	1025	1300	870	1075	1250	850	1075	1225	770	950	1075
K4	205	300	375	255	315	360	250	310	355	225	275	315
	670	980	1225	840	1025	1175	820	1025	1175	740	900	1025
K5	125	185	230	160	195	220	155	190	215	140	170	195
	410	610	750	520	640	720	510	620	710	460	560	640
K6	180	265	330	225	275	320	220	270	310	195	245	280
	590	870	1075	740	900	1050	720	890	1025	640	800	920
K7	160	235	295	200	245	280	200	245	275	175	220	245
	520	770	970	660	800	920	660	800	900	570	720	800
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	41	55	65
	—	—	—	—	—	—	—	—	—	135	180	215
S2	—	—	—	—	—	—	—	—	—	33	43	50
	—	—	—	—	—	—	—	—	—	110	140	165
S3	—	—	—	—	—	—	—	—	—	29	38	45
	—	—	—	—	—	—	—	—	—	95	125	150
S11	—	—	—	—	—	—	—	—	—	55	75	90
	—	—	—	—	—	—	—	—	—	180	245	295
S12	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	130	165	195
S13	—	—	—	—	—	—	—	—	—	23	30	35
	—	—	—	—	—	—	—	—	—	75	100	115
H5	—	—	—	46	60	70	—	—	—	35	47	55
	—	—	—	150	195	230	—	—	—	115	155	180
H8	—	—	—	50	65	75	—	—	—	38	50	60
	—	—	—	165	215	245	—	—	—	125	165	195
H11	—	—	—	60	75	90	—	—	—	45	60	70
	—	—	—	195	245	295	—	—	—	150	195	230
H12	—	—	—	90	120	140	—	—	—	70	90	105
	—	—	—	295	395	460	—	—	—	230	295	345
H21	—	—	—	50	65	75	—	—	—	38	50	60
	—	—	—	165	215	245	—	—	—	125	165	195

Turbo 18 – R217.69-18 – Metric



- For insert selection and cutting data recommendations, see page(s) 80-82
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	RPMX	Weight	Insert	
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	kg		
R217.69-3232.3-18-2AN	02691792	Weldon	32,0	2	17,0	10,0	–	32,0	74,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,6	XO.X1806
R217.69-3232.3-18-3AN	02691793	Weldon	32,0	3	17,0	10,0	–	32,0	74,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,5	XO.X1806
R217.69-2532.3S-18-2AN	02691790	Seco-Weldon	32,0	2	17,0	10,0	40,0	25,0	–	40,0	54,0	109,5	7,0	46,0	61,5	11100	0,5	XO.X1806
R217.69-3240.3S-18-3AN	02691791	Seco-Weldon	40,0	3	17,0	10,0	50,0	32,0	–	46,0	60,0	119,5	4,5	62,0	77,5	9900	0,9	XO.X1806
R217.69-3032.0-18-2AN	02691799	Cylindrical	32,0	2	17,0	10,0	–	30,0	–	150,0	150,0	210,0	7,0	46,0	61,5	11100	1,1	XO.X1806
R217.69-3232.0-18-2AN	02691795	Cylindrical	32,0	2	17,0	10,0	–	32,0	–	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,2	XO.X1806
R217.69-3232.0-18-3AN	02691796	Cylindrical	32,0	3	17,0	10,0	–	32,0	–	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,2	XO.X1806
R217.69-3240.0-18-3AN	02691797	Cylindrical	40,0	3	17,0	10,0	–	32,0	–	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X1806
R217.69-3240.0-18-4AN	02691798	Cylindrical	40,0	4	17,0	10,0	–	32,0	–	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

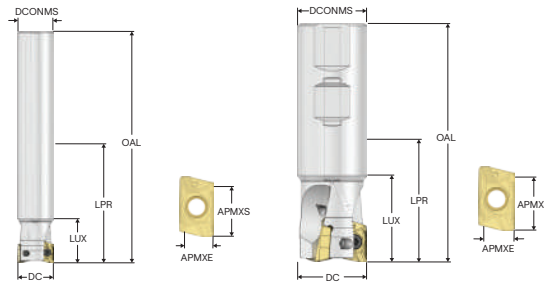
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 18 – R217.69-18 – inch



—For insert selection and cutting data recommendations, see page(s) 80-82
 —For complete insert programme, see page(s) 924, 925
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

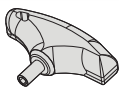
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-3-18-2AN	02699130	Weldon	1.000	2	0.669	0.394	1.000	2.795	1.575	1.732	3.937	6,0	1.280	1.890	13800	0.660	XO.X1806
R217.69-01.25-3-18-3AN	02694949	Weldon	1.250	3	0.669	0.394	1.250	3.189	1.575	1.969	4.331	7,0	1.791	2.402	11100	1.320	XO.X1806
R217.69-01.50-3-18-3AN	02694951	Weldon	1.500	3	0.669	0.394	1.250	3.583	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.540	XO.X1806
R217.69-01.50-3-18-4AN	02694954	Weldon	1.500	4	0.669	0.394	1.250	3.535	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.320	XO.X1806
R217.69-01.00-0-18-2LAN	02699117	Cylindrical	1.000	2	0.669	0.394	1.000	—	1.575	4.488	6.693	5,0	1.280	1.890	13800	1.320	XO.X1806
R217.69-01.25-0-18-2LAN	02694932	Cylindrical	1.250	2	0.669	0.394	1.000	—	5.315	5.315	7.677	2,0	1.791	2.402	11100	1.540	XO.X1806
R217.69-01.25-0-18-3LAN	02694936	Cylindrical	1.250	3	0.669	0.394	1.000	—	5.472	5.472	7.677	7,0	1.791	2.402	11100	1.980	XO.X1806
R217.69-01.50-0-18-3LAN	02694937	Cylindrical	1.500	3	0.669	0.394	1.250	—	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X1806
R217.69-01.50-0-18-4LAN	02694938	Cylindrical	1.500	4	0.669	0.394	1.250	—	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X1806

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

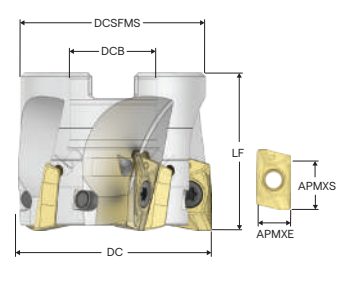
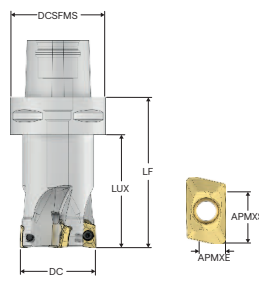
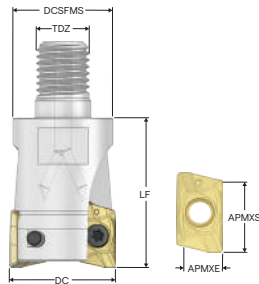
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Metric



- For insert selection and cutting data recommendations, see page(s) 80-82
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DCS-							TDZ	RMPX°				Cmin	RPMX	Weight	Insert
			DC	ZEFP	APMXS	APMXE	DCB	FMS	LF		LUX							
			mm		mm	mm	mm	mm	mm		mm	mm	mm	mm				
C6-R217.69-040-18-3AN	02707507	Seco-Capto	40,0	3	17,0	10,0	–	63,0	–	63,0	80,0	55,0	4,5	62,0	77,5	9900	1,1	XO.X1806
C6-R217.69-066-18-5AN	02707509	Seco-Capto	66,0	5	17,0	10,0	–	63,0	–	63,0	60,0	60,0	2,0	114,0	129,5	7700	1,4	XO.X1806
C6-R217.69-080-18-6AN	02707511	Seco-Capto	80,0	6	17,0	10,0	–	63,0	–	63,0	60,0	60,0	1,5	142,0	157,5	7000	1,7	XO.X1806
R217.69-1632.RE-18-2AN	02691807	Combimaster	32,0	2	17,0	10,0	–	30,0	M16	30,0	45,0	–	7,0	46,0	61,5	11100	0,3	XO.X1806
R217.69-1632.RE-18-3AN	02691805	Combimaster	32,0	3	17,0	10,0	–	30,0	M16	30,0	45,0	–	7,0	46,0	61,5	11100	0,2	XO.X1806
R217.69-1640.RE-18-3AN	02691808	Combimaster	40,0	3	17,0	10,0	–	30,0	M16	30,0	45,0	–	4,5	62,0	77,5	9900	0,3	XO.X1806
R217.69-1640.RE-18-4AN	02691806	Combimaster	40,0	4	17,0	10,0	–	30,0	M16	30,0	45,0	–	4,5	62,0	77,5	9900	0,3	XO.X1806
R217.69-2040.RE-18-4AN	02753402	Combimaster	40,0	4	17,0	10,0	–	36,5	M20	36,5	45,0	–	4,5	62,0	77,5	9900	0,4	XO.X1806
R220.69-0040-18-4AN	03004031	Arbor	40,0	4	17,0	10,0	16,0	35,0	–	16,0	40,0	–	4,5	62,0	77,5	9900	0,2	XO.X1806
R220.69-0050-18-4AN	02701130	Arbor	50,0	4	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,0	82,0	97,5	8900	0,3	XO.X1806
R220.69-0050-18-5AN	02691824	Arbor	50,0	5	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,0	82,0	97,5	8900	0,3	XO.X1806
R220.69-0052-18-4AN	02969087	Arbor	52,0	4	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,15	86,0	101,5	8900	0,4	XO.X1806
R220.69-0063-18-4AN	02691810	Arbor	63,0	4	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,6	XO.X1806
R220.69-0063-18-5AN	02691825	Arbor	63,0	5	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,5	XO.X1806
R220.69-0063-18-6AN	02691826	Arbor	63,0	6	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,5	XO.X1806
R220.69-0066-18-5AN	02969088	Arbor	66,0	5	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,0	114,0	129,5	7900	0,6	XO.X1806
R220.69-0080-18-5AN	02691811	Arbor	80,0	5	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0080-18-6AN	02691827	Arbor	80,0	6	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0080-18-8AN	02691828	Arbor	80,0	8	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0084-18-6AN	02440816	Arbor	84,0	6	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	150,0	165,5	7000	0,8	XO.X1806
R220.69-0100-18-6AN	02691817	Arbor	100,0	6	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,6	XO.X1806
R220.69-0100-18-7AN	02691820	Arbor	100,0	7	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,7	XO.X1806
R220.69-0100-18-9AN	02691822	Arbor	100,0	9	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,6	XO.X1806
R220.69-0125-18-7AN	02691818	Arbor	125,0	7	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	2,9	XO.X1806
R220.69-0125-18-8AN	02691823	Arbor	125,0	8	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	3,0	XO.X1806
R220.69-0125-18-11AN	02691815	Arbor	125,0	11	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	3,0	XO.X1806
R220.69-8160-18-7N	02691814	Arbor	160,0	7	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,4	XO.X1806
R220.69-8160-18-9N	02691813	Arbor	160,0	9	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,5	XO.X1806
R220.69-8160-18-12N	02691809	Arbor	160,0	12	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,4	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

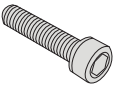
Chamfer milling cutters

Spot facing cutters

Inserts

Square shoulder
and slot milling
cutters

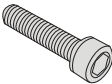
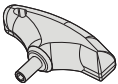
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.69-..	-	1/4HEX-T20PX50	C04510-T20P
R220.69-0040	TCEI0825	1/4HEX-T20PX50	C04510-T20P
R220.69-0050-0052	220.17-692	1/4HEX-T20PX50	C04510-T20P
R220.69-0063-0066	220.17-693	1/4HEX-T20PX50	C04510-T20P
R220.69-0080-0084	-	1/4HEX-T20PX50	C04510-T20P
R220.69-0100-8160	-	1/4HEX-T20PX90	C04510-T20P

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
Cx-R217/220.69-1632-0125	1/4HEX-T-HANDLE-5.0-14.0NM	-	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

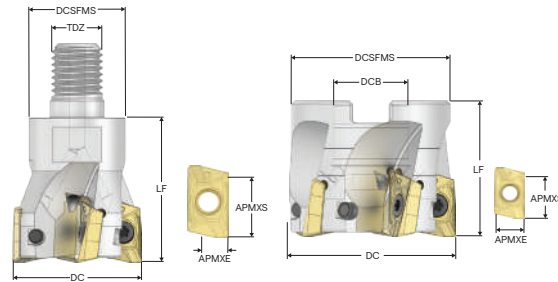
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 18 – R217/220.69-18 – inch



- For insert selection and cutting data recommendations, see page(s) 80-82
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-18-2AN	02699134	Combimaster	1.000	2	0.669	0.394	—	0.906	M12	0.906	1.575	6,0	1.280	1.890	13800	0.220	XO.X1806
R217.69-01.25-16RE-18-3AN	02699137	Combimaster	1.250	3	0.669	0.394	—	1.181	M16	1.181	1.772	7,0	1.791	2.402	11100	0.660	XO.X1806
R217.69-01.50-16RE-18-3AN	02699141	Combimaster	1.500	3	0.669	0.394	—	1.181	M16	1.181	1.772	4,5	2.283	2.894	9900	0.660	XO.X1806
R217.69-01.50-16RE-18-4AN	02699143	Combimaster	1.500	4	0.669	0.394	—	1.181	M16	1.181	1.772	4,5	2.283	2.894	9900	0.660	XO.X1806
R220.69-02.00-18-3AN	02694974	Arbor	2.000	3	0.669	0.394	0.750	1.850	—	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.00-18-4AN	02694975	Arbor	2.000	4	0.669	0.394	0.750	1.850	—	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.00-18-5AN	02694976	Arbor	2.000	5	0.669	0.394	0.750	1.850	—	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.50-18-5AN	02694979	Arbor	2.500	5	0.669	0.394	0.750	1.850	—	0.750	1.575	2,0	4.291	4.902	7900	1.100	XO.X1806
R220.69-02.50-18-6AN	02694981	Arbor	2.500	6	0.669	0.394	0.750	1.850	—	0.750	1.575	2,0	4.291	4.902	7900	1.100	XO.X1806
R220.69-03.00-18-6AN	02694985	Arbor	3.000	6	0.669	0.394	1.000	2.441	—	1.000	1.969	1,5	5.276	5.886	7000	2.200	XO.X1806
R220.69-03.00-18-8AN	02694987	Arbor	3.000	8	0.669	0.394	1.000	2.441	—	1.000	1.969	1,5	5.276	5.886	7000	2.430	XO.X1806
R220.69-04.00-18-5AN	02694990	Arbor	4.000	5	0.669	0.394	1.500	3.543	—	1.500	1.969	1,0	7.283	7.894	6300	4.850	XO.X1806
R220.69-04.00-18-7AN	02694992	Arbor	4.000	7	0.669	0.394	1.500	3.543	—	1.500	1.969	1,0	7.283	7.894	6300	4.630	XO.X1806
R220.69-04.00-18-9AN	02694993	Arbor	4.000	9	0.669	0.394	1.500	3.543	—	1.500	1.969	1,0	7.283	7.894	6300	4.630	XO.X1806
R220.69-05.00-18-8AN	02694995	Arbor	5.000	8	0.669	0.394	1.500	3.543	—	1.500	2.480	1,0	9.291	9.902	5600	8.160	XO.X1806
R220.69-05.00-18-11AN	02694994	Arbor	5.000	11	0.669	0.394	1.500	3.543	—	1.500	2.480	1,0	9.291	9.902	5600	8.160	XO.X1806
R220.69-06.00-18-9N	02694997	Arbor	6.000	9	0.669	0.394	2.000	4.331	—	2.000	2.480	0,5	11.280	11.890	5000	9.040	XO.X1806
R220.69-06.00-18-12N	02694996	Arbor	6.000	12	0.669	0.394	2.000	4.331	—	2.000	2.480	0,5	11.280	11.890	5000	9.040	XO.X1806

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

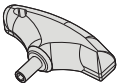
Spot facing
cutters

Inserts

Spare Parts, included in delivery

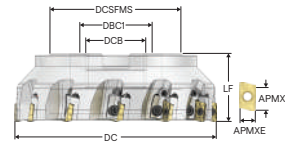
For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	-	1/4HEX-T20PX50	C04510-T20P
R220.69-02.00-02.50	220.17-695	1/4HEX-T20PX50	C04510-T20P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C04510-T20P
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T20PX90	C04510-T20P
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C04510-T20P
R220.69-06.00	-	1/4HEX-T20PX90	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-01.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	-	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.69-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R220.69-18 – Metric



- For insert selection and cutting data recommendations, see page(s) 80–82
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

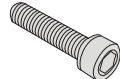
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-18-8CN	02706947	Arbor	125,0	8	17,0	10,0	40,0	90,0	40,0	63,0	1,0	232,0	247,5	5600	3,3	XO.X1806
R220.69-8160-18-10CN	02706948	Arbor	160,0	10	17,0	10,0	40,0	90,0	40,0	63,0	0,7	302,0	317,5	5000	5,2	XO.X1806
R220.69-8200-18-12CN	02706950	Arbor	200,0	12	17,0	10,0	60,0	130,0	60,0	63,0	0,5	382,0	397,5	4400	7,4	XO.X1806
R220.69-8250-18-16CN	02706951	Arbor	250,0	16	17,0	10,0	60,0	130,0	60,0	63,0	0,4	482,0	497,5	3900	14,7	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO18PRN	FS96018	1/4HEX-T20PX90	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Nest key	Setting key	Torque key
							
R220.69-0125-8250	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.69-18 – Insert selection – mm/Inch

R217/220.69-18 – Insert selection – mm/Inch						
Square shoulder and slot milling cutters	SMG		a _p	f _z		
				100%	30%	10%
Helical milling cutters	P1	XOMX180608TR-ME13 F40M	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	P2	XOMX180608TR-ME13 F40M	8,0 0.32	0,19 0.0075	0,20 0.0080	0,32 0.013
	P3	XOMX180608TR-M14 MP2501	8,0 0.32	0,19 0.0075	0,20 0.0080	0,32 0.013
	P4	XOMX180608TR-M14 MP2501	8,0 0.32	0,19 0.0075	0,20 0.0080	0,32 0.013
	P5	XOMX180608TR-M14 MP2501	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	P6	XOMX180608TR-M14 MP2501	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	P7	XOMX180608TR-M14 MP2501	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
Face milling cutters	P11	XOMX180608TR-M14 MP3501	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	P12	XOMX180608TR-M14 MP3000	7,0 0.28	0,12 0.0048	0,14 0.0055	0,20 0.0080
Disc milling cutters	M1	XOMX180608R-M10 F40M	8,0 0.32	0,14 0.0055	0,16 0.0065	0,24 0.0095
	M2	XOMX180608R-M10 F40M	8,0 0.32	0,13 0.0050	0,14 0.0055	0,22 0.0085
	M3	XOMX180608R-M10 F40M	7,0 0.28	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M4	XOMX180608R-M10 MS2050	5,0 0.20	0,090 0.0036	0,10 0.0040	0,15 0.0060
	M5	XOMX180608R-M10 MS2050	5,0 0.20	0,090 0.0036	0,10 0.0040	0,15 0.0060
High feed milling cutters	K1	XOMX180608TR-M14 MK1501	8,0 0.32	0,20 0.0080	0,22 0.0085	0,34 0.013
	K2	XOMX180608TR-M14 MK1501	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	K3	XOMX180608TR-M14 MK2050	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	K4	XOMX180608TR-M14 MK2050	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	K5	XOMX180608TR-M14 MK2050	8,0 0.32	0,16 0.0065	0,18 0.0070	0,28 0.011
	K6	XOMX180608TR-M14 MK2050	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	K7	XOMX180608TR-M14 MK2050	8,0 0.32	0,16 0.0065	0,18 0.0070	0,28 0.011
Copy milling cutters	N1	XOEX180608FR-E10 H25	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	N2	XOEX180608FR-E10 H25	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	N3	XOEX180608FR-E10 H25	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
	N11	XOEX180608FR-E10 H25	8,0 0.32	0,18 0.0070	0,20 0.0080	0,30 0.012
Plunge milling cutters	S1	XOMX180608R-M10 F40M	5,0 0.20	0,090 0.0036	0,10 0.0040	0,15 0.0060
	S2	XOMX180608R-M10 F40M	5,0 0.20	0,090 0.0036	0,10 0.0040	0,15 0.0060
	S3	XOMX180608R-M10 F40M	5,0 0.20	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S11	XOMX180608R-M10 MS2050	6,0 0.24	0,10 0.0040	0,11 0.0044	0,18 0.0070
Chamfer milling cutters	S12	XOMX180608R-M10 MS2050	6,0 0.24	0,10 0.0040	0,11 0.0044	0,18 0.0070
	S13	XOMX180608R-M10 MS2050	5,0 0.20	0,090 0.0036	0,10 0.0040	0,15 0.0060
Facing cutters	H5	XOMX180608TR-MD15 MH1051	7,0 0.28	0,13 0.0050	0,15 0.0060	0,22 0.0085
	H8	XOMX180608TR-MD15 MH1051	6,0 0.24	0,10 0.0040	0,11 0.0044	0,17 0.0065
	H11	XOMX180608TR-MD15 MH1051	7,0 0.28	0,13 0.0050	0,15 0.0060	0,22 0.0085
	H12	XOMX180608TR-MD15 MH1051	6,0 0.24	0,10 0.0040	0,11 0.0044	0,17 0.0065
	H21	XOMX180608TR-MD15 MH1051	6,0 0.24	0,10 0.0040	0,11 0.0044	0,17 0.0065

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.69-18 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	255	335	400	250	335	410	270	350	400	260	320	355	335	465	550	290	385	450	—	—	—	Square shoulder and slot milling cutters
	—	—	—	840	1100	1300	820	1100	1350	890	1150	1300	850	1050	1175	1100	1525	1800	950	1275	1475	—	—	—	
P2	—	—	—	245	325	385	245	325	385	265	335	390	255	305	350	330	440	530	280	370	440	—	—	—	Helical milling cutters
	—	—	—	800	1075	1275	800	1075	1275	870	1100	1275	840	1000	1150	1075	1450	1750	920	1225	1450	—	—	—	
P3	—	—	—	215	290	335	215	295	340	225	295	345	220	270	310	280	390	470	245	325	385	—	—	—	Face milling cutters
	—	—	—	710	950	1100	710	970	1125	740	970	1125	720	890	1025	920	1275	1550	800	1075	1275	—	—	—	
P4	—	—	—	190	255	295	190	260	300	205	260	305	200	250	290	260	345	415	220	285	340	—	—	—	Disc milling cutters
	—	—	—	620	840	970	620	850	980	670	850	1000	660	820	950	850	1125	1350	720	940	1125	—	—	—	
P5	310	425	530	185	245	290	185	245	295	195	250	290	190	230	260	250	340	395	210	275	325	—	—	—	High feed milling cutters
	1025	1400	1750	610	800	950	610	800	970	640	820	950	620	750	850	820	1125	1300	690	900	1075	—	—	—	
P6	360	475	590	205	275	325	210	280	330	220	285	325	210	260	290	280	380	445	235	310	365	—	—	—	Copy milling cutters
	1175	1550	1925	670	900	1075	690	920	1075	720	940	1075	690	850	950	920	1250	1450	770	1025	1200	—	—	—	
P7	340	450	560	195	255	305	195	260	315	205	265	305	200	245	275	265	360	420	220	295	345	—	—	—	Plunge milling cutters
	1125	1475	1825	640	840	1000	640	850	1025	670	870	1000	660	800	900	870	1175	1375	720	970	1125	—	—	—	
P8	310	425	510	180	245	285	180	245	290	190	245	290	185	225	260	235	330	395	205	270	325	—	—	—	Chamfer milling cutters
	1025	1400	1675	590	800	940	590	800	950	620	800	950	610	740	850	770	1075	1300	670	890	1075	—	—	—	
P11	330	435	540	190	250	295	190	255	305	200	260	295	195	240	265	240	385	495	215	285	335	—	—	—	Spot facing cutters
	1075	1425	1775	620	820	970	620	840	1000	660	850	970	640	790	870	790	1275	1625	710	940	1100	—	—	—	
P12	240	315	380	125	165	195	135	175	210	135	170	195	130	160	175	165	255	320	140	185	215	—	—	—	Square shoulder and slot milling cutters
	790	1025	1250	410	540	640	445	570	690	445	560	640	425	520	570	540	840	1050	460	610	710	—	—	—	
M1	—	—	—	—	—	—	—	175	235	275	195	250	300	175	230	275	270	420	560	200	265	315	—	—	Helical milling cutters
	—	—	—	—	—	—	—	570	770	900	640	820	980	570	750	900	890	1375	1825	660	870	1025	—	—	
M2	—	—	—	—	—	—	—	150	195	230	160	210	250	145	190	225	225	365	470	165	220	260	—	—	Disc milling cutters
	—	—	—	—	—	—	—	490	640	750	520	690	820	475	620	740	740	1200	1550	540	720	850	—	—	
M3	—	—	—	—	—	—	—	120	160	190	130	170	200	120	155	185	195	300	385	135	180	210	—	—	Face milling cutters
	—	—	—	—	—	—	—	395	520	620	425	560	660	395	510	610	640	980	1275	445	590	690	—	—	
M4	—	—	—	—	—	—	—	95	125	145	100	135	155	95	120	140	155	230	295	105	140	165	—	—	High feed milling cutters
	—	—	—	—	—	—	—	310	410	475	330	445	510	310	395	460	510	750	970	345	460	540	—	—	
M5	—	—	—	—	—	—	—	80	105	120	85	110	130	75	100	120	130	195	245	90	115	135	—	—	Copy milling cutters
	—	—	—	—	—	—	—	260	345	395	280	360	425	245	330	395	425	640	800	295	375	445	—	—	
K1	405	560	690	265	350	415	185	250	295	—	—	—	175	225	270	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1325	1825	2275	870	1150	1350	610	820	970	—	—	—	570	740	890	—	—	—	—	—	—	—	—	—	
K2	375	510	640	240	315	375	170	220	265	—	—	—	155	205	240	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	1225	1675	2100	790	1025	1225	560	720	870	—	—	—	510	670	790	—	—	—	—	—	—	—	—	—	
K3	320	435	540	200	265	315	140	190	225	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—	Spot facing cutters
	1050	1425	1775	660	870	1025	460	620	740	—	—	—	425	560	660	—	—	—	—	—	—	—	—	—	
K4	305	415	510	190	255	300	135	180	215	—	—	—	125	165	190	—	—	—	—	—	—	—	—	—	Helical milling cutters
	1000	1350	1675	620	840	980	445	590	710	—	—	—	410	540	620	—	—	—	—	—	—	—	—	—	
K5	195	270	315	120	155	185	85	110	130	—	—	—	75	100	115	—	—	—	—	—	—	—	—	—	Disc milling cutters
	640	890	1025	395	510	610	280	360	425	—	—	—	245	330	375	—	—	—	—	—	—	—	—	—	
K6	265	365	455	170	225	265	120	160	190	—	—	—	110	145	170	—	—	—	—	—	—	—	—	—	Face milling cutters
	870	1200	1500	560	740	870	395	520	620	—	—	—	360	475	560	—	—	—	—	—	—	—	—	—	
K7	245	345	405	150	200	235	105	140	165	—	—	—	95	125	150	—	—	—	—	—	—	—	—	—	Square shoulder and slot milling cutters
	800	1125	1325	490	660	770	345	460	540	—	—	—	310	410	490	—	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	1975	—	—	—	—	—	—	1275	1675	2000	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	4175	5500	6475	—	—	—	—	—	—	4175	5500	6550	
N2	—	—	—	—	—	—	—	—	—	—	—	—	510	670	800	—	—	—	—	—	—	520	680	810	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1675	2200	2625	—	—	—	—	—	—	1700	2225	2650	
N3	—	—	—	—	—	—	—	—	—	—	—	—	340	450	540	—	—	—	—	—	—	345	455	540	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1125	1475	1775	—	—	—	—	—	—	1125	1500	1775	
N11	—	—	—	—	—	—	—	—	—	—	—	—	390	510	610	—	—	—	—	—	—	395	520	620	Helical milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	2000	—	—	—	—	—	—	1300	1700	2025	
S1	—	—	—	—	—	—	44	60	70	48	60	75	43	55	65	50	70	80	50	70	80	—	—	—	Square shoulder and slot milling cutters
	—	—	—	—	—	—	145	195	230	155	195	245	140	180	215	165	230	260	165	230	260	—	—	—	
S2	—	—	—	—	—	—	35	47	55	38	50	60	35	45	55	42	55	65							

R217/220.69-18 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	460	530	360	450	520	325	405	460	225	290	340
	—	—	—	1200	1500	1750	1175	1475	1700	1075	1325	1500	740	950	1125
P2	—	—	—	360	445	510	350	435	495	315	395	445	215	285	325
	—	—	—	1175	1450	1675	1150	1425	1625	1025	1300	1450	710	940	1075
P3	—	—	—	315	395	445	305	390	435	275	350	390	190	250	285
	—	—	—	1025	1300	1450	1000	1275	1425	900	1150	1275	620	820	940
P4	—	—	—	275	350	390	270	340	385	245	310	345	185	235	280
	—	—	—	900	1150	1275	890	1125	1275	800	1025	1125	610	770	920
P5	—	—	—	270	335	380	260	325	375	235	295	335	160	210	245
	—	—	—	890	1100	1250	850	1075	1225	770	970	1100	520	690	800
P6	—	—	—	300	375	425	295	365	420	265	330	380	180	240	275
	—	—	—	980	1225	1400	970	1200	1375	870	1075	1250	590	790	900
P7	—	—	—	285	355	405	280	345	395	250	310	355	170	225	260
	—	—	—	940	1175	1325	920	1125	1300	820	1025	1175	560	740	850
P8	—	—	—	265	335	375	255	325	365	230	295	330	160	210	240
	—	—	—	870	1100	1225	840	1075	1200	750	970	1075	520	690	790
P11	—	—	—	275	345	390	270	335	385	245	305	345	165	220	255
	—	—	—	900	1125	1275	890	1100	1275	800	1000	1125	540	720	840
P12	—	—	—	185	225	255	180	220	250	160	200	225	110	140	160
	—	—	—	610	740	840	590	720	820	520	660	740	360	460	520
M1	—	—	—	—	—	—	180	240	280	170	225	265	145	190	225
	—	—	—	—	—	—	590	790	920	560	740	870	475	620	740
M2	—	—	—	—	—	—	150	200	235	140	185	220	120	155	190
	—	—	—	—	—	—	490	660	770	460	610	720	395	510	620
M3	—	—	—	—	—	—	120	160	190	115	155	180	95	130	155
	—	—	—	—	—	—	395	520	620	375	510	590	310	425	510
M4	—	—	—	—	—	—	95	125	145	90	120	140	75	100	120
	—	—	—	—	—	—	310	410	475	295	395	460	245	330	395
M5	—	—	—	—	—	—	80	105	125	75	100	115	65	85	100
	—	—	—	—	—	—	260	345	410	245	330	375	215	280	330
K1	325	570	790	360	450	510	350	440	500	315	395	450	—	—	—
	1075	1875	2600	1175	1475	1675	1150	1450	1650	1025	1300	1475	—	—	—
K2	290	500	700	325	405	460	315	395	450	285	355	405	—	—	—
	950	1650	2300	1075	1325	1500	1025	1300	1475	940	1175	1325	—	—	—
K3	220	325	410	275	340	390	270	335	380	240	300	345	—	—	—
	720	1075	1350	900	1125	1275	890	1100	1250	790	980	1125	—	—	—
K4	210	310	390	260	325	370	255	320	365	230	285	330	—	—	—
	690	1025	1275	850	1075	1225	840	1050	1200	750	940	1075	—	—	—
K5	130	190	235	160	200	225	160	195	220	140	175	200	—	—	—
	425	620	770	520	660	740	520	640	720	460	570	660	—	—	—
K6	185	270	345	230	285	330	225	280	320	205	255	290	—	—	—
	610	890	1125	750	940	1075	740	920	1050	670	840	950	—	—	—
K7	165	240	300	210	255	290	205	250	285	180	225	255	—	—	—
	540	790	980	690	840	950	670	820	940	590	740	840	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	42	55	65	23	31	36
	—	—	—	—	—	—	—	—	—	140	180	215	75	100	120
S2	—	—	—	—	—	—	—	—	—	34	45	50	19	25	29
	—	—	—	—	—	—	—	—	—	110	150	165	60	80	95
S3	—	—	—	—	—	—	—	—	—	30	39	46	17	22	26
	—	—	—	—	—	—	—	—	—	100	130	150	55	70	85
S11	—	—	—	—	—	—	—	—	—	60	80	90	32	43	50
	—	—	—	—	—	—	—	—	—	195	260	295	105	140	165
S12	—	—	—	—	—	—	—	—	—	40	55	65	30	39	47
	—	—	—	—	—	—	—	—	—	130	180	215	100	130	155
S13	—	—	—	—	—	—	—	—	—	24	31	36	18	23	27
	—	—	—	—	—	—	—	—	—	80	100	120	60	75	90
H5	—	—	—	48	60	75	—	—	—	37	49	60	—	—	—
	—	—	—	155	195	245	—	—	—	120	160	195	—	—	—
H8	—	—	—	50	70	80	—	—	—	40	55	60	—	—	—
	—	—	—	165	230	260	—	—	—	130	180	195	—	—	—
H11	—	—	—	60	80	95	—	—	—	47	60	75	—	—	—
	—	—	—	195	260	310	—	—	—	155	195	245	—	—	—
H12	—	—	—	90	125	140	—	—	—	70	95	110	—	—	—
	—	—	—	295	410	460	—	—	—	230	310	360	—	—	—
H21	—	—	—	50	70	80	—	—	—	40	55	60	—	—	—
	—	—	—	165	230	260	—	—	—	130	180	195	—	—	—



Square T4

Made for roughing and semi-finishing operations, the Square T4 features four cutting edges and an innovative tangential cutter design that increases the surface area of contact between the insert and the cutter body resulting in good surface finish during slotting, contouring and plunging applications.

- Multi-edge inserts optimize cutting stability
- Available in two inserts size, 08 and 12
- Allow for clean 90-degree walls

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

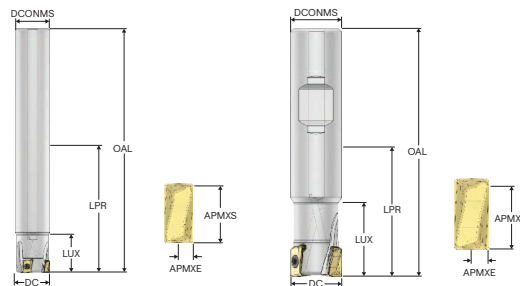
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square T4 – R217.94-08 – Metric



—For insert selection and cutting data recommendations, see page(s) 88–90
 —For complete insert programme, see page(s) 875
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm			kg	
R217.94-1616.3-08-2A	02827530	Weldon	16,0	2	8,0	2,0	16,0	54,0	23,4	30,0	78,0	0,0	20600	0,2	LOEX0804
R217.94-2018.3-08-2A	02829812	Weldon	18,0	2	8,0	2,0	20,0	65,0	26,7	40,0	90,0	0,0	19400	0,2	LOEX0804
R217.94-2020.3-08-2A	02827531	Weldon	20,0	2	8,0	2,0	20,0	65,0	28,8	40,0	90,0	0,0	18400	0,3	LOEX0804
R217.94-2020.3-08-3A	02827533	Weldon	20,0	3	8,0	2,0	20,0	65,0	28,9	40,0	90,0	0,0	18400	0,2	LOEX0804
R217.94-2522.3-08-3A	02829813	Weldon	22,0	3	8,0	2,0	25,0	69,0	26,5	45,0	101,0	0,0	17600	0,4	LOEX0804
R217.94-2525.3-08-3A	02827534	Weldon	25,0	3	8,0	2,0	25,0	69,0	28,9	45,0	101,0	0,0	16500	0,4	LOEX0804
R217.94-2525.3-08-4A	02827535	Weldon	25,0	4	8,0	2,0	25,0	69,0	28,9	45,0	101,0	0,0	16500	0,3	LOEX0804
R217.94-3232.3-08-5A	02827537	Weldon	32,0	5	8,0	2,0	32,0	69,0	28,2	45,0	105,0	0,0	14600	0,6	LOEX0804
R217.94-1616.0-08-2A	02827519	Cylindrical	16,0	2	8,0	2,0	16,0	–	29,0	42,0	90,0	0,0	20600	0,2	LOEX0804
R217.94-1820.0-08-2A	02827520	Cylindrical	20,0	2	8,0	2,0	18,0	–	110,0	110,0	160,0	0,0	18400	0,4	LOEX0804
R217.94-2020.0-08-2A	02827522	Cylindrical	20,0	2	8,0	2,0	20,0	–	29,0	110,0	160,0	0,0	18400	0,4	LOEX0804
R217.94-2020.0-08-3A	02827523	Cylindrical	20,0	3	8,0	2,0	20,0	–	29,0	60,0	110,0	0,0	18400	0,3	LOEX0804
R217.94-2225.0-08-3A	02827524	Cylindrical	25,0	3	8,0	2,0	22,0	–	124,0	124,0	180,0	0,0	17600	0,5	LOEX0804
R217.94-2525.0-08-3A	02827525	Cylindrical	25,0	3	8,0	2,0	25,0	–	29,0	124,0	180,0	0,0	16500	0,6	LOEX0804
R217.94-2525.0-08-4A	02827526	Cylindrical	25,0	4	8,0	2,0	25,0	–	29,0	64,0	120,0	0,0	16500	0,4	LOEX0804
R217.94-3232.0-08-3A	02827528	Cylindrical	32,0	3	8,0	2,0	32,0	–	29,0	140,0	200,0	0,0	14600	1,1	LOEX0804
R217.94-3232.0-08-5A	02827529	Cylindrical	32,0	5	8,0	2,0	32,0	–	29,0	70,0	130,0	0,0	14600	0,7	LOEX0804

Spare Parts, included in delivery

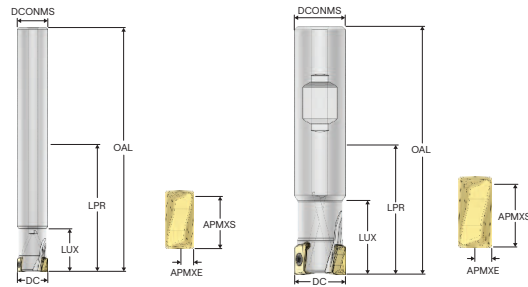
For cutter	Insert key	Insert screw
		
R217.94-.. Ø16-18	1/4HEX-T08PX50	C02707B-T08P
R217.94-.. Ø20-32	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square T4 – R217.94-08 – inch



- For insert selection and cutting data recommendations, see page(s) 88-90
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.94-00.75-3-08-3A	02887522	Weldon	0.750	3	0.315	0.079	0.750	2.559	1.138	1.531	3.500	0,0	18400	0.440	LOEX0804
R217.94-01.00-3-08-3A	02887524	Weldon	1.000	3	0.315	0.079	1.000	2.858	1.138	2.031	4.000	0,0	16500	0.880	LOEX0804
R217.94-01.00-3-08-4A	02887525	Weldon	1.000	4	0.315	0.079	1.000	2.858	1.138	2.031	4.000	0,0	16500	0.880	LOEX0804
R217.94-01.25-3-08-4A	02887527	Weldon	1.250	4	0.315	0.079	1.250	2.717	1.110	2.138	4.500	0,0	14600	1.540	LOEX0804
R217.94-00.62-0-08-2A	02887518	Cylindrical	0.625	2	0.315	0.079	0.625	–	1.122	3.630	5.520	0,0	20600	0.440	LOEX0804
R217.94-01.00-0-08-3A	02887523	Cylindrical	1.000	3	0.315	0.079	1.000	–	1.138	5.665	7.870	0,0	16500	1.540	LOEX0804

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-00.62-00.75	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

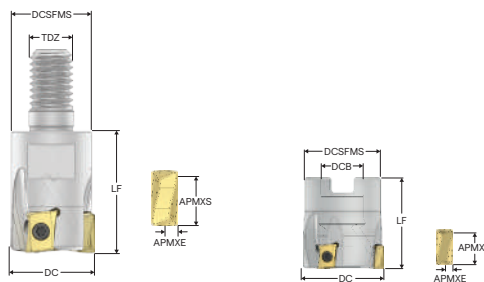
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square T4 – R217/220.94-08 – Metric

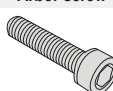


—For insert selection and cutting data recommendations, see page(s) 88–90
 —For complete insert programme, see page(s) 875
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm			kg	
R217.94-0816.RE-08-2A	02827538	Combimaster	16,0	2	8,0	2,0	–	13,5	M8	13,5	23,0	0,0	20600	0,1	LOEX0804
R217.94-1020.RE-08-3A	02827540	Combimaster	20,0	3	8,0	2,0	–	18,5	M10	18,5	28,0	0,0	18400	0,1	LOEX0804
R217.94-1225.RE-08-3A	02827541	Combimaster	25,0	3	8,0	2,0	–	23,0	M12	23,0	30,0	0,0	16500	0,2	LOEX0804
R217.94-1225.RE-08-4A	02827542	Combimaster	25,0	4	8,0	2,0	–	23,0	M12	23,0	30,0	0,0	16500	0,1	LOEX0804
R217.94-1632.RE-08-3A	02827543	Combimaster	32,0	3	8,0	2,0	–	30,0	M16	30,0	35,0	0,0	14600	0,2	LOEX0804
R217.94-1632.RE-08-5A	02827544	Combimaster	32,0	5	8,0	2,0	–	30,0	M16	30,0	35,0	0,0	14600	0,2	LOEX0804
R217.94-2040.RE-08-6A	02972755	Combimaster	40,0	6	8,0	2,0	–	36,5	M20	36,5	40,0	0,0	13000	0,4	LOEX0804
R220.94-0032-08-5A	02845461	Arbor	32,0	5	8,0	2,0	16,0	29,3	–	16,0	35,0	0,0	13000	0,2	LOEX0804
R220.94-0040-08-4A	02827545	Arbor	40,0	4	8,0	2,0	16,0	35,0	–	16,0	40,0	0,0	13000	0,3	LOEX0804
R220.94-0040-08-6A	02827546	Arbor	40,0	6	8,0	2,0	16,0	35,0	–	16,0	40,0	0,0	13000	0,3	LOEX0804
R220.94-0050-08-5A	02827547	Arbor	50,0	5	8,0	2,0	22,0	45,0	–	22,0	40,0	0,0	11700	0,5	LOEX0804
R220.94-0050-08-7A	02827548	Arbor	50,0	7	8,0	2,0	22,0	45,0	–	22,0	40,0	0,0	11700	0,5	LOEX0804
R220.94-0063-08-6A	02827549	Arbor	63,0	6	8,0	2,0	27,0	56,0	–	27,0	40,0	0,0	10400	0,7	LOEX0804
R220.94-0063-08-9A	02827550	Arbor	63,0	9	8,0	2,0	27,0	56,0	–	27,0	40,0	0,0	10400	0,7	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

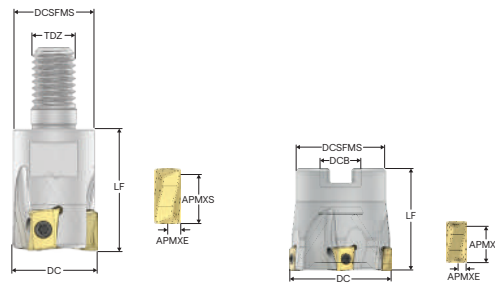
For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-... Ø16	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-... Ø20-40	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-0032	TCEI0825	1/4HEX-T08PX50	C02707B-T08P
R220.94-0040	TCEI0825	1/4HEX-T08PX50	C02708B-T08P
R220.94-0050	220.17-692	1/4HEX-T08PX50	C02708B-T08P
R220.94-0063	MLC6S12X30	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square T4 – R217/220.94-08 – inch

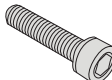


- For insert selection and cutting data recommendations, see page(s) 88-90
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.94-00.75-10RE-08-3A	10225143	Combimaster	0.750	3	0.315	0.079	–	0.728	M10	0.728	1.102	0,0	18400	0.220	LOEX0804
R217.94-01.00-12RE-08-3A	02890010	Combimaster	1.000	3	0.315	0.079	–	0.906	M12	0.906	1.181	0,0	16500	0.220	LOEX0804
R217.94-01.25-16RE-08-4A	10225144	Combimaster	1.250	4	0.315	0.079	–	1.181	M16	1.181	1.378	0,0	14600	0.440	LOEX0804
R220.94-01.50-08-4A	02887529	Arbor	1.500	4	0.315	0.079	0.750	1.378	–	0.750	1.575	0,0	13000	0.660	LOEX0804
R220.94-02.00-08-5A	02887530	Arbor	2.000	5	0.315	0.079	0.750	1.772	–	0.750	1.575	0,0	11700	1.100	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-00.75	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.94-08 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	LOEX080408TR-M08 F40M	4,0 0.16	0,11 0.0044	0,13 0.0050	0,19 0.0075
	P2	LOEX080408TR-M08 F40M	4,0 0.16	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P3	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,19 0.0075
Helical milling cutters	P4	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P5	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P6	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,11 0.0044	0,18 0.0070
Face milling cutters	P7	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,11 0.0044	0,18 0.0070
	P8	LOEX080408TR-M08 MP2501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P11	LOEX080408TR-M08 MP3501	4,0 0.16	0,11 0.0044	0,11 0.0044	0,18 0.0070
Disc milling cutters	P12	LOEX080408TR-M08 MP3000	3,0 0.12	0,075 0.0030	0,080 0.0032	0,12 0.0048
	M1	LOEX080408TR-M08 F40M	4,0 0.16	0,12 0.0048	0,13 0.0050	0,20 0.0080
	M2	LOEX080408TR-M08 F40M	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
High feed milling cutters	M3	LOEX080408TR-M08 F40M	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
	M4	LOEX080408TR-M08 MS2050	2,5 0.10	0,075 0.0030	0,085 0.0034	0,13 0.0050
	M5	LOEX080408TR-M08 MS2050	2,5 0.10	0,075 0.0030	0,085 0.0034	0,13 0.0050
Copy milling cutters	K1	LOEX080408TR-MD08 MK1501	4,0 0.16	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K2	LOEX080408TR-MD08 MK1501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K3	LOEX080408TR-MD08 MK1501	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
Plunge milling cutters	K4	LOEX080408TR-M08 MK2050	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K5	LOEX080408TR-M08 MK2050	4,0 0.16	0,095 0.0038	0,10 0.0040	0,16 0.0065
	K6	LOEX080408TR-M08 MK2050	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
Chamfer milling cutters	K7	LOEX080408TR-M08 MK2050	4,0 0.16	0,095 0.0038	0,10 0.0040	0,16 0.0065
	N1	LOEX080408TR-M08 F40M	4,0 0.16	0,15 0.0060	0,16 0.0065	0,25 0.010
	N2	LOEX080408TR-M08 F40M	4,0 0.16	0,15 0.0060	0,16 0.0065	0,25 0.010
Spot facing cutters	N3	LOEX080408TR-M08 F40M	4,0 0.16	0,15 0.0060	0,16 0.0065	0,25 0.010
	N11	LOEX080408TR-M08 F40M	4,0 0.16	0,15 0.0060	0,16 0.0065	0,25 0.010
	S1	LOEX080408TR-M08 F40M	2,5 0.10	0,075 0.0030	0,085 0.0034	0,13 0.0050
Inserts	S2	LOEX080408TR-M08 F40M	2,5 0.10	0,075 0.0030	0,085 0.0034	0,13 0.0050
	S3	LOEX080408TR-M08 F40M	2,5 0.10	0,070 0.0028	0,080 0.0032	0,12 0.0048
	S11	LOEX080408TR-M08 MS2050	2,5 0.10	0,085 0.0034	0,095 0.0038	0,15 0.0060
Spot facing cutters	S12	LOEX080408TR-M08 MS2050	2,5 0.10	0,085 0.0034	0,095 0.0038	0,15 0.0060
	S13	LOEX080408TR-M08 MS2050	2,5 0.10	0,075 0.0030	0,085 0.0034	0,13 0.0050
	H5	LOEX080408TR-M08 MP3000	3,0 0.12	0,075 0.0030	0,080 0.0032	0,12 0.0048
Spot facing cutters	H8	LOEX080408TR-M08 MP3000	2,5 0.10	0,055 0.0022	0,060 0.0024	0,095 0.0038
	H11	LOEX080408TR-MD08 MP1501	3,0 0.12	0,075 0.0030	0,080 0.0032	0,12 0.0048
	H12	LOEX080408TR-MD08 MP1501	2,5 0.10	0,055 0.0022	0,060 0.0024	0,095 0.0038
Spot facing cutters	H21	LOEX080408TR-MD08 MP1501	2,5 0.10	0,055 0.0022	0,060 0.0024	0,095 0.0038

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

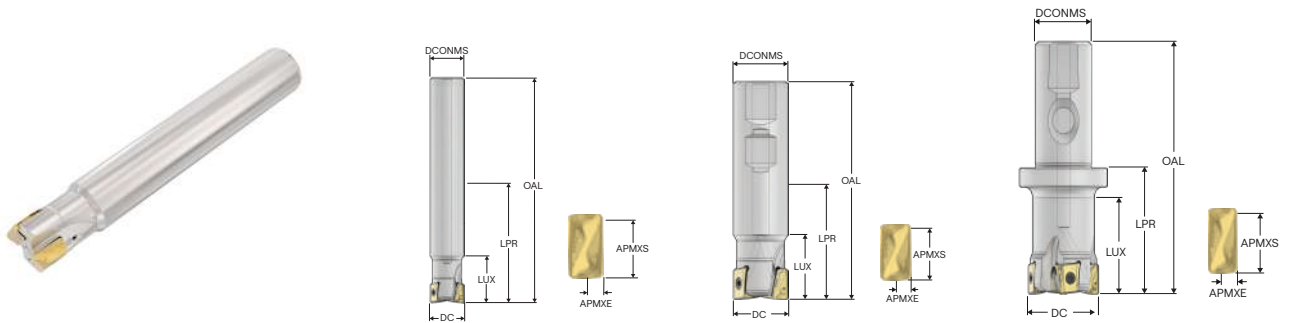
R217/220.94-08 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			Square shoulder and slot milling cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	310	410	475	340	440	500	290	370	425	285	345	380	345	455	540	295	390	460	Helical milling cutters
	1025	1350	1550	1125	1450	1650	950	1225	1400	940	1125	1250	1125	1500	1775	970	1275	1500	
P2	295	390	465	320	415	490	275	355	415	270	330	370	320	445	530	290	380	445	Helical milling cutters
	970	1275	1525	1050	1350	1600	900	1175	1350	890	1075	1225	1050	1450	1750	950	1250	1450	
P3	260	345	405	285	365	430	245	310	360	240	290	325	285	395	455	255	330	395	Helical milling cutters
	850	1125	1325	940	1200	1400	800	1025	1175	790	950	1075	940	1300	1500	840	1075	1300	
P4	230	300	355	250	325	375	215	275	315	210	265	300	255	345	410	225	295	345	Helical milling cutters
	750	980	1175	820	1075	1225	710	900	1025	690	870	980	840	1125	1350	740	970	1125	
P5	220	290	340	240	310	360	205	260	305	200	245	275	250	340	395	215	280	330	Helical milling cutters
	720	950	1125	790	1025	1175	670	850	1000	660	800	900	820	1125	1300	710	920	1075	
P6	250	330	390	275	355	410	240	300	345	230	280	310	285	380	440	240	315	370	Helical milling cutters
	820	1075	1275	900	1175	1350	790	980	1125	750	920	1025	940	1250	1450	790	1025	1225	
P7	235	310	365	260	335	385	225	285	325	220	265	295	265	360	415	225	300	350	Face milling cutters
	770	1025	1200	850	1100	1275	740	940	1075	720	870	970	870	1175	1350	740	980	1150	
P8	220	290	340	240	310	360	205	260	305	200	245	275	240	330	385	215	275	330	Face milling cutters
	720	950	1125	790	1025	1175	670	850	1000	660	800	900	790	1075	1275	710	900	1075	
P11	230	305	355	255	325	375	220	275	315	210	255	285	245	385	495	220	290	340	Face milling cutters
	750	1000	1175	840	1075	1225	720	900	1025	690	840	940	800	1275	1625	720	950	1125	
P12	145	195	230	160	205	235	140	175	200	135	165	180	165	250	315	145	190	225	Face milling cutters
	475	640	750	520	670	770	460	570	660	445	540	590	540	820	1025	475	620	740	
M1	—	—	—	210	280	335	200	265	315	185	240	290	260	425	560	205	275	320	Disc milling cutters
	—	—	—	690	920	1100	660	870	1025	610	790	950	850	1400	1825	670	900	1050	
M2	—	—	—	175	230	275	165	220	260	150	200	235	230	365	465	170	225	265	Disc milling cutters
	—	—	—	570	750	900	540	720	850	490	660	770	750	1200	1525	560	740	870	
M3	—	—	—	145	185	220	135	180	210	125	160	190	195	295	380	140	185	215	Disc milling cutters
	—	—	—	475	610	720	445	590	690	410	520	620	640	970	1250	460	610	710	
M4	—	—	—	110	145	170	105	140	165	95	125	150	155	230	290	110	140	165	Disc milling cutters
	—	—	—	360	475	560	345	460	540	310	410	490	510	750	950	360	460	540	
M5	—	—	—	95	125	145	90	115	135	80	105	125	125	190	240	90	115	140	Disc milling cutters
	—	—	—	310	410	475	295	375	445	260	345	410	410	620	790	295	375	460	
K1	320	420	500	225	295	355	—	—	—	180	240	285	—	—	—	—	—	—	High feed milling cutters
	1050	1375	1650	740	970	1175	—	—	—	590	790	940	—	—	—	—	—	—	
K2	280	370	440	200	265	310	—	—	—	160	210	250	—	—	—	—	—	—	High feed milling cutters
	920	1225	1450	660	870	1025	—	—	—	520	690	820	—	—	—	—	—	—	
K3	240	315	375	170	225	265	—	—	—	135	180	210	—	—	—	—	—	—	High feed milling cutters
	790	1025	1225	560	740	870	—	—	—	445	590	690	—	—	—	—	—	—	
K4	230	300	355	160	210	250	—	—	—	130	170	200	—	—	—	—	—	—	Copy milling cutters
	750	980	1175	520	690	820	—	—	—	425	560	660	—	—	—	—	—	—	
K5	140	185	220	100	130	155	—	—	—	80	105	125	—	—	—	—	—	—	Copy milling cutters
	460	610	720	330	425	510	—	—	—	260	345	410	—	—	—	—	—	—	
K6	200	265	315	140	185	220	—	—	—	115	150	175	—	—	—	—	—	—	Copy milling cutters
	660	870	1025	460	610	720	—	—	—	375	490	570	—	—	—	—	—	—	
K7	180	240	280	125	170	195	—	—	—	100	135	160	—	—	—	—	—	—	Copy milling cutters
	590	790	920	410	560	640	—	—	—	330	445	520	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	1325	1775	2075	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	4350	5825	6800	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	540	720	840	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1775	2350	2750	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	360	480	560	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1175	1575	1825	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	410	550	640	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1350	1800	2100	—	—	—	—	—	—	
S1	—	—	—	50	70	80	50	65	75	45	60	70	50	70	80	55	70	80	Chamfer milling cutters
	—	—	—	165	230	260	165	215	245	150	195	230	165	230	260	180	230	260	
S2	—	—	—	42	55	65	40	55	60	36	48	55	41	55	65	43	55	65	Chamfer milling cutters
	—	—	—	140	180	215	130	180	195	120	155	180	135	180	215	140	180	215	
S3	—	—	—	37	48	55	35	46	55	32	42	49	36	48	55	37	49	55	Chamfer milling cutters
	—	—	—	120	155	180	115	150	180	105	140	160	120	155	180	120	160	180	
S11	—	—	—	—	—	—	70	90	105	65	80	95	70	95	110	75	100	115	Chamfer milling cutters
	—	—	—	—	—	—	230	295	345	215	260	310	230	310	360	245	330	375	
S12	—	—	—	—	—	—	48	60	75	44	55	65	49	65	75	50	70	80	Spot facing cutters
	—	—	—	—	—	—	155	195	245	145	180	215	160	215	245	165	230	260	
S13	—	—	—	—	—	—	28	37	43	25	33	39	29	38	45	30	39	45	Spot facing cutters
	—	—	—	—	—	—	90	120	140	80	110	130	95	125	150	100	130	150	
H5	50	65	80	44	60	70	—	—	—	38	49	60	—	—	—	—	—	—	Spot facing cutters
	165	215	260	145	195	230	—	—	—	125	160	195	—	—	—	—	—	—	
H8	55	70	85	47	60	70	—	—	—	40	55	60	—	—	—	—	—	—	Spot facing cutters
	180	230	280	155	195	230	—	—	—	130	180	195	—	—	—	—	—	—	
H11	65	85	100	55	75	85	—	—	—	48	65	75	110	165	205	55	70	85	Inserts
	215	280	330	180	245	280	—	—	—	155	215	245	360	540	670	180	230	280	
H12	95	125	145	90	120	140	—	—	—	75	95	110	105	150	185	90	120	140	
	310	410	475	295	395	460	—	—	—	245	310	360	345	490	610	295	395	460	

R217/220.94-08 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	450	550	610	445	540	600	400	490	540
	—	—	—	1475	1800	2000	1450	1775	1975	1300	1600	1775
P2	—	—	—	430	530	600	425	520	590	380	470	530
	—	—	—	1400	1750	1975	1400	1700	1925	1250	1550	1750
P3	—	—	—	380	460	520	375	455	510	335	410	460
	—	—	—	1250	1500	1700	1225	1500	1675	1100	1350	1500
P4	—	—	—	330	405	455	330	400	450	295	360	405
	—	—	—	1075	1325	1500	1075	1300	1475	970	1175	1325
P5	—	—	—	315	385	435	315	380	430	280	345	385
	—	—	—	1025	1275	1425	1025	1250	1400	920	1125	1275
P6	—	—	—	365	440	490	360	435	485	325	395	440
	—	—	—	1200	1450	1600	1175	1425	1600	1075	1300	1450
P7	—	—	—	345	415	465	340	410	460	305	370	415
	—	—	—	1125	1350	1525	1125	1350	1500	1000	1225	1350
P8	—	—	—	315	385	435	315	380	430	280	345	385
	—	—	—	1025	1275	1425	1025	1250	1400	920	1125	1275
P11	—	—	—	335	405	450	330	400	445	295	360	400
	—	—	—	1100	1325	1475	1075	1300	1450	970	1175	1300
P12	—	—	—	205	250	275	205	245	275	185	220	245
	—	—	—	670	820	900	670	800	900	610	720	800
M1	—	—	—	—	—	—	215	285	340	200	265	315
	—	—	—	—	—	—	710	940	1125	660	870	1025
M2	—	—	—	—	—	—	180	235	280	165	220	260
	—	—	—	—	—	—	590	770	920	540	720	850
M3	—	—	—	—	—	—	145	190	225	135	180	210
	—	—	—	—	—	—	475	620	740	445	590	690
M4	—	—	—	—	—	—	115	150	175	105	140	165
	—	—	—	—	—	—	375	490	570	345	460	540
M5	—	—	—	—	—	—	95	125	145	90	115	135
	—	—	—	—	—	—	310	410	475	295	375	445
K1	355	610	850	435	530	600	430	520	590	385	470	530
	1175	2000	2800	1425	1750	1975	1400	1700	1925	1275	1550	1750
K2	315	540	740	385	470	530	380	460	520	340	415	470
	1025	1775	2425	1275	1550	1750	1250	1500	1700	1125	1350	1550
K3	255	365	455	325	395	445	320	390	440	290	350	395
	840	1200	1500	1075	1300	1450	1050	1275	1450	950	1150	1300
K4	240	350	435	310	380	425	305	375	420	275	335	380
	790	1150	1425	1025	1250	1400	1000	1225	1375	900	1100	1250
K5	150	220	265	190	230	255	190	230	255	170	205	230
	490	720	870	620	750	840	620	750	840	560	670	750
K6	215	310	385	275	335	375	270	330	370	240	295	335
	710	1025	1275	900	1100	1225	890	1075	1225	790	970	1100
K7	190	280	340	245	295	330	240	295	325	215	265	295
	620	920	1125	800	970	1075	790	970	1075	710	870	970
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	50	65	75
	—	—	—	—	—	—	—	—	—	165	215	245
S2	—	—	—	—	—	—	—	—	—	40	55	60
	—	—	—	—	—	—	—	—	—	130	180	195
S3	—	—	—	—	—	—	—	—	—	35	46	55
	—	—	—	—	—	—	—	—	—	115	150	180
S11	—	—	—	—	—	—	—	—	—	70	90	105
	—	—	—	—	—	—	—	—	—	230	295	345
S12	—	—	—	—	—	—	—	—	—	48	60	75
	—	—	—	—	—	—	—	—	—	155	195	245
S13	—	—	—	—	—	—	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	90	120	140
H5	—	—	—	55	75	85	—	—	—	43	55	65
	—	—	—	180	245	280	—	—	—	140	180	215
H8	—	—	—	60	80	90	—	—	—	47	60	70
	—	—	—	195	260	295	—	—	—	155	195	230
H11	—	—	—	70	95	110	—	—	—	55	70	85
	—	—	—	230	310	360	—	—	—	180	230	280
H12	—	—	—	110	140	165	—	—	—	85	110	125
	—	—	—	360	460	540	—	—	—	280	360	410
H21	—	—	—	60	80	90	—	—	—	47	60	70
	—	—	—	195	260	295	—	—	—	155	195	230

Square T4 – R217.94-12 – Metric



- For insert selection and cutting data recommendations, see page(s) 96–98
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.94-2525.3-LO12-2A	10207962	Weldon	25,0	2	12,0	3,5	–	25,0	69,5	30,0	45,0	101,0	0,0	14000	0,4	LOEX1207
R217.94-3232.3-LO12-3A	10207963	Weldon	32,0	3	12,0	3,5	–	32,0	74,5	30,0	50,0	110,0	0,0	12400	0,6	LOEX1207
R217.94-2532.3S-LO12-3A	10207964	Seco-Weldon	32,0	3	12,0	3,5	40,0	25,0	–	40,0	54,0	110,0	0,0	12400	0,5	LOEX1207
R217.94-2525.0-LO12-2A	10207966	Cylindrical	25,0	2	12,0	3,5	–	25,0	–	35,0	114,0	170,0	0,0	14000	0,6	LOEX1207
R217.94-3232.0-LO12-3A	10207967	Cylindrical	32,0	3	12,0	3,5	–	32,0	–	30,0	135,0	195,0	0,0	12400	1,1	LOEX1207
R217.94-3240.0-LO12-4A	10207968	Cylindrical	40,0	4	12,0	3,5	–	32,0	–	150,0	150,0	210,0	0,0	11100	1,4	LOEX1207

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-2525	1/4HEX-T15PX50	C040105B-T15P
R217.94-3232-3240	1/4HEX-T15PX50	C04012B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

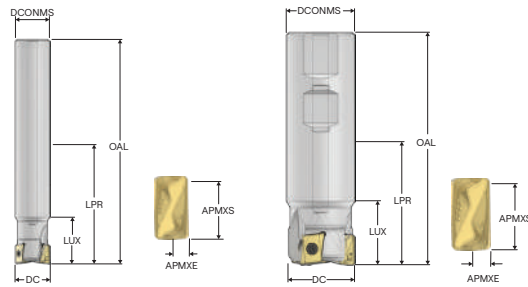
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square T4 – R217.94-12 – inch



- For insert selection and cutting data recommendations, see page(s) 96–98
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.94-01.00-3-LO12-2A	10207985	Weldon	1.000	2	0.472	0.138	1.000	2.878	1.181	1.795	4.000	0,0	14000	0.880	LOEX1207
R217.94-01.25-3-LO12-3A	10207986	Weldon	1.250	3	0.472	0.138	1.250	3.555	1.181	1.890	4.252	0,0	12400	1.320	LOEX1207
R217.94-01.50-3-LO12-4A	10207987	Weldon	1.500	4	0.472	0.138	1.500	3.555	1.181	1.969	4.724	0,0	11300	2.200	LOEX1207
R217.94-01.00-0-LO12-2A	10207988	Cylindrical	1.000	2	0.472	0.138	1.000	—	1.181	3.740	6.693	0,0	13900	1.320	LOEX1207
R217.94-01.50-0-LO12-4A	10207989	Cylindrical	1.500	4	0.472	0.138	1.500	—	1.181	5.906	8.268	0,0	11300	4.190	LOEX1207

Spare Parts, included in delivery

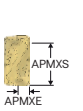
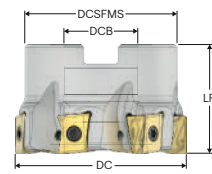
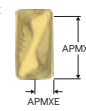
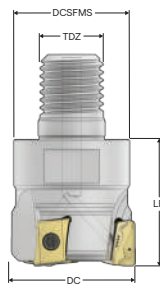
For cutter	Insert key	Insert screw
		
R217.94-01.00	1/4HEX-T15PX50	C040105B-T15P
R217.94-01.25-01.50	1/4HEX-T15PX50	C04012B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square T4 – R217/220.94-12 – Metric



- For insert selection and cutting data recommendations, see page(s) 96–98
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm			kg	
C4-R217.94-044-LO12-4A	10207972	Seco-Capto	44,0	4	12,0	3,5	–	40,0	–	40,0	60,0	60,0	0,0	10600	0,6	LOEX1207
C5-R217.94-054-LO12-5A	10207973	Seco-Capto	54,0	5	12,0	3,5	–	50,0	–	50,0	60,0	60,0	0,0	9500	0,9	LOEX1207
C6-R217.94-066-LO12-6A	10207974	Seco-Capto	66,0	6	12,0	3,5	–	63,0	–	63,0	60,0	60,0	0,0	8600	1,5	LOEX1207
R217.94-1632.RE-LO12-3A	10207969	Combimaster	32,0	3	12,0	3,5	–	30,0	M16	30,0	40,0	–	0,0	12400	0,2	LOEX1207
R217.94-2040.RE-LO12-3A	10207970	Combimaster	40,0	3	12,0	3,5	–	36,5	M20	36,5	40,0	–	0,0	11100	0,4	LOEX1207
R217.94-2040.RE-LO12-5A	10207971	Combimaster	40,0	5	12,0	3,5	–	36,5	M20	36,5	40,0	–	0,0	11100	0,4	LOEX1207
R220.94-0040-LO12-4A	10207999	Arbor	40,0	4	12,0	3,5	16,0	35,0	–	–	40,0	–	0,0	11100	0,3	LOEX1207
R220.94-0040-LO12-5A	10207975	Arbor	40,0	5	12,0	3,5	16,0	35,0	–	–	40,0	–	0,0	11100	0,3	LOEX1207
R220.94-0050-LO12-5A	10207976	Arbor	50,0	5	12,0	3,5	22,0	45,0	–	–	40,0	–	0,0	9900	0,4	LOEX1207
R220.94-0050-LO12-6A	10207977	Arbor	50,0	6	12,0	3,5	22,0	45,0	–	–	40,0	–	0,0	9900	0,4	LOEX1207
R220.94-0063-LO12-6A	10207978	Arbor	63,0	6	12,0	3,5	27,0	56,0	–	–	40,0	–	0,0	8800	0,6	LOEX1207
R220.94-0063-LO12-8A	10207979	Arbor	63,0	8	12,0	3,5	27,0	56,0	–	–	40,0	–	0,0	8800	0,6	LOEX1207
R220.94-0080-LO12-7A	10207980	Arbor	80,0	7	12,0	3,5	27,0	62,0	–	–	50,0	–	0,0	7800	1,2	LOEX1207
R220.94-0080-LO12-10A	10207981	Arbor	80,0	10	12,0	3,5	27,0	62,0	–	–	50,0	–	0,0	7800	1,2	LOEX1207
R220.94-0100-LO12-9A	10207982	Arbor	100,0	9	12,0	3,5	32,0	77,0	–	–	50,0	–	0,0	7000	1,9	LOEX1207
R220.94-0100-LO12-12A	10207983	Arbor	100,0	12	12,0	3,5	32,0	77,0	–	–	50,0	–	0,0	7000	1,9	LOEX1207
R220.94-0125-LO12-12A	10207984	Arbor	125,0	12	12,0	3,5	40,0	90,0	–	–	63,0	–	0,0	6300	3,5	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

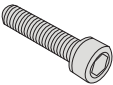
Chamfer milling cutters

Spot facing cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.94-..	-	1/4HEX-T15PX50	C04012B-T15P
R220.94-0040	220.17-689	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050	220.17-692	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063	MLC6S12X30	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080	MC6S12X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0100	MC6S16X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0125	MC6S20X40	1/4HEX-T15PX50	C04012B-T15P

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

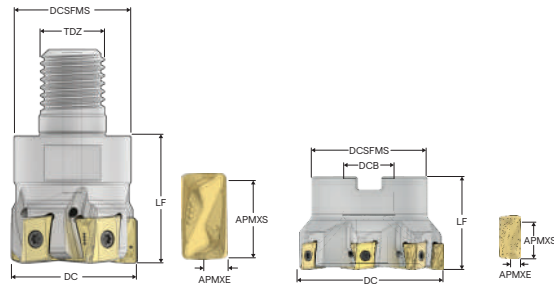
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square T4 – R217/220.94-12 – inch

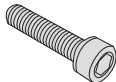


- For insert selection and cutting data recommendations, see page(s) 96–98
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.94-01.25-16RE-LO12-3A	10207990	Combimaster	1.250	3	0.472	0.138	–	1.181	M16	1.181	1.575	0,0	12400	0.660	LOEX1207
R220.94-01.50-LO12-4A	10207991	Arbor	1.500	4	0.472	0.138	0.500	1.378	–	–	1.575	0,0	11300	0.660	LOEX1207
R220.94-02.00-LO12-5A	10207992	Arbor	2.000	5	0.472	0.138	0.750	1.850	–	0.750	1.575	0,0	9800	0.880	LOEX1207
R220.94-02.00-LO12-6A	10207993	Arbor	2.000	6	0.472	0.138	0.750	1.850	–	–	1.575	0,0	9800	1.100	LOEX1207
R220.94-02.50-LO12-6A	10207994	Arbor	2.500	6	0.472	0.138	0.750	1.850	–	–	1.575	0,0	8800	1.320	LOEX1207
R220.94-02.50-LO12-8A	10207995	Arbor	2.500	8	0.472	0.138	0.750	1.850	–	–	1.575	0,0	8800	1.320	LOEX1207
R220.94-03.00-LO12-8A	10207996	Arbor	3.000	8	0.472	0.138	1.000	2.441	–	–	1.969	0,0	8000	2.870	LOEX1207
R220.94-04.00-LO12-10A	10207997	Arbor	4.000	10	0.472	0.138	1.500	3.543	–	–	1.969	0,0	7000	4.630	LOEX1207
R220.94-05.00-LO12-12A	10207998	Arbor	5.000	12	0.472	0.138	1.500	3.543	–	–	2.480	0,0	6200	7.720	LOEX1207
R220.94-06.00-LO12-14A	10208000	Arbor	6.000	14	0.472	0.138	2.000	4.331	–	–	2.480	0,0	6200	9.920	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.94-..	–	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-06.00	–	1/4HEX-T15PX50	C04012B-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.94-LO12 – Insert selection – Metric/ Inch

	SMG		a_p	f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	LOEX120708TR-T4-M12 F40M	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
	P2	LOEX120708TR-T4-M12 F40M	6,0 0.24	0,19 0.0075	0,20 0.0080	0,32 0.013
Helical milling cutters	P3	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,18 0.0070	0,28 0.011
	P4	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,18 0.0070	0,26 0.010
	P5	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,17 0.0065	0,26 0.010
	P6	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,17 0.0065	0,26 0.010
	P7	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,17 0.0065	0,26 0.010
	P8	LOEX120708TR-T4-M12 MP2501	6,0 0.24	0,16 0.0065	0,18 0.0070	0,28 0.011
	P11	LOEX120708TR-T4-M12 MP3501	6,0 0.24	0,17 0.0065	0,18 0.0070	0,28 0.011
Face milling cutters	P12	LOEX120708TR-T4-M12 MS2500	4,5 0.18	0,11 0.0044	0,12 0.0048	0,18 0.0070
	M1	LOEX120708R-T4-M09 F40M	6,0 0.24	0,14 0.0055	0,16 0.0065	0,24 0.0095
Disc milling cutters	M2	LOEX120708R-T4-M09 F40M	6,0 0.24	0,13 0.0050	0,14 0.0055	0,22 0.0085
	M3	LOEX120708R-T4-M09 F40M	4,5 0.18	0,11 0.0044	0,12 0.0048	0,18 0.0070
	M4	LOEX120708R-T4-M09 MS2050	3,5 0.14	0,095 0.0038	0,10 0.0040	0,16 0.0065
	M5	LOEX120708R-T4-M09 MS2050	3,5 0.14	0,095 0.0038	0,10 0.0040	0,16 0.0065
	K1	LOEX120708TR-T4-MD13 MK1501	6,0 0.24	0,20 0.0080	0,22 0.0085	0,34 0.013
High feed milling cutters	K2	LOEX120708TR-T4-MD13 MK1501	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
	K3	LOEX120708TR-T4-M12 MK2050	6,0 0.24	0,17 0.0065	0,19 0.0075	0,28 0.011
	K4	LOEX120708TR-T4-M12 MK2050	6,0 0.24	0,17 0.0065	0,19 0.0075	0,28 0.011
	K5	LOEX120708TR-T4-M12 MK2050	6,0 0.24	0,15 0.0060	0,17 0.0065	0,26 0.010
	K6	LOEX120708TR-T4-M12 MK2050	6,0 0.24	0,17 0.0065	0,19 0.0075	0,28 0.011
	K7	LOEX120708TR-T4-M12 MK2050	6,0 0.24	0,15 0.0060	0,17 0.0065	0,26 0.010
	N1	LOEX120708R-T4-M09 F40M	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
Copy milling cutters	N2	LOEX120708R-T4-M09 F40M	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
	N3	LOEX120708R-T4-M09 F40M	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
Plunge milling cutters	N11	LOEX120708R-T4-M09 F40M	6,0 0.24	0,18 0.0070	0,20 0.0080	0,30 0.012
	S1	LOEX120708R-T4-M09 F40M	3,5 0.14	0,095 0.0038	0,10 0.0040	0,16 0.0065
	S2	LOEX120708R-T4-M09 F40M	3,5 0.14	0,095 0.0038	0,10 0.0040	0,16 0.0065
	S3	LOEX120708R-T4-M09 F40M	3,5 0.14	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S11	LOEX120708R-T4-M09 MS2050	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
Chamfer milling cutters	S12	LOEX120708R-T4-M09 MS2050	4,0 0.16	0,11 0.0044	0,12 0.0048	0,18 0.0070
	S13	LOEX120708R-T4-M09 MS2050	3,5 0.14	0,095 0.0038	0,10 0.0040	0,16 0.0065
	H5	LOEX120708TR-T4-M12 MP3000	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
Spot facing cutters	H8	LOEX120708TR-T4-M12 MP3000	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060
	H11	LOEX120708TR-T4-MD13 MP1501	4,5 0.18	0,12 0.0048	0,13 0.0050	0,20 0.0080
	H12	LOEX120708TR-T4-MD13 MP1501	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060
	H21	LOEX120708TR-T4-MD13 MP1501	4,0 0.16	0,090 0.0036	0,10 0.0040	0,15 0.0060

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.94-LO12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265	355	420	270	360	430	245	315	370	235	285	330	340	465	550	290	385	450
	870	1175	1375	890	1175	1400	800	1025	1225	770	940	1075	1125	1525	1800	950	1275	1475
P2	255	345	400	255	350	410	230	305	355	220	280	310	330	440	530	280	370	440
	840	1125	1300	840	1150	1350	750	1000	1175	720	920	1025	1075	1450	1750	920	1225	1450
P3	225	300	350	225	310	360	205	270	310	195	245	275	285	390	470	240	320	385
	740	980	1150	740	1025	1175	670	890	1025	640	800	900	940	1275	1550	790	1050	1275
P4	200	265	310	205	270	320	185	235	275	180	230	260	260	345	415	220	285	340
	660	870	1025	670	890	1050	610	770	900	590	750	850	850	1125	1350	720	940	1125
P5	190	250	300	195	260	315	175	225	265	170	205	235	250	340	395	210	275	325
	620	820	980	640	850	1025	570	740	870	560	670	770	820	1125	1300	690	900	1075
P6	215	290	340	220	300	350	195	260	300	190	235	265	280	380	445	235	310	365
	710	950	1125	720	980	1150	640	850	980	620	770	870	920	1250	1450	770	1025	1200
P7	205	270	320	210	280	330	185	245	285	180	225	250	265	360	420	220	295	345
	670	890	1050	690	920	1075	610	800	940	590	740	820	870	1175	1375	720	970	1125
P8	190	250	295	190	260	305	170	225	260	165	205	230	240	330	395	205	270	325
	620	820	970	620	850	1000	560	740	850	540	670	750	790	1075	1300	670	890	1075
P11	195	265	310	200	275	320	180	235	275	175	215	245	240	385	495	215	285	335
	640	870	1025	660	900	1050	590	770	900	570	710	800	790	1275	1625	710	940	1100
P12	130	170	205	140	185	215	120	155	180	120	145	165	165	255	320	140	185	215
	425	560	670	460	610	710	395	510	590	395	475	540	540	840	1050	460	610	710
M1	—	—	—	185	245	290	175	235	275	160	215	250	270	420	560	200	265	315
	—	—	—	610	800	950	570	770	900	520	710	820	890	1375	1825	660	870	1025
M2	—	—	—	155	205	245	145	190	230	135	175	210	230	365	470	165	220	260
	—	—	—	510	670	800	475	620	750	445	570	690	750	1200	1550	540	720	850
M3	—	—	—	125	165	200	120	155	190	110	145	170	190	300	385	135	180	210
	—	—	—	410	540	660	395	510	620	360	475	560	620	980	1275	445	590	690
M4	—	—	—	100	130	150	95	125	145	85	110	130	150	230	295	105	140	165
	—	—	—	330	425	490	310	410	475	280	360	425	490	750	970	345	460	540
M5	—	—	—	80	110	125	80	105	120	70	95	110	125	195	245	85	115	135
	—	—	—	260	360	410	260	345	395	230	310	360	410	640	800	280	375	445
K1	275	370	435	195	260	305	—	—	—	155	210	245	—	—	—	—	—	—
	900	1225	1425	640	850	1000	—	—	—	510	690	800	—	—	—	—	—	—
K2	250	325	390	175	230	275	—	—	—	140	185	220	—	—	—	—	—	—
	820	1075	1275	570	750	900	—	—	—	460	610	720	—	—	—	—	—	—
K3	210	275	330	150	195	235	—	—	—	120	155	185	—	—	—	—	—	—
	690	900	1075	490	640	770	—	—	—	395	510	610	—	—	—	—	—	—
K4	200	265	315	140	185	225	—	—	—	115	150	180	—	—	—	—	—	—
	660	870	1025	460	610	740	—	—	—	375	490	590	—	—	—	—	—	—
K5	125	160	190	85	115	135	—	—	—	70	90	110	—	—	—	—	—	—
	410	520	620	280	375	445	—	—	—	230	295	360	—	—	—	—	—	—
K6	175	230	280	125	165	195	—	—	—	100	130	155	—	—	—	—	—	—
	570	750	920	410	540	640	—	—	—	330	425	510	—	—	—	—	—	—
K7	160	205	245	110	145	175	—	—	—	90	115	140	—	—	—	—	—	—
	520	670	800	360	475	570	—	—	—	295	375	460	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	1150	1525	1800	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	3775	5000	5900	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	460	620	730	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	1500	2025	2400	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	310	410	485	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	1025	1350	1600	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	350	470	560	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	1150	1550	1825	—	—	—	—	—	—
S1	—	—	—	46	60	70	44	60	65	40	50	60	50	70	80	50	70	80
	—	—	—	150	195	230	145	195	215	130	165	195	165	230	260	165	230	260
S2	—	—	—	37	49	55	35	46	55	32	42	49	41	55	65	41	55	65
	—	—	—	120	160	180	115	150	180	105	140	160	135	180	215	135	180	215
S3	—	—	—	33	43	50	31	41	48	28	37	44	37	48	55	37	48	55
	—	—	—	110	140	165	100	135	155	90	120	145	120	155	180	120	155	180
S11	—	—	—	—	—	—	60	80	95	55	70	85	70	95	110	70	95	110
	—	—	—	—	—	—	195	260	310	180	230	280	230	310	360	230	310	360
S12	—	—	—	—	—	—	42	55	65	38	50	60	49	65	75	49	65	75
	—	—	—	—	—	—	140	180	215	125	165	195	160	215	245	160	215	245
S13	—	—	—	—	—	—	25	32	38	22	29	34	29	38	45	29	38	45
	—	—	—	—	—	—	80	105	125	70	95	110	95	125	150	95	125	150
H5	44	60	70	39	50	60	—	—	—	33	44	50	—	—	—	—	—	—
	145	195	230	130	165	195	—	—	—	110	145	165	—	—	—	—	—	—
H8	48	65	75	42	55	65	—	—	—	36	47	55	—	—	—	—	—	—
	155	215	245	140	180	215	—	—	—	120	155	180	—	—	—	—	—	—
H11	55	75	90	49	65	80	—	—	—	42	55	65	110	165	210	55	70	85
	180	245	295	160	215	260	—	—	—	140	180	215	360	540	690	180	230	280
H12	85	110	130	80	105	125	—	—	—	65	85	100	105	150	190	90	115	140
	280	360	425	260	345	410	—	—	—	215	280	330	345	490	620	295	375	460
H21	48	65	75	42	55	65	—	—	—	36	47	55	100	120	130	45	60	70
	155	215	245	140	180	215	—	—	—	120	155	180	330	395	425	150	195	230

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.94-LO12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	375	465	530	390	480	550	370	465	540	340	425	485	215	280	330
	—	—	—	1225	1525	1750	1275	1575	1800	1225	1525	1775	1125	1400	1600	710	920	1075
P2	—	—	—	360	455	510	380	470	540	360	450	520	325	410	465	205	270	315
	—	—	—	1175	1500	1675	1250	1550	1775	1175	1475	1700	1075	1350	1525	670	890	1025
P3	—	—	—	315	395	450	335	410	465	320	395	450	285	360	405	180	240	275
	—	—	—	1025	1300	1475	1100	1350	1525	1050	1300	1475	940	1175	1325	590	790	900
P4	—	—	—	285	350	395	295	365	415	280	355	405	255	315	360	175	225	260
	—	—	—	940	1150	1300	970	1200	1350	920	1175	1325	840	1025	1175	570	740	850
P5	—	—	—	270	335	385	280	350	400	265	340	385	245	305	350	155	200	235
	—	—	—	890	1100	1275	920	1150	1300	870	1125	1275	800	1000	1150	510	660	770
P6	—	—	—	305	380	430	315	395	445	300	380	435	275	345	390	175	230	265
	—	—	—	1000	1250	1400	1025	1300	1450	980	1250	1425	900	1125	1275	570	750	870
P7	—	—	—	285	360	405	295	370	420	285	360	410	260	325	370	165	215	250
	—	—	—	940	1175	1325	970	1225	1375	940	1175	1350	850	1075	1225	540	710	820
P8	—	—	—	265	335	375	280	345	390	265	330	380	240	305	340	150	200	230
	—	—	—	870	1100	1225	920	1125	1275	870	1075	1250	790	1000	1125	490	660	750
P11	—	—	—	280	350	395	290	360	410	275	350	395	250	315	360	160	210	245
	—	—	—	920	1150	1300	950	1175	1350	900	1150	1300	820	1025	1175	520	690	800
P12	—	—	—	185	225	255	190	230	260	180	225	255	165	205	235	105	135	155
	—	—	—	610	740	840	620	750	850	590	740	840	540	670	770	345	445	510
M1	—	—	—	—	—	—	195	255	305	210	275	330	175	235	275	135	185	215
	—	—	—	—	—	—	640	840	1000	690	900	1075	570	770	900	445	610	710
M2	—	—	—	—	—	—	160	215	250	175	230	275	145	190	230	115	150	180
	—	—	—	—	—	—	520	710	820	570	750	900	475	620	750	375	490	590
M3	—	—	—	—	—	—	130	170	205	140	185	225	120	155	190	95	125	145
	—	—	—	—	—	—	425	560	670	460	610	740	395	510	620	310	410	475
M4	—	—	—	—	—	—	105	135	160	110	145	175	95	125	145	75	95	115
	—	—	—	—	—	—	345	445	520	360	475	570	310	410	475	245	310	375
M5	—	—	—	—	—	—	85	115	135	95	120	145	80	105	120	60	80	95
	—	—	—	—	—	—	280	375	445	310	395	475	260	345	395	195	260	310
K1	320	560	780	365	460	520	380	475	540	230	305	365	325	415	470	—	—	—
	1050	1825	2550	1200	1500	1700	1250	1550	1775	750	1000	1200	1075	1350	1550	—	—	—
K2	285	495	690	325	405	465	340	425	480	205	275	325	295	365	425	—	—	—
	940	1625	2275	1075	1325	1525	1125	1400	1575	670	900	1075	970	1200	1400	—	—	—
K3	220	320	405	275	340	390	285	360	405	175	230	275	250	310	360	—	—	—
	720	1050	1325	900	1125	1275	940	1175	1325	570	750	900	820	1025	1175	—	—	—
K4	210	305	385	265	325	375	275	340	390	165	220	260	240	295	340	—	—	—
	690	1000	1275	870	1075	1225	900	1125	1275	540	720	850	790	970	1125	—	—	—
K5	125	185	235	165	200	225	170	210	235	105	135	160	150	180	205	—	—	—
	410	610	770	540	660	740	560	690	770	345	445	520	490	590	670	—	—	—
K6	185	270	340	235	285	330	240	300	340	145	195	230	210	260	300	—	—	—
	610	890	1125	770	940	1075	790	980	1125	475	640	750	690	850	980	—	—	—
K7	160	240	300	210	255	290	215	270	300	130	175	205	190	235	265	—	—	—
	520	790	980	690	840	950	710	890	980	425	570	670	620	770	870	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	85	44	60	65	22	30	35
	—	—	—	—	—	—	—	—	—	180	230	280	145	195	215	70	100	115
S2	—	—	—	—	—	—	—	—	—	44	60	70	35	46	55	18	24	28
	—	—	—	—	—	—	—	—	—	145	195	230	115	150	180	60	80	90
S3	—	—	—	—	—	—	—	—	—	39	50	60	31	41	48	16	21	25
	—	—	—	—	—	—	—	—	—	130	165	195	100	135	155	50	70	80
S11	—	—	—	—	—	—	—	—	—	75	100	120	60	80	95	31	41	49
	—	—	—	—	—	—	—	—	—	245	330	395	195	260	310	100	135	160
S12	—	—	—	—	—	—	—	—	—	50	70	80	42	55	65	29	38	45
	—	—	—	—	—	—	—	—	—	165	230	260	140	180	215	95	125	150
S13	—	—	—	—	—	—	—	—	—	31	40	47	25	32	38	17	22	26
	—	—	—	—	—	—	—	—	—	100	130	155	80	105	125	55	70	85
H5	—	—	—	48	65	75	—	—	—	44	60	70	38	50	60	—	—	—
	—	—	—	155	215	245	—	—	—	145	195	230	125	165	195	—	—	—
H8	—	—	—	50	70	80	—	—	—	47	60	75	41	55	65	—	—	—
	—	—	—	165	230	260	—	—	—	155	195	245	135	180	215	—	—	—
H11	—	—	—	60	80	95	—	—	—	55	75	85	48	65	75	—	—	—
	—	—	—	195	260	310	—	—	—	180	245	280	155	215	245	—	—	—
H12	—	—	—	90	120	145	—	—	—	95	125	145	75	100	115	—	—	—
	—	—	—	295	395	475	—	—	—	310	410	475	245	330	375	—	—	—
H21	—	—	—	50	70	80	—	—	—	47	60	75	41	55	65	—	—	—
	—	—	—	165	230	260	—	—	—	155	195	245	135	180	215	—	—	—



Square 6

Seco's line of Square 6 shoulder milling cutters answers the need for added economy in square shoulder milling. This unique square shoulder milling cutter uses trigonal inserts with three cutting edges on each side – six total cutting edges – to lower the cost per cutting edge.

- With two different cutter family sizes – Insert size 04 and 08
- Wiper flats optimize surface finishes
- Multiple grades and geometries are available

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

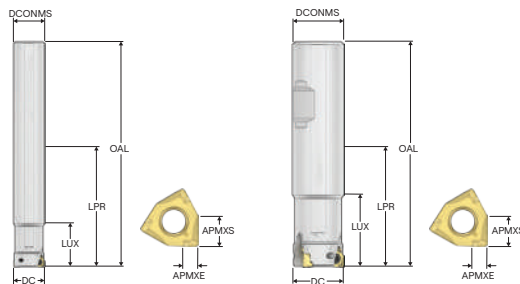
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square 6™ – R217.96-04 – Metric



—For insert selection and cutting data recommendations, see page(s) 104-106
 —For complete insert programme, see page(s) 912
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm			kg	
R217.96-2020.3-04-3A	02768349	Weldon	20,0	3	4,0	2,0	20,0	65,0	29,0	40,0	90,0	0,0	29400	0,2	XNEX0403
R217.96-2525.3-04-4A	02768362	Weldon	25,0	4	4,0	2,0	25,0	69,0	34,0	45,0	101,0	0,0	26300	0,3	XNEX0403
R217.96-2525.3-04-5A	02768364	Weldon	25,0	5	4,0	2,0	25,0	69,0	34,0	45,0	101,0	0,0	26300	0,4	XNEX0403
R217.96-3232.3-04-5A	02768372	Weldon	32,0	5	4,0	2,0	32,0	69,0	37,0	45,0	105,0	0,0	23200	0,6	XNEX0403
R217.96-1820.0-04-3A	02833459	Cylindrical	20,0	3	4,0	2,0	18,0	—	100,0	100,0	150,0	0,0	29400	0,3	XNEX0403
R217.96-2020.0-04-3A	02768343	Cylindrical	20,0	3	4,0	2,0	20,0	—	29,0	100,0	150,0	0,0	29400	0,3	XNEX0403
R217.96-2525.0-04-4A	02768359	Cylindrical	25,0	4	4,0	2,0	25,0	—	29,0	114,0	170,0	0,0	26300	0,3	XNEX0403
R217.96-2525.0-04-5A	02768361	Cylindrical	25,0	5	4,0	2,0	25,0	—	29,0	114,0	170,0	0,0	26300	0,6	XNEX0403
R217.96-3232.0-04-5A	02768370	Cylindrical	32,0	5	4,0	2,0	32,0	—	31,0	135,0	195,0	0,0	23200	1,2	XNEX0403
R217.96-3232.0-04-6A	02768371	Cylindrical	32,0	6	4,0	2,0	32,0	—	31,0	135,0	195,0	0,0	23200	1,2	XNEX0403

Spare Parts, included in delivery

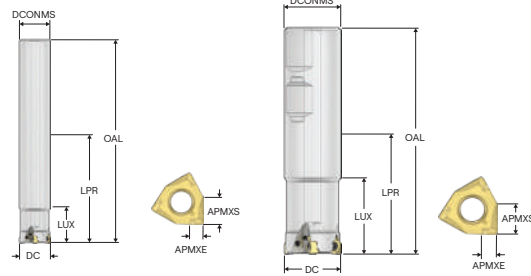
For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square 6™ – R217.96-04 – inch



- For insert selection and cutting data recommendations, see page(s) 104-106
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.96-00.75-3-04-3A	02770536	Weldon	0.750	3	0.157	0.079	0.750	2.374	1.193	1.422	3.390	0,0	29400	0.440	XNEX0403
R217.96-01.00-3-04-5A	02770596	Weldon	1.000	5	0.157	0.079	1.000	2.638	1.178	1.575	3.780	0,0	26300	0.880	XNEX0403
R217.96-01.25-3-04-5A	02770602	Weldon	1.250	5	0.157	0.079	1.250	2.858	1.240	1.638	4.000	0,0	23200	1.320	XNEX0403
R217.96-00.75-0-04-3A	02770505	Cylindrical	0.750	3	0.157	0.079	0.750	–	1.394	3.941	5.910	0,0	29400	0.660	XNEX0403

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96..	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

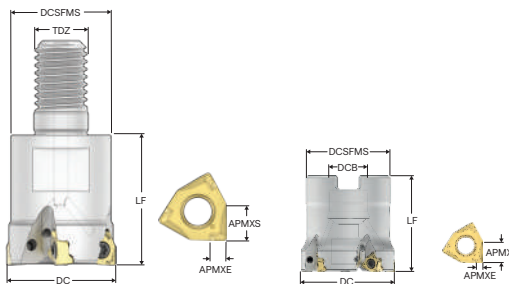
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square 6™ – R217/220.96-04 – Metric

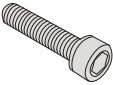


—For insert selection and cutting data recommendations, see page(s) 104-106
 —For complete insert programme, see page(s) 912
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm			kg	
R217.96-1020.RE-04-3A	02768351	Combimaster	20,0	3	4,0	2,0	—	18,3	M10	18,3	28,0	0,0	29400	0,1	XNEX0403
R217.96-1225.RE-04-4A	02768365	Combimaster	25,0	4	4,0	2,0	—	23,0	M12	23,0	30,0	0,0	26300	0,2	XNEX0403
R217.96-1225.RE-04-5A	02768367	Combimaster	25,0	5	4,0	2,0	—	23,0	M12	23,0	30,0	0,0	26300	0,1	XNEX0403
R217.96-1632.RE-04-5A	02768375	Combimaster	32,0	5	4,0	2,0	—	30,0	M16	30,0	40,0	0,0	23200	0,3	XNEX0403
R217.96-1632.RE-04-6A	02768376	Combimaster	32,0	6	4,0	2,0	—	30,0	M16	30,0	40,0	0,0	23200	0,3	XNEX0403
R220.96-0032-04-4A	02841298	Arbor	32,0	4	4,0	2,0	16,0	35,0	—	16,0	40,0	0,0	23200	0,2	XNEX0403
R220.96-0032-04-6A	02841306	Arbor	32,0	6	4,0	2,0	16,0	35,0	—	16,0	40,0	0,0	23200	0,2	XNEX0403
R220.96-0040-04-5A	02841154	Arbor	40,0	5	4,0	2,0	16,0	35,0	—	16,0	40,0	0,0	20700	0,3	XNEX0403
R220.96-0040-04-7A	02768377	Arbor	40,0	7	4,0	2,0	16,0	35,0	—	16,0	40,0	0,0	20700	0,3	XNEX0403
R220.96-0050-04-6A	02841155	Arbor	50,0	6	4,0	2,0	22,0	47,0	—	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0050-04-8A	02768413	Arbor	50,0	8	4,0	2,0	22,0	47,0	—	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0050-04-9A	02768412	Arbor	50,0	9	4,0	2,0	22,0	47,0	—	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0063-04-7A	02841156	Arbor	63,0	7	4,0	2,0	27,0	62,0	—	27,0	40,0	0,0	16500	0,7	XNEX0403
R220.96-0063-04-9A	02768433	Arbor	63,0	9	4,0	2,0	27,0	62,0	—	27,0	40,0	0,0	16500	0,7	XNEX0403

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

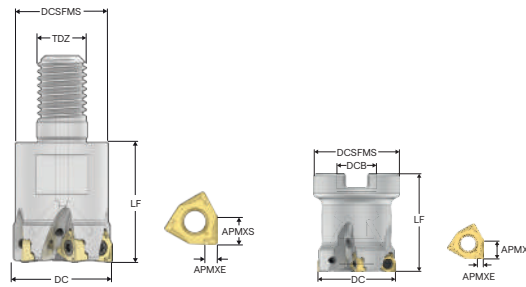
For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	—	1/4HEX-T08PX50	C02506-T08P
R220.96-0032-0040	TCEI0825	1/4HEX-T08PX50	C02506-T08P
R220.96-0050	220.17-692	1/4HEX-T08PX50	C02506-T08P
R220.96-0063	—	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-04 – inch

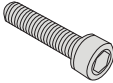


- For insert selection and cutting data recommendations, see page(s) 104-106
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.96-00.75-10RE-04-3A	02770501	Combimaster	0.750	3	0.157	0.079	–	0.689	M10	0.689	1.070	0,0	29400	0.220	XNEX0403
R217.96-01.00-12RE-04-5A	02770543	Combimaster	1.000	5	0.157	0.079	–	0.906	M12	0.906	1.570	0,0	26300	0.220	XNEX0403
R217.96-01.25-16RE-04-5A	02770599	Combimaster	1.250	5	0.157	0.079	–	1.181	M16	1.181	1.570	0,0	23200	0.660	XNEX0403
R220.96-01.50-04-6A	02770608	Arbor	1.500	6	0.157	0.079	0.750	1.378	–	0.750	1.570	0,0	20700	0.440	XNEX0403
R220.96-02.00-04-9A	02770613	Arbor	2.000	9	0.157	0.079	0.750	1.850	–	0.750	1.567	0,0	18600	0.880	XNEX0403

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T08PX50	C02506-T08P
R220.96-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.96-04 – Insert selection – mm/Inch

Square shoulder and slot milling cutters	SMG		a_p	f_z		
				100%	30%	10%
Helical milling cutters	P1	XNEX040304TR-M08 F40M	2,0 0.080	0,11 0.0044	0,13 0.0050	0,19 0.0075
	P2	XNEX040304TR-M08 F40M	2,0 0.080	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P3	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P4	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P5	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P6	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,11 0.0044	0,18 0.0070
	P7	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,11 0.0044	0,18 0.0070
	P8	XNEX040304TR-M08 MP2501	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P11	XNEX040304TR-M08 MP3000	2,0 0.080	0,11 0.0044	0,11 0.0044	0,18 0.0070
	P12	XNEX040304TR-M08 MP3000	1,6 0.065	0,075 0.0030	0,080 0.0032	0,12 0.0048
	M1	XNEX040304R-M06 F40M	2,0 0.080	0,090 0.0036	0,095 0.0038	0,15 0.0060
	M2	XNEX040304R-M06 F40M	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
Disc milling cutters	M3	XNEX040304R-M06 F40M	1,6 0.065	0,065 0.0026	0,070 0.0028	0,11 0.0044
	M4	XNEX040304R-M06 MS2050	1,2 0.048	0,060 0.0024	0,065 0.0026	0,095 0.0038
	M5	XNEX040304R-M06 MS2050	1,2 0.048	0,060 0.0024	0,065 0.0026	0,095 0.0038
	K1	XNEX040304TR-M08 MK1501	2,0 0.080	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K2	XNEX040304TR-M08 MK1501	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
High feed milling cutters	K3	XNEX040304TR-M08 MK2050	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K4	XNEX040304TR-M08 MK2050	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K5	XNEX040304TR-M08 MK2050	2,0 0.080	0,095 0.0038	0,10 0.0040	0,16 0.0065
	K6	XNEX040304TR-M08 MK2050	2,0 0.080	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K7	XNEX040304TR-M08 MK2050	2,0 0.080	0,095 0.0038	0,10 0.0040	0,16 0.0065
Copy milling cutters	N1	XNEX040304R-M06 F40M	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
	N2	XNEX040304R-M06 F40M	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
	N3	XNEX040304R-M06 F40M	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
	N11	XNEX040304R-M06 F40M	2,0 0.080	0,11 0.0044	0,12 0.0048	0,19 0.0075
Plunge milling cutters	S1	XNEX040304R-M06 F40M	1,2 0.048	0,060 0.0024	0,065 0.0026	0,095 0.0038
	S2	XNEX040304R-M06 F40M	1,2 0.048	0,060 0.0024	0,065 0.0026	0,095 0.0038
	S3	XNEX040304R-M06 F40M	1,2 0.048	0,055 0.0022	0,060 0.0024	0,090 0.0036
	S11	XNEX040304R-M06 MS2050	1,4 0.055	0,065 0.0026	0,070 0.0028	0,11 0.0044
Chamfer milling cutters	S12	XNEX040304R-M06 MS2050	1,4 0.055	0,065 0.0026	0,070 0.0028	0,11 0.0044
	S13	XNEX040304R-M06 MS2050	1,2 0.048	0,060 0.0024	0,065 0.0026	0,095 0.0038
	H5	XNEX040304TR-M08 MP3000	1,6 0.065	0,075 0.0030	0,080 0.0032	0,12 0.0048
	H8	XNEX040304TR-M08 MP3000	1,4 0.055	0,055 0.0022	0,060 0.0024	0,095 0.0038
Spot facing cutters	H11	XNEX040308TR-M08 MP1501	1,6 0.065	0,080 0.0032	0,085 0.0034	0,13 0.0050
	H12	XNEX040304TR-M08 MP1501	1,4 0.055	0,055 0.0022	0,060 0.0024	0,095 0.0038
	H21	XNEX040304TR-M08 MP1501	1,4 0.055	0,055 0.0022	0,060 0.0024	0,095 0.0038

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

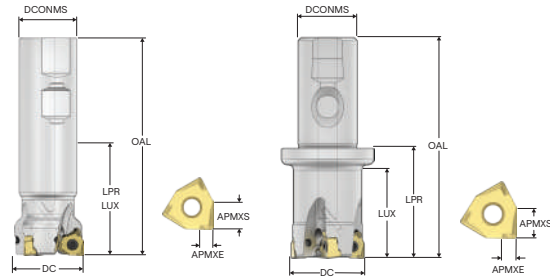
R217/220.96-04 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			Square shoulder and slot milling cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	305	395	470	370	475	550	320	400	460	280	330	375	Square shoulder and slot milling cutters
	1000	1300	1550	1225	1550	1800	1050	1300	1500	920	1075	1225	
P2	290	385	455	365	460	530	310	390	445	265	325	365	Helical milling cutters
	950	1275	1500	1200	1500	1750	1025	1275	1450	870	1075	1200	
P3	255	340	400	310	400	460	270	340	385	235	285	320	Helical milling cutters
	840	1125	1300	1025	1300	1500	890	1125	1275	770	940	1050	
P4	225	295	350	280	355	410	240	300	345	210	260	295	Helical milling cutters
	740	970	1150	920	1175	1350	790	980	1125	690	850	970	
P5	215	285	335	265	340	390	230	290	330	195	240	270	Face milling cutters
	710	940	1100	870	1125	1275	750	950	1075	640	790	890	
P6	245	325	380	300	380	440	255	325	370	225	275	305	Face milling cutters
	800	1075	1250	980	1250	1450	840	1075	1225	740	900	1000	
P7	235	310	360	280	360	415	245	305	350	215	260	290	Face milling cutters
	770	1025	1175	920	1175	1350	800	1000	1150	710	850	950	
P8	215	285	335	260	335	385	225	285	325	195	240	270	Face milling cutters
	710	940	1100	850	1100	1275	740	940	1075	640	790	890	
P11	225	300	350	275	350	400	235	300	340	210	250	280	Face milling cutters
	740	980	1150	900	1150	1300	770	980	1125	690	820	920	
P12	145	190	225	170	215	240	150	185	210	135	160	180	Face milling cutters
	475	620	740	560	710	790	490	610	690	445	520	590	
M1	—	—	—	235	310	360	225	295	340	180	240	285	Disc milling cutters
	—	—	—	770	1025	1175	740	970	1125	590	790	940	
M2	—	—	—	195	260	300	185	245	285	150	195	230	Disc milling cutters
	—	—	—	640	850	980	610	800	940	490	640	750	
M3	—	—	—	155	205	240	145	195	225	120	160	190	Disc milling cutters
	—	—	—	510	670	790	475	640	740	395	520	620	
M4	—	—	—	120	160	185	115	150	175	95	125	145	Disc milling cutters
	—	—	—	395	520	610	375	490	570	310	410	475	
M5	—	—	—	100	135	155	95	125	145	80	105	120	Disc milling cutters
	—	—	—	330	445	510	310	410	475	260	345	395	
K1	315	415	495	250	330	385	—	—	—	175	235	280	High feed milling cutters
	1025	1350	1625	820	1075	1275	—	—	—	570	770	920	
K2	275	365	435	220	295	345	—	—	—	155	205	245	High feed milling cutters
	900	1200	1425	720	970	1125	—	—	—	510	670	800	
K3	235	310	365	185	250	290	—	—	—	135	175	205	High feed milling cutters
	770	1025	1200	610	820	950	—	—	—	445	570	670	
K4	225	295	350	180	235	275	—	—	—	125	170	200	Copy milling cutters
	740	970	1150	590	770	900	—	—	—	410	560	660	
K5	140	185	215	110	145	170	—	—	—	80	105	120	Copy milling cutters
	460	610	710	360	475	560	—	—	—	260	345	395	
K6	195	260	310	155	210	245	—	—	—	110	150	175	Copy milling cutters
	640	850	1025	510	690	800	—	—	—	360	490	570	
K7	175	235	275	140	185	215	—	—	—	100	135	155	Copy milling cutters
	570	770	900	460	610	710	—	—	—	330	445	510	
N1	—	—	—	—	—	—	—	—	—	1325	1750	2050	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	4350	5750	6725	
N2	—	—	—	—	—	—	—	—	—	530	710	830	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1750	2325	2725	
N3	—	—	—	—	—	—	—	—	—	355	470	550	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1175	1550	1800	
N11	—	—	—	—	—	—	—	—	—	405	540	630	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1325	1775	2075	
S1	—	—	—	—	—	—	55	70	80	44	60	70	Chamfer milling cutters
	—	—	—	—	—	—	180	230	260	145	195	230	
S2	—	—	—	—	—	—	43	55	65	36	47	55	Chamfer milling cutters
	—	—	—	—	—	—	140	180	215	120	155	180	
S3	—	—	—	—	—	—	37	50	60	31	41	48	Chamfer milling cutters
	—	—	—	—	—	—	120	165	195	100	135	155	
S11	—	—	—	—	—	—	75	100	115	60	80	95	Chamfer milling cutters
	—	—	—	—	—	—	245	330	375	195	260	310	
S12	—	—	—	—	—	—	50	70	80	43	55	65	Spot facing cutters
	—	—	—	—	—	—	165	230	260	140	180	215	
S13	—	—	—	—	—	—	30	39	46	25	33	38	Spot facing cutters
	—	—	—	—	—	—	100	130	150	80	110	125	
H5	49	65	75	48	65	75	—	—	—	37	49	55	Spot facing cutters
	160	215	245	155	215	245	—	—	—	120	160	180	
H8	55	70	80	50	65	75	—	—	—	40	50	60	Spot facing cutters
	180	230	260	165	215	245	—	—	—	130	165	195	
H11	65	85	95	60	80	95	—	—	—	47	60	75	Inserts
	215	280	310	195	260	310	—	—	—	155	195	245	
H12	90	120	140	95	125	150	—	—	—	70	95	110	Inserts
	295	395	460	310	410	490	—	—	—	230	310	360	
H21	55	70	80	—	—	—	—	—	—	40	50	60	Inserts
	180	230	260	—	—	—	—	—	—	130	165	195	

R217/220.96-04 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	445	540	600	480	580	640	270	335	375
	—	—	—	1450	1775	1975	1575	1900	2100	890	1100	1225
P2	—	—	—	430	530	590	470	560	630	260	325	365
	—	—	—	1400	1750	1925	1550	1825	2075	850	1075	1200
P3	—	—	—	370	455	510	405	490	540	225	280	315
	—	—	—	1225	1500	1675	1325	1600	1775	740	920	1025
P4	—	—	—	335	405	450	360	430	475	215	265	300
	—	—	—	1100	1325	1475	1175	1400	1550	710	870	980
P5	—	—	—	320	385	430	340	410	455	190	235	265
	—	—	—	1050	1275	1400	1125	1350	1500	620	770	870
P6	—	—	—	355	435	485	385	465	510	215	265	295
	—	—	—	1175	1425	1600	1275	1525	1675	710	870	970
P7	—	—	—	335	410	455	365	435	485	200	250	280
	—	—	—	1100	1350	1500	1200	1425	1600	660	820	920
P8	—	—	—	310	380	425	340	410	455	190	235	265
	—	—	—	1025	1250	1400	1125	1350	1500	620	770	870
P11	—	—	—	325	400	445	350	425	470	195	240	270
	—	—	—	1075	1300	1450	1150	1400	1550	640	790	890
P12	—	—	—	205	245	270	215	255	280	115	140	155
	—	—	—	670	800	890	710	840	920	375	460	510
M1	—	—	—	—	—	—	245	320	375	180	235	275
	—	—	—	—	—	—	800	1050	1225	590	770	900
M2	—	—	—	—	—	—	200	265	305	145	195	225
	—	—	—	—	—	—	660	870	1000	475	640	740
M3	—	—	—	—	—	—	160	210	245	115	155	180
	—	—	—	—	—	—	520	690	800	375	510	590
M4	—	—	—	—	—	—	125	165	190	90	120	140
	—	—	—	—	—	—	410	540	620	295	395	460
M5	—	—	—	—	—	—	105	135	160	75	100	115
	—	—	—	—	—	—	345	445	520	245	330	375
K1	370	630	860	435	530	590	475	570	630	—	—	—
	1225	2075	2825	1425	1750	1925	1550	1875	2075	—	—	—
K2	325	550	750	385	465	520	415	500	550	—	—	—
	1075	1800	2450	1275	1525	1700	1350	1650	1800	—	—	—
K3	265	385	470	325	395	440	350	420	465	—	—	—
	870	1275	1550	1075	1300	1450	1150	1375	1525	—	—	—
K4	255	365	450	310	375	420	335	405	445	—	—	—
	840	1200	1475	1025	1225	1375	1100	1325	1450	—	—	—
K5	155	220	275	190	225	255	200	240	265	—	—	—
	510	720	900	620	740	840	660	790	870	—	—	—
K6	225	320	395	275	330	370	295	355	390	—	—	—
	740	1050	1300	900	1075	1225	970	1175	1275	—	—	—
K7	195	285	350	240	290	325	260	310	340	—	—	—
	640	940	1150	790	950	1075	850	1025	1125	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	90	120	140
S2	—	—	—	—	—	—	—	—	—	22	29	34
	—	—	—	—	—	—	—	—	—	70	95	110
S3	—	—	—	—	—	—	—	—	—	20	26	30
	—	—	—	—	—	—	—	—	—	65	85	100
S11	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	130	165	195
S12	—	—	—	—	—	—	—	—	—	36	47	55
	—	—	—	—	—	—	—	—	—	120	155	180
S13	—	—	—	—	—	—	—	—	—	21	27	32
	—	—	—	—	—	—	—	—	—	70	90	105
H5	—	—	—	55	75	85	—	—	—	—	—	—
	—	—	—	180	245	280	—	—	—	—	—	—
H8	—	—	—	60	75	90	—	—	—	—	—	—
	—	—	—	195	245	295	—	—	—	—	—	—
H11	—	—	—	70	95	110	—	—	—	—	—	—
	—	—	—	230	310	360	—	—	—	—	—	—
H12	—	—	—	105	140	160	—	—	—	—	—	—
	—	—	—	345	460	520	—	—	—	—	—	—
H21	—	—	—	60	75	90	—	—	—	—	—	—
	—	—	—	195	245	295	—	—	—	—	—	—

Square 6™ – R217.96-08 – Metric



- For insert selection and cutting data recommendations, see page(s) 113-115
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.96-3240.3-08-3A	02622987	Weldon	40,0	3	7,5	3,0	—	32,0	84,0	60,0	60,0	120,0	0,0	11800	0,7	XNEX0806
R217.96-3240.3-08-4A	02622989	Weldon	40,0	4	7,5	3,0	—	32,0	84,0	60,0	60,0	120,0	0,0	11800	0,7	XNEX0806
R217.96-3240.3S-08-4A	02622915	Seco-Weldon	40,0	4	7,5	3,0	50,0	32,0	—	50,0	60,0	120,0	0,0	11800	0,8	XNEX0806

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

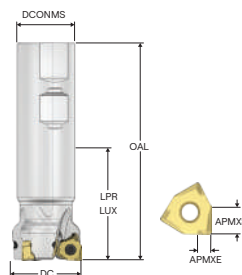
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square 6™ – R217.96-08 – inch



- For insert selection and cutting data recommendations, see page(s) 113-115
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.96-01.50-3-08-3A	02642818	Weldon	1.500	3	0.295	0.118	1.250	3.358	2.138	2.138	4.500	0,0	20700	1.540	XNEX0806

Spare Parts, included in delivery

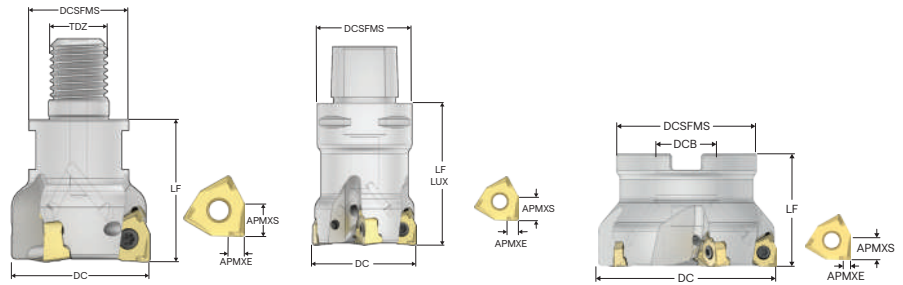
For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-08 – Metric



- For insert selection and cutting data recommendations, see page(s) 113-115
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm			kg	
C4-R217.96-044-08-3A	02690109	Seco-Capto	44,0	3	7,5	3,0	—	40,0	—	40,0	60,0	60,0	0,0	11300	0,6	XNEX0806
C4-R217.96-044-08-4A	02690177	Seco-Capto	44,0	4	7,5	3,0	—	40,0	—	40,0	60,0	60,0	0,0	11300	0,5	XNEX0806
C5-R217.96-054-08-4A	02690178	Seco-Capto	54,0	4	7,5	3,0	—	50,0	—	50,0	60,0	60,0	0,0	10200	0,9	XNEX0806
C5-R217.96-054-08-5A	02690179	Seco-Capto	54,0	5	7,5	3,0	—	50,0	—	50,0	60,0	60,0	0,0	10200	0,9	XNEX0806
C5-R217.96-063-08-6A	02690180	Seco-Capto	63,0	6	7,5	3,0	—	50,0	—	50,0	60,0	60,0	0,0	9400	1,0	XNEX0806
C6-R217.96-066-08-7A	02780514	Seco-Capto	66,0	7	7,5	3,0	—	63,0	—	63,0	60,0	60,0	0,0	9400	1,4	XNEX0806
C6-R217.96-080-08-7A	02690182	Seco-Capto	80,0	7	7,5	3,0	—	63,0	—	63,0	60,0	60,0	0,0	8400	1,7	XNEX0806
C6-R217.96-080-08-9A	02690183	Seco-Capto	80,0	9	7,5	3,0	—	63,0	—	63,0	60,0	60,0	0,0	8400	1,2	XNEX0806
R217.96-1640.RE-08-3A	02678953	Combimaster	40,0	3	7,5	3,0	—	28,0	M16	28,0	40,0	—	0,0	11800	0,3	XNEX0806
R217.96-1640.RE-08-4A	02678957	Combimaster	40,0	4	7,5	3,0	—	28,0	M16	28,0	40,0	—	0,0	11800	0,3	XNEX0806
R217.96-2040.RE-08-4A	02972745	Combimaster	40,0	4	7,5	3,0	—	36,5	M20	36,5	40,0	—	0,0	11800	0,3	XNEX0806
R220.96-0050-08-4A	02623180	Arbor	50,0	4	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	10600	0,3	XNEX0806
R220.96-0050-08-5A	02623182	Arbor	50,0	5	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	10600	0,4	XNEX0806
R220.96-0052-08-5A	02969090	Arbor	52,0	5	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	10600	0,4	XNEX0806
R220.96-0063-08-4A	02623183	Arbor	63,0	4	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	9400	0,6	XNEX0806
R220.96-0063-08-5A-27	02768079	Arbor	63,0	5	7,5	3,0	27,0	62,0	—	27,0	40,0	—	0,0	9400	0,7	XNEX0806
R220.96-0063-08-6A	02623194	Arbor	63,0	6	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	9400	0,5	XNEX0806
R220.96-0063-08-6A-27	02679623	Arbor	63,0	6	7,5	3,0	27,0	62,0	—	27,0	40,0	—	0,0	9400	0,6	XNEX0806
R220.96-0063-08-7A	02623196	Arbor	63,0	7	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	9400	0,5	XNEX0806
R220.96-0063-08-7A-27	02679624	Arbor	63,0	7	7,5	3,0	27,0	62,0	—	27,0	40,0	—	0,0	9400	0,6	XNEX0806
R220.96-0066-08-6A	02711515	Arbor	66,0	6	7,5	3,0	22,0	47,0	—	22,0	40,0	—	0,0	9400	0,5	XNEX0806
R220.96-0080-08-5A	02623197	Arbor	80,0	5	7,5	3,0	27,0	62,0	—	27,0	50,0	—	0,0	8400	1,1	XNEX0806
R220.96-0080-08-7A	02623198	Arbor	80,0	7	7,5	3,0	27,0	62,0	—	27,0	50,0	—	0,0	8400	1,0	XNEX0806
R220.96-0080-08-9A	02623200	Arbor	80,0	9	7,5	3,0	27,0	62,0	—	27,0	50,0	—	0,0	8400	1,0	XNEX0806
R220.96-0084-08-7A	02969094	Arbor	84,0	7	7,5	3,0	27,0	62,0	—	27,0	50,0	—	0,0	8400	1,2	XNEX0806
R220.96-0100-08-6A	02623201	Arbor	100,0	6	7,5	3,0	32,0	77,0	—	32,0	50,0	—	0,0	7500	1,6	XNEX0806
R220.96-0100-08-8A	02623203	Arbor	100,0	8	7,5	3,0	32,0	77,0	—	32,0	50,0	—	0,0	7500	1,6	XNEX0806
R220.96-0100-08-11A	02623204	Arbor	100,0	11	7,5	3,0	32,0	77,0	—	32,0	50,0	—	0,0	7500	1,5	XNEX0806
R220.96-0125-08-7A	02640708	Arbor	125,0	7	7,5	3,0	40,0	90,0	—	40,0	63,0	—	0,0	6700	2,9	XNEX0806
R220.96-0125-08-11A	02640709	Arbor	125,0	11	7,5	3,0	40,0	90,0	—	40,0	63,0	—	0,0	6700	2,8	XNEX0806
R220.96-0125-08-14A	02640710	Arbor	125,0	14	7,5	3,0	40,0	90,0	—	40,0	63,0	—	0,0	6700	2,8	XNEX0806
R220.96-8160-08-12	02640711	Arbor	160,0	12	7,5	3,0	40,0	90,0	—	40,0	63,0	—	0,0	5900	4,6	XNEX0806
R220.96-8160-08-16	02640712	Arbor	160,0	16	7,5	3,0	40,0	90,0	—	40,0	63,0	—	0,0	5900	4,8	XNEX0806

For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square shoulder
and slot milling
cutters

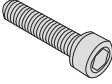
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.96-..	-	1/4HEX-T15PX50	C04011-T15P
R220.96-0050-0052	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-0066	220.17-692	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-27	220.17-693	1/4HEX-T15PX50	C04011-T15P
R220.96-0080-0084	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R220.96-0100-0125	-	1/4HEX-T15PX50	C04011-T15P
R220.96-8160	-	1/4HEX-T15PX90	C04011-T15P

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
Cx-R217/220.96-1640-0125	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

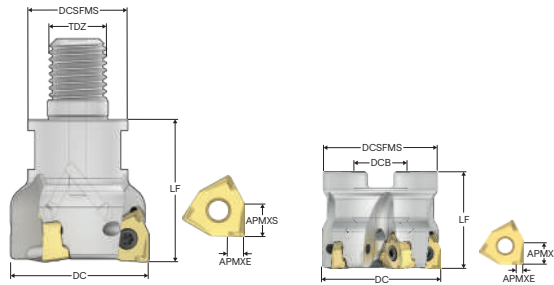
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square 6™ – R217/220.96-08 – inch

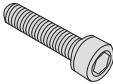


- For insert selection and cutting data recommendations, see page(s) 113-115
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.96-01.50-20RE-08-3A	03212088	Combimaster	1.500	3	0.295	0.118	–	1.398	M20	1.398	1.575	0,0	20700	0.880	XNEX0806
R220.96-02.00-08-4A	02642870	Arbor	2.000	4	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	10600	0.660	XNEX0806
R220.96-02.00-08-5A	02642872	Arbor	2.000	5	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	10600	0.660	XNEX0806
R220.96-02.50-08-4A	02642873	Arbor	2.500	4	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.540	XNEX0806
R220.96-02.50-08-6A	02642874	Arbor	2.500	6	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.100	XNEX0806
R220.96-02.50-08-7A	02642878	Arbor	2.500	7	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.320	XNEX0806
R220.96-03.00-08-5A	02642879	Arbor	3.000	5	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.430	XNEX0806
R220.96-03.00-08-7A	02642881	Arbor	3.000	7	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.200	XNEX0806
R220.96-03.00-08-9A	02642882	Arbor	3.000	9	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.200	XNEX0806
R220.96-04.00-08-6A	02642884	Arbor	4.000	6	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.970	XNEX0806
R220.96-04.00-08-8A	02642886	Arbor	4.000	8	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.750	XNEX0806
R220.96-04.00-08-11A	02642887	Arbor	4.000	11	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.750	XNEX0806
R220.96-05.00-08-7A	02642888	Arbor	5.000	7	0.295	0.118	1.500	3.543	–	1.500	2.480	0,0	6700	7.720	XNEX0806
R220.96-05.00-08-11A	02642889	Arbor	5.000	11	0.295	0.118	1.500	3.543	–	1.500	2.480	0,0	6700	7.280	XNEX0806
R220.96-06.00-08-12	02642891	Arbor	6.000	12	0.295	0.118	2.000	4.331	–	2.000	2.480	0,0	5900	9.480	XNEX0806

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T15PX50	C04011-T15P
R220.96-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P
R220.96-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX50	C04011-T15P
R220.96-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-06.00	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.96-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.96-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

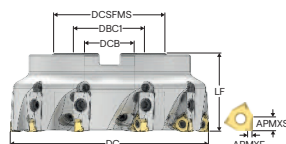
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square 6™ – R220.96-08 – Metric



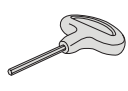
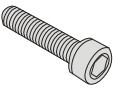
- For insert selection and cutting data recommendations, see page(s) 113-115
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	APMXE mm	DCB mm	DCSFMS mm	DCONMS mm	LF mm	RMPX°	RPMX	Weight kg	Insert
R220.96-8160-08-7C	02827066	Arbor	160,0	7	7,5	3,0	40,0	90,0	—	63,0	0,0	5900	5,4	XNEX0806
R220.96-8160-08-10C	02827062	Arbor	160,0	10	7,5	3,0	40,0	90,0	—	63,0	0,0	5900	5,2	XNEX0806
R220.96-8200-08-8C	02827067	Arbor	200,0	8	7,5	3,0	60,0	130,0	—	63,0	0,0	5300	7,9	XNEX0806
R220.96-8200-08-12C	02827063	Arbor	200,0	12	7,5	3,0	60,0	130,0	60,0	63,0	0,0	5300	7,7	XNEX0806
R220.96-8250-08-10C	02827068	Arbor	250,0	10	7,5	3,0	60,0	130,0	60,0	63,0	0,0	4200	15,2	XNEX0806

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Wedge clamp radial adj.	Wedge screw
							
R220.96-8160-8250	AU1114T-T15P	XN08PRN	FS96018	1/4HEX-T15PX90	C04011-T15P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key	Wedge key
							
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35	1/4HEX-T25PX50
R220.96-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35	1/4HEX-T25PX50

Torque and fixed keys, see page 944

R217/220.96-08 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XNEX080608TR-ME09 F40M	3,5 0.14	0,13 0.0050	0,14 0.0055	0,22 0.0085
P2	XNEX080608TR-ME09 F40M	3,5 0.14	0,13 0.0050	0,14 0.0055	0,22 0.0085
P3	XNEX080608TR-M13 MP2501	3,5 0.14	0,18 0.0070	0,20 0.0080	0,30 0.012
P4	XNEX080608TR-M13 MP2501	3,5 0.14	0,18 0.0070	0,19 0.0075	0,30 0.012
P5	XNEX080608TR-M13 MP2501	3,5 0.14	0,17 0.0065	0,19 0.0075	0,30 0.012
P6	XNEX080608TR-M13 MP2501	3,5 0.14	0,17 0.0065	0,19 0.0075	0,28 0.011
P7	XNEX080608TR-M13 MP2501	3,5 0.14	0,17 0.0065	0,19 0.0075	0,28 0.011
P8	XNEX080608TR-M13 MP2501	3,5 0.14	0,18 0.0070	0,20 0.0080	0,30 0.012
P11	XNEX080608TR-M13 MP3501	3,5 0.14	0,17 0.0065	0,19 0.0075	0,28 0.011
P12	XNEX080608R-M08 MS2500	3,0 0.12	0,075 0.0030	0,080 0.0032	0,12 0.0048
M1	XNEX080608R-M08 F40M	3,5 0.14	0,12 0.0048	0,12 0.0050	0,20 0.0080
M2	XNEX080608R-M08 F40M	3,5 0.14	0,11 0.0044	0,12 0.0048	0,18 0.0070
M3	XNEX080608R-M08 F40M	3,0 0.12	0,085 0.0034	0,095 0.0038	0,14 0.0055
M4	XNEX080608R-M08 MS2050	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
M5	XNEX080608R-M08 MS2050	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
K1	XNEX080608TR-M13 MK1501	3,5 0.14	0,19 0.0075	0,20 0.0080	0,32 0.013
K2	XNEX080608TR-M13 MK1501	3,5 0.14	0,17 0.0065	0,19 0.0075	0,30 0.012
K3	XNEX080608TR-M13 MK2050	3,5 0.14	0,17 0.0065	0,19 0.0075	0,30 0.012
K4	XNEX080608TR-M13 MK2050	3,5 0.14	0,17 0.0065	0,19 0.0075	0,30 0.012
K5	XNEX080608TR-M13 MK2050	3,5 0.14	0,16 0.0065	0,17 0.0065	0,26 0.010
K6	XNEX080608TR-M13 MK2050	3,5 0.14	0,17 0.0065	0,19 0.0075	0,30 0.012
K7	XNEX080608TR-M13 MK2050	3,5 0.14	0,16 0.0065	0,17 0.0065	0,26 0.010
N1	XNEX080608R-M08 H25	3,5 0.14	0,15 0.0060	0,16 0.0065	0,25 0.010
N2	XNEX080608R-M08 H25	3,5 0.14	0,15 0.0060	0,16 0.0065	0,25 0.010
N3	XNEX080608R-M08 H25	3,5 0.14	0,15 0.0060	0,16 0.0065	0,25 0.010
N11	XNEX080608R-M08 H25	3,5 0.14	0,15 0.0060	0,16 0.0065	0,25 0.010
S1	XNEX080608R-M08 F40M	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
S2	XNEX080608R-M08 F40M	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
S3	XNEX080608R-M08 F40M	2,0 0.080	0,075 0.0030	0,080 0.0032	0,12 0.0048
S11	XNEX080608R-M08 MS2050	2,5 0.10	0,085 0.0034	0,095 0.0038	0,15 0.0060
S12	XNEX080608R-M08 MS2050	2,5 0.10	0,085 0.0034	0,095 0.0038	0,15 0.0060
S13	XNEX080608R-M08 MS2050	2,0 0.080	0,080 0.0032	0,085 0.0034	0,13 0.0050
H5	XNEX080608TR-MD15 MH1051	3,0 0.12	0,14 0.0055	0,15 0.0060	0,22 0.0085
H8	XNEX080608TR-MD15 MH1051	2,5 0.10	0,11 0.0044	0,12 0.0048	0,18 0.0070
H11	XNEX080608TR-MD15 MH1051	3,0 0.12	0,14 0.0055	0,15 0.0060	0,22 0.0085
H12	XNEX080608TR-MD15 MH1051	2,5 0.10	0,11 0.0044	0,12 0.0048	0,18 0.0070
H21	XNEX080608TR-MD15 MH1051	2,5 0.10	0,11 0.0044	0,12 0.0048	0,18 0.0070

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.96-08 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	260	350	415	265	355	425	285	360	420	225	280	320	375	490	570	300	395	475	—	—	—
	—	—	—	850	1150	1350	870	1175	1400	940	1175	1375	740	920	1050	1225	1600	1875	980	1300	1550	—	—	—
P2	—	—	—	255	340	395	255	350	405	275	350	410	215	270	305	365	480	560	290	385	460	—	—	—
	—	—	—	840	1125	1300	840	1150	1325	900	1150	1350	710	890	1000	1200	1575	1825	950	1275	1500	—	—	—
P3	—	—	—	220	290	345	225	300	355	245	310	360	190	240	270	325	420	485	255	340	400	—	—	—
	—	—	—	720	950	1125	740	980	1175	800	1025	1175	620	790	890	1075	1375	1600	840	1125	1300	—	—	—
P4	—	—	—	195	260	305	200	270	315	215	275	315	175	220	260	285	370	425	225	300	355	—	—	—
	—	—	—	640	850	1000	660	890	1025	710	900	1025	570	720	850	940	1225	1400	740	980	1175	—	—	—
P5	310	420	500	190	250	295	195	255	310	205	260	300	165	200	230	275	355	405	215	285	340	—	—	—
	1025	1375	1650	620	820	970	640	840	1025	670	850	980	540	660	750	900	1175	1325	710	940	1125	—	—	—
P6	350	475	580	210	280	335	220	290	345	230	300	340	185	230	260	310	405	460	245	325	385	—	—	—
	1150	1550	1900	690	920	1100	720	950	1125	750	980	1125	610	750	850	1025	1325	1500	800	1075	1275	—	—	—
P7	330	445	550	200	265	315	205	275	325	215	280	325	175	215	245	290	385	435	230	310	365	—	—	—
	1075	1450	1800	660	870	1025	670	900	1075	710	920	1075	570	710	800	950	1275	1425	750	1025	1200	—	—	—
P8	310	420	500	185	245	290	190	250	300	205	260	300	160	200	225	275	355	405	215	285	340	—	—	—
	1025	1375	1650	610	800	950	620	820	980	670	850	980	520	660	740	900	1175	1325	710	940	1125	—	—	—
P11	320	435	530	195	255	305	200	265	315	210	275	315	170	210	235	260	410	520	220	300	355	—	—	—
	1050	1425	1750	640	840	1000	660	870	1025	690	900	1025	560	690	770	850	1350	1700	720	980	1175	—	—	—
P12	230	310	375	125	170	200	140	180	210	140	175	200	115	140	160	170	250	310	145	190	225	—	—	—
	750	1025	1225	410	560	660	460	590	690	460	570	660	375	460	520	560	820	1025	475	620	740	—	—	—
M1	—	—	—	—	—	—	180	245	285	200	265	315	155	205	240	295	460	600	210	275	330	—	—	—
	—	—	—	—	—	—	590	800	940	660	870	1025	510	670	790	970	1500	1975	690	900	1075	—	—	—
M2	—	—	—	—	—	—	150	200	240	165	220	260	130	170	205	250	380	490	175	230	270	—	—	—
	—	—	—	—	—	—	490	660	790	540	720	850	425	560	670	820	1250	1600	570	750	890	—	—	—
M3	—	—	—	—	—	—	125	165	195	135	175	210	105	140	165	205	305	385	140	185	220	—	—	—
	—	—	—	—	—	—	410	540	640	445	570	690	345	460	540	670	1000	1275	460	610	720	—	—	—
M4	—	—	—	—	—	—	95	130	150	105	140	160	85	110	130	155	230	285	110	145	170	—	—	—
	—	—	—	—	—	—	310	425	490	345	460	520	280	360	425	510	750	940	360	475	560	—	—	—
M5	—	—	—	—	—	—	80	105	125	85	115	135	70	90	105	130	190	240	90	120	140	—	—	—
	—	—	—	—	—	—	260	345	410	280	375	445	230	295	345	425	620	790	295	395	460	—	—	—
K1	410	560	680	275	365	425	190	260	300	—	—	—	150	205	240	—	—	—	—	—	170	225	265	
	1350	1825	2225	900	1200	1400	620	850	980	—	—	—	490	670	790	—	—	—	—	—	560	740	870	
K2	375	510	610	245	320	385	175	225	270	—	—	—	135	180	215	—	—	—	—	—	150	200	235	
	1225	1675	2000	800	1050	1275	570	740	890	—	—	—	445	590	710	—	—	—	—	—	490	660	770	
K3	320	430	510	205	270	325	145	190	230	—	—	—	115	150	180	—	—	—	—	—	—	—	—	
	1050	1400	1675	670	890	1075	475	620	750	—	—	—	375	490	590	—	—	—	—	—	—	—	—	
K4	305	410	490	195	260	310	140	185	220	—	—	—	110	145	175	—	—	—	—	—	—	—	—	
	1000	1350	1600	640	850	1025	460	610	720	—	—	—	360	475	570	—	—	—	—	—	—	—	—	
K5	190	260	310	120	160	190	85	115	135	—	—	—	70	90	105	—	—	—	—	—	—	—	—	
	620	850	1025	395	520	620	280	375	445	—	—	—	230	295	345	—	—	—	—	—	—	—	—	
K6	270	365	435	175	230	275	125	160	195	—	—	—	95	130	155	—	—	—	—	—	—	—	—	
	890	1200	1425	570	750	900	410	520	640	—	—	—	310	425	510	—	—	—	—	—	—	—	—	
K7	245	330	400	155	205	240	110	145	170	—	—	—	85	115	135	—	—	—	—	—	—	—	—	
	800	1075	1300	510	670	790	360	475	560	—	—	—	280	375	445	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1125	1475	1750	—	—	—	—	—	1250	1675	1975	
	—	—	—	—	—	—	—	—	—	—	—	—	3700	4850	5750	—	—	—	—	—	4100	5500	6475	
N2	—	—	—	—	—	—	—	—	—	—	—	—	450	600	710	—	—	—	—	—	510	680	790	
	—	—	—	—	—	—	—	—	—	—	—	—	1475	1975	2325	—	—	—	—	—	1675	2225	2600	
N3	—	—	—	—	—	—	—	—	—	—	—	—	300	400	475	—	—	—	—	—	340	450	530	
	—	—	—	—	—	—	—	—	—	—	—	—	980	1300	1550	—	—	—	—	—	1125	1475	1750	
N11	—	—	—	—	—	—	—	—	—	—	—	—	340	455	540	—	—	—	—	—	390	520	610	
	—	—	—	—	—	—	—	—	—	—	—	—	1125	1500	1775	—	—	—	—	—	1275	1700	2000	
S1	—	—	—	—	—	—	45	60	70	49	65	75	39	50	60	55	70	85	55	70	85	—	—	—
	—	—	—	—	—	—	150	195	230	160	215	245	130	165	195	180	230	280	180	230	280	—	—	—
S2	—	—	—	—	—	—	36	48	55	39	50	60	31	41	48	43	55	65	43	55	65	—	—	—
	—	—	—	—	—	—	120	155	180	130	165	195	100	135	155	140	180	215	140	180	215	—	—	—
S3	—	—																						

R217/220.96-08 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	475	540	370	465	530	415	510	580	390	475	540	245	310	360
	—	—	—	1250	1550	1775	1225	1525	1750	1350	1675	1900	1275	1550	1775	800	1025	1175
P2	—	—	—	370	465	520	360	455	510	400	495	570	380	465	530	240	305	350
	—	—	—	1225	1525	1700	1175	1500	1675	1300	1625	1875	1250	1525	1750	790	1000	1150
P3	—	—	—	325	400	455	315	390	445	355	435	490	335	405	455	210	265	305
	—	—	—	1075	1300	1500	1025	1275	1450	1175	1425	1600	1100	1325	1500	690	870	1000
P4	—	—	—	285	355	400	280	350	395	310	385	435	295	355	400	200	250	290
	—	—	—	940	1175	1300	920	1150	1300	1025	1275	1425	970	1175	1300	660	820	950
P5	—	—	—	275	340	390	270	335	385	295	365	415	280	340	385	175	225	255
	—	—	—	900	1125	1275	890	1100	1275	970	1200	1350	920	1125	1275	570	740	840
P6	—	—	—	310	380	435	305	375	430	335	415	470	315	390	435	200	250	285
	—	—	—	1025	1250	1425	1000	1225	1400	1100	1350	1550	1025	1275	1425	660	820	940
P7	—	—	—	295	360	415	285	355	405	315	395	440	295	365	410	185	240	270
	—	—	—	970	1175	1350	940	1175	1325	1300	1450	1600	970	1200	1350	610	790	890
P8	—	—	—	270	335	385	265	330	375	295	365	415	280	340	385	175	225	255
	—	—	—	890	1100	1275	870	1075	1225	970	1200	1350	920	1125	1275	570	740	840
P11	—	—	—	285	350	400	280	345	395	305	380	430	290	355	400	180	230	265
	—	—	—	940	1150	1300	920	1125	1300	1000	1250	1400	950	1175	1300	590	750	870
P12	—	—	—	185	225	255	185	225	255	195	235	260	185	220	245	110	140	155
	—	—	—	610	740	840	610	740	840	640	770	850	610	720	800	360	460	510
M1	—	—	—	—	—	—	185	250	290	230	305	365	200	265	315	155	205	245
	—	—	—	—	—	—	610	820	950	750	1000	1200	660	870	1025	510	670	800
M2	—	—	—	—	—	—	155	205	240	190	255	300	165	220	260	130	170	200
	—	—	—	—	—	—	510	670	790	620	840	980	540	720	850	425	560	660
M3	—	—	—	—	—	—	125	165	195	155	205	245	135	175	210	105	140	165
	—	—	—	—	—	—	410	540	640	510	670	800	445	570	690	345	460	540
M4	—	—	—	—	—	—	100	130	150	120	160	190	105	140	160	80	110	125
	—	—	—	—	—	—	330	425	490	395	520	620	345	460	520	260	360	410
M5	—	—	—	—	—	—	80	110	125	100	135	155	85	115	135	70	90	105
	—	—	—	—	—	—	260	360	410	330	445	510	280	375	445	230	295	345
K1	330	580	800	375	470	520	365	460	510	255	340	405	380	470	530	—	—	—
	1075	1900	2625	1225	1550	1700	1200	1500	1675	840	1125	1325	1250	1550	1750	—	—	—
K2	290	510	710	335	410	470	330	405	465	230	300	355	340	415	465	—	—	—
	950	1675	2325	1100	1350	1550	1075	1325	1525	750	980	1175	1125	1350	1525	—	—	—
K3	225	330	415	285	350	400	275	340	390	195	255	300	285	350	395	—	—	—
	740	1075	1350	940	1150	1300	900	1125	1275	640	840	980	940	1150	1300	—	—	—
K4	215	315	400	270	335	380	265	325	375	185	245	290	275	335	375	—	—	—
	710	1025	1300	890	1100	1250	870	1075	1225	610	800	950	900	1100	1225	—	—	—
K5	130	195	240	165	205	230	160	200	225	115	150	175	170	205	225	—	—	—
	425	640	790	540	670	750	520	660	740	375	490	570	560	670	740	—	—	—
K6	190	275	350	240	295	335	235	285	330	160	215	255	240	295	330	—	—	—
	620	900	1150	790	970	1100	770	940	1075	520	710	840	790	970	1075	—	—	—
K7	170	245	310	210	260	295	205	255	290	145	195	225	215	260	290	—	—	—
	560	800	1025	690	850	970	670	840	950	475	640	740	710	850	950	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	49	65	75	25	33	39
	—	—	—	—	—	—	—	—	—	195	260	295	160	215	245	80	110	130
S2	—	—	—	—	—	—	—	—	—	48	65	75	39	50	60	20	27	31
	—	—	—	—	—	—	—	—	—	155	215	245	130	165	195	65	90	100
S3	—	—	—	—	—	—	—	—	—	42	55	65	34	45	55	18	23	27
	—	—	—	—	—	—	—	—	—	140	180	215	110	150	180	60	75	90
S11	—	—	—	—	—	—	—	—	—	85	110	130	70	90	105	35	46	55
	—	—	—	—	—	—	—	—	—	280	360	425	230	295	345	115	150	180
S12	—	—	—	—	—	—	—	—	—	60	75	90	47	60	75	33	42	50
	—	—	—	—	—	—	—	—	—	195	245	295	155	195	245	110	140	165
S13	—	—	—	—	—	—	—	—	—	33	44	50	27	36	43	19	25	29
	—	—	—	—	—	—	—	—	—	110	145	165	90	120	140	60	80	95
H5	—	—	—	49	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	160	215	245	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	180	230	260	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	195	260	310	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	95	125	145	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	310	410	475	—	—	—	—	—	—	—	—	—	—	—	—
H21	—	—	—	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	180	230	260	—	—	—	—	—	—	—	—	—	—	—	—

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

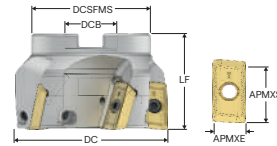


R220.90 ABEX

These multipurpose 90° square-shoulder milling cutters are for heavy roughing applications, delivering large depth-of-cut capability and high feed rates for consistent performance and excellent metal-removal rates.

- Cutter range 63–315 mm (2.5–12 inch)
- Max depth of cut 24 mm (0.94 inch)
- Recommended slotting depth of cut 13 mm (0.51 inch)
- Insert corner radii range 1.6 mm (0.063 inch)

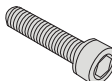
R220.90-26 ABEX – Metric



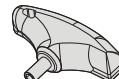
- For insert selection and cutting data recommendations, see page(s) 119-120
- For complete insert programme, see page(s) 872
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	APMXE mm	DCB mm	DCSFMS mm	DCONMS mm	LF mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R220.90-0063-26-5AM	02789823	Arbor	63,0	5	20,0	10,0	27,0	55,0	27,0	50,0	1,5	107,6	123,5	6700	0,6	ABEX2606
R220.90-0063-26-6AM	02789825	Arbor	63,0	6	20,0	10,0	27,0	55,0	27,0	50,0	1,5	107,6	123,5	6700	0,8	ABEX2606
R220.90-0080-26-5AM	02789826	Arbor	80,0	5	20,0	10,0	27,0	62,0	27,0	50,0	1,0	141,6	157,5	5900	1,1	ABEX2606
R220.90-0125-26-7AM	02789831	Arbor	125,0	7	20,0	10,0	40,0	90,0	40,0	63,0	0,5	231,6	247,5	4700	3,1	ABEX2606

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.90-0063-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.90-0100-0125	-	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.90-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

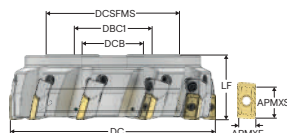
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

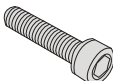
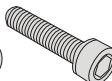
R220.90 ABEX – Metric



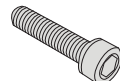
—For insert selection and cutting data recommendations, see page(s) 119–120
 —For complete insert programme, see page(s) 872
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DBC1	DCB	DCSFMS		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.90-8160-26-8CAN	02830886	Arbor	160,0	8	20,0	10,0	66,7	40,0	90,0	40,0	63,0	0,4	296,5	316,8	4200	5,3	ABEX2606
R220.90-8200-26-10CAN	02830887	Arbor	200,0	10	20,0	10,0	101,6	60,0	130,0	60,0	63,0	0,35	376,5	396,8	3800	8,1	ABEX2606
R220.90-8250-26-12CAN	02830888	Arbor	250,0	12	20,0	10,0	101,6	60,0	130,0	60,0	63,0	0,3	476,5	496,8	3400	13,4	ABEX2606
R220.90-8315-26-14CAN	02830889	Arbor	315,0	14	20,0	10,0	101,6	60,0	225,0	60,0	80,0	0,3	606,5	626,8	3000	28,1	ABEX2606

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Arbor screw 2	Cassette	Cassette screw	Cassette screw 2	Insert key	Insert screw	Lid	Lid screw
										
R220.90-8160	AU1114T-T15P	—	—	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.90-8200	AU1114T-T15P	—	—	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10
R220.90-8250	AU1114T-T15P	—	—	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10
R220.90-8315	AU1114T-T15P	MC6S16X50	MC6S20X50	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Nest key	Setting key	Torque key
							
R220.90-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8315	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

R220.90-26 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	ABEX2606ZFFR-M15 F40M	10,0	0,22	0,24	0,36
		0.40	0.0085	0.0095	0.014
P2	ABEX2606ZFFR-M15 F40M	10,0	0,22	0,24	0,36
		0.40	0.0085	0.0095	0.014
P3	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
P4	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
P5	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
P6	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,32
		0.40	0.0080	0.0085	0.013
P7	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,32
		0.40	0.0080	0.0085	0.013
P8	ABEX2606ZFFR-M15 MP2501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
P11	ABEX2606ZZFR-M15 MP3501	10,0	0,20	0,22	0,32
		0.40	0.0080	0.0085	0.013
P12	ABEX2606ZZFR-M15 MP3501	8,0	0,14	0,15	0,22
		0.32	0.0055	0.0060	0.0085
M1	ABEX2606ZFFR-M15 F40M	10,0	0,22	0,24	0,36
		0.40	0.0085	0.0095	0.014
M2	ABEX2606ZFFR-M15 F40M	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
M3	ABEX2606ZFFR-M15 F40M	8,0	0,16	0,17	0,26
		0.32	0.0065	0.0065	0.010
M4	ABEX2606ZFFR-M15 F40M	6,0	0,14	0,15	0,24
		0.24	0.0055	0.0060	0.0095
M5	ABEX2606ZFFR-M15 F40M	6,0	0,14	0,15	0,24
		0.24	0.0055	0.0060	0.0095
K1	ABEX2606ZFFR-M15 MK1501	10,0	0,22	0,24	0,36
		0.40	0.0085	0.0095	0.014
K2	ABEX2606ZFFR-M15 MK1501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
K3	ABEX2606ZFFR-M15 MK1501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
K4	ABEX2606ZFFR-M15 MK1501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
K5	ABEX2606ZZFR-M15 MP3501	10,0	0,18	0,19	0,30
		0.40	0.0070	0.0075	0.012
K6	ABEX2606ZZFR-M15 MP3501	10,0	0,20	0,22	0,34
		0.40	0.0080	0.0085	0.013
K7	ABEX2606ZZFR-M15 MP3501	10,0	0,18	0,19	0,30
		0.40	0.0070	0.0075	0.012

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.90-26 – Cutting data $v_c = (m/min)/(sf/min)$

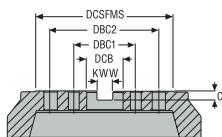
SMG	F40M			MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	205	260	295	—	—	—	355	440	510	345	430	495	305	385	440
	670	850	970	—	—	—	1175	1450	1675	1125	1400	1625	1000	1275	1450
P2	200	250	285	—	—	—	345	430	490	335	420	480	295	375	430
	660	820	940	—	—	—	1125	1400	1600	1100	1375	1575	970	1225	1400
P3	180	225	255	—	—	—	305	380	430	300	375	420	265	330	375
	590	740	840	—	—	—	1000	1250	1400	980	1225	1375	870	1075	1225
P4	165	210	240	—	—	—	270	335	380	265	330	370	235	295	330
	540	690	790	—	—	—	890	1100	1250	870	1075	1225	770	970	1075
P5	150	190	220	—	—	—	255	320	370	250	315	360	225	280	325
	490	620	720	—	—	—	840	1050	1225	820	1025	1175	740	920	1075
P6	170	210	245	—	—	—	290	360	415	280	350	405	250	315	365
	560	690	800	—	—	—	950	1175	1350	920	1150	1325	820	1025	1200
P7	160	200	230	—	—	—	275	340	390	265	330	385	235	295	340
	520	660	750	—	—	—	900	1125	1275	870	1075	1275	770	970	1125
P8	150	190	215	—	—	—	255	320	360	250	315	355	225	280	315
	490	620	710	—	—	—	840	1050	1175	820	1025	1175	740	920	1025
P11	155	195	225	—	—	—	265	330	380	260	325	370	230	290	335
	510	640	740	—	—	—	870	1075	1250	850	1075	1225	750	950	1100
P12	110	135	150	—	—	—	175	220	245	175	215	240	155	190	220
	360	445	490	—	—	—	570	720	800	570	710	790	510	620	720
M1	145	195	230	—	—	—	—	—	—	175	230	275	160	215	255
	475	640	750	—	—	—	—	—	—	570	750	900	520	710	840
M2	120	160	195	—	—	—	—	—	—	145	190	230	135	180	215
	395	520	640	—	—	—	—	—	—	475	620	750	445	590	710
M3	100	135	155	—	—	—	—	—	—	120	160	185	110	145	175
	330	445	510	—	—	—	—	—	—	395	520	610	360	475	570
M4	80	105	125	—	—	—	—	—	—	95	125	145	90	115	135
	260	345	410	—	—	—	—	—	—	310	410	475	295	375	445
M5	65	90	105	—	—	—	—	—	—	80	105	120	75	95	115
	215	295	345	—	—	—	—	—	—	260	345	395	245	310	375
K1	145	190	225	315	560	770	345	435	495	335	425	485	300	375	435
	475	620	740	1025	1825	2525	1125	1425	1625	1100	1400	1600	980	1225	1425
K2	130	170	205	280	490	680	310	390	445	305	380	435	270	340	390
	425	560	670	920	1600	2225	1025	1275	1450	1000	1250	1425	890	1125	1275
K3	110	145	175	210	310	395	265	330	380	255	320	370	230	285	330
	360	475	570	690	1025	1300	870	1075	1250	840	1050	1225	750	940	1075
K4	105	140	165	205	300	375	250	315	360	245	305	355	220	275	315
	345	460	540	670	980	1225	820	1025	1175	800	1000	1175	720	900	1025
K5	65	85	100	125	185	230	155	195	220	150	190	215	135	170	190
	215	280	330	410	610	750	510	640	720	490	620	710	445	560	620
K6	90	120	145	180	260	330	220	275	315	215	270	310	190	240	280
	295	395	475	590	850	1075	720	900	1025	710	890	1025	620	790	920
K7	80	110	130	160	235	290	200	250	280	195	245	275	175	220	245
	260	360	425	520	770	950	660	820	920	640	800	900	570	720	800

Code keys metric and inch

R	217	69	25	32	3S	042	10	4	A
1	2	3	4	5	6	7	8	9	10

R	217	69	01.50	3	01.34	10	4	A
1	2	3	5	6	7	8	9	10

1.	2.	3.
Right hand rotation Cx = For Seco-Capto	215/217=With shank 220 = For Arbor 235 = Finishing	69 = Rectangular positive 2 cutting edges 94 = Tangential 4 cutting edges 59 = Square positive 4 cutting edges 15 = Finishing
4. (Not applicable for inch designation)	5.	6.
Shank diameter (except for Arbor type)	Cutter diameter	Shank type (except for Arbor type) 0 = Cylindrical 3 = Weldon 3S = Seco Weldon RE = Combimaster
7.	8.	9.
Max. axial cutting depth	Insert size xxS = short edge xxM = Medium edge xxL = Long edge xxH = Heavy duty	Effective No. of flutes (ZEFP)
10.	A = With through coolant supply N = Coated S = Set H = Heavy Duty K = Full effective (for .59 only) R6 = Compatible with radius 6.3 mm (for .59 only)	



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	—	—	8,4	5,6
22	42-47	—	—	10,4	6,3
27	48-62	—	—	12,4	7
32	60-90	—	—	14,4	8
40	90-130	66,7	—	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	1.181 - 1.378	—	—	0.258	0.165
0.750	1.378 - 1.850	—	—	0.321	0.193
1.000	1.803 - 2.441	—	—	0.382	0.224
1.250	2.250 - 3.031	—	—	0.508	0.287
1.500	2.750 - 3.543	—	—	0.630	0.382
2.000	4.331	—	—	0.756	0.445
2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

	Cutter	Insert	Material suitability					Corner radius (mm)					
			P	M	K	N	S						
Helical milling cutters	Turbo	XO..06 	■	■	■	■	■	0,2/0,4/0,8/1,6	■	□	■	■	■
		XO..10 	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1	■	■	■	■	■
		XO..12 	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	■	■	■	■	■
		XO..16 	■	■	■	■	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	■	■	■	■	■
		XO..18 	■	■	■	■	■	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	□	■	■	■	■
Copy milling cutters	Helical T4	LO..08 	■	□	■	-	■	0,4/0,8/1,2/1,6	■	■	■	-	□
		LO..12 	■	■	■	■	■	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	■	■	■	-	□
Plunge milling cutters	R215/220.59 / R215/220.59K	AC15 SC12 	■	■	■	□	□	1,2/3,0/3,1/6,0	-	■	□	-	□
	220.69-15	AC15 	■	■	■	□	□	1,2/3,0/3,1/6,0	-	■	□	-	□

Helical solution for side-finishing operation (small radial engagement)

235.15		■	■	■	-	■	Chamfer	■	■	■	-	-
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1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



Ramping ability



Possible choice



Not recommended



Plunging ability



Selection – Metric

Cutter	No. of cutting edges	Applica- tion	Cutter diameter (mm)/available depth of cut and number of teeth															See page
			12	14	16	20	25	32	40	44	50	54	63	66	80	100	125	
Turbo 06	2		10 (2)	15 (2)	20 (2)	20 (3) / 25 (3)												131
					15 (3)													
Turbo 10	2					25 (1)	25 (2)	25 (3)	34 (4)		42 (5)							136
						17 (2)	17 (3) / 25 (3) / 34 (3) / 42 (2)	34 (4) / 42 (4) / 50 (3)	34 (5) / 58 (4)	58 (5)	42 (6)							
Turbo 12	2						22 (2) / 33 (2)	33 (2)	33 (3) / 55 (3)	33 (3)	33 (4) / 44 (4) / 55 (4) / 66 (4)	44 (4)	33 (5) / 55 (5)	44 (5)				142
								22 (3) / 33 (3) / 44 (3) / 55 (3)	44 (4) / 65.5 (3)		44 (5) / 86 (5) / 106 (5)		77 (4) / 107 (5)		64 (6)			
Turbo 16	2							29 (2)	29 (3) / 43 (3)		57 (3)		43 (4)		71 (5)	71 (6)		150
									71 (3)		43 (4) / 57 (4) / 85 (4) / 98 (4)		57 (5) / 85 (5)		71 (6)			
Turbo 18	2								47 (2)		47 (3) / 62 (3)	47 (3)	47 (4) / 62 (3)	47 (4)	47 (5) / 62 (5)	62 (6)		157
													62 (4) / 77 (4)		77 (4) / 93 (5)	77 (5)		
T4 08	4						29 (2) / 36 (2)	36 (3)	36 (3)		43 (4)							191
							43 (2)	43 (3) / 50 (3)	43 (4) / 50 (4)	57 (4)	57 (5)	64 (5)						
T4 12	4								35 (2)	35 (3)	35 (3) / 46 (3)		46 (4)					196
										58 (3)	46 (4) / 58 (4) / 81 (4)	69 (4)	58 (5) / 81 (4) / 92 (4)	81 (5)	69 (5) / 104 (5)	81 (6)		
215/220.59	2 & 4 half effective										50 (2) / 59 (2)		59 (2)		68 (2/3)	77 (3/4)		203
											77 (2) / 120 (2)		86 (2) / 120 (2) / 160 (2)		95 (2/3)			203
215/220.59K	2 & 4 full effective										63 (3) / 72 (3)		72 (4) / 110 (3)		72 (5)			203
220.69-15	2												38 (4)		38 (5) / 50 (5)	50 (6)	50 (7)	210
235.15	1							40 (2)			50 (3)				90 (3)			214

x(y)

Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y)

For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)



Slotting and contouring



Contouring only

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Inch

Square shoulder
and slot milling
cutters

Helical milling
cutters

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cutters

Copy milling
cutters

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cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Turbo	XO..06 	■	■	■	■	■	.007/.016 .031/.063	■	□	■	■	■
	XO..10 	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122	■	■	■	■	■
	XO..12 	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	■	■	■	■	■
	XO..16 	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	■	■	■	■	■
	XO..18 	■	■	■	■	■	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	■
Helical T4	LO..08 	■	□	■	-	■	.016/.031 .047/.063	■	■	■	-	□
	LO..12 	■	■	■	■	■	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	■	■	■	-	□
220.69-15	AC15 	■	■	■	□	□	.047/.122 .118/.236	-	■	□	-	□

Helical solution for side-finishing operation (small radial engagement)

235.15 	■	■	■	-	■	Chamfer	■	■	■	-	-
---	---	---	---	---	---	---------	---	---	---	---	---

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	■	Strong stable machine with rigid connexion		Ramping ability	
Possible choice	□	Not recommended	-	Plunging ability	

Selection – Inch

Cutter	No. of cutting edges	Application	Cutter diameter (inch)/available depth of cut and number of teeth								See page
			0.750	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
Turbo 06	2		1.024 (3)								131
											
Turbo 10	2			1.024 (2)		1.378 (4)					136
				1.378 (3) / 1.693 (2)		1.339 (5)					
Turbo 12	2			0.870 (2) / 0.902 (2)	1.299 (2)	1.732 (3)	1.740 (4) / 2.591 (4)	2.953 (4)			142
					1.732 (3)	1.732 (4) / 2.165 (4) / 2.559 (3)	2.146 (5)				
Turbo 16	2					1.69 (3)	1.69 (3)	1.69 (4)	2.79 (5)		142
							1.69 (4) 2.24 (4) 3.89 (4)	2.24 (5) / 3.34 (5)			
Turbo 18	2					1.862 (2)	1.850 (3)	1.866 (4) / 2.409 (4) / 2.441 (4)	2.480 (5) / 3.024 (4)	3.024 (5)	157
							2.441 (3)	3.024 (4)			
Helical T4 08	4			1.417 (2)	1.417 (2)		1.693 (4)				191
				1.693 (2)		1.969 (4)					
Helical T4 12	4						1.406 (3) / 1.850 (3)				196
							2.283 (4) / 2.310 (4)	3.189 (4) / 3.211 (4)	3.189 (5) / 3.211 (5)		
220.69-15	2						1.567 (3)				210
235.15	1						1.969 (3)		3.500 (3)		214

x(y)

Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y)

For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)



Slotting and contouring



Contouring only

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Metric

Square shoulder
and slot milling
cutters

Helical milling
cutters

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cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Cutter	Insert	Material suitability					Corner radius (mm)					
		P	M	K	N	S						
Right Helix R217/220.82-SNX016	XO.X16 	■	■	■	□	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	–	■	–	■	■
	SN.U13 						1,2					
Right Helix R217/220.82-SNAC15-H	AC.T15 						1,2/3,0/3,1/6,0					
	SN.U13 	■	■	■	□	□	1,2	–	■	■	–	–
Left Helix R217/220.81-SNAC15 R217/220.81-SNAC15-K	XO.X12 	■	■	■	□	■	0,2/0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	–	■	–	■	■
	LN.U11 						0,8					
R217/220.82	SP.T12 	■	■	■	□	■	0,8/1,2	–	■	–	–	■
	SN.U13 						1,2					

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	■	Strong stable machine with rigid connection		Ramping ability	
Possible choice	□	Not recommended	–	Plunging ability	

Selection – Metric

Cutter	No. of cutting edges	Application	Cutter diameter (mm)/available depth of cut and number of teeth									See page
			32	40	50	63	80	100	125	160	200	
Right Helix R217/220.82-SNXO16	2/8				47 (3)	47 (4)	68 (5)					166
						69 (5) / 79 (4)	79 (6)					
Right Helix R217/220.82-SNAC15-H	2/8					46 (4)	57 (5)	57 (6)				174
												
Left Helix R217/220.81-SNAC15	2/8		68 (2)	68 (2)	68 (2)	68 (2)	68 (3)	68 (4)				172
												
Left Helix R217/220.81-SNAC15-K	2/8											173
						68 (4)	79 (5)					
R217/220.42-LNXO	2/8		21 (3)	41 (4)	40 (4)							184
			41 (3)	70 (3)	70 (5)	50 (6)						
R217/220.82-SNSP					43(3)	64(4)	86(5)					184
												

x(y)

Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y)

For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)



Slotting and contouring



Contouring only

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
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Spot facing
cutters

Inserts

Selection – Inch

Square shoulder
and slot milling
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cutters

Copy milling
cutters

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cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Right Helix R217/220.82-SNXO16	XO.X16 	■	■	■	□	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	-	■	-	■	■
	SN.U13 						0.047					
R217/220.42-LNXO	XO.X12 	■	■	■	□	■	.008/.016/.031/.047 .063/.079/.094/.122 .157/.197/.248/	-	■	-	■	■
	LN.U11 						0.031					
R217/220.82	SP.T12 	■	■	■	□	■	0.031/0.047		■			■
	SN.U13 						0.047					

1st choice



High speed machine with low
power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid
connection



Ramping ability



Possible choice



Not recommended



Plunging ability



Selection – Inch

Cutter	No. of cutting edges	Application	Cutter diameter (inch)/available depth of cut and number of teeth						See page
			1.25	1.50	2.00	2.50	3.00	4.00	
Right Helix R2177220.82-SNXO16	2/8				1.85 (3)	1.85 (4)	2.68 (5)		166
						2.75 (5) / 3.11 (4)	3.11 (6)		
R217/220.42-LNXO	2/8			1.61 (3)	1.96 (5)				184
			1.61 (3)	2.79 (3)	3.90 (5)				
R217/220.82-SNSP							2.94(5)		184
									

x(y)	Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)
x(y)	For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

	Slotting and contouring
	Contouring only

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

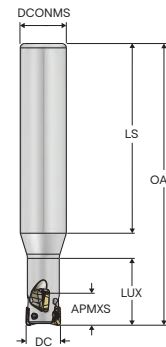


Turbo Helical

Seco's range of high-performance Turbo helical cutters offers high feeds, large depths of cut and high metal removal rates in contouring and profiling applications. These cutters provide a first choice for mixed production in all workpiece materials

- Insert size 06, cutter range 12-20 mm (0.75 inch)
- Insert size 10, cutter range 20-50 mm (1 inch)
- Insert size 12, cutter range 25-66 mm (1 - 2.5 inch)
- Insert size 16, cutter range 32-100 mm (1.5 - 3 inch)
- Insert size 18, cutter range 40-100 mm (1.5 - 4 inch)

Turbo 06 – R217.69-06 – Metric

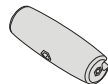


- For insert selection and cutting data recommendations, see page(s) 134-135
- For complete insert programme, see page(s) 917
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-1612.0-10-06.2N	02709311	Cylindrical	12,0	2	4	10,0	16,0	23,0	53,0	98,0	54400	0,2	XO.X0602
R217.69-1616.0-15-06.3N	02709314	Cylindrical	16,0	3	9	15,0	16,0	30,0	62,0	110,0	48000	0,2	XO.X0602
R217.69-1616.0-20-06.2N	02709316	Cylindrical	16,0	2	8	20,0	16,0	30,0	62,0	110,0	48000	0,2	XO.X0602
R217.69-2020.0-25-06.3N	02709317	Cylindrical	20,0	3	15	25,0	20,0	35,0	70,0	120,0	44000	0,4	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

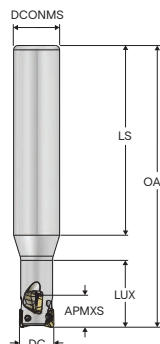
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 06 – R217.69-06 – Inch



- For insert selection and cutting data recommendations, see page(s) 134-135
- For complete insert programme, see page(s) 917
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-00.75-0-06M3N	02710568	Cylindrical	0.750	3	15	1.024	0.750	1.378	3.031	5.000	44000	0.660	XO.X0602

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

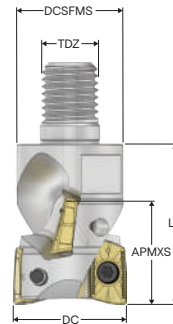
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217.69-06– Metric

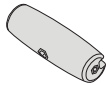


- For insert selection and cutting data recommendations, see page(s) 134-135
- For complete insert programme, see page(s) 917
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	TDZ	LF	OAL	RPMX	Weight	Insert
			mm			mm	mm		mm	mm		kg	
R217.69-0814.RE-15-06.2N	02709297	Combimaster	14,0	2	6	15,0	13,2	M8	25,0	42,75	51200	0,1	XO.X0602
R217.69-1020.RE-20-06.3AN	02709306	Combimaster	20,0	3	12	20,0	18,5	M10	35,0	53,75	44800	0,2	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.69-06 – Insert selection – mm/Inch

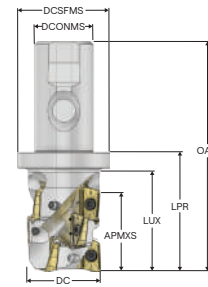
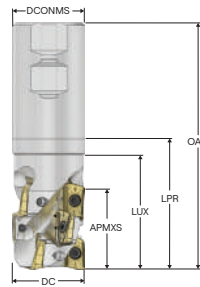
	SMG	f_z		
		100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX060208R-M05 F40M 0,055 0.0022	0,060 0.0024	0,095 0.0038
	P2	XOMX060208R-M05 F40M 0,060 0.0024	0,065 0.0026	0,095 0.0038
Helical milling cutters	P3	XOMX060208R-M05 F40M 0,055 0.0022	0,060 0.0024	0,090 0.0036
	P4	XOMX060208R-M05 F40M 0,055 0.0022	0,060 0.0024	0,090 0.0036
	P5	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,090 0.0036
	P6	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,085 0.0034
	P7	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,085 0.0034
	P8	XOMX060208R-M05 F40M 0,055 0.0022	0,060 0.0024	0,090 0.0036
	P11	XOMX060208R-M05 MP3000 0,050 0.0020	0,055 0.0022	0,085 0.0034
Face milling cutters	P12	XOMX060208R-M05 MP3000 0,036 0.0014	0,040 0.0016	0,060 0.0024
	M1	XOMX060208R-M05 MS2050 0,060 0.0024	0,065 0.0026	0,095 0.0038
Disc milling cutters	M2	XOMX060208R-M05 MS2050 0,050 0.0020	0,055 0.0022	0,090 0.0036
	M3	XOMX060208R-M05 MS2050 0,042 0.0017	0,046 0.0018	0,070 0.0028
	M4	XOMX060208R-M05 MS2050 0,038 0.0015	0,040 0.0016	0,060 0.0024
	M5	XOMX060208R-M05 MS2050 0,038 0.0015	0,040 0.0016	0,060 0.0024
	K1	XOMX060208R-M05 F40M 0,060 0.0024	0,065 0.0026	0,095 0.0038
High feed milling cutters	K2	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,090 0.0036
	K3	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,090 0.0036
	K4	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,090 0.0036
	K5	XOMX060208R-M05 F40M 0,048 0.0019	0,050 0.0020	0,080 0.0032
	K6	XOMX060208R-M05 F40M 0,050 0.0020	0,055 0.0022	0,090 0.0036
	K7	XOMX060208R-M05 F40M 0,048 0.0019	0,050 0.0020	0,080 0.0032
Copy milling cutters	N1	XOEX060204FR-E03 H15 0,060 0.0024	0,065 0.0026	0,10 0.0040
	N2	XOEX060204FR-E03 H15 0,060 0.0024	0,065 0.0026	0,10 0.0040
	N3	XOEX060204FR-E03 H15 0,060 0.0024	0,065 0.0026	0,10 0.0040
	N11	XOEX060204FR-E03 H15 0,060 0.0024	0,065 0.0026	0,10 0.0040
Plunge milling cutters	S1	XOMX060208R-M05 F40M 0,038 0.0015	0,040 0.0016	0,060 0.0024
	S2	XOMX060208R-M05 F40M 0,038 0.0015	0,040 0.0016	0,060 0.0024
	S3	XOMX060208R-M05 F40M 0,034 0.0013	0,038 0.0015	0,060 0.0024
	S11	XOMX060208R-M05 MS2050 0,042 0.0017	0,046 0.0018	0,070 0.0028
Chamfer milling cutters	S12	XOMX060208R-M05 MS2050 0,042 0.0017	0,046 0.0018	0,070 0.0028
	S13	XOMX060208R-M05 MS2050 0,038 0.0015	0,040 0.0016	0,060 0.0024
	H5	XOMX060208R-M05 MP3000 0,036 0.0014	0,040 0.0016	0,060 0.0024
	H8	XOMX060208R-M05 MP3000 0,028 0.0011	0,030 0.0012	0,046 0.0018
Spot facing cutters	H11	XOMX060208R-M05 MP3000 0,036 0.0014	0,040 0.0016	0,060 0.0024
	H12	XOMX060208R-M05 MP3000 0,028 0.0011	0,030 0.0012	0,046 0.0018

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.69-06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F15M			F30M			MP3000			MS2050			F40M			H15			MM4500			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	165	180	190	175	195	205	165	185	195	160	180	190	—	—	—	145	165	175	Square shoulder and slot milling cutters
	—	—	—	540	590	620	570	640	670	540	610	640	520	590	620	—	—	—	475	540	570	
P2	—	—	—	160	180	190	175	190	200	165	180	195	160	175	185	—	—	—	145	160	175	Helical milling cutters
	—	—	—	520	590	620	570	620	660	540	590	640	520	570	610	—	—	—	475	520	570	
P3	—	—	—	150	170	180	165	180	195	155	175	185	150	165	180	—	—	—	135	155	165	Helical milling cutters
	—	—	—	490	560	590	540	590	640	510	570	610	490	540	590	—	—	—	445	510	540	
P4	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155	Helical milling cutters
	—	—	—	475	520	560	510	570	610	—	—	—	460	520	560	—	—	—	410	475	510	
P5	—	—	—	140	160	170	155	170	180	—	—	—	140	155	165	—	—	—	125	140	155	Helical milling cutters
	—	—	—	460	520	560	510	560	590	—	—	—	460	510	540	—	—	—	410	460	510	
P6	—	—	—	150	165	180	160	180	190	—	—	—	145	165	175	—	—	—	130	150	160	Helical milling cutters
	—	—	—	490	540	590	520	590	620	—	—	—	475	540	570	—	—	—	425	490	520	
P7	—	—	—	145	165	175	155	175	185	—	—	—	145	160	170	—	—	—	130	145	155	Face milling cutters
	—	—	—	475	540	570	510	570	610	—	—	—	475	520	560	—	—	—	425	475	510	
P8	—	—	—	140	160	170	150	170	180	—	—	—	135	155	165	—	—	—	125	140	150	Face milling cutters
	—	—	—	460	520	560	490	560	590	—	—	—	445	510	540	—	—	—	410	460	490	
P11	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155	Face milling cutters
	—	—	—	475	520	560	510	570	610	—	—	—	460	520	560	—	—	—	410	475	510	
P12	—	—	—	115	130	140	125	145	155	—	—	—	110	130	140	—	—	—	95	115	125	Face milling cutters
	—	—	—	375	425	460	410	475	510	—	—	—	360	425	460	—	—	—	310	375	410	
M1	—	—	—	145	165	175	155	170	185	150	170	180	145	160	175	—	—	—	135	150	165	Disc milling cutters
	—	—	—	475	540	570	510	560	610	490	560	590	475	520	570	—	—	—	445	490	540	
M2	—	—	—	135	155	165	140	160	170	140	155	165	130	150	160	—	—	—	120	140	150	Disc milling cutters
	—	—	—	445	510	540	460	520	560	460	510	540	425	490	520	—	—	—	395	460	490	
M3	—	—	—	120	135	145	125	145	155	125	140	150	115	135	145	—	—	—	105	125	135	Disc milling cutters
	—	—	—	395	445	475	410	475	510	410	460	490	375	445	475	—	—	—	345	410	445	
M4	—	—	—	100	120	130	110	125	135	105	125	135	100	115	125	—	—	—	90	105	115	Disc milling cutters
	—	—	—	330	395	425	360	410	445	345	410	445	330	375	410	—	—	—	295	345	375	
M5	—	—	—	90	110	120	95	115	125	95	110	120	85	105	115	—	—	—	75	95	105	High feed milling cutters
	—	—	—	295	360	395	310	375	410	310	360	395	280	345	375	—	—	—	245	310	345	
K1	155	170	185	145	165	175	155	175	185	—	—	—	140	160	170	—	—	—	—	—	—	High feed milling cutters
	510	560	610	475	540	570	510	570	610	—	—	—	460	520	560	—	—	—	—	—	—	
K2	145	165	175	140	155	165	150	170	180	—	—	—	135	155	165	—	—	—	—	—	—	High feed milling cutters
	475	540	570	460	510	540	490	560	590	—	—	—	445	510	540	—	—	—	—	—	—	
K3	135	155	165	125	145	155	140	155	165	—	—	—	125	140	150	—	—	—	—	—	—	High feed milling cutters
	445	510	540	410	475	510	460	510	540	—	—	—	410	460	490	—	—	—	—	—	—	
K4	135	150	160	125	140	150	135	155	165	—	—	—	120	140	150	—	—	—	—	—	—	Copy milling cutters
	445	490	520	410	460	490	445	510	540	—	—	—	395	460	490	—	—	—	—	—	—	
K5	100	120	130	90	110	120	100	120	130	—	—	—	85	105	115	—	—	—	—	—	—	Copy milling cutters
	330	395	425	295	360	395	330	395	425	—	—	—	280	345	375	—	—	—	—	—	—	
K6	125	140	155	115	135	145	125	145	155	—	—	—	115	130	140	—	—	—	—	—	—	Copy milling cutters
	410	460	510	375	445	475	410	475	510	—	—	—	375	425	460	—	—	—	—	—	—	
K7	115	135	145	105	125	135	120	135	145	—	—	—	105	120	130	—	—	—	—	—	—	Copy milling cutters
	375	445	475	345	410	445	395	445	475	—	—	—	345	395	425	—	—	—	—	—	—	
N1	290	305	320	280	300	310	—	—	—	—	—	—	275	295	305	280	300	310	—	—	—	Plunge milling cutters
	950	1000	1050	920	980	1025	—	—	—	—	—	—	900	970	1000	920	980	1025	—	—	—	
N2	230	245	260	220	240	250	—	—	—	—	—	—	215	235	245	220	240	250	—	—	—	Plunge milling cutters
	750	800	850	720	790	820	—	—	—	—	—	—	710	770	800	720	790	820	—	—	—	
N3	200	220	230	190	210	220	—	—	—	—	—	—	190	210	220	190	210	220	—	—	—	Plunge milling cutters
	660	720	750	620	690	720	—	—	—	—	—	—	620	690	720	620	690	720	—	—	—	
N11	210	230	240	200	220	230	—	—	—	—	—	—	200	215	225	200	220	230	—	—	—	Plunge milling cutters
	690	750	790	660	720	750	—	—	—	—	—	—	660	710	740	660	720	750	—	—	—	
S1	—	—	—	—	—	—	—	—	—	55	70	80	50	65	75	—	—	—	28	37	43	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	180	230	260	165	215	245	—	—	—	90	120	140	
S2	—	—	—	—	—	—	—	—	—	45	60	70	41	55	60	—	—	—	23	30	35	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	150	195	230	135	180	195	—	—	—	75	100	115	
S3	—	—	—	—	—	—	—	—	—	39	50	60	36	46	55	—	—	—	20	26	30	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	130	165	195	120	150	180	—	—	—	65	85	100	
S11	—	—	—	—	—	—	—	—	—	75	95	105	70	90	100	—	—	—	40	50	60	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	245	310	345	230	295	330	—	—	—	130	165	195	
S12	—	—	—	—	—	—	—	—	—	55	70	80	49	65	75	—	—	—	37	48	55	Spot facing cutters
	—	—	—	—	—	—	—	—	—	180	230	260	160	215	245	—	—	—	120	155	180	
S13	—	—	—	—	—	—	—	—	—	31	41	47	28	37	43	—	—	—	21	28	32	Spot facing cutters
	—	—	—	—	—	—	—	—	—	100	135	155	90	120	140	—	—	—	70	90	105	
H5	—	—	—	45	60	70	50	65	75	—	—	—	—	—	—	—	—					

Turbo 10 – R217.69-10 – Metric

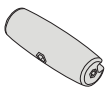


- For insert selection and cutting data recommendations, see page(s) 139-141
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm	mm		kg	
R217.69-2020.3-017-10.2A	02827022	Weldon	20,0	2	4	17,0	–	20,0	59,0	35,0	35,0	85,0	26300	0,3	XO.X10T3
R217.69-2020.3-025-10.1A	02827023	Weldon	20,0	1	3	25,0	–	20,0	64,0	45,0	40,0	95,0	26300	0,3	XO.X10T3
R217.69-2525.3-025-10.2A	02827024	Weldon	25,0	2	6	25,0	–	25,0	63,0	44,0	44,0	100,0	23500	0,4	XO.X10T3
R217.69-2025.3S-025-10.3A	02827025	Seco-Weldon	25,0	3	9	25,0	35,0	20,0	–	43,0	50,0	100,0	23500	0,3	XO.X10T3
R217.69-2025.3S-034-10.3A	02827026	Seco-Weldon	25,0	3	12	34,0	35,0	20,0	–	43,0	50,0	100,0	23500	0,3	XO.X10T3
R217.69-2525.3S-034-10.3A	02827027	Seco-Weldon	25,0	3	12	34,0	40,0	25,0	–	43,0	54,0	110,0	23500	0,5	XO.X10T3
R217.69-2525.3S-042-10.2A	02827028	Seco-Weldon	25,0	2	10	42,0	40,0	25,0	–	53,0	64,0	120,0	23500	0,5	XO.X10T3
R217.69-2532.3S-034-10.4A	02827029	Seco-Weldon	32,0	4	16	34,0	40,0	25,0	–	43,0	54,0	110,0	20800	0,5	XO.X10T3
R217.69-2532.3S-042-10.4A	02827030	Seco-Weldon	32,0	4	20	42,0	40,0	25,0	–	53,0	64,0	120,0	20800	0,6	XO.X10T3
R217.69-2532.3S-050-10.3A	02827031	Seco-Weldon	32,0	3	18	50,0	40,0	25,0	–	63,0	74,0	130,0	20800	0,6	XO.X10T3
R217.69-3240.3S-058-10.4A	02827032	Seco-Weldon	40,0	4	28	58,0	50,0	32,0	–	72,0	84,0	144,0	18600	1,0	XO.X10T3

Modification of the cutter body needed for radii > 2,0 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

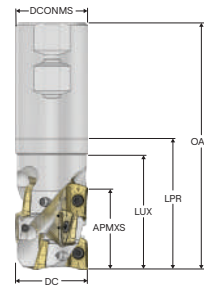
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T07P	C02506-T07P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217.69-10 – Inch

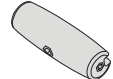


- For insert selection and cutting data recommendations, see page(s) 139–141
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.00-3-01.00-10-2A	02829883	Weldon	1.000	2	6	1.024	1.000	2.858	1.874	1.874	4.000	23500	0.880	XO.X10T3
R217.69-01.00-3-01.34-10-3A	02865301	Weldon	1.000	3	12	1.378	1.000	3.110	1.969	2.124	4.250	23500	0.880	XO.X10T3
R217.69-01.00-3-01.65-10-2A	02865304	Weldon	1.000	2	10	1.693	1.000	3.358	2.078	2.374	4.500	23500	0.880	XO.X10T3

Modification of the cutter body needed for radii > 0.079 in
 * No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T07P	C02506-T07P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

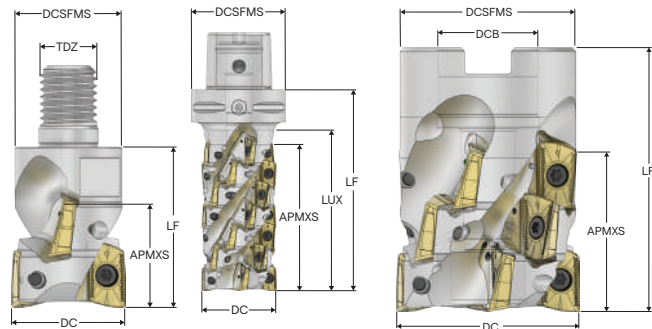
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 10 – R217/220.69-10 – Metric



—For insert selection and cutting data recommendations, see page(s) 139-141
 —For complete insert programme, see page(s) 918, 919
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C4-R217.69-044-058-10.5A	02827033	Seco-Capto	44,0	5	35	58,0	—	40,0	—	90,0	90,0	114,0	16600	0,8	XO.X10T3
R217.69-1020.RE-017-10.2A	02827017	Combimaster	20,0	2	4	17,0	—	18,5	M10	28,0	—	46,75	26300	0,1	XO.X10T3
R217.69-1225.RE-017-10.3A	02827018	Combimaster	25,0	3	6	17,0	—	23,0	M12	35,0	—	56,75	23500	0,2	XO.X10T3
R217.69-1225.RE-025-10.2A	02827019	Combimaster	25,0	2	6	25,0	—	23,0	M12	40,0	—	61,75	23500	0,2	XO.X10T3
R217.69-1632.RE-025-10.3A	02827020	Combimaster	32,0	3	9	25,0	—	30,0	M16	45,0	—	67,75	20800	0,3	XO.X10T3
R217.69-1632.RE-034-10.4A	02827021	Combimaster	32,0	4	16	34,0	—	30,0	M16	50,0	—	72,75	20800	0,3	XO.X10T3
R220.69-00040-034-10.4A	02865893	Arbor	40,0	4	16	34,0	16,0	35,0	—	55,0	—	—	18600	0,4	XO.X10T3
R220.69-00040-034-10.5A	02827038	Arbor	40,0	5	20	34,0	16,0	38,0	—	55,0	—	—	18600	0,4	XO.X10T3
R220.69-00050-042-10.5A	02865895	Arbor	50,0	5	25	42,0	27,0	48,0	—	65,0	—	—	16600	0,5	XO.X10T3
R220.69-00050-042-10.6A	02827039	Arbor	50,0	6	30	42,0	27,0	48,0	—	65,0	—	—	16600	0,5	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 2,0 mm
 * No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R217.69-../Cx-R217.69-..	—	H4B-T07P	C02506-T07P	DOUBLE-T
R220.69-00040	950D0850	H4B-T07P	C02506-T07P	DOUBLE-T
R220.69-00050	MC6S12X60	H4B-T07P	C02506-T07P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.69-10 – Insert selection – mm/Inch

SMG		f_z			
		100%	30%	10%	
P1	XOMX10T308TR-ME07 MP2501	0,080 0,0032	0,085 0,0034	0,13 0,0050	Square shoulder and slot milling cutters
P2	XOMX10T308TR-ME07 MP2501	0,080 0,0032	0,090 0,0036	0,13 0,0050	
P3	XOMX10T308TR-ME07 MP2501	0,075 0,0030	0,085 0,0034	0,13 0,0050	Helical milling cutters
P4	XOMX10T308TR-M09 MP2501	0,095 0,0038	0,10 0,0040	0,16 0,0065	
P5	XOMX10T308TR-M09 MP2501	0,095 0,0038	0,10 0,0040	0,16 0,0065	
P6	XOMX10T308TR-M09 MP2501	0,095 0,0038	0,10 0,0040	0,16 0,0065	
P7	XOMX10T308TR-M09 MP2501	0,095 0,0038	0,10 0,0040	0,16 0,0065	
P8	XOMX10T308TR-M09 MP2501	0,10 0,0040	0,11 0,0044	0,16 0,0065	
P11	XOMX10T308TR-M09 MP3501	0,095 0,0038	0,10 0,0040	0,16 0,0065	Face milling cutters
P12	XOMX10T308TR-M09 MS2500	0,065 0,0026	0,070 0,0028	0,11 0,0044	
M1	XOEX10T308R-M06 MS2050	0,070 0,0028	0,075 0,0030	0,12 0,0048	Disc milling cutters
M2	XOEX10T308R-M06 MS2050	0,065 0,0026	0,070 0,0028	0,10 0,0040	
M3	XOEX10T308R-M06 MS2050	0,050 0,0020	0,055 0,0022	0,085 0,0034	
M4	XOMX10T308TR-ME07 MS2050	0,050 0,0020	0,055 0,0022	0,085 0,0034	
M5	XOMX10T304TR-ME07 MS2050	0,050 0,0020	0,055 0,0022	0,085 0,0034	
K1	XOMX10T308TR-M09 MK2050	0,10 0,0040	0,11 0,0044	0,17 0,0065	High feed milling cutters
K2	XOMX10T308TR-M09 MK2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	
K3	XOMX10T308TR-M09 MK2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	
K4	XOMX10T308TR-M09 MK2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	
K5	XOMX10T308TR-M09 MK2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	
K6	XOMX10T308TR-M09 MK2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	Copy milling cutters
K7	XOMX10T308TR-M09 MK2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	
N1	XOEX10T308FR-E05 H15	0,075 0,0030	0,080 0,0032	0,12 0,0048	Plunge milling cutters
N2	XOEX10T308FR-E05 H15	0,075 0,0030	0,080 0,0032	0,12 0,0048	
N3	XOEX10T308FR-E05 H15	0,075 0,0030	0,080 0,0032	0,12 0,0048	Chamfer milling cutters
N11	XOEX10T308FR-E05 H15	0,075 0,0030	0,080 0,0032	0,12 0,0048	
S1	XOMX10T308TR-ME07 F40M	0,050 0,0020	0,055 0,0022	0,085 0,0034	Spot facing cutters
S2	XOMX10T308TR-ME07 F40M	0,050 0,0020	0,055 0,0022	0,085 0,0034	
S3	XOMX10T308TR-ME07 F40M	0,048 0,0019	0,050 0,0020	0,080 0,0032	Inserts
S11	XOEX10T308R-M06 MS2050	0,050 0,0020	0,055 0,0022	0,085 0,0034	
S12	XOEX10T308R-M06 MS2050	0,050 0,0020	0,055 0,0022	0,085 0,0034	
S13	XOEX10T308R-M06 MS2050	0,044 0,0017	0,048 0,0019	0,075 0,0030	
H5	XOMX10T308TR-M09 MP3000	0,065 0,0026	0,070 0,0028	0,11 0,0044	
H8	XOMX10T308TR-M09 MP3000	0,048 0,0019	0,055 0,0022	0,080 0,0032	
H11	XOMX10T308TR-M09 MP3000	0,065 0,0026	0,070 0,0028	0,11 0,0044	
H12	XOMX10T308TR-M09 MS2500	0,048 0,0019	0,055 0,0022	0,080 0,0032	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

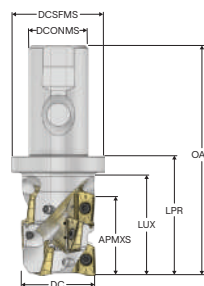
R217/220.69-10 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MP3000			MS2050			F40M			H15		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	145 475	160 520	170 560	145 475	160 520	170 560	145 475	160 520	170 560	140 460	155 510	165 540	— —	— —	— —
	P2	145 475	160 520	170 560	140 460	160 520	170 560	145 475	160 520	170 560	135 445	150 490	165 540	— —	— —	— —
Helical milling cutters	P3	135 445	150 490	160 520	135 445	150 490	160 520	135 445	150 490	160 520	130 425	145 475	155 510	— —	— —	— —
	P4	130 425	145 475	155 510	125 410	145 475	150 490	130 425	145 475	155 510	120 395	135 445	145 475	— —	— —	— —
	P5	125 410	145 475	150 490	125 410	140 460	150 490	125 410	140 460	150 490	115 375	135 445	145 475	— —	— —	— —
	P6	130 425	150 490	160 520	130 425	145 475	155 510	135 445	150 490	160 520	125 410	140 460	150 490	— —	— —	— —
Face milling cutters	P7	130 425	145 475	155 510	125 410	145 475	155 510	130 425	145 475	155 510	120 395	140 460	150 490	— —	— —	— —
	P8	125 410	140 460	150 490	120 395	140 460	150 490	125 410	140 460	150 490	115 375	135 445	145 475	— —	— —	— —
	P11	125 410	145 475	155 510	125 410	140 460	150 490	125 410	145 475	155 510	120 395	135 445	145 475	— —	— —	— —
	P12	100 330	120 395	125 410	100 330	115 375	125 410	100 330	115 375	125 410	95 310	110 360	120 395	— —	— —	— —
Disc milling cutters	M1	— —	— —	— —	125 410	140 460	150 490	130 425	145 475	155 510	125 410	140 460	150 490	— —	— —	— —
	M2	— —	— —	— —	110 360	130 425	140 460	120 395	135 445	145 475	110 360	130 425	140 460	— —	— —	— —
	M3	— —	— —	— —	100 330	115 375	125 410	105 345	120 395	130 425	100 330	115 375	125 410	— —	— —	— —
	M4	— —	— —	— —	85 280	100 330	110 360	90 295	105 345	115 375	85 280	100 330	110 360	— —	— —	— —
High feed milling cutters	M5	— —	— —	— —	75 245	90 295	100 330	80 260	95 310	105 345	70 230	90 295	100 330	— —	— —	— —
	K1	150 490	165 540	175 570	130 425	145 475	155 510	— —	— —	— —	120 395	140 460	150 490	— —	— —	— —
Copy milling cutters	K2	140 460	160 520	165 540	120 395	135 445	145 475	— —	— —	— —	115 375	130 425	140 460	— —	— —	— —
	K3	130 425	150 490	155 510	110 360	125 410	135 445	— —	— —	— —	105 345	120 395	130 425	— —	— —	— —
	K4	130 425	145 475	155 510	105 345	125 410	135 445	— —	— —	— —	100 330	120 395	130 425	— —	— —	— —
	K5	100 330	115 375	125 410	80 260	95 310	105 345	— —	— —	— —	70 230	90 295	100 330	— —	— —	— —
Plunge milling cutters	K6	120 395	140 460	145 475	100 330	115 375	125 410	— —	— —	— —	95 310	110 360	120 395	— —	— —	— —
	K7	115 375	130 425	140 460	95 310	110 360	120 395	— —	— —	— —	85 280	105 345	115 375	— —	— —	— —
	N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	245 800	260 850	270 890
	N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	190 620	210 690	220 720
Chamfer milling cutters	N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	165 540	185 610	195 640
	N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 570	190 620	200 660
	S1	— —	— —	— —	42 140	55 180	65 215	47 155	60 195	70 230	41 135	55 180	65 215	— —	— —	— —
	S2	— —	— —	— —	34 110	45 150	50 165	38 125	49 160	55 180	33 110	43 140	50 165	— —	— —	— —
Spot facing cutters	S3	— —	— —	— —	30 100	39 130	46 150	33 110	43 140	49 160	29 95	38 125	44 145	— —	— —	— —
	S11	— —	— —	— —	— —	— —	— —	65 215	80 260	90 295	55 180	75 245	85 280	— —	— —	— —
	S12	— —	— —	— —	— —	— —	— —	46 150	60 195	70 230	40 130	50 165	60 195	— —	— —	— —
	S13	— —	— —	— —	— —	— —	— —	26 85	34 110	40 130	23 75	30 100	35 115	— —	— —	— —
Inserts	H5	— —	— —	— —	36 120	47 155	55 180	— —	— —	— —	35 115	45 150	55 180	— —	— —	— —
	H8	— —	— —	— —	38 125	49 160	60 195	— —	— —	— —	36 120	48 155	55 180	— —	— —	— —
	H11	— —	— —	— —	45 150	60 195	70 230	— —	— —	— —	44 145	60 195	65 215	— —	— —	— —
	H12	— —	— —	— —	70 230	85 280	100 330	— —	— —	— —	65 215	80 260	90 295	— —	— —	— —

R217/220.69-10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	170	180	185	165	180	185	170	185	190	160	175	180	140	155	160	Square shoulder and slot milling cutters
	—	—	—	560	590	610	540	590	610	560	610	620	520	570	590	460	510	520	
P2	—	—	—	165	180	185	165	175	185	170	180	190	160	170	180	140	150	160	Helical milling cutters
	—	—	—	540	590	610	540	570	610	560	590	620	520	560	590	460	490	520	
P3	—	—	—	160	170	175	155	170	175	160	175	180	150	160	170	130	140	150	Helical milling cutters
	—	—	—	520	560	570	510	560	570	520	570	590	490	520	560	425	460	490	
P4	—	—	—	150	165	170	150	160	170	155	165	175	145	155	160	125	140	145	Helical milling cutters
	—	—	—	490	540	560	490	520	560	510	540	570	475	510	520	410	460	475	
P5	—	—	—	150	160	165	145	160	165	150	165	170	140	155	160	120	130	140	Helical milling cutters
	—	—	—	490	520	540	475	520	540	490	540	560	460	510	520	395	425	460	
P6	—	—	—	155	165	175	155	165	170	160	170	175	145	160	165	125	140	145	Helical milling cutters
	—	—	—	510	540	570	510	540	560	520	560	570	475	520	540	410	460	475	
P7	—	—	—	150	165	170	150	160	170	155	165	175	145	155	165	125	135	140	Face milling cutters
	—	—	—	490	540	560	490	520	560	510	540	570	475	510	540	410	445	460	
P8	—	—	—	145	160	165	145	160	165	150	165	170	140	150	160	120	130	140	Face milling cutters
	—	—	—	475	520	540	475	520	540	490	540	560	460	490	520	395	425	460	
P11	—	—	—	150	160	170	150	160	165	155	165	170	140	155	160	120	135	140	Face milling cutters
	—	—	—	490	520	560	490	520	540	510	540	560	460	510	520	395	445	460	
P12	—	—	—	120	130	140	120	130	140	125	135	140	115	125	130	90	100	105	Face milling cutters
	—	—	—	395	425	460	395	425	460	410	445	460	375	410	425	295	330	345	
M1	—	—	—	—	—	—	125	140	150	140	155	165	120	135	145	115	130	140	Disc milling cutters
	—	—	—	—	—	—	410	460	490	460	510	540	395	445	475	375	425	460	
M2	—	—	—	—	—	—	115	130	140	125	145	155	110	125	135	100	120	130	Disc milling cutters
	—	—	—	—	—	—	375	425	460	410	475	510	360	410	445	330	395	425	
M3	—	—	—	—	—	—	100	115	125	115	130	140	95	115	120	90	105	115	Disc milling cutters
	—	—	—	—	—	—	330	375	410	375	425	460	310	375	395	295	345	375	
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	100	105	75	90	100	Disc milling cutters
	—	—	—	—	—	—	280	330	360	330	375	410	260	330	345	245	295	330	
M5	—	—	—	—	—	—	75	90	100	85	105	115	70	85	95	65	80	90	Disc milling cutters
	—	—	—	—	—	—	245	295	330	280	345	375	230	280	310	215	260	295	
K1	155	190	210	165	180	185	165	180	185	145	160	170	160	170	180	—	—	—	High feed milling cutters
	510	620	690	540	590	610	540	590	610	475	520	560	520	560	590	—	—	—	
K2	150	180	200	160	170	180	160	170	175	135	155	165	150	165	170	—	—	—	High feed milling cutters
	490	590	660	520	560	590	520	560	570	445	510	540	490	540	560	—	—	—	
K3	135	160	170	150	160	170	150	160	165	125	145	155	140	155	160	—	—	—	High feed milling cutters
	445	520	560	490	520	560	490	520	540	410	475	510	460	510	520	—	—	—	
K4	135	155	170	145	160	165	145	160	165	125	140	150	140	150	160	—	—	—	Copy milling cutters
	445	510	560	475	520	540	475	520	540	410	460	490	460	490	520	—	—	—	
K5	105	125	140	115	130	135	115	125	135	95	110	120	110	120	130	—	—	—	Copy milling cutters
	345	410	460	375	425	445	375	410	445	310	360	395	360	395	425	—	—	—	
K6	125	150	160	140	150	155	140	150	155	115	135	145	130	145	150	—	—	—	Copy milling cutters
	410	490	520	460	490	510	460	490	510	375	445	475	425	475	490	—	—	—	
K7	120	140	155	130	145	150	130	140	150	110	125	135	125	135	145	—	—	—	Copy milling cutters
	395	460	510	425	475	490	425	460	490	360	410	445	410	445	475	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	55	70	80	40	50	60	23	30	36	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	180	230	260	130	165	195	75	100	120	
S2	—	—	—	—	—	—	—	—	—	45	60	70	32	42	49	19	25	29	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	150	195	230	105	140	160	60	80	95	
S3	—	—	—	—	—	—	—	—	—	39	50	60	28	37	43	16	22	25	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	130	165	195	90	120	140	50	70	80	
S11	—	—	—	—	—	—	—	—	—	75	90	100	55	70	80	32	42	50	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	245	295	330	180	230	260	105	140	165	
S12	—	—	—	—	—	—	—	—	—	55	70	80	38	50	60	30	39	46	Spot facing cutters
	—	—	—	—	—	—	—	—	—	180	230	260	125	165	195	100	130	150	
S13	—	—	—	—	—	—	—	—	—	31	41	48	22	29	34	17	23	27	Spot facing cutters
	—	—	—	—	—	—	—	—	—	100	135	155	70	95	110	55	75	90	
H5	—	—	—	45	60	70	—	—	—	45	60	70	35	46	55	—	—	—	Spot facing cutters
	—	—	—	150	195	230	—	—	—	150	195	230	115	150	180	—	—	—	
H8	—	—	—	48	65	75	—	—	—	47	60	70	37	48	55	—	—	—	Spot facing cutters
	—	—	—	155	215	245	—	—	—	155	195	230	120	155	180	—	—	—	
H11	—	—	—	60	75	85	—	—	—	55	75	85	44	60	70	—	—	—	Inserts
	—	—	—	195	245	280	—	—	—	180	245	280	145	195	230	—	—	—	
H12	—	—	—	80	100	110	—	—	—	85	105	110	65	80	90	—	—	—	Inserts
	—	—	—	260	330	360	—	—	—	280	345	360	215	260	295	—	—	—	

Turbo 12 – R217.69-12 – Metric

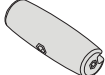


- For insert selection and cutting data recommendations, see page(s) 147-149
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-2025.3S-022-12.2AN	02709523	Seco-Weldon	25,0	2	4	22,0	35,0	20,0	38,0	50,0	99,5	20800	0,4	XO.X1204
R217.69-2525.3S-033-12.2AN	02709526	Seco-Weldon	25,0	2	6	33,0	40,0	25,0	49,0	60,0	115,5	20800	0,5	XO.X1204
R217.69-2532.3S-033-12.2AN	02709528	Seco-Weldon	32,0	2	6	33,0	40,0	25,0	47,0	60,0	115,5	18400	0,6	XO.X1204
R217.69-2532.3S-033-12.3AN	02709530	Seco-Weldon	32,0	3	9	33,0	40,0	25,0	48,0	60,0	115,5	18400	0,5	XO.X1204
R217.69-2532.3S-044-12.3AN	02629796	Seco-Weldon	32,0	3	12	44,0	40,0	25,0	58,0	70,0	125,5	18400	0,6	XO.X1204
R217.69-3240.3S-033-12.3AN	02709540	Seco-Weldon	40,0	3	9	33,0	50,0	32,0	49,0	60,0	119,5	16400	0,8	XO.X1204
R217.69-3240.3S-044-12.4AN	02709541	Seco-Weldon	40,0	4	16	44,0	50,0	32,0	57,0	70,0	129,5	16400	0,8	XO.X1204
R217.69-3240.3S-055-12.3AN	02709543	Seco-Weldon	40,0	3	15	55,0	50,0	32,0	69,0	80,0	139,5	16400	1,0	XO.X1204
R217.69-3250.3S-055-12.4AN	02709546	Seco-Weldon	50,0	4	20	55,0	50,0	32,0	67,0	80,0	139,5	14800	1,2	XO.X1204

Modification of the cutter body needed for radii > 3,1 mm
 * No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

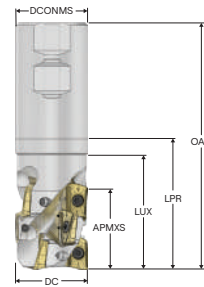
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-...Ø25/R217.69-HSK	H4B-T10P	C03507-T10P	DOUBLE-T
R217.69-...Ø32	H4B-T10P	C03508-T10P	DOUBLE-T
R217.69-...Ø40-50	H4B-T10P	C03509-T10P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-...	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217.69-12 – Inch

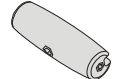


- For insert selection and cutting data recommendations, see page(s) 147-149
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.25-3-12M3AN	02710789	Weldon	1.250	3	12	1.732	1.250	3.860	2.695	2.638	5.000	18400	1.540	XO.X1204
R217.69-01.50-3-12M4AN	02710799	Weldon	1.500	4	20	2.165	1.500	4.563	3.010	3.061	5.750	16400	2.430	XO.X1204
R217.69-01.50-3-12L3AN	02710795	Weldon	1.500	3	18	2.559	1.500	4.811	3.262	3.636	5.998	16400	2.430	XO.X1204

Modification of the cutter body needed for radii > 0.122 in
 * No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-01.00-01.25	H4B-T10P	C03507-T10P	DOUBLE-T
R217.69-01.50-02.00	H4B-T10P	C03509-T10P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

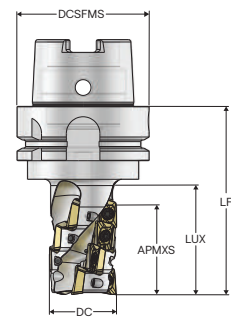
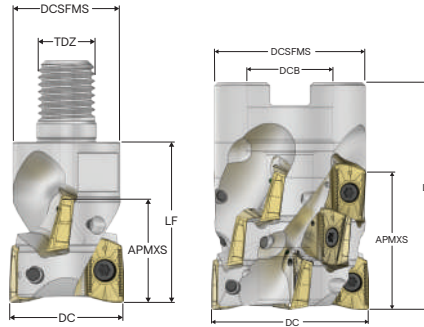
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 12 – R217/220.69-12 – Metric



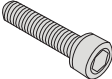
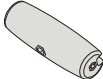
—For insert selection and cutting data recommendations, see page(s) 147-149
 —For complete insert programme, see page(s) 920, 921
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
R217.69-HSK63A.32-044-12.3AN	02717942	HSK	32,0	3	12	44,0	—	63,0	—	90,0	52,0	122,0	18400	0,1	XO.X1204
R217.69-1225.RE-022-12.2AN	02709506	Combimaster	25,0	2	4	22,8	—	23,0	M12	35,0	—	56,75	20800	0,2	XO.X1204
R217.69-1632.RE-022-12.3AN	02709508	Combimaster	32,0	3	6	22,5	—	30,0	M16	40,0	—	62,75	18400	0,3	XO.X1204
R217.69-2040.RE-033-12.3AN	02972763	Combimaster	40,0	3	9	33,0	—	36,5	M20	50,0	—	77,0	16400	0,4	XO.X1204
R217.69-2040.RE-044-12.4AN	02972764	Combimaster	40,0	4	16	44,0	—	36,5	M20	61,0	—	88,0	16400	0,5	XO.X1204
R220.69-00050-033-12.4AN	02709941	Arbor	50,0	4	12	33,0	27,0	48,0	—	55,0	—	—	14800	0,5	XO.X1204
R220.69-00050-044-12.4AN	02709947	Arbor	50,0	4	16	44,0	27,0	48,0	—	65,0	—	—	14800	0,6	XO.X1204
R220.69-00050-044-12.5AN	02709951	Arbor	50,0	5	20	44,0	27,0	48,0	—	65,0	—	—	14800	0,6	XO.X1204
R220.69-00063-033-12.5AN	02709956	Arbor	63,0	5	15	33,0	27,0	62,0	—	63,0	—	—	13200	1,1	XO.X1204
R220.69-00063-055-12.5AN	02709965	Arbor	63,0	5	25	55,0	27,0	60,0	—	75,0	—	—	13200	1,1	XO.X1204
R220.69-00063-077-12.4SAN	02717797	Arbor	63,0	4	28	77,0	27,0	60,0	—	100,0	—	—	13200	1,5	XO.X1204

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 3,1 mm
 * No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

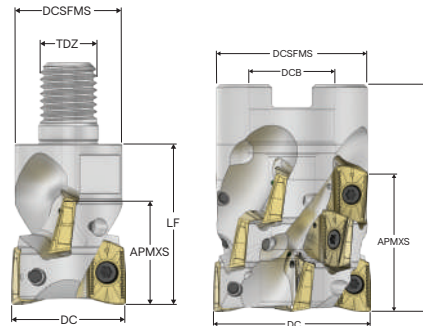
For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
R217.69-.../C5-R217.69-Ø32	—	—	H4B-T10P	C03508-T10P	DOUBLE-T	—
R217.69-.../Cx-R217.69-Ø40	—	—	H4B-T10P	C03509-T10P	DOUBLE-T	—
R217.69-...Ø25	—	—	H4B-T10P	C03507-T10P	DOUBLE-T	—
R217.69-...Ø25/R217.69-HSK	—	—	H4B-T10P	C03507-T10P	DOUBLE-T	—
R220.69-00063	MP6S12X80	R220.69-00063044-12.4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE063033-12.4AN
R220.69-Ø50/Ø63-033-044	MC6S12X50	—	H4B-T10P	C03509-T10P	DOUBLE-T	—
R220.69-Ø50/Ø63-044-055	MC6S12X60	—	H4B-T10P	C03509-T10P	DOUBLE-T	—
R220.69-Ø50-033	MC6S12X40	—	H4B-T10P	C03509-T10P	DOUBLE-T	—

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R217/220.69-...	—	3.0NM	T00-10P30
R220.69-...SAN	LUBRICATION_SET_29	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Inch



- For insert selection and cutting data recommendations, see page(s) 147-149
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC inch	ZEFP	ZNP	APMXS inch	DCB inch	DCSFMS inch	TDZ	LF inch	OAL inch	RPMX	Weight lbs	Insert
R217.69-01.50-20RE-01.73-12-4A	03003976	Combimaster	1.500	4	16	1.732	—	1.437	M20	2.402	3.465	16400	0.880	XO.X1204
R220.69-02.00-12S4AN	02710915	Arbor	2.000	4	16	1.740	1.000	1.929	—	2.750	—	14800	1.540	XO.X1204
R220.69-02.00-12M5AN	02710895	Arbor	2.000	5	25	2.146	1.000	2.047	—	3.250	—	14800	1.760	XO.X1204
R220.69-02.50-12L4SAN	02722266	Arbor	2.500	4	28	2.953	1.000	2.441	—	4.020	—	13200	4.630	XO.X1204

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 0.122 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
R217.69-01.50	—	—	H4B-T10P	C03509-T10P	DOUBLE-T	—
R220.69-..L4	UP6S1/2UNFX3-1/4	R220.69-02.50-12L4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-02.50-RE-12.4AN
R220.69-..M5	UC6S1/2UNFX2-1/2	—	H4B-T10P	C03509-T10P	DOUBLE-T	—
R220.69-..S4	UC6S1/2UNFX3	—	H4B-T10P	C03509-T10P	DOUBLE-T	—

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R220.69-..	—	3.0NM	T00-10P30
R220.69-..L4	LUBRICATION_SET_29	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

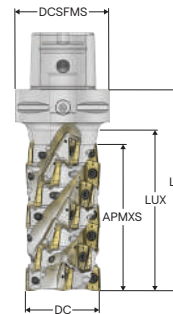
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 12 – R217/220.69-12 – Metric

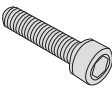
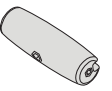


- For insert selection and cutting data recommendations, see page(s) 147-149
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C5-R217.69-032-044-12.3AN	02717844	Seco-Capto	32,0	3	12	44,0	50,0	79,0	56,0	109,0	18400	0,7	XO.X1204
C5-R217.69-032-055-12.3AN	02829929	Seco-Capto	32,0	3	15	55,0	50,0	90,0	67,0	120,0	18400	0,8	XO.X1204
C6-R217.69-040-055-12.3AN	02717917	Seco-Capto	40,0	3	15	55,0	63,0	92,0	67,0	130,0	16400	1,1	XO.X1204
C6-R217.69-040-066-12.3AN	02829930	Seco-Capto	40,0	3	18	65,5	63,0	103,0	79,9	141,0	16400	1,2	XO.X1204
C4-R217.69-044-033-12.3AN	02717838	Seco-Capto	44,0	3	9	33,0	40,0	68,0	48,0	92,0	15500	0,7	XO.X1204
C6-R217.69-050-055-12.4AN	02717918	Seco-Capto	50,0	4	20	55,0	63,0	92,0	67,0	130,0	14800	1,4	XO.X1204
C6-R217.69-050-066-12.4SAN	02717991	Seco-Capto	50,0	4	24	66,0	63,0	101,0	76,0	139,0	14800	1,4	XO.X1204
C6-R217.69-050-086-12.5SAN	02829935	Seco-Capto	50,0	5	40	86,0	63,0	119,0	97,0	157,0	14800	1,7	XO.X1204
C6-R217.69-050-106-12.5SAN	02829936	Seco-Capto	50,0	5	50	106,0	63,0	140,0	118,0	178,0	12000	1,7	XO.X1204
C5-R217.69-054-044-12.4AN	02717852	Seco-Capto	54,0	4	16	44,0	50,0	79,0	59,0	109,0	13900	1,2	XO.X1204
C6-R217.69-063-107-12.5SAN	02829940	Seco-Capto	63,0	5	50	107,0	63,0	140,0	118,0	178,0	12000	2,4	XO.X1204
C6-R217.69-066-044-12.5AN	02717924	Seco-Capto	66,0	5	20	44,0	63,0	81,0	59,0	119,0	12000	1,9	XO.X1204

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
C6-R217.69-050-066-4SAN	MC6S10X40	C6-R217.69-050-044-12.4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.4AN
C6-R217.69-050-086-5SAN	MC6S10X40	C6-R217.69-050-064-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.5AN
C6-R217.69-050-106-5SAN	MC6S10X40	C6-R217.69-050-084-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.5AN
C6-R217.69-063-5SAN	MC6S10X40	C6-R217.69-063-074-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE063033-12.5AN
Cx-R217.69-Ø32	–	–	H4B-T10P	C03508-T10P	DOUBLE-T	–
Cx-R217.69-Ø40-66	–	–	H4B-T10P	C03509-T10P	DOUBLE-T	–

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
C6-R217.69-050-SAN	LUBRICATION_SET_19	3.0NM	T00-10P30
C6-R217.69-063-SAN	–	3.0NM	T00-10P30
Cx-R217.69-032-066	–	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.69-12 – Insert selection – mm/Inch

SMG		f_z			
		100%	30%	10%	
P1	XOMX120408TR-ME08 MP2501	0,095 0,0038	0,11 0,0044	0,16 0,0065	Square shoulder and slot milling cutters
P2	XOMX120408TR-ME08 MP2501	0,10 0,0040	0,11 0,0044	0,17 0,0065	
P3	XOMX120408TR-ME08 MP2501	0,095 0,0038	0,10 0,0040	0,16 0,0065	Helical milling cutters
P4	XOMX120408TR-M12 MP2501	0,14 0,0055	0,15 0,0060	0,22 0,0095	
P5	XOMX120408TR-M12 MP2501	0,13 0,0050	0,15 0,0060	0,22 0,0085	
P6	XOMX120408TR-M12 MP2501	0,13 0,0050	0,15 0,0060	0,22 0,0085	
P7	XOMX120408TR-M12 MP2501	0,13 0,0050	0,15 0,0060	0,22 0,0085	Face milling cutters
P8	XOMX120408TR-M12 MP2501	0,14 0,0055	0,15 0,0060	0,24 0,0095	
P11	XOMX120408TR-M12 MP3501	0,13 0,0050	0,15 0,0060	0,22 0,0085	
P12	XOMX120408TR-M12 MP3501	0,090 0,0036	0,10 0,0040	0,15 0,0060	
M1	XOEX120408R-M07 MS2050	0,11 0,0044	0,12 0,0048	0,19 0,0075	Disc milling cutters
M2	XOEX120408R-M07 MS2050	0,10 0,0040	0,11 0,0044	0,17 0,0065	
M3	XOEX120408R-M07 MS2050	0,080 0,0032	0,090 0,0036	0,14 0,0055	
M4	XOMX120408TR-ME08 MS2050	0,065 0,0026	0,070 0,0028	0,11 0,0044	
M5	XOMX120408TR-ME08 MS2050	0,065 0,0026	0,070 0,0028	0,11 0,0044	High feed milling cutters
K1	XOMX120408TR-MD13 MK2050	0,16 0,0065	0,18 0,0070	0,26 0,010	
K2	XOMX120408TR-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K3	XOMX120408TR-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K4	XOMX120408TR-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	Copy milling cutters
K5	XOMX120408TR-MD13 MK2050	0,13 0,0050	0,14 0,0055	0,22 0,0085	
K6	XOMX120408TR-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K7	XOMX120408TR-MD13 MK2050	0,13 0,0050	0,14 0,0055	0,22 0,0085	
N1	XOEX120408FR-E06 H15	0,11 0,0044	0,12 0,0048	0,18 0,0070	Plunge milling cutters
N2	XOEX120408FR-E06 H15	0,11 0,0044	0,12 0,0048	0,18 0,0070	
N3	XOEX120408FR-E06 H15	0,11 0,0044	0,12 0,0048	0,18 0,0070	
N11	XOEX120408FR-E06 H15	0,11 0,0044	0,12 0,0048	0,18 0,0070	
S1	XOEX120408R-M07 F40M	0,070 0,0028	0,075 0,0030	0,12 0,0048	Chamfer milling cutters
S2	XOEX120408R-M07 F40M	0,070 0,0028	0,075 0,0030	0,12 0,0048	
S3	XOEX120408R-M07 F40M	0,065 0,0026	0,070 0,0028	0,11 0,0044	
S11	XOEX120408R-M07 MS2050	0,080 0,0032	0,090 0,0036	0,14 0,0055	
S12	XOEX120408R-M07 MS2050	0,080 0,0032	0,090 0,0036	0,14 0,0055	Spot facing cutters
S13	XOEX120408R-M07 MS2050	0,070 0,0028	0,075 0,0030	0,12 0,0048	
H5	XOMX120408TR-MD13 MP3000	0,10 0,0040	0,11 0,0044	0,17 0,0065	
H8	XOMX120408TR-MD13 MP3000	0,075 0,0030	0,085 0,0034	0,13 0,0050	Inserts
H11	XOMX120412TR-MD13 MP3000	0,10 0,0040	0,11 0,0044	0,17 0,0065	
H12	XOMX120408TR-MD13 MP3000	0,075 0,0030	0,085 0,0034	0,13 0,0050	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

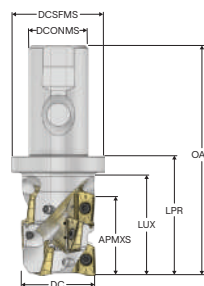
R217/220.69-12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	150 490	170 560	180 590	145 475	160 520	170 560	150 490	165 540	170 560	135 445	145 475	155 510	170 560	180 590	190 620	150 490	165 540	175 570	—	—	—
		150 490	165 540	175 570	140 460	160 520	170 560	145 475	160 520	170 560	130 425	145 475	155 510	170 560	180 590	185 610	150 490	165 540	175 570	—	—	—
Helical milling cutters	P2	140 460	160 520	170 560	135 445	150 490	160 520	140 460	150 490	160 520	125 410	135 445	145 475	160 520	170 560	180 590	140 460	155 510	165 540	—	—	—
	P3	135 445	150 490	160 520	125 410	145 475	155 510	130 425	145 475	155 510	120 395	130 425	140 460	150 490	165 540	170 560	130 460	150 510	160 520	—	—	—
	P4	130 425	150 490	160 520	125 410	140 460	150 490	130 425	145 475	150 490	115 375	125 410	135 445	150 490	160 540	165 560	130 425	145 475	155 510	—	—	—
	P5	140 460	155 510	165 540	135 445	150 490	160 520	135 445	150 490	155 510	125 410	135 445	140 460	155 510	170 560	175 570	135 445	155 510	165 540	—	—	—
Face milling cutters	P6	135 445	150 490	160 520	125 410	145 475	155 510	130 425	145 475	155 510	120 395	130 425	140 460	155 510	165 540	170 560	135 445	150 510	160 520	—	—	—
	P7	130 425	150 490	160 520	125 410	140 460	150 490	130 425	145 475	150 490	115 375	125 410	135 445	150 490	160 520	165 540	130 425	145 475	155 510	—	—	—
	P8	135 445	150 490	160 520	125 410	145 475	155 510	130 425	145 475	155 510	120 395	130 425	140 460	155 510	165 540	170 560	135 445	150 510	160 520	—	—	—
	P11	110 360	125 410	135 445	105 345	120 395	130 425	105 345	120 395	125 410	95 310	105 345	110 360	115 375	135 445	145 475	105 345	120 395	130 425	—	—	—
Disc milling cutters	M1	—	—	—	120 395	135 445	145 475	125 410	145 475	155 510	110 360	125 410	140 460	155 510	180 590	190 620	130 425	145 475	155 510	—	—	—
	M2	—	—	—	110 360	125 410	135 445	115 375	130 425	140 460	100 330	115 375	125 410	140 460	165 540	180 590	115 375	135 445	145 475	—	—	—
	M3	—	—	—	95 310	110 360	125 410	105 345	120 395	130 425	85 280	105 345	115 375	125 410	150 490	160 520	105 345	120 395	130 425	—	—	—
	M4	—	—	—	80 260	100 330	105 345	90 295	105 345	115 375	70 230	90 295	95 310	110 360	130 425	140 460	90 295	105 345	115 375	—	—	—
High feed milling cutters	M5	—	—	—	70 230	85 280	95 310	80 260	95 310	100 330	60 195	75 245	85 280	100 330	120 395	130 425	75 245	95 310	105 345	—	—	—
	K1	155 510	170 560	180 590	125 410	140 460	150 490	—	—	—	110 360	125 410	135 445	—	—	—	—	—	—	—	—	—
	K2	145 475	165 540	175 570	115 375	135 445	145 475	—	—	—	105 345	120 395	130 425	—	—	—	—	—	—	—	—	—
	K3	135 445	155 510	165 540	105 345	125 410	135 445	—	—	—	95 310	110 360	120 395	—	—	—	—	—	—	—	—	—
Copy milling cutters	K4	135 445	150 490	160 520	100 330	120 395	130 425	—	—	—	90 295	105 345	115 375	—	—	—	—	—	—	—	—	—
	K5	105 345	120 395	130 425	75 245	90 295	100 330	—	—	—	60 195	75 245	85 280	—	—	—	—	—	—	—	—	—
	K6	125 410	145 475	155 510	95 310	110 360	125 410	—	—	—	80 260	100 330	110 360	—	—	—	—	—	—	—	—	—
	K7	120 395	135 445	145 475	90 295	105 345	115 375	—	—	—	75 245	90 295	100 330	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N1	—	—	—	245 800	260 850	270 890	—	—	—	230 750	245 800	255 840	—	—	—	—	—	—	240 790	260 850	270 890
	N2	—	—	—	190 620	205 670	215 710	—	—	—	175 570	190 620	200 660	—	—	—	—	—	—	190 620	205 670	215 710
	N3	—	—	—	165 540	180 590	190 620	—	—	—	150 490	165 540	175 570	—	—	—	—	—	—	165 540	180 590	190 620
	N11	—	—	—	170 560	190 620	200 660	—	—	—	160 520	175 570	185 610	—	—	—	—	—	—	170 560	190 620	200 660
Chamfer milling cutters	S1	—	—	—	40 130	55 180	60 195	45 150	60 195	65 215	34 110	45 150	50 165	50 165	65 215	75 245	47 155	60 195	70 230	—	—	—
	S2	—	—	—	32 105	42 140	49 160	36 120	47 155	55 180	27 90	36 120	42 140	40 130	50 165	60 195	38 125	50 165	60 195	—	—	—
	S3	—	—	—	28 90	37 120	43 140	32 105	41 135	48 155	24 80	31 100	37 120	35 115	46 150	55 180	33 110	44 145	50 165	—	—	—
	S11	—	—	—	55 180	70 230	80 260	60 195	80 260	85 280	47 155	60 195	70 230	70 230	85 280	95 310	65 215	80 260	90 295	—	—	—
Spot facing cutters	S12	—	—	—	38 125	50 165	60 195	43 140	55 180	65 215	33 110	43 140	50 165	48 155	65 215	75 245	45 150	60 195	70 230	—	—	—
	S13	—	—	—	22 70	30 100	34 110	25 80	33 110	38 125	19 60	25 80	29 95	28 90	37 120	43 140	26 85	35 115	41 135	—	—	—
	H5	45 150	60 195	70 230	34 110	45 150	55 180	—	—	—	29 95	37 120	44 145	—	—	—	—	—	—	—	—	—
	H8	48 155	60 195	70 230	36 120	48 155	55 180	—	—	—	31 100	40 130	47 155	—	—	—	—	—	—	—	—	—
Inserts	H11	60 195	75 245	85 280	43 140	55 180	65 215	—	—	—	36 120	48 155	55 180	90 295	110 360	120 395	49 160	65 215	75 245	—	—	—
	H12	80 260	95 310	105 345	70 230	85 280	95 310	—	—	—	55 180	70 230	80 260	80 260	100 330	110 360	80 260	95 310	105 345	—	—	—

R217/220.69-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	175	190	195	175	185	195	180	195	200	165	180	190	Square shoulder and slot milling cutters
	—	—	—	570	620	640	570	610	640	590	640	660	540	590	620	
P2	—	—	—	170	185	195	170	185	195	180	190	200	165	180	185	Helical milling cutters
	—	—	—	560	610	640	560	610	640	590	620	660	540	590	610	
P3	—	—	—	165	180	185	160	175	185	170	180	190	155	170	175	Helical milling cutters
	—	—	—	540	590	610	520	570	610	560	590	620	510	560	570	
P4	—	—	—	155	170	175	155	170	175	160	175	180	145	160	170	Helical milling cutters
	—	—	—	510	560	570	510	560	570	520	570	590	475	520	560	
P5	—	—	—	155	165	175	150	165	175	160	170	180	145	160	165	Helical milling cutters
	—	—	—	510	540	570	490	540	570	520	560	590	475	520	540	
P6	—	—	—	160	175	185	160	175	180	165	180	185	155	165	175	Face milling cutters
	—	—	—	520	570	610	520	570	590	540	590	610	510	540	570	
P7	—	—	—	155	170	180	155	170	180	160	175	185	150	165	170	Face milling cutters
	—	—	—	510	560	590	510	560	590	520	570	610	490	540	560	
P8	—	—	—	150	165	175	150	165	175	160	170	180	145	160	165	Face milling cutters
	—	—	—	490	540	570	490	540	570	520	560	590	475	520	540	
P11	—	—	—	155	170	175	155	170	175	160	175	180	145	160	170	Face milling cutters
	—	—	—	510	560	570	510	560	570	520	570	590	475	520	560	
P12	—	—	—	125	140	145	125	135	145	130	140	150	120	130	140	Face milling cutters
	—	—	—	410	460	475	410	445	475	425	460	490	395	425	460	
M1	—	—	—	—	—	—	125	145	155	140	160	170	120	140	150	Disc milling cutters
	—	—	—	—	—	—	410	475	510	460	520	560	395	460	490	
M2	—	—	—	—	—	—	115	130	145	130	150	160	110	125	140	Disc milling cutters
	—	—	—	—	—	—	375	425	475	425	490	520	360	410	460	
M3	—	—	—	—	—	—	100	120	130	115	135	145	95	115	125	Disc milling cutters
	—	—	—	—	—	—	330	395	425	375	445	475	310	375	410	
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	95	105	Disc milling cutters
	—	—	—	—	—	—	280	330	360	330	375	410	260	310	345	
M5	—	—	—	—	—	—	70	90	100	85	105	115	65	85	95	Disc milling cutters
	—	—	—	—	—	—	230	295	330	280	345	375	215	280	310	
K1	165	200	225	175	185	195	170	185	195	150	165	180	165	180	185	High feed milling cutters
	540	660	740	570	610	640	560	610	640	490	540	590	540	590	610	
K2	155	195	215	165	180	190	165	180	185	140	160	170	160	170	180	High feed milling cutters
	510	640	710	540	590	620	540	590	610	460	520	560	520	560	590	
K3	140	165	180	155	170	175	155	165	175	130	150	160	145	160	170	High feed milling cutters
	460	540	590	510	560	570	510	540	570	425	490	520	475	520	560	
K4	135	160	175	150	165	175	150	165	175	125	145	155	145	155	165	Copy milling cutters
	445	520	570	490	540	570	490	540	570	410	475	510	475	510	540	
K5	105	130	145	120	130	140	120	130	140	95	110	125	110	125	130	Copy milling cutters
	345	425	475	395	425	460	395	425	460	310	360	410	360	410	425	
K6	130	155	170	145	155	165	140	155	165	120	135	145	135	150	155	Copy milling cutters
	425	510	560	475	510	540	460	510	540	395	445	475	445	490	510	
K7	120	145	160	135	150	155	135	150	155	110	130	140	125	140	150	Copy milling cutters
	395	475	520	445	490	510	445	490	510	360	425	460	410	460	490	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	50	70	80	37	49	55	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	165	230	260	120	160	180	
S2	—	—	—	—	—	—	—	—	—	42	55	65	30	40	46	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	140	180	215	100	130	150	
S3	—	—	—	—	—	—	—	—	—	37	49	55	27	35	40	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	120	160	180	90	115	130	
S11	—	—	—	—	—	—	—	—	—	75	90	100	50	70	80	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	245	295	330	165	230	260	
S12	—	—	—	—	—	—	—	—	—	50	65	75	36	47	55	Spot facing cutters
	—	—	—	—	—	—	—	—	—	165	215	245	120	155	180	
S13	—	—	—	—	—	—	—	—	—	29	39	45	21	28	32	Spot facing cutters
	—	—	—	—	—	—	—	—	—	95	130	150	70	90	105	
H5	—	—	—	43	55	65	—	—	—	—	—	—	33	43	50	Spot facing cutters
	—	—	—	140	180	215	—	—	—	—	—	—	110	140	165	
H8	—	—	—	46	60	70	—	—	—	—	—	—	35	46	55	Spot facing cutters
	—	—	—	150	195	230	—	—	—	—	—	—	115	150	180	
H11	—	—	—	55	70	80	—	—	—	—	—	—	42	55	65	Inserts
	—	—	—	180	230	260	—	—	—	—	—	—	140	180	215	
H12	—	—	—	80	100	110	—	—	—	—	—	—	65	80	90	Inserts
	—	—	—	260	330	360	—	—	—	—	—	—	215	260	295	

Turbo 16 – R217.69-16 – Metric

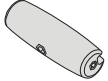


- For insert selection and cutting data recommendations, see page(s) 154–156
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-043-XO16.3A	10067004	Seco-Weldon	40,0	3	9	43,0	50,0	32,0	54,9	65,0	125,0	13200	0,8	XO.X1605
R217.69-3240.3S-071-XO16.3A	10067005	Seco-Weldon	40,0	3	15	71,0	50,0	32,0	85,4	95,0	155,0	13200	1,0	XO.X1605
R217.69-3250.3S-057-XO16.3A	10067006	Seco-Weldon	50,0	3	12	57,0	50,0	32,0	70,8	80,0	140,0	11800	1,1	XO.X1605
R217.69-3250.3S-057-XO16.4A	10067007	Seco-Weldon	50,0	4	16	57,0	50,0	32,0	70,8	80,0	140,0	11800	1,1	XO.X1605
R217.69-3250.3S-085-XO16.4A	10067008	Seco-Weldon	50,0	4	24	85,0	50,0	32,0	95,8	105,0	165,0	11800	1,3	XO.X1605

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

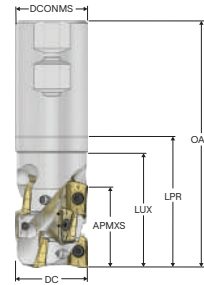
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-3240	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-3250	H4B-T15P	C04011-T15P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217.69-16 – Inch

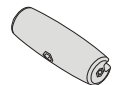


- For insert selection and cutting data recommendations, see page(s) 154-156
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-1.69-XO16-3A	10067015	Weldon	1.500	3	9	1.693	1.500	4.000	2.417	2.441	5.169	13200	2.200	XO.X1605
R217.69-02.00-3-1.69-XO16-3A	10067016	Weldon	2.000	3	9	1.693	2.000	4.000	2.512	2.535	5.823	13200	4.190	XO.X1605
R217.69-02.00-3-2.24-XO16-4A	10067017	Weldon	2.000	4	16	2.244	2.000	4.500	3.130	3.035	6.323	11800	4.410	XO.X1605

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-01.50	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-02.00.3A	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-02.00.4A	H4B-T15P	C04011-T15P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

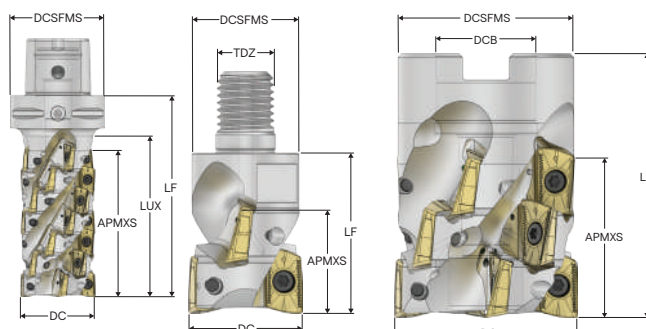
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder and slot milling cutters



Face milling cutters

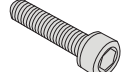
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C6-R217.69-050-098-XO16.4A	10067022	Seco-Capto	50,0	4	28	98,0	–	63,0	–	135,0	110,4	173,0	11800	1,6	XO.X1605
R217.69-1632.RE-029-XO16.2A	10067002	Combimaster	32,0	2	4	29,0	–	30,0	M16	45,0	–	67,75	14800	0,2	XO.X1605
R217.69-2040.RE-029-XO16.3A	10067003	Combimaster	40,0	3	6	29,0	–	36,5	M20	55,0	–	82,0	13200	0,4	XO.X1605
R220.69-0050-043-XO16.4A	10067009	Arbor	50,0	4	12	43,0	27,0	46,0	–	72,0	–	–	11800	0,6	XO.X1605
R220.69-0063-043-XO16.4A	10067010	Arbor	63,0	4	12	43,0	27,0	58,0	–	70,0	–	–	10500	1,0	XO.X1605
R220.69-0063-057-XO16.5A	10067011	Arbor	63,0	5	20	57,0	27,0	58,0	–	80,0	–	–	10500	1,2	XO.X1605
R220.69-0063-085-XO16.5SA	10067024	Arbor	63,0	5	30	85,0	27,0	58,0	–	108,9	–	–	10500	1,6	XO.X1605
R220.69-0080-071-XO16.5A	10067012	Arbor	80,0	5	25	71,0	32,0	75,0	–	95,0	–	–	9300	2,5	XO.X1605
R220.69-0080-071-XO16.6A	10067013	Arbor	80,0	6	30	71,0	32,0	75,0	–	95,0	–	–	9300	2,3	XO.X1605
R220.69-0100-071-XO16.6A	10067014	Arbor	100,0	6	30	71,0	40,0	88,0	–	95,0	–	–	8300	3,7	XO.X1605

Disc milling cutters

Seed milling
utters

Copy milling cutters

nge milling
cutters

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
Cx-R217.69-...							
Cx-R217.69-...	—	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R217.69-1632-2040	—	—	—	H4B-T15P	C04009-T15P	DOUBLE-T	—
R220.69-0050	MC6S12X60	—	—	H4B-T15P	C04009-T15P	DOUBLE-T	—
R220.69-0063.4A	MC6S12X60	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R220.69-0063.5A	MC6S12X70	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R220.69-0063SA	MC6S12X40	MC6S5X35	R220.69-0063-057-XO16.5BA	H4B-T15P	C04011-T15P	DOUBLE-T	R220.69-RE063-029-XO16.5A
R220.69-0080	MP6S16X80	—	—	H4B-T15PL	C04011-T15P	DOUBLE-T	—
R220.69-0100	MP6S20X80	—	—	H4B-T15PL	C04011-T15P	DOUBLE-T	—

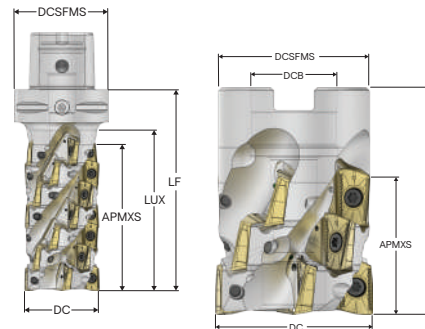
Transfer milling cutters

For cutter	Insert clamping torque	Key	Screw	Torque key
R217/220 69-	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Spot facing cutters

Inserts

Turbo 16 – 220.69-16 – Inch



- For insert selection and cutting data recommendations, see page(s) 154-156
- For complete insert programme, see page(s) 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC inch	ZEFP	ZNP	APMXS inch	DCB inch	DCSFMS inch	LF inch	LUX inch	OAL inch	RPMX	Weight lbs	Insert
C6-R217.69-02.00-3.89-XO16-4A	10067023	Seco-Capto	2.000	4	28	3.858	—	2.480	5.350	4.382	6.846	11800	3.530	XO.X1605
R220.69-02.00-1.69-XO16-4A	10067018	Arbor	2.000	4	12	1.693	1.000	1.850	2.750	—	—	11800	1.320	XO.X1605
R220.69-02.50-1.69-XO16-4A	10067019	Arbor	2.500	4	12	1.693	1.000	2.283	2.750	—	—	10500	1.100	XO.X1605
R220.69-02.50-2.24-XO16-5A	10067020	Arbor	2.500	5	20	2.244	1.000	2.283	3.250	—	—	10500	2.650	XO.X1605
R220.69-02.50-3.34-XO16-5SA	10155391	Arbor	2.500	5	30	3.346	1.000	2.283	4.280	—	—	10500	3.090	XO.X1605
R220.69-03.00-2.79-XO16-5A	10067021	Arbor	3.000	5	25	2.795	1.250	2.795	3.750	—	—	9300	2.200	XO.X1605

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
C6-R217.69-..	—	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R220.69-02.00	UC6S1/2UNFX2-1/2	—	—	H4B-T15P	C04009-T15P	DOUBLE-T	—
R220.69-02.50.4A	UC6S1/2UNFX2-1/2	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R220.69-02.50.5A	UC6S1/2UNFX3	—	—	H4B-T15P	C04011-T15P	DOUBLE-T	—
R220.69-02.50-3.34	UC6S1/2UNFX1-1/2M	UC6S10UNFX1-1/2	R220.69-02.50-2.24-XO16-5BA	1/4HEX-T15PX50	C04011-T15P	—	R220.69-RE02.50-1.14-XO16-5A
R220.69-03.00	UP6S5/8UNFX3-1/4	—	—	H4B-T15PL	C04011-T15P	DOUBLE-T	—

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Key	Screw	Torque key
C6-R217-02.00	—	—	3.5NM	T05P-2	SX2035-T05P	T00-15P35
R220.69-02.00-03.00	—	—	3.5NM	T05P-2	SX2035-T05P	T00-15P35
R220.69-02.50-SA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T05P-2	SX2035-T05P	—

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.69-16 – Insert selection – Metric/ Inch

	SMG		f_z		
			100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX160508TR-ME11 MP2501	0,13 0.0050	0,15 0.0060	0,22 0.0085
	P2	XOMX160508TR-ME11 MP2501	0,14 0.0055	0,15 0.0060	0,22 0.0085
Helical milling cutters	P3	XOMX160508TR-M13 MP2501	0,15 0.0060	0,17 0.0065	0,25 0.010
	P4	XOMX160508TR-M13 MP2501	0,15 0.0060	0,16 0.0065	0,25 0.010
	P5	XOMX160508TR-MD14 MP1501	0,16 0.0065	0,17 0.0065	0,26 0.010
	P6	XOMX160508TR-MD14 MP1501	0,16 0.0065	0,17 0.0065	0,26 0.010
	P7	XOMX160508TR-MD14 MP1501	0,16 0.0065	0,17 0.0065	0,26 0.010
	P8	XOMX160508TR-MD14 MP1501	0,16 0.0065	0,18 0.0070	0,28 0.011
	P11	XOMX160508TR-ME11 MP2050	0,12 0.0048	0,13 0.0050	0,20 0.0080
Face milling cutters	P12	XOMX160508TR-ME11 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	M1	XOMX160508R-M09 MS2050	0,11 0.0044	0,12 0.0048	0,19 0.0075
Disc milling cutters	M2	XOMX160508R-M09 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M3	XOMX160508R-M09 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	M4	XOMX160508TR-ME11 MP2050	0,085 0.0034	0,095 0.0038	0,14 0.0055
	M5	XOMX160508TR-ME11 MP2050	0,085 0.0034	0,095 0.0038	0,14 0.0055
	K1	XOMX160508TR-M13 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
High feed milling cutters	K2	XOMX160508TR-M13 MK2050	0,15 0.0060	0,16 0.0065	0,24 0.0095
	K3	XOMX160508TR-MD14 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K4	XOMX160508TR-MD14 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K5	XOMX160508TR-MD14 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095
	K6	XOMX160508TR-MD14 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K7	XOMX160508TR-MD14 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095
	N1	XOEX160508FR-E07 H25	0,11 0.0044	0,12 0.0048	0,18 0.0070
Copy milling cutters	N2	XOEX160508FR-E07 H25	0,11 0.0044	0,12 0.0048	0,18 0.0070
	N3	XOEX160508FR-E07 H25	0,11 0.0044	0,12 0.0048	0,18 0.0070
Plunge milling cutters	N11	XOEX160508FR-E07 H25	0,11 0.0044	0,12 0.0048	0,18 0.0070
	S1	XOMX160508TR-ME11 MP2050	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S2	XOMX160508TR-ME11 MP2050	0,085 0.0034	0,095 0.0038	0,14 0.0055
	S3	XOMX160508TR-ME11 MP2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	S11	XOMX160508TR-ME11 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
Chamfer milling cutters	S12	XOMX160508TR-ME11 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
	S13	XOMX160508TR-ME11 MS2050	0,085 0.0034	0,095 0.0038	0,14 0.0055
	H5	XOMX160508TR-MD14 MP3000	0,11 0.0044	0,12 0.0048	0,18 0.0070
	H11	XOMX160508TR-MD14 MP3000	0,11 0.0044	0,12 0.0048	0,18 0.0070
Spot facing cutters	H12	XOMX160508TR-ME11 MP2050	0,065 0.0026	0,070 0.0028	0,11 0.0044

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

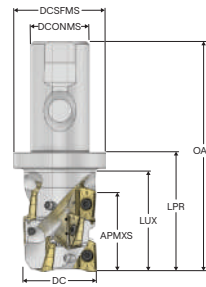
R217/220.69-16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25			Square should and slot millin cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	155 510	180 590	190 620	160 520	185 610	200 660	165 540	185 610	195 640	150 490	165 540	175 570	185 610	205 670	220 720	170 560	190 620	205 670	— —	— —	— —	Helical milling cutters
P2	155 510	175 570	190 620	160 520	185 610	195 640	160 520	180 590	195 640	150 490	165 540	175 570	180 590	205 670	215 710	165 540	190 620	200 660	— —	— —	— —	
P3	145 475	165 540	180 590	150 490	170 560	185 610	150 490	170 560	180 590	140 460	155 510	165 540	170 560	195 640	205 670	160 520	180 590	190 620	— —	— —	— —	
P4	135 445	155 510	170 560	140 460	165 540	175 570	145 475	160 520	175 570	130 425	150 490	160 520	160 520	185 610	195 640	150 490	170 560	180 590	— —	— —	— —	
P5	130 425	155 510	165 540	140 460	160 520	175 570	140 460	160 520	170 560	125 410	145 475	155 510	160 520	185 610	195 640	145 475	165 540	180 590	— —	— —	— —	
P6	140 460	160 520	175 570	150 490	170 560	180 590	150 490	170 560	180 590	135 445	150 490	160 520	160 520	190 620	205 670	155 510	175 570	190 620	— —	— —	— —	
P7	135 445	160 520	170 560	145 475	165 540	180 590	145 475	165 540	175 570	135 445	145 475	155 510	165 510	185 610	200 660	150 490	170 560	185 610	— —	— —	— —	Face milling cutters
P8	130 425	150 490	165 540	140 460	160 520	170 560	140 460	160 520	170 560	125 410	140 460	150 490	155 510	180 620	190 690	145 490	165 560	180 590	— —	— —	— —	
P11	135 445	155 510	170 560	145 475	165 540	175 570	145 475	160 520	175 570	130 425	145 475	155 510	160 520	190 620	210 690	150 490	170 560	180 590	— —	— —	— —	
P12	105 345	125 410	135 445	115 375	135 445	145 475	110 360	130 425	140 460	100 330	115 375	125 410	130 425	160 520	180 590	115 375	135 445	150 490	— —	— —	— —	
M1	— —	— —	— —	135 445	155 510	170 560	140 460	160 520	175 570	125 410	145 475	155 510	165 540	200 660	220 720	140 460	165 540	175 570	— —	— —	— —	Disc milling cutters
M2	— —	— —	— —	120 395	140 460	155 510	125 410	145 475	160 520	110 360	130 425	145 475	155 510	190 620	210 690	130 425	150 490	165 540	— —	— —	— —	
M3	— —	— —	— —	105 345	125 410	140 460	110 360	130 425	145 475	95 310	115 375	125 410	140 460	170 560	190 620	115 375	135 445	145 475	— —	— —	— —	
M4	— —	— —	— —	85 280	105 345	120 395	90 295	110 360	125 410	75 245	95 310	110 360	125 410	155 510	170 560	95 310	115 375	130 425	— —	— —	— —	
M5	— —	— —	— —	75 245	95 310	105 345	80 260	100 330	110 360	65 215	80 260	95 310	110 360	140 460	160 520	80 260	100 330	115 375	— —	— —	— —	High feed milling cutters
K1	160 520	180 590	195 640	140 460	160 520	170 560	— —	— —	— —	120 395	145 475	155 510	— —	— —	— —	— —	— —	— —	— —	— —	— —	
K2	150 490	175 570	185 610	130 425	150 490	165 540	— —	— —	— —	110 360	135 445	145 475	— —	— —	— —	— —	— —	— —	— —	— —	— —	High feed milling cutters
K3	140 460	160 520	175 570	115 375	140 460	150 490	— —	— —	— —	100 330	120 395	135 445	— —	— —	— —	— —	— —	— —	— —	— —	— —	
K4	135 445	155 510	170 560	115 375	135 445	145 475	— —	— —	— —	95 310	120 395	130 425	— —	— —	— —	— —	— —	— —	— —	— —	— —	Copy milling cutters
K5	100 330	120 395	130 425	75 245	100 330	110 360	— —	— —	— —	60 195	80 260	95 310	— —	— —	— —	— —	— —	— —	— —	— —	— —	
K6	125 410	145 475	160 520	105 345	125 410	140 460	— —	— —	— —	85 280	110 360	120 395	— —	— —	— —	— —	— —	— —	— —	— —	— —	Copy milling cutters
K7	120 395	140 460	150 490	95 310	115 375	130 425	— —	— —	— —	80 260	100 330	110 360	— —	— —	— —	— —	— —	— —	— —	— —	— —	
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	270 890	290 950	305 1000	— —	— —	— —	— —	— —	— —	290 950	310 1025	320 1050	Plunge milling cutters
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	205 670	225 740	235 770	— —	— —	— —	— —	— —	— —	220 720	240 790	255 840	
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 570	195 640	205 670	— —	— —	— —	— —	— —	— —	190 620	210 690	225 740	
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	185 610	205 670	215 710	— —	— —	— —	— —	— —	— —	200 660	220 720	235 770	
S1	— —	— —	— —	41 135	55 180	65 215	44 145	55 180	70 230	35 115	46 150	55 180	48 155	60 195	75 245	48 155	60 195	75 245	— —	— —	— —	Chamfer milling cutters
S2	— —	— —	— —	33 110	43 140	50 165	35 115	46 150	55 180	28 90	37 120	44 145	39 130	50 165	60 195	39 130	50 165	60 195	— —	— —	— —	
S3	— —	— —	— —	29 95	38 125	44 145	31 100	41 135	48 155	25 80	33 110	38 125	34 110	45 150	50 165	34 110	45 150	50 165	— —	— —	— —	
S11	— —	— —	— —	— —	— —	— —	60 195	80 260	90 295	48 155	65 215	75 245	65 215	85 280	100 330	65 215	85 280	100 330	— —	— —	— —	
S12	— —	— —	— —	— —	— —	— —	42 140	55 180	65 215	33 110	44 145	55 180	46 150	60 195	70 230	46 150	60 195	70 230	— —	— —	— —	Spot facing cutters
S13	— —	— —	— —	— —	— —	— —	25 80	32 105	38 125	20 65	26 85	30 100	27 90	35 115	42 140	27 90	35 115	42 140	— —	— —	— —	
H5	— —	— —	— —	34 110	45 150	55 180	— —	— —	— —	29 95	39 130	45 150	— —	— —	— —	— —	— —	— —	— —	— —	— —	Spot facing cutters
H11	— —	— —	— —	44 145	60 195	70 230	— —	— —	— —	37 120	49 160	60 195	95 310	130 425	145 475	49 160	65 215	75 245	— —	— —	— —	
H12	70 230	90 295	100 330	70 230	90 295	105 345	— —	— —	— —	55 180	75 245	85 280	95 310	120 395	140 460	80 260	105 345	115 375	— —	— —	— —	

R217/220.69-16 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK1501			MP1501			MP2501			MP3501		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	—	—	—	190	205	215	185	205	215	180	195	205
		—	—	—	620	670	710	610	670	710	590	640	670
Helical milling cutters	P2	—	—	—	185	205	215	185	200	210	175	195	205
		—	—	—	610	670	710	610	660	690	570	640	670
Face milling cutters	P3	—	—	—	175	190	205	175	190	200	165	185	195
		—	—	—	570	620	670	570	620	660	540	610	640
Disc milling cutters	P4	—	—	—	170	185	195	165	185	190	160	175	185
		—	—	—	560	610	640	540	610	620	520	570	610
High feed milling cutters	P5	—	—	—	165	180	190	165	180	190	155	170	180
		—	—	—	540	590	620	540	590	620	510	560	590
Copy milling cutters	P6	—	—	—	175	190	200	175	190	200	165	180	190
		—	—	—	570	620	660	570	620	660	540	590	620
Plunge milling cutters	P7	—	—	—	170	185	195	170	185	195	160	175	185
		—	—	—	560	610	640	560	610	640	520	570	610
Chamfer milling cutters	P8	—	—	—	165	180	190	165	180	190	155	170	180
		—	—	—	540	590	620	540	590	620	510	560	590
Spot facing cutters	P11	—	—	—	170	185	190	165	180	190	160	175	185
		—	—	—	560	610	620	540	590	620	520	570	610
Inserts	P12	—	—	—	135	150	160	135	150	155	125	140	150
		—	—	—	445	490	520	445	490	510	410	460	490
Square shoulder and slot milling cutters	M1	—	—	—	—	—	—	135	155	170	130	150	165
		—	—	—	—	—	—	445	510	560	425	490	540
Helical milling cutters	M2	—	—	—	—	—	—	120	140	155	115	135	150
		—	—	—	—	—	—	395	460	510	375	445	490
Face milling cutters	M3	—	—	—	—	—	—	105	125	140	100	120	135
		—	—	—	—	—	—	345	410	460	330	395	445
Disc milling cutters	M4	—	—	—	—	—	—	90	110	120	80	105	115
		—	—	—	—	—	—	295	360	395	260	345	375
High feed milling cutters	M5	—	—	—	—	—	—	75	95	105	70	90	100
		—	—	—	—	—	—	245	310	345	230	295	330
Copy milling cutters	K1	180	220	245	190	205	215	185	205	215	175	195	205
		590	720	800	620	670	710	610	670	710	570	640	670
Plunge milling cutters	K2	170	210	235	180	195	205	175	195	205	170	185	195
		560	690	770	590	640	670	570	640	670	560	610	640
Chamfer milling cutters	K3	150	180	195	165	180	190	165	180	190	155	175	185
		490	590	640	540	590	620	540	590	620	510	570	610
Spot facing cutters	K4	145	175	190	160	180	190	160	180	185	150	170	180
		475	570	620	520	590	620	520	590	610	490	560	590
Inserts	K5	110	140	155	125	140	150	125	140	150	115	135	140
		360	460	510	410	460	490	410	460	490	375	445	460
Square shoulder and slot milling cutters	K6	135	165	180	155	170	180	150	170	180	145	160	170
		445	540	590	510	560	590	490	560	590	475	520	560
Helical milling cutters	K7	130	155	175	145	160	170	145	160	170	135	150	160
		425	510	570	475	520	560	475	520	560	445	490	520
Face milling cutters	N1	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Disc milling cutters	N2	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
High feed milling cutters	N3	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Copy milling cutters	N11	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters	S1	—	—	—	—	—	—	—	—	—	39	50	60
		—	—	—	—	—	—	—	—	—	130	165	195
Chamfer milling cutters	S2	—	—	—	—	—	—	—	—	—	31	41	48
		—	—	—	—	—	—	—	—	—	100	135	155
Spot facing cutters	S3	—	—	—	—	—	—	—	—	—	27	36	42
		—	—	—	—	—	—	—	—	—	90	120	140
Inserts	S11	—	—	—	—	—	—	—	—	—	55	70	85
		—	—	—	—	—	—	—	—	—	180	230	280
Square shoulder and slot milling cutters	S12	—	—	—	—	—	—	—	—	—	37	48	60
		—	—	—	—	—	—	—	—	—	120	155	195
Helical milling cutters	S13	—	—	—	—	—	—	—	—	—	22	29	33
		—	—	—	—	—	—	—	—	—	70	95	110
Face milling cutters	H5	—	—	—	44	60	70	—	—	—	34	44	50
		—	—	—	145	195	230	—	—	—	110	145	165
Disc milling cutters	H11	—	—	—	55	75	85	—	—	—	43	55	65
		—	—	—	180	245	280	—	—	—	140	180	215
High feed milling cutters	H12	—	—	—	85	105	115	—	—	—	65	85	95
		—	—	—	280	345	375	—	—	—	215	280	310

Turbo 18 – R217.69-18 – Metric

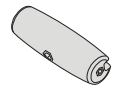


- For insert selection and cutting data recommendations, see page(s) 162-164
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-047-18.2AN	02710003	Seco-Weldon	40,0	2	6	47,0	50,0	32,0	57,0	70,0	130,0	9900	0,8	XO.X1806
R217.69-3250.3S-047-18.3AN	02710010	Seco-Weldon	50,0	3	9	47,0	50,0	32,0	65,0	75,0	134,5	8900	1,2	XO.X1806

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H6B-T20P	C04510-T20P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

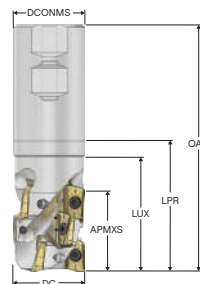
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Turbo 18 – R217.69-18 – Inch

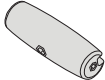


- For insert selection and cutting data recommendations, see page(s) 162–164
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-18S2AN	02710923	Weldon	1.500	2	6	1.862	1.500	4.252	2.618	2.750	5.439	9900	2.200	XO.X1806
R217.69-02.00-3-18S3AN	02710934	Weldon	2.000	3	9	1.850	1.500	4.303	2.802	2.802	5.491	8900	2.870	XO.X1806

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

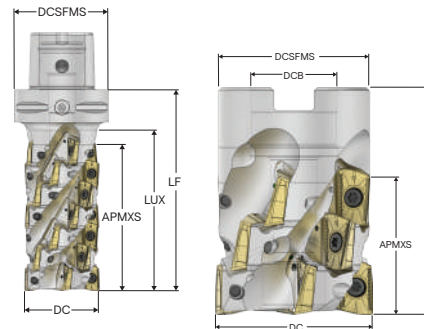
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H6B-T20P	C04510-T20P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Metric



- For insert selection and cutting data recommendations, see page(s) 162-164
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C5-R217.69-040-047-18.2AN	02717849	Seco-Capto	40,0	2	6	47,0	—	50,0	82,0	58,0	112,0	9900	0,8	XO.X1806
C6-R217.69-050-062-18.3AN	02717919	Seco-Capto	50,0	3	12	62,0	—	63,0	99,0	73,0	137,0	8900	1,5	XO.X1806
C5-R217.69-054-047-18.3AN	02717916	Seco-Capto	54,0	3	9	47,0	—	50,0	82,0	62,0	112,0	8600	1,1	XO.X1806
C6-R217.69-066-047-18.4AN	02717933	Seco-Capto	66,0	4	12	47,0	—	63,0	84,0	62,0	122,0	7700	1,7	XO.X1806
C8-R217.69-080-093-18.5SAN	02829948	Seco-Capto	80,0	5	30	93,0	—	80,0	140,0	110,0	188,0	7000	4,2	XO.X1806
R220.69-00063-047-18.4AN	02710017	Arbor	63,0	4	12	47,0	27,0	60,0	70,0	—	—	7900	0,9	XO.X1806
R220.69-00063-047-18.5AN	10178497	Arbor	63,0	5	15	47,0	27,0	59,0	70,0	—	—	7900	1,0	XO.X1806
R220.69-00063-062-18.3AN	02710032	Arbor	63,0	3	12	62,0	27,0	60,0	85,0	—	—	7900	1,2	XO.X1806
R220.69-00063-062-18.4AN	02710034	Arbor	63,0	4	16	62,0	27,0	60,0	85,0	—	—	7900	1,1	XO.X1806
R220.69-00063-077-18.4SAN	02717825	Arbor	63,0	4	20	77,0	27,0	60,0	100,0	—	—	7900	1,3	XO.X1806
R220.69-00080-047-18.5AN	02710037	Arbor	80,0	5	15	47,0	32,0	77,0	70,0	—	—	7000	1,7	XO.X1806
R220.69-00080-062-18.5AN	02710039	Arbor	80,0	5	20	62,0	32,0	77,0	85,0	—	—	7000	2,1	XO.X1806
R220.69-00080-077-18.4SAN	02717831	Arbor	80,0	4	20	77,0	32,0	77,0	100,0	—	—	7000	2,4	XO.X1806
R220.69-00100-062-18.6AN	02710042	Arbor	100,0	6	24	62,0	40,0	90,0	85,0	—	—	6300	3,4	XO.X1806
R220.69-00100-077-18.5SAN	02717833	Arbor	100,0	5	25	77,0	40,0	90,0	100,0	—	—	6300	4,0	XO.X1806

Modification of the cutter body needed for radii > 3,1 mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

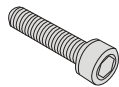
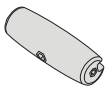
Plunge milling
cutters

Chamfer milling
cutters

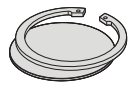
Spot facing
cutters

Inserts

Spare Parts, included in delivery

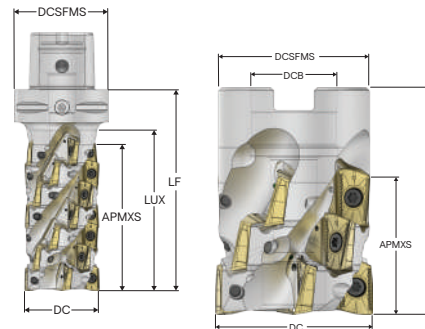
For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
							
C8-R217.69-080	-	MC6S16X40	C8-R217.69-080-062-18.5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE080031-18.5AN
Cx-R217.69-..	-	-	-	H6B-T20P	C04510-T20P	DOUBLE-T	-
R220.69-00063	MC6S12X60	-	-	H6B-T20P	C04510-T20P	DOUBLE-T	-
R220.69-00063	MC6S12X60	-	-	1/4HEX-T20PX50	C04510-T20P	-	-
R220.69-00063-SAN	MP6S12X80	-	R220.69-00063046-18.4BAN	H6B-T20P	C04510-T20P	DOUBLE-T	R220.69-RE063031-18.4AN
R220.69-00080	MC6S16X70	-	-	H6B-T20P	C04510-T20P	DOUBLE-T	-
R220.69-00080-SAN	MP6S16X80	-	R220.69-00080046-18.4BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE080031-18.4AN
R220.69-00100	MC6S20X70	-	-	H6B-T20PL	C04510-T20P	DOUBLE-T	-
R220.69-00100-SAN	MP6S20X80	-	R220.69-00100046-18.5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE100031-18.5AN

Accessories

For cutter	Adjustable Torque key	Bit holder	Coolant kit	Insert clamping torque	Torque key
					
Cx-R217/220.69-..	-	-	-	5.0NM	T00-20P50
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	-	5.0NM	T00-20P50
R220.69-00063-SAN	-	-	LUBRICATION_SET_29	5.0NM	T00-20P50
R220.69-00080-SAN	-	-	LUBRICATION_SET_36	5.0NM	T00-20P50
R220.69-00100-SAN	-	-	LUBRICATION_SET_44	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Inch

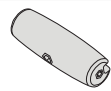


- For insert selection and cutting data recommendations, see page(s) 162-164
- For complete insert programme, see page(s) 924, 925
- For ISO attribute explanation, see page 16
- KAPRS 90°

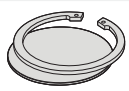
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
C6-R217.69-02.00-18M3AN	02721715	Seco-Capto	2.000	3	12	2.441	—	2.480	3.898	3.031	5.394	8900	2.430	XO.X1806
C6-R217.69-02.50-18M4AN	02721716	Seco-Capto	2.500	4	16	2.409	—	2.480	3.898	3.898	5.394	7900	4.190	XO.X1806
R220.69-02.50-18S4AN	02710940	Arbor	2.500	4	12	1.866	1.000	2.441	2.750	—	—	7900	2.200	XO.X1806
R220.69-02.50-18M4AN	02710937	Arbor	2.500	4	16	2.441	1.000	2.441	3.346	—	—	7900	2.200	XO.X1806
R220.69-02.50-18L4SAN	02722279	Arbor	2.500	4	20	3.024	1.000	2.441	3.937	—	—	7900	3.310	XO.X1806
R220.69-03.00-18M5AN	02710942	Arbor	3.000	5	20	2.480	1.250	2.890	3.500	—	—	7000	4.410	XO.X1806
R220.69-03.00-18L4SAN	02722281	Arbor	3.000	4	20	3.024	1.250	2.890	3.937	—	—	7000	4.630	XO.X1806
R220.69-04.00-18L5SAN	02722282	Arbor	4.000	5	25	3.024	1.500	3.543	3.937	—	—	6300	8.820	XO.X1806

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
Cx-R217.69-..	—	—	H6B-T20P	C04510-T20P	DOUBLE-T	—
R220.69-02.50L	UP6S1/2UNFX3-1/4	R220.69-02.50-18L4BAN	H6B-T20P	C04510-T20P	DOUBLE-T	R220.69-02.50-RE-18.4AN
R220.69-02.50M	UC6S1/2UNFX3	—	H6B-T20P	C04510-T20P	DOUBLE-T	—
R220.69-02.50S	UC6S1/2UNFX2-1/2	—	H6B-T20P	C04510-T20P	DOUBLE-T	—
R220.69-03.00M	UC6S5/8UNFX3	—	H6B-T20P	C04510-T20P	DOUBLE-T	—
R220.69-03.00S	UP6S5/8UNFX3-1/4	R220.69-03.00-18L4BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-03.00-RE-18.4AN
R220.69-04.00S	UP6S3/4UNFX3-1/4	R220.69-04.00-18L5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-04.00-RE-18.5AN

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
Cx-R217/220.69-..	—	5.0NM	T00-20P50
R220.69-02.50-SAN	LUBRICATION_SET_29	5.0NM	T00-20P50
R220.69-03.00-SAN	LUBRICATION_SET_36	5.0NM	T00-20P50
R220.69-04.00-SAN	LUBRICATION_SET_44	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.69-18 – Insert selection – mm/Inch

	SMG		f_z		
			100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX180608TR-ME13 MP2501	0,15 0.0060	0,16 0.0065	0,24 0.0095
	P2	XOMX180608TR-ME13 MP2501	0,15 0.0060	0,16 0.0065	0,25 0.010
Helical milling cutters	P3	XOMX180608TR-ME13 MP2501	0,14 0.0055	0,15 0.0060	0,24 0.0095
	P4	XOMX180608TR-M14 MP2501	0,15 0.0060	0,16 0.0065	0,25 0.010
	P5	XOMX180608TR-M14 MP2501	0,15 0.0060	0,16 0.0065	0,24 0.0095
	P6	XOMX180608TR-M14 MP2501	0,14 0.0055	0,16 0.0065	0,24 0.0095
	P7	XOMX180608TR-M14 MP2501	0,14 0.0055	0,16 0.0065	0,24 0.0095
	P8	XOMX180608TR-M14 MP2501	0,15 0.0060	0,17 0.0065	0,25 0.010
	P11	XOMX180608TR-M14 MP3501	0,14 0.0055	0,16 0.0065	0,24 0.0095
Face milling cutters	P12	XOMX180608TR-M14 MP3000	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M1	XOMX180608R-M10 MS2050	0,11 0.0044	0,12 0.0048	0,19 0.0075
Disc milling cutters	M2	XOMX180608R-M10 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M3	XOMX180608R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	M4	XOMX180608TR-M14 MP3501	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M5	XOMX180608TR-M14 MP3501	0,10 0.0040	0,11 0.0044	0,17 0.0065
	K1	XOMX180608TR-MD15 MK2050	0,17 0.0065	0,19 0.0075	0,28 0.011
High feed milling cutters	K2	XOMX180608TR-MD15 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K3	XOMX180608TR-MD15 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K4	XOMX180608TR-MD15 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K5	XOMX180608TR-MD15 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095
	K6	XOMX180608TR-MD15 MK2050	0,16 0.0065	0,17 0.0065	0,26 0.010
	K7	XOMX180608TR-MD15 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095
	N1	XOEX180608FR-E10 H25	0,15 0.0060	0,16 0.0065	0,24 0.0095
Copy milling cutters	N2	XOEX180608FR-E10 H25	0,15 0.0060	0,16 0.0065	0,24 0.0095
	N3	XOEX180608FR-E10 H25	0,15 0.0060	0,16 0.0065	0,24 0.0095
Plunge milling cutters	N11	XOEX180608FR-E10 H25	0,15 0.0060	0,16 0.0065	0,24 0.0095
	S1	XOMX180608R-M10 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048
	S2	XOMX180608R-M10 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048
	S3	XOMX180608R-M10 F40M	0,070 0.0028	0,075 0.0030	0,11 0.0044
Chamfer milling cutters	S11	XOMX180608R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	S12	XOMX180608R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	S13	XOMX180608R-M10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048
	H5	XOMX180608TR-MD15 MP3000	0,11 0.0044	0,12 0.0048	0,18 0.0070
	H8	XOMX180608TR-MD15 MP3000	0,080 0.0032	0,090 0.0036	0,14 0.0055
Spot facing cutters	H11	XOMX180608TR-MD15 MP3000	0,11 0.0044	0,12 0.0048	0,18 0.0070
	H12	XOMX180608TR-M14 MP3000	0,075 0.0030	0,085 0.0034	0,13 0.0050

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R217/220.69-18 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			F30M			MP3000			MS2050			F40M			H25			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	140	155	165	130	145	155	140	155	165	140	155	165	125	140	155	—	—	—	Square shoulder and slot milling cutters
	460	510	540	425	475	510	460	510	540	460	510	540	410	460	510	—	—	—	
P2	140	155	165	125	145	155	135	155	165	140	155	165	125	140	150	—	—	—	Helical milling cutters
	460	510	540	410	475	510	445	510	540	460	510	540	410	460	490	—	—	—	
P3	130	145	155	120	135	145	130	145	155	130	145	155	115	130	145	—	—	—	Helical milling cutters
	425	475	510	395	445	475	425	475	510	425	475	510	375	425	475	—	—	—	
P4	120	140	150	110	130	140	120	140	150	120	140	150	110	125	135	—	—	—	Helical milling cutters
	395	460	490	360	425	460	395	460	490	395	460	490	360	410	445	—	—	—	
P5	120	135	145	110	125	135	120	135	145	120	135	145	105	120	135	—	—	—	Helical milling cutters
	395	445	475	360	410	445	395	445	475	395	445	475	345	395	445	—	—	—	
P6	130	145	155	115	130	145	125	145	155	125	145	155	115	130	140	—	—	—	Helical milling cutters
	425	475	510	375	425	475	410	475	510	410	475	510	375	425	460	—	—	—	
P7	125	140	150	115	130	140	125	140	150	125	140	150	110	125	135	—	—	—	Face milling cutters
	410	460	490	375	425	460	410	460	490	410	460	490	360	410	445	—	—	—	
P8	120	135	145	110	125	135	120	135	145	120	135	145	105	120	130	—	—	—	Face milling cutters
	395	445	475	360	410	445	395	445	475	395	445	475	345	395	425	—	—	—	
P11	120	140	150	110	125	140	120	140	150	120	140	150	110	125	135	—	—	—	Face milling cutters
	395	460	490	360	410	460	395	460	490	395	460	490	360	410	445	—	—	—	
P12	95	115	125	85	100	110	95	110	120	95	110	120	80	100	110	—	—	—	Face milling cutters
	310	375	410	280	330	360	310	360	395	310	360	395	260	330	360	—	—	—	
M1	—	—	—	115	130	140	120	135	145	125	140	150	110	130	140	—	—	—	Disc milling cutters
	—	—	—	375	425	460	395	445	475	410	460	490	360	425	460	—	—	—	
M2	—	—	—	100	120	130	110	125	135	115	130	140	100	115	125	—	—	—	Disc milling cutters
	—	—	—	330	395	425	360	410	445	375	425	460	330	375	410	—	—	—	
M3	—	—	—	90	105	115	95	110	125	100	115	125	85	105	115	—	—	—	Disc milling cutters
	—	—	—	295	345	375	310	360	410	330	375	410	280	345	375	—	—	—	
M4	—	—	—	75	90	100	80	100	110	85	100	110	70	90	100	—	—	—	Disc milling cutters
	—	—	—	245	295	330	260	330	360	280	330	360	230	295	330	—	—	—	
M5	—	—	—	65	80	90	70	85	95	75	90	100	60	80	90	—	—	—	Disc milling cutters
	—	—	—	215	260	295	230	280	310	245	295	330	195	260	295	—	—	—	
K1	140	160	170	110	130	140	125	140	150	—	—	—	110	125	135	—	—	—	High feed milling cutters
	460	520	560	360	425	460	410	460	490	—	—	—	360	410	445	—	—	—	
K2	135	150	165	105	120	135	115	135	145	—	—	—	100	120	130	—	—	—	High feed milling cutters
	445	490	540	345	395	445	375	445	475	—	—	—	330	395	425	—	—	—	
K3	125	140	155	95	110	125	105	125	135	—	—	—	90	110	120	—	—	—	High feed milling cutters
	410	460	510	310	360	410	345	410	445	—	—	—	295	360	395	—	—	—	
K4	120	140	150	90	110	120	100	120	130	—	—	—	90	105	115	—	—	—	Copy milling cutters
	395	460	490	295	360	395	330	395	425	—	—	—	295	345	375	—	—	—	
K5	95	110	120	65	80	90	75	90	100	—	—	—	60	80	85	—	—	—	Copy milling cutters
	310	360	395	215	260	295	245	295	330	—	—	—	195	260	280	—	—	—	
K6	115	130	140	85	100	110	95	110	125	—	—	—	80	100	110	—	—	—	Copy milling cutters
	375	425	460	280	330	360	310	360	410	—	—	—	260	330	360	—	—	—	
K7	110	125	135	80	95	105	90	105	115	—	—	—	75	90	100	—	—	—	Copy milling cutters
	360	410	445	260	310	345	295	345	375	—	—	—	245	295	330	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	230	245	255	235	255	265	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	750	800	840	770	840	870	
N2	—	—	—	—	—	—	—	—	—	—	—	—	175	190	200	185	200	210	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	570	620	660	610	660	690	
N3	—	—	—	—	—	—	—	—	—	—	—	—	150	170	180	160	175	185	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	490	560	590	520	570	610	
N11	—	—	—	—	—	—	—	—	—	—	—	—	160	175	185	165	185	195	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	520	570	610	540	610	640	
S1	—	—	—	36	47	55	40	50	60	42	55	65	34	45	55	—	—	—	Chamfer milling cutters
	—	—	—	120	155	180	130	165	195	140	180	215	110	150	180	—	—	—	
S2	—	—	—	29	38	45	32	42	50	34	45	55	28	36	43	—	—	—	Chamfer milling cutters
	—	—	—	95	125	150	105	140	165	110	150	180	90	120	140	—	—	—	
S3	—	—	—	25	34	39	28	37	44	30	39	46	24	32	38	—	—	—	Chamfer milling cutters
	—	—	—	80	110	130	90	120	145	100	130	150	80	105	125	—	—	—	
S11	—	—	—	—	—	—	—	—	—	60	75	85	47	60	75	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	195	245	280	155	195	245	—	—	—	
S12	—	—	—	—	—	—	—	—	—	41	55	65	33	43	50	—	—	—	Spot facing cutters
	—	—	—	—	—	—	—	—	—	135	180	215	110	140	165	—	—	—	
S13	—	—	—	—	—	—	—	—	—	24	31	37	19	25	30	—	—	—	Spot facing cutters
	—	—	—	—	—	—	—	—	—	80	100	120	60	80	100	—	—	—	
H5	—	—	—	30	40	47	34	44	50	—	—	—	29	38	45	—	—	—	Spot facing cutters
	—	—	—	100	130	155	110	145	165	—	—	—	95	125	150	—	—	—	
H8	—	—	—	33	42	50	36	47	55	—	—	—	31	40	48	—	—	—	Spot facing cutters
	—	—	—	110	140	165	120	155	180	—	—	—	100	130	155	—	—	—	
H11	—	—	—	38	50	60	43	55	65	—	—	—	37	48	55	—	—	—	Inserts
	—	—	—	125	165	195	140	180	215	—	—	—	120	155	180	—	—	—	
H12	—	—	—	60	75	85	70	85	95	—	—	—	55	70	80	—	—	—	Inserts
	—	—	—	195	245	280	230	280	310	—	—	—	180	230	260	—	—	—	

R217/220.69-18 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK1501			MP1501			MP2501			MP3501		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	—	—	—	165	175	185	160	175	185	155	170	175
		—	—	—	540	570	610	520	570	610	510	560	570
Helical milling cutters	P2	—	—	—	160	175	185	160	175	180	155	170	175
		—	—	—	520	570	610	520	570	590	510	560	570
Helical milling cutters	P3	—	—	—	155	165	175	155	165	175	145	160	165
		—	—	—	510	540	570	510	540	570	475	520	540
Helical milling cutters	P4	—	—	—	145	160	165	145	160	165	140	150	160
		—	—	—	475	520	540	475	520	540	460	490	520
Helical milling cutters	P5	—	—	—	145	155	165	140	155	165	135	150	155
		—	—	—	475	510	540	460	510	540	445	490	510
Helical milling cutters	P6	—	—	—	150	165	170	150	165	170	145	155	165
		—	—	—	490	540	560	490	540	560	475	510	540
Face milling cutters	P7	—	—	—	150	160	170	145	160	165	140	155	160
		—	—	—	490	520	560	475	520	540	460	510	520
Face milling cutters	P8	—	—	—	145	155	165	140	155	165	135	150	155
		—	—	—	475	510	540	460	510	540	445	490	510
Face milling cutters	P11	—	—	—	145	160	165	145	160	165	140	150	160
		—	—	—	475	520	540	475	520	540	460	490	520
Face milling cutters	P12	—	—	—	120	130	140	120	130	140	115	125	130
		—	—	—	395	425	460	395	425	460	375	410	425
Disc milling cutters	M1	—	—	—	—	—	—	120	140	150	115	135	145
		—	—	—	—	—	—	395	460	490	375	445	475
Disc milling cutters	M2	—	—	—	—	—	—	110	125	135	105	120	130
		—	—	—	—	—	—	360	410	445	345	395	425
Disc milling cutters	M3	—	—	—	—	—	—	95	115	125	90	110	120
		—	—	—	—	—	—	310	375	410	295	360	395
Disc milling cutters	M4	—	—	—	—	—	—	80	100	110	80	95	105
		—	—	—	—	—	—	260	330	360	260	310	345
Disc milling cutters	M5	—	—	—	—	—	—	70	90	100	65	85	95
		—	—	—	—	—	—	230	295	330	215	280	310
High feed milling cutters	K1	155	185	205	160	175	185	160	175	185	155	170	175
		510	610	670	520	570	610	520	570	610	510	560	570
High feed milling cutters	K2	145	180	200	155	170	175	155	165	175	145	160	170
		475	590	660	510	560	570	510	540	570	475	520	560
High feed milling cutters	K3	130	155	170	145	160	165	145	155	165	135	150	160
		425	510	560	475	520	540	475	510	540	445	490	520
Copy milling cutters	K4	125	150	165	140	155	165	140	155	165	135	150	155
		410	490	540	460	510	540	460	510	540	445	490	510
Copy milling cutters	K5	100	120	135	115	125	135	115	125	135	105	120	125
		330	395	445	375	410	445	375	410	445	345	395	410
Copy milling cutters	K6	120	145	155	135	150	155	135	145	155	125	140	150
		395	475	510	445	490	510	445	475	510	410	460	490
Copy milling cutters	K7	115	135	150	130	140	150	125	140	145	120	135	140
		375	445	490	425	460	490	410	460	475	395	445	460
Plunge milling cutters	N1	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N2	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N3	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N11	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	—	—	—	—	—	38	50	60
		—	—	—	—	—	—	—	—	—	125	165	195
Chamfer milling cutters	S2	—	—	—	—	—	—	—	—	—	30	40	47
		—	—	—	—	—	—	—	—	—	100	130	155
Chamfer milling cutters	S3	—	—	—	—	—	—	—	—	—	27	35	41
		—	—	—	—	—	—	—	—	—	90	115	135
Chamfer milling cutters	S11	—	—	—	—	—	—	—	—	—	50	70	80
		—	—	—	—	—	—	—	—	—	165	230	260
Chamfer milling cutters	S12	—	—	—	—	—	—	—	—	—	36	48	55
		—	—	—	—	—	—	—	—	—	120	155	180
Spot facing cutters	S13	—	—	—	—	—	—	—	—	—	21	28	33
		—	—	—	—	—	—	—	—	—	70	90	110
Spot facing cutters	H5	—	—	—	43	55	65	—	—	—	33	44	50
		—	—	—	140	180	215	—	—	—	110	145	165
Spot facing cutters	H8	—	—	—	46	60	70	—	—	—	36	47	55
		—	—	—	150	195	230	—	—	—	120	155	180
Inserts	H11	—	—	—	55	70	80	—	—	—	42	55	65
		—	—	—	180	230	260	—	—	—	140	180	215
Inserts	H12	—	—	—	80	95	105	—	—	—	65	80	90
		—	—	—	260	310	345	—	—	—	215	260	295



Helical SN8-13

Keep up with customer demand for lower part prices. The Seco Helical SN8-13 features double-sided helix inserts with eight cutting edges that significantly lower cost per edge to boost slotting, side milling and circular rough milling efficiency. Built for difficult applications involving ISO P, M, K and S materials, the cutters offer application-specific sub-family designs featuring left or right-hand helixes, half or full effective teeth options, three different front inserts and many radii choices for long tool life and maximum chip evacuation. Reliable and user-friendly, the Helical SN8-13 also eliminates incorrect indexing of front and helix inserts, reducing operator error.

- Range is built with 5 sub families built with SN13 helix insert:
- SN.U13 insert offering 8 cutting edges in 3 geometries and several grades
- R217/220.82: XO16 lead insert = First choice
- R217/220.82-H: AC15 lead insert = Heavy Duty, R220.69-15H replacement
- R217/R220.82: SP12 lead insert, 4 cutting edges, close to 90°
- R217/220.81: AC15 lead insert = Low Power, R215/220.59 replacement
- R217/220.81-K: AC15 lead insert = Long reach, R215/220.59 replacement

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

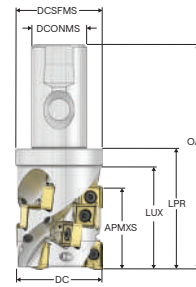
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.82-SNXO16 - Metric



- For insert selection and cutting data recommendations, see page(s) 170–171
- For complete insert programme, see page(s) 897, 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-047-SNXO16.3A	10127480	Seco-Weldon	50,0	3	12	47,0	50,0	32,0	60,0	70,0	130,0	11800	1,0	XO.X1605 / SN.U1306

Spare Parts, included in delivery

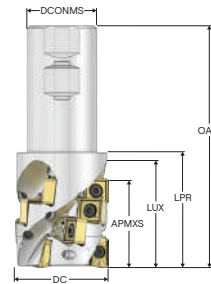
For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R217.82-SNXO16 – inch



- For insert selection and cutting data recommendations, see page(s) 170–171
- For complete insert programme, see page(s) 897, 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.82-02.00-3-1.85-SNXO16.3A	10127485	Weldon	2.000	3	12	1.850	1.500	4.000	2.362	2.441	5.169	11800	2.650	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

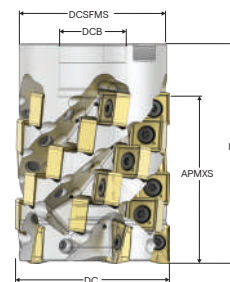
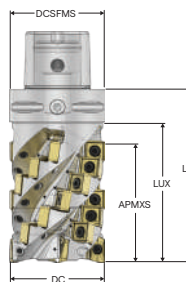
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

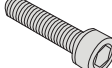
R220.82-SNXO16 – Metric



—For insert selection and cutting data recommendations, see page(s) 170–171
 —For complete insert programme, see page(s) 897, 922, 923
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C6-R217.82-063-079-SNXO16.4SA	10127467	Seco-Capto	63,0	4	28	79,0	–	63,0	115,0	92,2	153,0	7400	2,0	XO.X1605 / SN.U1306
R220.82-0063-047-SNXO16.4A	10127481	Arbor	63,0	4	16	47,0	27,0	59,0	70,0	–	–	10500	0,9	XO.X1605 / SN.U1306
R220.82-0063-069-SNXO16.5A	10127482	Arbor	63,0	5	30	69,0	27,0	59,0	90,0	–	–	10500	1,2	XO.X1605 / SN.U1306
R220.82-0080-068-SNXO16.5A	10127483	Arbor	80,0	5	30	68,0	32,0	75,0	90,0	–	–	6500	1,9	XO.X1605 / SN.U1306
R220.82-0080-079-SNXO16.6A	10127484	Arbor	80,0	6	42	79,0	32,0	75,0	100,0	–	–	6500	2,1	XO.X1605 / SN.U1306
R220.82-0080-090-SNXO16.5SA	10127468	Arbor	80,0	5	30	90,0	32,0	75,0	115,0	–	–	6500	2,7	XO.X1605 / SN.U1306

Spare Parts, included in delivery

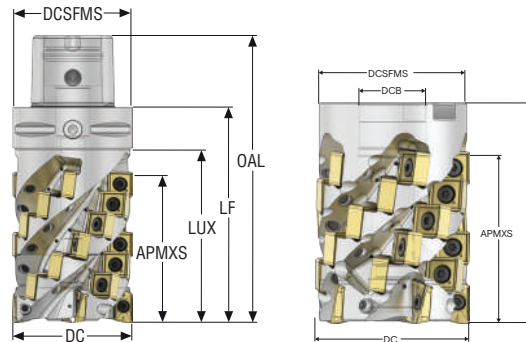
For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	MC6S5X35	C6-R217.82-063-043-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE063-036-SNXO16.4A
R220.82-0063-047	MC6S12X60	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0063-069	MC6S12X80	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0080	MP6S16X80	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-0080-090	MC6S16X100	–	R220.82-0080-054-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE080-036-SNXO16.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35
Cx-R217/220.82	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R220.82-SNXO16 - inch



- For insert selection and cutting data recommendations, see page(s) 170–171
- For complete insert programme, see page(s) 897, 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
C6-R217.82-2.5-3.11-SNXO16.4SA	10128065	Seco-Capto	2.500	4	28	3.110	–	2.480	4.528	3.630	6.024	7400	3.970	XO.X1605 / SN.U1306
R220.82-02.50-1.85-SNXO16.4A	10127486	Arbor	2.500	4	16	1.850	1.000	2.323	2.750	–	–	10500	1.980	XO.X1605 / SN.U1306
R220.82-02.50-2.75-SNXO16.5A	10127487	Arbor	2.500	5	30	2.717	1.000	2.323	3.500	–	–	10500	2.650	XO.X1605 / SN.U1306
R220.82-03.00-2.68-SNXO16.5A	10127488	Arbor	3.000	5	30	2.677	1.250	2.795	3.500	–	–	6500	3.750	XO.X1605 / SN.U1306
R220.82-03.00-3.11-SNXO16.6A	10127489	Arbor	3.000	6	42	3.110	1.250	2.795	3.938	–	–	6500	4.190	XO.X1605 / SN.U1306
R220.82-03.00-3.11-SNXO16.5SA	10164790	Arbor	3.000	5	30	3.110	1.250	2.795	4.000	–	–	6500	4.410	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	UC6S10UNFX1-1/2	C6-R217.82-2.5-1.69-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE02.50-1.42-SNXO16.4A
R220.82-02.50.4A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-02.50.5A	UC6S1/2UNFX3	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-03.00-SA	MC6S16X100	–	R220.82-03.00-1.69-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE03.00-1.42-SNXO16.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35
Cx-R217/220.82-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.82-SNXO16 – Insert selection – mm/Inch

	SMG			f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 0.0060	0,16 0.0065	0,24 0.0095
	P2	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 0.0060	0,16 0.0065	0,25 0.010
Helical milling cutters	P3	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 0.0055	0,15 0.0060	0,24 0.0095
	P4	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 0.0055	0,15 0.0060	0,24 0.0095
	P5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 0.0060	0,16 0.0065	0,24 0.0095
	P6	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 0.0055	0,16 0.0065	0,24 0.0095
	P7	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 0.0055	0,16 0.0065	0,24 0.0095
	P8	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 0.0060	0,17 0.0065	0,25 0.010
	P11	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,11 0.0044	0,12 0.0048	0,19 0.0075
Face milling cutters	P12	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050
	M1	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
Disc milling cutters	M2	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,095 0.0038	0,10 0.0040	0,16 0.0065
	M3	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
	M4	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	M5	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	K1	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,15 0.0060	0,16 0.0065	0,25 0.010
High feed milling cutters	K2	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 0.0055	0,15 0.0060	0,22 0.0085
	K3	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 0.0055	0,15 0.0060	0,22 0.0085
	K4	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 0.0055	0,15 0.0060	0,22 0.0085
	K5	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,13 0.0050	0,20 0.0080
	K6	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 0.0055	0,15 0.0060	0,22 0.0085
Copy milling cutters	K7	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,13 0.0050	0,20 0.0080
	S1	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	S2	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
Plunge milling cutters	S3	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048
	S11	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 0.0036	0,10 0.0040	0,15 0.0060
	S12	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 0.0036	0,10 0.0040	0,15 0.0060
	S13	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 0.0032	0,090 0.0036	0,13 0.0050
	H5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 0.0040	0,11 0.0044	0,17 0.0065
Chamfer milling cutters	H11	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 0.0040	0,11 0.0044	0,17 0.0065
	H12	XOMX160508TR-ME11 MP2050	SNGU130612EN-ME10 MP2050	0,060 0.0024	0,065 0.0026	0,10 0.0040

SMG = Seco material group

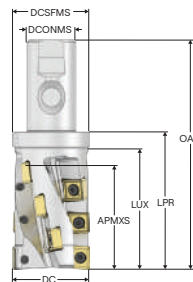
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

R217/220.82-SNXO16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	135 445	150 490	160 520	125 410	140 460	150 490	120 395	135 445	145 475	140 460	155 510	165 540	155 510	165 540	175 570	155 510	165 540	170 560	140 460	155 510	165 540	150 490	160 520	170 560	Square shoulder and slot milling cutters
P2	135 445	150 490	160 520	125 410	140 460	150 490	120 395	135 445	145 475	140 460	155 510	165 540	150 490	165 540	170 560	150 490	165 540	170 560	140 460	155 510	165 540	145 475	160 520	165 540	
P3	125 410	140 460	150 490	115 375	130 425	140 460	110 360	125 410	135 445	130 410	145 475	155 510	145 475	155 510	165 540	145 475	155 510	165 540	130 425	145 475	155 510	140 460	150 490	160 520	Helical milling cutters
P4	120 395	135 445	145 475	110 360	125 410	135 445	105 345	120 395	130 425	120 410	135 460	145 490	140 460	150 490	155 510	135 445	145 490	150 510	125 410	140 460	155 490	140 445	150 475	160 490	
P5	120 395	130 425	140 460	110 360	125 410	135 445	105 345	120 395	130 425	120 410	135 460	145 490	140 460	150 490	155 510	135 445	145 490	150 510	125 410	140 460	155 490	140 425	150 460	160 490	Helical milling cutters
P6	125 410	140 460	150 490	115 375	130 425	140 460	110 360	125 410	135 445	130 410	145 475	155 510	145 475	155 510	165 520	140 460	155 510	160 520	130 425	145 475	155 510	140 460	150 490	160 510	
P7	120 395	135 445	145 475	110 360	125 410	135 445	105 345	120 395	130 425	120 410	135 460	145 490	140 460	150 490	155 510	135 445	145 490	150 510	125 410	140 460	155 490	140 445	150 475	160 510	Face milling cutters
P8	115 375	130 425	140 460	105 345	125 410	130 425	100 330	120 395	125 410	120 395	140 460	145 475	135 445	145 475	155 510	135 445	145 475	155 510	120 395	140 460	145 475	130 425	145 460	150 490	
P11	120 395	135 445	145 475	110 360	125 410	135 445	105 345	120 395	130 425	120 410	140 460	150 490	140 460	150 490	155 510	135 445	150 490	155 510	125 410	140 460	155 490	140 445	150 475	160 490	Face milling cutters
P12	95 310	110 360	120 395	85 280	100 330	110 360	80 260	95 310	105 345	100 330	115 375	125 410	115 375	125 410	130 425	115 375	125 410	130 425	100 330	115 375	125 410	110 360	120 395	125 410	
M1	—	—	—	110 360	130 425	140 460	105 345	120 395	130 445	120 395	135 445	145 475	—	—	—	115 375	130 425	140 460	120 395	135 445	145 475	110 360	130 425	140 460	Disc milling cutters
M2	—	—	—	105 345	115 375	125 410	100 330	110 360	120 395	110 360	125 410	135 445	—	—	—	105 345	120 395	130 425	110 360	125 410	135 445	105 345	115 375	125 410	
M3	—	—	—	90 295	105 345	115 375	85 280	100 330	110 360	110 360	125 375	135 410	—	—	—	95 310	110 360	115 375	100 330	115 375	125 410	90 295	105 345	110 375	Disc milling cutters
M4	—	—	—	75 245	90 295	100 330	70 230	85 280	95 310	85 280	100 330	110 360	—	—	—	80 260	95 310	105 345	85 280	100 330	110 360	75 245	90 295	100 330	
M5	—	—	—	65 215	80 260	90 295	60 195	75 245	85 280	75 245	90 295	100 330	—	—	—	70 230	85 280	95 310	75 245	90 295	100 330	65 215	80 260	90 295	High feed milling cutters
K1	135 445	155 510	165 540	—	—	—	105 345	120 395	130 425	140 460	150 490	155 510	165 540	170 560	150 490	165 540	170 560	125 410	140 460	150 490	145 475	160 520	165 540	170 560	
K2	130 425	145 475	155 510	—	—	—	100 330	115 375	125 410	135 395	145 445	160 475	165 475	165 520	165 540	145 475	155 510	165 540	125 395	135 445	145 475	140 460	155 510	160 520	High feed milling cutters
K3	125 410	135 445	145 475	—	—	—	90 295	105 345	115 375	110 360	125 410	135 445	135 445	150 490	155 510	135 445	150 490	155 510	110 360	125 410	135 445	135 445	145 475	150 490	
K4	120 395	135 445	145 475	—	—	—	90 295	105 345	115 375	110 360	125 410	135 445	135 445	145 475	155 510	135 445	145 475	155 510	110 360	125 410	135 445	130 425	140 460	150 490	Copy milling cutters
K5	95 310	110 360	115 375	—	—	—	60 195	75 245	85 280	80 260	95 310	105 345	100 360	120 395	125 410	105 345	120 395	125 410	80 260	95 310	105 345	105 345	115 375	120 395	
K6	115 375	125 410	140 460	—	—	—	80 260	95 310	105 345	100 330	115 375	125 410	130 425	140 460	145 475	125 410	140 460	145 475	100 330	115 375	125 410	125 410	135 445	140 460	Copy milling cutters
K7	105 345	120 395	130 425	—	—	—	75 245	90 295	100 330	95 310	110 360	120 395	120 395	135 445	140 460	120 395	135 445	140 460	95 310	110 360	120 395	115 375	130 425	135 445	
S1	—	—	—	38 125	50 165	60 195	35 115	46 150	55 180	47 155	60 195	70 230	—	—	—	—	—	—	47 155	60 195	70 230	38 125	50 165	60 195	Plunge milling cutters
S2	—	—	—	31 100	41 135	48 155	28 90	37 120	43 140	37 120	50 165	60 195	—	—	—	—	—	—	37 120	50 165	60 195	31 100	41 135	48 155	
S3	—	—	—	27 90	36 120	42 140	25 80	32 105	38 125	33 110	43 140	50 165	—	—	—	—	—	—	33 110	43 140	50 165	27 90	36 120	42 140	Plunge milling cutters
S11	—	—	—	55 180	70 230	75 245	49 160	65 215	70 230	65 215	80 260	90 295	—	—	—	—	—	—	55 180	70 230	75 245	49 160	55 180	70 230	
S12	—	—	—	37 120	49 160	55 180	34 110	44 145	50 165	45 150	60 195	70 230	—	—	—	—	—	—	45 150	60 195	70 230	37 120	49 160	55 180	Chamfer milling cutters
S13	—	—	—	21 70	28 90	33 110	20 65	26 85	30 100	26 85	35 115	40 130	—	—	—	—	—	—	26 85	35 115	40 130	21 70	28 90	33 110	
H5	—	—	—	—	—	—	29 95	39 130	46 150	38 125	50 165	60 195	43 140	55 180	65 215	—	—	—	38 125	50 165	60 195	34 110	44 145	55 180	Chamfer milling cutters
H8	—	—	—	—	—	—	31 100	41 135	48 155	41 135	55 180	60 195	46 150	60 195	70 230	—	—	—	41 135	55 180	60 195	36 120	48 155	55 180	
H11	—	—	—	—	—	—	37 120	49 160	60 195	49 160	65 215	75 245	55 180	70 230	80 260	—	—	—	49 160	65 215	75 245	43 140	55 180	65 215	Spot facing cutters
H12	—	—	—	—	—	—	55 180	70 230	80 260	75 245	90 295	100 330	75 245	90 295	100 330	—	—	—	75 245	90 295	100 330	65 215	80 260	90 295	

R217.81-SNAC15 Left Helix Troubleshooter – Metric



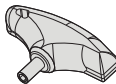
- For insert selection and cutting data recommendations, see page(s) 176–177
- For complete insert programme, see page(s) 873, 897
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.81-3250.3S-068-SNAC15.2	10127496	Seco-Weldon	50,0	2	12	68,0	50,0	32,0	79,0	90,0	150,0	8300	1,1	AC.T1506 / SN.U1306

Spare Parts, included in delivery

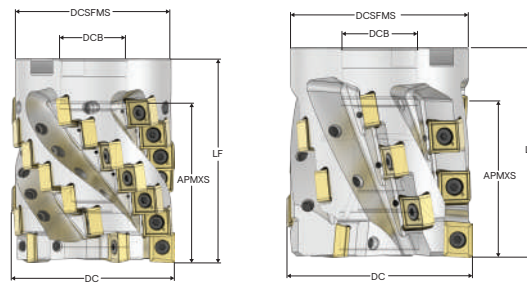
For cutter	Insert key	Insert screw
		
R217.81-..	1/4HEX-T15PX50	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R220.81-SNAC15 – Left Helix Troubleshooter – Metric



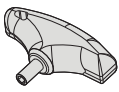
- For insert selection and cutting data recommendations, see page(s) 176–177
- For complete insert programme, see page(s) 873, 897
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.81-0063-068-SNAC15.2A	10127497	Arbor	63,0	2	12	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0063-068-SNAC15.4KA	10127494	Arbor	63,0	4	24	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0080-068-SNAC15.3A	10127498	Arbor	80,0	3	18	68,0	32,0	75,5	90,0	6500	2,1	AC.T1506 / SN.U1306
R220.81-0080-079-SNAC15.5KA	10127495	Arbor	80,0	5	35	79,0	32,0	75,0	100,0	6500	2,1	AC.T1506 / SN.U1306
R220.81-0100-068-SNAC15.4A	10127499	Arbor	100,0	4	24	68,0	40,0	91,0	90,0	5800	3,5	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.81-0063	MP6S12X80	1/4HEX-T15PX50	C55011-T15P
R220.81-0080	MP6S16X80	1/4HEX-T15PX90	C55011-T15P
R220.81-0100	MP6S20X80	1/4HEX-T15PX90	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

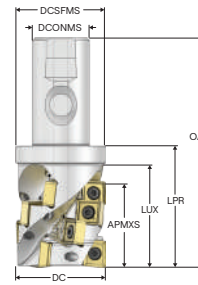
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.82-SNAC15 – Right Helix for Heavy Duty – Metric



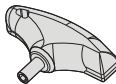
- For insert selection and cutting data recommendations, see page(s) 162–164
- For complete insert programme, see page(s) 873, 897
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-046-SNAC15.3HA	10127490	Seco-Weldon	50,0	3	12	47,0	50,0	32,0	57,0	68,0	128,0	8300	1,0	AC.T1506 / SN.U1306

Spare Parts, included in delivery

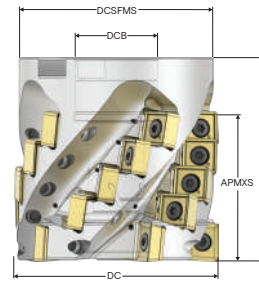
For cutter	Insert key	Insert screw
		
R217.82-..	1/4HEX-T15PX50	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.82-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R220-82-SNAC15 Right Helix for Heavy Duty – Metric



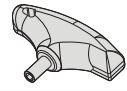
- For insert selection and cutting data recommendations, see page(s) 176-177
- For complete insert programme, see page(s) 873, 897
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC mm	ZEFP	ZNP	APMXS mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.82-0063-046-SNAC15.4HA	10127491	Arbor	63,0	4	16	46,0	27,0	59,0	70,0	7400	0,9	AC.T1506 / SN.U1306
R220.82-0080-057-SNAC15.5HA	10127492	Arbor	80,0	5	25	57,0	32,0	75,0	80,0	6500	1,7	AC.T1506 / SN.U1306
R220.82-0100-057-SNAC15.6HA	10127493	Arbor	100,0	6	30	57,0	40,0	90,0	75,0	5800	2,6	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.82-0063	MC6S12X60	1/4HEX-T15PX50	C55011-T15P
R220.82-0080	MC6S16X70	1/4HEX-T15PX90	C55011-T15P
R220.82-0100	MC6S20X50	1/4HEX-T15PX90	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.82-0063-0080	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50
R220.82-0100	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.82-SNAC15 – Insert selection – mm/Inch

	SMG			f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 0.0048	0,14 0.0055	0,20 0.0080
	P2	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085
Helical milling cutters	P3	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P4	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P5	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 0.0044	0,13 0.0050	0,19 0.0075
	P6	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P7	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P8	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,11 0.0044	0,12 0.0048	0,19 0.0075
Face milling cutters	P12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050
	M1	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,11 0.0044	0,13 0.0050	0,19 0.0075
Disc milling cutters	M2	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
	M3	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	M4	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,090 0.0036	0,13 0.0050
	M5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,090 0.0036	0,13 0.0050
	K1	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,16 0.0065	0,18 0.0070	0,26 0.010
High feed milling cutters	K2	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 0.0060	0,16 0.0065	0,24 0.0095
	K3	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 0.0060	0,16 0.0065	0,24 0.0095
	K4	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 0.0060	0,16 0.0065	0,24 0.0095
	K5	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,13 0.0050	0,14 0.0055	0,22 0.0085
	K6	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 0.0060	0,16 0.0065	0,24 0.0095
	K7	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,13 0.0050	0,14 0.0055	0,22 0.0085
	S1	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050
Copy milling cutters	S2	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050
	S3	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048
	S11	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
Plunge milling cutters	S12	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	S13	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048
	H5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050
	H8	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 0.0024	0,065 0.0026	0,10 0.0040
Chamfer milling cutters	H11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050
	H12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 0.0024	0,065 0.0026	0,10 0.0040

SMG = Seco material group

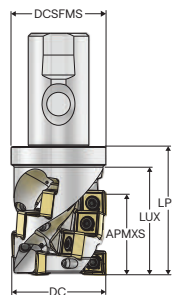
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

R217/220.82-SNAC15 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501			Square should and slot millin cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	140	150	160	135	145	155	130	140	150	155	165	175	155	170	175	155	165	175	155	165	175	150	165	170	Helical milling cutters
	460	490	520	445	475	510	425	460	490	510	540	570	510	560	570	510	540	570	510	540	570	490	540	560	
P2	135	150	160	130	145	155	130	140	150	150	165	175	155	165	175	155	165	175	150	165	175	150	160	170	Helical milling cutters
	445	490	520	425	475	510	425	460	490	490	540	570	510	540	570	510	540	570	490	540	570	490	520	560	
P3	130	145	155	125	140	145	120	135	140	145	160	165	145	160	165	145	160	165	145	160	165	140	155	160	Helical milling cutters
	425	475	510	410	460	475	395	445	460	475	520	540	475	520	540	475	520	540	475	520	540	460	510	520	
P4	120	135	145	115	130	140	115	130	135	140	150	160	140	155	160	140	150	160	140	150	160	135	145	155	Helical milling cutters
	395	445	475	375	425	460	375	425	445	460	490	520	460	510	520	460	490	520	460	490	520	445	475	510	
P5	120	135	145	115	130	140	115	125	130	135	150	155	140	150	155	135	150	155	135	150	155	135	145	150	Helical milling cutters
	395	445	475	375	425	460	375	410	425	445	490	510	460	490	510	445	490	510	445	490	510	445	475	490	
P6	125	140	150	120	135	145	120	130	140	145	155	165	145	155	165	145	155	165	145	155	165	140	150	160	Helical milling cutters
	410	460	490	395	445	475	395	425	460	475	510	540	475	510	540	475	510	540	475	510	540	460	490	520	
P7	125	140	150	120	135	140	115	130	135	140	150	160	140	155	160	140	150	160	140	150	160	135	150	155	Helical milling cutters
	410	460	490	395	445	460	375	425	445	460	490	520	460	510	520	460	490	520	460	490	520	445	490	510	
P8	120	135	145	115	130	135	115	125	130	135	150	155	140	150	155	135	150	155	135	150	155	130	145	150	Face milling cutters
	395	445	475	375	425	445	375	410	425	445	490	510	460	490	510	445	490	510	445	490	510	425	475	490	
P11	120	135	145	120	130	140	115	125	135	140	150	160	140	150	160	140	150	160	140	150	160	135	145	155	Face milling cutters
	395	445	475	395	425	460	375	410	445	460	490	520	460	490	520	460	490	520	460	490	520	445	475	510	
P12	100	110	120	95	105	115	95	105	110	115	125	130	115	125	135	115	125	135	115	125	130	110	120	130	Face milling cutters
	330	360	395	310	345	375	310	345	360	375	410	425	375	410	445	375	410	445	375	410	425	360	395	425	
M1	—	—	—	115	130	140	110	125	135	120	140	150	—	—	—	115	135	140	120	140	150	115	130	140	Disc milling cutters
	—	—	—	375	425	460	360	410	445	395	460	490	—	—	—	375	445	460	395	460	490	375	425	460	
M2	—	—	—	105	120	130	100	115	125	115	130	140	—	—	—	105	120	130	115	130	140	105	120	130	Disc milling cutters
	—	—	—	345	395	425	330	375	410	375	425	460	—	—	—	345	395	425	375	425	460	345	395	425	
M3	—	—	—	95	110	115	90	105	110	100	115	125	—	—	—	95	110	120	100	115	125	95	110	115	Disc milling cutters
	—	—	—	310	360	375	295	345	360	330	375	410	—	—	—	310	360	395	330	375	410	310	360	375	
M4	—	—	—	80	95	105	75	90	100	85	105	110	—	—	—	80	95	105	85	105	110	80	95	105	Disc milling cutters
	—	—	—	260	310	345	245	295	330	280	345	360	—	—	—	260	310	345	280	345	360	260	310	345	
M5	—	—	—	70	85	95	65	80	90	75	95	100	—	—	—	70	85	95	75	95	100	70	85	95	Disc milling cutters
	—	—	—	230	280	310	215	260	295	245	310	330	—	—	—	230	280	310	245	310	330	230	280	310	
K1	140	155	165	—	—	—	110	125	135	130	145	155	155	165	175	155	165	175	130	145	155	150	160	170	High feed milling cutters
	460	510	540	—	—	—	360	410	445	425	475	510	510	540	570	510	540	570	425	475	510	490	520	560	
K2	135	150	160	—	—	—	105	115	125	125	135	145	150	160	170	145	160	165	125	135	145	145	155	160	High feed milling cutters
	445	490	520	—	—	—	345	375	410	410	445	475	490	520	560	475	520	540	410	445	475	475	510	520	
K3	125	140	150	—	—	—	95	110	120	115	130	140	140	150	160	140	150	160	115	130	140	135	145	155	High feed milling cutters
	410	460	490	—	—	—	310	360	395	375	425	460	460	490	520	460	490	520	375	425	460	445	475	510	
K4	120	135	145	—	—	—	90	105	115	110	125	135	135	150	155	135	150	155	110	125	135	135	145	150	Copy milling cutters
	395	445	475	—	—	—	295	345	375	360	410	445	445	490	510	445	490	510	360	410	445	445	475	490	
K5	95	110	120	—	—	—	65	80	90	85	100	110	110	120	130	110	120	130	85	100	110	105	115	125	Copy milling cutters
	310	360	395	—	—	—	215	260	295	280	330	360	360	395	425	360	395	425	280	330	360	345	375	410	
K6	115	130	140	—	—	—	85	100	110	105	120	130	130	140	150	130	140	150	105	120	130	125	135	145	Copy milling cutters
	375	425	460	—	—	—	280	330	360	345	395	425	425	460	490	425	460	490	345	395	425	410	445	475	
K7	110	125	135	—	—	—	75	95	100	95	115	120	125	135	140	125	135	140	95	115	120	120	130	135	Copy milling cutters
	360	410	445	—	—	—	245	310	330	310	375	395	410	445	460	410	445	460	310	375	395	395	425	445	
S1	—	—	—	39	55	60	36	48	55	48	65	70	—	—	—	—	—	—	48	65	70	39	55	60	Plunge milling cutters
	—	—	—	130	180	195	120	155	180	155	215	230	—	—	—	—	—	—	155	215	230	130	180	195	
S2	—	—	—	32	42	50	29	38	45	39	50	60	—	—	—	—	—	—	39	50	60	32	42	50	Plunge milling cutters
	—	—	—	105	140	165	95	125	150	130	165	195	—	—	—	—	—	—	130	165	195	105	140	165	
S3	—	—	—	28	37	43	26	34	39	34	45	55	—	—	—	—	—	—	34	45	55	28	37	43	Plunge milling cutters
	—	—	—	90	120	140	85	110	130	110	150	180	—	—	—	—	—	—	110	150	180	90	120	140	
S11	—	—	—	55	70	80	50	65	75	65	80	90	—	—	—	—	—	—	65	80	90	55	70	80	Plunge milling cutters
	—	—	—	180	230	260	165	215	245	215	260	295	—	—	—	—	—	—	215	260	295	180	230	260	
S12	—	—	—	38	50	60	35	46	55	47	60	70	—	—	—	—	—	—	47	60	70	38	50	60	Chamfer milling cutters
	—	—	—	125	165	195	115	150	180	155	195	230	—	—	—	—	—	—	155	195	230	125			

R217.82-SNSP12 – Metric



- For insert selection and cutting data recommendations, see page(s) 181-182
- For complete insert programme, see page(s) 873, 897
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.82-3250-3S-043-SNSP12.3A	10361216	Seco-Weldon	50,0	3	12	43,0	32,0	57,7	68,0	128,0	10100	0,9	SP.T1205/SN.U1306

Spare Parts, included in delivery

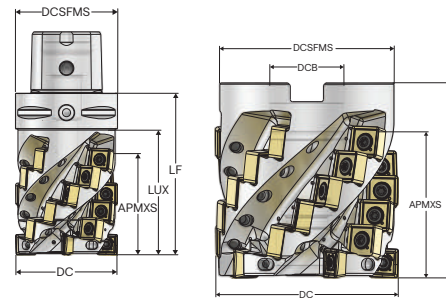
For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

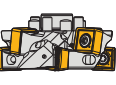
R217/220.82-SNSP12 – Metric



- For insert selection and cutting data recommendations, see page(s) 170–171
- For complete insert programme, see page(s) 897, 922, 923
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C6-R217.82-063-064-SNSP12.4SA	10361223	Seco-Capto	63,0	4	24	64,0	–	63,0	100,0	77,5	138,0	9000	1,7	SP.T1205/SN.U1306
R220.82-0063-054-SNSP12.4A	10361217	Arbor	63,0	4	20	54,0	27,0	59,0	80,0	–	–	9000	1,0	SP.T1205/SN.U1306
R220.82-0080-064-SNSP12.5A	10361218	Arbor	80,0	5	30	64,0	32,0	75,0	85,0	–	–	8000	1,9	SP.T1205/SN.U1306
R220.82-0080-086-SNSP12.5SA	10361224	Arbor	80,0	5	40	86,0	32,0	75,0	111,0	–	–	8000	2,3	SP.T1205/SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable End
						
R217.82-..	–	C6-R217.82-063-043-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE063-021-SNSP12.4A
R220.82-0063	MC6S12X70	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0080	MC6S16X70	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-0080-SA	MC6S16X100	R220.82-0080-054-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE080-032-SNSP12.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0063	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0080-SA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

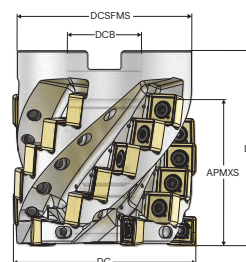
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

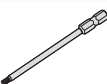
R220.82-SNSP12 – inch



—For insert selection and cutting data recommendations, see page(s) 170–171
 —For complete insert programme, see page(s) 897, 922, 923
 —For ISO attribute explanation, see page 16
 —KAPRS 90°

Designation	Item number	Type of mounting	DC inch	ZEFP	ZNP	APMXS inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.82-03.00-2.51-SNSP12.5A	10361221	Arbor	3.000	5	30	2.520	1.250	2.795	3.454	8200	3.750	SPT1205/SN.U1306
R220.82-03.00-2.94-SNSP12.5SA	10361225	Arbor	3.000	5	35	2.953	1.250	2.795	3.843	8200	3.750	SPT1205/SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable End
						
R220.82-2.51	UC6S5/8UNFX3	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-2.94	UC6S5/8UNFX3-1/2	R220.82-03.00-1.69-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE03.00-1.25-SNSP12.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R220.82-2.51	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	–	5.0NM
R220.82-2.94	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

R217/220.82-SNSP12 – Insert selection – mm/Inch

SMG			f_z			
			100%	30%	10%	
P1	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 0.0050	0,15 0.0060	0,22 0.0085	Square shoulder and slot milling cutters
P2	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,14 0.0055	0,15 0.0060	0,24 0.0095	
P3	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085	Helical milling cutters
P4	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085	
P5	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 0.0048	0,14 0.0055	0,20 0.0080	
P6	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 0.0048	0,13 0.0050	0,20 0.0080	
P7	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 0.0048	0,13 0.0050	0,20 0.0080	Face milling cutters
P8	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,13 0.0050	0,14 0.0055	0,22 0.0085	
P11	SPMT120508SR-M12 MP3501	SNXU130612TN-M12 MP3501	0,12 0.0048	0,13 0.0050	0,20 0.0080	
P12	SPMT120508SR-M12 MP3501	SNXU130612TN-M12 MP3501	0,085 0.0034	0,095 0.0038	0,14 0.0055	
M1	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,11 0.0044	0,12 0.0048	0,19 0.0075	Disc milling cutters
M2	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065	
M3	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	
M4	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	
M5	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	High feed milling cutters
K1	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095	
K2	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,14 0.0055	0,20 0.0080	
K3	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,14 0.0055	0,20 0.0080	
K4	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,14 0.0055	0,20 0.0080	Copy milling cutters
K5	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,11 0.0044	0,12 0.0048	0,19 0.0075	
K6	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 0.0048	0,14 0.0055	0,20 0.0080	
K7	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,11 0.0044	0,12 0.0048	0,19 0.0075	
S1	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	Plunge milling cutters
S2	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	
S3	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,070 0.0028	0,075 0.0030	0,11 0.0044	
S11	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	
S12	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	Chamfer milling cutters
S13	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %
 All cutting data are start values

R217/220.82-SNSP12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
Square shoulder and slot milling cutters	P1																								
	P1	460 140	520 160	560 165	460 135	510 150	540 160	445 135	490 145	510 155	520 160	570 175	610 180	540 160	570 175	610 185	520 160	570 175	610 180	520 160	570 175	610 180	510 155	560 170	590 175
Helical milling cutters	P2	460 135	520 150	540 160	445 130	490 145	520 150	445 125	475 140	510 145	520 150	570 165	590 175	520 155	570 165	610 175	520 155	570 165	590 175	520 150	570 165	590 175	510 150	560 160	570 170
	P3	445 125	490 140	520 150	425 120	475 135	490 145	410 120	460 135	475 140	490 145	540 160	570 165	510 145	540 160	570 165	510 145	540 160	570 165	490 145	540 160	570 165	490 140	520 155	560 160
	P4	410 120	460 140	490 150	395 120	445 135	475 145	395 115	445 130	460 135	475 140	520 155	540 165	475 145	520 155	540 165	475 140	520 155	540 165	475 140	520 155	540 165	475 140	510 150	520 160
	P5	395 130	460 145	490 155	395 125	445 140	475 150	375 125	425 135	445 145	460 150	510 160	540 170	475 150	510 165	540 170	460 150	510 165	540 170	460 150	510 160	540 170	460 145	490 155	520 165
Face milling cutters	P6	425 125	475 145	510 155	410 125	460 135	490 145	410 120	445 130	475 140	490 145	520 160	560 165	490 150	540 160	560 170	490 145	540 160	560 165	490 145	520 160	560 165	475 145	510 155	540 160
	P7	410 120	475 140	510 150	410 120	445 135	475 140	395 115	425 130	460 135	475 140	520 155	540 160	490 145	520 155	560 165	475 140	520 155	540 160	475 140	520 155	540 160	475 140	510 150	520 155
	P8	395 125	460 140	490 150	395 120	445 135	475 145	375 120	425 130	445 140	460 145	510 155	520 165	475 145	510 160	540 165	460 145	510 155	540 165	460 145	510 155	520 165	460 140	490 150	510 160
	P11	410 100	460 115	490 125	395 95	445 110	475 120	395 95	425 105	460 110	475 120	510 130	540 135	475 120	520 130	540 140	475 120	510 130	540 140	475 120	510 130	540 135	460 115	490 125	520 130
Disc milling cutters	P12	330 —	375 —	410 —	310 115	360 135	395 145	310 110	345 130	360 140	395 125	425 145	445 155	395 —	425 —	460 —	395 120	425 135	460 150	395 125	425 145	445 155	375 115	410 135	425 145
	M1	— —	— —	— —	375 105	445 125	475 135	360 100	425 115	460 130	410 115	510 130	— 145	— —	— —	— —	395 110	445 125	490 135	410 115	475 130	510 145	375 105	445 125	475 135
	M2	— —	— —	— —	345 95	410 110	445 120	330 90	375 105	425 115	375 105	425 120	475 130	— —	— —	— —	360 95	410 115	445 125	375 105	425 120	475 130	345 95	410 110	445 120
	M3	— —	— —	— —	310 80	360 95	395 105	295 75	345 90	375 100	345 90	395 105	425 115	— —	— —	— —	310 80	375 100	410 110	345 90	395 105	425 115	310 80	360 95	395 105
High feed milling cutters	M4	— —	— —	— —	260 70	310 85	345 95	245 80	295 90	330 100	295 75	345 95	375 105	— —	— —	— —	260 70	330 95	360 105	295 75	345 95	375 105	260 70	310 85	345 95
	M5	— 145	— 160	— 170	230 —	280 —	310 —	195 110	260 130	295 135	245 135	310 150	345 160	— 160	— 175	— 185	230 160	295 175	310 180	245 135	310 150	345 160	230 155	280 170	310 175
	K1	475 140	520 155	560 165	— —	— —	— —	360 105	425 120	445 130	445 125	490 140	520 155	570 175	610 175	610 175	520 155	570 165	590 175	445 125	490 140	520 155	510 150	560 160	570 170
	K2	460 130	510 145	540 155	— —	— —	— —	345 95	395 110	425 120	410 115	460 130	510 145	510 145	560 160	570 165	510 145	540 155	570 165	410 115	460 130	510 145	490 140	520 150	560 160
Copy milling cutters	K3	425 125	475 140	510 155	— —	— —	— —	310 90	360 110	395 120	375 110	425 130	475 140	475 140	520 155	540 165	475 140	510 155	540 160	375 110	425 130	475 140	460 135	490 145	520 155
	K4	410 95	460 115	510 125	— —	— —	— —	295 60	360 80	395 90	360 85	425 100	460 110	460 115	510 125	540 135	460 110	510 125	520 130	360 85	425 100	460 110	445 110	490 120	510 125
	K5	310 115	375 135	410 145	— —	— —	— —	195 85	260 100	295 110	280 105	330 120	360 135	375 135	410 150	445 155	360 135	410 145	425 155	280 105	330 120	360 135	360 130	395 140	410 150
	K6	375 110	445 130	475 140	— —	— —	— —	280 75	330 95	360 105	345 100	395 115	445 125	445 130	490 140	510 150	445 125	475 140	510 145	345 100	395 115	445 125	425 135	460 145	490 150
Plunge milling cutters	K7	360 —	425 —	460 —	— 38	— 50	— 60	245 35	310 46	345 55	330 47	375 60	410 70	425 —	460 —	490 —	410 —	460 —	475 —	330 47	375 60	410 70	410 38	445 50	460 60
	S1	— —	— —	— —	125 31	165 41	195 48	115 28	150 37	180 43	155 38	195 50	230 60	— —	— —	— —	— —	— —	— —	155 38	195 50	230 60	125 31	165 41	195 48
	S2	— —	— —	— —	100 27	135 36	155 42	90 25	120 32	140 38	125 33	165 43	195 50	— —	— —	— —	— —	— —	— —	125 33	165 43	195 50	100 27	135 36	155 42
	S3	— —	— —	— —	90 55	120 70	140 80	80 49	105 65	125 75	110 65	140 80	165 90	— —	— —	— —	— —	— —	— —	110 65	140 80	165 90	90 55	120 70	140 80
Chamfer milling cutters	S11	— —	— —	— —	180 37	230 49	260 55	160 34	215 44	245 50	215 45	260 60	295 70	— —	— —	— —	— —	— —	— —	215 45	260 60	295 70	180 37	230 49	260 55
	S12	— —	— —	— —	120 22	160 29	180 33	110 20	145 26	165 30	150 26	195 35	230 40	— —	— —	— —	— —	— —	— —	150 26	195 35	230 40	120 22	160 29	180 33
		—	—	—	70	95	110	65	85	100	85	115	130	—	—	—	—	—	—	85	115	130	70	95	110



Helical LN4-11

The Seco Helical LN4-11 cutter range featuring double sided helix inserts with four cutting edges offers low cost per edge combined with high performance in a large variety of applications eg slotting, side milling and circular rough milling. Geometry and grade offer developed to cover ISO P, M, K and S materials. Front insert offering many radii choices. User-friendly and reliable the LN4-11 cutter also eliminates incorrect indexing of front and helix inserts, reducing operator error.

– R217/220.42, cutter range 32–63mm (1.25–2.00 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

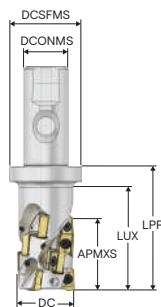
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.42-LNXO



- For insert selection and cutting data recommendations, see page(s) 188–189
- For complete insert programme, see page(s) 879, 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.42-2532.3S-031-LNXO.3A	10255162	Seco-Weldon	32,0	3	9	31,0	40,0	25,0	49,7	60,0	116,0	17000	0,5	XO.X12/LN.U11
R217.42-2532.3S-041-LNXO.3A	10255161	Seco-Weldon	32,0	3	12	41,0	40,0	25,0	59,7	70,0	126,0	17000	0,5	XO.X12/LN.U11
R217.42-3240.3S-041-LNXO.3A	10255164	Seco-Weldon	40,0	3	12	41,0	50,0	32,0	50,5	70,0	130,0	15200	0,9	XO.X12/LN.U11
R217.42-3240.3S-051-LNXO.4A	10255165	Seco-Weldon	40,0	4	20	51,0	50,0	32,0	69,5	80,0	140,0	15200	0,9	XO.X12/LN.U11
R217.42-3240.3S-070-LNXO.3A	10255166	Seco-Weldon	40,0	3	21	70,0	50,0	32,0	80,5	90,0	150,0	15200	0,9	XO.X12/LN.U11

Spare Parts, included in delivery

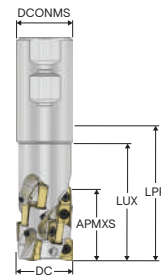
For cutter	Insert key	Insert screw
		
R217.42-2532	1/4HEX-T10PX50	C03508-T10P
R217.42-3240	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217.42-2532	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30
R217.42-3240	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

R217.42-LNXO



- For insert selection and cutting data recommendations, see page(s) 188-189
- For complete insert programme, see page(s) 879, 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.42-1.25-3-1.61-LNXO.3A	10256018	Weldon	1.250	3	12	1.614	1.250	3.860	2.642	2.663	4.982	17100	1.540	XO.X12/LN.U11
R217.42-1.50-3-2.79-LNXO.3A	10256020	Weldon	1.500	3	21	2.756	1.500	5.016	3.437	3.457	6.185	15600	2.430	XO.X12/LN.U11

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.42-1.25	1/4HEX-T10PX50	C03508-T10P
R217.42-1.50	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217.42-1.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30
R217.42-1.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

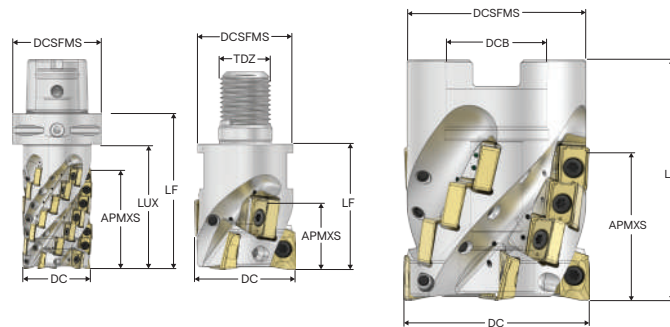
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

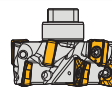
R217.42-LNXO



- For insert selection and cutting data recommendations, see page(s) 188–189
- For complete insert programme, see page(s) 879, 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C6-R217.42-0050-070-LNXO.5SA	10255172	Seco-Capto	50,0	5	35	70,0	–	63,0	–	110,0	87,5	148,0	13600	1,5	XO.X12/LN.U11
R217.42-1632.RE-021-LNXO.3A	10255160	Combimaster	32,0	3	6	21,0	–	30,0	M16	40,0	–	62,75	17000	0,2	XO.X12/LN.U11
R217.42-2040.RE-041-LNXO.4A	10255163	Combimaster	40,0	4	16	41,0	–	36,5	M20	61,0	–	88,0	15200	0,5	XO.X12/LN.U11
R220.42-0050-040-LNXO.4A	10255167	Arbor	50,0	4	16	40,0	27,0	47,09	–	65,0	–	–	13600	0,6	XO.X12/LN.U11
R220.42-0050-050-LNXO.5A	10255168	Arbor	50,0	5	25	50,0	27,0	46,88	–	75,0	–	–	13600	0,8	XO.X12/LN.U11
R220.42-0063-050-LNXO.6A	10255169	Arbor	63,0	6	30	50,0	27,0	59,82	–	75,0	–	–	12100	1,2	XO.X12/LN.U11

Spare Parts, included in delivery

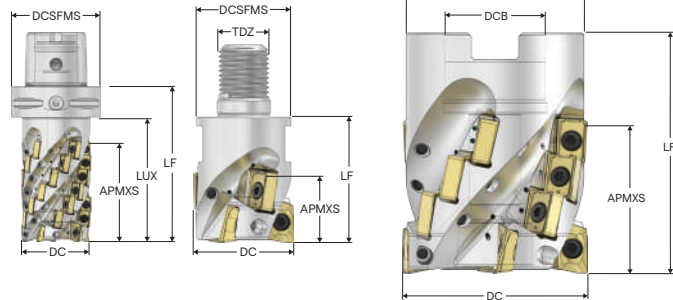
For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C6-R217.42-..	–	C6-R217.42-0050-049-LN.5BA	LUBRICATION_SET_19	1/4HEX-T10PX50	C03509-T10P	R220.42-RE0050-021-LNXO.5A
R217.42-..	–	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-0050-0063	MC6S12X70	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-0050-040	MC6S12X60	–	–	1/4HEX-T10PX50	C03509-T10P	–

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217/220.42-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

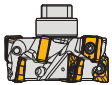
R217.42-LNXO



- For insert selection and cutting data recommendations, see page(s) 188-189
- For complete insert programme, see page(s) 879, 920, 921
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch		inch	inch	inch		lbs	
C6-R217.42-2.00-3.90-LNXO.5SA	10256021	Seco-Capto	2.000	5	50	3.898	—	2.480	—	5.500	4.614	6.996	13500	3.970	XO.X12/LN.U11
R217.42-1.50-20RE-1.61-LNXO.3A	10256019	Combimaster	1.500	3	12	1.614	—	1.437	M20	2.402	—	3.465	15600	0.880	XO.X12/LN.U11
R220.42-2.00-1.57-LNXO.4A	10255170	Arbor	2.000	4	16	1.602	1.000	1.885	—	2.750	—	—	13500	1.760	XO.X12/LN.U11
R220.42-2.00-1.96-LNXO.5A	10255171	Arbor	2.000	5	25	2.000	1.000	1.876	—	3.250	—	—	13500	1.980	XO.X12/LN.U11

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C6-R217.42-..	—	C6-R217.42-2.00-3.07-LN.5BA	LUBRICATION_SET_19	1/4HEX-T10PX50	C03509-T10P	R220.42-RE2.00-0.83-LNXO.5A
R217.42-..	—	—	—	1/4HEX-T10PX50	C03509-T10P	—
R220.42-2.00-1.57	UC6S1/2UNFX2-1/2	—	—	1/4HEX-T10PX50	C03509-T10P	—
R220.42-2.00-1.96	UC6S1/2UNFX3	—	—	1/4HEX-T10PX50	C03509-T10P	—

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217/220.42-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.42 – Insert selection – Metric/ Inch

	SMG			f_z		
				100%	30%	10%
Square shoulder and slot milling cutters	P1	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,14 0.0055	0,15 0.0060	0,22 0.0085
	P2	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,14 0.0055	0,15 0.0060	0,24 0.0095
Helical milling cutters	P3	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085
	P4	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085
	P5	XOEX120404R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 0.0038	0,10 0.0040	0,16 0.0065
	P6	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 0.0038	0,10 0.0040	0,16 0.0065
	P7	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 0.0038	0,10 0.0040	0,16 0.0065
	P8	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,10 0.0040	0,11 0.0044	0,16 0.0065
	P11	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,095 0.0038	0,10 0.0040	0,16 0.0065
Face milling cutters	P12	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP3501	0,065 0.0026	0,070 0.0028	0,11 0.0044
	M1	XOEX120408R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065
Disc milling cutters	M2	XOEX120404R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,095 0.0038	0,10 0.0040	0,16 0.0065
	M3	XOEX120404R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
	M4	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,065 0.0026	0,070 0.0028	0,11 0.0044
	M5	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,065 0.0026	0,070 0.0028	0,11 0.0044
	K1	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,14 0.0055	0,15 0.0060	0,24 0.0095
High feed milling cutters	K2	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 0.0050	0,14 0.0055	0,20 0.0080
	K3	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 0.0050	0,14 0.0055	0,20 0.0080
	K4	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 0.0050	0,14 0.0055	0,20 0.0080
	K5	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,11 0.0044	0,12 0.0048	0,19 0.0075
	K6	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 0.0050	0,14 0.0055	0,20 0.0080
Copy milling cutters	K7	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,11 0.0044	0,12 0.0048	0,19 0.0075
	S1	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,060 0.0024	0,065 0.0026	0,095 0.0038
	S2	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,060 0.0024	0,065 0.0026	0,095 0.0038
Plunge milling cutters	S3	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,055 0.0022	0,060 0.0024	0,090 0.0036
	S11	XOEX120404R-M07 MS2050	LNEU110408ER-M07 MS2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
	S12	XOEX120404R-M07 MS2050	LNEU110408ER-M07 MS2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
	S13	XOEX120404R-M07 MS2050	LNMU110408ER-M07 MS2050	0,065 0.0026	0,070 0.0028	0,11 0.0044
	H5	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,085 0.0034	0,095 0.0038	0,14 0.0055
Chamfer milling cutters	H8	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,065 0.0026	0,070 0.0028	0,11 0.0044
	H11	XOMX120408TR-M12 MP3501	XOMX120408TR-M12 MP3501	0,085 0.0034	0,095 0.0038	0,14 0.0055
	H12	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,065 0.0026	0,070 0.0028	0,11 0.0044

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

R217/220.42 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MS2050			MP2050			F40M			MP1501			MP2501			MP3501			Square shoulder and slot milling cutters
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	150	170	185	155	175	185	165	185	195	135	155	165	180	190	200	175	190	200	170	185	195	Helical milling cutters
	490	560	610	510	570	610	540	610	640	445	510	540	590	620	660	570	620	660	560	610	640	
P2	150	170	180	155	170	180	165	180	195	135	150	165	175	190	200	175	190	195	165	180	190	Helical milling cutters
	490	560	590	510	560	590	540	590	640	445	490	540	570	620	660	570	620	640	540	590	620	
P3	140	160	170	145	160	170	155	170	185	125	145	155	170	180	190	165	180	190	160	175	180	Helical milling cutters
	460	520	560	475	520	560	510	560	610	410	475	510	560	590	620	540	590	620	520	570	590	
P4	135	155	165	135	155	165	145	165	175	115	135	145	160	175	180	160	170	180	150	165	175	Helical milling cutters
	445	510	540	445	510	540	475	540	570	375	445	475	520	570	590	520	560	590	490	540	570	
P5	130	150	160	130	150	160	145	160	175	115	130	145	155	170	180	155	170	180	145	160	170	Helical milling cutters
	425	490	520	425	490	520	475	520	570	375	425	475	510	560	590	510	560	590	475	520	560	
P6	140	155	170	140	160	170	150	170	180	120	140	150	165	180	185	165	175	185	155	170	180	Helical milling cutters
	460	510	560	460	520	560	490	560	590	395	460	490	540	590	610	540	570	610	510	560	590	
P7	135	155	165	135	155	165	150	165	175	120	135	150	160	175	185	160	175	180	155	165	175	Face milling cutters
	445	510	540	445	510	540	490	540	570	395	445	490	520	570	610	520	570	590	510	540	570	
P8	130	150	160	130	150	160	145	160	170	115	130	145	155	170	180	155	170	175	145	160	170	Face milling cutters
	425	490	520	425	490	520	475	520	560	375	425	475	510	560	590	510	560	570	475	520	560	
P11	135	150	165	135	155	165	145	165	175	115	135	145	160	170	180	160	170	180	150	165	175	Face milling cutters
	445	490	540	445	510	540	475	540	570	375	445	475	520	560	590	520	560	590	490	540	570	
P12	105	125	135	105	125	135	115	135	145	90	105	115	130	140	150	130	140	150	120	135	140	Face milling cutters
	345	410	445	345	410	445	375	445	475	295	345	375	425	460	490	425	460	490	395	445	460	
M1	—	—	—	140	155	170	140	160	170	120	140	150	—	—	—	130	150	160	125	145	155	Disc milling cutters
	—	—	—	460	510	560	460	520	560	395	460	490	—	—	—	425	490	520	410	475	510	
M2	—	—	—	125	145	155	130	145	160	105	125	135	—	—	—	115	135	150	110	130	145	Disc milling cutters
	—	—	—	410	475	510	425	475	520	345	410	445	—	—	—	375	445	490	360	425	475	
M3	—	—	—	110	130	140	115	130	145	95	110	120	—	—	—	105	120	135	100	120	130	Disc milling cutters
	—	—	—	360	425	460	375	425	475	310	360	395	—	—	—	345	395	445	330	395	425	
M4	—	—	—	95	110	120	95	115	125	75	95	105	—	—	—	85	105	115	85	100	110	Disc milling cutters
	—	—	—	310	360	395	310	375	410	245	310	345	—	—	—	280	345	375	280	330	360	
M5	—	—	—	80	100	110	85	105	115	65	85	95	—	—	—	75	95	105	70	90	100	Disc milling cutters
	—	—	—	260	330	360	280	345	375	215	280	310	—	—	—	245	310	345	230	295	330	
K1	155	175	185	—	—	—	—	—	—	120	135	145	175	190	200	175	190	195	170	185	190	High feed milling cutters
	510	570	610	—	—	—	—	—	—	395	445	475	570	620	660	570	620	640	560	610	620	
K2	150	165	180	—	—	—	—	—	—	110	130	140	170	185	190	165	180	190	160	175	185	High feed milling cutters
	490	540	590	—	—	—	—	—	—	360	425	460	560	610	620	540	590	620	520	570	610	
K3	135	155	170	—	—	—	—	—	—	100	115	130	155	170	180	155	170	180	150	165	170	High feed milling cutters
	445	510	560	—	—	—	—	—	—	330	375	425	510	560	590	510	560	590	490	540	560	
K4	135	150	165	—	—	—	—	—	—	95	115	125	155	170	175	155	165	175	145	160	170	Copy milling cutters
	445	490	540	—	—	—	—	—	—	310	375	410	510	560	570	510	540	570	475	520	560	
K5	100	120	130	—	—	—	—	—	—	65	85	95	125	135	145	120	135	145	115	130	135	Copy milling cutters
	330	395	425	—	—	—	—	—	—	215	280	310	410	445	475	395	445	475	375	425	445	
K6	125	145	155	—	—	—	—	—	—	85	105	120	145	160	170	145	160	170	135	150	160	Copy milling cutters
	410	475	510	—	—	—	—	—	—	280	345	395	475	520	560	475	520	560	445	490	520	
K7	120	135	145	—	—	—	—	—	—	80	100	110	140	150	160	140	150	160	130	145	150	Copy milling cutters
	395	445	475	—	—	—	—	—	—	260	330	360	460	490	520	460	490	520	425	475	490	
S1	—	—	—	47	60	70	50	65	80	36	47	55	—	—	—	—	—	—	39	50	60	Plunge milling cutters
	—	—	—	155	195	230	165	215	260	120	155	180	—	—	—	—	—	—	130	165	195	
S2	—	—	—	38	49	60	42	55	65	29	38	44	—	—	—	—	—	—	32	42	49	Plunge milling cutters
	—	—	—	125	160	195	140	180	215	95	125	145	—	—	—	—	—	—	105	140	160	
S3	—	—	—	33	43	50	36	48	55	26	33	39	—	—	—	—	—	—	28	37	43	Plunge milling cutters
	—	—	—	110	140	165	120	155	180	85	110	130	—	—	—	—	—	—	90	120	140	
S11	—	—	—	65	85	95	70	90	100	50	65	75	—	—	—	—	—	—	55	70	85	Plunge milling cutters
	—	—	—	215	280	310	230	295	330	165	215	245	—	—	—	—	—	—	180	230	280	
S12	—	—	—	45	60	70	50	65	75	35	46	55	—	—	—	—	—	—	38	50	60	Chamfer milling cutters
	—	—	—	150	195	230	165	215	245	115	150	180	—	—	—	—	—	—	125	165	195	
S13	—	—	—	27	35	40	29	38	44	20	27	31	—	—	—	—	—	—	22	29	34	Chamfer milling cutters
	—	—	—	90	115	130	95	125	145	65	90	100	—	—	—	—	—	—	70	95	110	
H5	41	55	65	—	—	—	—	—	—	30	40	47	45	60	70	—	—	—	35	46	55	Chamfer milling cutters
	135	180	215	—	—	—	—	—	—	100	130	155	150	195	230	—	—	—	115	150	180	
H8	44	55	65	—	—	—	—	—	—	32	43	50	48	65	75	—	—	—	37	49	55	Chamfer milling cutters
	145	180	215	—	—	—	—	—	—	105	140	165	155	215	245	—	—	—	120	160	180	
H11	50	70	80	—	—	—	55	70	80	39	50	60	60	75	85	—	—	—	45	60	70	Facing cutters
	165	230	260	—	—	—	180	230	260	130	165	195	195	245	280	—	—	—	150	195	230	
H12	75	95	105	—	—	—	85	105	115	60	75	85	85	105	115	—	—	—	65	85	95	Facing cutters
	245	310	345	—	—	—	280	345	375													

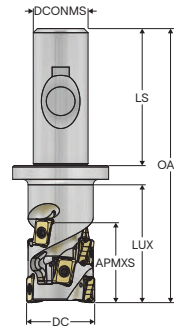


Square T4 Helical

The Square T4 Helical cutter range takes our diverse milling portfolio to the next level with tools that features tangentially mounted inserts, each having 4 cutting edges.

- T4 Helical Insert size 08, cutter range 25-54mm (1 inch)
- T4 Helical Insert size 12, cutter range 40-100mm (2 - 3 inch)

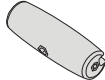
T4 – R217.94-08 – Metric



- For insert selection and cutting data recommendations, see page(s) 194-195
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.94-2025.3S-029-08.2A	02926806	Seco-Weldon	25,0	2	8	29,0	35,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX0804
R217.94-2025.3S-036-08.2A	02926807	Seco-Weldon	25,0	2	10	36,0	35,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX0804
R217.94-2532.3S-043-08.3A	02926813	Seco-Weldon	32,0	3	18	43,0	40,0	25,0	55,0	65,0	121,0	18400	0,6	LOEX0804
R217.94-2532.3S-050-08.3A	02926814	Seco-Weldon	32,0	3	21	50,0	40,0	25,0	59,0	69,0	125,0	18400	0,5	LOEX0804
R217.94-3240.3S-050-08.4A	02926816	Seco-Weldon	40,0	4	28	50,0	50,0	32,0	60,0	70,0	130,0	16400	0,9	LOEX0804

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.94-..	H4B-T08P	C02708B-T08P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.94-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

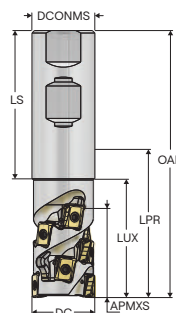
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

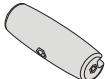
T4 – R217.94-08 – Inch



- For insert selection and cutting data recommendations, see page(s) 194-195
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.94-01.00-3-01.40-08-2A	02941522	Weldon	0.996	2	10	1.417	1.000	3.110	1.870	1.772	4.252	20800	0.880	LOEX0804
R217.94-01.00-3-01.70-08-2A	02941527	Weldon	0.996	2	12	1.693	1.000	3.346	2.106	1.772	4.488	20800	0.880	LOEX0804

Spare Parts, included in delivery

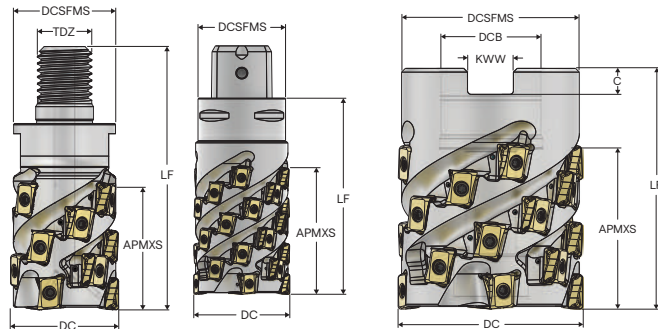
For cutter	Insert key	Insert screw	Key (T-handle)
			
R127.94-..	H4B-T08P	C02708B-T08P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R127.94-..	1.2NM	T00-08P12
R217.94-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

T4 – R217/220.94-08 – Metric

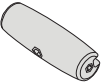


- For insert selection and cutting data recommendations, see page(s) 194-195
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C4-R217.94-044-057-08.4A	02926819	Seco-Capto	44,0	4	32	57,0	—	40,0	—	90,0	70,0	114,0	15500	0,9	LOEX0804
R217.94-1632.RE-036-08.3A	02926805	Combimaster	32,0	3	15	36,0	—	30,0	M16	55,0	—	77,75	18400	0,3	LOEX0804
R217.94-2040.RE-043-08.4A	02972768	Combimaster	40,0	4	24	43,0	—	36,5	M20	60,0	—	87,0	16400	0,5	LOEX0804
R220.94-00050-043-08.4A	02926817	Arbor	50,0	4	24	43,0	27,0	48,0	—	65,0	—	—	14800	0,7	LOEX0804
R220.94-00050-057-08.5A	02926818	Arbor	50,0	5	40	57,0	27,0	48,0	—	70,0	—	—	14800	0,7	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R217.94-../Cx-217.94-..	—	H4B-T08P	C02708B-T08P	DOUBLE-T
R220.94-..	MC6S12X60	H4B-T08P	C02708B-T08P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
Cx-R217/220.69-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.94-08 – Insert selection – mm/Inch

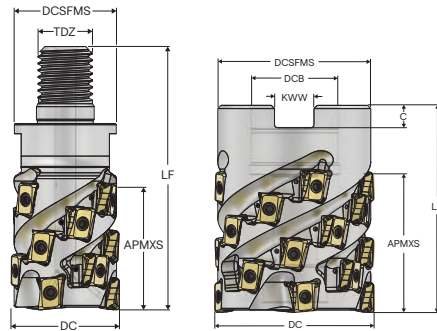
	SMG		f_z		
			100%	30%	10%
Square shoulder and slot milling cutters	P1	LOEX080408TR-M08 F40M	0,090 0.0036	0,10 0.0040	0,15 0.0060
	P2	LOEX080408TR-M08 F40M	0,090 0.0036	0,10 0.0040	0,15 0.0060
Helical milling cutters	P3	LOEX080408TR-M08 F40M	0,085 0.0034	0,095 0.0038	0,15 0.0055
	P4	LOEX080408TR-M08 F40M	0,085 0.0034	0,095 0.0038	0,14 0.0055
	P5	LOEX080408TR-M08 F40M	0,085 0.0034	0,090 0.0036	0,14 0.0055
	P6	LOEX080408TR-M08 F40M	0,080 0.0032	0,090 0.0036	0,14 0.0055
	P7	LOEX080408TR-M08 F40M	0,080 0.0032	0,090 0.0036	0,14 0.0055
	P8	LOEX080408TR-M08 F40M	0,085 0.0034	0,095 0.0038	0,15 0.0055
Face milling cutters	P11	LOEX080408TR-M08 MP2050	0,095 0.0038	0,10 0.0040	0,16 0.0065
	P12	LOEX080408TR-M08 MP2050	0,065 0.0026	0,070 0.0028	0,11 0.0044
Disc milling cutters	M1	LOEX080408TR-M08 MS2050	0,090 0.0036	0,10 0.0040	0,15 0.0060
	M2	LOEX080408TR-M08 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	M3	LOEX080408TR-M08 MS2050	0,065 0.0026	0,075 0.0030	0,11 0.0044
	M4	LOEX080408TR-M08 MS2050	0,060 0.0024	0,065 0.0026	0,10 0.0040
	M5	LOEX080408TR-M08 MS2050	0,060 0.0024	0,065 0.0026	0,10 0.0040
High feed milling cutters	K1	LOEX080408TR-MD08 MK2050	0,090 0.0036	0,10 0.0040	0,15 0.0060
	K2	LOEX080408TR-MD08 MK2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	K3	LOEX080408TR-MD08 MK2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	K4	LOEX080408TR-MD08 MK2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	K5	LOEX080408TR-MD08 MK2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
	K6	LOEX080408TR-MD08 MK2050	0,085 0.0034	0,090 0.0036	0,14 0.0055
	K7	LOEX080408TR-MD08 MK2050	0,075 0.0030	0,080 0.0032	0,13 0.0050
Copy milling cutters	N1	LOEX080408TR-M08 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
	N2	LOEX080408TR-M08 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
	N3	LOEX080408TR-M08 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
	N11	LOEX080408TR-M08 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
Plunge milling cutters	S1	LOEX080408TR-M08 F40M	0,060 0.0024	0,065 0.0026	0,10 0.0040
	S2	LOEX080408TR-M08 F40M	0,060 0.0024	0,065 0.0026	0,10 0.0040
	S3	LOEX080408TR-M08 F40M	0,055 0.0022	0,060 0.0024	0,090 0.0036
	S11	LOEX080408TR-M08 MS2050	0,065 0.0026	0,075 0.0030	0,11 0.0044
Chamfer milling cutters	S12	LOEX080408TR-M08 MS2050	0,065 0.0026	0,075 0.0030	0,11 0.0044
	S13	LOEX080408TR-M08 MS2050	0,060 0.0024	0,065 0.0026	0,10 0.0040
	H5	LOEX080408TR-M08 MP3000	0,055 0.0022	0,060 0.0024	0,095 0.0038
Spot facing cutters	H8	LOEX080408TR-M08 MP3000	0,044 0.0017	0,048 0.0019	0,075 0.0028
	H11	LOEX080408TR-M08 MP3000	0,055 0.0022	0,060 0.0024	0,095 0.0038
	H12	LOEX080408TR-M08 MP2050	0,048 0.0019	0,055 0.0022	0,080 0.0032

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.94-08 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	140	155	165	145	160	170	140	150	160	135	150	155	150	165	175	140	155	165	Square shoulder and slot milling cutters
	460	510	540	475	520	560	460	490	520	445	490	510	490	540	570	460	510	540	
P2	140	155	165	145	160	170	135	150	160	135	145	155	150	165	170	140	155	165	Helical milling cutters
	460	510	540	475	520	560	445	490	520	445	475	510	490	540	560	460	510	540	
P3	130	145	155	140	150	160	130	145	150	130	140	145	140	155	165	130	145	155	Helical milling cutters
	425	475	510	460	490	520	425	475	490	425	460	475	460	510	540	425	475	510	
P4	125	140	150	130	145	155	125	135	145	120	135	140	135	150	160	125	140	150	Helical milling cutters
	410	460	490	425	475	510	410	445	475	395	445	460	445	490	520	410	460	490	
P5	120	135	145	130	145	150	120	135	140	120	130	135	135	150	155	120	135	145	Helical milling cutters
	395	445	475	425	475	490	395	445	460	395	425	445	445	490	510	395	445	475	
P6	130	145	150	135	150	155	130	140	145	125	135	140	140	155	160	130	145	150	Helical milling cutters
	425	475	490	445	490	510	425	460	475	410	445	460	460	510	520	425	475	490	
P7	125	140	150	135	145	155	125	135	145	125	135	140	135	150	160	125	140	150	Face milling cutters
	410	460	490	445	475	510	410	445	475	410	445	460	445	490	520	410	460	490	
P8	120	135	145	130	140	150	120	135	140	120	130	135	130	145	155	120	135	145	Face milling cutters
	395	445	475	425	460	490	395	445	460	395	425	445	425	475	510	395	445	475	
P11	125	140	150	130	145	150	125	135	145	120	130	135	130	155	170	125	140	150	Face milling cutters
	410	460	490	425	475	490	410	445	475	395	425	445	425	510	560	410	460	490	
P12	100	115	125	105	120	125	100	110	115	100	105	110	110	130	140	100	115	125	Face milling cutters
	330	375	410	345	395	410	330	360	375	330	345	360	360	425	460	330	375	410	
M1	—	—	—	120	135	145	120	135	145	115	130	140	140	160	175	120	135	145	Disc milling cutters
	—	—	—	395	445	475	395	445	475	375	425	460	460	520	570	395	445	475	
M2	—	—	—	110	125	135	110	125	135	105	120	130	130	150	165	110	125	135	Disc milling cutters
	—	—	—	360	410	445	360	410	445	345	395	425	425	490	540	360	410	445	
M3	—	—	—	100	115	125	95	110	120	90	105	115	115	140	150	100	115	120	Disc milling cutters
	—	—	—	330	375	410	310	360	395	295	345	375	375	460	490	330	375	395	
M4	—	—	—	85	100	110	85	100	105	80	90	100	105	125	135	85	100	110	Disc milling cutters
	—	—	—	280	330	360	280	330	345	260	295	330	345	410	445	280	330	360	
M5	—	—	—	75	90	100	75	90	95	70	80	90	95	115	125	75	90	100	Disc milling cutters
	—	—	—	245	295	330	245	295	310	230	260	295	310	375	410	245	295	330	
K1	145	160	165	125	140	150	—	—	—	115	130	140	—	—	—	—	—	—	High feed milling cutters
	475	520	540	410	460	490	—	—	—	375	425	460	—	—	—	—	—	—	
K2	135	150	160	120	135	145	—	—	—	105	120	130	—	—	—	—	—	—	High feed milling cutters
	445	490	520	395	445	475	—	—	—	345	395	425	—	—	—	—	—	—	
K3	125	140	150	110	125	135	—	—	—	95	115	120	—	—	—	—	—	—	High feed milling cutters
	410	460	490	360	410	445	—	—	—	310	375	395	—	—	—	—	—	—	
K4	125	140	150	105	120	130	—	—	—	95	110	120	—	—	—	—	—	—	Copy milling cutters
	410	460	490	345	395	425	—	—	—	310	360	395	—	—	—	—	—	—	
K5	95	115	120	80	95	105	—	—	—	70	85	90	—	—	—	—	—	—	Copy milling cutters
	310	375	395	260	310	345	—	—	—	230	280	295	—	—	—	—	—	—	
K6	115	135	140	100	115	125	—	—	—	90	105	110	—	—	—	—	—	—	Copy milling cutters
	375	445	460	330	375	410	—	—	—	295	345	360	—	—	—	—	—	—	
K7	110	125	135	95	110	115	—	—	—	80	95	105	—	—	—	—	—	—	Copy milling cutters
	360	410	445	310	360	375	—	—	—	260	310	345	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	220	240	245	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	720	790	800	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	175	190	195	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	570	620	640	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	150	165	175	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	490	540	570	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	160	175	180	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	520	570	590	—	—	—	—	—	—	
S1	—	—	—	45	60	70	43	55	65	39	50	60	44	60	65	46	60	70	Chamfer milling cutters
	—	—	—	150	195	230	140	180	215	130	165	195	145	195	215	150	195	230	
S2	—	—	—	36	47	55	34	45	55	31	41	48	36	47	55	37	49	55	Chamfer milling cutters
	—	—	—	120	155	180	110	150	180	100	135	155	120	155	180	120	160	180	
S3	—	—	—	32	42	49	30	39	46	27	36	42	31	41	49	32	43	50	Chamfer milling cutters
	—	—	—	105	140	160	100	130	150	90	120	140	100	135	160	105	140	165	
S11	—	—	—	—	—	—	60	75	85	55	70	80	60	75	85	65	80	85	Chamfer milling cutters
	—	—	—	—	—	—	195	245	280	180	230	260	195	245	280	215	260	280	
S12	—	—	—	—	—	—	42	55	65	38	49	60	43	55	65	44	60	65	Spot facing cutters
	—	—	—	—	—	—	140	180	215	125	160	195	140	180	215	145	195	215	
S13	—	—	—	—	—	—	24	31	37	22	29	34	25	33	39	26	34	40	Spot facing cutters
	—	—	—	—	—	—	80	100	120	70	95	110	80	110	130	85	110	130	
H5	—	—	—	39	50	60	—	—	—	33	43	50	—	—	—	—	—	—	Spot facing cutters
	—	—	—	130	165	195	—	—	—	110	140	165	—	—	—	—	—	—	
H8	—	—	—	41	55	60	—	—	—	35	45	55	—	—	—	—	—	—	Spot facing cutters
	—	—	—	135	180	195	—	—	—	115	150	180	—	—	—	—	—	—	
H11	—	—	—	49	65	70	—	—	—	42	55	65	85	105	120	47	60	70	Inserts
	—	—	—	160	215	230	—	—	—	140	180	215	280	345	395	155	195	230	
H12	75	90	100	75	90	100	—	—	—	60	75	85	80	100	110	75	90	100	Inserts
	245	295	330	245	295	330	—	—	—	195	245	280	260	330	360	245	295	330	

T4 – R217/220.94-LO12 – Metric



—For insert selection and cutting data recommendations, see page(s) 199–201
 —For complete insert programme, see page(s) 875
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm		kg	
R217.94-2040.RE-035-LO12.2A	10215197	Combimaster	40,0	2	6	35,0	–	36,5	M20	50,0	77,0	11000	0,4	LOEX1207
R220.94-0050-046-LO12.3A	10215181	Arbor	50,0	3	12	46,0	27,0	46,4	–	70,0	–	9900	0,7	LOEX1207
R220.94-0050-046-LO12.4A	10215182	Arbor	50,0	4	16	46,0	27,0	46,4	–	65,0	–	9900	0,6	LOEX1207
R220.94-0050-058-LO12.4A	10215183	Arbor	50,0	4	20	58,0	27,0	46,4	–	80,0	–	9900	0,7	LOEX1207
R220.94-0063-046-LO12.4A	10215184	Arbor	63,0	4	16	46,0	27,0	59,6	–	65,0	–	8800	1,0	LOEX1207
R220.94-0063-058-LO12.5A	10215185	Arbor	63,0	5	25	58,0	27,0	59,6	–	75,0	–	8800	1,2	LOEX1207
R220.94-0063-081-LO12.4A	10215186	Arbor	63,0	4	28	81,0	27,0	59,6	–	93,0	–	8800	1,4	LOEX1207
R220.94-0080-069-LO12.5A	10215187	Arbor	80,0	5	30	69,0	32,0	76,6	–	90,0	–	7800	2,4	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

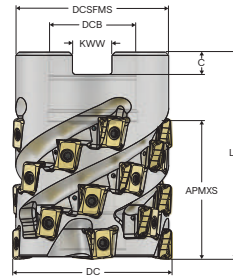
For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-2040	–	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-046	MC6S12X60	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-058	MC6S12X70	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063-081	MP6S12X80	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080-069	MP6S16X80	1/4HEX-T15PX50	C04012B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

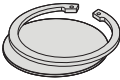
T4 – R217/220.94-LO12 – Inch



- For insert selection and cutting data recommendations, see page(s) 199–201
- For complete insert programme, see page(s) 875
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch	inch	inch		lbs	
R220.94-02.00-1.81-LO12-3A	10215190	Arbor	2.000	3	12	1.850	1.000	1.862	2.756	9900	1.540	LOEX1207
R220.94-02.00-2.28-LO12-4A	10215191	Arbor	2.000	4	20	2.283	1.000	1.862	3.150	9900	1.540	LOEX1207
R220.94-02.50-3.18-LO12-4A	10215192	Arbor	2.500	4	28	3.189	1.000	2.366	3.661	8800	3.090	LOEX1207
R220.94-02.50-3.18-LO12-4SA	10226053	Arbor	2.500	4	28	3.189	1.000	2.366	3.937	8800	3.090	LOEX1207
R220.94-03.00-3.18-LO12-5A	10215193	Arbor	3.000	5	35	3.189	1.250	2.870	3.740	8000	5.070	LOEX1207

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable End
						
R220.94-02.00-3A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.00-4A	UC6S1/2UNFX2-1/2	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4A	UP6S1/2UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4SA	UP6S1/2UNFX3-1/4	R220.94-02.50-1.76-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE2.50-1.42-LO12.4A
R220.94-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

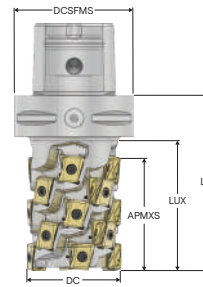
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

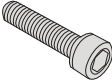
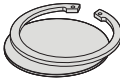
T4 - R217/220.94-LO12 - Metric



—For insert selection and cutting data recommendations, see page(s) 199–201
 —For complete insert programme, see page(s) 875
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	ZNP	APMXS mm	DCSFMS mm	LF mm	LUX mm	OAL mm	RPMX	Weight kg	Insert
C5-R217.94-044-058-LO12.3A	10215194	Seco-Capto	44,0	3	15	58,0	50,0	95,0	73,0	125,0	10600	0,9	LOEX1207
C6-R217.94-050-081-LO12.4SA	10226054	Seco-Capto	50,0	4	28	81,0	63,0	115,0	91,0	153,0	10000	1,5	LOEX1207
C5-R217.94-054-069-LO12.4A	10215195	Seco-Capto	54,0	4	24	69,0	50,0	69,0	84,1	105,0	9700	1,3	LOEX1207
C6-R217.94-063-092-LO12.4SA	10226052	Seco-Capto	63,0	4	32	92,0	63,0	125,0	101,5	163,0	9000	2,4	LOEX1207
C6-R217.94-066-081-LO12.5A	10215196	Seco-Capto	66,0	5	35	81,0	63,0	115,0	101,5	153,0	8700	2,3	LOEX1207

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C5-R217.94-044/055	—	—	—	1/4HEX-T15PX50	C04012B-T15P	—
C6-R217.94-050	220.17-692M	C6-R217.94-050-058-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE050023-LO12.4A
C6-R217.94-063	MC6S12X35	C6-R217.94-063-056-LO12.4BA	LUBRICATION_SET_29	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE063036-LO12.4A
C6-R217.94-066	—	—	—	1/4HEX-T15PX50	C04012B-T15P	—

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.94-12 – Insert selection – mm/Inch

SMG		f_z			
		100%	30%	10%	
P1	LOEX120708R-T4-M09 MP2501	0,11 0,0044	0,12 0,0048	0,19 0,0075	Square shoulder and slot milling cutters
P2	LOEX120708R-T4-M09 MP2501	0,11 0,0044	0,13 0,0050	0,19 0,0075	
P3	LOEX120708R-T4-M09 MP2501	0,11 0,0044	0,12 0,0048	0,18 0,0070	Helical milling cutters
P4	LOEX120708TR-T4-M12 MP2501	0,13 0,0050	0,14 0,0055	0,22 0,0085	
P5	LOEX120708TR-T4-M12 MP2501	0,12 0,0048	0,14 0,0055	0,20 0,0080	
P6	LOEX120708TR-T4-M12 MP2501	0,12 0,0048	0,14 0,0055	0,20 0,0080	
P7	LOEX120708TR-T4-M12 MP2501	0,12 0,0048	0,14 0,0055	0,20 0,0080	Face milling cutters
P8	LOEX120708TR-T4-M12 MP2501	0,13 0,0050	0,14 0,0055	0,22 0,0085	
P11	LOEX120708TR-T4-M12 MP2501	0,12 0,0048	0,14 0,0055	0,20 0,0080	
P12	LOEX120708TR-T4-M12 MP2501	0,085 0,0034	0,095 0,0038	0,14 0,0055	
M1	LOEX120708R-T4-M09 MS2050	0,11 0,0044	0,13 0,0050	0,19 0,0075	Disc milling cutters
M2	LOEX120708R-T4-M09 MS2050	0,10 0,0040	0,11 0,0044	0,17 0,0065	
M3	LOEX120708R-T4-M09 MS2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	
M4	LOEX120708TR-T4-M12 MS2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	
M5	LOEX120708TR-T4-M12 MS2050	0,095 0,0038	0,10 0,0040	0,16 0,0065	High feed milling cutters
K1	LOEX120708TR-T4-MD13 MK2050	0,16 0,0065	0,18 0,0070	0,26 0,010	
K2	LOEX120708TR-T4-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K3	LOEX120708TR-T4-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K4	LOEX120708TR-T4-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	Copy milling cutters
K5	LOEX120708TR-T4-MD13 MK2050	0,13 0,0050	0,14 0,0055	0,22 0,0085	
K6	LOEX120708TR-T4-MD13 MK2050	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K7	LOEX120708TR-T4-MD13 MK2050	0,13 0,0050	0,14 0,0055	0,22 0,0085	
N1	LOEX120708R-T4-M09 F40M	0,15 0,0060	0,16 0,0065	0,24 0,0095	Plunge milling cutters
N2	LOEX120708R-T4-M09 F40M	0,15 0,0060	0,16 0,0065	0,24 0,0095	
N3	LOEX120708R-T4-M09 F40M	0,15 0,0060	0,16 0,0065	0,24 0,0095	
N11	LOEX120708R-T4-M09 F40M	0,15 0,0060	0,16 0,0065	0,24 0,0095	
S1	LOEX120708TR-T4-M12 F40M	0,095 0,0038	0,10 0,0040	0,16 0,0065	Chamfer milling cutters
S2	LOEX120708TR-T4-M12 F40M	0,095 0,0038	0,10 0,0040	0,16 0,0065	
S3	LOEX120708TR-T4-M12 F40M	0,090 0,0036	0,095 0,0038	0,15 0,0060	
S11	LOEX120708R-T4-M09 F40M	0,085 0,0034	0,090 0,0036	0,14 0,0055	
S12	LOEX120708R-T4-M09 F40M	0,085 0,0034	0,090 0,0036	0,14 0,0055	Spot facing cutters
S13	LOEX120708R-T4-M09 F40M	0,075 0,0030	0,080 0,0032	0,12 0,0048	
H5	LOEX120708TR-T4-MD13 MP1501	0,090 0,0036	0,10 0,0040	0,15 0,0060	
H8	LOEX120708TR-T4-MD13 MP1501	0,070 0,0028	0,075 0,0030	0,12 0,0048	Inserts
H11	LOEX120708TR-T4-MD13 MP1501	0,090 0,0036	0,10 0,0040	0,15 0,0060	
H12	LOEX120708TR-T4-M12 MS2500	0,065 0,0026	0,070 0,0028	0,11 0,0044	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.94-12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	155 510	170 560	185 610	160 520	180 590	190 620	160 520	175 570	185 610	150 490	165 540	170 560	165 540	185 610	200 660	155 510	175 570	185 610
	P2	150 490	170 560	180 590	155 510	175 570	190 620	155 510	175 570	180 590	145 475	160 520	170 560	160 520	185 610	195 640	155 510	175 570	185 610
Helical milling cutters	P3	140 460	160 520	170 560	150 490	170 560	180 590	145 475	165 540	175 570	140 460	155 510	160 520	155 510	175 570	190 620	145 475	165 540	175 570
	P4	135 445	155 510	165 540	140 460	160 520	170 560	140 460	155 510	165 540	130 425	145 475	155 510	145 475	170 560	180 590	135 445	155 510	165 540
	P5	130 425	150 490	160 520	140 460	155 510	170 560	135 445	155 510	165 540	125 410	140 460	150 490	145 475	165 540	180 590	135 445	155 510	165 540
	P6	140 460	160 520	170 560	150 490	165 540	175 570	145 475	160 520	170 560	135 445	150 490	160 520	155 510	175 570	185 610	145 475	160 520	175 570
Face milling cutters	P7	135 445	155 510	165 540	145 475	160 520	175 570	140 460	155 510	165 540	135 445	145 475	155 510	150 490	170 560	180 590	140 460	155 510	170 560
	P8	130 425	150 490	160 520	140 460	155 510	165 540	135 445	150 490	160 520	125 410	140 460	150 490	145 475	165 540	175 570	135 445	155 510	165 540
	P11	135 445	150 490	165 540	140 460	160 520	170 560	140 460	155 510	165 540	130 425	145 475	150 490	145 475	175 570	195 640	140 460	155 510	165 540
	P12	105 345	125 410	135 445	115 375	130 425	140 460	110 360	125 410	135 445	105 345	115 375	125 410	120 395	150 490	165 540	110 360	125 410	140 460
Disc milling cutters	M1	—	—	—	135 445	150 490	165 540	135 445	155 510	165 540	125 410	140 460	155 510	150 490	180 590	200 660	130 425	150 490	160 520
	M2	—	—	—	120 395	140 460	150 490	125 410	140 460	150 490	110 360	130 425	140 460	140 460	170 560	190 620	120 395	140 460	150 490
	M3	—	—	—	105 345	125 410	135 445	110 360	125 410	135 445	95 310	115 375	125 410	130 425	160 520	175 570	105 345	125 410	135 445
	M4	—	—	—	90 295	110 360	120 395	90 295	110 360	120 395	80 260	100 330	110 360	115 375	145 475	160 520	90 295	110 360	120 395
High feed milling cutters	M5	—	—	—	80 260	95 310	105 345	80 260	95 310	110 360	70 230	85 280	95 310	100 330	130 425	145 475	80 260	95 310	105 345
	K1	155 510	175 570	185 610	135 445	155 510	165 540	—	—	—	120 395	140 460	150 490	—	—	—	—	—	—
Copy milling cutters	K2	150 490	165 540	180 590	130 425	145 475	160 520	—	—	—	115 375	135 445	145 475	—	—	—	—	—	—
	K3	135 445	155 510	170 560	115 375	135 445	150 490	—	—	—	100 330	120 395	135 445	—	—	—	—	—	—
	K4	135 445	155 510	165 540	115 375	135 445	145 475	—	—	—	100 330	120 395	130 425	—	—	—	—	—	—
	K5	100 330	120 395	130 425	85 280	100 330	110 360	—	—	—	70 230	85 280	100 330	—	—	—	—	—	—
Plunge milling cutters	K6	125 410	145 475	155 510	105 345	125 410	135 445	—	—	—	90 295	110 360	120 395	—	—	—	—	—	—
	K7	120 395	135 445	150 490	100 330	120 395	130 425	—	—	—	85 280	105 345	115 375	—	—	—	—	—	—
	N1	—	—	—	—	—	—	—	—	—	255 840	275 900	285 940	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	195 640	215 710	225 740	—	—	—	—	—	—
Chamfer milling cutters	N3	—	—	—	—	—	—	—	—	—	165 540	185 610	195 640	—	—	—	—	—	—
	N11	—	—	—	—	—	—	—	—	—	175 570	195 640	205 670	—	—	—	—	—	—
	S1	—	—	—	44 145	60 195	70 230	45 150	60 195	70 230	38 125	50 165	60 195	46 150	60 195	70 230	46 150	60 195	70 230
	S2	—	—	—	36 120	47 155	55 180	36 120	48 155	55 180	31 100	41 135	48 155	37 120	49 160	55 180	37 120	49 160	55 180
Spot facing cutters	S3	—	—	—	31 100	41 135	48 155	32 105	42 140	50 165	27 90	36 120	42 140	32 105	43 140	50 165	32 105	43 140	50 165
	S11	—	—	—	—	—	—	65 215	80 260	90 295	55 180	70 230	80 260	65 215	80 260	95 310	65 215	80 260	95 310
	S12	—	—	—	—	—	—	43 140	60 195	70 230	37 120	48 155	55 180	44 145	60 195	70 230	44 145	60 195	70 230
	S13	—	—	—	—	—	—	25 80	33 110	39 130	21 70	29 95	33 110	26 85	34 110	40 130	26 85	34 110	40 130
Inserts	H5	—	—	—	38 125	50 165	60 195	—	—	—	32 105	43 140	50 165	—	—	—	—	—	—
	H8	—	—	—	40 130	55 180	60 195	—	—	—	34 110	46 150	55 180	—	—	—	—	—	—
	H11	—	—	—	48 155	65 215	75 245	—	—	—	41 135	55 180	65 215	90 295	120 395	135 445	48 155	65 215	75 245
	H12	75 245	95 310	105 345	75 245	95 310	105 345	—	—	—	60 195	80 260	90 295	90 295	115 375	130 425	80 260	100 330	110 360

R217/220.94-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MP3000			MP3501			
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	
P1	—	—	—	180	195	200	185	195	205	160	180	190	175	190	195	Square shoulder and slot milling cutters
	—	—	—	590	640	660	610	640	670	520	590	620	570	620	640	
P2	—	—	—	180	190	200	180	195	200	155	175	190	170	185	195	Helical milling cutters
	—	—	—	590	620	660	590	640	660	510	570	620	560	610	640	
P3	—	—	—	170	185	190	170	185	195	150	170	180	165	175	185	Helical milling cutters
	—	—	—	560	610	620	560	610	640	490	560	590	540	570	610	
P4	—	—	—	160	175	185	165	175	185	140	160	170	155	170	175	Helical milling cutters
	—	—	—	520	570	610	540	570	610	460	520	560	510	560	570	
P5	—	—	—	155	170	180	160	175	185	140	155	170	150	165	175	Helical milling cutters
	—	—	—	510	560	590	520	570	610	460	510	560	490	540	570	
P6	—	—	—	165	180	190	170	185	190	150	165	175	160	175	185	Face milling cutters
	—	—	—	540	590	620	560	610	620	490	540	570	520	570	610	
P7	—	—	—	165	175	185	165	180	185	145	160	175	155	170	180	Face milling cutters
	—	—	—	540	570	610	540	590	610	475	520	570	510	560	590	
P8	—	—	—	155	170	180	160	175	180	140	155	165	150	165	175	Face milling cutters
	—	—	—	510	560	590	520	570	590	460	510	540	490	540	570	
P11	—	—	—	160	175	185	165	175	185	140	160	170	155	170	175	Face milling cutters
	—	—	—	520	570	610	540	570	610	460	520	560	510	560	570	
P12	—	—	—	130	145	150	135	145	155	115	130	140	125	140	145	Face milling cutters
	—	—	—	425	475	490	445	475	510	375	425	460	410	460	475	
M1	—	—	—	—	—	—	135	155	165	135	150	165	130	150	160	Disc milling cutters
	—	—	—	—	—	—	445	510	540	445	490	540	425	490	520	
M2	—	—	—	—	—	—	125	140	155	120	140	150	115	135	145	Disc milling cutters
	—	—	—	—	—	—	410	460	510	395	460	490	375	445	475	
M3	—	—	—	—	—	—	110	130	140	105	125	135	105	120	135	Disc milling cutters
	—	—	—	—	—	—	360	425	460	345	410	445	345	395	445	
M4	—	—	—	—	—	—	90	110	120	90	110	120	85	105	115	Disc milling cutters
	—	—	—	—	—	—	295	360	395	295	360	395	280	345	375	
M5	—	—	—	—	—	—	80	100	110	80	95	105	75	95	105	Disc milling cutters
	—	—	—	—	—	—	260	330	360	260	310	345	245	310	345	
K1	170	205	225	180	195	200	180	195	205	135	155	165	170	185	195	High feed milling cutters
	560	670	740	590	640	660	590	640	670	445	510	540	560	610	640	
K2	160	195	220	170	185	195	175	185	195	130	145	160	165	180	190	High feed milling cutters
	520	640	720	560	610	640	570	610	640	425	475	520	540	590	620	
K3	145	170	185	160	175	180	165	175	185	115	135	150	155	165	175	High feed milling cutters
	475	560	610	520	570	590	540	570	610	375	445	490	510	540	570	
K4	140	165	180	155	170	180	160	175	180	115	135	145	150	165	175	Copy milling cutters
	460	540	590	510	560	590	520	570	590	375	445	475	490	540	570	
K5	110	135	150	125	140	145	125	140	150	85	100	110	120	130	140	Copy milling cutters
	360	445	490	410	460	475	410	460	490	280	330	360	395	425	460	
K6	130	155	170	145	160	170	150	165	175	105	125	135	140	155	165	Copy milling cutters
	425	510	560	475	520	560	490	540	570	345	410	445	460	510	540	
K7	125	150	165	140	155	160	145	155	165	100	120	130	135	150	155	Copy milling cutters
	410	490	540	460	510	520	475	510	540	330	395	425	445	490	510	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	44	60	70	42	55	65	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	145	195	230	140	180	215	
S2	—	—	—	—	—	—	—	—	—	36	47	55	34	45	50	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	120	155	180	110	150	165	
S3	—	—	—	—	—	—	—	—	—	31	41	48	30	39	46	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	100	135	155	100	130	150	
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	75	90	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	195	245	295	
S12	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	130	180	215	
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	31	37	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	80	100	120	
H5	—	—	—	47	60	70	—	—	—	38	50	60	37	49	60	Spot facing cutters
	—	—	—	155	195	230	—	—	—	125	165	195	120	160	195	
H8	—	—	—	50	65	75	—	—	—	40	55	60	40	50	60	Spot facing cutters
	—	—	—	165	215	245	—	—	—	130	180	195	130	165	195	
H11	—	—	—	60	75	90	—	—	—	48	65	75	47	60	75	Inserts
	—	—	—	195	245	295	—	—	—	155	215	245	155	195	245	
H12	—	—	—	85	105	115	—	—	—	75	95	105	70	90	100	Inserts
	—	—	—	280	345	375	—	—	—	245	310	345	230	295	330	

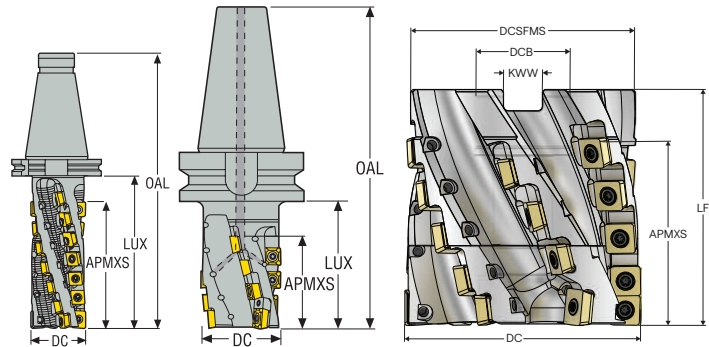


R215/220.59 Helical

Our comprehensive selection of high-performance helical milling cutters incorporate the latest geometries and grades to achieve high feed rates, large depths of cut and aggressive metal removal in contouring and profiling operations. The helix angle allows the cutter to absorb most of the end load so it smoothly enter and exit the workpiece.

- Cutter range 50-100 mm (2 inch)
- Many options for different types of mounting

R215.59-12.4 – Half effective – Metric

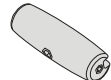
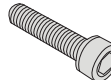


- For insert selection and cutting data recommendations, see page(s) 207-208
- For complete insert programme, see page(s) 873,892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-50063120-12.4S	00026979	DIN2080	63,0	2	28	122,8	–	97,45	200,0	165,0	327,0	7400	5,6	AC.T1506 / SC.T1206
R215.59-BT50.050.077-12.4A	75066231	BT50	50,0	2	18	77,0	–	100,0	148,0	110,0	250,0	8300	4,5	AC.T1506 / SC.T1206
R215.59-BT50.063.086-12.4S	75034445	BT50	63,0	2	18	86,0	–	100,0	162,9	125,0	265,0	7400	6,8	AC.T1506 / SC.T1206
R215.59-BT50.080.095-12.4S	75034446	BT50	80,0	2	22	96,0	–	100,0	173,0	135,0	275,0	6500	6,6	AC.T1506 / SC.T1206
R220.59-00080.068-12.6	75000109	Arbor	80,0	3	24	68,0	32,0	77,0	85,0	–	–	6500	1,9	AC.T1506 / SC.T1206
R220.59-00100077-12.6S	75000112	Arbor	100,0	3	27	77,0	40,0	90,0	100,0	–	–	5800	3,7	AC.T1506 / SC.T1206
R220.59-00100077-12.6SR6	75000247	Arbor	100,0	3	24	77,0	40,0	90,0	100,0	–	–	5800	4,4	AC.T1506 / SC.T1206
R220.59-00100077-12.8S	75000113	Arbor	100,0	4	36	77,0	40,0	90,0	100,0	–	–	5800	3,9	AC.T1506 / SC.T1206
R220.59-00100077-12.8SR6	75000248	Arbor	100,0	4	32	77,0	40,0	90,0	100,0	–	–	5800	4,5	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm
*Compatible with radii 6.0 mm only

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end	Tenon	Tenon screw
									
R215.59-050	–	–	–	H6B-T20P	C45011-T20P	DOUBLE-T	–	–	–
R215.59-060	–	215.59-691	R215.59- BT50.063.062-12.4B R215.59-	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59- RE063024-12.4	–	–
R215.59-50-4S	–	215.59-691	CV50/50063096- 12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59- RE063024-12.4	–	–
R220.59-00080	MC6S16X70	–	–	H6B-T20P	C45011-T20P	DOUBLE-T	–	–	–
R220.59-00100..6S	215.59-693S	–	R220.59-00100043- 12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE100034-12.6	DK1210	TCEI0412
R220.59-00100..6SR	215.59-693S	–	R220.59-00100043- 12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE100034-12.6R6	DK1210	TCEI0412
R220.59-00100..8S	215.59-693S	–	R220.59-00100043- 12.8B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE100034-12.8	DK1210	TCEI0412
R220.59-00100..8SR	215.59-693S	–	R220.59-00100043- 12.8B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE100034-12.8R6	DK1210	TCEI0412
R220.59-080	–	215.59-692S	R215.59- BT50.080.061-12.4B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE080034-12.4	DK1010	TCEI0412

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

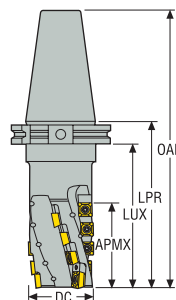
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R215.59-12.4 – Half effective – Metric

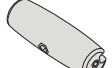
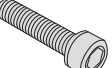


—For insert selection and cutting data recommendations, see page(s) 207-208
 —For complete insert programme, see page(s) 873,892
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEP	ZNP	APMX	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R215.59-CV50050120-12.4	00026978	CV50	50,0	2	28	122,9	97,45	180,0	145,0	282,0	8300	4,5	AC.T1506 / SC.T1206
R215.59-CV50063086-12.4S	75003346	CV50	63,0	2	20	86,0	97,45	160,0	120,0	261,0	7400	5,0	AC.T1506 / SC.T1206
R215.59-CV50063086-12.4SR6	75000244	CV50	63,0	2	20	86,0	97,45	160,0	120,0	261,0	7400	5,1	AC.T1506 / SC.T1206
R215.59-CV50063120-12.4S	00026980	CV50	63,0	2	28	122,8	97,45	200,0	165,0	302,0	7400	5,6	AC.T1506 / SC.T1206
R215.59-CV50063120-12.4SR6	00027074	CV50	63,0	2	28	122,8	97,45	199,9	165,0	302,0	7400	5,8	AC.T1506 / SC.T1206
R215.59-CV50063160-12.4S	00095805	CV50	63,0	2	36	158,7	97,45	234,9	200,0	336,5	7400	6,2	AC.T1506 / SC.T1206
R215.59-CV50063160-12.4SR6	00095807	CV50	63,0	2	36	158,7	97,45	234,9	200,0	336,5	7400	6,2	AC.T1506 / SC.T1206
R215.59-CV50080095-12.4S	75007713	CV50	80,0	2	22	96,0	97,45	150,0	131,0	252,0	6500	5,5	AC.T1506 / SC.T1206
R215.59-CV50080095-12.6S	75003347	CV50	80,0	3	33	96,0	97,45	150,0	131,0	252,0	6500	5,9	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm
 *Compatible with radii 6.0 mm only

Spare Parts, included in delivery

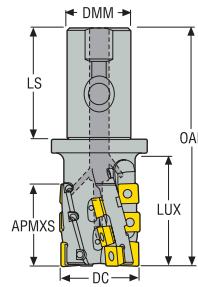
For cutter	Adaptor	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end	Tenon	Tenon screw
									
R215.59-63-120-12.4S	AD-CV50	215.59-691	R215.59- CV50/50063096- 12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59- RE063024-12.4	—	—
R215.59-63-120-12.4SR	AD-CV50	215.59-691	R215.59- CV50/50063096- 12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024- 12.4R6	—	—
R215.59-63-160-12.4S	AD-CV50	215.59-691	R215.59- CV50/50063134- 12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59- RE063024-12.4	—	—
R215.59-63-160-12.4SR	AD-CV50	215.59-691	R215.59- CV50/50063134- 12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024- 12.4R6	—	—
R215.59-CV5006-12.4S	—	215.59-691	R215.59- CV50063062-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59- RE063024-12.4	—	—
R215.59-CV5008-12.4S	—	215.59-692S	R215.59- CV50080061-12.4B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE080034-12.4	DK1010	TCEI0412
R215.59-CV50-12.4	—	—	—	H6B-T20P	C45011-T20P	DOUBLE-T	—	—	—
R215.59-CV50-12.4SR	—	215.59-691	R215.59- CV50063062-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024- 12.4R6	—	—
R220.59-080-12.6S	—	215.59-692S	R215.59- CV50080061-12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59- RE080034-12.6	DK1010	TCEI0412

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215.59-12.4..K – Full effective – Metric



- For insert selection and cutting data recommendations, see page(s) 207-208
- For complete insert programme, see page(s) 873,892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-4050.3S-063-12.3K	00092248	Seco-Weldon	50,0	3	18	63,0	60,0	40,0	78,0	90,0	160,0	8300	1,5	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R215.59-..	H6B-T20P	C45011-T20P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

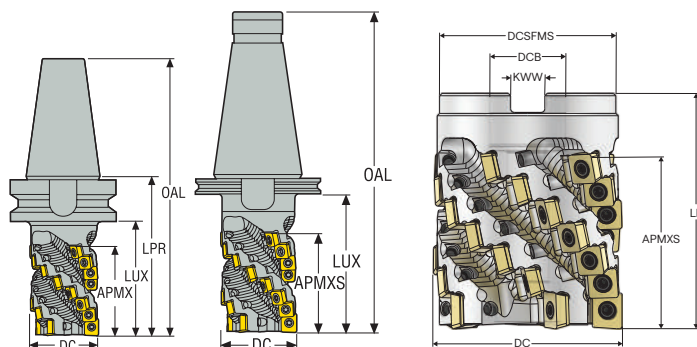
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R215/220.59-12.4 – Full effective – Metric



—For insert selection and cutting data recommendations, see page(s) 207-208
 —For complete insert programme, see page(s) 873,892
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-BT50050072-12.3K	00008459	BT50	50,0	3	21	73,0	—	100,0	145,0	103,0	247,0	8300	4,9	AC.T1506 / SC.T1206
R215.59-BT50063110-12.3K	00008466	BT50	63,0	3	33	111,8	—	100,0	180,0	137,0	282,0	7400	5,7	AC.T1506 / SC.T1206
R220.59-00080.072-12.5K	00008462	Arbor	80,0	5	35	72,0	32,0	74,7	100,0	—	—	6500	2,3	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R215.59-..	—	H6B-T20P	C45011-T20P	DOUBLE-T
R220.59-00080	MC6S16X80	H6B-T20P	C45011-T20P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215/220.59-12 – Insert selection – mm/Inch

SMG			f_z			
			100%	30%	10%	
P1	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 0.0048	0,14 0.0055	0,20 0.0080	Square shoulder and slot milling cutters
P2	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,13 0.0050	0,14 0.0055	0,22 0.0085	
P3	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080	Helical milling cutters
P4	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080	
P5	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 0.0044	0,13 0.0050	0,19 0.0075	
P6	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 0.0044	0,12 0.0048	0,19 0.0075	
P7	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 0.0044	0,12 0.0048	0,19 0.0075	
P8	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 0.0048	0,13 0.0050	0,20 0.0080	Face milling cutters
P11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,11 0.0044	0,12 0.0048	0,19 0.0075	
P12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050	
M1	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,11 0.0044	0,13 0.0050	0,19 0.0075	
M2	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,10 0.0040	0,11 0.0044	0,17 0.0065	Disc milling cutters
M3	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	
M4	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 0.0032	0,090 0.0036	0,13 0.0050	
M5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 0.0032	0,090 0.0036	0,13 0.0050	
K1	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,16 0.0065	0,18 0.0070	0,26 0.010	High feed milling cutters
K2	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 0.0060	0,16 0.0065	0,24 0.0095	
K3	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 0.0060	0,16 0.0065	0,24 0.0095	
K4	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 0.0060	0,16 0.0065	0,24 0.0095	
K5	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,13 0.0050	0,14 0.0055	0,22 0.0085	
K6	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 0.0060	0,16 0.0065	0,24 0.0095	Copy milling cutters
K7	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,13 0.0050	0,14 0.0055	0,22 0.0085	
S1	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050	
S2	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050	Plunge milling cutters
S3	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
S11	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	
S12	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 0.0034	0,090 0.0036	0,14 0.0055	
S13	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,075 0.0030	0,080 0.0032	0,12 0.0048	
H5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050	Chamfer milling cutters
H8	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 0.0024	0,065 0.0026	0,10 0.0040	
H11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 0.0032	0,085 0.0034	0,13 0.0050	
H12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 0.0024	0,065 0.0026	0,10 0.0040	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %
 All cutting data are start values

Spot facing
cutters

Inserts

R215/220.59-12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP3000			MS2050			F40M			MK1501			MP1501			MP2501			MP3501		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	120 395	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445	—	—	—	140 460	150 490	155 510	140 460	150 490	155 510	135 445	145 475	150 490
	P2	120 395	130 425	140 460	125 410	135 445	140 460	115 375	125 410	130 425	—	—	—	140 460	150 490	155 510	140 460	150 490	155 510	135 445	145 475	150 490
Helical milling cutters	P3	115 375	125 410	135 445	115 375	130 425	135 445	110 360	120 395	125 410	—	—	—	135 445	145 475	150 490	135 445	145 475	150 490	130 425	140 460	145 475
	P4	110 360	120 395	130 425	110 360	120 395	130 425	105 345	115 375	125 410	—	—	—	130 425	135 445	145 475	125 410	135 445	140 460	120 395	130 425	135 445
	P5	105 345	120 395	125 410	110 360	120 395	125 410	105 345	115 375	120 395	—	—	—	125 410	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445
	P6	110 360	125 410	135 445	115 375	125 410	130 425	110 360	120 395	125 410	—	—	—	130 425	140 460	145 475	130 425	140 460	145 475	125 410	135 445	140 460
Face milling cutters	P7	110 360	120 395	130 425	110 360	125 410	130 425	105 345	115 375	120 395	—	—	—	130 425	140 460	145 475	130 425	140 460	145 475	125 410	135 445	140 460
	P8	105 345	120 395	125 410	110 360	120 395	125 410	105 345	115 375	120 395	—	—	—	125 410	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445
	P11	110 360	120 395	130 425	110 360	120 395	130 425	105 345	115 375	120 395	—	—	—	130 425	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445
	P12	90 295	100 330	110 360	90 295	100 330	105 345	85 280	95 310	100 330	—	—	—	105 345	115 375	120 395	105 345	115 375	120 395	100 330	110 360	115 375
Disc milling cutters	M1	105 345	115 375	125 410	110 360	120 395	130 425	100 330	115 375	120 395	—	—	—	—	—	—	105 345	120 395	130 425	105 345	115 375	125 410
	M2	95 310	110 360	115 375	100 330	110 360	120 395	90 295	105 345	110 360	—	—	—	—	—	—	100 330	115 375	120 395	95 310	110 360	115 375
	M3	85 280	100 330	105 345	90 295	100 330	110 360	80 260	95 310	100 330	—	—	—	—	—	—	90 295	100 330	110 360	85 280	100 330	105 345
	M4	75 245	85 280	95 310	75 245	90 295	100 330	70 230	80 260	90 295	—	—	—	—	—	—	80 260	90 295	100 330	75 245	85 280	95 310
High feed milling cutters	M5	65 215	80 260	85 280	70 230	80 260	90 295	60 195	75 245	80 260	—	—	—	—	—	—	70 230	80 260	90 295	65 215	80 260	85 280
	K1	105 345	120 395	125 410	—	—	—	100 330	110 360	120 395	130 425	155 510	175 570	140 460	150 490	155 510	140 460	150 490	155 510	135 445	145 475	150 490
	K2	100 330	115 375	120 395	—	—	—	95 310	105 345	115 375	125 410	150 490	165 540	135 445	145 475	150 490	135 445	145 475	150 490	130 425	140 460	145 475
	K3	90 295	105 345	115 375	—	—	—	85 280	100 330	105 345	115 375	130 425	140 460	130 425	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445
Copy milling cutters	K4	90 295	105 345	110 360	—	—	—	85 280	95 310	105 345	110 360	130 425	140 460	125 410	135 445	140 460	125 410	135 445	140 460	120 395	130 425	135 445
	K5	70 230	80 260	90 295	—	—	—	60 195	75 245	80 260	90 295	105 345	115 375	100 330	110 360	115 375	100 330	110 360	115 375	95 310	105 345	110 360
	K6	85 280	100 330	105 345	—	—	—	80 260	90 295	100 330	105 345	125 410	135 445	120 395	130 425	135 445	120 395	130 425	135 445	115 375	125 410	130 425
	K7	80 260	95 310	100 330	—	—	—	75 245	85 280	95 310	100 330	120 395	130 425	115 375	125 410	130 425	115 375	120 395	130 425	110 360	120 395	125 410
Plunge milling cutters	S1	39 130	50 165	60 195	42 140	55 180	60 195	36 120	47 155	55 180	—	—	—	—	—	—	—	—	—	40 130	50 165	60 195
	S2	31 100	41 135	49 160	34 110	45 150	50 165	29 95	38 125	45 150	—	—	—	—	—	—	—	—	—	32 105	42 140	50 165
	S3	28 90	36 120	43 140	30 100	39 130	46 150	25 80	34 110	40 130	—	—	—	—	—	—	—	—	—	28 90	37 120	44 145
	S11	55 180	65 215	75 245	55 180	70 230	80 260	50 165	65 215	70 230	—	—	—	—	—	—	—	—	—	55 180	65 215	75 245
Chamfer milling cutters	S12	37 120	49 160	60 195	41 135	55 180	60 195	35 115	46 150	55 180	—	—	—	—	—	—	—	—	—	38 125	50 165	60 195
	S13	22 70	29 95	34 110	24 80	31 100	37 120	20 65	26 85	32 105	—	—	—	—	—	—	—	—	—	22 70	29 95	35 115
	H5	33 110	43 140	50 165	—	—	—	30 100	40 130	47 155	—	—	—	45 150	60 195	65 215	—	—	—	35 115	46 150	55 180
	H8	36 120	46 150	55 180	—	—	—	32 105	42 140	50 165	—	—	—	48 155	60 195	70 230	—	—	—	37 120	49 160	55 180
Spot facing cutters	H11	42 140	55 180	60 195	—	—	—	38 125	50 165	60 195	—	—	—	55 180	70 230	75 245	—	—	—	44 145	55 180	65 215
	H12	65 215	75 245	85 280	—	—	—	55 180	70 230	75 245	—	—	—	75 245	90 295	95 310	—	—	—	65 215	75 245	85 280



R220.69-15XH Helical

Helical mills for heavy duty, inserts with 4-cutting edges, single-sided inserts.

- Cutter range 100-125 mm (2 - 4 inch)
- Depth of cut ≤ 160 mm (6.3 inch), max 30% ae
- Slotting depth max 50% DC
- Insert corner radii range 1.2-6.3 mm (.047 - .248 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

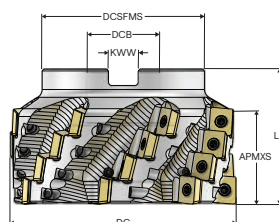
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.69-15H – High feed rates – Metric



- For insert selection and cutting data recommendations, see page(s) 211-212
- For complete insert programme, see page(s) 873
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	ZNP	APMXS mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.69-0100050-15.6H	75068040	Arbor	100,0	6	24	50,0	40,0	90,0	75,0	5800	2,8	AC.T1506
R220.69-00125050-15.7H	00094725	Arbor	125,0	7	28	50,0	40,0	90,0	75,0	5200	3,5	AC.T1506

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Axial support	Insert key	Insert screw	Key (T-handle)	Setting key
R220.69-00125	–	CH9411-T09P	H6B-T20P	C45011-T20P	DOUBLE-T	H4B-T09P
R220.69-0100	MC6S20X50	CH9411-T09P	H6B-T20PL	C45011-T20P	DOUBLE-T	H4B-T09P

Accessories

For cutter	Insert clamping torque	Torque key
R220.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.69-15 – Insert selection – mm/Inch

SMG		f_z			
		100%	30%	10%	
P1	ACET150612TR-M11 MP2501	0,12 0,0048	0,14 0,0055	0,20 0,0080	Square shoulder and slot milling cutters
P2	ACET150612TR-M11 MP2501	0,13 0,0050	0,14 0,0055	0,22 0,0085	
P3	ACET150612TR-M11 MP2501	0,12 0,0048	0,13 0,0050	0,20 0,0080	Helical milling cutters
P4	ACET150612TR-M11 MP2501	0,12 0,0048	0,13 0,0050	0,20 0,0080	
P5	ACET150612TR-M11 MP2501	0,11 0,0044	0,13 0,0050	0,19 0,0075	
P6	ACET150612TR-M11 MP2501	0,11 0,0044	0,12 0,0048	0,19 0,0075	
P7	ACET150612TR-M11 MP2501	0,11 0,0044	0,12 0,0048	0,19 0,0075	Face milling cutters
P8	ACET150612TR-M11 MP2501	0,11 0,0048	0,12 0,0050	0,19 0,0080	
P11	ACET150612TR-M11 MP3501	0,11 0,0044	0,12 0,0048	0,19 0,0075	
P12	ACET150612TR-M11 MP3501	0,080 0,0032	0,085 0,0034	0,13 0,0050	
M1	ACET150612TR-ME10 MS2050	0,11 0,0044	0,13 0,0050	0,19 0,0075	Disc milling cutters
M2	ACET150612TR-ME10 MS2050	0,10 0,0040	0,11 0,0044	0,17 0,0065	
M3	ACET150612TR-ME10 MS2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	
M4	ACET150612TR-M11 MP3501	0,080 0,0032	0,090 0,0036	0,13 0,0050	
M5	ACET150612TR-M11 MP3501	0,080 0,0032	0,090 0,0036	0,13 0,0050	High feed milling cutters
K1	ACET150612TR-M14 MK1501	0,16 0,0065	0,18 0,0070	0,26 0,010	
K2	ACET150612TR-M14 MK1501	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K3	ACET150612TR-M14 MK1501	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K4	ACET150612TR-M14 MK1501	0,15 0,0060	0,16 0,0065	0,24 0,0095	Copy milling cutters
K5	ACET150612TR-M14 MK1501	0,13 0,0050	0,14 0,0055	0,22 0,0085	
K6	ACET150612TR-M14 MK1501	0,15 0,0060	0,16 0,0065	0,24 0,0095	
K7	ACET150612TR-M14 MK1501	0,13 0,0050	0,14 0,0055	0,22 0,0085	
S1	ACET150612TR-M11 F40M	0,080 0,0032	0,090 0,0036	0,13 0,0050	Plunge milling cutters
S2	ACET150612TR-M11 F40M	0,080 0,0032	0,090 0,0036	0,13 0,0050	
S3	ACET150612TR-M11 F40M	0,075 0,0030	0,080 0,0032	0,13 0,0048	
S11	ACET150612TR-ME10 MS2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	
S12	ACET150612TR-ME10 MS2050	0,085 0,0034	0,090 0,0036	0,14 0,0055	Chamfer milling cutters
S13	ACET150612TR-ME10 MS2050	0,075 0,0030	0,080 0,0032	0,12 0,0048	
H5	ACET150612TR-M11 MP3501	0,080 0,0032	0,085 0,0034	0,13 0,0050	
H8	ACET150612TR-M11 MP3501	0,060 0,0024	0,065 0,0026	0,10 0,0040	
H11	ACET150612TR-M11 MP3501	0,080 0,0032	0,085 0,0034	0,13 0,0050	Spot facing cutters
H12	ACET150612TR-M14 MP3501	0,075 0,0030	0,085 0,0034	0,13 0,0050	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R220.69-15 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M			MP3000			MS2050			MK1501			MP1501			MP2501			MP3501		
		100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
Square shoulder and slot milling cutters	P1	145 475	160 520	165 540	145 475	165 540	180 590	155 510	170 560	180 590	— —	— —	— —	180 590	190 620	200 660	175 570	190 620	200 660	170 560	180 590	190 620
	P2	140 460	155 510	165 540	145 475	165 540	175 570	150 490	165 540	175 570	— —	— —	— —	175 570	190 620	195 640	175 570	185 610	195 640	165 540	180 590	190 620
Helical milling cutters	P3	135 445	145 475	155 510	135 445	155 510	165 540	140 460	160 520	170 560	— —	— —	— —	165 540	180 590	185 610	165 540	180 590	185 610	160 520	170 560	180 590
	P4	125 410	140 460	150 490	130 425	150 490	160 520	135 445	150 490	160 520	— —	— —	— —	155 510	170 560	180 590	155 510	170 560	180 590	150 490	165 540	170 560
Face milling cutters	P5	125 410	135 445	145 475	125 410	145 475	155 510	130 425	150 490	155 510	— —	— —	— —	155 510	170 560	175 570	155 510	165 540	175 570	150 490	160 520	170 560
	P6	130 425	145 475	150 490	135 445	155 510	165 540	140 460	155 510	165 540	— —	— —	— —	165 540	175 570	185 610	165 540	175 570	185 610	155 510	170 560	175 570
Disc milling cutters	P7	130 425	140 460	150 490	130 425	150 490	160 520	135 445	150 490	160 520	— —	— —	— —	160 520	175 590	180 590	160 520	170 560	180 590	150 490	165 540	170 560
	P8	120 395	135 445	145 475	125 410	145 475	155 510	130 425	145 475	155 510	— —	— —	— —	155 510	170 560	175 570	155 510	165 540	175 570	145 475	160 520	170 560
High feed milling cutters	P11	125 410	140 460	145 475	130 425	150 490	160 520	135 445	150 490	160 520	— —	— —	— —	160 520	170 560	180 590	155 510	170 560	180 590	150 490	165 540	170 560
	P12	100 330	110 360	120 395	105 345	120 395	130 425	105 345	120 395	130 425	— —	— —	— —	125 410	140 460	145 475	125 410	140 460	145 475	120 395	130 425	140 460
Copy milling cutters	M1	115 375	135 445	145 475	120 395	140 460	155 510	130 425	150 490	160 520	— —	— —	— —	— —	— —	— —	130 425	145 475	160 520	125 410	140 460	155 510
	M2	105 345	125 410	135 445	110 360	130 425	140 460	120 395	135 445	145 475	— —	— —	— —	— —	— —	— —	115 375	135 445	145 475	115 375	130 425	140 460
Plunge milling cutters	M3	90 295	110 360	120 395	95 310	115 375	125 410	105 345	120 395	130 425	— —	— —	— —	— —	— —	— —	105 345	120 395	130 425	100 330	115 375	125 410
	M4	75 245	95 310	105 345	80 260	100 330	110 360	85 280	105 345	115 375	— —	— —	— —	— —	— —	— —	85 280	105 345	115 375	80 260	100 330	110 360
Chamfer milling cutters	M5	65 215	80 260	90 295	70 230	85 280	95 310	75 245	90 295	105 345	— —	— —	— —	— —	— —	— —	75 245	90 295	105 345	70 230	85 280	100 310
	K1	115 375	135 445	145 475	125 410	145 475	155 510	— —	— —	— —	165 540	200 660	220 720	175 570	190 620	195 640	175 570	190 620	195 640	165 540	180 590	190 620
Spot facing cutters	K2	110 360	125 410	140 460	120 395	135 445	150 490	— —	— —	— —	155 510	190 620	215 710	170 560	180 590	190 620	170 560	180 590	190 620	160 520	175 560	180 590
	K3	100 330	115 375	130 425	105 345	125 410	135 445	— —	— —	— —	135 445	165 540	180 590	155 510	170 560	180 590	155 510	170 560	175 510	150 490	160 520	170 560
Inserts	K4	95 310	115 375	125 410	105 345	125 410	135 445	— —	— —	— —	135 445	160 520	175 570	155 510	165 540	175 570	155 510	165 540	175 570	145 475	160 520	165 540
	K5	65 215	80 260	90 295	70 230	90 295	100 330	— —	— —	— —	100 330	130 425	140 460	120 395	135 445	140 460	120 395	135 445	140 460	115 375	125 410	135 445
Chamfer R220.69-XH cutters	K6	85 280	105 345	115 375	95 310	115 375	125 410	— —	— —	— —	125 410	150 490	165 540	145 475	160 520	165 540	145 475	155 510	165 540	140 460	150 490	160 520
	K7	80 260	95 310	110 360	90 295	105 345	115 375	— —	— —	— —	120 395	145 475	160 520	140 460	150 490	160 520	135 445	150 490	155 510	130 425	145 475	150 490
Spot facing cutters	S1	35 115	46 150	55 180	38 125	50 165	60 195	42 140	55 180	65 215	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 130	50 165	60 195
	S2	28 90	37 120	44 145	31 100	40 130	47 155	34 110	44 145	50 165	— —	— —	— —	— —	— —	— —	— —	— —	— —	31 100	41 135	48 155
Spot facing cutters	S3	25 80	33 110	39 130	27 90	35 115	42 140	29 95	39 130	46 150	— —	— —	— —	— —	— —	— —	— —	— —	— —	27 90	36 120	42 140
	S11	49 160	65 215	75 245	50 165	70 230	80 260	60 195	75 245	85 280	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 180	70 230	80 260
Spot facing cutters	S12	34 110	45 150	55 180	36 120	48 155	55 180	40 130	55 180	60 195	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 125	49 160	60 195
	S13	20 65	26 85	31 100	21 70	28 90	33 110	23 75	31 100	36 120	— —	— —	— —	— —	— —	— —	— —	— —	— —	22 70	28 90	34 110
Spot facing cutters	H5	29 95	39 130	46 150	32 105	42 140	50 165	— —	— —	— —	— —	— —	— —	44 145	60 195	70 230	— —	— —	— —	34 110	45 150	55 180
	H8	32 105	41 135	49 160	35 115	45 150	55 180	— —	— —	— —	— —	— —	— —	47 155	60 195	70 230	— —	— —	— —	36 120	48 155	55 180
Spot facing cutters	H11	38 125	50 165	60 195	41 135	55 180	65 215	— —	— —	— —	— —	— —	— —	55 180	75 245	85 280	— —	— —	— —	43 140	55 180	65 215
	H12	55 180	75 245	85 280	65 215	85 280	95 310	— —	— —	— —	— —	— —	— —	80 260	100 330	110 360	— —	— —	— —	65 215	85 280	95 310



R235.15 Helical

Helical mills for high surface finish in square shoulder and contouring operations. Suitable for finishing operations.

- Cutter range 32-80mm, (1.25 - 3 inch)
- Depth of cut ≤ 90 mm (3.5 inch)
- Max $a_e = 1$ mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

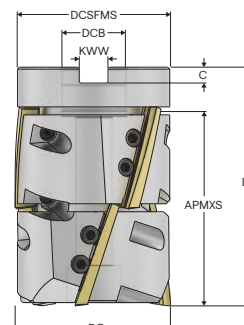
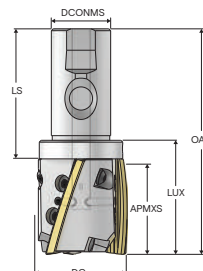
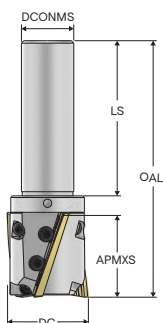
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

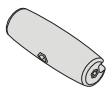
R235.15 – Finishing operations – Metric



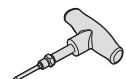
- For insert selection and cutting data recommendations, see page(s) 216-217
- For complete insert programme, see page(s) 931
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm	mm	mm		kg	
R235.15-2532.3S-40A	75036948	Seco-Weldon	32,0	2	2	40,0	—	40,0	25,0	—	50,0	69,0	125,0	8000	0,7	R235.15-032
R235.15A-3250.3S-50A	75036946	Seco-Weldon	50,0	3	3	50,0	—	50,0	32,0	—	61,4	60,0	120,0	5500	1,0	R235.15-050
R235.15-2532.0-40	75036949	Cylindrical	32,0	2	2	40,0	—	—	25,0	—	40,0	84,0	140,0	8000	0,7	R235.15-032
R235.15A-3250.0-50	75036947	Cylindrical	50,0	3	3	50,0	—	—	32,0	—	50,0	95,0	155,0	5500	1,3	R235.15-050
R235.15A-0080-90	75037122	Arbor	80,0	3	6	90,0	32,0	75,0	—	120,0	—	—	—	4400	3,5	R235.15-080

Spare Parts, included in delivery

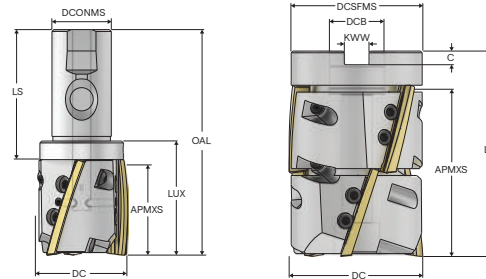
For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Setting gauge	Setting key
						
R235.15-2532	—	H6B-T25P	CL85012-T25P	DOUBLE-T	—	—
R235.15-3250	—	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P
R235.15A-0080	MC6S16X100	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R235.15-..	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

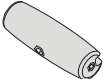
R235.15 – Finishing operations – inch



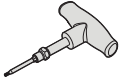
—For insert selection and cutting data recommendations, see page(s) 216–217
—For complete insert programme, see page(s) 931
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R235.15A-02.00-3S-50A	75056423	Seco-Weldon	2.000	3	3	1.969	–	1.772	1.250	–	1.969	2.283	4.724	5500	2.200	R235.15-050
R235.15A-03.00-90	75056424	Arbor	3.000	3	6	3.500	1.000	2.866	–	4.724	–	–	–	4400	7.050	R235.15-080

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Setting gauge	Setting key
						
R235.15A-02.00	–	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P
R235.15A-03.00	UC6S1/2UNFX4	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R235.15-..	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

	R235.15 – Insert selection – mm/Inch		f_z
	SMG		3%
Square shoulder and slot milling cutters	P1	R235.15-xxx-E05 F30M	0,20 0.0080
	P2	R235.15-xxx-E05 F30M	0,22 0.0085
Helical milling cutters	P3	R235.15-xxx-E05 F30M	0,20 0.0080
	P4	R235.15-xxx-E05 F30M	0,20 0.0080
	P5	R235.15-xxx-E05 F30M	0,19 0.0075
	P6	R235.15-xxx-E05 F30M	0,19 0.0075
	P7	R235.15-xxx-E05 F30M	0,19 0.0075
	P8	R235.15-xxx-E05 F30M	0,20 0.0080
	P11	R235.15-xxx-E05 F30M	0,19 0.0075
Face milling cutters	P12	R235.15-xxx-E05 F30M	0,13 0.0050
	M1	R235.15-xxx-E05 F30M	0,22 0.0085
Disc milling cutters	M2	R235.15-xxx-E05 F30M	0,19 0.0075
	M3	R235.15-xxx-E05 F30M	0,15 0.0060
	M4	R235.15-xxx-E05 F30M	0,13 0.0050
	M5	R235.15-xxx-E05 F30M	0,13 0.0050
	K1	R235.15-xxx-E05 F30M	0,22 0.0085
High feed milling cutters	K2	R235.15-xxx-E05 F30M	0,19 0.0075
	K3	R235.15-xxx-E05 F30M	0,19 0.0075
	K4	R235.15-xxx-E05 F30M	0,19 0.0075
	K5	R235.15-xxx-E05 F30M	0,17 0.0065
	K6	R235.15-xxx-E05 F30M	0,19 0.0075
	K7	R235.15-xxx-E05 F30M	0,17 0.0065
Copy milling cutters	N1	R235.15-xxx-E05 F30M	0,28 0.011
	N2	R235.15-xxx-E05 F30M	0,28 0.011
	N3	R235.15-xxx-E05 F30M	0,28 0.011
	N11	R235.15-xxx-E05 F30M	0,28 0.011
Plunge milling cutters	S1	R235.15-xxx-E05 F30M	0,13 0.0050
	S2	R235.15-xxx-E05 F30M	0,13 0.0050
	S3	R235.15-xxx-E05 F30M	0,13 0.0050
	S11	R235.15-xxx-E05 F30M	0,15 0.0060
	S12	R235.15-xxx-E05 F30M	0,15 0.0060
Chamfer milling cutters	S13	R235.15-xxx-E05 F30M	0,13 0.0050

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R235.15 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F30M	
	3%	
P1	310 1025	Square shoulder and slot milling cutters
P2	295 970	
P3	260 850	Helical milling cutters
P4	230 750	
P5	220 720	
P6	245 800	
P7	235 770	
P8	215 710	Face milling cutters
P11	225 740	
P12	145 475	
M1	200 660	Disc milling cutters
M2	165 540	
M3	130 425	
M4	100 330	
M5	85 280	High feed milling cutters
K1	235 770	
K2	210 690	
K3	175 570	
K4	170 560	Copy milling cutters
K5	105 345	
K6	150 490	
K7	130 425	
N1	1450 4750	Plunge milling cutters
N2	590 1925	
N3	390 1275	
N11	445 1450	
S1	70 230	Chamfer milling cutters
S2	55 180	
S3	49 160	
S11	100 330	
S12	70 230	
S13	40 130	Spot facing cutters

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

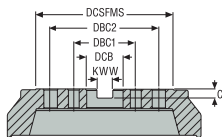


Code keys metric and inch

R	220	53	0100	12	7	A
1	2	3	4	5	6	7

R	220	53	04.00	12	7	A
1	2	3	4	5	6	7

1.	2.	3.
R = Right hand rotation L = Left hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	5.	6.
Mounting type & Cutter diameter 0xxx = shell mill mounting 8xxx = Flange mounting 9xxx = CAP mounting	Insert size and shape	Effective No. of teeth (ZEFP)
7.		
A = With through coolant supply W = Insert locking with wedge G = Coarse pitch version for low power machines T = Close pitch version for high feed rates in powerful machines C = Cassettes S = Insert locking with screw M = Modified or insert locking with wedge H = Adjustable		



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	—	—	8,4	5,6
22	42-47	—	—	10,4	6,3
27	48-62	—	—	12,4	7
32	60-90	—	—	14,4	8
40	90-130	66,7	—	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	1.181 - 1.378			0.258	0.165
0.750	1.378 - 1.850	—	—	0.321	0.193
1.000	1.803 - 2.441	—	—	0.382	0.224
1.250	2.250 - 3.031	—	—	0.508	0.287
1.500	2.750 - 3.543	—	—	0.630	0.382
2.000	4.331	—	—	0.756	0.445
2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

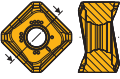
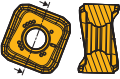
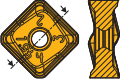
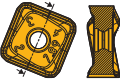
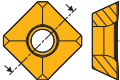
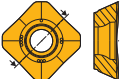
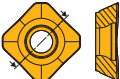
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

	Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
					P	M	K	N	S				
Square shoulder and slot milling cutters	Double Quattromill .54-14	SN.X14..AN 	6,0	5,0	■	■	■	▣	■	■	■	▣	48°
	Double Quattromill .56-14	SN.X14..ZN 	8,0	6,0	■	▣	■	-	□	▣	■	▣	71°
	Double Quattromill .54-22	SNMX22..AN 	9,0	7,0	■	■	■	□	▣	□	■	-	48°
Helical milling cutters	Double Quattromill .56-22	SNMX22..ZN 	13	10,0	■	▣	■	-	□	-	■	-	71°
	Quattromill .53-09/.53-12/.53-15	SE.X09T3 	4,5	3,0	■	■	▣	■	■	■	▣	■	45°
		SE.X1204 	6,0	4,5	■	■	■	■	■	■	■	■	45°
Face milling cutters	Plunge milling cutters	SE.X1505 	7,5	6,0	■	■	■	■	■	▣	■	■	45°

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	▣	Strong stable machine with rigid connection		a_p max = Maximum depth of cut possible a_p rec. = Recommended depth of cut for optimal result	
Possible choice	□	Not recommended	-		

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth													See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	
SNMX14..AN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX22..AN	8								5	5	6	8				257
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8									5	6	8				257
									5	7	8	10				
													9	11	14	
SE.X09T3	4		2	3	4	4	5	6	6	7						286
						5	6	7	8	10						
											8	10				
SE.X1204	4									5	6	7				294
							4	5	6	7	8	10				
						4	5	6	8	10	12					
								9								
														10	12	
SE.X1505	4										8	10	12			301
								5	6	7	8	10				
									7	9	10					
														10	12	
											8	10	12	16		

x	Fixed pocket (x indicates number of teeth)
x	With cassette (x indicates number of teeth)



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice



Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

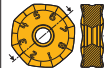
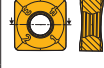
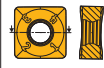
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

	Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
					P	M	K	N	S				
Helical milling cutters	Double Octomill .48-05/.48-09	ON..05 	3,0	2,0	■	■	▣	□	▣	■	▣	▣	40°
		ON..09 	6,0	4,0	■	■	■	□	▣	▣	■	□	40°
Face milling cutters	Octomill 06 .43-06	OO.T06 	4,0	3,0	■	■	▣	■	■	■	■	■	40°
		ROMT16 	7,5	4,5	■	■	▣	-	▣	▣	■	-	-
		MHF 	1,5	1,5	■	■	-	-	■	■	■	-	20°
High feed milling cutters	Octomill .43-05/.43-07	OF..05 	3,5	2,5	■	■	▣	▣	▣	■	▣	■	43°
		OF..07 	5,0	4,0	■	■	▣	▣	▣	■	■	▣	43°
Plunge milling cutters	.88-12/.88-16	SNMU12.. 	9,0	5,0	■	▣	■	-	-	■	■	■	88°
		SNMU16.. 	13,0	8,0	■	▣	■	-	-	□	■	■	88°

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



a_p max = Maximum depth of cut possible
 a_p rec. = Recommended depth of cut for optimal result

Possible choice



Not recommended

-

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth															See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	400	500	
ON..05	16						4	5	6	7	8							270
				3	4		5	6										
						5	6	8	10	12	14							
ON..09	16							5	6	7	8	10	12	16	20			276
								6	7	8	10	12						
									9	12	15	20	24	30	40	50	60	
													28					
												10	12	16	20			
OO.T06/ROMT								4	5	6	7	8	10	12				233
							4	5	7	8	10	12	12	14				
							5	6	8	10	12							
OF..05					3	3	4	5	6	7	8	10						319
						4	5	6	8									
												8	10	12	16			
												10	14					
OF..07	8						4	4	5	6	8	10						325
								6	9	12								
												10	12	16				
SNMU12..	8						4	6	7	8	10	12						308
						4	5	7	9	11	13	16						
SNMU16..	8								6	8	10	12						313
								5	7	9	11	13						

x	Fixed pocket (x indicates number of teeth)		Troubleshooter for unstable fixturing and/or unstable conditions
x	With cassette (x indicates number of teeth)		Basic choice
			Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

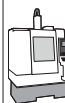
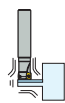
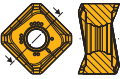
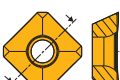
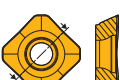
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – inch

	Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
					P	M	K	N	S				
Square shoulder and slot milling cutters													
Helical milling cutters	Double Quattromill .54-14	SN.X14..AN 	0.236	0.197	■	■	■	▣	■	▣	■	▣	48°
Face milling cutters	Double Quattromill .56-14	SN.X14..ZN 	0.315	0.236	■	▣	■	-	□	▣	■	▣	71°
Disc milling cutters	Double Quattromill .54-22	SNMX22..AN 	0.354	0.275	■	■	■	□	▣	□	■	-	48°
High feed milling cutters	Double Quattromill .56-22	SNMX22..ZN 	0.512	0.393	■	▣	■	-	□	-	■	-	71°
Copy milling cutters	Quattromill .53-09/.53-12/.53-15	SE.X09T3 	0.177	0.118	■	■	▣	■	■	■	▣	■	45°
Plunge milling cutters		SE.X1204 	0.236	0.177	■	■	■	■	■	■	■	■	45°
Chamfer milling cutters		SE.X1505 	0.295	0.236	■	■	■	■	■	▣	■	■	45°
Spot facing cutters													

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



a_p max = Maximum depth of cut possible
 a_p rec. = Recommended depth of cut for optimal result

Possible choice



Not recommended



Selection – inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
SNMX14..AN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX22..AN	8								5	5	6	8				257
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8								5	5	6	8				257
										7	8	10				
													9	11	14	
SE.X09T3	4			3	4	4	5	6	6							286
SE.X1204	4					4	4	5	6	7	8	7				294
							5	6	8	10		10	12			
SE.X1505	4								6	7		10				301

x	Fixed pocket (x indicates number of teeth)		Troubleshooter for unstable fixturing and/or unstable conditions
x	With cassette (x indicates number of teeth)		Basic choice
			Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

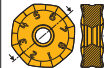
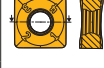
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

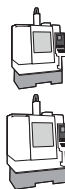
Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Octomill .48-.05/.48-.09	ON..05 	0.118	0.079	■	■	▣	□	▣	■	▣	▣	40°
	ON..09 	0.236	0.157	■	■	■	□	▣	▣	■	□	40°
Octomill 06 .43-.06	OO.T06 	0.157	0.118	■	■	▣	■	■	■	■	■	40°
	ROMT16 	0.295	0.177	■	■	▣	-	▣	▣	■	-	-
	MHF 	0.059	0.059	■	■	-	-	■	■	■	-	20°
Octomill .43-.05/.43-.07	OF..05 	0.138	0.098	■	■	▣	▣	▣	■	▣	▣	43°
	OF..07 	0.197	0.157	■	■	▣	▣	▣	■	■	▣	43°
.88-12/.88-16	SNMU12.. 	0.354	0.197	■	▣	■	-	-	■	■	■	88°
	SNMU16.. 	0.512	0.354	■	▣	■	-	-	□	■	▣	88°

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



a_p max = Maximum depth of cut possible
 a_p rec. = Recommended depth of cut for optimal result

Possible choice



Not recommended



Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
ON..05	16					4		5	6	7						270
							5		10							
ON..09	16							5	6	7	8	10	12	16	20	276
									9	12	15					
												10	12	16		
OO.T06/ROMT									5	6	7					233
								5	7	8	10	12	12			
							5	6								
OF..05	8						4	5	6	7						319
OF..07	8								5	6						325
SNMU12..	8					4	4	6	7	8	10	12				308
							5	7	9	11	13					
SNMU16..	8								6	8	10	12				313
									7	9						

x	Fixed pocket (x indicates number of teeth)		Troubleshooter for unstable fixturing and/or unstable conditions
x	With cassette (x indicates number of teeth)		Basic choice
			Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

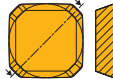
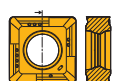
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
.30	SEEX1203 	1,0	0,20 - 0,50	■	▣	■	–	–	▣	■	▣	88 45
R230.19	SNHQ 	3,1	0,10 - 0,50	■	■	▣	–	■	■	▣	■	90
.38	SNFX1204 	3,0 - 1,0	0,10 - 0,50	■	▣	■	–	▣	▣	■	▣	88 27

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	▣	Strong stable machine with rigid connection		a_p max = Maximum depth of cut possible a_p rec. = Recommended depth of cut for optimal result	
Possible choice	□	Not recommended	–		

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth															See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	400	500	
SEEX1203	4								6	8	10			22				270
									9				25	32				
SNHQ1103	4					3	5	6	8	10								276
																		
SNFX1204	8							4	6	8	10	12	16	22				233
									8	10	12	15	20	25				
									10	12	14	18						
										14	18	22						

x	Fixed pocket (x indicates number of teeth)		Troubleshooter for unstable fixturing and/or unstable conditions
x	With adjustment unit		Basic choice
			Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

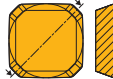
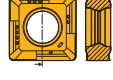
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
.30	SEEX1203 	0.04	0.008 - 0.0196	■	▣	■	–	–	▣	■	▣	88 45
.19	SNHQ 	0.122	0.004 - 0.0196	■	■	▣	–	■	■	▣	■	90
.38	SNFX1204 	0.118-0.04	0.004 - 0.0196	■	▣	■	–	▣	▣	■	▣	88 27

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	▣	Strong stable machine with rigid connection		a_p max = Maximum depth of cut possible a_p rec. = Recommended depth of cut for optimal result	
Possible choice	□	Not recommended	–		

Selection – inch

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
SEEX1203	4	  														270
SNHQ1103	4	  														276
SNFX1204	8	  							6	8	10	12				233
										10	12	15				
											14	18				

x	Fixed pocket (x indicates number of teeth)		Troubleshooter for unstable fixturing and/or unstable conditions
x	With adjustment unit		Basic choice
			Productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts



Octomill™ 06

Octomill™ size 06 is a new generation and evolution of Seco's Octomill™ size 05 and 07 based on a OF-style design.

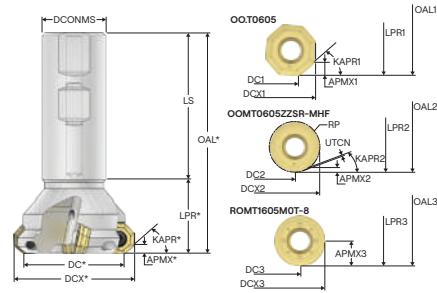
The new generation Octomill™ 06 tackles the major challenge of single-sided inserts, which is an easy and secured insert handling. Explore the favorable single-sided characteristics as cutting behavior together with a comparable handling of a double-sided solution.

Octomill™ 06 combines the strength and overcomes the weakness of common OF- and OD-style solutions. It combines the light cutting behavior of an OF- and the cutting edge strength/robustness of an OD-style solutions.

Still Octomill™ size 07 offers a key strength based on the wedge clamping option and the thinner inserts compared to new generation size 06. This allows close and super close cutter pitches as well as a fast insert indexing. This is beneficial for bigger cutter diameters and typically from interest for block and sheet machining applications.

- Insert size 06, cutter range 40-250mm (2.00" - 8.00 inches)
- 8 cutting edges, single-sided inserts

R217.43-06 – Metric



—For insert selection and cutting data recommendations, see page(s) 239 – 275
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	LPR1	LPR2	LPR3
			mm	mm	mm		mm	mm	mm			mm	mm	mm
R217.43-3240.3-06-03SA	10260220	Weldon	40,0	36,0	34,5	3	4,0	1,5	7,5	40,0	20,0	50,0	50,15	50,0
R217.43-3250.3-06-04SA	10260221	Weldon	50,0	46,0	44,5	4	4,0	1,5	7,5	40,0	20,0	50,0	50,15	50,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DCONMS	OAL1	OAL2	OAL3	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm	mm	mm		kg	
R217.43-3240.3-06-03SA	10260220	Weldon	50,4	50,7	50,35	32,0	110,0	110,15	110,0	71,4	96,8	13200	0,7	OO.T0605 / ROMT1605
R217.43-3250.3-06-04SA	10260221	Weldon	60,4	60,7	60,35	32,0	110,0	110,15	110,0	91,4	116,8	11500	0,9	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.43-..	1/4HEX-T20PX50	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.43-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

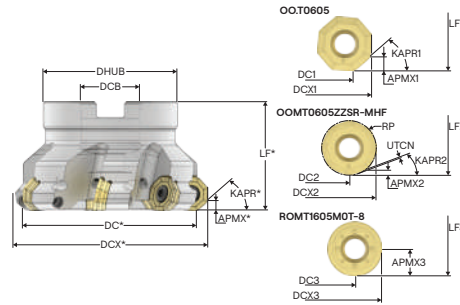
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.43-06 – Metric

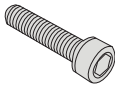
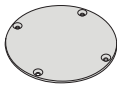


—For insert selection and cutting data recommendations, see page(s) 239 – 275
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

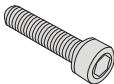
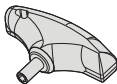
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DHUB	LF1	LF2	LF3
			mm	mm	mm		mm	mm	mm			mm	mm	mm	mm	mm
R220.43-0050-06-05SA	10260222	Arbor	50,0	46,0	44,5	5	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-04SA	10260223	Arbor	63,0	59,0	57,5	4	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-05SA	10260224	Arbor	63,0	59,0	57,5	5	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-06SA	10260225	Arbor	63,0	59,0	57,5	6	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0080-06-05SA	10260226	Arbor	80,0	76,0	74,5	5	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0080-06-07SA	10260227	Arbor	80,0	76,0	74,5	7	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0080-06-08SA	10260228	Arbor	80,0	76,0	74,5	8	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0100-06-06SA	10260229	Arbor	100,0	96,0	94,5	6	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0100-06-08SA	10260230	Arbor	100,0	96,0	94,5	8	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0100-06-10SA	10260231	Arbor	100,0	96,0	94,5	10	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0125-06-07SA	10260232	Arbor	125,0	121,0	119,5	7	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-0125-06-10SA	10260233	Arbor	125,0	121,0	119,5	10	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-0125-06-12SA	10260234	Arbor	125,0	121,0	119,5	12	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-8160-06-08SA	10260235	Arbor	160,0	156,0	154,5	8	4,0	1,5	7,5	40,0	20,0	40,0	130,0	63,0	63,15	63,0
R220.43-8160-06-12SA	10260236	Arbor	160,0	156,0	154,5	12	4,0	1,5	7,5	40,0	20,0	40,0	130,0	63,0	63,15	63,0
R220.43-8200-06-12SA	10260237	Arbor	200,0	196,0	194,5	12	4,0	1,5	7,5	40,0	20,0	60,0	170,0	63,0	63,15	63,0
R220.43-8250-06-14SA	10260238	Arbor	250,0	246,0	244,5	14	4,0	1,5	7,5	40,0	20,0	60,0	200,0	63,0	63,15	63,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DCONMS	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm		kg	
R220.43-0050-06-05SA	10260222	Arbor	60,4	60,7	60,35	–	22,0	91,4	116,8	11300	0,4	OO.T0605 / ROMT1605
R220.43-0063-06-04SA	10260223	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,6	OO.T0605 / ROMT1605
R220.43-0063-06-05SA	10260224	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,6	OO.T0605 / ROMT1605
R220.43-0063-06-06SA	10260225	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,5	OO.T0605 / ROMT1605
R220.43-0080-06-05SA	10260226	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0080-06-07SA	10260227	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0080-06-08SA	10260228	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0100-06-06SA	10260229	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	1,9	OO.T0605 / ROMT1605
R220.43-0100-06-08SA	10260230	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	1,8	OO.T0605 / ROMT1605
R220.43-0100-06-10SA	10260231	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	2,0	OO.T0605 / ROMT1605
R220.43-0125-06-07SA	10260232	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,6	OO.T0605 / ROMT1605
R220.43-0125-06-10SA	10260233	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,8	OO.T0605 / ROMT1605
R220.43-0125-06-12SA	10260234	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,8	OO.T0605 / ROMT1605
R220.43-8160-06-08SA	10260235	Arbor	170,4	170,7	170,35	66,7	40,0	311,4	336,8	6300	5,3	OO.T0605 / ROMT1605
R220.43-8160-06-12SA	10260236	Arbor	170,4	170,7	170,35	66,7	40,0	311,4	336,8	6300	5,6	OO.T0605 / ROMT1605
R220.43-8200-06-12SA	10260237	Arbor	210,4	210,7	210,35	101,6	60,0	391,4	416,8	5600	7,6	OO.T0605 / ROMT1605
R220.43-8250-06-14SA	10260238	Arbor	260,4	260,7	260,35	101,6	60,0	491,4	516,8	5000	16,4	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.43-0050-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-0100	MLC6S16X35	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-0100-SA	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	-	-
R220.43-0125	MC6S20X40	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-0125-SA	MC6S20X40	1/4HEX-T20PX90	C05013-T20P	-	-
R220.43-8160	-	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.43-8200	-	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10
R220.43-8250	-	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-0050-0125	1/4HEX-T-HANDLE-5.0-14.0NM	-	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

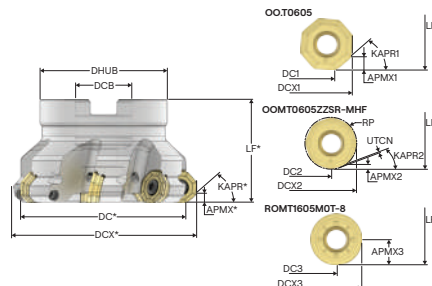
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.43-06 – inch

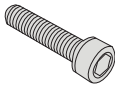
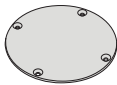


—For insert selection and cutting data recommendations, see page(s) 239 – 275
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

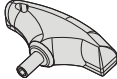
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DBC2	DHUB	LF1	LF2	LF3
			inch	inch	inch		inch	inch	inch			inch	inch	inch	inch	inch	inch
R220.43-02.00-06-05SA	10260239	Arbor	2.000	1.843	1.783	5	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-02.50-06-05SA	10260240	Arbor	2.500	2.343	2.283	5	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-02.50-06-06SA	10260241	Arbor	2.500	2.343	2.283	6	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-03.00-06-05SA	10260242	Arbor	3.000	2.843	2.783	5	0.157	0.059	0.295	40,0	20,0	1.000	–	2.441	1.969	1.974	1.969
R220.43-03.00-06-07SA	10260243	Arbor	3.000	2.843	2.783	7	0.157	0.059	0.295	40,0	20,0	1.000	–	2.441	1.969	1.974	1.969
R220.43-04.00-06-06SA	10260244	Arbor	4.000	3.843	3.783	6	0.157	0.059	0.295	40,0	20,0	1.500	–	3.031	1.969	1.974	1.969
R220.43-04.00-06-08SA	10260245	Arbor	4.000	3.846	3.783	8	0.157	0.059	0.295	40,0	20,0	1.500	–	3.031	1.969	1.974	1.969
R220.43-05.00-06-07SA	10260246	Arbor	5.000	4.843	4.783	7	0.157	0.059	0.295	40,0	20,0	1.500	–	3.543	2.480	2.486	2.480
R220.43-05.00-06-10SA	10260247	Arbor	5.000	4.843	4.783	10	0.157	0.059	0.295	40,0	20,0	1.500	–	3.543	2.480	2.486	2.480
R220.43-06.00-06-12SA	10260248	Arbor	6.000	5.843	5.783	12	0.157	0.059	0.295	40,0	20,0	2.000	–	4.724	2.480	2.486	2.480
R220.43-808.00-06-12SA	10260249	Arbor	8.000	7.843	7.783	12	0.157	0.059	0.295	40,0	20,0	2.500	4.000	6.693	2.480	2.486	2.480

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DBC2	DCONMS	C min	C max	RPMX	Weight	Insert
			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R220.43-02.00-06-05SA	10260239	Arbor	2.409	2.421	2.407	–	–	0.750	3.661	4.661	11300	1.100	OO.T0605 / ROMT1605
R220.43-02.50-06-05SA	10260240	Arbor	2.909	2.921	2.907	–	–	0.750	4.661	5.661	10100	1.540	OO.T0605 / ROMT1605
R220.43-02.50-06-06SA	10260241	Arbor	2.909	2.921	2.907	–	–	0.750	4.661	5.661	10100	1.540	OO.T0605 / ROMT1605
R220.43-03.00-06-05SA	10260242	Arbor	3.409	3.421	3.407	–	–	1.000	5.661	6.661	8900	2.650	OO.T0605 / ROMT1605
R220.43-03.00-06-07SA	10260243	Arbor	3.409	3.421	3.407	–	–	1.000	5.661	6.661	8900	2.430	OO.T0605 / ROMT1605
R220.43-04.00-06-06SA	10260244	Arbor	4.409	4.421	4.407	–	–	1.500	7.661	8.661	8000	4.190	OO.T0605 / ROMT1605
R220.43-04.00-06-08SA	10260245	Arbor	4.409	4.421	4.407	–	–	1.500	7.661	8.661	8000	4.190	OO.T0605 / ROMT1605
R220.43-05.00-06-07SA	10260246	Arbor	5.409	5.421	5.407	–	–	1.500	9.661	10.661	7100	11.020	OO.T0605 / ROMT1605
R220.43-05.00-06-10SA	10260247	Arbor	5.409	5.421	5.407	–	–	1.500	9.661	10.661	7100	8.600	OO.T0605 / ROMT1605
R220.43-06.00-06-12SA	10260248	Arbor	6.409	6.421	6.407	–	–	2.000	11.661	12.661	6500	10.140	OO.T0605 / ROMT1605
R220.43-808.00-06-12SA	10260249	Arbor	8.409	8.421	8.407	4.000	4.000	2.500	15.661	16.661	5900	22.050	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.43-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	-	-
R220.43-05.00-10SA	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	-	-
R220.43-06.00	-	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.43-808.00	-	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-02.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	-	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-808.00	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

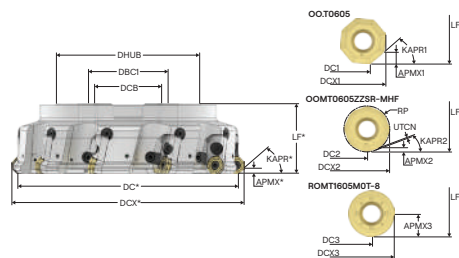
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.43-06 – Metric

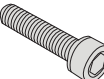
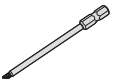
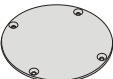


—For insert selection and cutting data recommendations, see page(s) 239 – 275
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

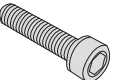
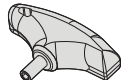
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DHUB	LF1	LF2	LF3
			mm	mm	mm		mm	mm	mm			mm	mm	mm	mm	mm
R220.43-8200-06-10CSA	10260250	Arbor	200,0	196,0	194,5	10	4,0	1,5	7,5	40,0	20,0	60,0	160,0	63,0	63,15	63,0
R220.43-8250-06-12CSA	10260251	Arbor	250,0	246,0	244,5	12	4,0	1,5	7,5	40,0	20,0	60,0	200,0	63,0	63,15	63,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DCONMS	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm		kg	
R220.43-8200-06-10CSA	10260250	Arbor	210,4	210,7	210,35	101,6	60,0	391,4	416,8	1800	12,0	OO.T0605 / ROMT1605
R220.43-8250-06-12CSA	10260251	Arbor	260,4	260,7	260,35	101,6	60,0	491,4	516,8	1560	12,7	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Stop screw	Wedge	Wedge screw
										
R220.43-10CSA	AU1114T-T15P	OO06ZR	MC6S6X20	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	P6SS4X4G	CW0810	LD8020-T25P
R220.43-12CSA	AU1114T-T15P	OO06ZR	MC6S6X20	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	P6SS4X4G	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-..	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R17/220.43-06 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	OOET0605ZZSR-ME12 MP3501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013	Square shoulder and slot milling cutters
P2	OOET0605ZZSR-ME12 MP3501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014	
P3	OOET0605ZZSR-ME12 MP3501	3,0 0.12	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013	
P4	OOMT0605ZZSR-M15 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017	Helical milling cutters
P5	OOMT0605ZZSR-M15 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
P6	OOMT0605ZZSR-M15 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
P7	OOMT0605ZZSR-M15 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	Face milling cutters
P8	OOMT0605ZZSR-M15 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017	
P11	OOET0605ZZSR-ME12 MP2051	3,0 0.12	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013	
P12	OOET0605ZZSR-ME12 MP2051	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	Disc milling cutters
M1	OOET0605ZZER-M10 F40M	3,0 0.12	0,20 0.0095	0,20 0.0095	0,22 0.0095	0,26 0.012	
M2	OOET0605ZZER-M10 MS2050	3,0 0.12	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	
M3	OOET0605ZZER-M10 MS2050	2,5 0.10	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085	High feed milling cutters
M4	OOET0605ZZER-M10 MP2051	1,9 0.075	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
M5	OOET0605ZZER-M10 MP2051	1,9 0.075	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
K1	OOMT0605ZZSR-M15 MK1501	3,0 0.12	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	Copy milling cutters
K2	OOMT0605ZZSR-M15 MK1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K3	OOMT0605ZZSR-M15 MP1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K4	OOMT0605ZZSR-M15 MP1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	Plunge milling cutters
K5	OOMT0605ZZSR-M15 MP1501	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014	
K6	OOMT0605ZZSR-M15 MK2050	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K7	OOMT0605ZZSR-M15 MK2050	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014	Chamfer milling cutters
N1	OOET0605ZZFR-E08 H25	3,0 0.12	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	
N2	OOET0605ZZFR-E08 H25	3,0 0.12	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	
N3	OOET0605ZZFR-E08 H25	3,0 0.12	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	Spot facing cutters
N11	OOET0605ZZFR-E08 H25	3,0 0.12	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	
S1	OOET0605ZZER-M10 MS2050	1,9 0.075	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
S2	OOET0605ZZER-M10 MS2050	1,9 0.075	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	Inserts
S3	OOET0605ZZER-M10 MS2050	1,9 0.075	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	
S11	OOET0605ZZER-M10 MS2050	2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085	
S12	OOET0605ZZER-M10 MS2050	2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085	
S13	OOET0605ZZER-M10 MS2050	1,9 0.075	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
H5	OOEW0605ZZSR-D20 MH1051	2,5 0.10	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013	
H8	OOEW0605ZZSR-D20 MH1051	2,0 0.080	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	
H11	OOEW0605ZZSR-D20 MH1051	2,5 0.10	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013	
H12	OOEW0605ZZSR-D20 MH1051	2,0 0.080	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	
H21	OOEW0605ZZSR-D20 MH1051	2,0 0.080	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.43-06 – Insert selection – mm/Inch

	SMG	a_p	f_z			
			80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
	P2	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
Helical milling cutters	P3	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,75 0.030	0,75 0.030	0,75 0.030	0,95 0.038
	P4	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,75 0.030	0,90 0.036
	P5	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	P6	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	P7	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
Face milling cutters	P8	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,75 0.030	0,75 0.030	0,75 0.030	0,95 0.038
	P11	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	P12	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
	M1	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
Disc milling cutters	M2	OOMT0605ZZSR-MHF-M16 MS2050 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	M3	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,55 0.022	0,55 0.022	0,60 0.024	0,70 0.028
	M4	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
	M5	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
	K1	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
High feed milling cutters	K2	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	K3	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	K4	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
	K5	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,65 0.026	0,65 0.026	0,65 0.026	0,80 0.032
	K6	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
Copy milling cutters	K7	OOMT0605ZZSR-MHF-M16 MP2501 1,5 0.060	0,65 0.026	0,65 0.026	0,65 0.026	0,80 0.032
	S1	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
	S2	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
	S3	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,46 0.018	0,46 0.018	0,46 0.018	0,60 0.024
	S3	OOMT0605ZZSR-MHF-M16 MS2050 1,2 0.046	0,46 0.018	0,46 0.018	0,46 0.018	0,60 0.024

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.43-06 – Insert selection – Metric/ Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,50 0.020	0,50 0.020	0,55 0.022	0,70 0.028
P2	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
P3	ROMT1605M0T-8-M14 MP2501	3,0 0.12	0,50 0.020	0,50 0.020	0,50 0.020	0,65 0.026
P4	ROMT1605M0T-8-M14 MP2501	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P5	ROMT1605M0T-8-M14 MP2501	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P6	ROMT1605M0T-8-M14 MP2501	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P7	ROMT1605M0T-8-M14 MP2501	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P8	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,50 0.020	0,50 0.020	0,50 0.020	0,65 0.026
P11	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P12	ROMT1605M0T-8-M14 MS2050	2,5 0.10	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
M1	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
M2	ROMT1605M0T-8-M14 MS2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
M3	ROMT1605M0T-8-M14 MS2050	2,5 0.10	0,42 0.017	0,42 0.017	0,44 0.017	0,55 0.022
M4	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
M5	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
K1	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
K2	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K3	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K4	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K5	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
K6	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K7	ROMT1605M0T-8-M14 MK2050	3,0 0.12	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S1	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S2	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S3	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,40 0.016	0,40 0.016	0,42 0.017	0,55 0.022
S11	ROMT1605M0T-8-M14 MS2050	2,0 0.080	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
S12	ROMT1605M0T-8-M14 MS2050	2,0 0.080	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
S13	ROMT1605M0T-8-M14 MS2050	1,8 0.070	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
H5	ROMT1605M0T-8-M14 MK2050	2,5 0.10	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
H8	ROMT1605M0T-8-M14 MK2050	2,0 0.080	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
H11	ROMT1605M0T-8-M14 MK2050	2,5 0.10	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
H12	ROMT1605M0T-8-M14 MK2050	2,0 0.080	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
H21	ROMT1605M0T-8-M14 MK2050	2,0 0.080	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

 Square shoulder
and slot milling
cutters

 Helical milling
cutters

 Face milling
cutters

 Disc milling
cutters

 High feed milling
cutters

 Copy milling
cutters

 Plunge milling
cutters

 Chamfer milling
cutters

 Spot facing
cutters

Inserts

R217/220.43-06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051				MK2050				MP3000				MS2050				F40M				MP2051				MP1020				H15			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	275	295	325	370	295	325	375	430	270	290	325	370	250	270	300	335	300	340	410	485	195	225	260	310	—	—	—	—
	—	—	—	—	900	970	1075	1225	970	1075	1225	1400	890	950	1075	1225	820	890	980	1100	980	1125	1350	1600	640	740	850	1025	—	—	—	—
P2	—	—	—	—	270	290	320	360	290	315	365	410	260	285	320	355	245	265	290	320	290	330	400	460	190	220	255	300	—	—	—	—
	—	—	—	—	890	950	1050	1175	890	950	1050	1200	1350	850	940	1050	1175	800	870	950	1050	950	1075	1300	1500	620	720	840	980	—	—	—
P3	—	—	—	—	235	255	280	315	260	285	325	360	235	250	280	310	220	235	260	280	265	300	360	405	180	205	235	270	—	—	—	—
	—	—	—	—	770	840	920	1025	850	940	1075	1175	770	820	920	1025	720	770	850	920	870	980	1175	1325	590	670	770	890	—	—	—	—
P4	—	—	—	—	205	225	245	280	230	250	285	325	205	220	250	280	200	215	240	265	235	265	315	370	155	180	205	240	—	—	—	—
	—	—	—	—	670	740	800	920	750	820	940	1075	670	720	820	920	660	710	790	870	770	870	1025	1225	510	590	670	790	—	—	—	—
P5	265	295	335	405	200	215	240	270	220	245	270	310	200	215	235	265	185	200	220	240	230	260	300	355	150	170	210	240	—	—	—	—
	870	970	1100	1325	660	710	790	890	720	800	890	1025	660	710	770	870	610	660	720	790	750	850	980	1175	490	560	690	790	—	—	—	—
P6	295	330	390	455	220	240	270	305	250	270	305	350	225	240	265	300	210	225	245	270	260	295	340	395	170	190	235	270	—	—	—	—
	970	1075	1275	1500	720	790	890	1000	820	890	1000	1150	740	790	870	980	690	740	800	890	850	970	1125	1300	560	620	770	890	—	—	—	—
P7	280	310	370	430	210	225	255	285	235	255	290	330	210	225	250	280	195	210	230	255	245	275	320	375	160	180	225	255	—	—	—	—
	920	1025	1225	1400	690	740	840	940	770	840	950	1075	690	740	820	920	640	690	750	840	800	900	1050	1225	520	590	740	840	—	—	—	—
P8	255	285	335	380	200	215	235	265	220	240	270	305	195	210	235	260	185	195	220	235	225	255	300	340	150	170	195	230	—	—	—	—
	840	940	1100	1250	660	710	770	870	720	790	890	1000	640	690	770	850	610	640	720	770	740	840	980	1125	490	560	640	750	—	—	—	—
P11	270	300	360	415	205	220	245	280	230	250	280	320	205	220	245	275	190	205	225	250	235	275	330	410	155	175	215	245	—	—	—	—
	890	980	1175	1350	670	720	800	920	750	820	920	1050	670	720	800	900	620	670	740	820	770	900	1075	1350	510	570	710	800	—	—	—	—
P12	205	225	260	305	135	145	160	180	160	175	190	215	140	150	160	180	130	140	150	165	180	205	235	285	140	155	175	190	—	—	—	—
	670	740	850	1000	445	475	520	590	520	570	620	710	460	490	520	590	425	460	490	540	590	670	770	940	460	510	570	620	—	—	—	—
M1	—	—	—	—	—	—	—	—	210	230	255	285	200	215	245	270	185	195	220	245	250	295	365	445	165	190	220	265	—	—	—	—
	—	—	—	—	—	—	—	—	690	750	840	940	660	710	800	890	610	640	720	800	820	970	1200	1450	540	620	720	870	—	—	—	—
M2	—	—	—	—	—	—	—	—	180	190	210	240	170	180	200	225	155	165	180	205	225	260	310	390	145	165	205	235	—	—	—	—
	—	—	—	—	—	—	—	—	590	620	690	790	560	590	660	740	510	540	590	670	740	850	1025	1275	475	540	670	770	—	—	—	—
M3	—	—	—	—	—	—	—	—	145	155	175	195	135	145	165	185	125	135	150	165	200	230	275	330	150	170	190	215	—	—	—	—
	—	—	—	—	—	—	—	—	475	510	570	640	445	475	540	610	410	445	490	540	660	750	900	1075	490	560	620	710	—	—	—	—
M4	—	—	—	—	—	—	—	—	110	120	135	150	105	115	125	145	95	105	115	130	160	180	215	260	130	140	160	175	—	—	—	—
	—	—	—	—	—	—	—	—	360	395	445	490	345	375	410	475	310	345	375	425	520	590	710	850	425	460	520	570	—	—	—	—
M5	—	—	—	—	—	—	—	—	95	100	110	125	90	95	105	120	80	85	95	110	135	150	180	215	110	120	135	145	—	—	—	—
	—	—	—	—	—	—	—	—	310	330	360	410	295	310	345	395	260	280	310	360	445	490	590	710	360	395	445	475	—	—	—	—
K1	340	385	440	530	290	310	345	390	225	245	270	305	—	—	—	—	180	195	215	245	—	—	—	—	195	210	235	265	—	—	—	—
	1125	1275	1450	1750	950	1025	1125	1275	740	800	890	1000	—	—	—	—	590	640	710	800	—	—	—	—	640	690	770	870	—	—	—	—
K2	320	355	405	490	255	275	310	350	200	220	240	270	—	—	—	—	160	175	190	220	—	—	—	—	175	185	210	235	—	—	—	—
	1050	1175	1325	1600	840	900	1025	1150	660	720	790	890	—	—	—	—	520	570	620	720	—	—	—	—	570	610	690	770	—	—	—	—
K3	270	300	345	415	215	235	260	295	170	185	205	230	—	—	—	—	135	145	160	185	—	—	—	—	145	160	175	200	—	—	—	—
	890	980	1125	1350	710	770	850	970	560	610	670	750	—	—	—	—	445	475	520	610	—	—	—	—	475	520	570	660	—	—	—	—
K4	255	285	330	395	205	225	250	280	165	175	195	220	—	—	—	—	130	140	155	175	—	—	—	—	140	150	170	190	—	—	—	—
	840	940	1075	1300	670	740	820	920	540	570	640	720	—	—	—	—	425	460	510	570	—	—	—	—	460	490	560	620	—	—	—	—
K5	165	185	215	250	130	140	150	175	100	110	120	135	—	—	—	—	80	85	95	110	—	—	—	—	85	95	105	115	—	—	—	—
	540	610	710	820	425	460	490	570	330	360	395	445	—	—	—	—	260	280	310	360	—	—	—	—	280	310	345	375	—	—	—	—
K6	225	255	290	350	180	195	220	250	145	155	170</																					

R217/220.43-06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MS2500				MP3501				Square should and slot mill cutters
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	375	385	415	450	365	375	400	440	390	400	430	475	325	330	355	390	Helical milling cutters
	—	—	—	—	1225	1275	1350	1475	1200	1225	1300	1450	1275	1300	1400	1550	1075	1075	1175	1275	
P2	—	—	—	—	365	375	405	440	355	365	390	425	375	390	420	465	315	320	345	380	Helical milling cutters
	—	—	—	—	1200	1225	1325	1450	1175	1200	1275	1400	1225	1275	1375	1525	1025	1050	1125	1250	
P3	—	—	—	—	320	330	355	385	310	320	345	375	335	345	370	410	280	285	305	335	Helical milling cutters
	—	—	—	—	1050	1075	1175	1275	1025	1050	1125	1225	1100	1125	1225	1350	920	940	1000	1100	
P4	—	—	—	—	285	290	310	340	275	285	305	330	295	305	325	360	245	250	270	295	Helical milling cutters
	—	—	—	—	940	950	1025	1125	900	940	1000	1075	970	1000	1075	1175	800	820	890	970	
P5	—	—	—	—	270	280	300	330	265	270	290	320	285	295	315	345	235	240	255	285	Helical milling cutters
	—	—	—	—	890	920	980	1075	870	890	950	1050	940	970	1025	1125	770	790	840	940	
P6	—	—	—	—	305	310	335	370	295	305	325	360	320	330	355	385	260	270	290	320	Face milling cutters
	—	—	—	—	1000	1025	1100	1225	970	1000	1075	1175	1050	1075	1175	1275	850	890	950	1050	
P7	—	—	—	—	285	295	315	350	280	285	305	340	300	310	335	365	245	255	275	305	Face milling cutters
	—	—	—	—	940	970	1025	1150	920	940	1000	1125	980	1025	1100	1200	800	840	900	1000	
P8	—	—	—	—	270	280	300	325	265	270	290	315	280	290	310	345	235	240	255	280	Face milling cutters
	—	—	—	—	890	920	980	1075	870	890	950	1025	920	950	1025	1125	770	790	840	920	
P11	—	—	—	—	280	285	305	340	270	280	300	330	290	305	325	355	240	245	265	295	Face milling cutters
	—	—	—	—	920	940	1000	1125	890	920	980	1075	950	1000	1075	1175	790	800	870	970	
P12	—	—	—	—	185	190	205	225	180	190	200	220	195	200	215	230	165	170	180	195	Face milling cutters
	—	—	—	—	610	620	670	740	590	620	660	720	640	660	710	750	540	560	590	640	
M1	—	—	—	—	—	—	—	—	185	195	210	235	220	235	255	280	170	185	195	215	Disc milling cutters
	—	—	—	—	—	—	—	—	610	640	690	770	720	770	840	920	560	610	640	710	
M2	—	—	—	—	—	—	—	—	150	160	175	195	185	195	210	235	140	150	165	180	Disc milling cutters
	—	—	—	—	—	—	—	—	490	520	570	640	610	640	690	770	460	490	540	590	
M3	—	—	—	—	—	—	—	—	125	135	145	160	150	160	170	190	115	125	135	150	Disc milling cutters
	—	—	—	—	—	—	—	—	410	445	475	520	490	520	560	620	375	410	445	490	
M4	—	—	—	—	—	—	—	—	95	105	110	125	115	125	130	145	90	95	105	115	Disc milling cutters
	—	—	—	—	—	—	—	—	310	345	360	410	375	410	425	475	295	310	345	375	
M5	—	—	—	—	—	—	—	—	80	85	95	105	95	100	110	125	75	80	85	95	Disc milling cutters
	—	—	—	—	—	—	—	—	260	280	310	345	310	330	360	410	245	260	280	310	
K1	335	410	465	550	370	380	405	440	360	365	395	430	245	260	280	310	315	325	350	380	High feed milling cutters
	1100	1350	1525	1800	1225	1250	1325	1450	1175	1200	1300	1400	800	850	920	1025	1025	1075	1150	1250	
K2	295	360	410	485	325	335	360	400	320	325	350	390	220	230	250	275	280	290	310	345	High feed milling cutters
	970	1175	1350	1600	1075	1100	1175	1300	1050	1075	1150	1275	720	750	820	900	920	950	1025	1125	
K3	225	250	275	315	275	285	305	335	270	275	295	330	185	195	210	235	240	245	265	295	High feed milling cutters
	740	820	900	1025	900	940	1000	1100	890	900	970	1075	610	640	690	770	790	800	870	970	
K4	215	235	260	300	265	270	290	320	255	265	285	315	175	190	205	225	230	235	250	280	Copy milling cutters
	710	770	850	980	870	890	950	1050	840	870	940	1025	570	620	670	740	750	770	820	920	
K5	130	145	160	180	165	170	180	195	160	165	175	190	110	115	125	135	145	145	160	170	Copy milling cutters
	425	475	520	590	540	560	590	640	520	540	570	620	360	375	410	445	475	475	520	560	
K6	190	210	230	265	230	240	255	285	225	230	250	275	155	165	180	195	200	205	220	245	Copy milling cutters
	620	690	750	870	750	790	840	940	740	750	820	900	510	540	590	640	660	670	720	800	
K7	170	190	210	235	210	220	235	250	205	210	225	245	140	150	160	175	185	190	200	220	Copy milling cutters
	560	620	690	770	690	720	770	820	670	690	740	800	460	490	520	570	610	620	660	720	
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	70	42	45	48	55	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	180	195	215	230	140	150	155	180	
S2	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	60	34	36	39	44	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	195	110	120	130	145	
S3	—	—	—	—	—	—	—	—	—	—	—	—	40	42	46	50	30	32	35	38	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	130	140	150	165	100	105	115	125	
S11	—	—	—	—	—	—	—	—	—	—	—	—	80	85	90	100	60	65	70	75	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	260	280	295	330	195	215	230	245	
S12	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	70	40	43	47	50	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	180	195	215	230	130	140	155	165	
S13	—	—	—	—	—	—	—	—	—	—	—	—	32	34	36	40	24	25	27	30	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	105	110	120	130	80	80	90	100	
H5	—	—	—	—	48	50	55	60	—	—	—	—	47	50	55	60	37	40	43	48	Chamfer milling cutters
	—	—	—	—	155	165	180	195	—	—	—	—	155	165	180	195	120	130	140	155	
H8	—	—	—	—	50	55	60	65	—	—	—	—	50	55	55	60	40	43	47	50	Chamfer milling cutters
	—	—	—	—	165	180	195	215	—	—	—	—	165	180	180	195	130	140	155	165	
H11	—	—	—	—	60	65	70	80	—	—	—	—	60	65	70	75	47	50	55	60	Spot facing cutters
	—	—	—	—	195	215	230	260	—	—	—	—	195	215	230	245	155	165	180	195	
H12	—	—	—	—	95	100	110	120	—	—	—	—	100	105	115	125	70	80	85	90	Spot facing cutters
	—	—	—	—	310	330	360	395	—	—	—	—	330	345	375	410	230	260	280	295	
H21	—	—	—	—	50	55	60	65	—	—	—	—	50	55	55	60	40	43	47		

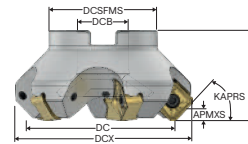


Double Quattromill 14/22

Take full advantage of your machine tool's milling power for increased productivity with Seco's Double Quattromill™ face mill cutter for roughing and semi finishing. The 48-degree Double Quattromill provides a combination of lower cutting forces, less power consumption, higher feed rates and exceptional chip thinning. While on the other hand, the 71 degree is best when having to mill close to a wall or part fixture. The cutter is the perfect balance between the 48-degree version and a typical square shoulder mill in terms of cutting forces and depth of cut.

- Insert size 14, cutter range 50–315mm (2 - 12.50 inches)
- Insert size 22, cutter range 80–315mm (3 - 12.50 inches)
- 8 cutting edges, double-sided inserts

R220.54-14 metric



- For insert selection and cutting data recommendations, see page(s) 251–256
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-0050-14-4A	03213622	Arbor	50,0	4	6,0	48,0 °	65,0	22,0	–	47,0	40,0	8500	0,5	SN.X1407A
R220.54-0050-14-5A	03213629	Arbor	50,0	5	6,0	48,0 °	65,0	22,0	–	47,0	40,0	8500	0,5	SN.X1407A
R220.54-0063-14-5A	03213623	Arbor	63,0	5	6,0	48,0 °	78,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407A
R220.54-0063-14-7A	03213630	Arbor	63,0	7	6,0	48,0 °	78,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407A
R220.54-0080-14-6A	03213624	Arbor	80,0	6	6,0	48,0 °	95,0	27,0	–	62,0	50,0	6700	1,2	SN.X1407A
R220.54-0080-14-8A	03213631	Arbor	80,0	8	6,0	48,0 °	95,0	27,0	–	62,0	50,0	6700	1,2	SN.X1407A
R220.54-0100-14-7A	03213625	Arbor	100,0	7	6,0	48,0 °	115,0	32,0	–	77,0	50,0	6000	1,8	SN.X1407A
R220.54-0100-14-10A	03213632	Arbor	100,0	10	6,0	48,0 °	115,0	32,0	–	77,0	50,0	6000	1,8	SN.X1407A
R220.54-0125-14-8A	03213626	Arbor	125,0	8	6,0	48,0 °	140,0	40,0	–	90,0	63,0	5400	3,6	SN.X1407A
R220.54-0125-14-12A	03213633	Arbor	125,0	12	6,0	48,0 °	140,0	40,0	–	90,0	63,0	5400	3,4	SN.X1407A
R220.54-8160-14-10A	03213627	Arbor	160,0	10	6,0	48,0 °	175,0	40,0	66,7	90,0	63,0	4700	6,2	SN.X1407A
R220.54-8160-14-15A	03213634	Arbor	160,0	15	6,0	48,0 °	175,0	40,0	66,7	90,0	63,0	4700	5,8	SN.X1407A
R220.54-8200-14-12A	03213628	Arbor	200,0	12	6,0	48,0 °	215,0	60,0	101,6	130,0	63,0	4200	11,8	SN.X1407A

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-0050-0063	220.17-691	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.54-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

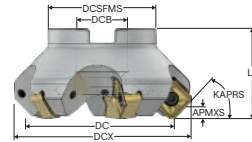
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

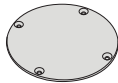
Double Quattro R220.54-14 – inch



—For insert selection and cutting data recommendations, see page(s) 251-256
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.54-02.00-14-4A	03213636	Arbor	1.969	4	0.236	48,0 °	2.559	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407A
R220.54-02.00-14-5A	03213643	Arbor	1.969	5	0.236	48,0 °	2.559	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407A
R220.54-02.50-14-5A	03213637	Arbor	2.480	5	0.236	48,0 °	3.071	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407A
R220.54-02.50-14-7A	03213644	Arbor	2.480	7	0.236	48,0 °	3.071	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407A
R220.54-03.00-14-6A	03213638	Arbor	3.150	6	0.236	48,0 °	3.740	1.000	–	–	2.441	1.969	6700	3.090	SN.X1407A
R220.54-03.00-14-8A	03213645	Arbor	3.150	8	0.236	48,0 °	3.740	1.000	–	–	2.441	1.969	6700	2.870	SN.X1407A
R220.54-04.00-14-7A	03213639	Arbor	3.937	7	0.236	48,0 °	4.528	1.500	–	–	3.031	1.969	6000	3.970	SN.X1407A
R220.54-04.00-14-10A	03213646	Arbor	3.937	10	0.236	48,0 °	4.528	1.500	–	–	3.031	1.969	6000	3.970	SN.X1407A
R220.54-05.00-14-8A	03213640	Arbor	4.921	8	0.236	48,0 °	5.512	1.500	–	–	3.543	2.480	5400	8.380	SN.X1407A
R220.54-05.00-14-12A	03213647	Arbor	4.921	12	0.236	48,0 °	5.512	1.500	–	–	3.543	2.480	5400	8.600	SN.X1407A
R220.54-06.00-14-10A	03213641	Arbor	6.299	10	0.236	48,0 °	6.890	2.000	–	–	4.331	2.480	4700	14.330	SN.X1407A
R220.54-06.00-14-15A	03213648	Arbor	6.299	15	0.236	48,0 °	6.890	2.000	–	–	4.331	2.480	4700	14.110	SN.X1407A
R220.54-808.00-14-12A	03213642	Arbor	7.874	12	0.236	48,0 °	8.465	2.500	4.000	4.000	5.118	2.480	4200	18.080	SN.X1407A

Spare Parts, included in delivery

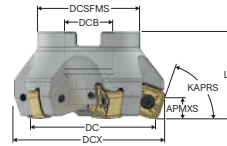
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-02.00-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.54-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

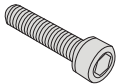
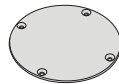
Double Quattro R220.56-14 – Metric



- For insert selection and cutting data recommendations, see page(s) 251–256
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.56-0050-14-5A	03241902	Arbor	50,0	5	8,0	71,0 °	57,0	22,0	–	47,0	40,0	8500	0,4	SN.X1407Z
R220.56-0063-14-5A	03241896	Arbor	63,0	5	8,0	71,0 °	70,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407Z
R220.56-0063-14-6A	03241903	Arbor	63,0	6	8,0	71,0 °	70,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407Z
R220.56-0080-14-6A	03241897	Arbor	80,0	6	8,0	71,0 °	87,0	27,0	–	62,0	50,0	6700	1,1	SN.X1407Z
R220.56-0080-14-8A	03241904	Arbor	80,0	8	8,0	71,0 °	87,0	27,0	–	62,0	50,0	6700	1,1	SN.X1407Z
R220.56-0100-14-7A	03241898	Arbor	100,0	7	8,0	71,0 °	107,0	32,0	–	77,0	50,0	6000	1,7	SN.X1407Z
R220.56-0100-14-10A	03241905	Arbor	100,0	10	8,0	71,0 °	107,0	32,0	–	77,0	50,0	6000	1,7	SN.X1407Z
R220.56-0125-14-8A	03241899	Arbor	125,0	8	8,0	71,0 °	132,0	40,0	–	90,0	63,0	5400	3,2	SN.X1407Z
R220.56-0125-14-12A	03241906	Arbor	125,0	12	8,0	71,0 °	132,0	40,0	–	90,0	63,0	5400	3,4	SN.X1407Z
R220.56-8160-14-10A	03241900	Arbor	160,0	10	8,0	71,0 °	167,0	40,0	66,7	90,0	63,0	4700	5,5	SN.X1407Z
R220.56-8160-14-15A	03241907	Arbor	160,0	15	8,0	71,0 °	167,0	40,0	66,7	90,0	63,0	4700	5,4	SN.X1407Z
R220.56-8200-14-12A	03241901	Arbor	200,0	12	8,0	71,0 °	207,0	60,0	101,6	130,0	63,0	4200	6,6	SN.X1407Z

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0080-6A	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0080-8A	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

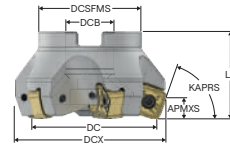
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

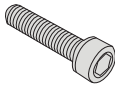
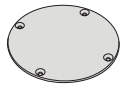
Double Quattro R220.56-14 – inch



—For insert selection and cutting data recommendations, see page(s) 251-256
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.56-02.00-14-5A	03241916	Arbor	1.969	5	0.315	71,0 °	2.244	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407Z
R220.56-02.50-14-5A	03241910	Arbor	2.480	5	0.315	71,0 °	2.756	0.750	–	–	1.850	1.575	7600	1.100	SN.X1407Z
R220.56-02.50-14-6A	03241917	Arbor	2.480	6	0.315	71,0 °	2.756	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407Z
R220.56-03.00-14-6A	03241911	Arbor	3.150	6	0.315	71,0 °	3.425	1.000	–	–	2.441	1.969	6700	2.650	SN.X1407Z
R220.56-03.00-14-8A	03241918	Arbor	3.150	8	0.315	71,0 °	3.425	1.000	–	–	2.441	1.969	6700	2.870	SN.X1407Z
R220.56-04.00-14-7A	03241912	Arbor	3.937	7	0.315	71,0 °	4.213	1.500	–	–	3.031	1.969	6000	3.310	SN.X1407Z
R220.56-04.00-14-10A	03241919	Arbor	3.937	10	0.315	71,0 °	4.213	1.500	–	–	3.031	1.969	6000	3.530	SN.X1407Z
R220.56-05.00-14-8A	03241913	Arbor	4.921	8	0.315	71,0 °	5.197	1.500	–	–	3.543	2.480	5400	8.160	SN.X1407Z
R220.56-05.00-14-12A	03241920	Arbor	4.921	12	0.315	71,0 °	5.197	1.500	–	–	3.543	2.480	5400	7.940	SN.X1407Z
R220.56-06.00-14-10A	03241914	Arbor	6.299	10	0.315	71,0 °	6.575	2.000	–	–	4.331	2.480	4700	13.450	SN.X1407Z
R220.56-06.00-14-15A	03241921	Arbor	6.299	15	0.315	71,0 °	6.575	2.000	–	–	4.331	2.480	4700	13.230	SN.X1407Z
R220.56-808.00-14-12A	03241915	Arbor	7.874	12	0.315	71,0 °	8.150	2.500	4.000	4.000	5.118	2.480	4200	16.310	SN.X1407Z

Spare Parts, included in delivery

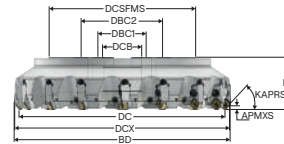
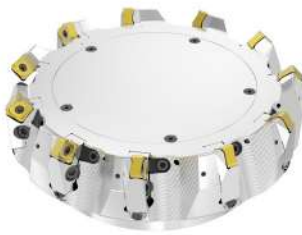
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

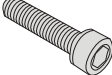
Double Quattro R220.54/56-14CA – Metric



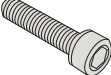
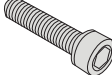
- For insert selection and cutting data recommendations, see page(s) 251–256
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB	DBC1	DBC2	DCSFMS	LF mm	RPMX	Weight kg	Insert
R220.54-8200-14-11CA	03213788	Arbor	200,0	11	6,0	48,0 °	215,0	60,0	101,6	–	130,0	80,0	4200	9,8	SN.X1407A
R220.56-8200-14-11CA	03245959	Arbor	200,0	11	8,0	71,0 °	207,0	60,0	101,6	–	130,0	80,0	4200	18,6	SN.X1407Z
R220.54-8250-14-14CA	03213789	Arbor	250,0	14	6,0	48,0 °	265,0	60,0	101,6	–	130,0	80,0	3800	23,2	SN.X1407A
R220.56-8250-14-14CA	03245960	Arbor	250,0	14	8,0	71,0 °	257,0	60,0	101,6	–	130,0	80,0	3800	18,5	SN.X1407Z
R220.54-8315-14-16CA	03213790	Arbor	315,0	16	6,0	48,0 °	330,0	60,0	101,6	177,8	225,0	80,0	3400	32,0	SN.X1407A
R220.56-8315-14-16CA	03245961	Arbor	315,0	16	8,0	71,0 °	322,0	60,0	101,6	177,8	225,0	80,0	3400	29,8	SN.X1407Z

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8200	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8250	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X8	CW0810	LD8020-T25P
R220.56-8250	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
						
R220.54/56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54/56-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54/56-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

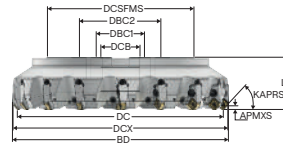
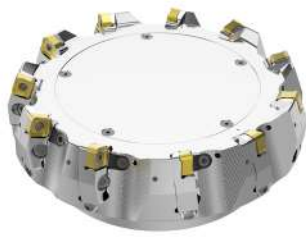
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

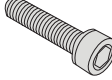
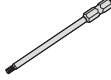
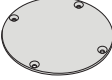
Double Quattro R220.54/56-14CA – inch



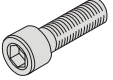
—For insert selection and cutting data recommendations, see page(s) 251-256
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB	DBC1	DBC2	DCSFMS	LF inch	RPMX	Weight lbs	Insert
R220.54-808.00-14-11CA	03213792	Arbor	7.874	11	0.236	48,0 °	8.465	2.500	4.000	4.000	5.118	3.150	4200	32.850	SN.X1407A
R220.56-808.00-14-11CA	03245963	Arbor	7.874	11	0.315	71,0 °	8.150	2.500	4.000	4.000	5.118	3.150	4200	22.490	SN.X1407Z
R220.54-810.00-14-14CA	03213793	Arbor	9.843	14	0.236	48,0 °	10.433	2.500	4.000	4.000	5.118	3.150	3800	51.590	SN.X1407A
R220.56-810.00-14-14CA	03245964	Arbor	9.843	14	0.315	71,0 °	10.118	2.500	4.000	4.000	5.118	3.150	3800	43.650	SN.X1407Z
R220.54-812.50-14-16CA	03213794	Arbor	12.402	16	0.236	48,0 °	12.992	2.500	4.000	4.000	8.858	3.150	3400	82.230	SN.X1407A
R220.56-812.50-14-16CA	03245965	Arbor	12.402	16	0.315	71,0 °	12.677	2.500	4.000	4.000	8.858	3.150	3400	65.920	SN.X1407Z

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-808.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-810.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-810.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54/56-808.-812.50	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.54-14 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	SNMX1407ANTR-M10 MP3501	5,0 0.20	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012	Square shoulder and slot milling cutters
P2	SNMX1407ANTR-M10 MP3501	5,0 0.20	0,24 0.0095	0,24 0.0095	0,25 0.010	0,32 0.013	
P3	SNMX1407ANTR-M16 MP2501	5,0 0.20	0,36 0.014	0,36 0.014	0,38 0.015	0,46 0.018	Helical milling cutters
P4	SNMX1407ANTR-M16 MP2501	5,0 0.20	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018	
P5	SNMX1407ANTR-M16 MP2501	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	Face milling cutters
P6	SNMX1407ANTR-M16 MP2501	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	
P7	SNMX1407ANTR-M10 MP3501	5,0 0.20	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	Disc milling cutters
P8	SNMX1407ANTR-M10 MP3501	5,0 0.20	0,22 0.0085	0,22 0.0085	0,22 0.0095	0,30 0.012	
P11	SNMX1407ANTR-M10 MP2051	5,0 0.20	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	High feed milling cutters
P12	SNMX1407ANTR-M10 MP2051	4,0 0.16	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075	
M1	SNHX1407ANR-ME10 F40M	5,0 0.20	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010	Copy milling cutters
M2	SNHX1407ANR-ME10 MS2050	5,0 0.20	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	
M3	SNHX1407ANR-ME10 MS2050	4,0 0.16	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	Plunge milling cutters
M4	SNMX1407ANTR-M10 MP2051	3,0 0.12	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
M5	SNMX1407ANTR-M10 MP2051	3,0 0.12	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	Chamfer milling cutters
K1	SNMX1407ANTR-M16 MK1501	5,0 0.20	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020	
K2	SNMX1407ANTR-M16 MK1501	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	Spot facing cutters
K3	SNMX1407ANTR-M16 MP1501	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	
K4	SNMX1407ANTR-M16 MP1501	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	Inserts
K5	SNMX1407ANTR-M16 MP1501	5,0 0.20	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K6	SNMX1407ANTR-M16 MK2050	5,0 0.20	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	
K7	SNMX1407ANTR-M16 MK2050	5,0 0.20	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
N1	SNHX1407ANR-ME10 H25	5,0 0.20	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013	
N2	SNHX1407ANR-ME10 H25	5,0 0.20	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013	
N3	SNHX1407ANR-ME10 H25	5,0 0.20	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013	
N11	SNHX1407ANR-ME10 H25	5,0 0.20	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013	
S1	SNMX1407ANTR-M10 MS2500	3,0 0.12	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
S2	SNMX1407ANTR-M10 MS2500	3,0 0.12	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
S3	SNMX1407ANTR-M10 MS2500	3,0 0.12	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
S11	SNHX1407ANR-ME10 MS2050	3,5 0.14	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
S12	SNHX1407ANR-ME10 MS2050	3,5 0.14	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075	
S13	SNHX1407ANR-ME10 MS2050	3,0 0.12	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,17 0.0065	
H5	SNMX1407ANTR-M16 MP3000	4,0 0.16	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012	
H8	SNMX1407ANTR-M16 MP3000	3,5 0.14	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	
H11	SNMX1407ANTR-M16 MP1501	4,0 0.16	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012	
H12	SNMX1407ANTR-M16 MP1501	3,5 0.14	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	
H21	SNMX1407ANTR-M16 MP1501	3,5 0.14	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R220.54-14 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	230	250	270	300	210	215	240	280	245	260	280	310	235	240	260	280		290	330		—			
	750	820	890	980	690	710	790	920	800	850	920	1025	770	790	850	920		950	1075		—			
P2			260	290	200	210	230		240	250						275		280	320	375	—	—	—	—
			850	950	660	690	750		790	820						900		920	1050	1225	—	—	—	—
P3	200	210			180			235	215	225	240	260	205	210	225	240	250	260			—	—	—	—
	660	690			590			770	710	740	790	850	670	690	740	790	820	850			—	—	—	—
P4	175	185	200		160	165	180		185	195	215	230	185	190	205	225	220	230	260	290	—	—	—	—
	570	610	660		520	540	590		610	640	710	750	610	620	670	740	720	750	850	950	—	—	—	—
P5	170	180	195	215	155	165	180	205	180	190	205	225	170	175	190	210	210	220	245	295	—	—	—	—
	560	590	640	710	510	540	590	670	590	620	670	740	560	570	620	690	690	720	800	970	—	—	—	—
P6	190	205	220	240	175	185	205	230	200	210	230	255	190	195	210	235	240	245	280	330	—	—	—	—
	620	670	720	790	570	610	670	750	660	690	750	840	620	640	690	770	790	800	920	1075	—	—	—	—
P7	180	190	210	230	165	170	190	215	190	200	215	240	180	185	200	220	225	230	260	310	—	—	—	—
	590	620	690	750	540	560	620	710	620	660	710	790	590	610	660	720	740	750	850	1025	—	—	—	—
P8	165	180	190	210	150	155	175	195	180	190	205	220	170	175	190	200	210	220	245	280	—	—	—	—
	540	590	620	690	490	510	570	640	590	620	670	720	560	570	620	660	690	720	800	920	—	—	—	—
P11	175	185	200	220	160	165	185	210	185	195	210	235	175	180	195	215	205	225	260	320	—	—	—	—
	570	610	660	720	520	540	610	690	610	640	690	770	570	590	640	710	670	740	850	1050	—	—	—	—
P12	115	125	135	145	115	120	135	150	125	130	140	150	120	125	130	140	155	170	195	220	—	—	—	—
	375	410	445	475	375	395	445	490	410	425	460	490	395	410	425	460	510	560	640	720	—	—	—	—
M1	—	—	—	—	160	175	190	205	180	190	205	230	165	175	190	210	225	245	285	345	—	—	—	—
	—	—	—	—	520	570	620	670	590	620	670	750	540	570	620	690	740	800	940	1125	—	—	—	—
M2	—	—	—	—	135	145	160	175	150	160	170	190	135	145	155	175	195	210	245	305	—	—	—	—
	—	—	—	—	445	475	520	570	490	520	560	620	445	475	510	570	640	690	800	1000	—	—	—	—
M3	—	—	—	—	110	120	125	140	120	130	140	155	110	115	125	140	170	185	215	260	—	—	—	—
	—	—	—	—	360	395	410	460	395	425	460	510	360	375	410	460	560	610	710	850	—	—	—	—
M4	—	—	—	—	85	90	100	110	95	100	105	120	85	90	95	110	135	150	170	200	—	—	—	—
	—	—	—	—	280	295	330	360	310	330	345	395	280	295	310	360	445	490	560	660	—	—	—	—
M5	—	—	—	—	70	75	80	90	75	80	90	100	70	75	80	90	115	125	140	170	—	—	—	—
	—	—	—	—	230	245	260	295	245	260	295	330	230	245	260	295	375	410	460	560	—	—	—	—
K1	245	260	280	310	170	185	200	220	—	—	—	—	160	170	185	205	—	—	—	—	165	175	190	210
	800	850	920	1025	560	610	660	720	—	—	—	—	520	560	610	670	—	—	—	—	540	570	620	690
K2	220	235	255	280	155	165	180	195	—	—	—	—	140	155	165	185	—	—	—	—	145	160	170	185
	720	770	840	920	510	540	590	640	—	—	—	—	460	510	540	610	—	—	—	—	475	520	560	610
K3	185	200	215	235	130	140	150	165	—	—	—	—	120	130	140	155	—	—	—	—	—	—	—	—
	610	660	710	770	425	460	490	540	—	—	—	—	395	425	460	510	—	—	—	—	—	—	—	—
K4	175	190	205	225	125	135	145	160	—	—	—	—	115	125	135	150	—	—	—	—	—	—	—	—
	570	620	670	740	410	445	475	520	—	—	—	—	375	410	445	490	—	—	—	—	—	—	—	—
K5	105	115	125	140	75	80	90	100	—	—	—	—	70	75	80	90	—	—	—	—	—	—	—	—
	345	375	410	460	245	260	295	330	—	—	—	—	230	245	260	295	—	—	—	—	—	—	—	—
K6	155	165	180	200	110	120	125	140	—	—	—	—	100	110	115	130	—	—	—	—	—	—	—	—
	510	540	590	660	360	395	410	460	—	—	—	—	330	360	375	425	—	—	—	—	—	—	—	—
K7	135	145	160	180	95	105	115	125	—	—	—	—	90	95	105	115	—	—	—	—	—	—	—	—
	445	475	520	590	310	345	375	410	—	—	—	—	295	310	345	375	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1175	1250	1375	1500	—	—	—	—	1200	1275	1400	1550
	—	—	—	—	—	—	—	—	—	—	—	—	3850	4100	4500	4925	—	—	—	—	3925	4175	4600	5075
N2	—	—	—	—	—	—	—	—	—	—	—	—	475	510	550	600	—	—	—	—	485	520	560	630
	—	—	—	—	—	—	—	—	—	—	—	—	1550	1675	1800	1975	—	—	—	—	1600	1700	1825	2075
N3	—	—	—	—	—	—	—	—	—	—	—	—	315	340	365	405	—	—	—	—	320	345	375	420
	—	—	—	—	—	—	—	—	—	—	—	—	1025	1125	1200	1325	—	—	—	—	1050	1125	1225	1375
N11	—	—	—	—	—	—	—	—	—	—	—	—	360	390	420	460	—	—	—	—	370	395	425	475
	—	—	—	—	—	—	—	—	—	—	—	—	1175	1275	1375	1500	—	—	—	—	1225	1300	1400	1550
S1	—	—	—	—	40	43	46	50	43	46	50	55	39	42	45	50	47	50	55	60	—	—	—	—
	—	—	—	—	130	140	150	165	140	150	165	180	130	140	150	165	155	165	180	195	—	—	—	—
S2	—	—	—	—	32	34	37	41	35	37	40	45	32	34	36	41	38	41	44	49	—	—	—	—
	—	—	—	—	105	110	120	135	115	120	130	150	105	110	120	135	125	135	145	160	—	—	—	—
S3	—	—	—	—	28	30	32	36	31	33	35	39	28	30	32	36	33	36	39	43	—	—	—	—
	—	—	—	—	90	100	105	120	100	110	115	130	90	100	105	120	110	120	130	140	—	—	—	—
S11	—	—	—	—	—	—	—	—	60	65	70	80	55	60	65	70	65	70	75	85	36	38	41	46
	—	—	—	—	—	—	—	—	195	215	230	260	180	195	215	230	215	230	245	280	120	125	135	150
S12	—	—	—	—	—	—	—	—	42	45	48	55	38	41	44	49	46	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	140	150	155	180	125	135	145	160	150	160	180	195	—	—	—	—
S13	—	—	—	—	—	—	—	—	24	26	28	31	22	24	25	28	27	28	31	34	—	—	—	—
	—	—	—	—	—	—	—	—	80	85	90	100	70	80	80	90	90	90	100	110	—	—	—	—
H5	39	42	45	50	34	37	40	44	—	—	—	—	34	36	39	42	—	—	—	—	—	—	—	—
	130	140	150	165	110	120	130	14																

R220.54-14 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				MS2500				Square should and slot mill cutters
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	395	410	440	475	385	400	425	465	340	355	380	415	365	385	410	450	
	—	—	—	—	1300	1350	1450	1550	1275	1300	1400	1525	1125	1175	1250	1350	1200	1275	1350	1475	
P2	—	—	—	—	385	400	425	465	375	390	415	455	335	345	370	405	355	375	400	435	
	—	—	—	—	1275	1300	1400	1525	1225	1275	1350	1500	1100	1125	1225	1325	1175	1225	1300	1425	
P3	—	—	—	—	340	355	375	405	330	345	370	395	295	310	330	355	315	330	355	380	
	—	—	—	—	1125	1175	1225	1325	1075	1125	1225	1300	970	1025	1075	1175	1025	1075	1175	1250	
P4	—	—	—	—	300	310	330	355	290	305	325	350	260	270	290	310	280	290	310	335	
	—	—	—	—	980	1025	1075	1175	950	1000	1075	1150	850	890	950	1025	920	950	1025	1100	
P5	—	—	—	—	285	295	315	350	280	290	310	340	250	260	275	305	265	280	300	330	
	—	—	—	—	940	970	1025	1150	920	950	1025	1125	820	850	900	1000	870	920	980	1075	
P6	—	—	—	—	320	335	355	390	315	325	350	385	280	290	310	345	300	315	335	370	
	—	—	—	—	1050	1100	1175	1275	1025	1075	1150	1275	920	950	1025	1125	980	1025	1100	1225	
P7	—	—	—	—	300	315	335	370	295	305	330	360	265	275	295	325	280	295	315	350	
	—	—	—	—	980	1025	1100	1225	970	1000	1075	1175	870	900	970	1075	920	970	1025	1150	
P8	—	—	—	—	285	295	315	340	280	290	310	330	250	260	275	295	265	280	300	320	
	—	—	—	—	940	970	1025	1125	920	950	1025	1075	820	850	900	970	870	920	980	1050	
P11	—	—	—	—	295	305	325	360	285	300	320	350	255	265	285	315	275	285	305	340	
	—	—	—	—	970	1000	1075	1175	940	980	1050	1150	840	870	940	1025	900	940	1000	1125	
P12	—	—	—	—	190	200	210	225	190	200	210	225	170	175	190	200	180	190	200	215	
	—	—	—	—	620	660	690	740	620	660	690	740	560	570	620	660	590	620	660	710	
M1	—	—	—	—	—	—	—	—	190	205	225	245	180	190	205	230	210	225	240	265	
	—	—	—	—	—	—	—	—	620	670	740	800	590	620	670	750	690	740	790	870	
M2	—	—	—	—	—	—	—	—	160	170	185	205	150	160	170	190	175	185	200	225	
	—	—	—	—	—	—	—	—	520	560	610	670	490	520	560	620	570	610	660	740	
M3	—	—	—	—	—	—	—	—	130	135	150	165	120	130	140	155	140	150	160	180	
	—	—	—	—	—	—	—	—	425	445	490	540	395	425	460	510	460	490	520	590	
M4	—	—	—	—	—	—	—	—	100	105	115	125	95	100	105	120	110	115	125	140	
	—	—	—	—	—	—	—	—	330	345	375	410	310	330	345	395	360	375	410	460	
M5	—	—	—	—	—	—	—	—	85	90	95	105	75	80	90	100	90	95	105	115	
	—	—	—	—	—	—	—	—	280	295	310	345	245	260	295	330	295	310	345	375	
K1	310	385	440	510	385	400	430	470	380	390	420	460	335	350	375	410	230	245	265	295	
	1025	1275	1450	1675	1275	1300	1400	1550	1250	1275	1375	1500	1100	1150	1225	1350	750	800	870	970	
K2	275	340	390	455	345	360	385	420	335	350	375	415	300	315	335	370	205	220	240	265	
	900	1125	1275	1500	1125	1175	1275	1375	1100	1150	1225	1350	980	1025	1100	1225	670	720	790	870	
K3	205	230	255	285	290	305	325	355	285	295	315	350	255	265	285	315	175	185	200	225	
	670	750	840	940	950	1000	1075	1175	940	970	1025	1150	840	870	940	1025	570	610	660	740	
K4	195	220	245	275	280	290	310	340	275	285	305	335	245	255	270	300	165	180	190	215	
	640	720	800	900	920	950	1025	1125	900	940	1000	1100	800	840	890	980	540	590	620	710	
K5	120	135	145	170	170	180	190	205	165	175	185	205	150	155	165	185	100	110	120	130	
	395	445	475	560	560	590	620	670	540	570	610	670	490	510	540	610	330	360	395	425	
K6	170	195	215	240	245	255	275	300	240	250	265	295	215	220	240	265	145	155	170	190	
	560	640	710	790	800	840	900	980	790	820	870	970	710	720	790	870	475	510	560	620	
K7	150	170	190	215	220	230	245	265	215	225	240	260	190	200	215	235	130	140	150	170	
	490	560	620	710	720	750	800	870	710	740	790	850	620	660	710	770	425	460	490	560	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	43	46	50	55	55	55	60	65	
	—	—	—	—	—	—	—	—	—	—	—	—	140	150	165	180	180	180	195	215	
S2	—	—	—	—	—	—	—	—	—	—	—	—	35	37	40	45	42	45	49	55	
	—	—	—	—	—	—	—	—	—	—	—	—	115	120	130	150	140	150	160	180	
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	35	39	37	40	43	48	
	—	—	—	—	—	—	—	—	—	—	—	—	100	110	115	130	120	130	140	155	
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	80	75	80	85	95	
	—	—	—	—	—	—	—	—	—	—	—	—	195	215	230	260	245	260	280	310	
S12	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	50	55	60	65	
	—	—	—	—	—	—	—	—	—	—	—	—	140	150	155	180	165	180	195	215	
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	26	28	31	30	32	34	38	
	—	—	—	—	—	—	—	—	—	—	—	—	80	85	90	100	100	105	110	125	
H5	—	—	—	—	50	55	60	65	—	—	—	—	39	42	45	49	44	47	50	55	
	—	—	—	—	165	180	195	215	—	—	—	—	130	140	150	160	145	155	165	180	
H8	—	—	—	—	55	55	60	70	—	—	—	—	41	44	47	50	46	50	55</		

R220.56-14 – Insert selection – mm/Inch

R220.56-14 – Insert selection – mm/Inch								
	SMG		a _p	f _z				
				80%	60%	40%	20%	
Square shoulder and slot milling cutters	P1	SNMX1407ZNTR-M10 MP2501	6,0	0,19	0,19	0,19	0,24	
			0.24	0.0075	0.0075	0.0075	0.0095	
Helical milling cutters	P2	SNMX1407ZNTR-M10 MP2501	6,0	0,19	0,19	0,19	0,24	
			0.24	0.0075	0.0075	0.0075	0.0095	
	P3	SNMX1407ZNTR-M16 MP2501	6,0	0,28	0,28	0,28	0,36	
			0.24	0.011	0.011	0.012	0.014	
	P4	SNMX1407ZNTR-M16 MP2501	6,0	0,28	0,28	0,28	0,36	
			0.24	0.011	0.011	0.011	0.014	
Face milling cutters	P5	SNMX1407ZNTR-M16 MP2501	6,0	0,28	0,28	0,28	0,34	
			0.24	0.011	0.011	0.011	0.013	
	P6	SNMX1407ZNTR-M16 MP2501	6,0	0,26	0,26	0,28	0,34	
			0.24	0.010	0.010	0.011	0.013	
	P7	SNMX1407ZNTR-M16 MP2501	6,0	0,26	0,26	0,28	0,34	
			0.24	0.010	0.010	0.011	0.013	
Disc milling cutters	P8	SNMX1407ZNTR-M16 MP2501	6,0	0,28	0,28	0,28	0,36	
			0.24	0.011	0.011	0.012	0.014	
	P11	SNMX1407ZNTR-M10 MP2051	6,0	0,17	0,17	0,17	0,22	
			0.24	0.0065	0.0065	0.0065	0.0085	
	P12	SNMX1407ZNTR-M10 MP2051	5,0	0,12	0,12	0,12	0,15	
			0.20	0.0048	0.0048	0.0048	0.0060	
High feed milling cutters	M1	SNHX1407ZNR-ME10 MS2050	6,0	0,16	0,16	0,16	0,20	
			0.24	0.0065	0.0065	0.0065	0.0080	
	M2	SNHX1407ZNR-ME10 MS2050	6,0	0,14	0,14	0,15	0,18	
			0.24	0.0055	0.0055	0.0060	0.0070	
	M3	SNHX1407ZNR-ME10 MS2050	5,0	0,12	0,12	0,12	0,15	
			0.20	0.0048	0.0048	0.0048	0.0060	
Copy milling cutters	M4	SNMX1407ZNTR-M10 MP2051	4,0	0,12	0,12	0,13	0,16	
			0.16	0.0048	0.0048	0.0050	0.0065	
	M5	SNMX1407ZNTR-M10 MP2051	4,0	0,12	0,12	0,13	0,16	
			0.16	0.0048	0.0048	0.0050	0.0065	
	Plunge milling cutters	K1	SNMX1407ZNTR-M16 MK1501	6,0	0,30	0,30	0,30	0,38
				0.24	0.012	0.012	0.012	0.015
K2		SNMX1407ZNTR-M16 MK1501	6,0	0,28	0,28	0,28	0,34	
			0.24	0.011	0.011	0.011	0.013	
K3		SNMX1407ZNTR-M16 MP1501	6,0	0,28	0,28	0,28	0,34	
			0.24	0.011	0.011	0.011	0.013	
Hamfer milling cutters	K4	SNMX1407ZNTR-M16 MP1501	6,0	0,28	0,28	0,28	0,34	
			0.24	0.011	0.011	0.011	0.013	
	K5	SNMX1407ZNTR-M16 MP1501	6,0	0,24	0,24	0,25	0,30	
			0.24	0.0095	0.0095	0.010	0.012	
	K6	SNMX1407ZNTR-M16 MK2050	6,0	0,28	0,28	0,28	0,34	
			0.24	0.011	0.011	0.011	0.013	
Plunge milling cutters	K7	SNMX1407ZNTR-M16 MK2050	6,0	0,24	0,24	0,25	0,30	
			0.24	0.0095	0.0095	0.010	0.012	
	S1	SNMX1407ZNTR-M10 MS2500	4,0	0,12	0,12	0,13	0,16	
			0.16	0.0048	0.0048	0.0050	0.0065	
	Hamfer milling cutters	S2	SNMX1407ZNTR-M10 MS2500	4,0	0,12	0,12	0,13	0,16
				0.16	0.0048	0.0048	0.0050	0.0065
S3		SNMX1407ZNTR-M10 MS2500	4,0	0,11	0,11	0,12	0,14	
			0.16	0.0044	0.0044	0.0048	0.0055	
S11		SNHX1407ZNR-ME10 MS2050	4,5	0,12	0,12	0,12	0,15	
			0.18	0.0048	0.0048	0.0048	0.0060	
Hamfer milling cutters	S12	SNHX1407ZNR-ME10 MS2050	4,5	0,12	0,12	0,12	0,15	
			0.18	0.0048	0.0048	0.0048	0.0060	
	S13	SNHX1407ZNR-ME10 MS2050	4,0	0,10	0,10	0,11	0,13	
			0.16	0.0040	0.0040	0.0044	0.0050	
	H5	SNMX1407ZNTR-M16 MP1501	5,0	0,19	0,19	0,19	0,24	
			0.20	0.0075	0.0075	0.0075	0.0095	
Hamfer milling cutters	H8	SNMX1407ZNTR-M16 MP1501	4,5	0,14	0,14	0,15	0,18	
			0.18	0.0055	0.0055	0.0060	0.0070	
	H11	SNMX1407ZNTR-M16 MP1501	5,0	0,19	0,19	0,19	0,24	
			0.20	0.0075	0.0075	0.0075	0.0095	
	H12	SNMX1407ZNTR-M16 MP1501	4,5	0,14	0,14	0,15	0,18	
0.18			0.0055	0.0055	0.0060	0.0070		
Hamfer milling cutters	H21	SNMX1407ZNTR-M16 MP1501	4,5	0,14	0,14	0,15	0,18	
			0.18	0.0055	0.0055	0.0060	0.0070	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

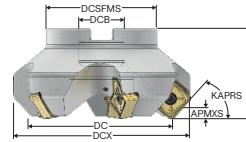
R220.56-14 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				MP2051				Square shoulder and slot milling cutters
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	225 740	235 770	255 840	290 950	275 900	285 940	310 1025	355 1175	245 800	255 840	275 900	310 1025	235 770	240 790	255 840	285 940	285 940	290 950	325 1075	390 1275	Helical milling cutters
P2	220 720	230 750	250 820	280 920	270 890	275 900		345 1125	240 790	250 820	270 890	300 980	230 750	235 770							
P3			220 720										205 670		220 720	245 800	250 820	255 840		340 1125	Face milling cutters
P4	170 560	180 590	195 640	220 720	210 690	215 710	235 770	270 890	185 610	195 640	210 690	235 770	185 610	190 620	205 670	225 740	220 720	220 720	250 820	300 980	
P5	160 520	170 560	185 610	210 690	205 670	210 690	230 750	255 840	180 590	190 620	205 670	225 740	175 570	175 570	190 620	205 670	220 720	220 720	250 820	285 940	Face milling cutters
P6	185 610	195 640	215 710	235 770	230 750	240 790	260 850	290 950	205 670	210 690	230 750	250 820	195 640	200 660	215 710	230 750	245 800	250 820	280 920	320 1050	
P7	175 570	185 610	200 660	220 720	215 710	225 740	245 800	270 890	195 640	200 660	215 710	235 770	185 610	190 620	200 660	220 720	230 750	235 770	265 870	300 980	Face milling cutters
P8	160 520	170 560	185 610	205 670	200 660	205 670	225 740	255 840	185 590	185 610	200 660	225 740	170 560	175 570	185 610	205 670	210 690	210 690	240 790	285 940	
P11	170 560	180 590	195 640	215 710	210 690	220 720	240 790	265 870	185 610	195 640	210 690	230 750	180 590	180 590	195 640	210 690	210 690	225 740	260 850	310 1025	Disc milling cutters
P12	110 360	120 395	130 425	145 475	145 475	150 490	160 520	180 590	125 410	130 425	140 460	155 510	120 395	125 410	130 425	145 475	155 510	170 560	190 620	225 740	
M1	—	—	—	—	190 620	200 660	215 710	245 800	180 590	190 620	205 670	230 750	165 540	175 570	185 610	210 690	230 750	240 790	280 920	350 1150	Disc milling cutters
M2	—	—	—	—	160 520	170 560	180 590	200 660	150 490	160 520	170 560	190 620	135 445	145 475	155 510	170 560	200 660	215 710	250 820	295 970	
M3	—	—	—	—	130 425	135 445	145 475	165 540	120 395	130 425	140 460	155 510	110 360	115 375	125 410	140 460	175 570	190 620	215 710	260 850	Disc milling cutters
M4	—	—	—	—	100 330	105 345	115 375	125 410	95 310	100 330	110 360	120 395	85 280	90 295	100 330	110 360	140 460	155 510	175 570	205 670	
M5	—	—	—	—	85 280	90 295	95 310	105 345	80 260	85 280	90 295	100 330	70 230	75 245	80 260	90 295	120 395	130 425	145 475	170 560	High feed milling cutters
K1	235 770	250 820	270 890	305 1000	200 660	215 710	230 750	255 840	—	—	—	—	160 520	170 560	185 610	205 670	—	—	—	—	
K2	210 690	220 720	240 790	270 890	180 590	190 620	205 670	225 740	—	—	—	—	145 475	155 510	165 540	180 590	—	—	—	—	Copy milling cutters
K3	175 570	185 610	205 670	230 750	150 490	160 520	175 570	190 620	—	—	—	—	120 395	130 425	140 460	155 510	—	—	—	—	
K4	170 560	180 590	195 640	215 710	145 475	155 510	165 540	185 610	—	—	—	—	115 375	125 410	135 445	145 475	—	—	—	—	Plunge milling cutters
K5	105 345	110 360	120 395	135 445	90 295	95 310	105 345	115 375	—	—	—	—	70 230	75 245	80 260	90 295	—	—	—	—	
K6	150 490	160 520	170 560	190 620	130 425	135 445	145 475	160 520	—	—	—	—	105 345	110 360	115 375	130 425	—	—	—	—	Plunge milling cutters
K7	135 445	145 475	155 510	170 560	115 375	120 395	130 425	145 475	—	—	—	—	90 295	100 330	105 345	115 375	—	—	—	—	
S1	—	—	—	—	47 155	50 165	55 180	60 195	44 145	47 155	50 165	55 180	40 130	43 140	46 150	50 165	49 160	50 165	55 180	60 195	Chamfer milling cutters
S2	—	—	—	—	38 125	40 130	43 140	48 155	36 120	38 125	41 135	45 150	33 110	35 115	37 120	41 135	39 130	42 140	45 150	50 165	
S3	—	—	—	—	33 110	35 115	38 125	41 135	32 105	34 110	36 120	39 130	29 95	31 100	33 110	36 120	35 115	37 120	40 130	43 140	Chamfer milling cutters
S11	—	—	—	—	—	—	—	—	60 195	65 215	70 230	80 260	55 180	60 195	65 215	70 230	65 215	70 230	75 245	85 280	
S12	—	—	—	—	—	—	—	—	43 140	45 150	49 160	55 180	39 130	41 135	44 145	49 160	47 155	49 160	55 180	60 195	Spot facing cutters
S13	—	—	—	—	—	—	—	—	25 80	27 90	29 95	32 105	23 75	24 80	26 85	29 95	27 90	29 95	31 100	35 115	
H5	38 125	41 135	44 145	49 160	40 130	42 140	45 150	50 165	—	—	—	—	34 110	36 120	39 130	43 140	—	—	—	—	Spot facing cutters
H8	42 140	45 150	48 155	50 165	43 140	46 150	49 160	55 180	—	—	—	—	36 120	39 130	42 140	46 150	—	—	—	—	
H11	49 160	50 165	55 180	60 195	50 165	55 180	60 195	65 215	—	—	—	—	43 140	46 150	49 160	55 180	100 330	110 360	125 410	145 475	Spot facing cutters
H12	75 245	80 260	85 280	90 295	80 260	85 280	95 310	100 330	—	—	—	—	65 215	70 230	75 245	80 260	100 330	115 375	125 410	140 460	
H21	42 140	45 150	48 155	50 165	43 140	46 150	49 160	55 180	—	—	—	—	36 120	39 130	42 140	46 150	95 310	100 330	105 345	115 375	Inserts

R220.56-14 – Cutting data $v_c = (m/min)/(sf/min)$

R220.56-14 – Cutting data v _c = (m/min)/(sf/min)																	
Square shoulder and slot milling cutters	SMG	MK1501				MP1501				MP2501				MS2500			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
	P1	—	—	—	—	320	325	350	395	310	315	340	380	370	380	410	450
		—	—	—	—	1050	1075	1150	1300	1025	1025	1125	1250	1225	1250	1350	1475
	P2	—	—	—	—	310	320	345	385	300	305	330	370	360	370	400	440
		—	—	—	—	1025	1050	1125	1275	980	1000	1075	1225	1175	1225	1300	1450
	P3	—	—	—	—	275	280	305	330	265	270	295	320	315	325	350	385
		—	—	—	—	900	920	1000	1075	870	890	970	1050	1025	1075	1150	1275
	P4	—	—	—	—	245	250	265	300	235	240	260	290	280	285	305	340
		—	—	—	—	800	820	870	980	770	790	850	950	920	940	1000	1125
	P5	—	—	—	—	230	235	255	285	225	230	245	275	270	280	300	325
		—	—	—	—	750	770	840	940	740	750	800	900	890	920	980	1075
	P6	—	—	—	—	270	275	295	320	260	265	285	310	305	315	335	365
		—	—	—	—	890	900	970	1050	850	870	940	1025	1000	1025	1100	1200
	P7	—	—	—	—	255	260	280	300	245	250	270	295	285	295	315	345
		—	—	—	—	840	850	920	980	800	820	890	970	940	970	1025	1125
	P8	—	—	—	—	230	235	255	275	225	230	245	270	265	275	295	325
		—	—	—	—	750	770	840	900	740	750	800	890	870	900	970	1075
	P11	—	—	—	—	245	250	270	295	240	245	260	285	280	290	310	335
		—	—	—	—	800	820	890	970	790	800	850	940	920	950	1025	1100
	P12	—	—	—	—	165	170	180	200	160	165	175	195	180	190	200	220
		—	—	—	—	540	560	590	660	520	540	570	640	590	620	660	720
	M1	—	—	—	—	—	—	—	—	160	170	185	205	210	220	240	270
		—	—	—	—	—	—	—	—	520	560	610	670	690	720	790	890
	M2	—	—	—	—	—	—	—	—	135	140	150	170	175	185	200	220
		—	—	—	—	—	—	—	—	445	460	490	560	570	610	660	720
	M3	—	—	—	—	—	—	—	—	110	115	125	140	140	150	160	180
		—	—	—	—	—	—	—	—	360	375	410	460	460	490	520	590
	M4	—	—	—	—	—	—	—	—	85	90	95	110	110	120	125	140
		—	—	—	—	—	—	—	—	280	295	310	360	360	395	410	460
	M5	—	—	—	—	—	—	—	—	70	75	80	90	90	100	105	115
		—	—	—	—	—	—	—	—	230	245	260	295	295	330	345	375
	K1	300	360	415	495	315	320	345	385	305	310	335	375	230	245	265	295
		980	1175	1350	1625	1025	1050	1125	1275	1000	1025	1100	1225	750	800	870	970
	K2	265	320	365	435	280	285	310	345	270	275	300	335	210	220	240	260
		870	1050	1200	1425	920	940	1025	1125	890	900	980	1100	690	720	790	850
	K3	195	215	240	275	235	245	260	290	230	235	250	285	175	185	200	220
		640	710	790	900	770	800	850	950	750	770	820	940	570	610	660	720
	K4	185	205	230	265	225	230	250	280	220	225	240	270	170	180	190	210
		610	670	750	870	740	750	820	920	720	740	790	890	560	590	620	690
	K5	115	130	145	160	145	145	160	175	140	145	155	170	105	110	120	130
		375	425	475	520	475	475	520	570	460	475	510	560	345	360	395	425
	K6	165	180	200	230	200	205	220	245	195	195	210	240	150	155	170	185
		540	590	660	750	660	670	720	800	640	640	690	790	490	510	560	610
	K7	150	165	185	205	185	190	200	220	180	185	195	215	135	140	150	165
		490	540	610	670	610	620	660	720	590	610	640	710	445	460	490	540
	S1	—	—	—	—	—	—	—	—	—	—	—	—	55	60	60	70
		—	—	—	—	—	—	—	—	—	—	—	—	180	195	195	230
	S2	—	—	—	—	—	—	—	—	—	—	—	—	44	46	50	55
		—	—	—	—	—	—	—	—	—	—	—	—	145	150	165	180
	S3	—	—	—	—	—	—	—	—	—	—	—	—	38	41	44	48
		—	—	—	—	—	—	—	—	—	—	—	—	125	135	145	155
	S11	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95
		—	—	—	—	—	—	—	—	—	—	—	—	245	260	280	310
	S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65
		—	—	—	—	—	—	—	—	—	—	—	—	165	180	195	215
	S13	—	—	—	—	—	—	—	—	—	—	—	—	30	32	35	39
		—	—	—	—	—	—	—	—	—	—	—	—	100	105	115	130
	H5	—	—	—	—	43	45	49	55	—	—	—	—	44	47	50	55
		—	—	—	—	140	150	160	180	—	—	—	—	145	155	165	180
	H8	—	—	—	—	47	50	55	60	—	—	—	—	47	50	55	60
		—	—	—	—	155	165	180	195	—	—	—	—	155	165	180	195
	H11	—	—	—	—	55	55	60	70	—	—	—	—	55	60	65	70
		—	—	—	—	180	180	195	230	—	—	—	—	180	195	215	230
	H12	—	—	—	—	85	90	95	105	—	—	—	—	95	100	110	120
		—	—	—	—	280	295	310	345	—	—	—	—	310	330	360	395
	H21	—	—	—	—	47	50	55	60	—	—	—	—	47	50	55	60
		—	—	—	—	155	165	180	195	—	—	—	—	155	165	180	195

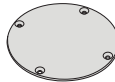
Double Quattro R220.54-22 – Metric



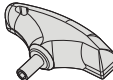
- For insert selection and cutting data recommendations, see page(s) 263-268
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-0080-22-5A	03156810	Arbor	80,0	5	9,0	48,0 °	104,0	27,0	—	62,0	63,0	4600	1,6	SN.X2209A
R220.54-0100-22-5A	03156811	Arbor	100,0	5	9,0	48,0 °	124,0	32,0	—	77,0	63,0	4000	2,4	SN.X2209A
R220.54-0100-22-7A	03157470	Arbor	100,0	7	9,0	48,0 °	124,0	32,0	—	77,0	63,0	4000	2,2	SN.X2209A
R220.54-0125-22-6A	03156812	Arbor	125,0	6	9,0	48,0 °	149,0	40,0	—	90,0	63,0	3700	3,3	SN.X2209A
R220.54-0125-22-8A	03157471	Arbor	125,0	8	9,0	48,0 °	149,0	40,0	—	90,0	63,0	3700	3,3	SN.X2209A
R220.54-8160-22-8A	03156813	Arbor	160,0	8	9,0	48,0 °	184,0	40,0	66,7	90,0	63,0	3300	5,7	SN.X2209A
R220.54-8160-22-11A	03157472	Arbor	160,0	11	9,0	48,0 °	184,0	40,0	66,7	90,0	63,0	3300	5,7	SN.X2209A

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Lid	Lid screw
				
R220.54-0080	1/4HEX-T20PX50	C05013-T20P	—	—
R220.54-0100-0125	1/4HEX-T20PX90	C05013-T20P	—	—
R220.54-8160	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

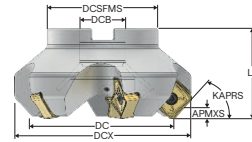
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

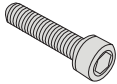
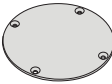
Double Quattro R220.54-22 – inch



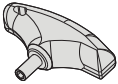
–For insert selection and cutting data recommendations, see page(s) 263–268
 –For complete insert programme, see page(s) 906
 –For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.54-03.00-22-5A	03157473	Arbor	3.150	5	0.354	48,0 °	4.094	1.000	2.441	2.480	4600	3.970	SN.X2209A
R220.54-04.00-22-5A	03157474	Arbor	3.937	5	0.354	48,0 °	4.882	1.500	3.543	2.480	4000	5.730	SN.X2209A
R220.54-04.00-22-7A	03157479	Arbor	3.937	7	0.354	48,0 °	4.882	1.500	3.543	2.480	4000	5.510	SN.X2209A
R220.54-05.00-22-6A	03157475	Arbor	4.921	6	0.354	48,0 °	5.866	1.500	3.543	2.480	3700	7.940	SN.X2209A
R220.54-05.00-22-8A	03157480	Arbor	4.921	8	0.354	48,0 °	5.866	1.500	3.543	2.480	3700	7.500	SN.X2209A
R220.54-06.00-22-8A	03157476	Arbor	6.299	8	0.354	48,0 °	7.244	2.000	4.331	2.480	3300	13.010	SN.X2209A
R220.54-06.00-22-11A	03157481	Arbor	6.299	11	0.354	48,0 °	7.244	2.000	4.331	2.480	3300	13.010	SN.X2209A

Spare Parts, included in delivery

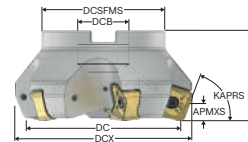
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.54-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

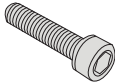
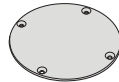
Double Quattro R220.56-22 – Metric



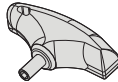
- For insert selection and cutting data recommendations, see page(s) 263-268
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.56-0080-22-5A	03157447	Arbor	80,0	5	13,0	71,0 °	91,5	27,0	–	62,0	63,0	4600	1,4	SN.X2209ZN.R
R220.56-0100-22-5A	03156816	Arbor	100,0	5	13,0	71,0 °	111,5	32,0	–	77,0	63,0	4000	2,1	SN.X2209ZN.R
R220.56-0100-22-7A	03157448	Arbor	100,0	7	13,0	71,0 °	111,5	32,0	–	77,0	63,0	4000	1,9	SN.X2209ZN.R
R220.56-0125-22-6A	03156817	Arbor	125,0	6	13,0	71,0 °	136,5	40,0	–	90,0	63,0	3700	2,9	SN.X2209ZN.R
R220.56-0125-22-8A	03157449	Arbor	125,0	8	13,0	71,0 °	136,5	40,0	–	90,0	63,0	3700	2,9	SN.X2209ZN.R
R220.56-8160-22-8A	03156818	Arbor	160,0	8	13,0	71,0 °	171,5	40,0	66,7	90,0	63,0	3300	5,0	SN.X2209ZN.R
R220.56-8160-22-10A	03157450	Arbor	160,0	10	13,0	71,0 °	171,5	40,0	66,7	90,0	63,0	3300	4,9	SN.X2209ZN.R

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.56-0100-0125	–	1/4HEX-T20PX90	C05013-T20P	–	–
R220.56-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

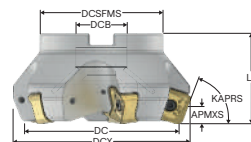
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

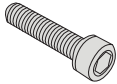
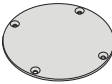
Double Quattro R220.56-22 – inch



—For insert selection and cutting data recommendations, see page(s) 263–268
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.56-03.00-22-5A	03157454	Arbor	3.150	5	0.512	71,0 °	3.602	1.000	2.441	2.480	4600	3.090	SN.X2209ZN.R
R220.56-04.00-22-5A	03157451	Arbor	3.937	5	0.512	71,0 °	4.390	1.500	3.031	2.480	4000	4.630	SN.X2209ZN.R
R220.56-04.00-22-7A	03157455	Arbor	3.937	7	0.512	71,0 °	4.390	1.500	3.031	2.480	4000	4.410	SN.X2209ZN.R
R220.56-05.00-22-6A	03157452	Arbor	4.921	6	0.512	71,0 °	5.374	1.500	3.543	2.480	3700	7.940	SN.X2209ZN.R
R220.56-05.00-22-8A	03157456	Arbor	4.921	8	0.512	71,0 °	5.374	1.500	3.543	2.480	3700	7.500	SN.X2209ZN.R
R220.56-06.00-22-8A	03157453	Arbor	6.299	8	0.512	71,0 °	6.752	2.000	3.937	2.480	3300	10.800	SN.X2209ZN.R
R220.56-06.00-22-10A	03157457	Arbor	6.299	10	0.512	71,0 °	6.752	2.000	4.331	2.480	3300	10.580	SN.X2209ZN.R

Spare Parts, included in delivery

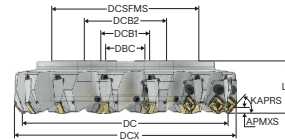
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	—	—
R220.56-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	—	—
R220.56-06.00	—	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

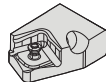
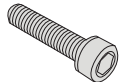
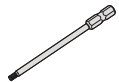
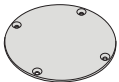
Double Quattro R220.54/56-22CS – Metric



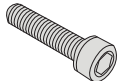
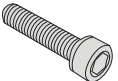
- For insert selection and cutting data recommendations, see page(s) 263-268
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.54-8200-22-9CS	03167768	Arbor	200,0	9	9,0	48,0 °	224,0	60,0	101,6	—	130,0	80,0	2700	9,9	SN.X2209A
R220.56-8200-22-9CS	03167771	Arbor	200,0	9	13,0	71,0 °	211,5	60,0	101,6	—	130,0	80,0	2700	9,9	SN.X2209ZN.R
R220.54-8250-22-11CS	03167769	Arbor	250,0	11	9,0	48,0 °	274,0	60,0	101,6	—	130,0	80,0	2500	17,9	SN.X2209A
R220.56-8250-22-11CS	03167772	Arbor	250,0	11	13,0	71,0 °	261,5	60,0	101,6	—	130,0	80,0	2500	18,0	SN.X2209ZN.R
R220.54-8315-22-14CS	03167770	Arbor	315,0	14	9,0	48,0 °	339,0	60,0	101,6	177,8	225,0	80,0	2200	34,0	SN.X1407A
R220.56-8315-22-14CS	03167773	Arbor	315,0	14	13,0	71,0 °	326,5	60,0	101,6	177,8	225,0	80,0	2200	29,2	SN.X2209ZN.R

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8200	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-8250	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-8250	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
						
R220.54/56-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	—	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54/56-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

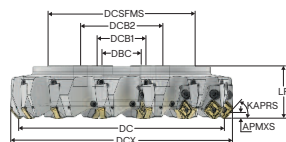
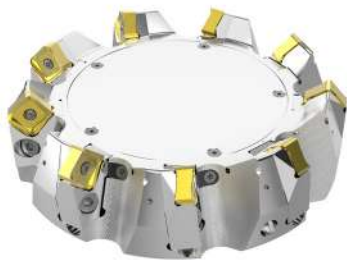
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

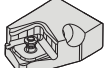
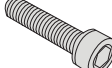
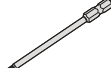
Double Quattro R220.54/56-22C – inch



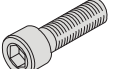
—For insert selection and cutting data recommendations, see page(s) 263–268
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DBC1 inch	DBC2 inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.54-808.00-22-9C	03167774	Arbor	7.874	9	0.354	48,0 °	8.819	2.500	4.000	4.000	5.118	3.150	2700	24.030	SN.X2209A
R220.56-808.00-22-9C	03167777	Arbor	7.874	9	0.512	71,0 °	8.335	2.500	4.000	4.000	5.118	3.150	2700	20.060	SN.X2209ZN.R
R220.54-810.00-22-11C	03167775	Arbor	9.843	11	0.354	48,0 °	10.787	2.500	4.000	4.000	5.118	3.150	2500	50.040	SN.X2209A
R220.56-810.00-22-11C	03167778	Arbor	9.843	11	0.512	71,0 °	10.307	2.500	4.000	4.000	5.118	3.150	2500	49.600	SN.X2209ZN.R
R220.54-812.50-22-14C	03167776	Arbor	12.402	14	0.354	48,0 °	13.346	2.500	4.000	4.000	8.858	3.150	2200	81.570	SN.X2209A
R220.56-812.50-22-14C	03167779	Arbor	12.402	14	0.512	71,0 °	12.866	2.500	4.000	4.000	8.858	3.150	2200	75.620	SN.X2209ZN.R

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-808.00	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-810.00	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-810.00	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54/56-808.-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54/56-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.54-22 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	SNMX2209ANTR-M12 MP2501	7,0 0.28	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014	Square shoulder and slot milling cutters
P2	SNMX2209ANTR-M12 MP2501	7,0 0.28	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.015	
P3	SNMX2209ANTR-M18 MP2501	7,0 0.28	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.022	Helical milling cutters
P4	SNMX2209ANTR-M18 MP2501	7,0 0.28	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.020	
P5	SNMX2209ANTR-M18 MP2501	7,0 0.28	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020	Face milling cutters
P6	SNMX2209ANTR-M18 MP2501	7,0 0.28	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020	
P7	SNMX2209ANTR-M18 MP3501	7,0 0.28	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020	Disc milling cutters
P8	SNMX2209ANTR-M18 MP3501	7,0 0.28	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.022	
P11	SNMX2209ANTR-M12 MP2051	7,0 0.28	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013	High feed milling cutters
P12	SNMX2209ANTR-M12 MP2051	6,0 0.24	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085	
M1	SNMX2209ANTR-ME12 F40M	7,0 0.28	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	Copy milling cutters
M2	SNMX2209ANTR-ME12 F40M	7,0 0.28	0,24 0.0095	0,24 0.0095	0,25 0.010	0,32 0.013	
M3	SNMX2209ANTR-M12 MS2050	6,0 0.24	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	Plunge milling cutters
M4	SNMX2209ANTR-M12 MP2051	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
M5	SNMX2209ANTR-M12 MP2051	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	Chamfer milling cutters
K1	SNMX2209ANTR-M18 MK1501	7,0 0.28	0,44 0.017	0,44 0.017	0,44 0.017	0,55 0.022	
K2	SNMX2209ANTR-M18 MK1501	7,0 0.28	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020	Spot facing cutters
K3	SNMX2209ANTR-M18 MP1501	7,0 0.28	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020	
K4	SNMX2209ANTR-M18 MP1501	7,0 0.28	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020	Inserts
K5	SNMX2209ANTR-M18 MP1501	7,0 0.28	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018	
K6	SNMX2209ANTR-M18 MK2050	7,0 0.28	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020	
K7	SNMX2209ANTR-M18 MK2050	7,0 0.28	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018	
S1	SNMX2209ANTR-M12 MS2050	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
S2	SNMX2209ANTR-M12 MS2050	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
S3	SNMX2209ANTR-M12 MS2050	4,5 0.18	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085	
S11	SNMX2209ANTR-M12 MS2050	5,0 0.20	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	
S12	SNMX2209ANTR-M12 MS2050	5,0 0.20	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	
S13	SNMX2209ANTR-M12 MS2050	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
H5	SNMX2209ANTR-M18 MP1501	6,0 0.24	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	
H8	SNMX2209ANTR-M18 MP1501	5,0 0.20	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	
H11	SNMX2209ANTR-M18 MP1501	6,0 0.24	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013	
H12	SNMX2209ANTR-M18 MP1501	5,0 0.20	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	
H21	SNMX2209ANTR-M18 MP1501	5,0 0.20	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R220.54-22 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	215	230	245	275	200	215	230	260	185	200	215	240	235	250	270	305
	710	750	800	900	660	710	750	850	610	660	710	790	770	820	890	1000
P2	210	220	240	265	195	210	225	250	180	195	210	235	230	245	265	295
	690	720	790	870	640	690	740	820	590	640	690	770	750	800	870	970
P3	185	195	210	235	175	185	200	215	160	170	185	200	205	215	235	255
	610	640	690	770	570	610	660	710	520	560	610	660	670	710	770	840
P4	160	170	185	210	150	160	175	195	140	150	160	180	180	190	205	230
	520	560	610	690	490	520	570	640	460	490	520	590	590	620	670	750
P5	155	165	180	200	145	155	165	185	135	145	155	175	170	180	195	220
	510	540	590	660	475	510	540	610	445	475	510	570	560	590	640	720
P6	175	185	200	225	165	175	190	210	155	165	175	195	195	210	225	245
	570	610	660	740	540	570	620	690	510	540	570	640	640	690	740	800
P7	165	175	190	210	155	165	180	195	145	155	165	185	185	195	215	230
	540	570	620	690	510	540	590	640	475	510	540	610	610	640	710	750
P8	155	165	175	195	145	155	165	180	135	145	155	170	170	180	195	215
	510	540	570	640	475	510	540	590	445	475	510	560	560	590	640	710
P11	160	170	185	205	155	160	175	190	140	150	160	180	180	190	205	225
	520	560	610	670	510	520	570	620	460	490	520	590	590	620	670	740
P12	110	115	125	135	100	105	115	125	95	100	105	115	115	125	135	150
	360	375	410	445	330	345	375	410	310	330	345	375	375	410	445	490
M1	—	—	—	—	160	170	180	205	145	155	170	190	165	175	190	215
	—	—	—	—	520	560	590	670	475	510	560	620	540	570	620	710
M2	—	—	—	—	130	140	150	170	125	130	140	155	135	145	155	175
	—	—	—	—	425	460	490	560	410	425	460	510	445	475	510	570
M3	—	—	—	—	105	115	125	135	100	105	115	125	110	120	130	145
	—	—	—	—	345	375	410	445	330	345	375	410	360	395	425	475
M4	—	—	—	—	85	90	95	105	75	80	90	100	85	90	100	110
	—	—	—	—	280	295	310	345	245	260	295	330	280	295	330	360
M5	—	—	—	—	70	75	80	90	65	70	75	80	75	75	85	90
	—	—	—	—	230	245	260	295	215	230	245	260	245	245	280	295
K1	225	240	260	290	—	—	—	—	145	155	165	185	—	—	—	—
	740	790	850	950	—	—	—	—	475	510	540	610	—	—	—	—
K2	205	215	235	255	—	—	—	—	130	140	150	165	—	—	—	—
	670	710	770	840	—	—	—	—	425	460	490	540	—	—	—	—
K3	170	180	195	220	—	—	—	—	110	115	125	140	—	—	—	—
	560	590	640	720	—	—	—	—	360	375	410	460	—	—	—	—
K4	165	175	190	210	—	—	—	—	105	110	120	135	—	—	—	—
	540	570	620	690	—	—	—	—	345	360	395	445	—	—	—	—
K5	100	105	115	130	—	—	—	—	65	70	75	80	—	—	—	—
	330	345	375	425	—	—	—	—	215	230	245	260	—	—	—	—
K6	145	155	165	185	—	—	—	—	90	100	105	115	—	—	—	—
	475	510	540	610	—	—	—	—	295	330	345	375	—	—	—	—
K7	130	135	150	165	—	—	—	—	85	90	95	105	—	—	—	—
	425	445	490	540	—	—	—	—	280	295	310	345	—	—	—	—
S1	—	—	—	—	39	41	44	49	36	38	42	46	43	45	49	55
	—	—	—	—	130	135	145	160	120	125	140	150	140	150	160	180
S2	—	—	—	—	31	33	36	40	29	31	33	37	34	36	39	44
	—	—	—	—	100	110	120	130	95	100	110	120	110	120	130	145
S3	—	—	—	—	27	29	32	35	26	27	29	32	30	32	35	38
	—	—	—	—	90	95	105	115	85	90	95	105	100	105	115	125
S11	—	—	—	—	55	60	60	70	49	50	55	65	60	65	70	75
	—	—	—	—	180	195	195	230	160	165	180	215	195	215	230	245
S12	—	—	—	—	38	40	43	48	34	36	39	44	41	44	47	55
	—	—	—	—	125	130	140	155	110	120	130	145	135	145	155	180
S13	—	—	—	—	22	23	25	28	20	21	23	26	24	25	27	30
	—	—	—	—	70	75	80	90	65	70	75	85	80	80	90	100
H5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	—	—	45	47	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	180
H12	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	245	260	280	310
H21	—	—	—	—	—	—	—	—	—	—	—	—	38	40	43	48
	—	—	—	—	—	—	—	—	—	—	—	—	125	130	140	155

R220.54-22 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	305	315	340	370	295	300	325	360	260	265	285	315	Square shoulder and slot milling cutters
	—	—	—	—	1000	1025	1125	1225	970	980	1075	1175	850	870	940	1025	
P2	—	—	—	—	290	300	320	360	280	285	310	350	245	250	270	310	Helical milling cutters
	—	—	—	—	950	980	1050	1175	920	940	1025	1150	800	820	890	1025	
P3	—	—	—	—	260	270	290	320	255	255	280	305	225	225	245	270	Face milling cutters
	—	—	—	—	850	890	950	1050	840	840	920	1000	740	740	800	890	
P4	—	—	—	—	230	235	255	280	225	225	245	270	195	200	215	240	Face milling cutters
	—	—	—	—	750	770	840	920	740	740	800	890	640	660	710	790	
P5	—	—	—	—	220	225	245	275	215	215	235	265	185	190	205	235	Face milling cutters
	—	—	—	—	720	740	800	900	710	710	770	870	610	620	670	770	
P6	—	—	—	—	255	260	280	305	245	250	270	295	215	220	235	260	Face milling cutters
	—	—	—	—	840	850	920	1000	800	820	890	970	710	720	770	850	
P7	—	—	—	—	240	245	265	290	230	235	255	280	205	205	225	245	Face milling cutters
	—	—	—	—	790	800	870	950	750	770	840	920	670	670	740	800	
P8	—	—	—	—	220	225	245	265	215	215	235	260	185	190	205	230	Face milling cutters
	—	—	—	—	720	740	800	870	710	710	770	850	610	620	670	750	
P11	—	—	—	—	230	240	255	280	225	230	245	270	200	200	215	240	Face milling cutters
	—	—	—	—	750	790	840	920	740	750	800	890	660	660	710	790	
P12	—	—	—	—	160	165	175	190	155	160	170	185	140	140	150	165	Face milling cutters
	—	—	—	—	520	540	570	620	510	520	560	610	460	460	490	540	
M1	—	—	—	—	—	—	—	—	150	160	175	195	140	150	165	185	Disc milling cutters
	—	—	—	—	—	—	—	—	490	520	570	640	460	490	540	610	
M2	—	—	—	—	—	—	—	—	125	135	145	165	120	125	135	155	Disc milling cutters
	—	—	—	—	—	—	—	—	410	445	475	540	395	410	445	510	
M3	—	—	—	—	—	—	—	—	105	110	120	135	100	105	110	125	Disc milling cutters
	—	—	—	—	—	—	—	—	345	360	395	445	330	345	360	410	
M4	—	—	—	—	—	—	—	—	85	85	95	105	75	80	90	100	Disc milling cutters
	—	—	—	—	—	—	—	—	280	280	310	345	245	260	295	330	
M5	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	80	Disc milling cutters
	—	—	—	—	—	—	—	—	230	245	260	295	215	230	245	260	
K1	290	355	405	480	295	300	325	365	285	290	310	355	250	250	275	310	High feed milling cutters
	950	1175	1325	1575	970	980	1075	1200	940	950	1025	1175	820	820	900	1025	
K2	255	310	360	425	265	275	295	330	255	260	285	320	225	230	250	280	High feed milling cutters
	840	1025	1175	1400	870	900	970	1075	840	850	940	1050	740	750	820	920	
K3	190	210	230	265	225	230	250	280	220	220	240	270	190	195	210	240	High feed milling cutters
	620	690	750	870	740	750	820	920	720	720	790	890	620	640	690	790	
K4	180	200	220	255	215	220	240	265	210	210	230	260	185	185	200	230	Copy milling cutters
	590	660	720	840	710	720	790	870	690	690	750	850	610	610	660	750	
K5	110	125	135	155	135	140	150	165	130	135	145	160	115	115	125	140	Copy milling cutters
	360	410	445	510	445	460	490	540	425	445	475	520	375	375	410	460	
K6	160	175	195	225	190	195	210	235	185	185	200	225	160	165	175	200	Copy milling cutters
	520	570	640	740	620	640	690	770	610	610	660	740	520	540	570	660	
K7	140	160	175	200	170	175	190	210	165	170	185	205	145	150	160	180	Copy milling cutters
	460	520	570	660	560	570	620	690	540	560	610	670	475	490	520	590	
S1	—	—	—	—	—	—	—	—	—	—	—	—	36	38	41	46	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	120	125	135	150	
S2	—	—	—	—	—	—	—	—	—	—	—	—	29	31	33	37	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	95	100	110	120	
S3	—	—	—	—	—	—	—	—	—	—	—	—	26	27	29	33	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	85	90	95	110	
S11	—	—	—	—	—	—	—	—	—	—	—	—	50	50	55	65	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	165	165	180	215	
S12	—	—	—	—	—	—	—	—	—	—	—	—	34	36	39	44	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	110	120	130	145	
S13	—	—	—	—	—	—	—	—	—	—	—	—	20	21	23	26	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	
H5	—	—	—	—	42	44	48	50	—	—	—	—	32	34	37	40	Chamfer milling cutters
	—	—	—	—	140	145	155	165	—	—	—	—	105	110	120	130	
H8	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	43	Chamfer milling cutters
	—	—	—	—	150	155	165	180	—	—	—	—	115	120	130	140	
H11	—	—	—	—	55	55	60	65	—	—	—	—	41	43	47	50	Spot facing cutters
	—	—	—	—	180	180	195	215	—	—	—	—	135	140	155	165	
H12	—	—	—	—	80	85	95	100	—	—	—	—	65	65	70	80	Spot facing cutters
	—	—	—	—	260	280	310	330	—	—	—	—	215	215	230	260	
H21	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	43	Spot facing cutters
	—	—	—	—	150	155	165	180	—	—	—	—	115	120	130	140	

R220.56-22 – Insert selection – mm/Inch

R220.56-22 – Insert selection – mm/Inch							
	SMG	a _p	f _z				
			80%	60%	40%	20%	
Square shoulder and slot milling cutters	P1	SNMX2209ZNTR-M12 MP2501	10,0 0.40	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
	P2	SNMX2209ZNTR-M12 MP2501	10,0 0.40	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
Helical milling cutters	P3	SNMX2209ZNTR-M18 MP2501	10,0 0.40	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
	P4	SNMX2209ZNTR-M18 MP2501	10,0 0.40	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
	P5	SNMX2209ZNTR-M18 MP2501	10,0 0.40	0,30 0.012	0,30 0.012	0,30 0.013	0,38 0.015
	P6	SNMX2209ZNTR-M18 MP2501	10,0 0.40	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
	P7	SNMX2209ZNTR-M18 MP3501	10,0 0.40	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
	P8	SNMX2209ZNTR-M18 MP3501	10,0 0.40	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
Face milling cutters	P11	SNMX2209ZNTR-M18 MP3501	10,0 0.40	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
	P12	SNMX2209ZNTR-M18 MP3501	8,0 0.32	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
	M1	SNMX2209ZNTR-M12 MS2050	10,0 0.40	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
	M2	SNMX2209ZNTR-M12 MS2050	10,0 0.40	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
Disc milling cutters	M3	SNMX2209ZNTR-M12 MS2050	8,0 0.32	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	M4	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	M5	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	K1	SNMX2209ZNTR-M18 MK1500	10,0 0.40	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	K2	SNMX2209ZNTR-M18 MK1500	10,0 0.40	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
High feed milling cutters	K3	SNMX2209ZNTR-M18 MP1501	10,0 0.40	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
	K4	SNMX2209ZNTR-M18 MP1501	10,0 0.40	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
	K5	SNMX2209ZNTR-M18 MP1501	10,0 0.40	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
	K6	SNMX2209ZNTR-M18 MK2050	10,0 0.40	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
	K7	SNMX2209ZNTR-M18 MK2050	10,0 0.40	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
Copy milling cutters	S1	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	S2	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	S3	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
	S11	SNMX2209ZNTR-M12 MS2050	7,0 0.28	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
Plunge milling cutters	S12	SNMX2209ZNTR-M12 MS2050	7,0 0.28	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
	S13	SNMX2209ZNTR-M12 MS2050	6,0 0.24	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	H5	SNMX2209ZNTR-M18 MP1501	8,0 0.32	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
	H8	SNMX2209ZNTR-M18 MP1501	7,0 0.28	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
Hammer milling cutters	H11	SNMX2209ZNTR-M18 MP1501	8,0 0.32	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
	H12	SNMX2209ZNTR-M18 MP1501	7,0 0.28	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	H21	SNMX2209ZNTR-M18 MP1501	7,0 0.28	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R220.56-22 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MS2050				F40M				
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	220	230	250	280	205	220	235	265	190	200	215	240	Square shoulder and slot milling cutters
	720	750	820	920	670	720	770	870	620	660	710	790	
P2	215	225	240	270	200	215	230	250	185	195	210	225	Helical milling cutters
	710	740	790	890	660	710	750	820	610	640	690	740	
P3	185	195	215	235	175	185	200	220	160	165	180	200	Helical milling cutters
	610	640	710	770	570	610	660	720	520	540	590	660	
P4	165	175	185	210	155	160	175	195	140	145	160	175	Helical milling cutters
	540	570	610	690	510	520	570	640	460	475	520	570	
P5	160	170	185	200	150	160	170	185	135	145	155	170	Helical milling cutters
	520	560	610	660	490	520	560	610	445	475	510	560	
P6	180	190	205	225	170	180	190	215	155	160	175	195	Face milling cutters
	590	620	670	740	560	590	620	710	510	520	570	640	
P7	170	180	195	215	160	170	180	205	145	155	165	185	Face milling cutters
	560	590	640	710	520	560	590	670	475	510	540	610	
P8	155	165	180	195	145	155	165	185	135	140	150	170	Face milling cutters
	510	540	590	640	475	510	540	610	445	460	490	560	
P11	165	175	190	205	155	165	175	195	140	150	160	180	Face milling cutters
	540	570	620	670	510	540	570	640	460	490	520	590	
P12	110	115	125	140	100	110	115	125	95	100	105	115	Face milling cutters
	360	375	410	460	330	360	375	410	310	330	345	375	
M1	—	—	—	—	160	170	185	200	150	155	170	185	Disc milling cutters
	—	—	—	—	520	560	610	660	490	510	560	610	
M2	—	—	—	—	135	145	155	165	125	130	140	150	Disc milling cutters
	—	—	—	—	445	475	510	540	410	425	460	490	
M3	—	—	—	—	110	115	125	140	100	105	110	125	Disc milling cutters
	—	—	—	—	360	375	410	460	330	345	360	410	
M4	—	—	—	—	85	90	95	105	80	80	90	100	Disc milling cutters
	—	—	—	—	280	295	310	345	260	260	295	330	
M5	—	—	—	—	70	75	80	90	65	70	75	80	High feed milling cutters
	—	—	—	—	230	245	260	295	215	230	245	260	
K1	230	240	260	295	—	—	—	—	145	155	165	180	High feed milling cutters
	750	790	850	970	—	—	—	—	475	510	540	590	
K2	210	220	235	260	—	—	—	—	130	135	150	160	High feed milling cutters
	690	720	770	850	—	—	—	—	425	445	490	520	
K3	175	185	200	220	—	—	—	—	110	115	125	135	High feed milling cutters
	570	610	660	720	—	—	—	—	360	375	410	445	
K4	170	175	190	210	—	—	—	—	105	110	120	130	Copy milling cutters
	560	570	620	690	—	—	—	—	345	360	395	425	
K5	100	110	115	130	—	—	—	—	65	65	70	80	Copy milling cutters
	330	360	375	425	—	—	—	—	215	215	230	260	
K6	150	155	170	185	—	—	—	—	90	95	105	115	Copy milling cutters
	490	510	560	610	—	—	—	—	295	310	345	375	
K7	130	140	150	165	—	—	—	—	80	85	95	105	Copy milling cutters
	425	460	490	540	—	—	—	—	260	280	310	345	
S1	—	—	—	—	40	42	45	50	36	38	41	46	Plunge milling cutters
	—	—	—	—	130	140	150	165	120	125	135	150	
S2	—	—	—	—	32	34	36	40	29	31	33	37	Plunge milling cutters
	—	—	—	—	105	110	120	130	95	100	110	120	
S3	—	—	—	—	28	30	32	35	26	27	29	32	Plunge milling cutters
	—	—	—	—	90	100	105	115	85	90	95	105	
S11	—	—	—	—	55	60	65	70	50	55	55	65	Plunge milling cutters
	—	—	—	—	180	195	215	230	165	180	180	215	
S12	—	—	—	—	38	40	43	48	35	37	39	44	Chamfer milling cutters
	—	—	—	—	125	130	140	155	115	120	130	145	
S13	—	—	—	—	22	24	25	28	20	22	23	26	Chamfer milling cutters
	—	—	—	—	70	80	80	90	65	70	75	85	
H5	—	—	—	—	—	—	—	—	31	33	35	38	Chamfer milling cutters
	—	—	—	—	—	—	—	—	100	110	115	125	
H8	—	—	—	—	—	—	—	—	33	35	38	42	Chamfer milling cutters
	—	—	—	—	—	—	—	—	110	115	125	140	
H11	—	—	—	—	—	—	—	—	39	41	45	49	Spot facing cutters
	—	—	—	—	—	—	—	—	130	135	150	160	
H12	—	—	—	—	—	—	—	—	60	65	65	75	Spot facing cutters
	—	—	—	—	—	—	—	—	195	215	215	245	
H21	—	—	—	—	—	—	—	—	33	35	38	42	Spot facing cutters
	—	—	—	—	—	—	—	—	110	115	125	140	

Inserts

R220.56-22 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK1500				MP1501				MP2501				MP3501			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	—	—	—	—	305	310	335	380	295	300	325	365	260	260	285	320
		—	—	—	—	1000	1025	1100	1250	970	980	1075	1200	850	850	940	1050
Helical milling cutters	P2	—	—	—	—	300	305	325	370	285	290	315	355	255	255	275	315
	P3	—	—	—	—	980	1000	1075	1225	940	950	1025	1175	840	840	900	1025
		—	—	—	—	265	270	290	315	255	260	280	305	225	225	245	270
	P4	—	—	—	—	870	890	950	1025	840	850	920	1000	740	740	800	890
		—	—	—	—	235	235	255	285	225	225	245	275	195	200	215	245
Face milling cutters	P5	—	—	—	—	770	770	840	940	740	740	800	900	640	660	710	800
	P6	—	—	—	—	230	235	250	275	220	225	240	265	195	195	215	235
		—	—	—	—	750	770	820	900	720	740	790	870	640	640	710	770
	P7	—	—	—	—	255	260	280	305	250	250	270	295	220	220	240	260
		—	—	—	—	840	850	920	1000	820	820	890	970	720	720	790	850
	P8	—	—	—	—	240	245	265	290	235	235	255	280	205	210	225	245
		—	—	—	—	790	800	870	950	770	770	840	920	670	690	740	800
	P11	—	—	—	—	220	225	245	265	215	215	235	255	190	190	205	225
Disc milling cutters	P12	—	—	—	—	720	740	800	870	710	710	770	840	620	620	670	740
	M1	—	—	—	—	235	240	260	280	225	230	250	270	200	205	220	240
		—	—	—	—	770	790	850	920	740	750	820	890	660	670	720	790
	M2	—	—	—	—	160	160	175	190	155	155	170	185	135	140	150	165
		—	—	—	—	520	520	570	620	510	510	560	610	445	460	490	540
High feed milling cutters	M3	—	—	—	—	—	—	—	—	155	165	175	200	145	150	165	185
	M4	—	—	—	—	—	—	—	—	510	540	570	660	475	490	540	610
		—	—	—	—	—	—	—	—	130	140	150	165	120	130	140	155
	M5	—	—	—	—	—	—	—	—	425	460	490	540	395	425	460	510
		—	—	—	—	—	—	—	—	105	115	120	135	100	105	115	125
Copy milling cutters	K1	240	255	275	310	300	305	330	370	290	295	315	360	255	255	280	315
	K2	790	840	900	1025	980	1000	1075	1225	950	970	1025	1175	840	840	920	1025
		220	230	250	275	275	280	305	330	265	270	290	320	235	240	255	280
	K3	720	750	820	900	900	920	1000	1075	870	890	950	1050	770	790	840	920
		185	195	210	230	235	240	255	280	225	230	245	270	200	200	220	240
	K4	610	640	690	750	770	790	840	920	740	750	800	890	660	660	720	790
		175	185	200	220	225	225	245	265	215	220	235	260	190	190	210	230
	K5	570	610	660	720	740	740	800	870	710	720	770	850	620	620	690	750
		110	115	125	140	135	140	150	170	135	135	145	165	115	120	130	145
Plunge milling cutters	K6	360	375	410	460	445	460	490	560	445	445	475	540	375	395	425	475
	K7	155	165	180	195	195	200	215	235	190	195	210	225	170	170	185	200
		510	540	590	640	640	660	710	770	620	640	690	740	560	560	610	660
	S1	140	145	155	175	175	180	190	215	170	170	185	210	150	150	165	185
		460	475	510	570	570	590	620	710	560	560	610	690	490	490	540	610
Chamfer milling cutters	S2	—	—	—	—	—	—	—	—	—	—	—	—	37	39	42	46
	S3	—	—	—	—	—	—	—	—	—	—	—	—	120	130	140	150
		—	—	—	—	—	—	—	—	—	—	—	—	30	31	33	37
	S11	—	—	—	—	—	—	—	—	—	—	—	—	100	100	110	120
		—	—	—	—	—	—	—	—	—	—	—	—	26	27	30	32
Spot facing cutters	S12	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	105
	S13	—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65
		—	—	—	—	—	—	—	—	—	—	—	—	165	180	180	215
	H5	—	—	—	—	—	—	—	—	—	—	—	—	35	36	40	44
		—	—	—	—	—	—	—	—	—	—	—	—	115	120	130	145
Inserts	H8	—	—	—	—	—	—	—	—	—	—	—	—	21	22	23	26
	H11	—	—	—	—	—	—	—	—	—	—	—	—	70	70	75	85
		—	—	—	—	41	44	47	55	—	—	—	—	32	34	36	41
	H12	—	—	—	—	135	145	155	180	—	—	—	—	105	110	120	135
		—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	44



Double Octomill 05/09

The Double Octomill face milling cutter is a highly versatile, economic and productive tool that can be used for both roughing and finishing. With double-sided inserts featuring a total of 16 cutting edges, the cutter represents a combination of high performance with cost-effective operation. Double Octomill also has a coated, pre-hardened body to ensure long tool life by protecting the tool from wear and preventing chips from welding to it.

- Insert size 05, cutter range 25-125mm (1.25-4 inch)
- Insert size 09, cutter range 63-500mm (2.5-12.5 inch)
- Double-sided inserts with 16 cutting edges

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

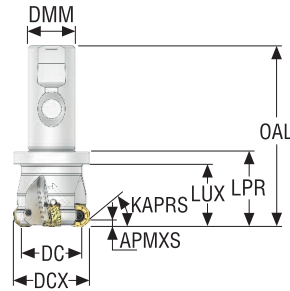
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Double Octomill™ R217.48-05 – Metric



—For insert selection and cutting data recommendations, see page(s) 273 – 275
 —For complete insert programme, see page(s) 883
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCONMS mm	LUX mm	LPR mm	OAL mm	RPMX	Weight kg	Insert
R217.48-2025.3S-05-3SA	02810001	Seco-Weldon	25,0	3	3,0	40,0 °	33,0	20,0	33,0	40,0	90,0	20400	0,3	ONMU0504
R217.48-2532.3S-05-4SA	02810002	Seco-Weldon	32,0	4	3,0	40,0 °	40,0	25,0	33,0	40,0	90,0	18000	0,5	ONMU0504

Spare Parts, included in delivery

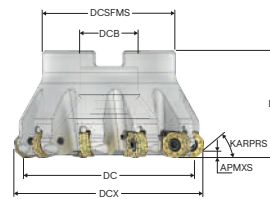
For cutter	Insert key	Insert screw
		
R217.48-..	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

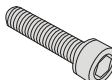
Double Octomill™ R220.48-05 – Metric



- For insert selection and cutting data recommendations, see page(s) 273 – 275
- For complete insert programme, see page(s) 883
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.48-0040-05-05SA	02810083	Arbor	40,0	5	3,0	40,0 °	48,35	16,0	35,0	40,0	16100	0,3	ON.U00504
R220.48-0050-05-04SA	02810003	Arbor	50,0	4	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0050-05-05SA	02810084	Arbor	50,0	5	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0050-05-06SA	02810085	Arbor	50,0	6	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0063-05-05SA	02810004	Arbor	63,0	5	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,7	ON.U00504
R220.48-0063-05-06SA	02810086	Arbor	63,0	6	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,6	ON.U00504
R220.48-0063-05-08SA	02810087	Arbor	63,0	8	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,6	ON.U00504
R220.48-0080-05-06SA	02810005	Arbor	80,0	6	3,0	40,0 °	88,35	27,0	62,0	50,0	11400	1,2	ON.U00504
R220.48-0080-05-10SA	02810088	Arbor	80,0	10	3,0	40,0 °	88,35	27,0	62,0	50,0	11400	1,1	ON.U00504
R220.48-0100-05-07SA	02810089	Arbor	100,0	7	3,0	40,0 °	108,35	32,0	77,0	50,0	10200	1,9	ON.U00504
R220.48-0100-05-12SA	02810090	Arbor	100,0	12	3,0	40,0 °	108,35	32,0	77,0	50,0	10200	1,8	ON.U00504
R220.48-0125-05-08SA	02810091	Arbor	125,0	8	3,0	40,0 °	133,35	40,0	90,0	63,0	9100	3,4	ON.U00504
R220.48-0125-05-14SA	02810092	Arbor	125,0	14	3,0	40,0 °	133,35	40,0	90,0	63,0	9100	3,4	ON.U00504

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P
R220.48-0050-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.48-0080-0125	–	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.48-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

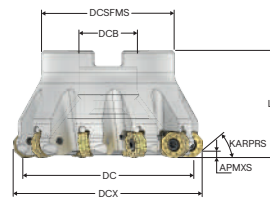
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

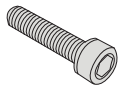
Double Octomill™ R220.48-05 – inch



- For insert selection and cutting data recommendations, see page(s) 273 – 275
- For complete insert programme, see page(s) 883
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.48-02.00-05-05SA	02810096	Arbor	1.969	5	0.118	40,0 °	2.297	0.750	1.850	1.575	14400	1.100	ON.U00504
R220.48-02.50-05-05SA	02810098	Arbor	2.480	5	0.118	40,0 °	2.809	0.750	1.850	1.575	12800	1.540	ON.U00504
R220.48-03.00-05-06SA	02810101	Arbor	3.150	6	0.118	40,0 °	3.478	1.000	2.441	1.969	11400	3.090	ON.U00504
R220.48-04.00-05-07SA	02810103	Arbor	3.937	7	0.118	40,0 °	4.266	1.500	3.031	1.969	10200	4.190	ON.U00504

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.48-05 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	40%	20%	
P1	ONMU050410ANTN-M11 MP3000	1,8 0.070	0,26 0.010	0,26 0.010	0,34 0.013	Square shoulder and slot milling cutters
P2	ONMU050410ANTN-M11 MP3000	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
P3	ONMU050406ANTN-ME14 MP2501	1,8 0.070	0,28 0.011	0,28 0.011	0,36 0.014	
P4	ONMU050406ANTN-ME14 MP2501	1,8 0.070	0,28 0.011	0,28 0.011	0,34 0.013	Helical milling cutters
P5	ONMU050406ANTN-ME14 MP2501	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
P6	ONMU050406ANTN-ME14 MP2501	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
P7	ONMU050406ANTN-ME14 MP3501	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	Face milling cutters
P8	ONMU050406ANTN-ME14 MP3501	1,8 0.070	0,28 0.011	0,28 0.011	0,36 0.014	
P11	ONMU050410ANTN-M10 MP2050	1,8 0.070	0,24 0.0095	0,25 0.010	0,30 0.012	
P12	ONMU050410ANTN-M10 MP2050	1,4 0.055	0,17 0.0065	0,18 0.0070	0,22 0.0085	Disc milling cutters
M1	ONMU050410ANTN-ME11 F40M	1,8 0.070	0,24 0.0095	0,25 0.010	0,30 0.012	
M2	ONMU050410ANTN-ME11 MS2050	1,8 0.070	0,22 0.0085	0,22 0.0085	0,28 0.011	
M3	ONMU050410ANTN-ME11 MS2050	1,4 0.055	0,18 0.0070	0,19 0.0075	0,24 0.0095	High feed milling cutters
M4	ONMU050410ANTN-M10 MP2050	1,1 0.044	0,19 0.0075	0,19 0.0075	0,24 0.0095	
M5	ONMU050410ANTN-M10 MP2050	1,1 0.044	0,19 0.0075	0,19 0.0075	0,24 0.0095	
K1	ONMU050406ANTN-ME14 MP1501	1,8 0.070	0,30 0.012	0,30 0.012	0,38 0.015	Copy milling cutters
K2	ONMU050406ANTN-ME14 MP1501	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
K3	ONMU050406ANTN-ME14 MK2050	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
K4	ONMU050406ANTN-ME14 MK2050	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	Plunge milling cutters
K5	ONMU050406ANTN-ME14 MK2050	1,8 0.070	0,24 0.0095	0,25 0.010	0,30 0.012	
K6	ONMU050406ANTN-ME14 MK2050	1,8 0.070	0,26 0.010	0,28 0.011	0,34 0.013	
K7	ONMU050406ANTN-ME14 MK2050	1,8 0.070	0,24 0.0095	0,25 0.010	0,30 0.012	Chamfer milling cutters
N1	ONMU050410ANTN-ME11 F40M	1,8 0.070	0,30 0.012	0,32 0.013	0,38 0.015	
N2	ONMU050410ANTN-ME11 F40M	1,8 0.070	0,30 0.012	0,32 0.013	0,38 0.015	
N3	ONMU050410ANTN-ME11 F40M	1,8 0.070	0,30 0.012	0,32 0.013	0,38 0.015	Spot facing cutters
N11	ONMU050410ANTN-ME11 F40M	1,8 0.070	0,30 0.012	0,32 0.013	0,38 0.015	
S1	ONMU050406ANTN-ME14 MS2050	1,1 0.044	0,20 0.0080	0,20 0.0080	0,25 0.010	
S2	ONMU050406ANTN-ME14 MS2050	1,1 0.044	0,20 0.0080	0,20 0.0080	0,25 0.010	Inserts
S3	ONMU050406ANTN-ME14 MS2050	1,1 0.044	0,19 0.0075	0,19 0.0075	0,24 0.0095	
S11	ONMU050410ANTN-ME11 MS2050	1,3 0.050	0,18 0.0070	0,19 0.0075	0,24 0.0095	
S12	ONMU050410ANTN-ME11 MS2050	1,3 0.050	0,18 0.0070	0,19 0.0075	0,24 0.0095	
S13	ONMU050410ANTN-ME11 MS2050	1,1 0.044	0,17 0.0065	0,17 0.0065	0,22 0.0085	
H5	ONMU050410ANTN-M11 MP3000	1,4 0.055	0,17 0.0065	0,18 0.0070	0,22 0.0085	
H8	ONMU050410ANTN-M11 MP3000	1,3 0.050	0,13 0.0050	0,13 0.0050	0,17 0.0065	
H11	ONMU050410ANTN-M11 MP3000	1,4 0.055	0,17 0.0065	0,18 0.0070	0,22 0.0085	
H12	ONMU050410ANTN-M11 MP3000	1,3 0.050	0,13 0.0050	0,13 0.0050	0,17 0.0065	
H21	ONMU050410ANTN-M11 MP3000	1,3 0.050	0,13 0.0050	0,13 0.0050	0,17 0.0065	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

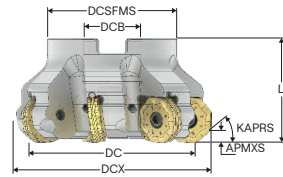
R217/220.48-05 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050				MP3000				MS2050				F40M				MP2050			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	270 890	285 940	310 1025	345 1125	260 850	275 900	295 970	330 1075	225 740	240 790	260 850	290 950	205 670	220 720	235 770	265 870	275 900	290 950	315 1025	350 1150
	P2	260 850	275 900	300 980	335 1100	250 820	265 870	290 950	320 1050	220 720	235 770	255 840	285 940	200 660	215 710	230 750	255 840	265 870	285 940	305 1000	335 1100
Helical milling cutters	P3	230 750	245 800	265 870	295 970	220 720	235 770	255 840	280 920	195 640	205 670	225 740	250 820	175 570	190 620	205 670	225 740	230 750	245 800	265 870	295 970
	P4	200 660	215 710	230 750	260 850	195 640	205 670	225 740	250 820	170 560	180 590	195 640	220 720	155 510	165 540	180 590	200 660	205 670	220 720	235 770	260 850
Face milling cutters	P5	200 660	210 690	225 740	245 800	190 620	200 660	220 720	235 770	165 540	180 590	190 620	210 690	150 490	160 520	175 570	190 620	195 640	210 690	225 740	250 820
	P6	220 720	235 770	255 840	275 900	215 710	225 740	245 800	265 870	190 620	200 660	215 710	235 770	170 560	180 590	195 640	215 710	220 720	235 770	255 840	285 940
Face milling cutters	P7	210 690	220 720	240 790	260 850	200 660	215 710	230 750	250 820	175 570	190 620	205 670	220 720	160 520	170 560	185 610	200 660	210 690	220 720	240 790	265 870
	P8	195 640	205 670	220 720	245 800	185 610	195 640	215 710	235 770	165 540	175 570	185 610	210 690	150 490	160 520	170 560	190 620	195 640	205 670	225 740	245 800
Face milling cutters	P11	205 670	215 710	235 770	255 840	195 640	210 690	225 740	245 800	170 560	185 610	195 640	215 710	155 510	165 540	180 590	195 640	205 670	215 710	235 770	260 850
	P12	130 425	140 460	150 490	165 540	125 410	135 445	145 475	160 520	110 360	120 395	125 410	140 460	100 330	110 360	115 375	130 425	130 425	140 460	150 490	170 560
Disc milling cutters	M1	—	—	—	—	190 620	200 660	215 710	240 790	180 590	190 620	205 670	230 750	160 520	170 560	185 610	205 670	190 620	205 670	220 720	240 790
	M2	—	—	—	—	160 520	170 560	180 590	200 660	150 490	160 520	170 560	190 620	135 445	145 475	155 510	170 560	160 520	170 560	180 590	200 660
Disc milling cutters	M3	—	—	—	—	125 410	135 445	145 475	160 520	120 395	130 425	140 460	155 510	110 360	115 375	125 410	140 460	125 410	135 445	145 475	160 520
	M4	—	—	—	—	100 330	105 345	110 360	125 410	95 310	100 330	105 345	120 395	85 280	90 295	95 310	105 345	100 330	105 345	115 375	125 410
High feed milling cutters	M5	—	—	—	—	80 260	85 280	95 310	105 345	80 260	85 280	90 295	100 330	70 230	75 245	80 260	90 295	80 260	85 280	95 310	105 345
	K1	280 920	300 980	325 1075	360 1175	200 660	210 690	230 750	255 840	—	—	—	—	160 520	170 560	185 610	205 670	—	—	—	—
High feed milling cutters	K2	255 840	270 890	295 970	320 1050	180 590	190 620	205 670	225 740	—	—	—	—	145 475	155 510	165 540	180 590	—	—	—	—
	K3	215 710	230 750	250 820	270 890	155 510	160 520	175 570	190 620	—	—	—	—	120 395	130 425	140 460	155 510	—	—	—	—
Copy milling cutters	K4	205 670	220 720	235 770	260 850	145 475	155 510	165 540	180 590	—	—	—	—	115 375	125 410	135 445	145 475	—	—	—	—
	K5	125 410	135 445	145 475	160 520	90 295	95 310	100 330	110 360	—	—	—	—	70 230	75 245	80 260	90 295	—	—	—	—
Copy milling cutters	K6	180 590	195 640	210 690	225 740	130 425	135 445	145 475	160 520	—	—	—	—	105 345	110 360	120 395	130 425	—	—	—	—
	K7	160 520	170 560	185 610	205 670	115 375	120 395	130 425	145 475	—	—	—	—	90 295	95 310	105 345	115 375	—	—	—	—
Plunge milling cutters	N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	46 150	49 160	50 165	60 195	44 145	46 150	50 165	55 180	40 130	42 140	45 150	50 165	48 155	50 165	55 180	60 195
	S2	—	—	—	—	37 120	39 130	42 140	47 155	35 115	37 120	40 130	44 145	32 105	34 110	36 120	40 130	38 125	41 135	44 145	49 160
Chamfer milling cutters	S3	—	—	—	—	32 105	34 110	37 120	42 140	31 100	33 110	36 120	39 130	28 90	30 100	32 105	36 120	34 110	36 120	39 130	43 140
	S11	—	—	—	—	—	—	—	—	60 195	65 215	70 230	80 260	55 180	60 195	65 215	70 230	70 230	70 230	75 245	85 280
Spot facing cutters	S12	—	—	—	—	—	—	—	—	42 140	45 150	48 155	55 180	38 125	41 135	44 145	49 160	47 155	50 165	55 180	60 195
	S13	—	—	—	—	—	—	—	—	25 80	26 85	28 90	31 100	22 70	24 80	25 80	28 90	27 90	28 90	31 100	34 110
Spot facing cutters	H5	—	—	—	—	39 130	42 140	45 150	50 165	—	—	—	—	34 110	36 120	38 125	43 140	—	—	—	—
	H8	—	—	—	—	42 140	45 150	49 160	55 180	—	—	—	—	36 120	38 125	42 140	45 150	—	—	—	—
Inserts	H11	—	—	—	—	50 165	55 180	55 180	65 215	—	—	—	—	43 140	45 150	49 160	55 180	50 165	55 180	60 195	65 215
	H12	—	—	—	—	80 260	85 280	95 310	100 330	—	—	—	—	65 215	70 230	75 245	80 260	85 280	90 295	95 310	105 345
Inserts	H21	—	—	—	—	42 140	45 150	49 160	55 180	—	—	—	—	36 120	38 125	42 140	45 150	42 140	45 150	49 160	55 180
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

R217/220.48-05 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	400	415	440	485	390	405	430	475	350	360	385	425	Square shoulder and slot milling cutters
	—	—	—	—	1300	1350	1450	1600	1275	1325	1400	1550	1150	1175	1275	1400	
P2	—	—	—	—	390	405	430	475	380	395	420	465	340	350	375	415	Helical milling cutters
	—	—	—	—	1275	1325	1400	1550	1250	1300	1375	1525	1125	1150	1225	1350	
P3	—	—	—	—	345	355	380	410	335	345	370	400	300	310	330	355	Face milling cutters
	—	—	—	—	1125	1175	1250	1350	1100	1125	1225	1300	980	1025	1075	1175	
P4	—	—	—	—	300	315	335	365	295	305	325	360	265	270	290	320	Face milling cutters
	—	—	—	—	980	1025	1100	1200	970	1000	1075	1175	870	890	950	1050	
P5	—	—	—	—	290	305	325	350	285	295	315	345	255	265	280	305	Face milling cutters
	—	—	—	—	950	1000	1075	1150	940	970	1025	1125	840	870	920	1000	
P6	—	—	—	—	330	340	365	395	320	330	355	385	285	295	315	345	Face milling cutters
	—	—	—	—	1075	1125	1200	1300	1050	1075	1175	1275	940	970	1025	1125	
P7	—	—	—	—	310	320	340	370	305	315	335	365	270	280	300	325	Face milling cutters
	—	—	—	—	1025	1050	1125	1225	1000	1025	1100	1200	890	920	980	1075	
P8	—	—	—	—	290	300	320	345	285	290	310	335	250	260	280	300	Face milling cutters
	—	—	—	—	950	980	1050	1125	940	950	1025	1100	820	850	920	980	
P11	—	—	—	—	300	310	335	360	295	305	325	355	265	270	290	315	Face milling cutters
	—	—	—	—	980	1025	1100	1175	970	1000	1075	1175	870	890	950	1025	
P12	—	—	—	—	195	205	215	230	195	200	215	230	175	180	190	205	Face milling cutters
	—	—	—	—	640	670	710	750	640	660	710	750	570	590	620	670	
M1	—	—	—	—	—	—	—	—	195	210	225	250	180	195	210	235	Disc milling cutters
	—	—	—	—	—	—	—	—	640	690	740	820	590	640	690	770	
M2	—	—	—	—	—	—	—	—	165	175	190	205	150	160	175	195	Disc milling cutters
	—	—	—	—	—	—	—	—	540	570	620	670	490	520	570	640	
M3	—	—	—	—	—	—	—	—	135	140	150	165	125	130	140	155	Disc milling cutters
	—	—	—	—	—	—	—	—	445	460	490	540	410	425	460	510	
M4	—	—	—	—	—	—	—	—	105	110	115	130	95	100	110	120	Disc milling cutters
	—	—	—	—	—	—	—	—	345	360	375	425	310	330	360	395	
M5	—	—	—	—	—	—	—	—	85	90	100	105	80	85	90	100	Disc milling cutters
	—	—	—	—	—	—	—	—	280	295	330	345	260	280	295	330	
K1	345	415	475	560	395	405	435	480	385	395	425	470	340	350	380	420	High feed milling cutters
	1125	1350	1550	1825	1300	1325	1425	1575	1275	1300	1400	1550	1125	1150	1250	1375	
K2	310	370	420	495	355	365	390	425	345	360	380	415	310	320	340	370	High feed milling cutters
	1025	1225	1375	1625	1175	1200	1275	1400	1125	1175	1250	1350	1025	1050	1125	1225	
K3	245	270	295	335	300	310	330	360	295	305	325	350	260	270	290	315	High feed milling cutters
	800	890	970	1100	980	1025	1075	1175	970	1000	1075	1150	850	890	950	1025	
K4	230	255	285	320	285	295	315	340	280	290	310	335	250	260	275	300	Copy milling cutters
	750	840	940	1050	940	970	1025	1125	920	950	1025	1100	820	850	900	980	
K5	140	155	175	195	175	185	195	210	175	180	190	205	155	160	170	185	Copy milling cutters
	460	510	570	640	570	610	640	690	570	590	620	670	510	520	560	610	
K6	205	225	250	285	250	260	280	300	245	255	270	295	220	225	245	265	Copy milling cutters
	670	740	820	940	820	850	920	980	800	840	890	970	720	740	800	870	
K7	180	200	220	250	225	235	250	265	220	230	245	260	200	205	220	235	Copy milling cutters
	590	660	720	820	740	770	820	870	720	750	800	850	660	670	720	770	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	45	47	50	55	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	180	
S2	—	—	—	—	—	—	—	—	—	—	—	—	36	38	41	45	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	120	125	135	150	
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	36	40	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	100	110	120	130	
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	80	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	195	215	230	260	
S12	—	—	—	—	—	—	—	—	—	—	—	—	43	46	50	55	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	140	150	165	180	
S13	—	—	—	—	—	—	—	—	—	—	—	—	25	27	29	31	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	80	90	95	100	
H5	—	—	—	—	50	55	60	65	—	—	—	—	40	42	46	50	Spot facing cutters
	—	—	—	—	165	180	195	215	—	—	—	—	130	140	150	165	
H8	—	—	—	—	55	60	65	70	—	—	—	—	43	45	49	55	Spot facing cutters
	—	—	—	—	180	195	215	230	—	—	—	—	140	150	160	180	
H11	—	—	—	—	65	70	75	80	—	—	—	—	50	55	60	65	Inserts
	—	—	—	—	215	230	245	260	—	—	—	—	165	180	195	215	
H12	—	—	—	—	100	105	115	125	—	—	—	—	75	80	90	95	Inserts
	—	—	—	—	330	345	375	410	—	—	—	—	245	260	295	310	
H21	—	—	—	—	55	60	65	70	—	—	—	—	43	45	49	55	Inserts
	—	—	—	—	180	195	215	230	—	—	—	—	140	150	160	180	

Double Octomill™ R217/220.48-09 – Metric



- For insert selection and cutting data recommendations, see page(s) 282 – 284
- For complete insert programme, see page(s) 884
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DBC2 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.48-0063-09-05SA	02670226	Arbor	63,0	5	6,0	40,0 °	78,0	22,0	–	–	47,0	40,0	4900	0,6	ON.U0905
R220.48-0063-09-06SA	02685780	Arbor	63,0	6	6,0	40,0 °	78,0	22,0	–	–	47,0	40,0	4900	0,6	ON.U0905
R220.48-0080-09-06SA	02670228	Arbor	80,0	6	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,0	ON.U0905
R220.48-0080-09-07SA	02685781	Arbor	80,0	7	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,0	ON.U0905
R220.48-0100-09-07SA	02670229	Arbor	100,0	7	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,6	ON.U0905
R220.48-0100-09-08SA	02685782	Arbor	100,0	8	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,6	ON.U0905
R220.48-0125-09-08SA	02670231	Arbor	125,0	8	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	2,9	ON.U0905
R220.48-0125-09-10SA	02685847	Arbor	125,0	10	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	3,0	ON.U0905
R220.48-8160-09-12S	02685849	Arbor	160,0	12	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,2	ON.U0905
R220.48-8160-09-10S	02685776	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,1	ON.U0905
R220.48-8200-09-12S	02685845	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	130,0	63,0	2700	5,4	ON.U0905
R220.48-8250-09-16S	02685777	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	130,0	63,0	2500	13,0	ON.U0905
R220.48-8315-09-20S	02685846	Arbor	315,0	20	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	27,0	ON.U0905

Spare Parts, included in delivery

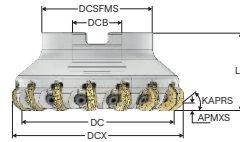
For cutter	Arbor screw	Insert key	Insert screw
R220.48-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P
R220.48-0080-8315	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
R217/220.48-063-0100	1/4HEX-T-HANDLE-5.0-14.0NM	–	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0080SA	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0100SA	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0125SA	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8160S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8200-8250S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8315S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Octomill™ R217/220.48-09 – Metric



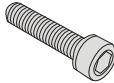
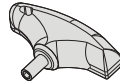
- For insert selection and cutting data recommendations, see page(s) 282 – 284
- For complete insert programme, see page(s) 884
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	Lf	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.48-0080-09-09M	02670210	Arbor	80,0	9	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,2	ON.U0905
R220.48-0100-09-12M	02670213	Arbor	100,0	12	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,8	ON.U0905
R220.48-0125-09-15M	02670214	Arbor	125,0	15	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	3,4	ON.U0905
R220.48-8160-09-20M	02670215	Arbor	160,0	20	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,6	ON.U0905
R220.48-8200-09-24M	02685773	Arbor	200,0	24	6,0	40,0 °	215,0	60,0	101,6	–	130,0	63,0	2700	6,0	ON.U0905
R220.48-8250-09-30M	02685774	Arbor	250,0	30	6,0	40,0 °	265,0	60,0	101,6	–	130,0	63,0	2500	14,1	ON.U0905
R220.48-8315-09-40M	02685775	Arbor	315,0	40	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	28,6	ON.U0905

Spare Parts, included in delivery

For cutter	Insert key	Wedge kit
		
R220.48-0080-0125M	1/4HEX-T20PX50	CW0816-RHA
R220.48-8160-8315M	1/4HEX-T20PX50	CW0816-RHA

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque
					
R220.48-0125M	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	6.0NM
R220.48-080M	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	1/4HEX-T-HANDLE	6.0NM
R220.48-100M	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8160M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8200-8250M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8315M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	6.0NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

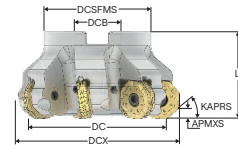
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

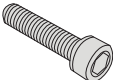
Double Octomill™ R220.48-09 – inch



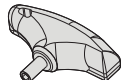
—For insert selection and cutting data recommendations, see page(s) 282 – 284
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.48-02.50-09-05SA	02685793	Arbor	2.480	5	0.236	40,0 °	3.071	0.750	–	–	1.850	1.575	4900	1.320	ON.U0905
R220.48-03.00-09-06SA	02685794	Arbor	3.150	6	0.236	40,0 °	3.740	1.000	–	–	2.441	1.969	4400	2.650	ON.U0905
R220.48-03.00-09-09M	02685806	Arbor	3.150	9	0.236	40,0 °	3.740	1.000	–	–	2.441	1.969	4400	3.090	ON.U0905
R220.48-04.00-09-07SA	02685795	Arbor	3.937	7	0.236	40,0 °	4.528	1.500	–	–	3.543	1.969	3900	3.750	ON.U0905
R220.48-04.00-09-12M	02685807	Arbor	3.937	12	0.236	40,0 °	4.528	1.500	–	–	3.543	1.969	3900	4.410	ON.U0905
R220.48-05.00-09-08SA	02685797	Arbor	4.921	8	0.236	40,0 °	5.512	1.500	–	–	3.543	2.480	3500	7.050	ON.U0905
R220.48-05.00-09-15M	02685808	Arbor	4.921	15	0.236	40,0 °	5.512	1.500	–	–	3.543	2.480	3500	8.380	ON.U0905
R220.48-06.00-09-10S	02685799	Arbor	6.299	10	0.236	40,0 °	6.890	2.000	–	–	4.331	2.480	3100	8.600	ON.U0905
R220.48-808.00-09-12S	02685801	Arbor	7.874	12	0.236	40,0 °	8.465	2.500	4.000	4.000	5.118	2.480	2700	13.230	ON.U0905
R220.48-810.00-09-16S	02685802	Arbor	9.843	16	0.236	40,0 °	10.433	2.500	4.000	4.000	5.118	2.480	2500	28.660	ON.U0905
R220.48-812.50-09-20S	02685803	Arbor	12.402	20	0.236	40,0 °	12.992	2.500	4.000	4.000	8.858	3.150	2200	59.520	ON.U0905

Spare Parts, included in delivery

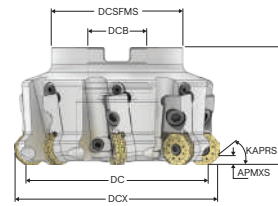
For cutter	Arbor screw	Insert key	Insert screw	Wedge kit
				
R220.48-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C05013-T20P	–
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-03.00M	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-04.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-05.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-06.00 - 812.00	–	1/4HEX-T20PX90	C05013-T20P	–

Accessories

For	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.48-02.50-05.00-SA	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-03.00-05.00-M	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	–
R220.48-06.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-08.00 - 810.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-812.50-S	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

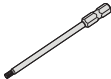
Double Octomill™ R/L220.48-09CS – Metric



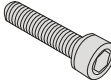
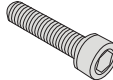
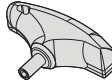
- For insert selection and cutting data recommendations, see page(s) 282 – 284
- For complete insert programme, see page(s) 884
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DBC2 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
L220.48-0125-09-08CS	02883050	Arbor	125,0	8	6,0	40,0 °	140,0	40,0	–	–	90,0	80,0	3500	4,9	ON.U0905
R220.48-8160-09-10CS	02883046	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	130,0	80,0	3100	7,4	ON.U0905
L220.48-8160-09-10CS	02883051	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	130,0	80,0	3100	7,5	ON.U0905
R220.48-8200-09-12CS	02883047	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	160,0	80,0	2700	10,5	ON.U0905
L220.48-8200-09-12CS	02883052	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	160,0	80,0	2700	10,1	ON.U0905
R220.48-8250-09-16CS	02883048	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	200,0	80,0	2500	19,6	ON.U0905
L220.48-8250-09-16CS	02883053	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	200,0	80,0	2500	19,6	ON.U0905
R220.48-8315-09-20CS	02883049	Arbor	315,0	20	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	35,5	ON.U0905

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette (L)	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
								
L220.48-0125-8250	AU1114T-T15P	ON09AL	–	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P
R220.48-0125-8315	AU1114T-T15P	–	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Setting key	Torque key	Wedge key
								
R/L220.48-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

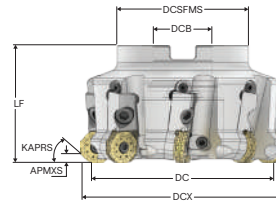
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

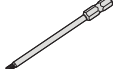
Double Octomill™ R/L220.48-09CS – inch



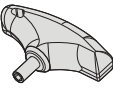
—For insert selection and cutting data recommendations, see page(s) 282 – 284
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DBC1 inch	DBC2 inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.48-06.00-09-10CS	02882758	Arbor	6.299	10	0.236	40,0 °	6.890	2.000	—	—	4.331	3.150	3100	16.090	ON.U0905
R220.48-808.00-09-12CS	02883055	Arbor	7.874	12	0.236	40,0 °	8.465	2.500	4.000	4.000	5.118	3.150	2700	23.150	ON.U0905
R220.48-810.00-09-16CS	02883056	Arbor	9.843	16	0.236	40,0 °	10.433	2.500	4.000	4.000	5.118	3.150	2500	43.210	ON.U0905
R220.48-812.50-09-20CS	02883057	Arbor	12.402	20	0.236	40,0 °	12.992	2.500	4.000	4.000	8.858	3.150	2200	78.260	ON.U0905

Spare Parts, included in delivery

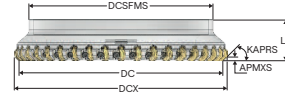
For cutter	Adjustment unit	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
							
R220.48- 06.00-812.50	AU1114T-T15P	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Setting key	Torque key	Wedge key
							
R220.48- 06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48- 808.00-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

Double Octomill™ R220.48-09 CAP – Metric



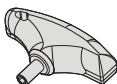
- For insert selection and cutting data recommendations, see page(s) 282 - 284
- For complete insert programme, see page(s) 884
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCSFMS mm	LF mm	RPMX	Weight kg
R220.48-9355-09-50M	02671031	CAP	355,0	50	6,0	40,0 °	370,0	285,0	63,0	2000	15,1
R220.48-9400-09-50M	02720555	CAP	400,0	50	6,0	40,0 °	415,0	370,0	63,0	1900	18,6
R220.48-9500-09-60M	02720556	CAP	500,0	60	6,0	40,0 °	515,0	470,0	63,0	1700	27,0

Spare Parts, included in delivery

For cutter	Insert key	Wedge kit
		
R220.48-9355-9500	1/4HEX-T20PX50	CW0816-RHA

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque
			
R220.48-9355-9500	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	6.0NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.48-09 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				80%	40%	20%
Square shoulder and slot milling cutters	P1	ONMU090520ANTN-ME13 MP3501	3,5 0.14	0,24 0.0095	0,25 0.010	0,32 0.013
	P2	ONMU090520ANTN-ME13 MP3501	3,5 0.14	0,25 0.010	0,25 0.010	0,32 0.013
Helical milling cutters	P3	ONMU090510ANTN-ME16 MP2501	3,5 0.14	0,30 0.012	0,32 0.013	0,40 0.016
	P4	ONMU090510ANTN-ME16 MP2501	3,5 0.14	0,30 0.012	0,32 0.013	0,38 0.015
Face milling cutters	P5	ONMU090510ANTN-ME16 MP2501	3,5 0.14	0,30 0.012	0,30 0.012	0,38 0.015
	P6	ONMU090510ANTN-ME16 MP2501	3,5 0.14	0,30 0.012	0,30 0.012	0,38 0.015
Disc milling cutters	P7	ONMU090510ANTN-ME16 MP3501	3,5 0.14	0,30 0.012	0,30 0.012	0,38 0.015
	P8	ONMU090510ANTN-ME16 MP3501	3,5 0.14	0,30 0.012	0,32 0.013	0,40 0.016
High feed milling cutters	P11	ONMU090512TN-ME16 MP2051	3,5 0.14	0,30 0.012	0,30 0.012	0,38 0.015
	P12	ONMU090512TN-ME16 MP2051	3,0 0.12	0,20 0.0080	0,22 0.0085	0,26 0.010
Copy milling cutters	M1	ONMU090520ANTN-ME13 F40M	3,5 0.14	0,25 0.010	0,25 0.010	0,32 0.013
	M2	ONMU090520ANTN-ME13 MS2050	3,5 0.14	0,22 0.0085	0,24 0.0095	0,28 0.011
Plunge milling cutters	M3	ONMU090520ANTN-ME13 MS2050	3,0 0.12	0,18 0.0070	0,19 0.0075	0,24 0.0095
	M4	ONMU090520ANTN-ME12 MP2051	2,0 0.080	0,19 0.0075	0,19 0.0075	0,24 0.0095
Chamfer milling cutters	M5	ONMU090520ANTN-ME12 MP2051	2,0 0.080	0,19 0.0075	0,19 0.0075	0,24 0.0095
	K1	ONMU090520ANTN-M15 MK1501	3,5 0.14	0,34 0.013	0,36 0.014	0,44 0.017
Spot facing cutters	K2	ONMU090520ANTN-M15 MK1501	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
	K3	ONMU090520ANTN-M15 MP1501	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
Inserts	K4	ONMU090520ANTN-M15 MP1501	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
	K5	ONMU090520ANTN-M15 MK2050	3,5 0.14	0,28 0.011	0,30 0.012	0,36 0.014
Chamfer milling cutters	K6	ONMU090520ANTN-M15 MK2050	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
	K7	ONMU090520ANTN-M15 MK2050	3,5 0.14	0,28 0.011	0,30 0.012	0,36 0.014
Spot facing cutters	N1	ONMU090520ANTN-ME12 F40M	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
	N2	ONMU090520ANTN-ME12 F40M	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
Chamfer milling cutters	N3	ONMU090520ANTN-ME12 F40M	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
	N11	ONMU090520ANTN-ME12 F40M	3,5 0.14	0,32 0.013	0,32 0.013	0,40 0.016
Plunge milling cutters	S1	ONMU090520ANTN-M12 MS2500	2,0 0.080	0,19 0.0075	0,19 0.0075	0,24 0.0095
	S2	ONMU090520ANTN-M12 MS2500	2,0 0.080	0,19 0.0075	0,19 0.0075	0,24 0.0095
Chamfer milling cutters	S3	ONMU090520ANTN-M12 MS2500	2,0 0.080	0,17 0.0065	0,18 0.0070	0,22 0.0085
	S11	ONMU090520ANTN-ME13 MS2050	2,5 0.10	0,19 0.0075	0,19 0.0075	0,24 0.0095
Spot facing cutters	S12	ONMU090520ANTN-ME13 MS2050	2,5 0.10	0,19 0.0075	0,19 0.0075	0,24 0.0095
	S13	ONMU090520ANTN-ME13 MS2050	2,0 0.080	0,17 0.0065	0,17 0.0065	0,22 0.0085
Chamfer milling cutters	H5	ONMU090520ANTN-M15 MP1501	3,0 0.12	0,22 0.0085	0,22 0.0085	0,28 0.011
	H8	ONMU090520ANTN-M15 MP1501	2,5 0.10	0,17 0.0065	0,18 0.0070	0,22 0.0085
Spot facing cutters	H11	ONMU090520ANTN-MD16 MP1501	3,0 0.12	0,25 0.010	0,25 0.010	0,32 0.013
	H12	ONMU090520ANTN-MD16 MP1501	2,5 0.10	0,19 0.0075	0,20 0.0080	0,25 0.010
Spot facing cutters	H21	ONMU090520ANTN-MD16 MP1501	2,5 0.10	0,19 0.0075	0,20 0.0080	0,25 0.010

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.48-09 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				MP2050				Square should and slot millin cutters
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	240	255	280	305	230	245	265	295	220	235	255	280	200	210	230	255	270	290	310	340	Helical milling cutters
	790	840	920	1000	750	800	870	970	720	770	840	920	660	690	750	840	890	950	1025	1125	
P2	230	245	265	295	220	235	255	285	215	230	245	270	195	205	225	245	255	275	295	330	Helical milling cutters
	750	800	870	970	720	770	840	940	710	750	800	890	640	670	740	800	840	900	970	1075	
P3	200	215	230	260	195	205	225	250	190	200	215	235	170	180	195	215	225	240	260	290	Helical milling cutters
	660	710	750	850	640	670	740	820	620	660	710	770	560	590	640	710	740	790	850	950	
P4	180	195	210	230	175	185	200	220	165	175	190	210	150	160	170	195	200	210	230	255	Helical milling cutters
	590	640	690	750	570	610	660	720	540	570	620	690	490	520	560	640	660	690	750	840	
P5	175	185	200	225	165	175	190	215	160	170	180	205	145	155	170	185	195	205	225	245	Helical milling cutters
	570	610	660	740	540	570	620	710	520	560	590	670	475	510	560	610	640	670	740	800	
P6	195	205	225	250	185	200	215	240	175	190	205	230	165	175	190	205	220	235	250	275	Face milling cutters
	640	670	740	820	610	660	710	790	570	620	670	750	540	570	620	670	720	770	820	900	
P7	185	195	210	235	175	190	205	225	165	180	195	215	155	165	180	195	205	220	235	260	Face milling cutters
	610	640	690	770	570	620	670	740	540	590	640	710	510	540	590	640	670	720	770	850	
P8	170	180	195	220	165	175	190	210	160	170	180	200	145	150	165	180	190	205	220	245	Face milling cutters
	560	590	640	720	540	570	620	690	520	560	590	660	475	490	540	590	620	670	720	800	
P11	180	190	205	230	170	180	195	220	160	175	185	210	150	160	175	190	200	215	230	250	Face milling cutters
	590	620	670	750	560	590	640	720	520	570	610	690	490	520	570	620	660	710	750	820	
P12	115	125	135	150	115	120	130	145	105	115	125	135	95	105	110	125	130	140	150	165	Face milling cutters
	375	410	445	490	375	395	425	475	345	375	410	445	310	345	360	410	425	460	490	540	
M1	—	—	—	—	165	175	190	215	170	185	200	220	155	165	180	200	185	195	210	235	Disc milling cutters
	—	—	—	—	540	570	620	710	560	610	660	720	510	540	590	660	610	640	690	770	
M2	—	—	—	—	140	150	160	180	140	150	165	185	130	140	150	165	155	165	180	195	Disc milling cutters
	—	—	—	—	460	490	520	590	460	490	540	610	425	460	490	540	510	540	590	640	
M3	—	—	—	—	115	120	130	145	115	125	135	150	105	115	120	135	125	135	145	160	Disc milling cutters
	—	—	—	—	375	395	425	475	375	410	445	490	345	375	395	445	410	445	475	520	
M4	—	—	—	—	85	95	100	110	90	95	105	115	80	85	95	105	95	105	110	125	Disc milling cutters
	—	—	—	—	280	310	330	360	295	310	345	375	260	280	310	345	310	345	360	410	
M5	—	—	—	—	75	75	85	95	75	80	85	95	65	70	80	90	80	85	90	100	Disc milling cutters
	—	—	—	—	245	245	280	310	245	260	280	310	215	230	260	295	260	280	295	330	
K1	250	265	285	320	175	185	200	225	—	—	—	—	155	165	175	195	—	—	—	—	High feed milling cutters
	820	870	940	1050	570	610	660	740	—	—	—	—	510	540	570	640	—	—	—	—	
K2	225	240	255	290	160	170	180	205	—	—	—	—	140	150	160	175	—	—	—	—	High feed milling cutters
	740	790	840	950	520	560	590	670	—	—	—	—	460	490	520	570	—	—	—	—	
K3	190	200	220	245	135	140	155	170	—	—	—	—	115	125	135	150	—	—	—	—	High feed milling cutters
	620	660	720	800	445	460	510	560	—	—	—	—	375	410	445	490	—	—	—	—	
K4	180	190	210	230	125	135	145	165	—	—	—	—	110	120	130	140	—	—	—	—	Copy milling cutters
	590	620	690	750	410	445	475	540	—	—	—	—	360	395	425	460	—	—	—	—	
K5	110	120	130	140	80	85	90	100	—	—	—	—	70	75	80	90	—	—	—	—	Copy milling cutters
	360	395	425	460	260	280	295	330	—	—	—	—	230	245	260	295	—	—	—	—	
K6	160	170	185	205	110	120	130	145	—	—	—	—	100	105	115	125	—	—	—	—	Copy milling cutters
	520	560	610	670	360	395	425	475	—	—	—	—	330	345	375	410	—	—	—	—	
K7	145	155	165	180	100	110	115	125	—	—	—	—	85	95	100	110	—	—	—	—	Copy milling cutters
	475	510	540	590	330	360	375	410	—	—	—	—	280	310	330	360	—	—	—	—	
S1	—	—	—	—	41	43	47	50	42	44	49	55	38	40	44	49	47	50	55	60	Plunge milling cutters
	—	—	—	—	135	140	155	165	140	145	160	180	125	130	145	160	155	165	180	195	
S2	—	—	—	—	33	35	38	42	34	36	39	43	30	32	36	40	38	41	44	48	Plunge milling cutters
	—	—	—	—	110	115	125	140	110	120	130	140	100	105	120	130	125	135	145	155	
S3	—	—	—	—	29	30	33	37	30	31	34	38	27	28	31	34	33	36	39	43	Plunge milling cutters
	—	—	—	—	95	100	110	120	100	100	110	125	90	90	100	110	110	120	130	140	
S11	—	—	—	—	—	—	—	—	60	60	65	75	55	55	60	70	65	70	75	85	Plunge milling cutters
	—	—	—	—	—	—	—	—	195	195	215	245	180	180	195	230	215	230	245	280	
S12	—	—	—	—	—	—	—	—	40	43	46	50	37	39	43	47	46	49	55	60	Chamfer milling cutters
	—	—	—	—	—	—	—	—	130	140	150	165	120	130	140	155	150	160	180	195	
S13	—	—	—	—	—	—	—	—	23	25	27	30	21	22	25	28	27	28	30	34	Chamfer milling cutters
	—	—	—	—	—	—	—	—	75	80	90	100	70	70	80	90	90	90	100	110	
H5	—	—	—	—	35	37	40	45	—	—	—	—	32	34	37	41	—	—	—	—	Chamfer milling cutters
	—	—	—	—	115	120	130	150	—	—	—	—	105	110	120	135	—	—	—	—	
H8	—	—	—	—	37	40	44	48	—	—	—	—	35	37	41	44	—	—	—	—	Chamfer milling cutters
	—	—	—	—	120	130	145	155	—	—	—	—	115	120	135	145	—	—	—	—	
H11	—	—	—	—	45	48	50	55	—	—	—	—	41	44	47	55	49	55	55	65	Spot facing cutters
	—	—	—	—	150	155	165	180	—	—	—	—	135	145	155	180	160	180	180	215	
H12	—	—	—	—	70	75	85	90	—	—	—	—	60	65	75	80	80	90	95	105	Spot facing cutters
	—	—	—	—	230	245	280	295	—	—	—	—	195	215	245	260	260	295	310	345	
H21	—	—	—	—	37	40	44	48	—	—	—	—	35	37	41	44	41	44	48	55	Spot facing cutters
	—	—	—	—	120	130	145	155	—	—	—	—	115	120	135	145	135	145	155	180	

R217/220.48-09 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK1501				MP1501				MP2501				MS2500				MP3501				MM4500			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	—	—	—	—	405	420	450	480	395	410	440	470	380	395	420	455	355	365	390	420	225	235	255	275
		—	—	—	—	1325	1375	1475	1575	1300	1350	1450	1550	1250	1300	1375	1500	1175	1200	1275	1375	740	770	840	900
Helical milling cutters	P2	—	—	—	—	385	400	425	470	375	390	415	460	360	375	400	440	335	345	370	410	215	225	240	270
	P3	—	—	—	—	1275	1300	1400	1550	1225	1275	1350	1500	1175	1225	1300	1450	1100	1125	1225	1350	710	740	790	890
	P4	—	—	—	—	340	350	375	410	330	345	365	405	315	330	355	390	295	305	330	360	190	200	215	235
	P5	—	—	—	—	1125	1150	1225	1350	1075	1125	1200	1325	1025	1075	1175	1275	970	1000	1075	1175	620	660	710	770
	P6	—	—	—	—	300	315	335	360	295	305	330	355	285	295	315	340	265	275	295	320	180	190	205	225
Face milling cutters	P7	—	—	—	—	980	1025	1100	1175	970	1000	1075	1175	940	970	1025	1125	870	900	970	1050	590	620	670	740
	P8	—	—	—	—	290	300	320	350	285	295	315	345	270	280	300	330	255	260	280	305	160	170	180	200
	P11	—	—	—	—	950	980	1050	1150	940	970	1025	1125	890	920	980	1075	840	850	920	1000	520	560	590	660
	P12	—	—	—	—	330	340	365	390	320	335	355	385	305	320	340	370	290	300	320	345	185	190	205	225
	P12	—	—	—	—	1075	1125	1200	1275	1050	1100	1175	1275	1000	1050	1125	1225	950	980	1050	1125	610	620	670	740
Disc milling cutters	M1	—	—	—	—	310	320	340	370	305	315	335	365	290	300	325	350	270	280	300	325	175	180	195	215
	M2	—	—	—	—	1025	1050	1125	1225	1000	1025	1100	1200	950	980	1075	1150	890	920	980	1075	570	590	640	710
	M3	—	—	—	—	285	295	315	345	280	290	310	340	265	280	295	325	250	260	275	305	160	165	180	200
	M4	—	—	—	—	940	970	1025	1125	920	950	1025	1125	870	920	970	1075	820	850	900	1000	520	540	590	660
	M5	—	—	—	—	300	315	335	360	295	305	325	355	280	295	315	340	265	275	290	315	170	175	190	210
High feed milling cutters	K1	—	—	—	—	980	1025	1100	1175	970	1000	1075	1175	920	970	1025	1125	870	900	950	1025	560	570	620	690
	K2	—	—	—	—	195	205	220	250	160	170	185	205	115	125	140	155	180	190	205	230	140	150	160	180
	K3	—	—	—	—	640	670	720	820	600	610	670	770	610	660	740	890	620	670	750	860	460	490	520	590
	K4	—	—	—	—	130	140	150	165	100	105	115	130	110	115	125	140	120	130	140	155	95	100	110	120
	K5	—	—	—	—	425	460	490	540	460	490	540	600	460	490	540	590	490	520	570	640	395	410	445	490
Copy milling cutters	K6	—	—	—	—	100	105	115	130	330	345	375	425	360	375	410	460	310	330	360	395	245	260	280	310
	K7	—	—	—	—	85	90	95	110	85	90	95	110	90	95	105	115	80	85	90	100	60	65	70	80
	K8	—	—	—	—	280	295	310	360	295	310	360	425	295	310	360	425	260	280	295	330	195	215	230	260
	K9	—	—	—	—	340	405	475	560	390	405	430	470	380	395	420	465	340	350	375	415	—	—	—	—
	K10	—	—	—	—	1125	1350	1550	1825	1275	1325	1400	1550	1250	1300	1375	1525	1150	1225	1350	1550	—	—	—	—
Plunge milling cutters	N1	—	—	—	—	305	370	420	495	350	365	385	420	340	355	380	415	205	220	240	265	305	315	340	370
	N2	—	—	—	—	1000	1225	1375	1625	1150	1200	1275	1375	1125	1175	1250	1350	1000	1025	1125	1225	—	—	—	—
	N3	—	—	—	—	235	265	290	330	295	305	325	355	290	300	320	350	175	185	200	225	270	285	315	—
	N4	—	—	—	—	770	870	950	1075	970	1000	1075	1175	950	980	1050	1150	850	890	940	1025	—	—	—	—
	N5	—	—	—	—	225	250	275	315	280	295	310	340	275	285	305	335	165	180	195	215	245	255	275	300
Chamfer milling cutters	S1	—	—	—	—	740	820	900	1025	920	970	1025	1125	900	940	1000	1100	540	590	640	710	800	840	900	980
	S2	—	—	—	—	140	155	170	195	170	180	195	210	170	180	190	205	105	110	120	135	155	160	170	185
	S3	—	—	—	—	460	510	560	640	570	590	640	690	560	590	620	670	345	360	395	445	510	520	560	610
	S11	—	—	—	—	200	220	245	280	250	260	275	300	245	250	270	295	145	160	170	190	220	225	240	265
	S12	—	—	—	—	660	720	800	920	820	850	900	980	800	820	890	970	475	520	560	620	720	740	790	870
Spot facing cutters	S13	—	—	—	—	180	200	220	250	225	230	245	270	220	230	240	265	130	140	155	170	195	205	215	235
	H5	—	—	—	—	590	660	720	820	740	750	800	890	720	750	790	870	425	460	510	560	640	670	710	770
	H8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Inserts	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



QuattroMill 09/12/15

QuattroMill™ is more than a general-purpose face mill. It is a simple solution with more teeth per cutter that increases productivity, ease of use, reliability and precision for the full range of face milling applications and materials. QuattroMill features strong, square inserts that meet the needs of most challenging applications, and a strong center locking screw with quick insert location make it easy to replace inserts. The cutter body is coated and pre-hardened and features a large chip space for steel and stainless steel machining. Positive cutting rakes/negative radial rakes maximize a machine tool's capability and enables increased productivity in both stable and unstable conditions.

- Insert size 09, cutter range 20–315mm (0.75–3 inch)
- Insert size 12, cutter range 40–315mm (1.5–8 inch)
- Insert size 15, cutter range 63–315mm (3–6 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

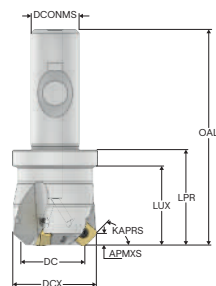
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Quattromill R217.53-09 – Metric



- For insert selection and cutting data recommendations, see page(s) 291-293
- For complete insert programme, see page(s) 893
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCONMS mm	LUX mm	LPR mm	OAL mm	RPMX	Weight kg	Insert
R217.53-2020.3S-09-2A	02422248	Seco-Weldon	20,0	2	4,5	45,0 °	30,0	20,0	33,0	40,0	90,0	25100	0,3	SE.X09T
R217.53-2025.3S-09-3A	02422250	Seco-Weldon	25,0	3	4,5	45,0 °	35,0	20,0	33,0	40,0	90,0	22400	0,3	SE.X09T
R217.53-2032.3S-09-4A	02422251	Seco-Weldon	32,0	4	4,5	45,0 °	42,0	20,0	33,0	40,0	90,0	19800	0,4	SE.X09T

Spare Parts, included in delivery

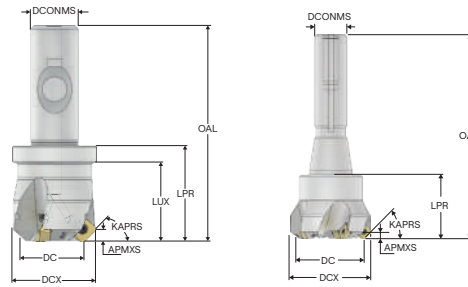
For cutter	Insert key	Insert screw
		
R217.53..	1/4HEX-T09PX50	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.53..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R217.53-09 – inch



- For insert selection and cutting data recommendations, see page(s) 291-293
- For complete insert programme, see page(s) 893
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch		lbs	
R217.53-01.00.3S-09-3A	02422260	Seco-Weldon	0.984	3	0.177	45,0 °	1.378	0.750	1.299	1.575	3.543	22400	0.880	SE.X09T
R217.53-01.25.3S-09-4A	02422261	Seco-Weldon	1.260	4	0.177	45,0 °	1.654	0.750	1.299	1.575	3.543	19800	0.880	SE.X09T
R217.53-02.00.R8-09-5	02422262	Bridgeport R8	1.575	5	0.180	45,0 °	1.969	0.949	–	1.890	6.024	15800	2.200	SE.X09T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.53-..	1/4HEX-T09PX50	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.53-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

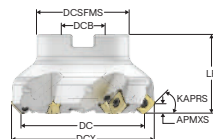
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Quattromill R220.53-09 – Metric



—For insert selection and cutting data recommendations, see page(s) 291-293
 —For complete insert programme, see page(s) 893
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.53-0032-09-4A	02422230	Arbor	32,0	4	4,5	45,0 °	42,0	16,0	35,0	40,0	19800	0,3	SE.X09T3
R220.53-0040-09-4A	02422231	Arbor	40,0	4	4,5	45,0 °	50,0	22,0	47,0	40,0	17700	0,4	SE.X09T3
R220.53-0040-09-5A	02422161	Arbor	40,0	5	4,5	45,0 °	50,0	22,0	47,0	40,0	17700	0,4	SE.X09T3
R220.53-0050-09-5A	02422232	Arbor	50,0	5	4,5	45,0 °	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0050-09-6A	02422162	Arbor	50,0	6	4,5	45,0 °	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0063-09-6A	02422233	Arbor	63,0	6	4,5	45,0 °	73,0	22,0	47,0	40,0	14100	0,6	SE.X09T3
R220.53-0063-09-7A	02422163	Arbor	63,0	7	4,5	45,0 °	73,0	22,0	47,0	40,0	14100	0,7	SE.X09T3
R220.53-0080-09-6A	02422234	Arbor	80,0	6	4,5	45,0 °	90,0	27,0	62,0	50,0	12500	1,2	SE.X09T3
R220.53-0080-09-8A	02422164	Arbor	80,0	8	4,5	45,0 °	90,0	27,0	62,0	50,0	12500	1,2	SE.X09T3
R220.53-0100-09-7A	02422235	Arbor	100,0	7	4,5	45,0 °	110,0	32,0	77,0	50,0	11200	1,8	SE.X09T3
R220.53-0100-09-10A	02422165	Arbor	100,0	10	4,5	45,0 °	110,0	32,0	77,0	50,0	11200	1,8	SE.X09T3

Spare Parts, included in delivery

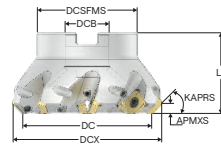
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0032	220.17-690	1/4HEX-T09PX50	C03008-T09P
R220.53-0040-0063	220.17-696	1/4HEX-T09PX50	C03008-T09P
R220.53-0080	—	1/4HEX-T09PX50	C03008-T09P
R220.53-0100	—	1/4HEX-T09PX90	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.53-0032-0063	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R220.53-09 – inch



- For insert selection and cutting data recommendations, see page(s) 291-293
- For complete insert programme, see page(s) 893
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-01.50-09-4A	02422254	Arbor	1.575	4	0.180	45,0 °	1.969	0.750	1.850	1.575	17700	1.100	SE.X09T3
R220.53-02.00-09-5A	02422255	Arbor	1.969	5	0.180	45,0 °	2.362	0.750	1.850	1.575	15800	1.320	SE.X09T3
R220.53-02.50-09-6A	02422256	Arbor	2.480	6	0.180	45,0 °	2.874	0.750	1.850	1.575	14100	1.540	SE.X09T3
R220.53-03.00-09-6A	02422257	Arbor	3.150	6	0.180	45,0 °	3.543	1.000	2.441	1.969	12500	2.870	SE.X09T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T09PX50	C03008-T09P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T09PX50	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.53-01.50-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

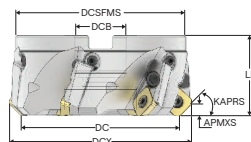
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

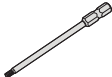
Quattromill R220.53-09C – Metric



—For insert selection and cutting data recommendations, see page(s) 291-293
 —For complete insert programme, see page(s) 893
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.53-0125-09-8C	02510182	Arbor	125,0	8	4,5	45,0 °	135,0	40,0	—	90,0	63,0	5900	4,3	SE.X09T3
R220.53-8160-09-10C	02510158	Arbor	160,0	10	4,5	45,0 °	170,0	40,0	66,7	90,0	63,0	5200	7,1	SE.X09T3

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE09AR-53	FS96018	1/4HEX-T09PX90	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Key	Setting key	Torque key
							
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	2.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-09P20
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	2.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-09P20

Torque and fixed keys, see page 944

R217/220.53-09 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	SEEX09T3AFTN-ME07 F40M	2,5 0.10	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085	Square shoulder and slot milling cutters
P2	SEEX09T3AFTN-ME07 F40M	2,5 0.10	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085	
P3	SEEX09T3AFTN-M08 MP2501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	Helical milling cutters
P4	SEEX09T3AFTN-M08 MP2501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085	
P5	SEEX09T3AFTN-M08 MP2501	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	Face milling cutters
P6	SEEX09T3AFTN-M08 MP2501	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	
P7	SEEX09T3AFTN-M08 MP3501	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	Disc milling cutters
P8	SEEX09T3AFTN-M08 MP3501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095	
P11	SEEX09T3AFTN-M08 MP3501	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	High feed milling cutters
P12	SEEX09T3AFTN-M08 MP3501	2,0 0.080	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060	
M1	SEEX09T3AFN-M05 F40M	2,5 0.10	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065	Copy milling cutters
M2	SEEX09T3AFN-M05 MS2050	2,5 0.10	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060	
M3	SEEX09T3AFN-M05 MS2050	2,0 0.080	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048	Plunge milling cutters
M4	SEEX09T3AFN-M05 MS2050	1,6 0.065	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040	
M5	SEEX09T3AFN-M05 MS2050	1,6 0.065	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040	Chamfer milling cutters
K1	SEEX09T3AFTN-M08 MP1501	2,5 0.10	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,24 0.0095	
K2	SEEX09T3AFTN-M08 MP1501	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	Spot facing cutters
K3	SEEX09T3AFTN-M08 MK2050	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	
K4	SEEX09T3AFTN-M08 MK2050	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	Inserts
K5	SEEX09T3AFTN-M08 MK2050	2,5 0.10	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
K6	SEEX09T3AFTN-M08 MK2050	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085	
K7	SEEX09T3AFTN-M08 MK2050	2,5 0.10	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
N1	SEEX09T3AFN-E04 H15	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080	
N2	SEEX09T3AFN-E04 H15	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080	
N3	SEEX09T3AFN-E04 H15	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080	
N11	SEEX09T3AFN-E04 H15	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080	
S1	SEEX09T3AFTN-ME07 F40M	1,6 0.065	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055	
S2	SEEX09T3AFTN-ME07 F40M	1,6 0.065	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055	
S3	SEEX09T3AFTN-ME07 F40M	1,6 0.065	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,13 0.0050	
S11	SEEX09T3AFN-M05 MS2050	1,9 0.075	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048	
S12	SEEX09T3AFN-M05 MS2050	1,9 0.075	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048	
S13	SEEX09T3AFN-M05 MS2050	1,6 0.065	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040	
H5	SEEX09T3AFTN-D09 MP1501	2,0 0.080	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070	
H8	SEEX09T3AFTN-D09 MP1501	1,9 0.075	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055	
H11	SEEX09T3AFTN-D09 MP1501	2,0 0.080	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070	
H12	SEEX09T3AFTN-D09 MP1501	1,9 0.075	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055	
H21	SEEX09T3AFTN-D09 MP1501	1,9 0.075	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

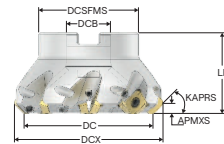
R217/220.53-09 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M				MK2050				MP3000				MS2050				F40M				H15			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	—	—	—	—	290	310	335	375	315	340	365	395	280	300	320	350	225	240	260	285	—	—	—	—
		—	—	—	—	950	1025	1100	1225	1025	1125	1200	1300	920	980	1050	1150	740	790	850	940	—	—	—	—
Helical milling cutters	P2	—	—	—	—	285	305	325	360	305	325	350	385	265	285	305	340	220	235	250	275	—	—	—	—
	P3	—	—	—	—	940	1000	1075	1175	1000	1075	1150	1275	870	940	1000	1125	720	770	820	900	—	—	—	—
	P4	—	—	—	—	250	265	285	315	265	285	305	340	235	250	270	300	190	205	220	245	—	—	—	—
	P5	—	—	—	—	820	870	940	1025	870	940	1000	1125	770	820	890	980	620	670	720	800	—	—	—	—
	P6	—	—	—	—	220	235	250	280	235	250	270	300	205	220	235	260	170	180	195	215	—	—	—	—
Face milling cutters	P7	—	—	—	—	720	770	820	920	770	820	890	980	670	720	770	850	560	590	640	710	—	—	—	—
	P8	—	—	—	—	210	225	245	265	225	240	255	285	195	210	225	250	165	175	185	205	—	—	—	—
	P11	—	—	—	—	690	740	800	870	740	790	840	940	640	690	740	820	540	570	610	670	—	—	—	—
	P12	—	—	—	—	240	255	275	300	255	275	295	320	225	240	260	280	185	195	210	230	—	—	—	—
		—	—	—	—	790	840	900	980	840	900	970	1050	740	790	850	920	610	640	690	750	—	—	—	—
Disc milling cutters	M1	—	—	—	—	225	240	260	290	225	240	260	290	205	215	230	245	175	190	200	220	—	—	—	—
	M2	—	—	—	—	740	790	850	950	740	790	850	950	670	710	750	800	570	620	660	720	—	—	—	—
	M3	—	—	—	—	150	160	175	190	150	160	175	190	140	150	165	180	120	125	135	150	—	—	—	—
	M4	—	—	—	—	490	520	570	620	490	520	570	620	460	490	540	590	395	410	445	490	—	—	—	—
	M5	—	—	—	—	115	125	135	145	115	125	135	145	110	120	125	140	90	100	105	115	—	—	—	—
High feed milling cutters	K1	270	290	310	345	305	325	350	385	240	255	275	305	—	—	—	—	175	185	200	220	—	—	—	—
	K2	890	950	1025	1125	1000	1075	1150	1275	790	840	900	1000	—	—	—	—	570	610	660	720	—	—	—	—
	K3	240	255	275	305	275	290	315	345	210	225	245	270	—	—	—	—	155	165	180	195	—	—	—	—
	K4	790	840	900	1000	900	950	1025	1125	690	740	800	890	—	—	—	—	510	540	590	640	—	—	—	—
	K5	200	215	235	260	230	245	265	290	180	190	205	230	—	—	—	—	130	140	150	165	—	—	—	—
Copy milling cutters	K6	660	710	770	850	750	800	870	950	590	620	670	750	—	—	—	—	425	460	490	540	—	—	—	—
	K7	195	205	220	245	220	235	255	280	170	185	195	220	—	—	—	—	125	135	145	155	—	—	—	—
	K8	640	670	720	800	720	770	840	920	560	610	640	720	—	—	—	—	410	445	475	510	—	—	—	—
	K9	120	130	140	150	135	145	155	170	105	115	125	130	—	—	—	—	75	80	85	95	—	—	—	—
	K10	395	425	460	490	445	475	510	560	345	375	410	425	—	—	—	—	245	260	280	310	—	—	—	—
Plunge milling cutters	N1	170	180	195	215	195	210	225	245	150	160	175	190	—	—	—	—	110	115	125	140	—	—	—	—
	N2	560	590	640	710	640	690	740	800	490	520	570	620	—	—	—	—	360	375	410	460	—	—	—	—
	N3	155	165	175	190	170	185	195	220	135	145	155	170	—	—	—	—	95	105	110	125	—	—	—	—
	N4	510	540	570	620	560	610	640	720	445	475	510	560	—	—	—	—	310	345	360	410	—	—	—	—
	N5	2025	2175	2325	2550	—	—	—	—	—	—	—	—	—	—	—	—	1275	1350	1475	1625	1600	1700	1850	2025
Chamfer milling cutters	S1	6650	7125	7625	8375	—	—	—	—	—	—	—	—	—	—	—	—	4175	4425	4850	5325	5250	5575	6075	6650
	S2	820	870	940	1025	—	—	—	—	—	—	—	—	—	—	—	—	520	550	590	650	650	690	740	810
	S3	2700	2850	3075	3375	—	—	—	—	—	—	—	—	—	—	—	—	1700	1800	1925	2125	2125	2275	2425	2650
	S11	550	580	630	690	—	—	—	—	—	—	—	—	—	—	—	—	345	365	395	435	430	460	495	540
	S12	1800	1900	2075	2275	—	—	—	—	—	—	—	—	—	—	—	—	1125	1200	1300	1425	1400	1500	1625	1775
Spot facing cutters	S13	620	670	720	780	—	—	—	—	—	—	—	—	—	—	—	—	395	420	450	495	495	530	570	620
	H5	2025	2200	2350	2550	—	—	—	—	—	—	—	—	—	—	—	—	1300	1375	1475	1625	1625	1750	1875	2025
	H8	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	43	46	49	55	—	—	—	—
	H11	—	—	—	—	—	—	—	—	—	—	—	—	165	180	195	215	140	150	160	180	—	—	—	—
	H12	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	50	35	37	40	43	—	—	—	—
Inserts	H21	—	—	—	—	—	—	—	—	—	—	—	—	140	150	155	165	115	120	130	140	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	36	39	42	45	30	32	35	38	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	120	130	140	150	100	105	115	125	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	70	75	85	90	60	65	70	75	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	230	245	280	295	195	215	230	245	—	—	—	—
Inserts		—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65	41	44	47	55	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	165	180	180	215	135	145	155	180	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	29	31	33	36	24	26	28	30	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	95	100	110	120	80	85	90	100	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Inserts		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

R217/220.53-09 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	410	425	450	480	425	440	470	500	380	395	420	450	Square shoulder and slot milling cutters
	—	—	—	—	1350	1400	1475	1575	1400	1450	1550	1650	1250	1300	1375	1475	
P2	—	—	—	—	400	410	440	470	410	420	450	490	365	380	400	440	Helical milling cutters
	—	—	—	—	1300	1350	1450	1550	1350	1375	1475	1600	1200	1250	1300	1450	
P3	—	—	—	—	340	355	375	415	355	370	395	430	320	330	350	385	Face milling cutters
	—	—	—	—	1125	1175	1225	1350	1175	1225	1300	1400	1050	1075	1150	1275	
P4	—	—	—	—	300	310	330	365	320	330	350	375	285	295	315	340	Face milling cutters
	—	—	—	—	980	1025	1075	1200	1050	1075	1150	1225	940	970	1025	1125	
P5	—	—	—	—	295	305	325	345	305	315	335	365	275	285	300	330	Face milling cutters
	—	—	—	—	970	1000	1075	1125	1000	1025	1100	1200	900	940	980	1075	
P6	—	—	—	—	330	345	365	390	340	355	375	410	305	320	340	370	Face milling cutters
	—	—	—	—	1075	1125	1200	1275	1125	1175	1225	1350	1000	1050	1125	1225	
P7	—	—	—	—	315	325	345	370	325	335	355	385	290	300	320	345	Face milling cutters
	—	—	—	—	1025	1075	1125	1225	1075	1100	1175	1275	950	980	1050	1125	
P8	—	—	—	—	290	300	315	345	300	310	330	360	270	280	295	325	Face milling cutters
	—	—	—	—	950	980	1025	1125	980	1025	1075	1175	890	920	970	1075	
P11	—	—	—	—	305	315	335	360	315	325	345	375	280	290	310	335	Face milling cutters
	—	—	—	—	1000	1025	1100	1175	1025	1075	1125	1225	920	950	1025	1100	
P12	—	—	—	—	195	205	215	230	200	210	220	235	180	190	200	215	Face milling cutters
	—	—	—	—	640	670	710	750	660	690	720	770	590	620	660	710	
M1	—	—	—	—	—	—	—	—	205	220	240	265	195	205	220	245	Disc milling cutters
	—	—	—	—	—	—	—	—	670	720	790	870	640	670	720	800	
M2	—	—	—	—	—	—	—	—	175	185	200	220	160	170	185	205	Disc milling cutters
	—	—	—	—	—	—	—	—	570	610	660	720	520	560	610	670	
M3	—	—	—	—	—	—	—	—	140	150	160	175	130	140	150	165	Disc milling cutters
	—	—	—	—	—	—	—	—	460	490	520	570	425	460	490	540	
M4	—	—	—	—	—	—	—	—	110	115	125	135	100	105	115	130	Disc milling cutters
	—	—	—	—	—	—	—	—	360	375	410	445	330	345	375	425	
M5	—	—	—	—	—	—	—	—	90	95	105	115	85	90	95	105	Disc milling cutters
	—	—	—	—	—	—	—	—	295	310	345	375	280	295	310	345	
K1	360	435	495	580	400	415	445	475	410	425	455	495	370	380	405	445	High feed milling cutters
	1175	1425	1625	1900	1300	1350	1450	1550	1350	1400	1500	1625	1225	1250	1325	1450	
K2	320	385	435	510	360	370	395	420	370	380	405	440	330	340	365	395	High feed milling cutters
	1050	1275	1425	1675	1175	1225	1300	1375	1225	1250	1325	1450	1075	1125	1200	1300	
K3	255	280	310	350	305	315	335	355	310	325	345	375	280	290	310	335	High feed milling cutters
	840	920	1025	1150	1000	1025	1100	1175	1025	1075	1125	1225	920	950	1025	1100	
K4	240	270	295	335	290	300	320	340	295	310	330	355	265	275	295	320	Copy milling cutters
	790	890	970	1100	950	980	1050	1125	970	1025	1075	1175	870	900	970	1050	
K5	150	165	180	205	175	180	195	210	185	190	200	215	165	170	180	195	Copy milling cutters
	490	540	590	670	570	590	640	690	610	620	660	710	540	560	590	640	
K6	215	235	260	295	255	265	280	300	260	270	290	315	235	245	260	280	Copy milling cutters
	710	770	850	970	840	870	920	980	850	890	950	1025	770	800	850	920	
K7	190	210	235	260	225	230	245	270	235	245	260	275	210	220	230	245	Copy milling cutters
	620	690	770	850	740	750	800	890	770	800	850	900	690	720	750	800	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	50	55	60	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	155	165	180	195	
S2	—	—	—	—	—	—	—	—	—	—	—	—	38	40	43	48	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	125	130	140	155	
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	36	38	42	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	110	120	125	140	
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	215	230	245	280	
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	60	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	195	
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	34	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110	
H5	—	—	—	—	50	55	60	65	—	—	—	—	41	44	48	55	Spot facing cutters
	—	—	—	—	165	180	195	215	—	—	—	—	135	145	155	180	
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55	Spot facing cutters
	—	—	—	—	180	195	215	230	—	—	—	—	145	155	165	180	
H11	—	—	—	—	65	70	75	80	—	—	—	—	55	55	60	65	Inserts
	—	—	—	—	215	230	245	260	—	—	—	—	180	180	195	215	
H12	—	—	—	—	100	105	115	125	—	—	—	—	80	85	90	100	Inserts
	—	—	—	—	330	345	375	410	—	—	—	—	260	280	295	330	
H21	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55	Inserts
	—	—	—	—	180	195	215	230	—	—	—	—	145	155	165	180	

Quattromill R217/220.53-12 – Metric



—For insert selection and cutting data recommendations, see page(s) 298–300
 —For complete insert programme, see page(s) 894
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.53-0040-12-4A	02410704	Arbor	40,0	4	6,0	45,0 °	52,0	22,0	–	47,0	40,0	16500	0,4	SE.X1204
R220.53-0050-12-4A	00040081	Arbor	50,0	4	6,0	45,0 °	62,0	22,0	–	47,0	40,0	14800	0,5	SE.X1204
R220.53-0050-12-5A	00040082	Arbor	50,0	5	6,0	45,0 °	62,0	22,0	–	47,0	40,0	14800	0,4	SE.X1204
R220.53-0063-12-5A	00040083	Arbor	63,0	5	6,0	45,0 °	75,0	22,0	–	47,0	40,0	13200	0,6	SE.X1204
R220.53-0063-12-6A	00040084	Arbor	63,0	6	6,0	45,0 °	75,0	22,0	–	47,0	40,0	13200	0,6	SE.X1204
R220.53-0080-12-6A	00040085	Arbor	80,0	6	6,0	45,0 °	92,0	27,0	–	62,0	50,0	11700	1,1	SE.X1204
R220.53-0080-12-8A	00040086	Arbor	80,0	8	6,0	45,0 °	92,0	27,0	–	62,0	50,0	11700	1,1	SE.X1204
R220.53-0100-12-5A	02448963	Arbor	100,0	5	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,7	SE.X1204
R220.53-0100-12-7A	00040087	Arbor	100,0	7	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,7	SE.X1204
R220.53-0100-12-10A	00040088	Arbor	100,0	10	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,8	SE.X1204
R220.53-0125-12-6A	02448964	Arbor	125,0	6	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	3,1	SE.X1204
R220.53-0125-12-8A	00040089	Arbor	125,0	8	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	2,9	SE.X1204
R220.53-0125-12-12A	00040090	Arbor	125,0	12	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	2,9	SE.X1204
R220.53-8160-12-7	02448965	Arbor	160,0	7	6,0	45,0 °	172,0	40,0	66,7	90,0	63,0	8300	4,4	SE.X1204
R220.53-8160-12-10	00040091	Arbor	160,0	10	6,0	45,0 °	172,0	40,0	66,7	90,0	63,0	8300	4,5	SE.X1204

Spare Parts, included in delivery

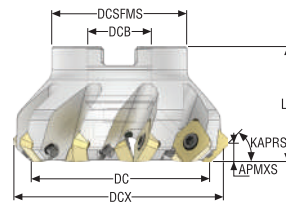
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0040-0063	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.53-0080	–	1/4HEX-T15PX50	C04011-T15P
R220.53-0100-8160	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Quattromill R217/220.53-12 – Metric



- For insert selection and cutting data recommendations, see page(s) 298–300
- For complete insert programme, see page(s) 894
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.53-0080-12-11A	02997160	Arbor	80,0	11	6,0	45,0 °	92,0	27,0	62,0	50,0	11700	1,1	SE.X1204

Spare Parts, included in delivery

For cutter	Back insert key	Front insert key	Insert screw
			
R220.53-0063-0080	H6B-H3.0	T15P-E8	C04008-H3

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque
			
R220.53-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

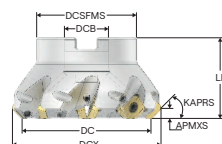
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Quattromill R217/220.53-12 – inch



—For insert selection and cutting data recommendations, see page(s) 298–300
 —For complete insert programme, see page(s) 894
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.53-01.50-12-4A	02422139	Arbor	1.575	4	0.236	45,0 °	2.047	0.750	–	–	1.850	1.575	16500	1.100	SE.X1204
R220.53-02.00-12-4A	02422140	Arbor	1.969	4	0.236	45,0 °	2.441	0.750	–	–	1.850	1.575	14800	1.100	SE.X1204
R220.53-02.00-12-5A	02422141	Arbor	1.969	5	0.236	45,0 °	2.441	0.750	–	–	1.850	1.575	14800	1.100	SE.X1204
R220.53-02.50-12-5A	02422142	Arbor	2.480	5	0.236	45,0 °	2.953	0.750	–	–	1.850	1.575	13200	1.540	SE.X1204
R220.53-02.50-12-6A	02422143	Arbor	2.480	6	0.236	45,0 °	2.953	0.750	–	–	1.850	1.575	13200	1.320	SE.X1204
R220.53-03.00-12-6A	02422144	Arbor	3.150	6	0.236	45,0 °	3.622	1.000	–	–	2.441	1.969	11700	2.650	SE.X1204
R220.53-03.00-12-8A	02422145	Arbor	3.150	8	0.236	45,0 °	3.622	1.000	–	–	2.441	1.969	11700	2.870	SE.X1204
R220.53-04.00-12-7A	02422146	Arbor	3.937	7	0.236	45,0 °	4.409	1.500	–	–	3.543	1.969	10500	4.630	SE.X1204
R220.53-04.00-12-10A	02422147	Arbor	3.937	10	0.236	45,0 °	4.409	1.500	–	–	3.543	1.969	10500	4.850	SE.X1204
R220.53-05.00-12-8A	02422148	Arbor	4.921	8	0.236	45,0 °	5.394	1.500	–	–	3.543	2.480	9400	7.940	SE.X1204
R220.53-06.00-12-10	02422150	Arbor	6.299	10	0.236	45,0 °	6.772	2.000	–	–	3.543	2.480	8300	9.920	SE.X1204
R220.53-06.00-12-7	02449820	Arbor	6.299	7	0.236	45,0 °	6.772	2.000	–	–	3.543	2.480	8300	9.920	SE.X1204
R220.53-808.00-12-12	02422151	Arbor	7.874	12	0.236	45,0 °	8.346	2.500	4.000	4.000	5.118	2.480	7400	16.530	SE.X1204

Spare Parts, included in delivery

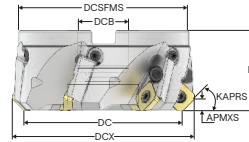
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P
R220.53-05.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04011-T15P
R220.53-06.00-808.00	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-01.50 - 05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

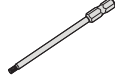
Quattromill R220.53-12C – Metric



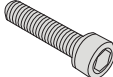
- For insert selection and cutting data recommendations, see page(s) 298–300
- For complete insert programme, see page(s) 894
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.53-0125-12-8C	02448846	Arbor	125,0	8	6,0	45,0 °	137,0	40,0	–	–	90,0	63,0	5900	4,4	SE.X1204
R220.53-8160-12-10C	02448847	Arbor	160,0	10	6,0	45,0 °	172,0	40,0	66,7	–	90,0	63,0	5200	6,6	SE.X1204
R220.53-8200-12-12C	02448849	Arbor	200,0	12	6,0	45,0 °	212,0	60,0	101,6	–	130,0	63,0	4700	9,5	SE.X1204
R220.53-8250-12-10C	02448896	Arbor	250,0	10	6,0	45,0 °	262,0	60,0	101,6	–	130,0	63,0	4200	21,4	SE.X1204
R220.53-8250-12-16C	02448853	Arbor	250,0	16	6,0	45,0 °	262,0	60,0	101,6	–	130,0	63,0	4200	21,6	SE.X1204
R220.53-8315-12-12C	02448900	Arbor	315,0	12	6,0	45,0 °	327,0	60,0	101,6	177,8	225,0	80,0	3700	32,9	SE.X1204

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0100-8315	AU1114T-T15P	SE12AR-53	FS96018	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Key	Setting key	Torque key
								
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.53-12 – Insert selection – mm/Inch

R217/220.53-12 – Insert selection – mm/Inch							
	SMG		a _p	f _z			
				80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	SEM1204AFTN-ME12 MP3501	3,5 0.14	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
	P2	SEM1204AFTN-ME12 MP3501	3,5 0.14	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
Helical milling cutters	P3	SEM1204AFTN-M15 MP2501	3,5 0.14	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
	P4	SEM1204AFTN-M15 MP2501	3,5 0.14	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
	P5	SEM1204AFTN-M15 MP2501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	P6	SEM1204AFTN-M15 MP2501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
	P7	SEM1204AFTN-M15 MP3501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
	P8	SEM1204AFTN-M15 MP3501	3,5 0.14	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
	P11	SEEX1204AFN-M10 MP2051	3,5 0.14	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
Face milling cutters	P12	SEEX1204AFN-M10 MP2051	3,0 0.12	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
	M1	SEEX1204AFN-M10 F40M	3,5 0.14	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
Disc milling cutters	M2	SEEX1204AFN-M10 MS2050	3,5 0.14	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
	M3	SEEX1204AFN-M10 MS2050	3,0 0.12	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	M4	SEEX1204AFN-M10 MP2051	2,0 0.080	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
	M5	SEEX1204AFN-M10 MP2051	2,0 0.080	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
	K1	SEM1204AFTN-M15 MK1501	3,5 0.14	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
High feed milling cutters	K2	SEM1204AFTN-M15 MK1501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	K3	SEM1204AFTN-M15 MP1501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	K4	SEM1204AFTN-M15 MP1501	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	K5	SEM1204AFTN-M15 MP1501	3,5 0.14	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
	K6	SEM1204AFTN-M15 MK2050	3,5 0.14	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
Copy milling cutters	K7	SEM1204AFTN-M15 MK2050	3,5 0.14	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
	N1	SEEX1204AFN-E08 H25	3,5 0.14	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
Plunge milling cutters	N2	SEEX1204AFN-E08 H25	3,5 0.14	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
	N3	SEEX1204AFN-E08 H25	3,5 0.14	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
	N11	SEEX1204AFN-E08 H25	3,5 0.14	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
	S1	SEM1204AFTN-ME12 MS2050	2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
Chamfer milling cutters	S2	SEM1204AFTN-ME12 MS2050	2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	S3	SEM1204AFTN-ME12 MS2050	2,0 0.080	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
	S11	SEEX1204AFN-M10 MS2050	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	S12	SEEX1204AFN-M10 MS2050	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	S13	SEEX1204AFN-M10 MS2050	2,0 0.080	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
	H5	SEM1204AFTN-MD19 MP3000	3,0 0.12	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
	H8	SEM1204AFTN-MD19 MP3000	2,5 0.10	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
Spot facing cutters	H11	SEM1204AFTN-MD19 MP1501	3,0 0.12	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
	H12	SEM1204AFTN-MD19 MP1501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
	H21	SEM1204AFTN-MD19 MP1501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

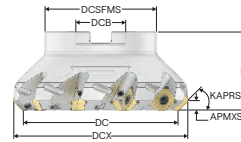
R217/220.53-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25				
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	
P1	290 950	310 1025	350 1150	390 1275	325 1075	355 1175	400 1300	450 1475	290 950	310 1025	345 1125	385 1275	235 770	255 840	280 920	310 1025	345 1125	385 1275	450 1475	520 1700	— —	— —	— —	— —	Square shoulder and slot milling cutters
P2	280 920	305 1000	330 1075	380 1250	315 1025	345 1125	390 1275	440 1450	280 920	300 980	335 1100	375 1225	230 750	245 800	265 870										
P3				335 1100		310 1025				270 890						265 870	310 1025	345 1125	380 1250	445 1450	— —	— —	— —	— —	Helical milling cutters
P4	215 710	235 770	265 870	295 970	250 820	270 890	305 1000	340 1125	220 720	235 770	265 870	290 950	190 620	205 670	225 740	250 820	270 890	300 980	350 1150	390 1275	— —	— —	— —	— —	
P5	210 690	225 740	250 820	280 920	240 790	260 850	295 970	330 1075	210 690	225 740	250 820	280 920	170 560	185 610	205 670	225 740	260 850	290 950	335 1100	380 1250	— —	— —	— —	— —	Face milling cutters
P6	235 770	250 820	280 920	320 1050	275 900	300 980	330 1075	370 1225	240 790	260 850	300 920	330 1025	190 620	205 670	230 750	255 840	300 980	335 1100	375 1225	425 1400	— —	— —	— —	— —	
P7	220 720	240 790	265 870	305 1000	260 850	280 920	310 1025	350 1150	225 740	245 800	265 870	295 970	180 590	195 640	215 710	240 790	285 940	315 1025	355 1175	400 1300	— —	— —	— —	— —	Face milling cutters
P8	210 690	225 740	245 800	280 920	240 790	260 850	280 920	325 1075	210 690	225 740	245 800	275 900	170 560	185 610	200 660	225 740	260 850	290 950	320 1050	375 1225	— —	— —	— —	— —	
P11	215 710	230 750	260 850	295 970	250 820	275 900	300 980	340 1125	220 720	235 770	260 850	290 950	175 570	190 620	210 690	235 770	275 900	315 1025	370 1225	445 1450	— —	— —	— —	— —	Disc milling cutters
P12	140 460	155 510	170 560	190 620	165 540	180 590	200 660	220 720	145 475	155 510	170 560	190 620	125 410	130 425	145 475	155 510	190 620	215 710	245 800	295 970	— —	— —	— —	— —	
M1	— —	— —	— —	— —	225 740	240 790	270 890	300 980	210 690	230 750	255 840	285 940	175 570	190 620	205 670	235 770	290 950	335 1100	410 1350	500 1650	— —	— —	— —	— —	Disc milling cutters
M2	— —	— —	— —	— —	185 610	200 660	220 720	250 820	175 570	190 620	210 690	235 770	145 475	155 510	175 570	195 640	250 820	290 950	350 1150	425 1400	— —	— —	— —	— —	
M3	— —	— —	— —	— —	150 490	160 520	180 590	200 660	145 475	155 510	170 560	190 620	120 395	125 410	140 460	160 520	220 720	250 820	290 950	350 1150	— —	— —	— —	— —	High feed milling cutters
M4	— —	— —	— —	— —	120 395	125 410	140 460	155 510	110 360	120 395	130 425	150 490	90 295	100 330	110 360	125 410	175 570	195 640	225 740	270 890	— —	— —	— —	— —	
M5	— —	— —	— —	— —	100 330	105 345	115 375	130 425	95 310	100 330	110 360	125 410	75 245	80 260	90 295	105 345	105 490	165 540	190 620	225 740	— —	— —	— —	— —	Copy milling cutters
K1	305 1000	325 1075	360 1175	410 1350	235 770	255 840	285 940	320 1050	— —	— —	— —	— —	170 560	185 610	205 670	235 770	— —	— —	— —	— —	— —	— —	— —	— —	
K2	270 890	290 950	325 1075	365 1200	210 690	225 740	255 840	285 940	— —	— —	— —	— —	150 490	165 540	185 610	205 670	— —	— —	— —	— —	— —	— —	— —	— —	Copy milling cutters
K3	225 740	245 800	275 900	305 1000	180 590	190 620	215 710	240 790	— —	— —	— —	— —	130 425	140 460	155 510	175 570	— —	— —	— —	— —	— —	— —	— —	— —	
K4	215 710	235 770	260 850	295 970	170 560	185 610	205 670	230 750	— —	— —	— —	— —	120 395	130 425	150 490	165 540	— —	— —	— —	— —	— —	— —	— —	— —	Plunge milling cutters
K5	135 445	145 475	160 520	180 590	105 345	110 360	125 410	140 460	— —	— —	— —	— —	75 245	80 260	90 295	100 330	— —	— —	— —	— —	— —	— —	— —	— —	
K6	190 620	205 670	230 750	260 850	150 490	160 520	180 590	205 670	— —	— —	— —	— —	110 360	115 375	130 425	145 475	— —	— —	— —	— —	— —	— —	— —	— —	Chamfer milling cutters
K7	170 560	185 610	205 670	230 750	135 445	145 475	160 520	180 590	— —	— —	— —	— —	95 310	105 345	115 375	130 425	— —	— —	— —	— —	— —	— —	— —	— —	
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1250 4100	1350 4425	1500 4925	1700 5575	— —	— —	— —	— —	1600 5250	1725 5650	1900 6225	2150 7050	Plunge milling cutters
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	500 1650	550 1800	600 1975	680 2225	— —	— —	— —	— —	640 2100	690 2275	770 2525	870 2850	
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	335 1100	365 1200	400 1300	455 1500	— —	— —	— —	— —	430 1400	460 1500	510 1675	580 1900	Spot facing cutters
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	385 1275	415 1350	460 1500	520 1700	— —	— —	— —	— —	490 1600	530 1750	590 1925	660 2175	
S1	— —	— —	— —	— —	— —	— —	— —	— —	50 165	55 180	60 195	70 230	43 140	46 150	50 165	60 195	55 180	60 195	70 230	75 245	— —	— —	— —	— —	Chamfer milling cutters
S2	— —	— —	— —	— —	— —	— —	— —	— —	42 140	45 150	50 165	55 180	35 115	37 120	41 135	46 150	49 150	55 160	60 180	60 195	— —	— —	— —	— —	
S3	— —	— —	— —	— —	— —	— —	— —	— —	37 120	39 130	44 145	49 160	30 100	33 110	36 120	41 130	40 140	43 145	48 155	55 180	— —	— —	— —	— —	Spot facing cutters
S11	— —	— —	— —	— —	— —	— —	— —	— —	70 230	80 260	85 280	95 310	60 195	65 215	70 230	80 260	85 280	95 310	105 345	105 345	— —	— —	— —	— —	
S12	— —	— —	— —	— —	— —	— —	— —	— —	50 165	55 180	60 195	65 215	41 135	45 150	50 165	55 180	55 180	60 195	65 215	75 245	— —	— —	— —	— —	Inserts
S13	— —	— —	— —	— —	— —	— —	— —	— —	29 95	31 100	35 115	39 130	24 80	26 85	29 95	32 105	32 105	34 110	38 125	43 140	— —	— —	— —	— —	
H5	49 160	50 165	60 195	65 215	46 150	50 165	55 180	60 195	— —	— —	— —	— —	36 120	39 130	44 145	49 160	— —	— —	— —	— —	— —	— —	— —	— —	Inserts
H8	50 165	55 180	60 195	70 230	50 165	55 180	60 195	65 215	— —	— —	— —	— —	39 130	43 140	46 150	55 180	— —	— —	— —	— —	— —	— —	— —	— —	
H11	60 195	65 215	75 245	85 280	60 195	65 215	70 230	80 260	— —	— —	— —	— —	46 150	50 165	55 180	60 195	125 410	140 460	160 520	190 620	— —	— —	— —	— —	Inserts
H12	90 295	100 330	110 360	125 410	95 310	105 345	110 360	125 410	— —	— —	— —	— —	70 230	75 245	85 280	95 310	125 410	135 445	150 490	175 570	— —	— —	— —	— —	
H21	50 165	55 180	60 195	70 230	— —	— —	— —	— —	— —	— —	— —	— —	39 130	43 140	46 150	55 180	110 360	115 375	120 395	130 425	— —	— —	— —	— —	

R217/220.53-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	395	405	435	480	385	395	425	470	325	335	360	400	245	255	275	305
	—	—	—	—	1300	1325	1425	1575	1275	1300	1400	1550	1075	1100	1175	1300	800	840	900	1000
P2	—	—	—	—	385	395	425	460	375	385	410	445	315	325	350	380	240	250	270	295
	—	—	—	—	1275	1300	1400	1500	1225	1275	1350	1450	1025	1075	1150	1250	790	820	890	970
P3	—	—	—	—	340	350	375	405	330	340	365	395	280	285	310	335	210	220	240	255
	—	—	—	—	1125	1150	1225	1325	1075	1125	1200	1300	920	940	1025	1100	690	720	790	840
P4	—	—	—	—	300	305	330	365	290	300	320	355	245	255	270	300	200	210	225	250
	—	—	—	—	980	1000	1075	1200	950	980	1050	1175	800	840	890	980	660	690	740	820
P5	—	—	—	—	285	295	315	345	275	285	305	340	235	240	260	290	175	185	200	220
	—	—	—	—	940	970	1025	1125	900	940	1000	1125	770	790	850	950	570	610	660	720
P6	—	—	—	—	320	330	355	390	310	320	345	380	265	270	290	325	200	215	230	250
	—	—	—	—	1050	1075	1175	1275	1025	1050	1125	1250	870	890	950	1075	660	710	750	820
P7	—	—	—	—	300	310	335	365	295	300	325	360	250	255	275	305	190	200	215	235
	—	—	—	—	980	1025	1100	1200	970	980	1075	1175	820	840	900	1000	620	660	710	770
P8	—	—	—	—	285	295	315	340	275	285	305	330	235	240	260	280	175	185	200	215
	—	—	—	—	940	970	1025	1125	900	940	1000	1075	770	790	850	920	570	610	660	710
P11	—	—	—	—	295	300	325	355	285	295	315	350	240	250	265	295	185	195	210	225
	—	—	—	—	970	980	1075	1175	940	970	1025	1150	790	820	870	970	610	640	690	740
P12	—	—	—	—	195	205	215	235	190	200	210	230	165	170	180	195	115	125	130	145
	—	—	—	—	640	670	710	770	620	660	690	750	540	560	590	640	375	410	425	475
M1	—	—	—	—	—	—	—	—	195	205	220	245	170	180	195	215	155	165	180	200
	—	—	—	—	—	—	—	—	640	670	720	800	560	590	640	710	510	540	590	660
M2	—	—	—	—	—	—	—	—	160	170	185	205	140	150	165	180	130	140	150	165
	—	—	—	—	—	—	—	—	520	560	610	670	460	490	540	590	425	460	490	540
M3	—	—	—	—	—	—	—	—	130	140	150	170	115	125	135	150	105	110	120	135
	—	—	—	—	—	—	—	—	425	460	490	560	375	410	445	490	345	360	395	445
M4	—	—	—	—	—	—	—	—	100	110	115	130	90	95	105	115	80	85	95	105
	—	—	—	—	—	—	—	—	330	360	375	425	295	310	345	375	260	280	310	345
M5	—	—	—	—	—	—	—	—	85	90	95	110	75	80	85	95	70	75	80	85
	—	—	—	—	—	—	—	—	280	295	310	360	245	260	280	310	230	245	260	280
K1	350	425	485	570	385	400	425	465	375	385	415	450	320	325	350	380	—	—	—	—
	1150	1400	1600	1875	1275	1300	1400	1525	1225	1275	1350	1475	1050	1075	1150	1250	—	—	—	—
K2	305	375	425	500	345	355	380	420	335	345	370	410	285	290	315	350	—	—	—	—
	1000	1225	1400	1650	1125	1175	1250	1375	1100	1125	1225	1350	940	950	1025	1150	—	—	—	—
K3	235	260	290	330	290	300	320	355	285	290	315	345	240	245	265	295	—	—	—	—
	770	850	950	1075	950	980	1050	1175	940	950	1025	1125	790	800	870	970	—	—	—	—
K4	225	250	275	315	280	285	305	340	270	280	300	330	230	235	255	280	—	—	—	—
	740	820	900	1025	920	940	1000	1125	890	920	980	1075	750	770	840	920	—	—	—	—
K5	140	155	170	190	170	180	190	205	170	175	185	200	145	145	160	170	—	—	—	—
	460	510	560	620	560	590	620	670	560	570	610	660	475	475	520	560	—	—	—	—
K6	195	220	240	275	245	255	270	300	240	245	265	290	200	210	225	250	—	—	—	—
	640	720	790	900	800	840	890	980	790	800	870	950	660	690	740	820	—	—	—	—
K7	175	195	215	245	220	230	245	265	215	220	235	260	185	190	200	220	—	—	—	—
	570	640	710	800	720	750	800	870	710	720	770	850	610	620	660	720	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	25	27	29	32
	—	—	—	—	—	—	—	—	—	—	—	—	140	150	155	180	80	90	95	105
S2	—	—	—	—	—	—	—	—	—	—	—	—	34	36	39	43	20	22	23	26
	—	—	—	—	—	—	—	—	—	—	—	—	110	120	130	140	65	70	75	85
S3	—	—	—	—	—	—	—	—	—	—	—	—	30	32	34	38	18	19	20	22
	—	—	—	—	—	—	—	—	—	—	—	—	100	105	110	125	60	60	65	70
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	75	35	37	40	44
	—	—	—	—	—	—	—	—	—	—	—	—	195	215	230	245	115	120	130	145
S12	—	—	—	—	—	—	—	—	—	—	—	—	41	43	47	50	32	34	37	41
	—	—	—	—	—	—	—	—	—	—	—	—	135	140	155	165	105	110	120	135
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	25	27	30	19	20	21	24
	—	—	—	—	—	—	—	—	—	—	—	—	80	80	90	100	60	65	70	80
H5	—	—	—	—	50	55	60	65	—	—	—	—	37	40	43	48	—	—	—	—
	—	—	—	—	165	180	195	215	—	—	—	—	120	130	140	155	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	40	43	47	50	—	—	—	—
	—	—	—	—	180	195	215	230	—	—	—	—	130	140	155	165	—	—	—	—
H11	—	—	—	—	65	70	75	85	—	—	—	—	48	50	55	60	—	—	—	—
	—	—	—	—	215	230	245	280	—	—	—	—	155	165	180	195	—	—	—	—
H12	—	—	—	—	100	105	115	125	—	—										

Quattromill R220.53-15 – Metric



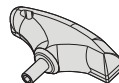
- For insert selection and cutting data recommendations, see page(s) 304-306
- For complete insert programme, see page(s) 894
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.53-0063-15-5A	02486622	Arbor	63,0	5	7,5	45,0 °	78,0	22,0	–	47,0	40,0	8300	0,7	SE.X1505
R220.53-0080-15-6A	02486624	Arbor	80,0	6	7,5	45,0 °	96,0	27,0	–	62,0	50,0	7400	1,1	SE.X1505
R220.53-0080-15-7A	02486625	Arbor	80,0	7	7,5	45,0 °	96,0	27,0	–	62,0	50,0	7400	1,2	SE.X1505
R220.53-0100-15-7A	02486627	Arbor	100,0	7	7,5	45,0 °	116,0	32,0	–	77,0	50,0	6600	1,8	SE.X1505
R220.53-0100-15-9A	02486628	Arbor	100,0	9	7,5	45,0 °	116,0	32,0	–	77,0	50,0	6600	1,8	SE.X1505
R220.53-0125-15-8A	02486630	Arbor	125,0	8	7,5	45,0 °	141,0	40,0	–	90,0	63,0	5900	3,1	SE.X1505
R220.53-0125-15-10A	02486631	Arbor	125,0	10	7,5	45,0 °	141,0	40,0	–	90,0	63,0	5900	3,2	SE.X1505
R220.53-8160-15-10	02486633	Arbor	160,0	10	7,5	45,0 °	176,0	40,0	66,7	90,0	63,0	5200	4,7	SE.X1505
R220.53-8200-15-12	02486636	Arbor	200,0	12	7,5	45,0 °	216,0	60,0	101,6	130,0	63,0	4700	7,8	SE.X1505

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0063	220.17-696	1/4HEX-T20PX50	C05013-T20P
R220.53-0080	–	1/4HEX-T20PX50	C05013-T20P
R220.53-0100-8200	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-0063	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-8200	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

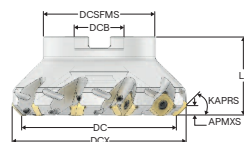
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

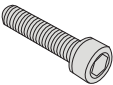
Quattromill R220.53-15 – inch



—For insert selection and cutting data recommendations, see page(s) 304–306
 —For complete insert programme, see page(s) 894
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.53-03.00-15-6A	02486638	Arbor	3.150	6	0.295	45,0 °	3.740	1.000	2.441	1.969	7400	2.870	SE.X1505
R220.53-04.00-15-7A	02486644	Arbor	3.937	7	0.295	45,0 °	4.528	1.500	3.543	1.969	6600	4.850	SE.X1505
R220.53-06.00-15-10	02486653	Arbor	6.299	10	0.295	45,0 °	6.890	2.000	3.543	2.480	5200	9.920	SE.X1505

Spare Parts, included in delivery

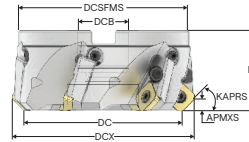
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P
R220.53-06.00	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-03.00-04.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

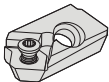
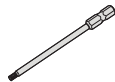
Quattromill R220.53-15C – Metric



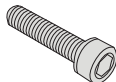
- For insert selection and cutting data recommendations, see page(s) 304-306
- For complete insert programme, see page(s) 894
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.53-0125-15-8C	02510199	Arbor	125,0	8	7,5	45,0 °	141,0	40,0	—	—	90,0	63,0	5900	4,5	SE.X1505
R220.53-8160-15-10C	02510202	Arbor	160,0	10	7,5	45,0 °	176,0	40,0	66,7	—	90,0	63,0	5200	6,6	SE.X1505
R220.53-8200-15-12C	02510204	Arbor	200,0	12	7,5	45,0 °	216,0	60,0	101,6	—	130,0	63,0	4700	9,5	SE.X1505
R220.53-8250-15-10C	02510234	Arbor	250,0	10	7,5	45,0 °	266,0	60,0	101,6	—	130,0	63,0	4200	18,0	SE.X1505
R220.53-8250-15-16C	02510231	Arbor	250,0	16	7,5	45,0 °	260,0	60,0	101,6	—	130,0	63,0	4200	22,0	SE.X1505
R220.53-8315-15-12C	02510235	Arbor	315,0	12	7,5	45,0 °	331,0	60,0	101,6	177,8	225,0	80,0	3700	37,2	SE.X1505

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE15AR-53	FS96018	1/4HEX-T20PX90	C05010-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Key	Setting key	Torque key
								
R220.53-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	—	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.53-15 – Insert selection – mm/Inch

R220.53-15 – Insert selection – mm/Inch							
	SMG		a _p		f _z		
				80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	SEMX1505AFTN-ME15 MP3501	4,5 0.18	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	P2	SEMX1505AFTN-ME15 MP3501	4,5 0.18	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
Helical milling cutters	P3	SEMX1505AFTN-M18 MP2501	4,5 0.18	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
	P4	SEMX1505AFTN-M18 MP2501	4,5 0.18	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
	P5	SEMX1505AFTN-M18 MP2501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	P6	SEMX1505AFTN-M18 MP2501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	P7	SEMX1505AFTN-M18 MP3501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	P8	SEMX1505AFTN-M18 MP3501	4,5 0.18	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
	P11	SEEX1505AFN-M12 MP2051	4,5 0.18	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
Face milling cutters	P12	SEEX1505AFN-M12 MP2051	3,5 0.14	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	M1	SEEX1505AFN-M12 F40M	4,5 0.18	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
Disc milling cutters	M2	SEEX1505AFN-M12 MS2050	4,5 0.18	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
	M3	SEEX1505AFN-M12 MS2050	3,5 0.14	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
	M4	SEEX1505AFN-M12 MP2051	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
	M5	SEEX1505AFN-M12 MP2051	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
	K1	SEMX1505AFTN-M18 MK1501	4,5 0.18	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
High feed milling cutters	K2	SEMX1505AFTN-M18 MK1501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	K3	SEMX1505AFTN-M18 MP1501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	K4	SEMX1505AFTN-M18 MP1501	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
	K5	SEMX1505AFTN-M18 MP1501	4,5 0.18	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
	K6	SEMX1505AFTN-M18 MK2050	4,5 0.18	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
Copy milling cutters	K7	SEMX1505AFTN-M18 MK2050	4,5 0.18	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
	N1	SEEX1505AFN-E10 H25	4,5 0.18	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
Plunge milling cutters	N2	SEEX1505AFN-E10 H25	4,5 0.18	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	N3	SEEX1505AFN-E10 H25	4,5 0.18	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	N11	SEEX1505AFN-E10 H25	4,5 0.18	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
	S1	SEEX1505AFN-M12 MP2051	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
Chamfer milling cutters	S2	SEEX1505AFN-M12 MP2051	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
	S3	SEEX1505AFN-M12 MP2051	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	S11	SEEX1505AFN-M12 MS2050	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
	S12	SEEX1505AFN-M12 MS2050	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
	S13	SEEX1505AFN-M12 MS2050	2,5 0.10	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
Spot facing cutters	H5	SEMX1505AFTN-MD20 MP3000	3,5 0.14	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
	H8	SEMX1505AFTN-MD20 MP3000	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
	H11	SEMX1505AFTN-MD20 MP1501	3,5 0.14	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
	H12	SEMX1505AFTN-MD20 MP1501	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
	H21	SEMX1505AFTN-MD20 MP1501	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R220.53-15 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25				
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	
P1	260 850	280 920	310 1025	355 1175	210 690	235 770	265 870	315 1025	260 850	280 920	315 1025	355 1175	205 670	220 720	245 800	275 900	290 950	325 1075	395 1300	465 1525	—	—	—	—	Square shoulder and slot milling cutters
P2	255 840	275 900	300 980	345 1125	200 660	220 720	260 850	310 1025	250 820	270 890	305 1000	335 1100	200 660	215 710	235 770	270 890	280 920	320 1050	380 1250	435 1425	—	—	—	—	
P3	220 720	240 790	265 870	300 980	185 610	205 670	230 750	265 870	220 720	240 790	265 870	295 970	180 590	190 620	210 690	235 770	250 820	280 920	335 1100	390 1275	—	—	—	—	Helical milling cutters
P4	195 640	210 690	235 770	265 870	160 520	180 590	200 660	240 790	195 640	215 710	235 770	265 870	165 540	180 590	195 640	220 720	230 750	255 840	295 970	355 1175	—	—	—	—	
P5	185 610	200 660	225 740	255 840	155 510	170 560	200 660	230 750	190 620	205 670	225 740	255 840	150 490	160 520	180 590	200 660	215 710	245 800	290 950	335 1100	—	—	—	—	Face milling cutters
P6	210 690	225 740	255 840	290 950	175 570	190 620	225 740	255 840	210 690	230 750	255 840	285 940	170 560	180 590	205 670	225 740	245 800	275 900	325 1075	380 1250	—	—	—	—	
P7	200 660	215 710	240 790	270 890	165 540	180 590	210 690	240 790	200 660	215 710	240 790	270 890	160 520	170 560	190 620	215 710	230 750	260 840	310 1025	355 1175	—	—	—	—	Face milling cutters
P8	185 610	200 660	220 720	255 840	155 510	170 560	195 640	225 740	185 610	200 660	225 740	250 820	150 490	160 520	175 570	195 640	210 690	235 770	285 940	325 1075	—	—	—	—	
P11	190 620	210 690	235 770	265 870	160 520	175 570	205 670	235 740	195 640	210 690	235 740	260 850	155 510	165 540	185 610	205 670	220 720	255 840	315 1025	390 1275	—	—	—	—	Face milling cutters
P12	130 425	140 460	155 510	175 570	120 395	130 425	150 490	170 560	135 445	140 460	155 510	175 570	110 360	115 375	125 410	140 460	175 570	195 640	225 740	275 900	—	—	—	—	
M1	—	—	—	—	165 540	180 590	205 670	235 740	190 640	210 690	230 750	260 850	155 510	170 560	185 610	215 710	240 790	280 920	350 1150	425 1400	—	—	—	—	Disc milling cutters
M2	—	—	—	—	140 460	150 490	170 560	190 620	160 520	170 560	190 620	215 710	130 425	140 460	155 510	180 590	210 690	245 800	300 980	370 1225	—	—	—	—	
M3	—	—	—	—	115 375	125 410	135 445	155 510	130 425	140 460	155 510	175 570	105 345	115 375	125 410	145 475	190 620	220 720	255 840	315 1025	—	—	—	—	Disc milling cutters
M4	—	—	—	—	90 295	95 310	105 345	120 395	100 330	110 360	120 395	135 445	85 280	90 295	100 330	115 375	155 510	175 570	205 670	245 800	—	—	—	—	
M5	—	—	—	—	75 245	80 260	90 295	100 330	85 280	90 295	100 330	110 360	75 230	80 245	90 260	100 310	130 425	145 475	170 560	205 670	—	—	—	—	High feed milling cutters
K1	275 900	295 970	325 1075	370 1225	175 570	190 620	215 710	245 800	—	—	—	—	155 510	165 540	185 610	210 690	—	—	—	—	—	—	—	—	
K2	240 790	260 850	295 970	330 1075	160 520	170 560	190 620	215 710	—	—	—	—	135 445	150 490	165 540	190 620	—	—	—	—	—	—	—	—	High feed milling cutters
K3	205 670	220 720	250 820	280 920	135 445	145 475	165 540	185 610	—	—	—	—	115 375	125 410	140 460	160 520	—	—	—	—	—	—	—	—	
K4	195 640	210 690	235 770	270 890	130 425	140 460	155 510	175 570	—	—	—	—	110 360	120 395	135 445	150 490	—	—	—	—	—	—	—	—	Copy milling cutters
K5	120 395	130 425	145 475	165 540	80 260	85 280	95 310	110 360	—	—	—	—	70 230	75 245	80 260	95 310	—	—	—	—	—	—	—	—	
K6	170 560	185 610	210 690	235 770	115 375	120 395	135 445	155 510	—	—	—	—	95 310	105 345	120 395	135 445	—	—	—	—	—	—	—	—	Copy milling cutters
K7	155 510	170 560	185 610	210 690	100 330	110 360	125 410	140 460	—	—	—	—	90 295	95 310	105 345	120 395	—	—	—	—	—	—	—	—	
N1	—	—	—	—	1300 4275	1425 4675	1550 5075	1800 5900	—	—	—	—	1125 3700	1200 3925	1350 4425	1525 5000	—	—	—	—	1425 4675	1550 5075	1725 5650	1950 6400	Plunge milling cutters
N2	—	—	—	—	530 1750	570 1875	620 2025	720 2350	—	—	—	—	450 1475	490 1600	540 1775	610 2000	—	—	—	—	580 1900	630 2075	700 2300	780 2550	
N3	—	—	—	—	355 1175	385 1275	415 1350	480 1575	—	—	—	—	300 980	325 1075	360 1175	410 1350	—	—	—	—	385 1275	415 1350	465 1525	520 1700	Plunge milling cutters
N11	—	—	—	—	405 1325	435 1425	475 1550	550 1800	—	—	—	—	345 1125	375 1225	415 1350	470 1550	—	—	—	—	440 1450	475 1550	530 1750	600 1975	
S1	—	—	—	—	42 140	45 150	50 165	55 180	47 155	50 165	55 180	65 215	39 130	42 140	46 150	55 180	50 165	55 180	60 195	70 230	—	—	—	—	Chamfer milling cutters
S2	—	—	—	—	33 110	36 120	40 130	46 150	38 125	41 135	45 150	50 165	31 100	34 110	37 120	42 140	42 140	45 150	50 165	55 180	—	—	—	—	
S3	—	—	—	—	30 100	32 105	36 120	40 130	33 110	36 120	40 130	45 150	28 90	30 100	33 110	37 120	37 120	39 130	44 145	49 160	—	—	—	—	Chamfer milling cutters
S11	—	—	—	—	60 195	65 215	70 230	80 260	65 215	70 230	80 260	90 295	55 180	60 195	65 215	75 245	70 230	80 260	85 280	95 310	—	—	—	—	
S12	—	—	—	—	41 135	44 145	48 155	55 180	45 150	49 160	55 180	60 195	37 120	40 130	45 150	50 165	50 165	55 180	60 195	65 215	—	—	—	—	Spot facing cutters
S13	—	—	—	—	23 75	25 80	28 90	32 105	27 90	29 95	32 105	35 115	22 70	24 80	26 85	30 100	29 95	31 100	35 115	39 130	—	—	—	—	
H5	44 145	47 155	50 165	60 195	36 120	39 130	43 140	49 160	—	—	—	—	33 110	35 115	39 130	44 145	—	—	—	—	—	—	—	—	Spot facing cutters
H8	48 155	50 165	55 180	65 215	39 130	42 140	47 155	55 180	—	—	—	—	36 120	38 125	42 140	48 155	—	—	—	—	—	—	—	—	
H11	55 180	60 195	65 215	75 245	46 150	49 160	55 180	60 195	—	—	—	—	41 135	45 150	50 165	55 180	115 375	125 410	145 475	180 590	—	—	—	—	Inserts
H12	85 280	90 295	100 330	110 360	75 245	80 260	90 295	100 330	—	—	—	—	65 215	70 230	75 245	85 280	115 375	125 410	145 475	170 560	—	—	—	—	
H21	48 155	50 165	55 180	65 215	39 130	42 140	47 155	55 180	—	—	—	—	36 120	38 125	42 140	48 155	—	—	—	—	—	—	—	—	Inserts
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

R220.53-15 – Cutting data $v_c = (m/min)/(sf/min)$

R220.53-15 – Cutting data v _c = (m/min)/(sf/min)																	
Square shoulder and slot milling cutters	SMG	MK1501				MP1501				MP2501				MP3501			
		80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
	P1	—	—	—	—	355	380	415	465	340	370	405	455	300	325	355	405
		—	—	—	—	1175	1250	1350	1525	1125	1225	1325	1500	980	1075	1175	1325
Helical milling cutters	P2	—	—	—	—	345	370	405	455	335	360	390	440	295	315	350	395
	P3	—	—	—	—	1125	1225	1325	1500	1100	1175	1275	1450	970	1025	1150	1300
		—	—	—	—	305	325	355	395	295	315	345	385	260	280	305	345
	—	—	—	—	1000	1075	1175	1300	970	1025	1125	1275	850	920	1000	1125	
Face milling cutters	P4	—	—	—	—	270	285	315	350	260	280	305	340	230	245	270	305
	P5	—	—	—	—	890	940	1025	1150	850	920	1000	1125	750	800	890	1000
		—	—	—	—	255	275	305	340	245	265	295	330	220	235	265	295
	—	—	—	—	840	900	1000	1125	800	870	970	1075	720	770	870	970	
Disc milling cutters	P6	—	—	—	—	285	310	345	380	275	300	335	370	245	265	295	330
	P7	—	—	—	—	940	1025	1125	1250	900	980	1100	1225	800	870	970	1075
		—	—	—	—	270	290	325	360	260	280	315	350	230	250	280	310
	—	—	—	—	890	950	1075	1175	850	920	1025	1150	750	820	920	1025	
High feed milling cutters	P8	—	—	—	—	255	275	300	335	245	265	290	325	220	235	255	290
	P11	—	—	—	—	840	900	980	1100	800	870	950	1075	720	770	840	950
		—	—	—	—	265	280	315	350	255	275	305	340	225	240	270	305
	—	—	—	—	870	920	1025	1150	840	900	1000	1125	740	790	890	1000	
Copy milling cutters	P12	—	—	—	—	180	190	205	230	175	185	205	225	155	165	180	200
	M1	—	—	—	—	590	620	670	750	570	610	670	740	510	540	590	660
		—	—	—	—	—	—	—	—	180	195	215	245	170	185	200	230
	—	—	—	—	—	—	—	—	—	590	640	710	800	560	610	660	750
Plunge milling cutters	M2	—	—	—	—	—	—	—	—	150	160	180	205	140	150	170	190
	M3	—	—	—	—	—	—	—	—	490	520	590	670	460	490	560	620
		—	—	—	—	—	—	—	—	120	130	145	165	115	125	135	155
	—	—	—	—	—	—	—	—	—	395	425	475	540	375	410	445	510
Spot facing cutters	M4	—	—	—	—	—	—	—	—	95	105	115	130	90	95	105	120
	M5	—	—	—	—	—	—	—	—	310	345	375	425	295	310	345	395
		—	—	—	—	—	—	—	—	80	85	95	110	75	80	90	100
	—	—	—	—	—	—	—	—	—	260	280	310	360	245	260	295	330
Chamfer milling cutters	K1	375	430	500	640	350	375	410	460	335	360	395	445	295	320	350	395
	K2	1225	1400	1650	2100	1150	1225	1350	1500	1100	1175	1300	1450	970	1050	1150	1300
		330	375	445	560	310	330	370	410	300	320	360	400	265	285	320	355
	—	1075	1225	1450	1825	1025	1075	1225	1350	980	1050	1175	1300	870	940	1050	1175
Inserts	K3	225	250	285	340	260	280	310	345	255	270	305	340	225	240	270	300
	K4	740	820	940	1125	850	920	1025	1125	840	890	1000	1125	740	790	890	980
		215	240	275	325	250	270	300	330	240	260	290	325	215	230	255	285
	—	710	790	900	1075	820	890	980	1075	790	850	950	1075	710	750	840	940
Spot facing cutters	K5	135	150	165	200	155	165	180	205	150	165	175	200	135	145	155	180
	K6	445	490	540	660	510	540	590	670	490	540	570	660	445	475	510	590
		190	210	240	285	220	235	265	290	215	230	255	285	190	200	225	255
	—	620	690	790	940	720	770	870	950	710	750	840	940	620	660	740	840
Spot facing cutters	K7	170	190	210	255	200	215	230	260	195	210	225	255	170	185	200	225
	N1	560	620	690	840	660	710	750	850	640	690	740	840	560	610	660	740
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S1	—	—	—	—	—	—	—	—	—	—	—	—	42	45	50	55
		—	—	—	—	—	—	—	—	—	—	—	—	140	150	165	180
	—	—	—	—	—	—	—	—	—	—	—	—	—	34	36	40	46
Spot facing cutters	S2	—	—	—	—	—	—	—	—	—	—	—	—	110	120	130	150
	S3	—	—	—	—	—	—	—	—	—	—	—	—	30	32	36	40
		—	—	—	—	—	—	—	—	—	—	—	—	100	105	120	130
	—	—	—	—	—	—	—	—	—	—	—	—	—	60	60	70	80
Spot facing cutters	S11	—	—	—	—	—	—	—	—	—	—	—	—	195	195	230	260
	S12	—	—	—	—	—	—	—	—	—	—	—	—	40	43	48	55
		—	—	—	—	—	—	—	—	—	—	—	—	130	140	155	180
	—	—	—	—	—	—	—	—	—	—	—	—	—	24	25	28	32
Spot facing cutters	S13	—	—	—	—	—	—	—	—	—	—	—	—	80	80	90	105
	H5	—	—	—	—	48	50	55	65	—	—	—	—	37	40	44	50
		—	—	—	—	155	165	180	215	—	—	—	—	120	130	145	165
	—	—	—	—	50	55	60	70	—	—	—	—	—	40	43	48	55
Spot facing cutters	H8	—	—	—	—	165	180	195	230	—	—	—	—	130	140	155	180
	H11	—	—	—	—	60	65	75	80	—	—	—	—	47	50	55	65
		—	—	—	—	195	215	245	260	—	—	—	—	155	165	180	215
	—	—	—	—	95	100	110	125	—	—	—	—	—	70	75	85	95
Spot facing cutters	H12	—	—	—	—	310	330	360	410	—	—	—	—	230	245	280	310
	H21	—	—	—	—	50	55	60	70	—	—	—	—	40	43	48	55
—		—	—	—	165	180	195	230	—	—	—	—	—	130	140	155	180



R220.88 (SNMU)

The .88 cutter family is a face milling cutter with square shoulder milling characteristics. The near 90° lead angle generate a high depth-of-cut capability and allows machining operations close to sidewalls of a workpiece or close to fixture clamping due to the reduced risk of interference. Common demands when machining cast iron components since the variable casting allowance cause undefined depth of cut conditions during the first cut..

- Insert size 12, cutter range 40-160mm (1.5-6.0 inch)
- Insert size 16, cutter range 63-160mm (2.5-6.0 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

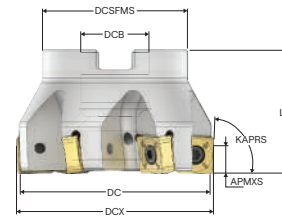
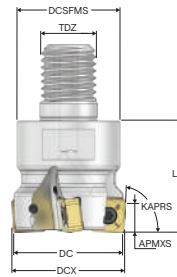
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.88-12 – Metric



—For insert selection and cutting data recommendations, see page(s) 310–311
 —For complete insert programme, see page(s) 905
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	TDZ mm	LF mm	RPMX	Weight kg	Insert
R217.88-2040.RE-12-4SAP	10130009	Combimaster	40,0	4	9,0	88,0 °	41,4	–	–	37,0	M20	40,0	12600	0,3	SN.U1204
R220.88-0040-12-4SAP	10130008	Arbor	40,0	4	9,0	88,0 °	41,4	16,0	–	35,0	–	40,0	12600	0,3	SN.U1204
R220.88-0050-12-4SAP	10134775	Arbor	50,0	4	9,0	88,0 °	51,2	22,0	–	47,0	–	40,0	12600	0,4	SN.U1204
R220.88-0050-12-5SAP	10134776	Arbor	50,0	5	9,0	88,0 °	51,2	22,0	–	47,0	–	40,0	12600	0,4	SN.U1204
R220.88-0063-12-6SAP	10134777	Arbor	63,0	6	9,0	88,0 °	64,5	22,0	–	47,0	–	40,0	11200	0,5	SN.U1204
R220.88-0063-12-7SAP	10134778	Arbor	63,0	7	9,0	88,0 °	64,5	22,0	–	47,0	–	40,0	11200	0,5	SN.U1204
R220.88-0080-12-7SAP	10134779	Arbor	80,0	7	9,0	88,0 °	81,16	27,0	–	62,0	–	50,0	9900	1,1	SN.U1204
R220.88-0080-12-9SAP	10134780	Arbor	80,0	9	9,0	88,0 °	81,16	27,0	–	62,0	–	50,0	9900	1,1	SN.U1204
R220.88-0100-12-8SAP	10134782	Arbor	100,0	8	9,0	88,0 °	101,15	32,0	–	77,0	–	50,0	8900	1,9	SN.U1204
R220.88-0100-12-11SAP	10134781	Arbor	100,0	11	9,0	88,0 °	101,15	32,0	–	77,0	–	50,0	8900	1,9	SN.U1204
R220.88-0125-12-10SAP	10134783	Arbor	125,0	10	9,0	88,0 °	126,15	40,0	–	90,0	–	63,0	7900	3,7	SN.U1204
R220.88-0125-12-13SAP	10134784	Arbor	125,0	13	9,0	88,0 °	126,15	40,0	–	90,0	–	63,0	7900	3,8	SN.U1204
R220.88-8160-12-12SAP	10134785	Arbor	160,0	12	9,0	88,0 °	161,14	40,0	66,7	90,0	–	63,0	7000	5,6	SN.U1204
R220.88-8160-12-16SAP	10134786	Arbor	160,0	16	9,0	88,0 °	161,14	40,0	66,7	90,0	–	63,0	7000	5,6	SN.U1204

Spare Parts, included in delivery

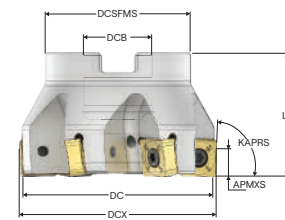
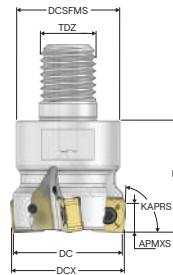
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
R217.88-..	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0040	220.17-690	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
R217/220.88-0040-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.88-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

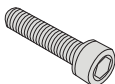
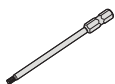
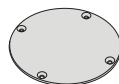
R220.88-12 – inch



- For insert selection and cutting data recommendations, see page(s) 310–311
- For complete insert programme, see page(s) 905
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch		inch		lbs	
R217.88-01.50-20RE-12-4SAP	10134800	Combimaster	1.500	4	0.354	88,0 °	1.563	–	1.457	M20	1.575	12600	0.660	SN.U1204
R220.88-01.50-12-4SAP	10134787	Arbor	1.500	4	0.354	88,0 °	1.558	0.500	1.378	–	1.575	12600	0.660	SN.U1204
R220.88-02.00-12-5SAP	10134789	Arbor	2.000	5	0.354	88,0 °	2.051	0.750	1.850	–	1.575	12600	0.880	SN.U1204
R220.88-02.50-12-6SAP	10134790	Arbor	2.500	6	0.354	88,0 °	2.549	0.750	1.850	–	1.575	11200	1.320	SN.U1204
R220.88-02.50-12-7SAP	10134791	Arbor	2.500	7	0.354	88,0 °	2.549	0.750	1.850	–	1.575	11200	1.320	SN.U1204
R220.88-03.00-12-7SAP	10134792	Arbor	3.000	7	0.354	88,0 °	3.046	1.000	2.441	–	1.969	9900	2.650	SN.U1204
R220.88-03.00-12-9SAP	10134793	Arbor	3.000	9	0.354	88,0 °	3.046	1.000	2.441	–	1.969	9900	2.430	SN.U1204
R220.88-04.00-12-8SAP	10134795	Arbor	4.000	8	0.354	88,0 °	4.039	1.500	3.031	–	1.969	8900	4.190	SN.U1204
R220.88-04.00-12-11SAP	10134794	Arbor	4.000	11	0.354	88,0 °	4.039	1.500	3.031	–	1.969	8900	4.190	SN.U1204
R220.88-05.00-12-10SAP	10134796	Arbor	5.000	10	0.354	88,0 °	5.039	1.500	3.543	–	2.480	7900	8.380	SN.U1204
R220.88-06.00-12-12SAP	10134798	Arbor	6.000	12	0.354	88,0 °	6.039	2.000	4.331	–	2.480	7000	10.800	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.88-..	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R217/220-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.88-12 – Insert selection – mm/Inch

R220.88-12 – Insert selection – mm/Inch							
	SMG		a _p		f _z		
				80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	SNMU120410TN-M10 MS2050	5,0	0,14	0,14	0,15	0,18
			0.20	0.0055	0.0055	0.0060	0.0070
	P2	SNMU120410TN-M10 MS2050	5,0	0,15	0,15	0,15	0,18
			0.20	0.0060	0.0060	0.0060	0.0070
Helical milling cutters	P3	SNMU120410TN-M10 MP2501	5,0	0,14	0,14	0,14	0,17
			0.20	0.0055	0.0055	0.0055	0.0065
	P4	SNMU120412TN-M16 MP2501	5,0	0,24	0,24	0,24	0,30
			0.20	0.0095	0.0095	0.0095	0.012
	P5	SNMU120412TN-M16 MP2501	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
	P6	SNMU120412TN-M16 MP2501	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
	P7	SNMU120410TN-M10 MP3501	5,0	0,13	0,13	0,13	0,17
			0.20	0.0050	0.0050	0.0050	0.0065
	P8	SNMU120410TN-M10 MP3501	5,0	0,14	0,14	0,14	0,17
			0.20	0.0055	0.0055	0.0055	0.0065
Face milling cutters	P11	SNMU120410TN-M10 MS2500	5,0	0,13	0,13	0,13	0,17
			0.20	0.0050	0.0050	0.0050	0.0065
	P12	SNMU120410TN-M10 MS2500	4,5	0,090	0,090	0,095	0,11
			0.18	0.0036	0.0036	0.0038	0.0044
	M1	SNMU120410TN-M10 F40M	5,0	0,15	0,15	0,15	0,18
			0.20	0.0060	0.0060	0.0060	0.0070
	M2	SNMU120410TN-M10 MS2050	5,0	0,13	0,13	0,14	0,17
			0.20	0.0050	0.0050	0.0055	0.0065
Disc milling cutters	M3	SNMU120410TN-M10 MS2050	4,5	0,11	0,11	0,11	0,13
			0.18	0.0044	0.0044	0.0044	0.0050
	M4	SNMU120410TN-M10 MS2050	3,0	0,095	0,095	0,10	0,12
			0.12	0.0038	0.0038	0.0040	0.0048
	M5	SNMU120410TN-M10 MS2050	3,0	0,095	0,095	0,10	0,12
			0.12	0.0038	0.0038	0.0040	0.0048
	K1	SNMU120412TN-M16 MK1501	5,0	0,25	0,25	0,26	0,32
			0.20	0.010	0.010	0.010	0.013
High feed milling cutters	K2	SNMU120412TN-M16 MK1501	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
	K3	SNMU120412TN-M16 MP1501	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
	K4	SNMU120412TN-M16 MP1501	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
	K5	SNMU120412TN-M16 MK2050	5,0	0,20	0,20	0,22	0,26
			0.20	0.0080	0.0080	0.0085	0.010
	K6	SNMU120412TN-M16 MK2050	5,0	0,22	0,22	0,24	0,28
			0.20	0.0085	0.0085	0.0095	0.011
Copy milling cutters	K7	SNMU120412TN-M16 MK2050	5,0	0,20	0,20	0,22	0,26
			0.20	0.0080	0.0080	0.0085	0.010
	H5	SNMU120410TN-MD13 MP1501	4,5	0,15	0,15	0,16	0,19
			0.18	0.0060	0.0060	0.0065	0.0075
	H8	SNMU120410TN-MD13 MP1501	4,0	0,12	0,12	0,12	0,15
			0.16	0.0048	0.0048	0.0048	0.0060
	H11	SNMU120410TN-MD13 MP1501	4,5	0,15	0,15	0,16	0,19
			0.18	0.0060	0.0060	0.0065	0.0075
milling cutters	H12	SNMU120410TN-MD13 MP1501	4,0	0,12	0,12	0,12	0,15
			0.16	0.0048	0.0048	0.0048	0.0060
	H21	SNMU120410TN-MD13 MP1501	4,0	0,12	0,12	0,12	0,15
			0.16	0.0048	0.0048	0.0048	0.0060

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

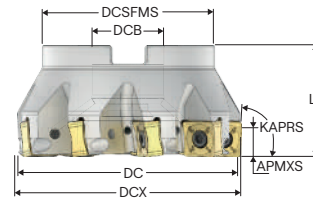
R217/220.88-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MP3000				MS2050				F40M				
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	
P1	295	315	345	395	280	305	330	380	240	260	280	320	225	245	265	305	Square shoulder and slot milling cutters
	970	1025	1125	1300	920	1000	1075	1250	790	850	920	1050	740	800	870	1000	
P2	280	300	335	385	270	290	325	370	230	245	275	315	215	230	260	295	Helical milling cutters
	920	980	1100	1275	890	950	1075	1225	750	800	900	1025	710	750	850	970	
P3	245	265	295	335	235	255	285	320	200	215	240	275	190	205	225	260	Helical milling cutters
	800	870	970	1100	770	840	940	1050	660	710	790	900	620	670	740	850	
P4	215	235	260	295	210	225	250	285	175	190	210	240	165	180	200	225	Helical milling cutters
	710	770	850	970	690	740	820	940	570	620	690	790	540	590	660	740	
P5	210	230	250	280	205	220	240	270	170	185	200	230	165	175	190	215	Helical milling cutters
	690	750	820	920	670	720	790	890	560	610	660	750	540	570	620	710	
P6	235	255	280	315	230	245	270	305	195	210	225	260	180	195	215	245	Face milling cutters
	770	840	920	1025	750	800	890	1000	640	690	740	850	590	640	710	800	
P7	225	240	265	300	215	230	255	285	185	195	215	245	170	185	200	230	Face milling cutters
	740	790	870	980	710	750	840	940	610	640	710	800	560	610	660	750	
P8	205	225	250	280	200	215	240	270	170	180	200	230	160	170	190	215	Face milling cutters
	670	740	820	920	660	710	790	890	560	590	660	750	520	560	620	710	
P11	220	235	255	290	210	225	245	280	175	190	210	235	165	180	195	225	Face milling cutters
	720	770	840	950	690	740	800	920	570	620	690	770	540	590	640	740	
P12	140	155	165	190	135	145	160	185	115	125	135	155	110	120	130	145	Face milling cutters
	460	510	540	620	445	475	520	610	375	410	445	510	360	395	425	475	
M1	—	—	—	—	200	215	240	275	185	200	220	250	175	185	210	240	Disc milling cutters
	—	—	—	—	660	710	790	900	610	660	720	820	570	610	690	790	
M2	—	—	—	—	170	185	200	225	155	165	180	205	145	160	170	195	Disc milling cutters
	—	—	—	—	560	610	660	740	510	540	590	670	475	520	560	640	
M3	—	—	—	—	135	145	160	185	125	135	150	170	115	125	140	160	Disc milling cutters
	—	—	—	—	445	475	520	610	410	445	490	560	375	410	460	520	
M4	—	—	—	—	105	115	125	140	100	105	115	130	90	100	110	120	Disc milling cutters
	—	—	—	—	345	375	410	460	330	345	375	425	295	330	360	395	
M5	—	—	—	—	90	95	105	120	80	85	95	110	75	80	90	100	High feed milling cutters
	—	—	—	—	295	310	345	395	260	280	310	360	245	260	295	330	
K1	300	325	365	415	215	230	255	290	—	—	—	—	170	185	205	235	High feed milling cutters
	980	1075	1200	1350	710	750	840	950	—	—	—	—	560	610	670	770	
K2	275	295	320	365	195	210	225	255	—	—	—	—	155	165	180	205	High feed milling cutters
	900	970	1050	1200	640	690	740	840	—	—	—	—	510	540	590	670	
K3	230	250	270	310	165	175	190	215	—	—	—	—	130	140	155	175	High feed milling cutters
	750	820	890	1025	540	570	620	710	—	—	—	—	425	460	510	570	
K4	220	240	260	295	155	170	185	210	—	—	—	—	125	135	145	165	Copy milling cutters
	720	790	850	970	510	560	610	690	—	—	—	—	410	445	475	540	
K5	135	145	160	180	95	100	115	130	—	—	—	—	75	80	90	100	Copy milling cutters
	445	475	520	590	310	330	375	425	—	—	—	—	245	260	295	330	
K6	195	210	230	260	135	150	160	185	—	—	—	—	110	120	130	145	Copy milling cutters
	640	690	750	850	445	490	520	610	—	—	—	—	360	395	425	475	
K7	170	185	205	230	120	130	145	165	—	—	—	—	95	105	115	130	Copy milling cutters
	560	610	670	750	395	425	475	540	—	—	—	—	310	345	375	425	
H5	—	—	—	—	43	46	50	55	—	—	—	—	36	39	43	49	Plunge milling cutters
	—	—	—	—	140	150	165	180	—	—	—	—	120	130	140	160	
H8	—	—	—	—	45	49	55	60	—	—	—	—	39	42	46	50	Plunge milling cutters
	—	—	—	—	150	160	180	195	—	—	—	—	130	140	150	165	
H11	—	—	—	—	55	60	65	75	—	—	—	—	46	50	55	60	Plunge milling cutters
	—	—	—	—	180	195	215	245	—	—	—	—	150	165	180	195	
H12	—	—	—	—	85	95	105	115	—	—	—	—	70	75	80	95	Plunge milling cutters
	—	—	—	—	280	310	345	375	—	—	—	—	230	245	260	310	

R217/220.88-12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK1501				MP1501				MP2501				MP3501				MS2500			
		80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	—	—	—	—	330	355	395	445	320	345	385	430	355	380	405	450	395	420	450	500
		—	—	—	—	1075	1175	1300	1450	1050	1125	1275	1400	1175	1250	1325	1475	1300	1375	1475	1650
Helical milling cutters	P2	—	—	—	—	320	345	380	420	310	335	370	410	340	360	395	440	375	400	440	490
	P3	—	—	—	—	1050	1125	1250	1375	1025	1100	1225	1350	1125	1175	1300	1450	1225	1300	1450	1600
		—	—	—	—	280	300	335	370	275	295	325	360	300	315	345	380	330	350	385	425
	P4	—	—	—	—	920	980	1100	1225	900	970	1075	1175	980	1025	1125	1250	1075	1150	1275	1400
		—	—	—	—	250	265	295	325	240	260	285	320	260	280	305	335	290	310	340	375
Face milling cutters	P5	—	—	—	—	820	870	970	1075	790	850	940	1050	850	920	1000	1100	950	1025	1125	1225
	P6	—	—	—	—	245	265	280	320	240	255	275	310	255	270	290	320	285	305	325	360
		—	—	—	—	800	870	920	1050	790	840	900	1025	840	890	950	1050	940	1000	1075	1175
	P7	—	—	—	—	275	295	315	360	265	285	310	350	290	305	335	360	320	340	370	400
		—	—	—	—	900	970	1025	1175	870	940	1025	1150	950	1000	1100	1175	1050	1125	1225	1300
Disc milling cutters	P8	—	—	—	—	260	280	300	340	250	270	290	330	270	290	315	340	300	320	350	380
	P11	—	—	—	—	850	920	980	1125	820	890	950	1075	890	950	1025	1125	980	1050	1150	1250
		—	—	—	—	235	255	280	310	230	245	275	305	250	265	290	320	280	295	325	360
	P12	—	—	—	—	770	840	920	1025	750	800	900	1000	820	870	950	1050	920	970	1075	1175
		—	—	—	—	255	270	290	330	245	265	280	320	265	280	305	330	295	310	340	370
High feed milling cutters	M1	—	—	—	—	840	890	950	1075	800	870	920	1050	870	920	1000	1075	970	1025	1125	1225
		—	—	—	—	170	180	195	215	165	175	190	210	170	180	195	210	190	200	215	235
	M2	—	—	—	—	560	590	640	710	540	570	620	690	560	590	640	690	620	660	710	770
		—	—	—	—	—	—	—	—	170	180	200	230	185	200	220	250	220	240	265	305
	M3	—	—	—	—	560	590	660	750	460	510	540	640	510	540	590	670	610	660	720	820
Copy milling cutters	M4	—	—	—	—	—	—	—	—	115	125	135	160	125	135	150	170	150	160	180	205
	M5	—	—	—	—	—	—	—	—	375	410	445	520	410	445	490	560	490	520	590	670
		—	—	—	—	—	—	—	—	90	100	105	120	100	105	115	130	120	125	140	155
	K1	—	—	—	—	—	—	—	—	295	330	345	395	330	345	375	425	395	410	460	510
		—	—	—	—	—	—	—	—	75	80	90	100	80	85	95	110	100	105	115	130
Plunge milling cutters	K2	—	—	—	—	—	—	—	—	245	260	295	330	260	280	310	360	330	345	375	425
		350	400	470	600	325	350	380	425	315	340	370	415	340	365	400	440	245	265	295	335
	K3	1150	1300	1550	1975	1075	1150	1250	1400	1025	1125	1225	1350	1125	1200	1300	1450	800	870	970	1100
		310	355	415	530	295	320	340	385	290	310	330	375	310	330	350	390	220	240	260	295
	K4	1025	1175	1350	1750	970	1050	1125	1275	950	1025	1075	1225	1025	1075	1150	1275	720	790	850	970
Chamfer milling cutters	K5	220	240	270	320	250	270	290	325	245	260	280	320	260	280	300	330	190	205	220	250
		720	790	890	1050	820	890	950	1075	800	850	920	1050	850	920	980	1075	620	670	720	820
	K6	210	230	255	310	240	255	275	310	235	250	270	305	250	265	285	315	180	195	210	240
		690	750	840	1025	790	840	900	1025	770	820	890	1000	820	870	940	1025	590	640	690	790
	K7	125	140	155	185	150	160	170	190	145	155	165	185	155	160	175	190	110	120	130	145
Spot facing cutters	H5	410	460	510	610	490	520	560	620	475	510	540	610	510	520	570	620	360	395	425	475
		185	200	225	270	210	225	245	275	205	220	235	270	220	235	250	275	160	170	185	210
	H8	610	660	740	890	690	740	800	900	670	720	770	890	720	770	820	900	520	560	610	690
		165	180	200	240	190	200	215	245	185	195	210	240	195	205	225	245	140	150	165	190
	H12	540	590	660	790	620	660	710	800	610	640	690	790	640	670	740	800	460	490	540	620
Inserts	H11	—	—	—	—	45	48	55	60	—	—	—	—	40	43	47	55	47	50	55	65
		—	—	—	—	150	155	180	195	—	—	—	—	130	140	155	180	155	165	180	215
	H12	—	—	—	—	49	50	60	65	—	—	—	—	43	46	50	55	50	55	60	65
		—	—	—	—	160	165	195	215	—	—	—	—	140	150	165	180	165	180	195	215
	H12	—	—	—	—	55	60	70	80	—	—	—	—	50	55	60	70	60	65	70	80
		—	—	—	—	180	195	230	260	—	—	—	—	165	180	195	230	195	215	230	260
		—	—	—	—	85	95	105	115	—	—	—	—	75	85	90	105	100	110	120	135
		—	—	—	—	280	310	345	375	—	—	—	—	245	280	295	345	330	360	395	445

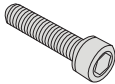
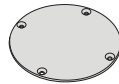
R220.88-16 – Metric



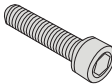
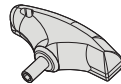
- For insert selection and cutting data recommendations, see page(s) 315–316
- For complete insert programme, see page(s) 905
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.88-0063-16-5SAP	10134810	Arbor	63,0	5	13,0	88,0°	64,75	22,0	–	47,0	40,0	7100	0,5	SN.U1606
R220.88-0080-16-6SAP	10134811	Arbor	80,0	6	13,0	88,0°	81,62	27,0	–	62,0	50,0	6300	1,1	SN.U1606
R220.88-0080-16-7SAP	10134812	Arbor	80,0	7	13,0	88,0°	81,62	27,0	–	62,0	50,0	6300	1,1	SN.U1606
R220.88-0100-16-8SAP	10134813	Arbor	100,0	8	13,0	88,0°	101,6	32,0	–	77,0	50,0	5600	1,9	SN.U1606
R220.88-0100-16-9SAP	10134814	Arbor	100,0	9	13,0	88,0°	101,6	32,0	–	77,0	50,0	5600	1,9	SN.U1606
R220.88-0125-16-10SAP	10134815	Arbor	125,0	10	13,0	88,0°	126,6	40,0	–	90,0	63,0	5000	3,7	SN.U1606
R220.88-0125-16-11SAP	10134816	Arbor	125,0	11	13,0	88,0°	126,6	40,0	–	90,0	63,0	5000	3,6	SN.U1606
R220.88-8160-16-12SAP	10134817	Arbor	160,0	12	13,0	88,0°	161,58	40,0	66,7	90,0	63,0	4400	5,4	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.88-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.88-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

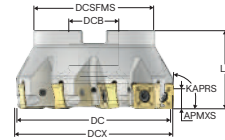
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

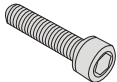
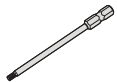
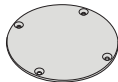
R220.88-16 – inch



—For insert selection and cutting data recommendations, see page(s) 315–316
 —For complete insert programme, see page(s) 905
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.88-03.00-16-6SAP	10134819	Arbor	3.000	6	0.512	88,0 °	3.064	1.000	2.441	1.969	6300	2.650	SN.U1606
R220.88-03.00-16-7SAP	10134820	Arbor	3.000	7	0.512	88,0 °	3.064	1.000	2.441	1.969	6300	2.430	SN.U1606
R220.88-04.00-16-8SAP	10134821	Arbor	4.000	8	0.512	88,0 °	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-04.00-16-9SAP	10134822	Arbor	4.000	9	0.512	88,0 °	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-05.00-16-10SAP	10134823	Arbor	5.000	10	0.512	88,0 °	5.063	1.500	3.543	2.480	5000	8.160	SN.U1606
R220.88-06.00-16-12SAP	10134825	Arbor	6.000	12	0.512	88,0 °	6.062	2.000	4.331	2.480	4400	10.580	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.88-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.88-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.88-16 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMU160612TN-M10 MP3000	8,0 0.32	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P2	SNMU160612TN-M10 MP3000	8,0 0.32	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P3	SNMU160612TN-M18 MP2501	8,0 0.32	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P4	SNMU160612TN-M18 MP2501	8,0 0.32	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P5	SNMU160612TN-M18 MP2501	8,0 0.32	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
P6	SNMU160612TN-M18 MP2501	8,0 0.32	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P7	SNMU160612TN-M18 MP3501	8,0 0.32	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P8	SNMU160612TN-M18 MP3501	8,0 0.32	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P11	SNMU160612TN-M18 MP3501	8,0 0.32	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P12	SNMU160612TN-M18 MP3501	6,0 0.24	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K1	SNMU160612TN-M18 MK1500	8,0 0.32	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K2	SNMU160612TN-M18 MK1500	8,0 0.32	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K3	SNMU160612TN-M18 MP1501	8,0 0.32	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K4	SNMU160612TN-M18 MP1501	8,0 0.32	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K5	SNMU160612TN-M18 MK2050	8,0 0.32	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K6	SNMU160612TN-M18 MK2050	8,0 0.32	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K7	SNMU160612TN-M18 MK2050	8,0 0.32	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
H5	SNMU160612TN-MD16 MP1501	6,0 0.24	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
H8	SNMU160612TN-MD16 MP1501	5,0 0.20	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
H11	SNMU160612TN-MD16 MP1501	6,0 0.24	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
H12	SNMU160612TN-MD16 MP1501	5,0 0.20	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
H21	SNMU160612TN-MD16 MP1501	5,0 0.20	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.88-16 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050				MP3000				F40M			
		80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	225 740	245 800	275 900	315 1025	265 870	285 940	315 1025	355 1175	175 570	190 620	210 690	240 790
	P2	220 720	240 790	270 890	305 1000	255 840	275 900	305 1000	345 1125	170 560	185 610	205 670	235 770
Helical milling cutters	P3	195 640	210 690	235 770	270 890	225 740	240 790	270 890	305 1000	150 490	160 520	180 590	205 670
	P4	170 560	185 610	210 690	235 770	200 660	215 710	235 770	265 870	130 425	145 475	160 520	180 590
	P5	165 540	180 590	200 660	225 740	190 620	205 670	225 740	260 850	130 425	140 460	155 510	175 570
	P6	185 610	200 660	225 740	255 840	215 710	235 770	255 840	290 950	145 475	155 510	175 570	195 640
	P7	175 570	190 620	215 710	240 790	205 670	220 720	240 790	275 900	135 445	145 475	165 540	185 610
Face milling cutters	P8	165 540	175 570	200 660	225 740	190 620	205 670	225 740	255 840	125 410	135 445	155 510	175 570
	P11	170 560	185 610	205 670	235 770	200 660	215 710	235 770	265 870	130 425	140 460	160 520	180 590
	P12	115 375	125 410	135 445	155 510	130 425	140 460	155 510	175 570	90 295	95 310	105 345	120 395
	M1	— —	— —	— —	— —	190 620	205 670	230 750	260 850	135 445	150 490	165 540	190 620
Disc milling cutters	M2	— —	— —	— —	— —	160 520	170 560	190 620	215 710	115 375	125 410	135 445	155 510
	M3	— —	— —	— —	— —	130 425	140 460	155 510	175 570	95 310	105 345	115 375	130 425
	M4	— —	— —	— —	— —	100 330	110 360	120 395	135 445	75 245	80 260	90 295	100 330
	M5	— —	— —	— —	— —	85 280	90 295	100 330	110 360	60 195	65 215	75 245	85 280
High feed milling cutters	K1	240 790	255 840	290 950	330 1075	200 660	220 720	245 800	275 900	135 445	145 475	165 540	185 610
	K2	215 710	230 750	255 840	290 950	180 590	195 640	215 710	245 800	120 395	130 425	145 475	165 540
	K3	180 590	195 640	215 710	245 800	150 490	165 540	180 590	210 690	105 345	110 360	125 410	140 460
	K4	175 570	185 610	205 670	235 770	145 475	155 510	175 570	200 660	100 330	105 345	115 375	135 445
Copy milling cutters	K5	110 360	115 375	125 410	145 475	90 295	95 310	110 360	120 395	60 195	65 215	70 230	85 280
	K6	155 510	165 540	185 610	210 690	125 410	135 445	155 510	175 570	85 280	95 310	105 345	115 375
	K7	140 460	150 490	160 520	190 620	115 375	125 410	140 460	155 510	80 260	85 280	90 295	105 345
	H5	— —	— —	— —	— —	40 130	43 140	48 155	55 180	29 95	32 105	35 115	39 130
Plunge milling cutters	H8	— —	— —	— —	— —	43 140	47 155	50 165	55 180	32 105	34 110	38 125	43 140
	H11	— —	— —	— —	— —	50 165	55 180	60 195	70 230	37 120	40 130	44 145	50 165
	H12	— —	— —	— —	— —	85 280	90 295	95 310	110 360	55 180	60 195	70 230	75 245
Chamfer milling cutters													
Spot facing cutters													
Inserts													

R217/220.88-16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				Square should and slot millin cutters									
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%										
P1	—	—	—	—	310	335	375	420	300	325	365	410	265	285	320	365	Helical milling cutters									
	—	—	—	—	1025	1100	1225	1375	980	1075	1200	1350	870	940	1050	1200										
P2	—	—	—	—	305	325	365	410	290	315	355	400	255	280	315	355		Helical milling cutters								
	—	—	—	—	1000	1075	1200	1350	950	1025	1175	1300	840	920	1025	1175										
P3	—	—	—	—	270	290	325	360	260	280	315	350	230	250	280	310			Helical milling cutters							
	—	—	—	—	890	950	1075	1175	850	920	1025	1150	750	820	920	1025										
P4	—	—	—	—	240	255	285	320	230	245	275	310	200	220	245	275				Helical milling cutters						
	—	—	—	—	790	840	940	1050	750	800	900	1025	660	720	800	900										
P5	—	—	—	—	230	250	270	305	225	240	265	295	195	210	235	265					Helical milling cutters					
	—	—	—	—	750	820	890	1000	740	790	870	970	640	690	770	870										
P6	—	—	—	—	260	280	310	340	250	270	300	330	220	240	265	295						Face milling cutters				
	—	—	—	—	850	920	1025	1125	820	890	980	1075	720	790	870	970										
P7	—	—	—	—	245	265	295	320	235	255	285	315	210	225	250	280							Face milling cutters			
	—	—	—	—	800	870	970	1050	770	840	940	1025	690	740	820	920										
P8	—	—	—	—	225	245	270	305	220	235	265	295	195	210	235	265								Face milling cutters		
	—	—	—	—	740	800	890	1000	720	770	870	970	640	690	770	870										
P11	—	—	—	—	240	255	285	315	230	245	275	305	205	220	245	270									Face milling cutters	
	—	—	—	—	790	840	940	1025	750	800	900	1000	670	720	800	890										
P12	—	—	—	—	165	175	190	210	160	170	190	205	145	155	170	185										Face milling cutters
	—	—	—	—	540	570	620	690	520	560	620	670	475	510	560	610										
K1	300	345	410	520	305	330	370	415	295	320	355	405	260	280	315	355	Disc milling cutters									
	980	1125	1350	1700	1000	1075	1225	1350	970	1050	1175	1325	850	920	1025	1175										
K2	270	310	365	455	280	300	330	370	270	290	320	360	240	255	285	320		Disc milling cutters								
	890	1025	1200	1500	920	980	1075	1225	890	950	1050	1175	790	840	940	1050										
K3	185	205	235	270	235	255	280	310	230	245	270	305	200	215	240	270			Disc milling cutters							
	610	670	770	890	770	840	920	1025	750	800	890	1000	660	710	790	890										
K4	175	195	225	260	225	245	265	295	220	235	260	290	190	205	230	255				Disc milling cutters						
	570	640	740	850	740	800	870	970	720	770	850	950	620	670	750	840										
K5	105	120	135	160	140	150	165	185	135	150	160	180	120	130	140	160					High feed milling cutters					
	345	395	445	520	460	490	540	610	445	490	520	590	395	425	460	520										
K6	155	170	195	230	200	215	235	260	190	205	225	255	170	185	200	225						High feed milling cutters				
	510	560	640	750	660	710	770	850	620	670	740	840	560	610	660	740										
K7	135	150	175	205	180	195	210	235	175	190	205	230	155	165	180	205							High feed milling cutters			
	445	490	570	670	590	640	690	770	570	620	670	750	510	540	590	670										
H5	—	—	—	—	44	47	55	60	—	—	—	—	34	37	41	45								Copy milling cutters		
	—	—	—	—	145	155	180	195	—	—	—	—	110	120	135	150										
H11	—	—	—	—	55	60	65	75	—	—	—	—	43	47	50	60									Copy milling cutters	
	—	—	—	—	180	195	215	245	—	—	—	—	140	155	165	195										
H12	—	—	—	—	85	90	100	115	—	—	—	—	65	70	80	90										Copy milling cutters
	—	—	—	—	280	295	330	375	—	—	—	—	215	230	260	295										
																	Plunge milling cutters									
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Square shoulder
and slot milling
cutters

Helical milling
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Face milling
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Disc milling
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High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

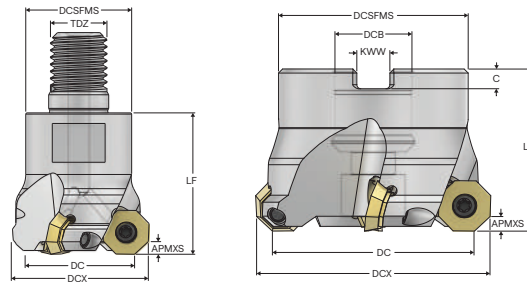


Octomill 05/07

Octomill™ 05 and 07 provide one of the most comprehensive ranges of face milling cutters on the market. Designed to handle many applications, Octomill 05 and 07 offer high performance and process security. These cutters excel in medium to rough machining in steel and stainless steel. With eight edges, the cutters are more economical than traditional cutters due to a lower cost per cutting edge.

- Insert size 05, cutter range 32-315mm (1.5-4 inch)
- Insert size 07, cutter range 50-315mm (2.5-6 inch)
- Octomill 05 is for small machines and Octomill 07 is for medium sized machines

Octomill R217/R220.43-05 – Metric



- For insert selection and cutting data recommendations, see page(s) 322 – 324
- For complete insert programme, see page(s) 882
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		mm		kg	
R217.43-1632.RE-05.3A	00005768	Combimaster	32,0	3	3,5	43,0 °	40,0	–	–	30,0	M16	40,0	14800	0,3	OF..05
R220.43-0032-05	75069157	Arbor	32,0	3	3,5	43,0 °	41,0	16,0	–	35,0	–	40,0	14800	0,3	OF..05
R220.43-0040-05	75069158	Arbor	40,0	3	3,5	43,0 °	49,0	16,0	–	35,0	–	40,0	13200	0,3	OF..05
R220.43-0040-05-4A	00026516	Arbor	40,0	4	3,5	43,0 °	49,0	16,0	–	35,0	–	40,0	13200	0,3	OF..05
R220.43-0050-05	75069159	Arbor	50,0	4	3,5	43,0 °	59,0	22,0	–	47,0	–	40,0	11900	0,5	OF..05
R220.43-0050-05-5A	00026517	Arbor	50,0	5	3,5	43,0 °	59,0	22,0	–	47,0	–	40,0	11900	0,5	OF..05
R220.43-0063-05	75069160	Arbor	63,0	5	3,5	43,0 °	72,0	22,0	–	47,0	–	40,0	10600	0,6	OF..05
R220.43-0063-05-6A	00026518	Arbor	63,0	6	3,5	43,0 °	72,0	22,0	–	47,0	–	40,0	10600	0,6	OF..05
R220.43-0080-05	75069161	Arbor	80,0	6	3,5	43,0 °	89,0	27,0	–	62,0	–	50,0	9400	1,2	OF..05
R220.43-0080-05-8A	00026519	Arbor	80,0	8	3,5	43,0 °	89,0	27,0	–	62,0	–	50,0	9400	0,9	OF..05
R220.43-0100-05	75069162	Arbor	100,0	7	3,5	43,0 °	109,0	32,0	–	77,0	–	50,0	8400	1,9	OF..05
R220.43-0125-05	75079618	Arbor	125,0	8	3,5	43,0 °	134,0	40,0	–	90,0	–	63,0	7500	3,3	OF..05
R220.43-8160-05	75080766	Arbor	160,0	10	3,5	43,0 °	169,0	40,0	66,7	90,0	–	63,0	6600	5,5	OF..05

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.43-..	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0032	220.17-690	1/4HEX-T15PX50	C04008-T15P
R220.43-0040	TCEI0825	1/4HEX-T15PX50	C04008-T15P
R220.43-0050-0063	220.17-692	1/4HEX-T15PX50	C04008-T15P
R220.43-0080	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0100-8160	–	1/4HEX-T15PX90	C04008-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.43-0032-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

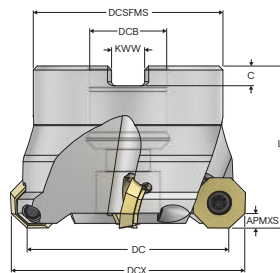
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Octomill R220.43-05 – inch



—For insert selection and cutting data recommendations, see page(s) 322 – 324
 —For complete insert programme, see page(s) 882
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.43-02.00-05	00086838	Arbor	1.969	4	0.138	43,0 °	2.441	0.750	1.850	1.575	11900	1.100	OF..05
R220.43-02.50-05	00086839	Arbor	2.480	5	0.138	43,0 °	2.953	0.750	1.850	1.575	10600	1.320	OF..05
R220.43-03.00-05	00086840	Arbor	3.150	6	0.138	43,0 °	3.622	1.000	2.441	1.969	9400	2.430	OF..05
R220.43-04.00-05	00086841	Arbor	3.937	7	0.138	43,0 °	4.291	1.500	3.543	1.969	8400	3.750	OF..05

Spare Parts, included in delivery

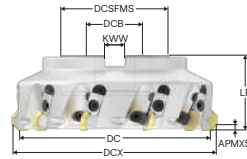
For cutter	Arbor screw	Insert key	Insert screw
R220.43-02.00	UC6S3/8UNFX1	1/4HEX-T15PX50	C04008-T15P
R220.43-02.50-03.00	-	1/4HEX-T15PX50	C04008-T15P
R220.43-04.00	-	1/4HEX-T15PX90	C04008-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
R220.43-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

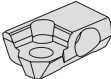
Octomill R220.43-05C/CT/CG – Metric



- For insert selection and cutting data recommendations, see page(s) 322 – 324
- For complete insert programme, see page(s) 882
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.43-0125-05C	00090988	Arbor	125,0	8	3,5	43,0 °	134,0	40,0	–	90,0	63,0	3800	3,7	OF..05
R220.43-0125-05CT	00090989	Arbor	125,0	10	3,5	43,0 °	134,0	40,0	–	90,0	63,0	3800	4,0	OF..05
R220.43-8160-05C	00090991	Arbor	160,0	10	3,5	43,0 °	169,0	40,0	66,7	90,0	63,0	3300	5,8	OF..05
R220.43-8160-05CT	00090992	Arbor	160,0	14	3,5	43,0 °	169,0	40,0	66,7	90,0	63,0	3300	5,8	OF..05
R220.43-8200-05C	00090994	Arbor	200,0	12	3,5	43,0 °	209,0	60,0	101,6	130,0	63,0	3000	8,5	OF..05
R220.43-8250-05C	00090997	Arbor	250,0	16	3,5	43,0 °	259,0	60,0	101,6	130,0	63,0	2700	14,3	OF..05

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
						
R220.43-0125	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-0125C	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160C/CG	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160CT	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-8200-8250C/CG	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Nest key	Setting key
					
R220.43-0125C	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4
R220.43-0125CT	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	–	T15P-4
R220.43-8160C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4
R220.43-8160CT	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	–	T15P-4
R220.43-8200-8250C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.43-05 – Insert selection – mm/Inch

	SMG	a_p	f_z			
			80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	OFEX05T305TN-M08 MP3501 2,0 0.080	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
	P2	OFEX05T305TN-M08 MP3501 2,0 0.080	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
Helical milling cutters	P3	OFEX05T305TN-M08 MP3501 2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
	P4	OFEX05T305TN-M08 MP2501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	P5	OFEX05T305TN-M08 MP2501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	P6	OFEX05T305TN-M08 MP2501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	P7	OFEX05T305TN-M08 MP2501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	P8	OFEX05T305TN-M08 MP3501 2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
	P11	OFEX05T305TN-M08 MP3501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
Face milling cutters	P12	OFEX05T305TN-M08 MP3501 1,7 0.065	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
	M1	OFEX05T305TN-ME07 F40M 2,0 0.080	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075
Disc milling cutters	M2	OFEX05T305TN-ME07 F40M 2,0 0.080	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
	M3	OFEX05T305TN-ME07 F40M 1,7 0.065	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
	M4	OFEX05T305TN-ME07 F40M 1,3 0.050	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
	M5	OFEX05T305TN-ME07 F40M 1,3 0.050	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
	K1	OFEX05T305TN-M08 MK1501 2,0 0.080	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
High feed milling cutters	K2	OFEX05T305TN-M08 MK1501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
	K3	OFEX05T305TN-D09 MP1501 2,0 0.080	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
	K4	OFEX05T305TN-D09 MP1501 2,0 0.080	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
	K5	OFEX05T305TN-D09 MP1501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	K6	OFEX05T305TN-D09 MP1501 2,0 0.080	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
	K7	OFEX05T305TN-D09 MP1501 2,0 0.080	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
	N1	OFEX05T305N-E04 F15M 2,0 0.080	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
Copy milling cutters	N2	OFEX05T305N-E04 F15M 2,0 0.080	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
	N3	OFEX05T305N-E04 F15M 2,0 0.080	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
Plunge milling cutters	N11	OFEX05T305N-E04 F15M 2,0 0.080	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
	S1	OFEX05T305TN-ME07 F40M 1,3 0.050	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
	S2	OFEX05T305TN-ME07 F40M 1,3 0.050	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
	S3	OFEX05T305TN-ME07 F40M 1,3 0.050	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
Chamfer milling cutters	S11	OFEX05T305TN-ME07 F40M 1,5 0.060	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
	S12	OFEX05T305TN-ME07 F40M 1,5 0.060	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
	S13	OFEX05T305TN-ME07 F40M 1,3 0.050	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
	H5	OFEX05T305TN-D09 MP1501 1,7 0.065	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
Spot facing cutters	H8	OFEX05T305TN-D09 MP1501 1,5 0.060	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
	H11	OFEX05T305TN-D09 MP1501 1,7 0.065	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
	H12	OFEX05T305TN-D09 MP1501 1,5 0.060	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
	H21	OFEX05T305TN-D09 MP1501 1,5 0.060	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

feed milling cutters

High speed milling cutters

Age milling
cutters

Plunging cutter

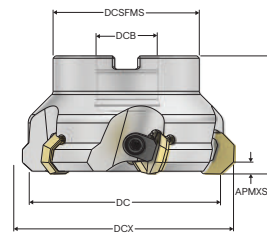
acing
ers

Spot f
cutt

R217/220.43-05 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	420	435	460	495	425	440	465	500	380	395	415	445	290	310	330	365
	—	—	—	—	1375	1425	1500	1625	1400	1450	1525	1650	1250	1300	1350	1450	950	1025	1075	1200
P2	—	—	—	—	400	415	440	480	405	420	445	485	365	375	400	435	285	300	320	350
	—	—	—	—	1300	1350	1450	1575	1325	1375	1450	1600	1200	1225	1300	1425	940	980	1050	1150
P3	—	—	—	—	350	365	385	420	355	365	390	420	320	330	350	380	245	260	275	305
	—	—	—	—	1150	1200	1275	1375	1175	1200	1275	1375	1050	1075	1150	1250	800	850	900	1000
P4	—	—	—	—	315	325	345	370	320	330	350	370	285	295	315	335	220	230	250	270
	—	—	—	—	1025	1075	1125	1225	1050	1075	1150	1225	940	970	1025	1100	720	750	820	890
P5	—	—	—	—	300	310	330	355	305	315	330	360	275	280	300	325	210	220	235	265
	—	—	—	—	980	1025	1075	1175	1000	1025	1075	1175	900	920	980	1075	690	720	770	870
P6	—	—	—	—	335	345	370	400	340	355	375	405	305	315	335	365	235	250	265	295
	—	—	—	—	1100	1125	1225	1300	1125	1175	1225	1325	1000	1025	1100	1200	770	820	870	970
P7	—	—	—	—	315	330	345	375	320	335	350	380	290	300	315	345	220	235	250	280
	—	—	—	—	1025	1075	1125	1225	1050	1100	1150	1250	950	980	1025	1125	720	770	820	920
P8	—	—	—	—	295	305	325	350	300	310	325	355	270	275	295	320	205	215	235	260
	—	—	—	—	970	1000	1075	1150	980	1025	1075	1175	890	900	970	1050	670	710	770	850
P11	—	—	—	—	310	320	335	365	310	325	340	370	280	290	305	335	215	225	245	270
	—	—	—	—	1025	1050	1100	1200	1025	1075	1125	1225	920	950	1000	1100	710	740	800	890
P12	—	—	—	—	200	205	215	230	200	205	215	230	180	185	195	210	140	150	160	175
	—	—	—	—	660	670	710	750	660	670	710	750	590	610	640	690	460	490	520	570
M1	—	—	—	—	—	—	—	—	205	220	235	260	195	205	220	245	230	240	260	285
	—	—	—	—	—	—	—	—	670	720	770	850	640	670	720	800	750	790	850	940
M2	—	—	—	—	—	—	—	—	175	185	195	220	160	170	185	205	185	200	215	235
	—	—	—	—	—	—	—	—	570	610	640	720	520	560	610	670	610	660	710	770
M3	—	—	—	—	—	—	—	—	140	150	160	175	130	140	150	165	150	160	175	185
	—	—	—	—	—	—	—	—	460	490	520	570	425	460	490	540	490	520	570	610
M4	—	—	—	—	—	—	—	—	105	115	125	135	100	105	115	125	115	125	135	145
	—	—	—	—	—	—	—	—	345	375	410	445	330	345	375	410	375	410	445	475
M5	—	—	—	—	—	—	—	—	90	95	105	110	85	90	95	105	95	105	110	120
	—	—	—	—	—	—	—	—	295	310	345	360	280	295	310	345	310	345	360	395
K1	355	425	480	560	405	420	445	485	410	425	450	490	370	380	405	440	225	235	255	280
	1175	1400	1575	1825	1325	1375	1450	1600	1350	1400	1475	1600	1225	1250	1325	1450	740	770	840	920
K2	315	375	425	500	360	375	395	430	365	380	400	435	330	340	360	390	200	210	225	250
	1025	1225	1400	1650	1175	1225	1300	1400	1200	1250	1300	1425	1075	1125	1175	1275	660	690	740	820
K3	255	280	305	345	305	315	335	365	310	320	340	370	280	290	305	330	165	175	190	210
	840	920	1000	1125	1000	1025	1100	1200	1025	1050	1125	1225	920	950	1000	1075	540	570	620	690
K4	240	265	290	330	290	300	320	345	295	305	325	350	265	275	290	315	160	170	180	200
	790	870	950	1075	950	980	1050	1125	970	1000	1075	1150	870	900	950	1025	520	560	590	660
K5	150	165	180	200	180	185	195	210	180	190	200	210	165	170	180	190	95	105	110	120
	490	540	590	660	590	610	640	690	590	620	660	690	540	560	590	620	310	345	360	395
K6	215	235	255	290	260	265	280	305	260	270	285	310	235	240	255	280	140	150	160	180
	710	770	840	950	850	870	920	1000	850	890	940	1025	770	790	840	920	460	490	520	590
K7	190	210	230	255	230	235	250	270	235	240	255	270	210	215	230	245	125	130	140	155
	620	690	750	840	750	770	820	890	770	790	840	890	690	710	750	800	410	425	460	510
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	155	160	180	195	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	37	40	44	47	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	120	130	145	155	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	41	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	110	115	125	135	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	215	230	245	280	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	180	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110	—	—	—	—
H5	—	—	—	—	55	55	60	65	—	—	—	—	42	44	47	50	—	—	—	—
	—	—	—	—	180	180	195	215	—	—	—	—	140	145	155	165	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	180	195	215	230	—	—	—	—	145	155	165	180	—	—	—	—
H11	—	—	—	—	65	70	75	85	—	—	—	—	55	55	60	65	—	—	—	—
	—	—	—	—	215	230	245	280	—	—	—	—	180	180	1					

Octomill R220.43-07W – Metric



- For insert selection and cutting data recommendations, see page(s) 329–331
- For complete insert programme, see page(s) 881
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.43-0050-07W	00034758	Arbor	50,0	4	5,0	43,0 °	62,0	22,0	–	47,0	60,0	6300	0,7	OF..0704
R220.43-0063-07W	00005691	Arbor	63,0	4	5,0	43,0 °	75,0	22,0	–	47,0	40,0	5600	0,6	OF..0704
R220.43-0080-07W	00005692	Arbor	80,0	5	5,0	43,0 °	92,0	27,0	–	62,0	50,0	5000	1,3	OF..0704
R220.43-0100-07W	00005693	Arbor	100,0	6	5,0	43,0 °	112,0	32,0	–	77,0	50,0	4400	1,8	OF..0704
R220.43-0125-07W	00005694	Arbor	125,0	8	5,0	43,0 °	137,0	40,0	–	90,0	63,0	4000	2,8	OF..0704
R220.43-8160-07W	00005695	Arbor	160,0	10	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3500	5,1	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-0050	220.17-696	1/4HEX-T25PX50	334.5-640	LD8018-T25P
R220.43-0063	MF6S10X40	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-0080	MC6S12X35	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-0100-8160	–	1/4HEX-T25PX50	CW0810	LD8018-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.43-0050-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

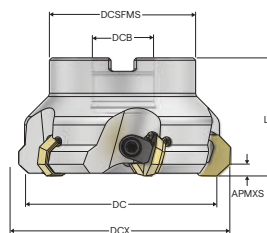
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Octomill R220.43-07W – inch



—For insert selection and cutting data recommendations, see page(s) 329–331
 —For complete insert programme, see page(s) 881
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	KAPRS°	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.43-03.00-07W	00003266	Arbor	3.150	5	0.197	43,0 °	3.622	1.000	2.441	1.969	5000	2.870	OF..0704
R220.43-04.00-07W	00003268	Arbor	3.937	6	0.197	43,0 °	4.409	1.500	3.543	1.969	4400	4.410	OF..0704

Spare Parts, included in delivery

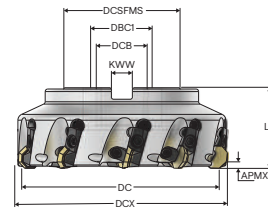
For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-03.00	UF6S1/2UNFX1-1/2	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-04.00	UF6S3/4UNFX2	1/4HEX-T25PX50	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Bit holder
		
R220.43-02.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

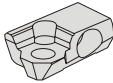
Octomill R220.43-07C/CG/CT – Metric



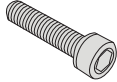
- For insert selection and cutting data recommendations, see page(s) 329–331
- For complete insert programme, see page(s) 881
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.43-8160-07C	75077240	Arbor	160,0	10	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3300	5,7	OF..0704
R220.43-8160-07CT	75077241	Arbor	160,0	14	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3300	5,6	OF..0704
R220.43-8200-07C	75077243	Arbor	200,0	12	5,0	43,0 °	212,0	60,0	101,6	130,0	63,0	3000	8,3	OF..0704
R220.43-8250-07C	75077246	Arbor	250,0	16	5,0	43,0 °	262,0	60,0	101,6	130,0	63,0	2700	14,3	OF..0704

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
						
R220.43-0125-8200-C	AU1114T-T15P	OF07AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160-CT	AU1114T-T15P	OF07AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Nest key	Setting key
					
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.43-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

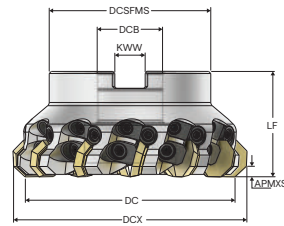
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Octomill R220.43-07T – Metric



—For insert selection and cutting data recommendations, see page(s) 329–331
 —For complete insert programme, see page(s) 881
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.43-0063-07-6T	00004368	Arbor	63,0	6	5,0	43,0 °	75,0	22,0	47,0	50,0	5600	0,7	OF..0704
R220.43-0080-07-9T	00004369	Arbor	80,0	9	5,0	43,0 °	92,0	27,0	62,0	50,0	5000	1,2	OF..0704
R220.43-0100-07-12T	00004371	Arbor	100,0	12	5,0	43,0 °	112,0	32,0	77,0	50,0	4400	1,6	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Axial setting unit	Insert key	Insert wedge	Setting key	Setting screw (axial)	Wedge clamp axial adj.	Wedge screw
								
R220.43-0063	MF6S10X40	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0080	MC6S12X35	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0100-0125	–	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.43-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.43-07 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	OFER070405TN-ME15 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	Square shoulder and slot milling cutters
P2	OFER070405TN-ME15 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017	
P3	OFER070405TN-M16 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017	
P4	OFER070405TN-M16 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,40 0.016	Helical milling cutters
P5	OFER070405TN-M16 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
P6	OFER070405TN-M16 MP2501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
P7	OFER070405TN-M16 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	Face milling cutters
P8	OFER070405TN-M16 MP3501	3,0 0.12	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017	
P11	OFER070405TN-ME15 MP3501	3,0 0.12	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015	
P12	OFER070405TN-ME15 MP3501	2,5 0.10	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010	Disc milling cutters
M1	OFER070405TN-ME10 F40M	3,0 0.12	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011	
M2	OFER070405TN-ME10 F40M	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010	
M3	OFER070405TN-ME10 F40M	2,5 0.10	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	High feed milling cutters
M4	OFER070405TN-ME10 F40M	1,8 0.070	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	
M5	OFER070405TN-ME10 F40M	1,8 0.070	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	
K1	OFER070405TN-M16 MK1501	3,0 0.12	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017	Copy milling cutters
K2	OFER070405TN-M16 MK1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K3	OFER070405TN-M16 MP1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K4	OFER070405TN-M16 MP1501	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	Plunge milling cutters
K5	OFER070405TN-M16 MP1501	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014	
K6	OFER070405TN-M16 MK2050	3,0 0.12	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016	
K7	OFER070405TN-M16 MK2050	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014	Chamfer milling cutters
N1	OFER070405N-E07 H15	3,0 0.12	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010	
N2	OFER070405N-E07 H15	3,0 0.12	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010	
N3	OFER070405N-E07 H15	3,0 0.12	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010	Spot facing cutters
N11	OFER070405N-E07 H15	3,0 0.12	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010	
S1	OFER070405TN-ME10 F40M	1,8 0.070	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	
S2	OFER070405TN-ME10 F40M	1,8 0.070	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	Inserts
S3	OFER070405TN-ME10 F40M	1,8 0.070	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,17 0.0065	
S11	OFER070405TN-ME10 F40M	2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
S12	OFER070405TN-ME10 F40M	2,0 0.080	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080	
S13	OFER070405TN-ME10 F40M	1,8 0.070	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070	
H5	OFEN070405TN-D18 MP1501	2,5 0.10	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012	
H8	OFEN070405TN-D18 MP1501	2,0 0.080	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
H11	OFEN070405TN-D18 MP1501	2,5 0.10	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012	
H12	OFEN070405TN-D18 MP1501	2,0 0.080	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	
H21	OFEN070405TN-D18 MP1501	2,0 0.080	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

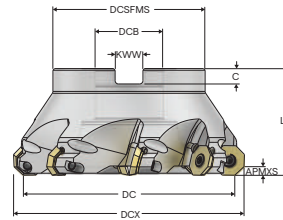
R220.43-07 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M				MK2050				F30M				F40M				H15			
		80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	—	—	—	—	265	285	315	360	245	265	295	330	210	225	245	280	—	—	—	—
		—	—	—	—	870	940	1025	1175	800	870	970	1075	690	740	800	920	—	—	—	—
Helical milling cutters	P2	—	—	—	—	255	275	305	345	240	260	290	325	200	215	240	275	—	—	—	—
	P3	—	—	—	—	840	900	1000	1125	790	850	950	1075	660	710	790	900	—	—	—	—
		—	—	—	—	220	240	270	305	210	230	250	285	175	190	210	240	—	—	—	—
	P4	—	—	—	—	720	790	890	1000	690	750	820	940	570	620	690	790	—	—	—	—
		—	—	—	—	200	215	235	270	185	200	220	250	155	170	185	210	—	—	—	—
Face milling cutters	P5	—	—	—	—	660	710	770	890	610	660	720	820	510	560	610	690	—	—	—	—
	P6	—	—	—	—	190	205	225	255	180	195	215	240	150	160	175	205	—	—	—	—
		—	—	—	—	620	670	740	840	590	640	710	790	490	520	570	670	—	—	—	—
	P7	—	—	—	—	215	230	260	295	200	215	240	270	170	180	205	230	—	—	—	—
		—	—	—	—	710	750	850	970	660	710	790	890	560	590	670	750	—	—	—	—
Disc milling cutters	P8	—	—	—	—	200	220	245	275	190	205	225	255	160	170	190	215	—	—	—	—
	P11	—	—	—	—	660	720	800	900	620	670	740	840	520	560	620	710	—	—	—	—
		—	—	—	—	185	200	225	255	180	195	210	240	145	160	175	200	—	—	—	—
	P12	—	—	—	—	610	660	740	840	590	640	690	790	475	520	570	660	—	—	—	—
		—	—	—	—	195	210	235	270	185	200	220	250	155	165	185	210	—	—	—	—
High feed milling cutters	M1	—	—	—	—	640	690	770	890	610	660	720	820	510	540	610	690	—	—	—	—
	M2	—	—	—	—	130	140	155	175	120	130	145	160	105	110	120	140	—	—	—	—
		—	—	—	—	425	460	510	570	395	425	475	520	345	360	395	460	—	—	—	—
	M3	—	—	—	—	100	105	120	135	85	90	100	115	70	75	85	100	—	—	—	—
		—	—	—	—	330	345	395	445	280	295	330	375	230	245	280	330	—	—	—	—
Copy milling cutters	K1	270	290	325	365	275	295	330	370	190	205	230	255	155	170	190	215	—	—	—	—
	K2	890	950	1075	1200	900	970	1075	1225	620	670	750	840	510	560	620	710	—	—	—	—
		245	260	285	325	245	265	290	330	170	185	205	225	140	155	170	195	—	—	—	—
	K3	800	850	940	1075	800	870	950	1075	560	610	670	740	460	510	560	640	—	—	—	—
		205	220	240	275	210	225	245	280	145	155	170	190	120	130	140	165	—	—	—	—
Plunge milling cutters	K4	670	720	790	900	690	740	800	920	475	510	560	620	395	425	460	540	—	—	—	—
	K5	195	210	230	260	200	215	235	270	135	150	165	185	115	125	135	155	—	—	—	—
		640	690	750	850	660	710	770	890	445	490	540	610	375	410	445	510	—	—	—	—
	K6	120	130	140	160	120	130	145	165	85	90	100	110	70	75	85	95	—	—	—	—
		395	425	460	520	395	425	475	540	280	295	330	360	230	245	280	310	—	—	—	—
Chamfer milling cutters	K7	175	185	205	230	175	190	210	235	120	130	145	160	100	110	120	140	—	—	—	—
	N1	570	610	670	750	570	620	690	770	395	425	475	520	330	360	395	460	—	—	—	—
		155	165	180	205	155	165	185	215	110	115	125	145	90	95	110	125	—	—	—	—
	N2	510	540	590	670	510	540	610	710	360	375	410	475	295	310	360	410	—	—	—	—
		2000	2175	2425	2725	—	—	—	—	1400	1500	1650	1875	1150	1250	1375	1575	1600	1725	1900	2150
Spot facing cutters	N3	6550	7125	7950	8950	—	—	—	—	4600	4925	5425	6150	3775	4100	4500	5175	5250	5650	6225	7050
	N4	810	880	970	1100	—	—	—	—	560	610	670	760	465	510	560	630	640	690	770	870
		2650	2875	3175	3600	—	—	—	—	1825	2000	2200	2500	1525	1675	1825	2075	2100	2275	2525	2850
	N5	540	580	650	730	—	—	—	—	375	405	445	510	310	335	375	420	430	460	510	580
		1775	1900	2125	2400	—	—	—	—	1225	1325	1450	1675	1025	1100	1225	1375	1400	1500	1675	1900
Inserts	H1	620	670	740	840	—	—	—	—	430	465	510	580	355	385	425	480	490	530	590	660
	H2	2025	2200	2425	2750	—	—	—	—	1400	1525	1675	1900	1175	1275	1400	1575	1600	1750	1925	2175
		—	—	—	—	—	—	—	—	—	—	—	—	40	43	48	55	—	—	—	—
	H3	—	—	—	—	—	—	—	—	—	—	—	—	130	140	155	180	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	32	34	38	44	—	—	—	—
Square shoulder and slot milling cutters	S1	—	—	—	—	—	—	—	—	—	—	—	—	105	110	125	145	—	—	—	—
	S2	—	—	—	—	—	—	—	—	—	—	—	—	28	31	34	38	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	90	100	110	125	—	—	—	—
	S3	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	75	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	180	195	215	245	—	—	—	—
Face milling cutters	S11	—	—	—	—	—	—	—	—	—	—	—	—	38	42	46	50	—	—	—	—
	S12	—	—	—	—	—	—	—	—	—	—	—	—	125	140	150	165	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	22	24	27	31	—	—	—	—
	S13	—	—	—	—	—	—	—	—	—	—	—	—	70	80	90	100	—	—	—	—
		—	—	—	—	—	—	—	—	40	43	47	55	34	37	40	46	—	—	—	—
Helical milling cutters	H5	—	—	—	—	—	—	—	—	130	140	155	180	110	120	130	150	—	—	—	—
	H8	—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
		—	—	—	—	—	—	—	—	140	150	165	180	120	130	145	160	—	—	—	—
	H11	—	—	—	—	—	—	—	—	50	55	60	70	44	47	50	60	—	—	—	—
		—	—	—	—	—	—	—	—	165	180	195	230	145	155	165	195	—	—	—	—
Face milling cutters	H12	—	—	—	—	—	—	—	—	75	80	90	105	65	70	80	90	—	—	—	—
	H21	—	—	—	—	—	—	—	—	245	260	295	345	215	230	260	295	—	—	—	—
		—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
	H22	—	—	—	—	—	—	—	—	140	150	165	180	120	130	145	160	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

R220.43-07 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MP3501				T25M				Square shoulder and slot mill cutters
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	
P1	—	—	—	—	360	370	395	435	350	360	385	420	360	365	395	440	210	225	240	265	
	—	—	—	—	1175	1225	1300	1425	1150	1175	1275	1375	1175	1200	1300	1450	690	740	790	870	
P2	—	—	—	—	350	360	385	420	340	350	375	410	350	355	385	420	205	220	235	260	
	—	—	—	—	1150	1175	1275	1375	1125	1150	1225	1350	1150	1175	1275	1375	670	720	770	850	
P3	—	—	—	—	310	320	340	370	300	310	330	360	310	315	340	370	180	190	205	225	
	—	—	—	—	1025	1050	1125	1225	980	1025	1075	1175	1025	1025	1125	1225	590	620	670	740	
P4	—	—	—	—	275	280	300	325	265	270	290	315	270	275	300	330	160	170	180	200	
	—	—	—	—	900	920	980	1075	870	890	950	1025	890	900	980	1075	520	560	590	660	
P5	—	—	—	—	260	265	285	320	255	260	280	310	260	265	285	315	150	160	175	195	
	—	—	—	—	850	870	940	1050	840	850	920	1025	850	870	940	1025	490	520	570	640	
P6	—	—	—	—	290	300	320	355	285	290	310	350	290	295	320	355	170	180	195	220	
	—	—	—	—	950	980	1050	1175	940	950	1025	1150	950	970	1050	1175	560	590	640	720	
P7	—	—	—	—	275	285	305	335	270	275	295	330	275	280	300	335	160	170	185	205	
	—	—	—	—	900	940	1000	1100	890	900	970	1075	900	920	980	1100	520	560	610	670	
P8	—	—	—	—	260	265	285	310	255	260	280	305	260	265	285	310	150	160	175	190	
	—	—	—	—	850	870	940	1025	840	850	920	1000	850	870	940	1025	490	520	570	620	
P11	—	—	—	—	270	275	295	325	260	265	285	320	265	275	295	325	155	165	180	200	
	—	—	—	—	890	900	970	1075	850	870	940	1050	870	900	970	1075	510	540	590	660	
P12	—	—	—	—	180	185	200	215	175	180	195	210	185	190	200	220	105	110	120	130	
	—	—	—	—	590	610	660	710	570	590	640	690	610	620	660	720	345	360	395	425	
M1	—	—	—	—	—	—	—	—	180	190	205	225	190	200	220	240	165	175	190	210	
	—	—	—	—	—	—	—	—	590	620	670	740	620	660	720	790	540	570	620	690	
M2	—	—	—	—	—	—	—	—	145	155	170	190	155	165	180	200	135	145	155	175	
	—	—	—	—	—	—	—	—	475	510	560	620	510	540	590	660	445	475	510	570	
M3	—	—	—	—	—	—	—	—	120	130	140	155	130	135	145	165	115	120	130	140	
	—	—	—	—	—	—	—	—	395	425	460	510	425	445	475	540	375	395	425	460	
M4	—	—	—	—	—	—	—	—	95	100	110	120	100	105	115	125	90	95	100	110	
	—	—	—	—	—	—	—	—	310	330	360	395	330	345	375	410	295	310	330	360	
M5	—	—	—	—	—	—	—	—	80	85	90	100	85	85	95	105	75	80	85	95	
	—	—	—	—	—	—	—	—	260	280	295	330	280	280	310	345	245	260	280	310	
K1	330	400	460	540	355	365	390	425	345	350	380	415	350	360	385	420	165	175	185	205	
	1075	1300	1500	1775	1175	1200	1275	1400	1125	1150	1250	1350	1150	1175	1275	1375	540	570	610	670	
K2	290	350	400	475	315	325	345	385	305	315	335	375	315	320	345	385	145	155	165	185	
	950	1150	1300	1550	1025	1075	1125	1275	1000	1025	1100	1225	1025	1050	1125	1275	475	510	540	610	
K3	220	245	270	310	265	275	295	325	260	265	285	315	265	270	290	325	120	130	140	155	
	720	800	890	1025	870	900	970	1075	850	870	940	1025	870	890	950	1075	395	425	460	510	
K4	210	235	260	295	255	260	280	310	245	255	270	300	255	260	280	310	115	125	135	150	
	690	770	850	970	840	850	920	1025	800	840	890	980	840	850	920	1025	375	410	445	490	
K5	130	145	160	180	160	165	175	190	155	160	170	185	160	165	175	190	75	75	85	90	
	425	475	520	590	520	540	570	620	510	520	560	610	520	540	570	620	245	245	280	295	
K6	185	205	225	260	225	230	245	275	220	225	240	265	225	230	245	275	105	110	120	130	
	610	670	740	850	740	750	800	900	720	740	790	870	740	750	800	900	345	360	395	425	
K7	170	185	205	230	205	210	225	240	200	205	220	235	205	210	225	240	95	100	105	115	
	560	610	670	750	670	690	740	790	660	670	720	770	670	690	740	790	310	330	345	375	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	46	49	55	60	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	150	160	180	195	—	—	—	—	
S2	—	—	—	—	—	—	—	—	—	—	—	—	37	39	43	47	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	120	130	140	155	—	—	—	—	
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	42	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	110	115	125	140	—	—	—	—	
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	215	230	245	280	—	—	—	—	
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	55	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	150	155	165	180	—	—	—	—	
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110	—	—	—	—	
H5	—	—	—	—	47	50	55	60	—	—	—	—	42	44	48	55	—	—	—	—	
	—	—	—	—	155	165	180	195	—	—	—	—	140	145	155	180	—	—	—	—	
H8	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	—	—	—	—	
	—	—	—	—	165	180	195	215	—	—	—	—	145	155							

Octomill R220.43-07S/SA – Metric



—For insert selection and cutting data recommendations, see page(s) 333 – 334
 —For complete insert programme, see page(s) 882
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.43-0080-07SA	00090771	Arbor	80,0	5	5,0	43,0 °	92,0	27,0	62,0	50,0	6200	1,0	OF..0704
R220.43-0100-07SA	00090773	Arbor	100,0	6	5,0	43,0 °	112,0	32,0	77,0	50,0	5600	1,8	OF..0704
R220.43-0125-07S	00045811	Arbor	125,0	8	5,0	43,0 °	137,0	40,0	90,0	63,0	5100	3,1	OF..0704

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R220.43-0080	1/4HEX-T20PX50	C05013-T20P
R220.43-0100-0125	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.43-7S – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFMT070405TN-ME13 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P2	OFMT070405TN-ME13 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P3	OFMT070405TN-ME13 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P4	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
P5	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
P6	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P7	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P8	OFMT070405TN-ME13 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P11	OFMT070405TN-ME13 MP2501	3,0 0.12	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
P12	OFMT070405TN-ME13 MP2501	2,5 0.10	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
M1	OFET070405TN-ME10 F40M	3,0 0.12	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M2	OFET070405TN-ME10 F40M	3,0 0.12	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
M3	OFET070405TN-ME10 F40M	2,5 0.10	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
M4	OFET070405TN-ME10 F40M	1,8 0.070	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
M5	OFET070405TN-ME10 F40M	1,8 0.070	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
K1	OFMT070405TN-M15 MP2501	3,0 0.12	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K2	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K3	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K4	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K5	OFMT070405TN-M15 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K6	OFMT070405TN-M15 MP2501	3,0 0.12	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K7	OFMT070405TN-M15 MP2501	3,0 0.12	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
S1	OFET070405TN-ME15 F40M	1,8 0.070	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S2	OFET070405TN-ME15 F40M	1,8 0.070	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S3	OFET070405TN-ME15 F40M	1,8 0.070	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
S11	OFET070405TN-ME10 F40M	2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S12	OFET070405TN-ME10 F40M	2,0 0.080	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S13	OFET070405TN-ME10 F40M	1,8 0.070	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.43-07S – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M				MP2501				F30M			
		80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
Square shoulder and slot milling cutters	P1	235 770	255 840	280 920	315 1025	285 940	310 1025	340 1125	390 1275	275 900	300 980	335 1100	375 1225
	P2	225 740	240 790	270 890	305 1000	280 920	300 980	330 1075	380 1250	270 890	290 950	325 1075	365 1200
Helical milling cutters	P3	195 640	210 690	235 770	270 890	240 790	260 850	290 950	330 1075	240 790	255 840	280 920	320 1050
	P4	175 570	190 620	210 690	235 770	215 710	235 770	255 840	290 950	210 690	225 740	245 800	280 920
	P5	170 560	180 590	200 660	230 750	205 670	225 740	250 820	280 920	200 660	215 710	240 790	270 890
	P6	190 620	205 670	230 750	255 840	230 750	250 820	280 920	310 1025	225 740	245 800	270 890	305 1000
	P7	180 590	195 640	215 710	245 800	220 720	235 770	265 870	295 970	215 710	230 750	255 840	290 950
Face milling cutters	P8	165 540	180 590	200 660	225 740	200 660	220 720	245 800	280 920	200 660	215 710	235 770	270 890
	P11	175 570	185 610	210 690	235 770	215 710	230 750	255 840	285 940	205 670	225 740	250 820	280 920
	P12	115 375	125 410	135 445	155 510	140 460	150 490	165 540	190 620	135 445	145 475	160 520	180 590
	M1	180 590	195 640	220 720	245 800	200 660	220 720	240 790	270 890	215 710	235 770	260 850	295 970
	M2	150 490	165 540	180 590	205 670	165 540	180 590	200 660	225 740	180 590	195 640	215 710	240 790
Disc milling cutters	M3	125 410	135 445	145 475	170 560	135 445	145 475	160 520	185 610	145 475	160 520	170 560	195 640
	M4	95 310	105 345	115 375	130 425	105 345	115 375	125 410	140 460	110 360	120 395	135 445	150 490
	M5	80 260	85 280	95 310	110 360	85 280	95 310	105 345	120 395	95 310	100 330	110 360	125 410
	K1	175 570	190 620	215 710	245 800	220 720	240 790	260 850	300 980	—	—	—	—
	K2	160 520	175 570	190 620	215 710	195 640	210 690	235 770	265 870	—	—	—	—
High feed milling cutters	K3	135 445	145 475	160 520	185 610	165 540	180 590	200 660	225 740	—	—	—	—
	K4	130 425	140 460	155 510	175 570	160 520	170 560	190 620	215 710	—	—	—	—
	K5	80 260	85 280	95 310	110 360	95 310	105 345	115 375	130 425	—	—	—	—
	K6	115 375	125 410	135 445	155 510	140 460	150 490	170 560	190 620	—	—	—	—
	K7	100 330	110 360	120 395	140 460	125 410	135 445	150 490	170 560	—	—	—	—
Copy milling cutters	N1	1300 4275	1400 4600	1550 5075	1750 5750	—	—	—	—	1575 5175	1700 5575	1850 6075	2125 6975
	N2	530 1750	570 1875	630 2075	710 2325	—	—	—	—	630 2075	680 2225	750 2450	860 2825
	N3	350 1150	380 1250	420 1375	475 1550	—	—	—	—	420 1375	455 1500	500 1650	570 1875
	N11	400 1300	435 1425	480 1575	540 1775	—	—	—	—	480 1575	520 1700	570 1875	650 2125
	S1	45 150	48 155	55 180	60 195	—	—	—	—	50 165	55 180	60 195	70 230
Plunge milling cutters	S2	36 120	39 130	43 140	49 160	—	—	—	—	42 140	45 150	50 165	55 180
	S3	32 105	34 110	38 125	43 140	—	—	—	—	37 120	40 130	44 145	50 165
	S11	60 195	70 230	75 245	85 280	—	—	—	—	75 245	80 260	85 280	100 330
	S12	43 140	47 155	50 165	60 195	—	—	—	—	42 140	46 150	50 165	60 195
	S13	25 80	27 90	30 100	35 115	—	—	—	—	24 80	26 85	29 95	33 110
Chamfer milling cutters	H5	38 125	41 135	45 150	50 165	—	—	—	—	—	—	—	—
	H8	41 135	44 145	49 160	55 180	—	—	—	—	—	—	—	—
	H11	49 160	55 180	55 180	65 215	—	—	—	—	—	—	—	—
	H12	75 245	80 260	90 295	100 330	—	—	—	—	—	—	—	—
	H21	41 135	44 145	49 160	55 180	—	—	—	—	—	—	—	—
Spot facing cutters													
Inserts													



R220.60

Face mills for heavy duty. Strong inserts and the cutter is equipt with cassettes for handling high metal removal.

- Cutter range 63-250 mm
- Inserts SPEN/SPER/SPMR19
- Available in many different grades for most common workpiece materials

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

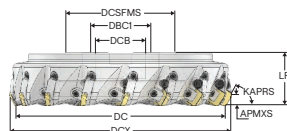
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

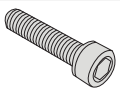
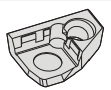
R220.60-19CM – Metric



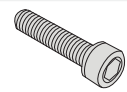
—For insert selection and cutting data recommendations, see page(s) 337 – 338
 —For complete insert programme, see page(s) 907
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.60-0063-19-4CM	00073305	Arbor	63,0	4	12,0	60,0 °	77,6	22,0	–	47,0	50,0	3700	1,2	SP..1906Z..R
R220.60-0080-19-5CM	00073306	Arbor	80,0	5	12,0	60,0 °	94,5	27,0	–	62,0	50,0	3300	1,9	SP..1906Z..R
R220.60-0100-19-6CM	00073307	Arbor	100,0	6	12,0	60,0 °	114,4	32,0	–	77,0	50,0	2900	2,6	SP..1906Z..R
R220.60-0125-19-8CM	00073309	Arbor	125,0	8	12,0	60,0 °	139,3	40,0	–	90,0	63,0	2600	4,2	SP..1906Z..R
R220.60-8160-19-10CM	00073311	Arbor	160,0	10	12,0	60,0 °	174,3	40,0	66,7	90,0	63,0	2300	6,7	SP..1906Z..R
R220.60-8200-19-12CM	00073313	Arbor	200,0	12	12,0	60,0 °	214,2	60,0	101,6	168,0	63,0	2000	9,4	SP..1906Z..R
R220.60-8250-19-16CM	00073318	Arbor	250,0	16	12,0	60,0 °	264,2	60,0	101,6	218,0	63,0	1800	20,0	SP..1906Z..R

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.66-0063	AU1114T-T15P	220.17-692	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0080	AU1114T-T15P	MC6S12X35	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0100-8250	AU1114T-T15P	–	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Key	Setting key
						
R220.66-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	MC6S12X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50

Torque and fixed keys, see page 944

R220.60-19 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SPER1906ZETR-M17 MP3501	7,0 0.28	0,30 0.012	0,30 0.012	0,30 0.012	0,36 0.014
P2	SPER1906ZETR-M17 MP3501	7,0 0.28	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P3	SPEN1906ZETR-MD20 MP2501	7,0 0.28	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P4	SPEN1906ZETR-MD20 MP2501	7,0 0.28	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
P5	SPEN1906ZETR-MD20 MP2501	7,0 0.28	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P6	SPEN1906ZETR-MD20 MP2501	7,0 0.28	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P7	SPER1906ZETR-M17 MP3501	7,0 0.28	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P8	SPER1906ZETR-M17 MP3501	7,0 0.28	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P11	SPMR1906ZETR-M17 MP2051	7,0 0.28	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P12	SPMR1906ZETR-M17 MP2051	6,0 0.24	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
M1	SPER1906ZETR-M17 MP3501	7,0 0.28	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
M2	SPER1906ZETR-M17 MP3501	7,0 0.28	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
M3	SPMR1906ZETR-M17 MP2051	6,0 0.24	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M4	SPMR1906ZETR-M17 MP2051	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
M5	SPMR1906ZETR-M17 MP2051	4,5 0.18	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
K1	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,42 0.017	0,42 0.017	0,42 0.017	0,50 0.020
K2	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K3	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K4	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K5	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K6	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K7	SPEN1906ZETR-D25 MP1501	7,0 0.28	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.60-19 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2051				MP1501				MP2501				MP3501			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	175 570	170 560	200 660	255 840	240 790	245 800	265 870	295 970	260 850	265 870	285 940	310 1025	230 750	230 750	250 820	275 900
	P2	170 560	170 560	195 640	250 820	230 750	235 770	250 820	285 940	245 800	250 820	270 890	305 1000	215 710	215 710	235 770	265 870
Helical milling cutters	P3	155 510	155 510	180 590	230 750	205 670	205 670	220 720	250 820	215 710	220 720	240 790	270 890	190 620	195 640	210 690	235 770
	P4	140 460	135 445	160 520	200 660	185 610	185 610	200 660	220 720	195 640	200 660	215 710	235 770	175 570	175 570	190 620	210 690
	P5	130 425	130 425	155 510	190 620	175 570	175 570	190 620	215 710	190 620	190 620	205 670	230 750	165 540	170 560	180 590	205 670
	P6	160 520	160 520	185 610	215 710	195 640	200 660	215 710	245 800	210 690	215 710	230 750	260 850	185 610	190 620	205 670	230 750
	P7	150 490	150 490	175 570	205 670	185 610	190 620	205 670	230 750	200 660	200 660	220 720	245 800	175 570	180 590	190 620	215 710
Face milling cutters	P8	130 425	130 425	155 510	190 620	170 560	175 570	185 610	210 690	185 610	185 610	200 660	225 740	160 520	160 520	175 570	200 660
	P11	135 445	140 460	165 540	200 660	180 590	180 590	195 640	225 740	195 640	195 640	210 690	240 790	170 560	175 570	185 610	210 690
	P12	115 375	120 395	140 460	165 540	125 410	130 425	140 460	155 510	135 445	140 460	150 490	165 540	120 395	125 410	130 425	145 475
	M1	140 460	140 460	165 540	220 720	—	—	—	—	135 445	140 460	150 490	170 560	125 410	130 425	140 460	160 520
Disc milling cutters	M2	120 395	120 395	145 475	190 620	—	—	—	—	110 360	120 395	130 425	145 475	105 345	110 360	120 395	135 445
	M3	115 375	120 395	140 460	180 590	—	—	—	—	90 295	95 310	105 345	115 375	85 280	90 295	100 330	110 360
	M4	100 330	105 345	120 395	150 490	—	—	—	—	70 230	75 245	80 260	90 295	65 215	70 230	75 245	85 280
	M5	85 280	85 280	100 330	125 410	—	—	—	—	60 195	60 195	65 215	75 245	55 180	60 195	65 215	70 230
	K1	—	—	—	—	230 750	235 770	255 840	290 950	250 820	250 820	270 890	305 1000	220 720	220 720	235 770	270 890
High feed milling cutters	K2	—	—	—	—	210 690	215 710	230 750	260 850	230 750	230 750	250 820	280 920	200 660	205 670	220 720	250 820
	K3	—	—	—	—	180 590	180 590	195 640	220 720	195 640	195 640	210 690	235 770	170 560	170 560	185 610	210 690
	K4	—	—	—	—	170 560	175 570	185 610	210 690	185 610	185 610	200 660	225 740	160 520	165 540	175 570	200 660
Copy milling cutters	K5	—	—	—	—	105 345	110 360	115 375	130 425	115 375	115 375	125 410	140 460	100 330	100 330	110 360	125 410
	K6	—	—	—	—	150 490	150 490	165 540	185 610	160 520	165 540	175 570	200 660	145 475	145 475	155 510	175 570
	K7	—	—	—	—	135 445	140 460	150 490	170 560	145 475	145 475	160 520	180 590	130 425	130 425	140 460	155 510
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plunge milling cutters																	
Chamfer milling cutters																	
Spot facing cutters																	
Inserts																	



R220.38

The .38-SN12 is a dedicated face finishing milling cutter made for SMG K, P and H and supports SMG M. The double-sided inserts with F tolerance provide eight edges per insert and is available in two insert types (88° and 27°). Dedicated for finishing of open surfaces with SNFX1204ZZ inserts or close to walls or fixturing's with the SNFX120408PZ inserts, the system shows peak performance in cast iron, steel and hardened steel.

The SA - fixed pocket version is a plug and play solution. Setting up cutters can often be a daunting and costly task. With the fixed pocket variant, setting up is easy and fast. No extra steps are needed. After choosing the insert, you can start over with an excellent run-out.

The CSA - hybrid version provides extra versatility. The cassettes are not mandatory to be set, but can be adjusted to the application needs. When facing challenging burr formation or weaker set-ups, the hybrid variant is your go-to.

The HSA adjustable version achieves highest precision and is ideal when you having highest requirements on the surface quality. Adjust the run-out to the μm .

- Insert size 12, cutter range 63-250mm (3 - 6.00 inches)
- 8 cutting edges, double-sided inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

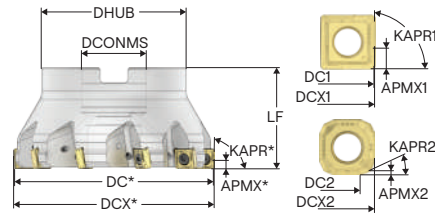
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.38-SN12 Metric

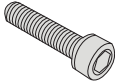
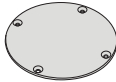


—For insert selection and cutting data recommendations, see page(s) 347-350
 —For complete insert programme, see page(s) 896
 —For ISO attribute explanation, see page 16

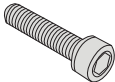
Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			mm	mm		mm	mm			mm	mm
R220.38-0063-SN12-04SA	10271416	Arbor	62,08	55,26	4	3,0	1,0	88,0	27,0	22,0	47,0
R220.38-0080-SN12-06SA	10271417	Arbor	79,1	72,28	6	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-08SA	10271420	Arbor	99,12	92,3	8	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0100-SN12-14WA	10271421	Arbor	99,12	92,3	14	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-10SA	10271424	Arbor	124,13	117,31	10	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-0125-SN12-18WA	10271425	Arbor	124,13	117,31	18	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-12SA	10271428	Arbor	159,14	152,32	12	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8160-SN12-22WA	10271429	Arbor	159,14	152,32	22	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8200-SN12-16SA	10271432	Arbor	199,15	192,32	16	3,0	1,0	88,0	27,0	60,0	160,0
R220.38-8250-SN12-22SA	10271434	Arbor	249,16	242,33	22	3,0	1,0	88,0	27,0	60,0	200,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		kg	
R220.38-0063-SN12-04SA	10271416	Arbor	63,0	62,82	22,0	40,0	10100	0,6	SNFX1204
R220.38-0080-SN12-06SA	10271417	Arbor	80,0	79,83	27,0	50,0	9000	1,2	SNFX1204
R220.38-0100-SN12-08SA	10271420	Arbor	100,0	99,84	32,0	50,0	8000	1,9	SNFX1204
R220.38-0100-SN12-14WA	10271421	Arbor	100,0	99,84	32,0	50,0	8500	2,0	SNFX1204
R220.38-0125-SN12-10SA	10271424	Arbor	125,0	124,84	40,0	63,0	7200	3,4	SNFX1204
R220.38-0125-SN12-18WA	10271425	Arbor	125,0	124,84	40,0	63,0	7600	4,0	SNFX1204
R220.38-8160-SN12-12SA	10271428	Arbor	160,0	159,85	40,0	63,0	6300	5,6	SNFX1204
R220.38-8160-SN12-22WA	10271429	Arbor	160,0	159,85	40,0	63,0	6700	6,0	SNFX1204
R220.38-8200-SN12-16SA	10271432	Arbor	200,0	199,85	60,0	63,0	5700	10,0	SNFX1204
R220.38-8250-SN12-22SA	10271434	Arbor	250,0	249,85	60,0	63,0	5100	18,3	SNFX1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
							
R220.38-0063	220.17-692	1/4HEX-T15PX50	CR4010-T15P	-	-	-	-
R220.38-0080	MC6S12X35	1/4HEX-T15PX50	CR4010-T15P	-	-	-	-
R220.38-0100-08SA	MC6S16X35	1/4HEX-T15PX50	CR4010-T15P	-	-	-	-
R220.38-0100-14WA	MC6S16X35	1/4HEX-T15PX50	-	-	-	CW0512M	LD5018F-T15P
R220.38-0125-10SA	MC6S20X40	1/4HEX-T15PX50	CR4010-T15P	-	-	-	-
R220.38-0125-18WA	MC6S20X40	1/4HEX-T15PX50	-	-	-	CW0512M	LD5018F-T15P
R220.38-8160-12SA	-	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10	-	-
R220.38-8160-22WA	-	1/4HEX-T15PX50	-	SC-160-90	MF6S4X10	CW0512M	LD5018F-T15P
R220.38-8200-16SA	-	1/4HEX-T15PX50	CR4010-T15P	SC-200-90	MF6S4X10	-	-
R220.38-8250-22SA	-	1/4HEX-T15PX50	CR4010-T15P	SC-250-90	MF6S4X10	-	-

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0063-0125	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

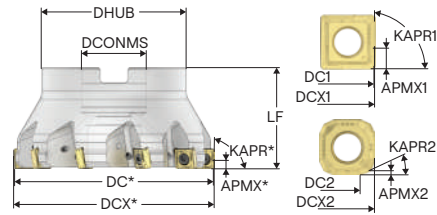
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.38-SN12 Inch

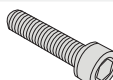


—For insert selection and cutting data recommendations, see page(s) 251-256
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-03.00-SN12-06SA	10271436	Arbor	2.965	2.696	6	0.118	0.039	88,0	27,0	1.000	2.441
R220.38-04.00-SN12-08SA	10271438	Arbor	3.965	3.697	8	0.118	0.039	88,0	27,0	1.500	3.031
R220.38-05.00-SN12-10SA	10271440	Arbor	4.966	4.697	10	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-12SA	10271443	Arbor	5.966	5.697	12	0.118	0.039	88,0	27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-03.00-SN12-06SA	10271436	Arbor	3.000	2.993	1.000	1.969	9200	2.650	SNFX1204
R220.38-04.00-SN12-08SA	10271438	Arbor	4.000	3.994	1.500	1.969	8000	4.410	SNFX1204
R220.38-05.00-SN12-10SA	10271440	Arbor	5.000	4.994	1.500	2.480	7100	7.720	SNFX1204
R220.38-06.00-SN12-12SA	10271443	Arbor	6.000	5.994	2.000	2.480	6500	11.240	SNFX1204

Spare Parts, included in delivery

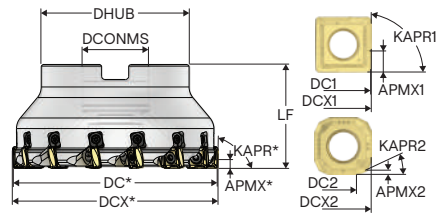
For cutter	Arbor screw	Insert key	Insert screw
			
R220.38-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P
R220.38-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P
R220.38-06.00	—	1/4HEX-T15PX50	CR4010-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-03.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Metric

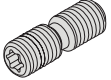
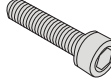
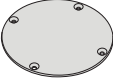


- For insert selection and cutting data recommendations, see page(s) 251-256
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

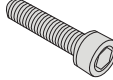
Designation	Item number	Type of mounting	DC1 mm	DC2 mm	ZEFP	APMX1 mm	APMX2 mm	KAPR1°	KAPR2°	DCB mm	DHUB mm
R220.38-0080-SN12-10HSA	10271419	Arbor	79,1	72,28	10	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-12HSA	10271423	Arbor	99,1172	92,295	12	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-14HSA	10271427	Arbor	124,13	117,31	14	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-18HSA	10271431	Arbor	159,14	152,31	18	3,0	1,0	88,0	27,0	40,0	130,0

Designation	Item number	Type of mounting	DCX1 mm	DCX2 mm	DCONMS mm	LF mm	RPMX	Weight kg	Insert
R220.38-0080-SN12-10HSA	10271419	Arbor	80,0	79,83	27,0	50,0	9000	1,0	SNFX1204
R220.38-0100-SN12-12HSA	10271423	Arbor	100,0	99,8345	32,0	50,0	8000	2,1	SNFX1204
R220.38-0125-SN12-14HSA	10271427	Arbor	125,0	124,84	40,0	63,0	7200	3,9	SNFX1204
R220.38-8160-SN12-18HSA	10271431	Arbor	160,0	159,84	40,0	63,0	6300	5,9	SNFX1204

Spare Parts, included in delivery

For cutter	Adjusting screw	Adjustment unit	Arbor screw	Insert key	Insert screw	Lid	Lid screw
							
R220.38-0080	LD5018F-T15P	AS608	MC6S12X35	1/4HEX-T15PX50	CR4010-T15P	-	-
R220.38-0100	LD5018F-T15P	AS608	MC6S16X35	1/4HEX-T15PX50	CR4010-T15P	-	-
R220.38-0125	LD5018F-T15P	AS608	MC6S20X40	1/4HEX-T15PX50	CR4010-T15P	-	-
R220.38-8160	LD5018F-T15P	AS608	-	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0063-0125	1/4HEX-S-HANDLE-0.8-5.0NM	-	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

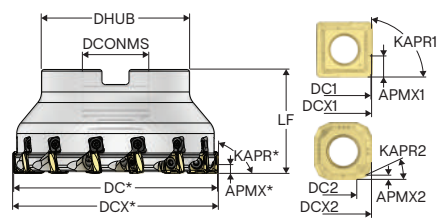
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.38-SN12 Inch

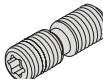
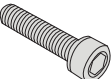


—For insert selection and cutting data recommendations, see page(s) 251-256
 —For complete insert programme, see page(s) 906
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-05.00-SN12-14HSA	10271442	Arbor	4.969	4.697	14	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-18HSA	10271445	Arbor	5.966	5.697	18	0.118	0.039	88,0	27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-05.00-SN12-14HSA	10271442	Arbor	5.000	4.994	1.500	2.480	7200	6.610	SNFX1204
R220.38-06.00-SN12-18HSA	10271445	Arbor	6.000	5.994	2.000	2.480	6300	11.900	SNFX1204

Spare Parts, included in delivery

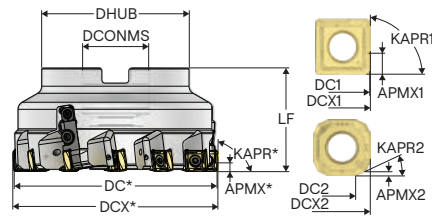
For cutter	Adjusting screw	Adjustment unit	Arbor screw	Insert key	Insert screw	Lid	Lid screw
							
R220.38-05.00	LD5018F-T15P	AS608	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-06.00	LD5018F-T15P	AS608	—	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Metric

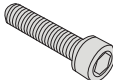
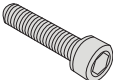
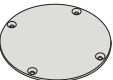


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

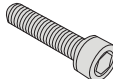
Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			mm	mm		mm	mm			mm	mm
R220.38-0080-SN12-08CSA	10271418	Arbor	79,1	72,3	8	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-10CSA	10271422	Arbor	99,1	92,3	10	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-12CSA	10271426	Arbor	124,1	117,3	12	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-15CSA	10271430	Arbor	159,1	152,3	15	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8200-SN12-20CSA	10271433	Arbor	199,1	192,3	20	3,0	1,0	88,0	27,0	60,0	160,0
R220.38-8250-SN12-25CSA	10271435	Arbor	249,2	242,3	25	3,0	1,0	88,0	27,0	60,0	200,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		kg	
R220.38-0080-SN12-08CSA	10271418	Arbor	80,0	79,8	27,0	63,0	9000	1,6	SNFX1204
R220.38-0100-SN12-10CSA	10271422	Arbor	100,0	99,8	32,0	63,0	8000	2,7	SNFX1204
R220.38-0125-SN12-12CSA	10271426	Arbor	125,0	124,8	40,0	63,0	7200	4,0	SNFX1204
R220.38-8160-SN12-15CSA	10271430	Arbor	160,0	159,8	40,0	63,0	6300	6,1	SNFX1204
R220.38-8200-SN12-20CSA	10271433	Arbor	200,0	199,8	60,0	63,0	5700	8,7	SNFX1204
R220.38-8250-SN12-25CSA	10271435	Arbor	250,0	249,9	60,0	63,0	5100	19,6	SNFX1204

Spare Parts, included in delivery

For cutter	Adjusting screw	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
									
R220.38-0080	LD5018F-T15P	AS608	MC6S12X35	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-0100	LD5018F-T15P	AS608	MC6S16X35	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-0125	LD5018F-T15P	AS608	MC6S20X40	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-8160	LD5018F-T15P	AS608	—	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10
R220.38-8200	LD5018F-T15P	AS608	—	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-200-90	MF6S4X10
R220.38-8250	LD5018F-T15P	AS608	—	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0080-0125	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

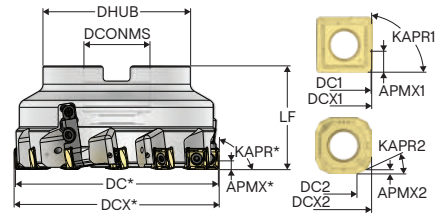
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.38-SN12 Inch

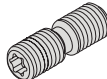
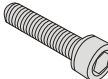
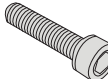
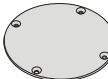


- For insert selection and cutting data recommendations, see page(s) 251-256
- For complete insert programme, see page(s) 906
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-03.00-SN12-08CSA	10271437	Arbor	2.964	2.696	8	0.118	0.039	88,0	27,0	1.000	2.441
R220.38-04.00-SN12-10CSA	10271439	Arbor	3.965	3.696	10	0.118	0.039	88,0	27,0	1.500	3.031
R220.38-05.00-SN12-12CSA	10271441	Arbor	4.969	4.697	12	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-15CSA	10271444	Arbor	5.966	5.697	15	0.118	0.039	88,0	-27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-03.00-SN12-08CSA	10271437	Arbor	3.000	2.993	1.000	2.480	9200	3.310	SNFX1204
R220.38-04.00-SN12-10CSA	10271439	Arbor	4.000	3.993	1.500	2.480	8000	5.730	SNFX1204
R220.38-05.00-SN12-12CSA	10271441	Arbor	5.000	4.994	1.500	2.480	7200	9.260	SNFX1204
R220.38-06.00-SN12-15CSA	10271444	Arbor	6.000	5.994	2.000	2.480	6500	12.130	SNFX1204

Spare Parts, included in delivery

For cutter	Adjusting screw	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
									
R220.38-03.00	LD5018F-T15P	AS608	UC6S1/2UNFX1-1/4	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-04.00-05.00	LD5018F-T15P	AS608	UC6S3/4UNFX1-1/4	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	—	—
R220.38-06.00	LD5018F-T15P	AS608	—	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-03.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

38-SNFX120408 – Insert selection – Metric/ Inch

SMG		f_z		
		80%	30%	
P1	SNFX120408PZER-W8-M08 MP3000	0,14 0.0055	0,15 0.0060	Square shoulder and slot milling cutters
P2	SNFX120408PZER-W8-M08 MP3000	0,14 0.0055	0,15 0.0060	
P3	SNFX120408PZER-W8-M08 MP3000	0,13 0.0050	0,15 0.0060	Helical milling cutters
P4	SNFX120408PZER-W8-M08 MP3000	0,13 0.0050	0,14 0.0055	
P5	SNFX120408PZER-W8-M08 MP3000	0,13 0.0050	0,14 0.0055	
P6	SNFX120408PZER-W8-M08 MP3000	0,13 0.0050	0,14 0.0055	
P7	SNFX120408PZER-W8-M08 MP3000	0,13 0.0050	0,14 0.0055	Face milling cutters
P8	SNFX120408PZER-W8-M08 MS2050	0,13 0.0050	0,15 0.0060	
P11	SNFX120408PZER-W8-M08 MS2050	0,13 0.0050	0,14 0.0055	
P12	SNFX120408PZER-W8-M08 MS2050	0,090 0.0036	0,10 0.0040	
K1	SNFX120408PZSR-W8-M10 MH1051	0,16 0.0065	0,17 0.0065	Disc milling cutters
K2	SNFX120408PZSR-W8-M10 MH1051	0,14 0.0055	0,16 0.0065	
K3	SNFX120408PZSR-W8-M10 MK2050	0,14 0.0055	0,16 0.0065	
K4	SNFX120408PZSR-W8-M10 MK2050	0,14 0.0055	0,16 0.0065	
K5	SNFX120408PZSR-W8-M10 MK2050	0,13 0.0050	0,14 0.0055	High feed milling cutters
K6	SNFX120408PZSR-W8-M10 MK2050	0,14 0.0055	0,16 0.0065	
K7	SNFX120408PZSR-W8-M10 MK2050	0,13 0.0050	0,14 0.0055	
H5	SNFX120408PZSR-W8-M10 MH1051	0,10 0.0040	0,11 0.0044	
H8	SNFX120408PZSR-W8-M10 MH1051	0,080 0.0032	0,085 0.0034	Copy milling cutters
H11	SNFX120408PZSR-W8-M10 MH1051	0,10 0.0040	0,11 0.0044	
H12	SNFX120408PZSR-W8-M10 MH1051	0,080 0.0032	0,085 0.0034	
H21	SNFX120408PZSR-W8-M10 MH1051	0,080 0.0032	0,085 0.0034	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

38-SNFX1204ZZ – Insert selection – Metric/ Inch

	SMG		f_z	
			80%	30%
Square shoulder and slot milling cutters	P1	SNFX1204ZZEN-W8-M08 MP3000	0,38 0,015	0,42 0,017
	P2	SNFX1204ZZEN-W8-M08 MP3000	0,38 0,015	0,42 0,017
	P3	SNFX1204ZZEN-W8-M08 MP3000	0,36 0,014	0,40 0,016
Helical milling cutters	P4	SNFX1204ZZEN-W8-M08 MP3000	0,36 0,014	0,40 0,016
	P5	SNFX1204ZZEN-W8-M08 MP3000	0,36 0,014	0,38 0,015
	P6	SNFX1204ZZEN-W8-M08 MP3000	0,34 0,013	0,38 0,015
	P7	SNFX1204ZZEN-W8-M08 MP3000	0,34 0,013	0,38 0,015
	P8	SNFX1204ZZEN-W8-M08 MS2050	0,36 0,014	0,40 0,016
Face milling cutters	P11	SNFX1204ZZEN-W8-M08 MS2050	0,34 0,013	0,38 0,015
	P12	SNFX1204ZZEN-W8-M08 MS2050	0,25 0,010	0,28 0,011
	K1	SNFX1204ZZSN-W8-M12 MH1051	0,42 0,017	0,48 0,018
	K2	SNFX1204ZZSN-W8-M12 MH1051	0,38 0,015	0,42 0,017
Disc milling cutters	K3	SNFX1204ZZSN-W8-M12 MK2050	0,38 0,015	0,42 0,017
	K4	SNFX1204ZZSN-W8-M12 MK2050	0,38 0,015	0,42 0,017
	K5	SNFX1204ZZSN-W8-M12 MK2050	0,36 0,014	0,38 0,015
	K6	SNFX1204ZZSN-W8-M12 MK2050	0,38 0,015	0,42 0,017
	K7	SNFX1204ZZSN-W8-M12 MK2050	0,36 0,014	0,38 0,015
High feed milling cutters	H5	SNFX1204ZZSN-W8-M12 MH1051	0,28 0,011	0,30 0,012
	H8	SNFX1204ZZSN-W8-M12 MH1051	0,22 0,0085	0,24 0,0095
	H11	SNFX1204ZZSN-W8-M12 MH1051	0,28 0,011	0,30 0,012
	H12	SNFX1204ZZSN-W8-M12 MH1051	0,22 0,0085	0,24 0,0095
Copy milling cutters	H21	SNFX1204ZZSN-W8-M12 MH1051	0,22 0,0085	0,24 0,0095

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

Plunge milling cutters
Chamfer milling cutters
Spot facing cutters
Inserts

R220.38 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			F15M			MK2050			MP3000			MS2050			MP1020			H15			
	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	
P1	—	—	—	245	265	315	270	285	345	290	310	380	250	265	320	320	335	395	—	—	—	Square shoulder and slot milling cutters
	—	—	—	800	870	1025	890	940	1125	950	1025	1250	820	870	1050	1050	1100	1300	—	—	—	
P2	—	—	—	235	250	310	255	270	335	280	300	370	245	260	315	315	325	385	—	—	—	Helical milling cutters
	—	—	—	770	820	1025	840	890	1100	920	980	1225	800	850	1025	1025	1075	1275	—	—	—	
P3	—	—	—	205	220	270	225	240	290	250	265	320	215	230	270	280	290	330	—	—	—	Helical milling cutters
	—	—	—	670	720	890	740	790	950	820	870	1050	710	750	890	920	950	1075	—	—	—	
P4	—	—	—	180	195	240	195	210	255	220	235	285	190	200	240	250	255	295	—	—	—	Helical milling cutters
	—	—	—	590	640	790	640	690	840	720	770	940	620	660	790	820	840	970	—	—	—	
P5	375	400	495	175	190	225	190	205	245	210	225	275	180	195	230	235	245	285	—	—	—	Helical milling cutters
	1225	1300	1625	570	620	740	620	670	800	690	740	900	590	640	750	770	800	940	—	—	—	
P6	420	450	570	200	210	260	215	230	280	235	250	305	205	215	260	265	275	315	—	—	—	Face milling cutters
	1375	1475	1875	660	690	850	710	750	920	770	820	1000	670	710	850	870	900	1025	—	—	—	
P7	400	425	540	190	200	245	205	215	265	220	235	290	195	205	245	250	260	300	—	—	—	Face milling cutters
	1300	1400	1775	620	660	800	670	710	870	720	770	950	640	670	800	820	850	980	—	—	—	
P8	365	390	495	175	185	225	190	200	245	210	225	265	180	195	225	235	245	275	—	—	—	Face milling cutters
	1200	1275	1625	570	610	740	620	660	800	690	740	870	590	640	740	770	800	900	—	—	—	
P11	385	415	520	185	195	235	200	210	255	215	230	280	185	200	240	245	255	290	—	—	—	Face milling cutters
	1275	1350	1700	610	640	770	660	690	840	710	750	920	610	660	790	800	840	950	—	—	—	
P12	270	285	345	120	125	150	130	135	165	145	155	180	125	130	155	165	170	170	—	—	—	Face milling cutters
	890	940	1125	395	410	490	425	445	540	475	510	590	410	425	510	540	560	560	—	—	—	
K1	490	520	670	185	200	245	275	295	360	200	215	265	—	—	—	195	205	255	155	165	200	Disc milling cutters
	1600	1700	2200	610	660	800	900	970	1175	660	710	870	—	—	—	640	670	840	510	540	660	
K2	455	485	600	170	180	215	250	265	320	180	190	230	—	—	—	170	185	225	135	145	175	Disc milling cutters
	1500	1600	1975	560	590	710	820	870	1050	590	620	750	—	—	—	560	610	740	445	475	570	
K3	385	410	510	140	150	180	210	225	270	150	160	195	—	—	—	145	155	190	115	125	150	Disc milling cutters
	1275	1350	1675	460	490	590	690	740	890	490	520	640	—	—	—	475	510	620	375	410	490	
K4	365	390	485	135	145	175	200	215	255	145	155	190	—	—	—	140	150	180	110	115	145	Disc milling cutters
	1200	1275	1600	445	475	570	660	710	840	475	510	620	—	—	—	460	490	590	360	375	475	
K5	225	240	305	85	90	105	120	130	160	90	95	115	—	—	—	85	90	110	65	70	85	High feed milling cutters
	740	790	1000	280	295	345	395	425	520	295	310	375	—	—	—	280	295	360	215	230	280	
K6	325	345	425	120	130	155	175	190	225	125	135	165	—	—	—	120	130	160	95	105	125	High feed milling cutters
	1075	1125	1400	395	425	510	570	620	740	410	445	540	—	—	—	395	425	520	310	345	410	
K7	290	310	390	105	115	135	155	165	200	115	120	145	—	—	—	110	115	140	85	90	110	High feed milling cutters
	950	1025	1275	345	375	445	510	540	660	375	395	475	—	—	—	360	375	460	280	295	360	
H5	140	145	175	40	42	50	44	47	55	40	42	50	—	—	—	—	—	—	—	—	—	Copy milling cutters
	460	475	570	130	140	165	145	155	180	130	140	165	—	—	—	—	—	—	—	—	—	
H8	150	160	190	42	45	55	47	50	60	42	45	55	—	—	—	—	—	—	—	—	—	Copy milling cutters
	490	520	620	140	150	180	155	165	195	140	150	180	—	—	—	—	—	—	—	—	—	
H11	175	185	225	50	55	65	55	60	70	50	55	65	—	—	—	—	—	—	—	—	—	Copy milling cutters
	570	610	740	165	180	215	180	195	230	165	180	215	—	—	—	—	—	—	—	—	—	
H12	175	185	220	75	80	95	80	85	105	80	85	105	—	—	—	—	—	—	—	—	—	Copy milling cutters
	570	610	720	245	260	310	260	280	345	260	280	345	—	—	—	—	—	—	—	—	—	
H21	150	160	190	42	45	55	47	50	60	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	490	520	620	140	150	180	155	165	195	—	—	—	—	—	—	—	—	—	—	—	—	
																						Chamfer milling cutters
																						Spot facing cutters
																						Inserts

R220.38 – Cutting data $v_c = (m/min)/(sf/min)$

R220.38 – Cutting data v _c = (m/min)/(sf/min)														
SMG	MK1501			MP1501			MP2501			MP3501				
	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%		
Square shoulder and slot milling cutters	P1	—	—	—	385	405	465	380	395	460	345	365	425	
		—	—	—	1275	1325	1525	1250	1300	1500	1125	1200	1400	
Helical milling cutters	P2	—	—	—	370	385	455	360	380	450	335	355	415	
	P3	—	—	—	1225	1275	1500	1175	1250	1475	1100	1175	1350	
		—	—	—	325	340	395	315	335	390	295	310	355	
	P4	—	—	—	1075	1125	1300	1025	1100	1275	970	1025	1175	
		—	—	—	285	300	350	280	295	345	260	275	320	
Face milling cutters	P5	—	—	—	940	980	1150	920	970	1125	850	900	1050	
	P6	—	—	—	275	290	335	270	285	330	250	260	305	
		—	—	—	900	950	1100	890	940	1075	820	850	1000	
	P7	—	—	—	310	325	380	305	320	375	280	295	340	
		—	—	—	1025	1075	1250	1000	1050	1225	920	970	1125	
	P8	—	—	—	295	305	355	290	300	355	265	275	320	
		—	—	—	970	1000	1175	950	980	1175	870	900	1050	
	P11	—	—	—	270	285	335	265	280	330	250	260	300	
Disc milling cutters	P12	—	—	—	890	940	1100	870	920	1075	820	850	980	
		—	—	—	285	300	345	280	295	345	255	270	315	
	K1	—	—	—	940	980	1125	920	970	1125	840	890	1025	
		—	—	—	185	190	215	180	190	215	165	175	195	
	K2	—	—	—	610	620	710	590	620	710	540	570	640	
		355	405	560	370	390	460	365	385	450	340	355	420	
	K3	1175	1325	1825	1225	1275	1500	1200	1275	1475	1125	1175	1375	
		315	355	490	335	350	405	330	345	395	300	315	370	
	K4	1025	1175	1600	1100	1150	1325	1075	1125	1300	980	1025	1225	
		235	255	325	285	295	340	280	290	335	255	265	310	
	High feed milling cutters	K5	770	840	1075	940	970	1125	920	950	1100	840	870	1025
			225	245	310	270	285	325	265	280	320	245	255	295
K6		740	800	1025	890	940	1075	870	920	1050	800	840	970	
		135	150	190	165	170	200	160	170	195	150	155	180	
K7		445	490	620	540	560	660	520	560	640	490	510	590	
Copy milling cutters	H5	200	215	275	240	250	285	235	245	280	215	225	260	
		660	710	900	790	820	940	770	800	920	710	740	850	
	H8	175	190	245	210	220	255	205	215	250	190	200	230	
		570	620	800	690	720	840	670	710	820	620	660	750	
	H11	—	—	—	49	50	65	—	—	—	—	—	—	
		—	—	—	160	165	215	—	—	—	—	—	—	
	H12	—	—	—	50	55	65	—	—	—	—	—	—	
		—	—	—	165	180	215	—	—	—	—	—	—	
Plunge milling cutters	H21	—	—	—	65	65	80	—	—	—	—	—	—	
		—	—	—	215	215	260	—	—	—	—	—	—	
Chamfer milling cutters		—	—	—	95	100	120	—	—	—	—	—	—	
		—	—	—	310	330	395	—	—	—	—	—	—	
Spot facing cutters		—	—	—	50	55	65	—	—	—	—	—	—	
		—	—	—	165	180	215	—	—	—	—	—	—	
Inserts														



R220.30 -12

This cutter family can meet the highest surface finish requirements in a variety of materials. The strength is in cast iron materials due to a comprehensive offer in geometry and grade combinations. The adjustable pocket ensures a high run out accuracy and the precise inserts reduces the efforts to set the cutter. The single sided inserts are light cutting and include a long wiper flat to meet the requirements of bigger diameter cutters. The included crown design on the SEEX1203 inserts compensates a misalignment between spindle head and the workpiece to ensure a superb surface finish and appearance. The inserts offer is ideal for special cutters like hybrid cutters for rough-finishing with dedicated roughing inserts as well as pure finishing cutters with customized pitches and handling units.

- DC = 80 – 355 mm
- Available in both course and close pitch versions
- Available in both cassette version and fix pocket and also for mounting as CAP

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

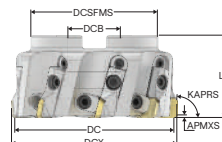
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

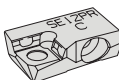
R220.30-12CT – Metric



—For insert selection and cutting data recommendations, see page(s) 355 – 356
 —For complete insert programme, see page(s) 894
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	Lf mm	RPMX	Weight kg	Insert
R220.30-0080-12CT	75068850	Arbor	80,0	6	1,0	88,0 °	80,75	27,0	–	56,0	50,0	4800	1,3	SE..1203
R220.30-0100-12CT	75068851	Arbor	100,0	8	1,0	88,0 °	100,72	32,0	–	77,0	50,0	4300	1,8	SE..1203
R220.30-0125-12CT	75068852	Arbor	125,0	10	1,0	88,0 °	126,02	40,0	–	90,0	63,0	3800	3,5	SE..1203
R220.30-8250-12CT	75068855	Arbor	250,0	22	1,0	88,0 °	250,91	60,0	101,6	130,0	63,0	2700	17,8	SE..1203

Spare Parts, included in delivery

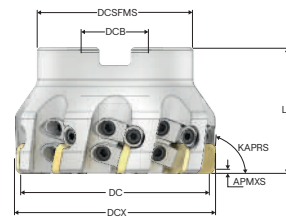
For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.30-0080	AU1114T-T15P	MF6S12X45	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0100	AU1114T-T15P	MC6S16X35	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0125-8250	AU1114T-T15P	–	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE
R220.30-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE
R220.30-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE
R220.30-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

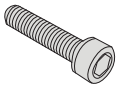
R220.30-12ST – Metric



- For insert selection and cutting data recommendations, see page(s) 355 - 356
- For complete insert programme, see page(s) 894
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DBC1 mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.30-0080-12ST	75038551	Arbor	80,0	9	1,0	88,0 °	80,75	27,0	—	56,0	50,0	5300	1,4	SE...X1203
R220.30-8160-12ST	75036394	Arbor	160,0	20	1,0	88,0 °	160,97	40,0	66,7	90,0	63,0	3800	5,6	SE...1203
R220.30-8200-12ST	75066297	Arbor	200,0	25	1,0	88,0 °	200,94	60,0	101,6	130,0	63,0	3300	8,0	SE...1203

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
							
R220.30-0080	MC6S12X40	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P
R220.30-8160-8200	—	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE
R220.30-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE
R220.30-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

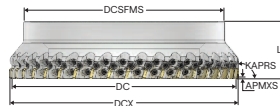
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.30-12ST CAP – Metric



—For insert selection and cutting data recommendations, see page(s) 355 – 356
 —For complete insert programme, see page(s) 894
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.30-9250-12ST	75077274	Arbor	250,0	32	1,0	88,0 °	250,97	220,0	63,0	3000	9,2	SE..1203
R220.30-9355-12ST	75077276	Arbor	355,0	44	1,0	88,0 °	355,94	285,0	63,0	2500	15,9	SE..1203

Spare Parts, included in delivery

For cutter	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
						
R220.30-9250-9355	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder
		
R220.30-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.30-12 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,18 0,0070	0,18 0,0070	0,19 0,0075	0,22 0,0085	Square shoulder and slot milling cutters
P2	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,19 0,0075	0,19 0,0075	0,19 0,0075	0,24 0,0095	
P3	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,18 0,0070	0,18 0,0070	0,18 0,0070	0,22 0,0085	Helical milling cutters
P4	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,18 0,0070	0,22 0,0085	
P5	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,17 0,0065	0,22 0,0085	Face milling cutters
P6	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,17 0,0065	0,20 0,0080	
P7	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,17 0,0065	0,20 0,0080	Disc milling cutters
P8	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,18 0,0070	0,18 0,0070	0,18 0,0070	0,22 0,0085	
P11	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,17 0,0065	0,20 0,0080	High feed milling cutters
P12	SEEX1203AFTN-M13 MP3501	0,48 0,019	0,11 0,0044	0,11 0,0044	0,12 0,0048	0,14 0,0055	
M1	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,19 0,0075	0,19 0,0075	0,19 0,0075	0,24 0,0095	Copy milling cutters
M2	SEEX1203AFTN-M13 MP3501	0,60 0,024	0,17 0,0065	0,17 0,0065	0,17 0,0065	0,22 0,0085	
M3	SEEX1203AFTN-M13 MP3501	0,48 0,019	0,14 0,0055	0,14 0,0055	0,14 0,0055	0,17 0,0065	Plunge milling cutters
M4	SEEX1203AFTN-M13 MP3501	0,36 0,014	0,12 0,0048	0,12 0,0048	0,12 0,0048	0,15 0,0060	
M5	SEEX1203AFTN-M13 MP3501	0,36 0,014	0,12 0,0048	0,12 0,0048	0,12 0,0048	0,15 0,0060	Chamfer milling cutters
K1	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,20 0,0080	0,20 0,0080	0,20 0,0080	0,25 0,010	
K2	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,18 0,0070	0,18 0,0070	0,19 0,0075	0,22 0,0085	Spot facing cutters
K3	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,18 0,0070	0,18 0,0070	0,19 0,0075	0,22 0,0085	
K4	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,18 0,0070	0,18 0,0070	0,19 0,0075	0,22 0,0085	Inserts
K5	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,16 0,0065	0,16 0,0065	0,17 0,0065	0,20 0,0080	
K6	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,18 0,0070	0,18 0,0070	0,19 0,0075	0,22 0,0085	
K7	SEEX1203AFTN-MD14 MH1051	0,60 0,024	0,16 0,0065	0,16 0,0065	0,17 0,0065	0,20 0,0080	
H5	SEEX1203AFTN-MD14 MH1051	0,48 0,019	0,12 0,0048	0,12 0,0048	0,13 0,0050	0,15 0,0065	
H8	SEEX1203AFTN-MD14 MH1051	0,42 0,017	0,095 0,0038	0,095 0,0038	0,095 0,0038	0,12 0,0048	
H11	SEEX1203AFTN-MD14 MH1051	0,48 0,019	0,12 0,0048	0,12 0,0048	0,13 0,0050	0,15 0,0065	
H12	SEEX1203AFTN-MD14 MH1051	0,42 0,017	0,095 0,0038	0,095 0,0038	0,095 0,0038	0,12 0,0048	
H21	SEEX1203AFTN-MD14 MH1051	0,42 0,017	0,095 0,0038	0,095 0,0038	0,095 0,0038	0,12 0,0048	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R220.30-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051				F15M				H15				MK1501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	225	240	255	285	—	—	—	—	—	—	—	—	320	330	350	380
	—	—	—	—	740	790	840	940	—	—	—	—	—	—	—	—	1050	1075	1150	1250
P2	—	—	—	—	220	230	250	280	—	—	—	—	—	—	—	—	305	315	335	370
	—	—	—	—	720	750	820	920	—	—	—	—	—	—	—	—	1000	1025	1100	1225
P3	—	—	—	—	190	200	220	240	—	—	—	—	—	—	—	—	270	275	295	325
	—	—	—	—	620	660	720	790	—	—	—	—	—	—	—	—	890	900	970	1075
P4	—	—	—	—	170	180	190	215	—	—	—	—	—	—	—	—	240	245	265	285
	—	—	—	—	560	590	620	710	—	—	—	—	—	—	—	—	790	800	870	940
P5	325	330	360	405	165	175	185	205	—	—	—	—	—	—	—	—	230	235	250	275
	1075	1075	1175	1325	540	570	610	670	—	—	—	—	—	—	—	—	750	770	820	900
P6	365	370	405	470	185	195	210	230	—	—	—	—	—	—	—	—	260	265	280	310
	1200	1225	1325	1550	610	640	690	750	—	—	—	—	—	—	—	—	850	870	920	1025
P7	345	350	385	440	175	185	195	220	—	—	—	—	—	—	—	—	245	250	265	295
	1125	1150	1275	1450	570	610	640	720	—	—	—	—	—	—	—	—	800	820	870	970
P8	315	320	350	405	160	170	185	205	—	—	—	—	—	—	—	—	225	230	245	270
	1025	1050	1150	1325	520	560	610	670	—	—	—	—	—	—	—	—	740	750	800	890
P11	335	340	370	430	170	180	190	215	—	—	—	—	—	—	—	—	240	245	260	285
	1100	1125	1225	1400	560	590	620	710	—	—	—	—	—	—	—	—	790	800	850	940
P12	245	250	270	295	—	—	—	—	—	—	—	—	—	—	—	—	160	165	175	185
	800	820	890	970	—	—	—	—	—	—	—	—	—	—	—	—	520	540	570	610
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	165	175	185	210
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	540	570	610	690
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	145	155	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	460	475	510	570
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	115	125	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	360	375	410	460
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	280	295	330	360
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	75	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	245	245	280	295
K1	425	435	475	550	175	185	200	220	140	145	155	175	315	370	425	500	310	315	335	370
	1400	1425	1550	1800	570	610	660	720	460	475	510	570	1025	1225	1400	1650	1025	1025	1100	1225
K2	390	400	435	490	155	165	175	195	125	130	140	155	275	330	375	440	280	285	305	335
	1275	1300	1425	1600	510	540	570	640	410	425	460	510	900	1075	1225	1450	920	940	1000	1100
K3	330	335	370	415	130	140	150	165	105	110	120	130	215	235	255	290	235	240	255	285
	1075	1100	1225	1350	425	460	490	540	345	360	395	425	710	770	840	950	770	790	840	940
K4	315	320	355	395	125	130	145	155	100	105	115	125	205	225	245	275	225	230	245	270
	1025	1050	1175	1300	410	425	475	510	330	345	375	410	670	740	800	900	740	750	800	890
K5	200	205	225	250	75	80	90	95	60	65	70	75	125	135	150	170	140	145	150	165
	660	670	740	820	245	260	295	310	195	215	230	245	410	445	490	560	460	475	490	540
K6	280	285	310	350	110	115	125	140	90	90	100	110	180	195	215	245	200	205	215	240
	920	940	1025	1150	360	375	410	460	295	295	330	360	590	640	710	800	660	670	710	790
K7	255	260	285	320	100	105	110	125	80	85	90	95	160	175	195	215	180	185	195	210
	840	850	940	1050	330	345	360	410	260	280	295	310	520	570	640	710	590	610	640	690
H5	125	130	140	150	37	39	42	46	—	—	—	—	—	—	—	—	36	38	41	45
	410	425	460	490	120	130	140	150	—	—	—	—	—	—	—	—	120	125	135	150
H8	135	140	155	170	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	445	460	510	560	130	140	150	160	—	—	—	—	—	—	—	—	125	135	145	155
H11	160	165	175	195	47	50	55	60	—	—	—	—	—	—	—	—	46	49	55	55
	520	540	570	640	155	165	180	195	—	—	—	—	—	—	—	—	150	160	180	180
H12	160	165	180	200	70	75	80	90	—	—	—	—	—	—	—	—	70	75	80	85
	520	540	590	660	230	245	260	295	—	—	—	—	—	—	—	—	230	245	260	280
H21	135	140	155	170	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	445	460	510	560	130	140	150	160	—	—	—	—	—	—	—	—	125	135	145	155



R230.19

This finishing cutter subsist on an exceptional run out even though it is a fixed pocket solution. The axial mounted inserts have a high accuracy and are light cutting at the same time thanks to the positive rake face design. The small wiper flat length created furthermore low axial tool pressure and the high run out accuracy enables you to run above the wiper flat and still achieve an excellent surface finish. This family is ideal for weak machines and smaller diameter in steel and stainless-steel materials.

- DC = 30 – 100 mm
- R230.19 Face mills for finishing
- Inserts with 4 cutting edges
- Single sided inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

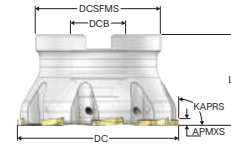
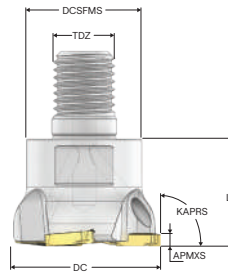
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

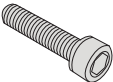
R230.19 - Metric



—For insert selection and cutting data recommendations, see page(s) 359 – 360
 —For complete insert programme, see page(s) N/A
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	KAPRS°	DCX mm	DCB mm	DCSFMS mm	TDZ	LF mm	RPMX	Weight kg	Insert
R230.19-1030.RE-SN1103-3A	02735709	Combimaster	30,0	3	2,6	90,0 °	30,0	–	18,5	M10	20,0	18900	0,1	SNHQ1103-R
R230.19-1640.RE-SN1203-3A	02735718	Combimaster	40,0	3	3,1	90,0 °	40,0	–	30,0	M16	28,0	16700	0,2	SNHQ1203-R
R230.19-0050-SN1203-5A	02735719	Arbor	50,0	5	3,1	90,0 °	50,0	22,0	42,0	–	40,0	12300	0,4	SNHQ1203-R
R230.19-0063-SN1203-6A	02735734	Arbor	63,0	6	3,1	90,0 °	63,0	27,0	50,0	–	45,0	10900	0,6	SNHQ1203-R
R230.19-0080-SN1203-8A	02735736	Arbor	80,0	8	3,1	90,0 °	80,0	27,0	62,0	–	45,0	9700	1,1	SNHQ1203-R
R230.19-0100-SN1203-10A	02735737	Arbor	100,0	10	3,1	90,0 °	100,0	32,0	77,0	–	50,0	8700	1,8	SNHQ1203-R

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R230.19-1103	–	1/4HEX-T09PX50	C93505-T09P
R230.19-1203	–	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø100	MC6S16X40	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø50	220.17-692M	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø63-80	MC6S12X35	1/4HEX-T15PX50	C94006-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R230.19-1103	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R230.19-1203	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R230.19 – Insert selection – mm/Inch

SMG		a_p	f_z				
			80%	60%	40%	20%	
P1	SNHQ120308TR4-M07 F40M	1,9	0,12	0,12	0,12	0,15	Square shoulder and slot milling cutters
		0.075	0.0048	0.0048	0.0048	0.0060	
P2	SNHQ120308TR4-M07 F40M	1,9	0,12	0,12	0,13	0,15	Helical milling cutters
		0.075	0.0048	0.0048	0.0050	0.0060	
P3	SNHQ120308TR4-M07 F40M	1,9	0,12	0,12	0,12	0,14	Face milling cutters
		0.075	0.0048	0.0048	0.0048	0.0055	
P4	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,12	0,14	Disc milling cutters
		0.075	0.0044	0.0044	0.0048	0.0055	
P5	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,11	0,14	High feed milling cutters
		0.075	0.0044	0.0044	0.0044	0.0055	
P6	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,11	0,14	Copy milling cutters
		0.075	0.0044	0.0044	0.0044	0.0055	
P7	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,11	0,14	Plunge milling cutters
		0.075	0.0044	0.0044	0.0044	0.0055	
P8	SNHQ120308TR4-M07 F40M	1,9	0,12	0,12	0,12	0,14	Chamfer milling cutters
		0.075	0.0048	0.0048	0.0048	0.0055	
P11	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,11	0,14	Spot facing cutters
		0.075	0.0044	0.0044	0.0044	0.0055	
P12	SNHQ120308TR4-M07 F40M	1,5	0,080	0,080	0,080	0,10	Inserts
		0.060	0.0032	0.0032	0.0032	0.0040	
M1	SNHQ120308TR4-M07 F40M	1,9	0,12	0,12	0,13	0,15	
		0.075	0.0048	0.0048	0.0050	0.0060	
M2	SNHQ120308TR4-M07 F40M	1,9	0,11	0,11	0,11	0,14	
		0.075	0.0044	0.0044	0.0044	0.0055	
M3	SNHQ120308TR4-M07 F40M	1,5	0,095	0,095	0,095	0,12	
		0.060	0.0038	0.0038	0.0038	0.0048	
M4	SNHQ120308TR4-M07 F40M	1,1	0,090	0,090	0,090	0,11	
		0.044	0.0036	0.0036	0.0036	0.0044	
M5	SNHQ120308TR4-M07 F40M	1,1	0,090	0,090	0,090	0,11	
		0.044	0.0036	0.0036	0.0036	0.0044	
K1	SNHQ120308TR4-M07 MP2501	1,9	0,12	0,12	0,13	0,15	
		0.075	0.0048	0.0048	0.0050	0.0060	
K2	SNHQ120308TR4-M07 MP2501	1,9	0,11	0,11	0,11	0,14	
		0.075	0.0044	0.0044	0.0044	0.0055	
K3	SNHQ120308TR4-M07 MP2501	1,9	0,11	0,11	0,11	0,14	
		0.075	0.0044	0.0044	0.0044	0.0055	
K4	SNHQ120308TR4-M07 MP2501	1,9	0,11	0,11	0,11	0,14	
		0.075	0.0044	0.0044	0.0044	0.0055	
K5	SNHQ120308TR4-M07 MP2501	1,9	0,10	0,10	0,10	0,13	
		0.075	0.0040	0.0040	0.0040	0.0050	
K6	SNHQ120308TR4-M07 MP2501	1,9	0,11	0,11	0,11	0,14	
		0.075	0.0044	0.0044	0.0044	0.0055	
K7	SNHQ120308TR4-M07 MP2501	1,9	0,10	0,10	0,10	0,13	
		0.075	0.0040	0.0040	0.0040	0.0050	
S1	SNHQ120308TR4-M07 F40M	1,1	0,090	0,090	0,090	0,11	
		0.044	0.0036	0.0036	0.0036	0.0044	
S2	SNHQ120308TR4-M07 F40M	1,1	0,090	0,090	0,090	0,11	
		0.044	0.0036	0.0036	0.0036	0.0044	
S3	SNHQ120308TR4-M07 F40M	1,1	0,085	0,085	0,085	0,10	
		0.044	0.0034	0.0034	0.0034	0.0040	
S11	SNHQ120308TR4-M07 F40M	1,3	0,095	0,095	0,10	0,12	
		0.050	0.0038	0.0038	0.0040	0.0048	
S12	SNHQ120308TR4-M07 F40M	1,3	0,095	0,095	0,10	0,12	
		0.050	0.0038	0.0038	0.0040	0.0048	
S13	SNHQ120308TR4-M07 F40M	1,1	0,090	0,090	0,090	0,11	
		0.044	0.0036	0.0036	0.0036	0.0044	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R230.19 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F30M				F40M				MP2501				H25			
		100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
Square shoulder and slot milling cutters	P1	240 790	250 820	270 890	290 950	225 740	240 790	255 840	280 920	425 1400	440 1450	460 1500	500 1650	— —	— —	— —	— —
	P2	225 740	240 790	255 840	285 940	215 710	225 740	245 800	270 890	415 1350	425 1400	450 1475	480 1575	— —	— —	— —	— —
Helical milling cutters	P3	200 660	210 690	225 740	250 820	190 620	200 660	215 710	240 790	355 1175	365 1200	385 1275	420 1375	— —	— —	— —	— —
	P4	175 570	185 610	200 660	220 720	165 540	175 570	190 620	210 690	315 1025	325 1075	340 1125	370 1225	— —	— —	— —	— —
Face milling cutters	P5	165 540	175 570	190 620	210 690	160 520	170 560	180 590	200 660	305 1000	315 1025	330 1075	350 1150	— —	— —	— —	— —
	P6	190 620	200 660	215 710	235 770	180 590	190 620	205 670	225 740	340 1125	355 1175	375 1225	400 1300	— —	— —	— —	— —
	P7	175 570	185 610	200 660	225 740	170 560	180 590	190 620	215 710	320 1050	335 1100	350 1150	380 1250	— —	— —	— —	— —
	P8	165 540	175 570	190 620	210 690	160 520	170 560	180 590	200 660	300 980	310 1025	325 1075	350 1150	— —	— —	— —	— —
	P11	170 560	180 590	195 640	215 710	165 540	175 570	185 610	205 670	315 1025	325 1075	340 1125	370 1225	— —	— —	— —	— —
	P12	110 360	120 395	130 425	140 460	105 345	115 375	120 395	135 445	195 640	205 670	215 710	225 740	— —	— —	— —	— —
Disc milling cutters	M1	180 590	190 620	205 670	230 750	175 570	185 610	195 640	220 720	210 690	220 720	240 790	260 850	— —	— —	— —	— —
	M2	150 490	160 520	170 560	190 620	145 475	150 490	165 540	180 590	175 570	185 610	200 660	215 710	— —	— —	— —	— —
	M3	125 410	130 425	140 460	155 510	115 375	125 410	135 445	145 475	140 460	150 490	160 520	175 570	— —	— —	— —	— —
	M4	95 310	100 330	110 360	120 395	90 295	95 310	105 345	115 375	110 360	115 375	125 410	135 445	— —	— —	— —	— —
High feed milling cutters	M5	80 260	85 280	90 295	100 330	75 245	80 260	85 280	95 310	90 295	95 310	105 345	110 360	— —	— —	— —	— —
	K1	180 590	190 620	205 670	225 740	170 560	180 590	195 640	215 710	415 1350	430 1400	455 1500	485 1600	— —	— —	— —	— —
	K2	160 520	170 560	180 590	200 660	150 490	160 520	170 560	190 620	370 1225	380 1250	400 1300	425 1400	— —	— —	— —	— —
	K3	135 445	140 460	155 510	170 560	130 425	135 445	145 475	160 520	310 1025	320 1050	340 1125	360 1175	— —	— —	— —	— —
Copy milling cutters	K4	130 425	135 445	145 475	160 520	120 395	130 425	140 460	155 510	295 970	305 1000	325 1075	345 1125	— —	— —	— —	— —
	K5	80 260	85 280	90 295	100 330	75 245	80 260	85 280	95 310	180 590	185 610	195 640	210 690	— —	— —	— —	— —
	K6	115 375	120 395	130 425	140 460	110 360	115 375	120 395	135 445	260 850	270 890	285 940	300 980	— —	— —	— —	— —
	K7	100 330	105 345	115 375	125 410	95 310	100 330	110 360	120 395	230 750	240 790	250 820	270 890	— —	— —	— —	— —
Plunge milling cutters	S1	45 150	48 155	50 165	55 180	43 140	45 150	48 155	55 180	— —	— —	— —	— —	— —	— —	— —	— —
	S2	36 120	38 125	41 135	45 150	35 115	36 120	39 130	43 140	— —	— —	— —	— —	— —	— —	— —	— —
	S3	32 105	34 110	36 120	39 130	30 100	32 105	34 110	37 120	— —	— —	— —	— —	— —	— —	— —	— —
	S11	65 215	65 215	70 230	75 245	60 195	65 215	70 230	75 245	— —	— —	— —	— —	— —	— —	— —	— —
Chamfer milling cutters	S12	36 120	38 125	41 135	44 145	41 135	44 145	47 155	50 165	— —	— —	— —	— —	— —	— —	— —	— —
	S13	21 70	22 70	24 80	26 85	24 80	25 80	27 90	30 100	— —	— —	— —	— —	— —	— —	— —	— —

A full range of cutters for all kinds of disc Milling operations

Seco's disc mills, available from 0,7 to 32 mm (0.029 to 1.25") in width, offer a wide range of cutter diameters and connection types suitable for all relevant machine tools and disc milling applications.



The core of the range consists of 4 main cutter families



Min



Max



335.10 for narrow slotting and sawing
Width 2,25-4,1mm, .089"-.122"



335.19 for small width of cut and sawing
Fixed pockets
Width 4-12mm, .156"-.500"

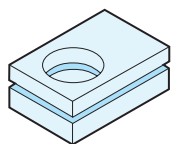


335.18 for medium width of cut
Fixed and adjustable width
Width 8-20mm, .312"-.750"

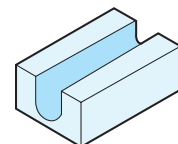


335.25 for large width of cut
Fixed and adjustable width
Width 13,5 -32mm, .53"-1.26"

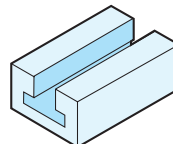
And 4 other families dedicated to specific disc milling operation



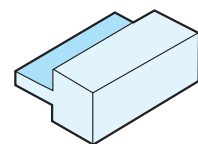
335.14 and 335.15 for circlips groove and narrow slotting
Width 0,7-5,15mm, .029"-.203"



335.29, 335.18 and 335.25 equipped with round insert - full radius profile and copy milling. Fixed and adjustable width
Width 5 - 20 mm, .197"-.787"



335.16 for T-slots
Width 11 - 22 mm, 0.387" - 0.823"



335.98 for Half side and face



Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts



335.14

Small diameter disc milling cutter system dedicated for shallow grooving, circlips grooving, top and bottom chamfering, full radius profile, dove tail, corner rounding and threading

- Exchangeable carbide head systems to help controlling machining costs
- Width of cut range 0.3-10.0 mm (0.012-0.394 inch)
- Diameter insert range 6.7-50 mm (.264 - 1.969 inch)
- A comprehensive range of cylindrical carbide and steel shanks, complemented with integrated ER collet chuck holder
- High precision width of cut $\pm 0.02\text{mm}$ - $\pm 0.0008''$

Disc Milling cutter 335.14

Disc milling cutter with exchangeable carbide head



A broad range of heads and shanks available for all your disc milling operation by circular interpolation or linear slotting.

- Strong, Reliable and precise connection between the head and the cutter body
- Cover all type of material with universal M geometry and F3xM grade
- Heads from diameter 6,7 mm

Cylindrical

ER collet chuck



2 types of shanks available: cylindrical available both in steel and carbide, or ER collet chuck system

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Disc Milling cutter 335.14

Grooving

Head from dia 6.7 to 50 mm (0.264" to 1.969") for bore with minimum dia 7mm (0.275")
Width from 0.3 to 10 mm (0.012 to 0.394")



Circlip groove

Head from dia 6.7 to 27.7 mm (0.264 to 0.976") and width from 0.7 to 5.15 mm (.029" to .203")



Full radius profile

Head from dia 11.7 to 21.7 (0.460 to 0.854") and width from 1 to 5 mm (0.039 to 0.197")



Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

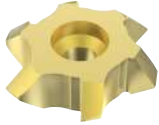
Chamfer milling
cutters

Spot facing
cutters

Inserts

Top & bottom Chamfering profile

Head from dia 9.7 to 27.7 (0.382 to 0.976") for 45° /30° /20° /15° chamfer angles



Dovetail

Head from Diameter 11.7 to 21.7mm (0.343 to 0.854") with 45° angle



Corner rounding

Head diameter 21.7mm (0.854") with corner radius from 0.2 to 3.0mm (0.008 to 0.118")



Threading

Head from dia 6,7 to 27,7 mm (0.264 to 0.976") for full and partial metric threads with pitch 1-6 mm and full profile whitworth threads with pitch 19 to 11 tpi and UN threads with pitch 24 to 6 tpi.



Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Code key – Heads

R	335	14	217	150	12	Z3	M03	F32M
1	2	3	4	5	6	7	8	9

1.	2.	3.
Right hand rotation	Disc Milling code	System
4.	5.	6.
Head diameter example: 21.7mm	Width of cut : example 1,50mm Alternative: R20: Corner radius for full radius - example R=2,0mm C45: Top/ bottom chamfering - example 45° DT45: DoveTail 45° CR080: Corner rounding with R=0,80mm Additional variant such as 100C or 400R indicates extra profile variations VS similar one - see product pages Threading code key: see page 367	Connection size (insert / shank) in mm Example: 12mm
7.	8.	9.
Number of teeth Example ZNP=3	Edge geometry	Grade

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Code key – Heads Threading

R	335	14	-	217	M	N	P	250500	-	12	Z3
1	2	3		4	5	6	7	8		9	10

1.	2.	3.
Right hand	Disc milling code	System
4.	5.	6.
Head diameter example: 21.7 mm	Thread type (W and UN)	Internal thread (E = external, X = internal/external)
7.	8.	9.
Partial profile (F = full profile)	Pitch size (2,50-5,00 mm or ex. only a fixed pitch 2,5 mm, 16 tpi...)	Connection size
10		
No. of teeth		

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Code key – Shank

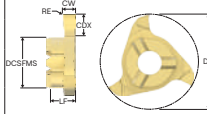
Cylindrical shank

335	14	16	9	0	45	110	E
1	2	3	4	5	6	7	8
1.	2.			3.			
Disc Milling code				System		Shank diameter DMM = 16mm Alternative inch, example 0625 for DMM=0.625"	
4.	5.			6.			
Connection size (insert/shank) in mm Example: 9mm				.0 cylindrical connection type		Access length including insert 45 mm Alternative Inch, example 177 for 1.77"	
7.	8.						
Overall length including insert 110 mm Alternative Inch, example 433 for 4.33"				-E for carbide shank otherwise steel shank			

Collet chuck

335 1	.	14 2	-	ER25 3	-	12 4	-	30 5
1.			2.			3.		
Disc Milling code			System			ER Collet chuck size		
4.			5.					
Connection size (insert / shank) in mm Example: 12mm			Access length in mm including insert Example 30mm					

Selection – heads

		Cutter diameter in mm																			
		6,7	7,7	8,7	10,7	9,7	11,7	13,7	15,7	14,7	17,7	19,7	21,7	36,7	39,7	21,7	24,8	27,7	34,7	50	
		Cutter Diameter DC in inch																			
		0.264	0.303	0.343	0.421	0.382	0.343	0.343	0.343	0.579	0.343	0.776	0.343	1.445	1.563	0.976	1.563	1.366	1.969		
		Connection size DCSFMS in mm																			
		ZNP																			

X Solution available - grade F32M and F33M

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

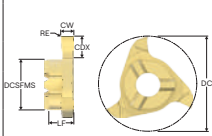
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – heads

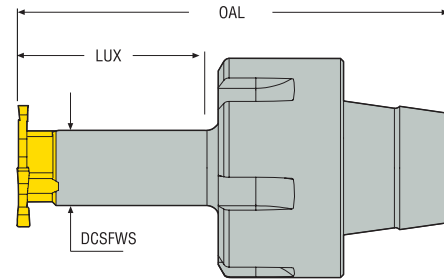
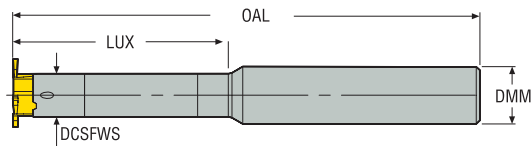
	Cutter diameter in mm																																			
	6,7	7,7	8,7	10,7	9,7	11,7	13,7	15,7	14,7	17,7	19,7	21,7	36,7	39,7	21,7	24,8	27,7	34,7	50																	
	Cutter Diameter DC in inch																																			
	0.264	0.303	0.343	0.421	0.382	0.343	0.343	0.343	0.579	0.343	0.776	0.343	1.445	1.563		0.976	1.563	1.366	1.969																	
	Connection size DCSFMS in mm																																			
mm	ZNP																																			
	5	6						8	9						12	14						16														
	3	3	3	3	3	6	3	6	3	6	3	6	6	3	6	6	6	6	6	6	3	3	6	6	12	See page										
	45°	45°																																		

Corner rounding Corner radius RE	R0.2	R0.008																									
	R0.5	R0.020																									
	R0.6	R0.024																									
	R0.8	R0.031																									
	R1.0	R0.039																									
	R1.25	R0.049																									
	R1.5	R0.059																									
	R2.0	R0.079																									
	R2.25	R0.089																									
	R2.5	R0.098																									
R3.0	R0.118																										

Type of thread	Metric Partial																										
	Metric Full	x	x																								
	Withworth																										
	UN																										
X Solution available - grade F32M and F33M																											

372, 373, 374, 375																											
380																											

Selection – shanks



	Shank diameter mm																Shank diameter inch								ER collect chuck size			
Connection size (DCSFWS)		DMM = 8		DMM = 10		DMM = 12		DMM = 16		DMM = 20		DMM=0.5		DMM=0.625		ER11	ER16	ER25	ER32									
		OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	LUX mm (inch)												
	5	65	17	60	10																							
		75	25																									
		85	35																									
	6			60	15	80	21					3.15	0.83			16 (0.63)												
						90	30					3.54	1.18															
						100	42					3.94	1.65															
	8			60	17	95	29					3.74	1.14			16 (0.63)	22 (0.866)											
						110	42					4.33	1.65															
						120	56					4.72	2.2															
	9							80	18					3.15	0.71	22 (0.866)	22 (0.866)	22 (0.866)										
								100	32					3.94	1.26													
								110	45					4.33	1.77													
								130	64					5.12	2.52													
	12							80	24					3.15	0.94	30 (1.181)	30 (1.181)	30 (1.181)										
						100	55	100	42					3.94	1.65													
						130	85	130	60					5.12	2.36													
								160	85					6.3	3.35													
	14							100	42					3.94	1.65			19 (0.748)	19 (0.748)									
								130	60					5.12	2.36			35 (1.378)	35 (1.378)									
								160	85	100	35			6.3	3.35													
	16							125	60																			
							155	90																				
							185	120	100	32																		
See page		387, 388-389														390												

The dimensions OAL and LUX are indicated for a tool with 3 teeth.

	Shank in steel
	Shank in carbide

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

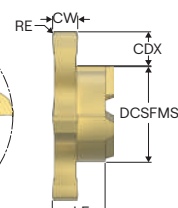
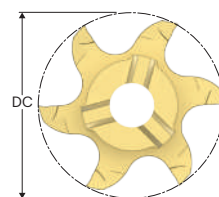
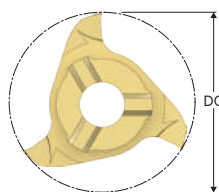
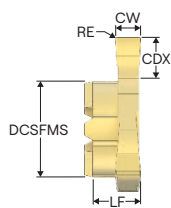
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 insert: general grooving



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

Grades									
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>			F32M
R335.14-067050.05Z3-M01	6,7 0.264	0,5 0.020	0,6 0.024	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-067090C.05Z3-M01	6,7 0.264	0,94 0.037	0,6 0.024	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-067100.05Z3-M01	6,7 0.264	1,0 0.039	0,6 0.024	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-067100C.05Z3-M01	6,7 0.264	1,04 0.041	0,6 0.024	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-067110C.05Z3-M01	6,7 0.264	1,21 0.048	0,6 0.024	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-077030.05Z3-M01	7,7 0.303	0,3 0.012	1,1 0.043	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-077040.05Z3-M01	7,7 0.303	0,4 0.016	1,1 0.043	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-077050.05Z3-M01	7,7 0.303	0,5 0.020	1,1 0.043	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-077060.05Z3-M01	7,7 0.303	0,6 0.024	1,1 0.043	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-077070.05Z3-M01	7,7 0.303	0,7 0.028	1,1 0.043	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-077080.05Z3-M01	7,7 0.303	0,8 0.031	1,1 0.043	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-077090.05Z3-M01	7,7 0.303	0,9 0.035	1,1 0.043	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-077100.05Z3-M01	7,7 0.303	1,0 0.039	1,1 0.043	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-087100.05Z3-M01	8,7 0.343	1,0 0.039	1,6 0.063	—	4,8 0.189	3,35 0.132	3	○	■
R335.14-097100.06Z3-M01	9,7 0.382	1,0 0.039	1,5 0.059	0,1 0.004	6,0 0.236	3,35 0.132	3	●	■
R335.14-097150.06Z3-M01	9,7 0.382	1,5 0.059	1,5 0.059	0,2 0.008	6,0 0.236	3,5 0.138	3	●	■
R335.14-097200.06Z3-M01	9,7 0.382	2,0 0.079	1,5 0.059	0,2 0.008	6,0 0.236	3,5 0.138	3	●	■
R335.14-097250.06Z3-M01	9,7 0.382	2,5 0.098	1,5 0.059	0,2 0.008	6,0 0.236	3,5 0.138	3	●	■
R335.14-107030.05Z3-M01	10,7 0.421	0,3 0.012	2,6 0.102	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-107040.05Z3-M01	10,7 0.421	0,4 0.016	2,6 0.102	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-107050.05Z3-M01	10,7 0.421	0,5 0.020	2,6 0.102	—	4,8 0.189	3,25 0.128	3	○	■
R335.14-117150.06Z3-M01	11,7 0.461	1,5 0.059	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	3	○	■
R335.14-117250.06Z3-M01	11,7 0.461	2,5 0.098	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	3	○	■
R335.14-117300.06Z3-M01	11,7 0.461	3,0 0.118	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	3	○	■
R335.14-117200.06Z3-M01	11,7 0.461	2,0 0.079	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	3	○	■

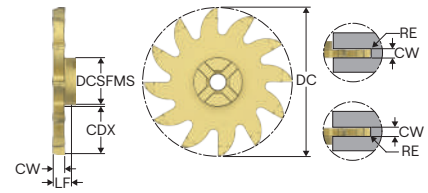
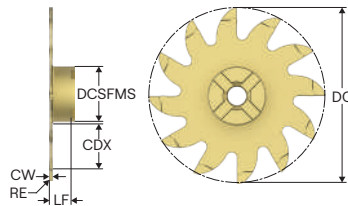
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Grades	
									Coated	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch			F32M	
R335.14-117150.06Z6-M01	11,7 0.461	1,5 0.059	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	6	○	■	Square shoulder and slot milling cutters
R335.14-117200.06Z6-M01	11,7 0.461	2,0 0.079	2,5 0.098	0,2 0.008	6,0 0.236	3,5 0.138	6	○	■	
R335.14-137100.08Z3-M01	13,7 0.539	1,0 0.039	2,5 0.098	0,1 0.004	8,0 0.315	4,35 0.171	3	●	■	Helical milling cutters
R335.14-137150.08Z3-M01	13,7 0.539	1,5 0.059	2,5 0.098	0,2 0.008	8,0 0.315	4,5 0.177	3	●	■	
R335.14-137200.08Z3-M01	13,7 0.539	2,0 0.079	2,5 0.098	0,2 0.008	8,0 0.315	4,5 0.177	3	●	■	Face milling cutters
R335.14-137250.08Z3-M01	13,7 0.539	2,5 0.098	2,5 0.098	0,2 0.008	8,0 0.315	4,5 0.177	3	●	■	
R335.14-157150.08Z3-M01	15,7 0.618	1,5 0.059	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	3	○	■	Disc milling cutters
R335.14-157200.08Z3-M01	15,7 0.618	2,0 0.079	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	3	○	■	
R335.14-157250.08Z3-M01	15,7 0.618	2,5 0.098	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	3	○	■	High feed milling cutters
R335.14-157150.08Z6-M01	15,7 0.618	1,5 0.059	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	6	○	■	
R335.14-157200.08Z6-M01	15,7 0.618	2,0 0.079	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	6	○	■	Copy milling cutters
R335.14-157250.08Z6-M01	15,7 0.618	2,5 0.098	3,5 0.138	0,2 0.008	8,0 0.315	4,5 0.177	6	○	■	
R335.14-177150.09Z3-M02	17,7 0.697	1,5 0.059	3,5 0.138	0,2 0.008	9,0 0.354	5,75 0.226	3	●	■	Plunge milling cutters
R335.14-177200.09Z3-M02	17,7 0.697	2,0 0.079	3,5 0.138	0,2 0.008	9,0 0.354	5,75 0.226	3	●	■	
R335.14-177250.09Z3-M02	17,7 0.697	2,5 0.098	3,5 0.138	0,2 0.008	9,0 0.354	5,75 0.226	3	●	■	Chamfer milling cutters
R335.14-177300.09Z3-M02	17,7 0.697	3,0 0.118	3,5 0.138	0,2 0.008	9,0 0.354	5,75 0.226	3	●	■	
R335.14-177400.09Z3-M02	17,7 0.697	4,0 0.157	3,5 0.138	0,2 0.008	9,0 0.354	5,75 0.226	3	●	■	Spot facing cutters
R335.14-177150.09Z6-M02	17,7 0.697	1,5 0.059	4,0 0.157	0,1 0.004	9,0 0.354	5,75 0.226	6	○	■	
R335.14-177200.09Z6-M02	17,7 0.697	2,0 0.079	4,0 0.157	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	Inserts
R335.14-177250.09Z6-M02	17,7 0.697	2,5 0.098	4,0 0.157	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	
R335.14-177300.09Z6-M02	17,7 0.697	3,0 0.118	4,0 0.157	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	Spot facing cutters
R335.14-197150.09Z3-M02	19,7 0.776	1,5 0.059	4,5 0.177	0,2 0.008	9,0 0.354	5,75 0.226	3	○	■	
R335.14-197200.09Z3-M02	19,7 0.776	2,0 0.079	4,5 0.177	0,2 0.008	9,0 0.354	5,75 0.226	3	○	■	Chamfer milling cutters
R335.14-197250.09Z3-M02	19,7 0.776	2,5 0.098	4,5 0.177	0,2 0.008	9,0 0.354	5,75 0.226	3	○	■	
R335.14-197150.09Z6-M02	19,7 0.776	1,5 0.059	5,0 0.197	0,1 0.004	9,0 0.354	5,75 0.226	6	○	■	Spot facing cutters
R335.14-197200.09Z6-M02	19,7 0.776	2,0 0.079	5,0 0.197	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	
R335.14-197250.09Z6-M02	19,7 0.776	2,5 0.098	5,0 0.197	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	Inserts
R335.14-197300.09Z6-M02	19,7 0.776	3,0 0.118	5,0 0.197	0,2 0.008	9,0 0.354	5,75 0.226	6	○	■	
R335.14-217150.12Z3-M03	21,7 0.854	1,5 0.059	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	Spot facing cutters
R335.14-217200.12Z3-M03	21,7 0.854	2,0 0.079	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	
R335.14-217250.12Z3-M03	21,7 0.854	2,5 0.098	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	Inserts
R335.14-217300.12Z3-M03	21,7 0.854	3,0 0.118	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	
R335.14-217400.12Z3-M03	21,7 0.854	4,0 0.157	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	Inserts
R335.14-217500.12Z3-M03	21,7 0.854	5,0 0.197	4,5 0.177	0,2 0.008	12,0 0.472	5,7 0.224	3	●	■	

Square shoulder and slot milling cutters										Grades
	Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
		mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>			F32M
Helical milling cutters	R335.14-217100.12Z3-M03	21,7 <i>0.854</i>	1,0 <i>0.039</i>	4,5 <i>0.177</i>	0,1 <i>0.004</i>	12,0 <i>0.472</i>	5,7 <i>0.224</i>	3	○	■
	R335.14-217350.12Z3-M03	21,7 <i>0.854</i>	3,5 <i>0.138</i>	4,5 <i>0.177</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	5,7 <i>0.224</i>	3	○	■
	R335.14-217400R.12Z3-M03	21,7 <i>0.854</i>	4,0 <i>0.157</i>	4,5 <i>0.177</i>	0,4 <i>0.016</i>	12,0 <i>0.472</i>	5,7 <i>0.224</i>	3	○	■
	R335.14-217150.12Z6-M03	21,7 <i>0.854</i>	1,5 <i>0.059</i>	4,5 <i>0.177</i>	0,1 <i>0.004</i>	12,0 <i>0.472</i>	6,25 <i>0.246</i>	6	●	■
Face milling cutters	R335.14-217200.12Z6-M03	21,7 <i>0.854</i>	2,0 <i>0.079</i>	4,5 <i>0.177</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	6,25 <i>0.246</i>	6	●	■
	R335.14-217250.12Z6-M03	21,7 <i>0.854</i>	2,5 <i>0.098</i>	4,5 <i>0.177</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	6,25 <i>0.246</i>	6	●	■
	R335.14-217300.12Z6-M03	21,7 <i>0.854</i>	3,0 <i>0.118</i>	4,5 <i>0.177</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	6,25 <i>0.246</i>	6	●	■
	R335.14-217400.12Z6-M03	21,7 <i>0.854</i>	4,0 <i>0.157</i>	4,5 <i>0.177</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	6,25 <i>0.246</i>	6	●	■
Disc milling cutters	R335.14-217100.12Z6-M03	21,7 <i>0.854</i>	1,0 <i>0.039</i>	4,5 <i>0.177</i>	0,1 <i>0.004</i>	12,0 <i>0.472</i>	5,85 <i>0.230</i>	6	○	■
	R335.14-248200.14Z3-M03	24,8 <i>0.976</i>	2,0 <i>0.079</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
	R335.14-248250.14Z3-M03	24,8 <i>0.976</i>	2,5 <i>0.098</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
	R335.14-248300.14Z3-M03	24,8 <i>0.976</i>	3,0 <i>0.118</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
High feed milling cutters	R335.14-248350.14Z3-M03	24,8 <i>0.976</i>	3,5 <i>0.138</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
	R335.14-248400.14Z3-M03	24,8 <i>0.976</i>	4,0 <i>0.157</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
	R335.14-248500.14Z3-M03	24,8 <i>0.976</i>	5,0 <i>0.197</i>	5,0 <i>0.197</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	○	■
	R335.14-277150.14Z3-M03	27,7 <i>1.091</i>	1,5 <i>0.059</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
Copy milling cutters	R335.14-277200.14Z3-M03	27,7 <i>1.091</i>	2,0 <i>0.079</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
	R335.14-277250.14Z3-M03	27,7 <i>1.091</i>	2,5 <i>0.098</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
	R335.14-277300.14Z3-M03	27,7 <i>1.091</i>	3,0 <i>0.118</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
	R335.14-277350.14Z3-M03	27,7 <i>1.091</i>	3,5 <i>0.138</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
Plunge milling cutters	R335.14-277400.14Z3-M03	27,7 <i>1.091</i>	4,0 <i>0.157</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,5 <i>0.256</i>	3	●	■
	R335.14-277500.14Z3-M03	27,7 <i>1.091</i>	5,0 <i>0.197</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	●	■
	R335.14-277600.14Z3-M03	27,7 <i>1.091</i>	6,0 <i>0.236</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,6 <i>0.260</i>	3	●	■
	R335.14-2771000.14Z3-M03	27,7 <i>1.091</i>	10,0 <i>0.394</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	10,05 <i>0.396</i>	3	○	■
Chamfer milling cutters	R335.14-277150.14Z6-M03	27,7 <i>1.091</i>	1,5 <i>0.059</i>	6,5 <i>0.256</i>	0,1 <i>0.004</i>	14,0 <i>0.551</i>	6,45 <i>0.254</i>	6	●	■
	R335.14-277200.14Z6-M03	27,7 <i>1.091</i>	2,0 <i>0.079</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,4 <i>0.252</i>	6	●	■
	R335.14-277250.14Z6-M03	27,7 <i>1.091</i>	2,5 <i>0.098</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,4 <i>0.252</i>	6	●	■
	R335.14-277300.14Z6-M03	27,7 <i>1.091</i>	3,0 <i>0.118</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,4 <i>0.252</i>	6	●	■
Spot facing cutters	R335.14-277400.14Z6-M03	27,7 <i>1.091</i>	4,0 <i>0.157</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,4 <i>0.252</i>	6	●	■
	R335.14-277500.14Z6-M03	27,7 <i>1.091</i>	5,0 <i>0.197</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,35 <i>0.250</i>	6	●	■
	R335.14-277600.14Z6-M03	27,7 <i>1.091</i>	6,0 <i>0.236</i>	6,5 <i>0.256</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,35 <i>0.250</i>	6	●	■
	R335.14-277100.14Z6-M03	27,7 <i>1.091</i>	1,0 <i>0.039</i>	6,5 <i>0.256</i>	0,1 <i>0.004</i>	14,0 <i>0.551</i>	6,05 <i>0.238</i>	6	○	■
Inserts	R335.14-347150.14Z6-M03	34,7 <i>1.366</i>	1,5 <i>0.059</i>	10,0 <i>0.394</i>	0,1 <i>0.004</i>	14,0 <i>0.551</i>	6,25 <i>0.246</i>	6	●	■
	R335.14-347200.14Z6-M03	34,7 <i>1.366</i>	2,0 <i>0.079</i>	10,0 <i>0.394</i>	0,2 <i>0.008</i>	14,0 <i>0.551</i>	6,25 <i>0.246</i>	6	●	■

Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Grades	
									Coated	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch			F32M	
R335.14-347250.14Z6-M03	34,7 1.366	2,5 0.098	10,0 0.394	0,2 0.008	14,0 0.551	6,25 0.246	6	●	■	Square shoulder and slot milling cutters
R335.14-347300.14Z6-M03	34,7 1.366	3,0 0.118	10,0 0.394	0,2 0.008	14,0 0.551	6,25 0.246	6	●	■	
R335.14-367050.12Z6-M03	36,7 1.445	0,5 0.020	12,0 0.472	–	12,0 0.472	6,0 0.236	6	●	■	Helical milling cutters
R335.14-367060.12Z6-M03	36,7 1.445	0,6 0.024	12,0 0.472	–	12,0 0.472	5,7 0.224	6	○	■	
R335.14-367080.12Z6-M03	36,7 1.445	0,8 0.031	12,0 0.472	–	12,0 0.472	5,9 0.232	6	○	■	Face milling cutters
R335.14-367100.12Z6-M03	36,7 1.445	1,0 0.039	12,0 0.472	0,1 0.004	12,0 0.472	6,15 0.242	6	○	■	
R335.14-367150.12Z6-M03	36,7 1.445	1,5 0.059	12,0 0.472	0,1 0.004	12,0 0.472	6,25 0.246	6	○	■	Disc milling cutters
R335.14-397040.12Z6-M03	39,7 1.563	0,4 0.016	13,5 0.531	–	12,0 0.472	6,0 0.236	6	○	■	
R335.14-397050.12Z6-M03	39,7 1.563	0,5 0.020	13,5 0.531	–	12,0 0.472	6,0 0.236	6	○	■	High feed milling cutters
R335.14-397060.12Z6-M03	39,7 1.563	0,6 0.024	13,5 0.531	–	12,0 0.472	5,7 0.224	6	○	■	
R335.14-397080.12Z6-M03	39,7 1.563	0,8 0.031	13,5 0.531	–	12,0 0.472	5,9 0.232	6	○	■	Copy milling cutters
R335.14-397100.12Z6-M03	39,7 1.563	1,0 0.039	13,5 0.531	0,1 0.004	12,0 0.472	5,85 0.230	6	○	■	
R335.14-397150.12Z6-M03	39,7 1.563	1,5 0.059	13,5 0.531	0,1 0.004	12,0 0.472	6,3 0.248	6	○	■	Plunge milling cutters

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: general grooving

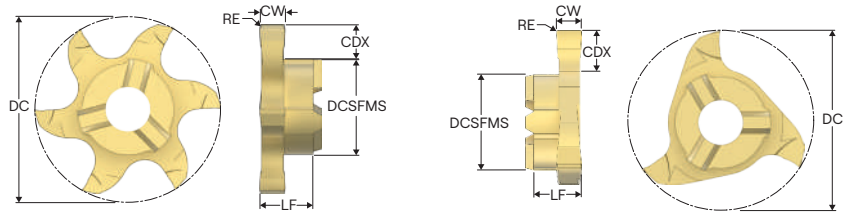


- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

Grades										
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	ZEFP	Stock standard	Coated
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch				F33M
R335.14-500050.16Z12-M02	50,0 1.969	0,5 0.020	16,5 0.650	—	16,0 0.630	6,35 0.250	12	12	○	■
R335.14-500100.16Z12-M02	50,0 1.969	1,0 0.039	16,5 0.650	—	16,0 0.630	6,15 0.242	12	12	○	■
R335.14-500150.16Z12-M02	50,0 1.969	1,5 0.059	16,5 0.650	0,1 0.004	16,0 0.630	6,25 0.246	12	6	○	■
R335.14-500200.16Z12-M02	50,0 1.969	2,0 0.079	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■
R335.14-500250.16Z12-M02	50,0 1.969	2,5 0.098	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■
R335.14-500300.16Z12-M02	50,0 1.969	3,0 0.118	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■
R335.14-500400.16Z12-M02	50,0 1.969	4,0 0.157	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■
R335.14-500500.16Z12-M02	50,0 1.969	5,0 0.197	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■
R335.14-500600.16Z12-M02	50,0 1.969	6,0 0.236	16,5 0.650	0,2 0.008	16,0 0.630	6,45 0.254	12	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: For circlips groove



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

Designation	DC	CW	CDX	DCSFMS	LF	RE	ZNP	Stock standard	Grades	
									Coated	F32M
R335.14-097070.06Z3-M01	9,7 0.382	0,74 0.029	1,5 0.059	6,0 0.236	3,35 0.132	—	3	•	■	■
R335.14-097080.06Z3-M01	9,7 0.382	0,84 0.033	1,5 0.059	6,0 0.236	3,35 0.132	—	3	•	■	■
R335.14-097090.06Z3-M01	9,7 0.382	0,94 0.037	1,5 0.059	6,0 0.236	3,35 0.132	—	3	•	■	■
R335.14-097110.06Z3-M01	9,7 0.382	1,21 0.048	1,5 0.059	6,0 0.236	3,5 0.138	—	3	•	■	■
R335.14-097130.06Z3-M01	9,7 0.382	1,41 0.056	1,5 0.059	6,0 0.236	3,5 0.138	0,1 0.004	3	•	■	■
R335.14-097100C.06Z3-M01	9,7 0.382	1,04 0.041	1,5 0.059	6,0 0.236	3,35 0.132	—	3	○	■	■
R335.14-097160C.06Z3-M01	9,7 0.382	1,71 0.067	1,5 0.059	6,0 0.236	3,5 0.138	0,1 0.004	3	○	■	■
R335.14-117110C.06Z3-M01	11,7 0.461	1,21 0.048	2,5 0.098	6,0 0.236	3,5 0.138	—	3	○	■	■
R335.14-117130C.06Z3-M01	11,7 0.461	1,41 0.056	2,5 0.098	6,0 0.236	3,5 0.138	0,1 0.004	3	○	■	■
R335.14-117160C.06Z3-M01	11,7 0.461	1,71 0.067	2,5 0.098	6,0 0.236	3,5 0.138	0,1 0.004	3	○	■	■
R335.14-157160C.08Z3-M01	15,7 0.618	1,71 0.067	3,5 0.138	8,0 0.315	4,5 0.177	0,1 0.004	3	○	■	■
R335.14-177110.09Z3-M02	17,7 0.697	1,21 0.048	3,5 0.138	9,0 0.354	5,75 0.226	—	3	•	■	■
R335.14-177130.09Z3-M02	17,7 0.697	1,41 0.056	3,5 0.138	9,0 0.354	5,75 0.226	0,1 0.004	3	•	■	■
R335.14-177160.09Z3-M02	17,7 0.697	1,71 0.067	3,5 0.138	9,0 0.354	5,75 0.226	0,1 0.004	3	•	■	■
R335.14-177070C.09Z3-M02	17,7 0.697	0,74 0.029	1,5 0.059	9,0 0.354	5,65 0.222	—	3	○	■	■
R335.14-177080C.09Z3-M02	17,7 0.697	0,84 0.033	1,7 0.067	9,0 0.354	5,65 0.222	—	3	○	■	■
R335.14-177090C.09Z3-M02	17,7 0.697	0,94 0.037	1,9 0.075	9,0 0.354	5,65 0.222	—	3	○	■	■
R335.14-177110C.09Z6-M02	17,7 0.697	1,21 0.048	4,0 0.157	9,0 0.354	5,75 0.226	—	6	○	■	■
R335.14-177130C.09Z6-M02	17,7 0.697	1,41 0.056	4,0 0.157	9,0 0.354	5,75 0.226	—	6	○	■	■
R335.14-177160C.09Z6-M02	17,7 0.697	1,71 0.067	4,0 0.157	9,0 0.354	5,75 0.226	—	6	○	■	■
R335.14-217160.12Z3-M03	21,7 0.854	1,71 0.067	4,5 0.177	12,0 0.472	5,7 0.224	0,1 0.004	3	•	■	■
R335.14-217185.12Z3-M03	21,7 0.854	1,96 0.077	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	•	■	■
R335.14-217215.12Z3-M03	21,7 0.854	2,26 0.089	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	•	■	■
R335.14-217265.12Z3-M03	21,7 0.854	2,76 0.109	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	•	■	■
R335.14-217315.12Z3-M03	21,7 0.854	3,26 0.128	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	•	■	■

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

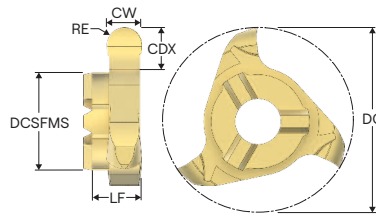
Chamfer milling
cutters

Spot facing
cutters

Inserts

	Designation									Grades
		DC	CW	CDX	DCSFMS	LF	RE	ZNP	Stock standard	Coated
Square shoulder and slot milling cutters		mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>			F32M
	R335.14-217415.12Z3-M03	21,7 0.854	4,26 0.168	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	●	■
Helical milling cutters	R335.14-217515.12Z3-M03	21,7 0.854	5,26 0.207	4,5 0.177	12,0 0.472	5,7 0.224	0,15 0.006	3	●	■
	R335.14-217070C.12Z3-M03	21,7 0.854	0,74 0.029	1,5 0.059	12,0 0.472	5,6 0.220	–	3	○	■
	R335.14-217080C.12Z3-M03	21,7 0.854	0,84 0.033	1,7 0.067	12,0 0.472	5,6 0.220	–	3	○	■
	R335.14-217090C.12Z3-M03	21,7 0.854	0,94 0.037	1,9 0.075	12,0 0.472	5,6 0.220	–	3	○	■
Face milling cutters	R335.14-217100C.12Z3-M03	21,7 0.854	1,04 0.041	2,1 0.083	12,0 0.472	5,6 0.220	–	3	○	■
	R335.14-217110C.12Z3-M03	21,7 0.854	1,21 0.048	2,5 0.098	12,0 0.472	5,7 0.224	–	3	○	■
	R335.14-217130C.12Z3-M03	21,7 0.854	1,41 0.056	4,5 0.177	12,0 0.472	5,7 0.224	–	3	○	■
Disc milling cutters	R335.14-217515R.12Z3-M03	21,7 0.854	5,29 0.208	4,5 0.177	12,0 0.472	5,7 0.224	0,4 0.016	3	○	■
	R335.14-277185C.14Z6-M03	27,7 1.091	1,96 0.077	6,5 0.256	14,0 0.551	6,35 0.250	0,15 0.006	6	○	■
	R335.14-277215C.14Z6-M03	27,7 1.091	2,26 0.089	6,5 0.256	14,0 0.551	6,16 0.243	0,15 0.006	6	○	■
●=Stock standard ○=Available on demand (within 2 weeks)										
High feed milling cutters										
Copy milling cutters										
Plunge milling cutters										
Chamfer milling cutters										
Spot facing cutters										
Inserts										

335.14 insert: Full radius profile



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

Designation									Grades
	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch			F32M
R335.14-117R050.06Z3-M01	11,7 0.461	1,0 0.039	2,5 0.098	0,5 0.020	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R075.06Z3-M01	11,7 0.461	1,5 0.059	2,5 0.098	0,75 0.030	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R079.06Z3-M01	11,7 0.461	1,57 0.062	2,5 0.098	0,787 0.031	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R100.06Z3-M01	11,7 0.461	2,0 0.079	2,5 0.098	1,0 0.039	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R119.06Z3-M01	11,7 0.461	2,39 0.094	2,5 0.098	1,194 0.047	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R150.06Z3-M01	11,7 0.461	3,0 0.118	2,5 0.098	1,5 0.059	6,0 0.236	3,5 0.138	3	○	■
R335.14-117R11.06Z3-M01	11,7 0.461	2,2 0.087	2,5 0.098	1,1 0.043	6,0 0.236	3,5 0.138	3	●	■
R335.14-157R110.08Z3-M01	15,7 0.618	2,2 0.087	3,5 0.138	1,1 0.043	8,0 0.315	4,5 0.177	3	○	■
R335.14-177R10.09Z3-M02	17,7 0.697	2,0 0.079	3,5 0.138	1,0 0.039	9,0 0.354	5,75 0.226	3	○	■
R335.14-177R12.09Z3-M02	17,7 0.697	2,39 0.094	3,5 0.138	1,194 0.047	9,0 0.354	5,75 0.226	3	○	■
R335.14-177R15.09Z3-M02	17,7 0.697	3,0 0.118	3,5 0.138	1,5 0.059	9,0 0.354	5,75 0.226	3	○	■
R335.14-177R11.09Z3-M02	17,7 0.697	2,2 0.087	3,5 0.138	1,1 0.043	9,0 0.354	5,75 0.226	3	●	■
R335.14-217R05.12Z3-M03	21,7 0.854	1,0 0.039	4,5 0.177	0,5 0.020	12,0 0.472	5,6 0.220	3	●	■
R335.14-217R10.12Z3-M03	21,7 0.854	2,0 0.079	4,5 0.177	1,0 0.039	12,0 0.472	5,75 0.226	3	●	■
R335.14-217R15.12Z3-M03	21,7 0.854	3,0 0.118	4,5 0.177	1,5 0.059	12,0 0.472	5,75 0.226	3	●	■
R335.14-217R20.12Z3-M03	21,7 0.854	4,0 0.157	4,5 0.177	2,0 0.079	12,0 0.472	5,75 0.226	3	●	■
R335.14-217R25.12Z3-M03	21,7 0.854	5,0 0.197	4,5 0.177	2,5 0.098	12,0 0.472	5,75 0.226	3	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

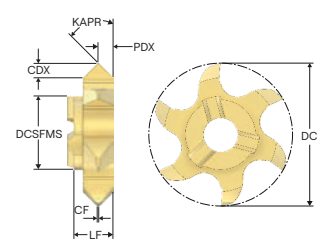
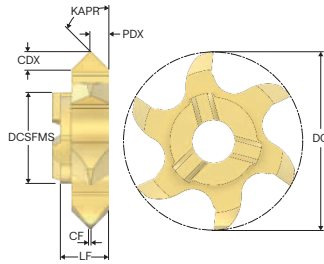
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 insert: Top and Bottom chamfering

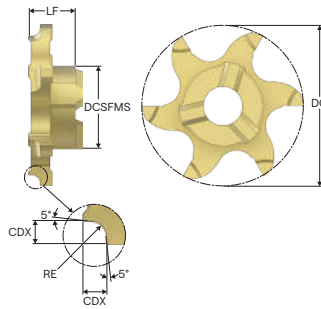


- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

										Grades	
Designation	DC	KAPR	CDX	CF	PDX	DCSFMS	LF	ZNP	Stock standard	Coated	
	mm Inch	Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm				F32M
R335.14-097C45.06Z6-M01	9,7 0.382	45,0 0.047	1,2 0.008	0,2 0.059	1,5 0.236	6,0 0.134	3,4	6	●	■	
R335.14-097C30.06Z6-M01	9,7 0.382	60,0 0.028	0,7 0.008	0,2 0.069	1,75 0.236	6,0 0.142	3,6	6	○	■	
R335.14-097C20.06Z6-M01	9,7 0.382	70,0 0.018	0,45 0.008	0,2 0.069	1,75 0.236	6,0 0.142	3,6	6	○	■	
R335.14-097C15.06Z6-M01	9,7 0.382	75,0 0.014	0,35 0.008	0,2 0.069	1,75 0.236	6,0 0.142	3,6	6	○	■	
R335.14-137C45.08Z6-M01	13,7 0.539	45,0 0.071	1,8 0.008	0,2 0.089	2,25 0.315	8,0 0.181	4,6	6	●	■	
R335.14-137C30.08Z6-M01	13,7 0.539	60,0 0.028	0,7 0.008	0,2 0.089	2,25 0.315	8,0 0.181	4,6	6	○	■	
R335.14-137C20.08Z6-M01	13,7 0.539	70,0 0.018	0,45 0.008	0,2 0.089	2,25 0.315	8,0 0.181	4,6	6	○	■	
R335.14-137C15.08Z6-M01	13,7 0.539	75,0 0.014	0,35 0.008	0,2 0.089	2,25 0.315	8,0 0.181	4,6	6	○	■	
R335.14-147C45.09Z6-M02	14,7 0.579	45,0 0.063	1,6 0.020	0,5 0.083	2,1 0.354	9,0 0.219	5,55	6	○	■	
R335.14-177C45.09Z6-M02	17,7 0.697	45,0 0.087	2,2 0.008	0,2 0.110	2,8 0.354	9,0 0.228	5,8	6	●	■	
R335.14-177C30.09Z6-M02	17,7 0.697	60,0 0.059	1,5 0.008	0,2 0.110	2,8 0.354	9,0 0.230	5,85	6	○	■	
R335.14-217C45.12Z6-M03	21,7 0.854	45,0 0.079	2,0 0.008	0,2 0.091	2,3 0.472	12,0 0.238	6,05	6	●	■	
R335.14-277C45.14Z6-M03	27,7 1.091	45,0 0.079	2,0 0.008	0,2 0.102	2,6 0.551	14,0 0.256	6,5	6	○	■	

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Corner rounding



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 395
- Technical information, see page 396
- For ISO attribute explanation, see page 16

Designation								Grades
	DC	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch			F32M
R335.14-217CR020.12Z6-M03	21,7 0.854	0,7 0.028	0,2 0.008	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR050.12Z6-M03	21,7 0.854	1,0 0.039	0,5 0.020	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR060.12Z6-M03	21,7 0.854	1,1 0.043	0,6 0.024	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR080.12Z6-M03	21,7 0.854	1,3 0.051	0,8 0.031	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR100.12Z6-M03	21,7 0.854	1,5 0.059	1,0 0.039	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR125.12Z6-M03	21,7 0.854	1,75 0.069	1,25 0.049	12,0 0.472	6,35 0.250	6	○	■
R335.14-217CR150.12Z6-M03	21,7 0.854	2,0 0.079	1,5 0.059	12,0 0.472	6,05 0.238	6	○	■
R335.14-217CR200.12Z6-M03	21,7 0.854	2,5 0.098	2,0 0.079	12,0 0.472	6,05 0.238	6	○	■
R335.14-217CR225.12Z6-M03	21,7 0.854	2,75 0.108	2,25 0.089	12,0 0.472	6,05 0.238	6	○	■
R335.14-217CR250.12Z6-M03	21,7 0.854	3,0 0.118	2,5 0.098	12,0 0.472	6,05 0.238	6	○	■
R335.14-217CR300.12Z6-M03	21,7 0.854	3,5 0.138	3,0 0.118	12,0 0.472	6,05 0.238	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

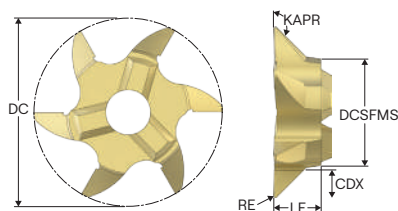
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 Insert: Dove tail 45°

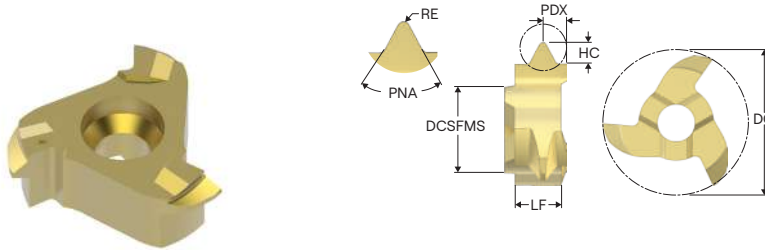


- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 390, 391 – 394
- Technical information, see page 396
- For ISO attribute explanation, see page 16

									Grades
Designation	DC	CDX	RE	DCSFMS	LF	KAPRS°	ZNP	Stock standard	Coated
	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>				F32M
R335.14-117DT45.06Z6-M01	11,7 <i>0.461</i>	2,5 <i>0.098</i>	0,2 <i>0.008</i>	6,0 <i>0.236</i>	3,5 <i>0.138</i>	135,0	6	○	■
R335.14-157DT45.08Z6-M01	15,7 <i>0.618</i>	2,5 <i>0.098</i>	0,2 <i>0.008</i>	8,0 <i>0.315</i>	4,5 <i>0.177</i>	135,0	6	○	■
R335.14-177DT45.09Z6-M02	17,7 <i>0.697</i>	4,0 <i>0.157</i>	0,2 <i>0.008</i>	9,0 <i>0.354</i>	5,75 <i>0.226</i>	135,0	6	○	■
R335.14-217DT45.12Z6-M03	21,7 <i>0.854</i>	4,0 <i>0.157</i>	0,2 <i>0.008</i>	12,0 <i>0.472</i>	6,2 <i>0.244</i>	135,0	6	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Threading profile Whitworth



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 395
- Technical information, see page 396
- For ISO attribute explanation, see page 16

												Grades
Designation	Pitch		DC	RE	DCSFMS	HC	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPIX										F32M
R335.14-117WXF11.06Z3	–	11	11,7 0.461	0,31 0.012	6,0 0.236	1,48 0.058	3,6 0.142	1,6 0.063	55,0	3	●	■
R335.14-177WXF11.09Z3	–	11	17,7 0.697	0,31 0.012	9,0 0.354	1,48 0.058	5,85 0.230	1,45 0.057	55,0	3	●	■
R335.14-117WXF14.06Z3	–	14	11,7 0.461	0,24 0.009	6,0 0.236	1,16 0.046	3,6 0.142	1,3 0.051	55,0	3	●	■
R335.14-157WXF14.08Z3	–	14	15,7 0.618	0,24 0.009	8,0 0.315	1,17 0.046	4,6 0.181	1,5 0.059	55,0	3	●	■
R335.14-177WXF14.09Z3	–	14	17,7 0.697	0,24 0.009	9,0 0.354	1,16 0.046	5,85 0.230	1,25 0.049	55,0	3	●	■
R335.14-117WXF19.06Z3	–	19	11,7 0.461	0,18 0.007	6,0 0.236	0,86 0.034	3,6 0.142	1,1 0.043	55,0	3	●	■
R335.14-177WXF19.09Z3	–	19	17,7 0.697	0,18 0.007	9,0 0.354	0,856 0.034	5,85 0.230	0,95 0.037	55,0	3	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

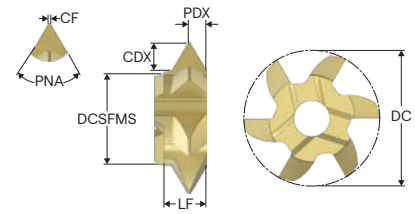
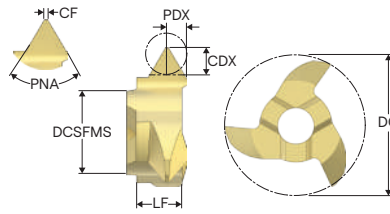
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 Insert: Threading Partial profile

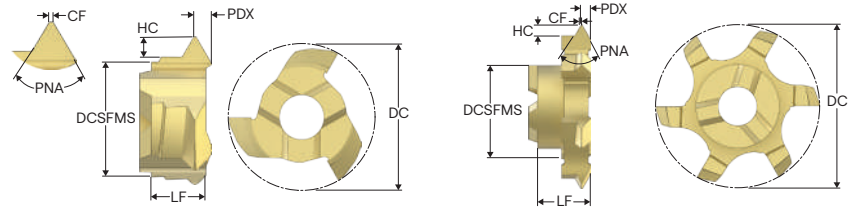


- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 395
- Technical information, see page 396
- For ISO attribute explanation, see page 16

													Grades
	Designation	Pitch		DC	CF	CDX	DCSFMS	LF	PDX	PNA°	ZEFP	Stock standard	Coated
		mm	TPI	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch				F32M
Disc milling cutters	R335.14-111MNP200300.06Z6	2-3	0.079-0.118	11,1 0.437	0,17 0.007	1,78 0.070	6,0 0.236	3,2 0.126	1,4 0.055	60,0	6	○	■
	R335.14-117MNP100200.06Z3	1-2	0.039-0.079	11,7 0.461	0,13 0.005	1,25 0.049	6,0 0.236	3,6 0.142	0,8 0.031	60,0	3	●	■
	R335.14-117MNP200300.06Z3	2-3	0.079-0.118	11,7 0.461	0,25 0.010	1,78 0.070	6,0 0.236	3,6 0.142	1,2 0.047	60,0	3	●	■
High feed milling cutters	R335.14-117MNP100200.06Z6	1-2	0.039-0.079	11,7 0.461	0,06 0.002	1,25 0.049	6,0 0.236	3,6 0.142	1,04 0.041	60,0	6	○	■
	R335.14-132MNP150275.08Z6	1,5-2,75	0.059-0.108	13,2 0.520	0,13 0.005	1,67 0.066	8,0 0.315	4,2 0.165	1,3 0.051	60,0	6	○	■
	R335.14-133MNP200300.08Z6	2-3	0.079-0.118	13,3 0.524	0,17 0.007	1,78 0.070	8,0 0.315	4,2 0.165	2,5 0.098	60,0	6	○	■
Copy milling cutters	R335.14-157MNP150275.08Z3	1,5-2,75	0.059-0.108	15,7 0.618	0,19 0.007	1,67 0.066	8,0 0.315	4,6 0.181	1,1 0.043	60,0	3	●	■
	R335.14-157MNP250300.08Z3	2,5-3	0.098-0.118	15,7 0.618	0,31 0.012	1,78 0.070	8,0 0.315	4,6 0.181	1,2 0.047	60,0	3	●	■
	R335.14-177MNP100200.09Z3	1-2	0.039-0.079	17,7 0.697	0,12 0.005	1,19 0.047	9,0 0.354	5,85 0.230	1,15 0.045	60,0	3	●	■
Plunge milling cutters	R335.14-177MNP150275.09Z3	1,5-2,75	0.059-0.108	17,7 0.697	0,19 0.007	1,62 0.064	9,0 0.354	5,85 0.230	1,25 0.049	60,0	3	●	■
	R335.14-177MNP200375.09Z3	2-3,75	0.079-0.148	17,7 0.697	0,25 0.010	2,22 0.087	9,0 0.354	5,85 0.230	1,65 0.065	60,0	3	●	■
	R335.14-177MNP300550.09Z3	3-5,5	0.118-0.217	17,7 0.697	0,38 0.015	3,25 0.128	9,0 0.354	5,85 0.230	2,25 0.089	60,0	3	●	■
Chamfer milling cutters	R335.14-217MNP100200.12Z3	1-2	0.039-0.079	21,7 0.854	0,12 0.005	1,19 0.047	12,0 0.472	5,85 0.230	1,25 0.049	60,0	3	●	■
	R335.14-217MNP200375.12Z3	2-3,75	0.079-0.148	21,7 0.854	0,25 0.010	2,22 0.087	12,0 0.472	5,85 0.230	1,65 0.065	60,0	3	●	■
	R335.14-217MNP250450.12Z3	2,5-4,5	0.098-0.177	21,7 0.854	0,25 0.010	2,7 0.106	12,0 0.472	5,85 0.230	2,15 0.085	60,0	3	●	■
Spot facing cutters	R335.14-217MNP350600.12Z3	3,5-6	0.138-0.236	21,7 0.854	0,44 0.017	3,52 0.139	12,0 0.472	5,85 0.230	2,65 0.104	60,0	3	●	■
	R335.14-277MNP250500.14Z3	2,5-5	0.098-0.197	27,7 1.091	0,37 0.015	2,93 0.115	14,0 0.551	6,6 0.260	2,6 0.102	60,0	3	●	■
	R335.14-277MNP400600.14Z3	4-6	0.157-0.236	27,7 1.091	0,5 0.020	4,6 0.181	14,0 0.551	6,6 0.260	3,0 0.118	60,0	3	●	■
Inserts	R335.14-277MNP150250.14Z3	1,5-2,5	0.059-0.098	27,7 1.091	0,18 0.007	1,49 0.059	14,0 0.551	6,6 0.260	2,4 0.094	60,0	3	○	■
	R335.14-277MNP150250.14Z6	1,5-2,5	0.059-0.098	27,7 1.091	0,19 0.007	1,6 0.063	14,0 0.551	6,5 0.256	—	60,0	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Thread profile Full Metric



- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 395
- Technical information, see page 396
- For ISO attribute explanation, see page 16

												Grades
Designation	Pitch		DC	CF	HC	DCSFMS	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPI										F32M
R335.14-067MNF050.05Z3	0,5	0.02	6,7 0.264	0,06 0.002	0,28 0.011	4,8 0.189	3,25 0.128	0,4 0.016	60,0	3	○	■
R335.14-077MNF075.05Z3	0,75	0.03	7,7 0.303	0,1 0.004	0,416 0.016	4,8 0.189	3,25 0.128	0,5 0.020	60,0	3	○	■
R335.14-077MNF100.05Z3	1	0.039	7,7 0.303	0,12 0.005	0,557 0.022	4,8 0.189	3,55 0.140	0,9 0.035	60,0	3	○	■
R335.14-097MNF100.06Z3	1	0.039	9,7 0.382	0,09 0.004	0,58 0.023	6,0 0.236	3,6 0.142	0,7 0.028	60,0	3	○	■
R335.14-097MNF150.06Z3	1,5	0.059	9,7 0.382	0,125 0.005	0,86 0.034	6,0 0.236	3,6 0.142	0,9 0.035	60,0	3	○	■
R335.14-097MNF175.06Z3	1,75	0.069	9,7 0.382	0,21 0.008	0,95 0.037	6,0 0.236	3,6 0.142	1,0 0.039	60,0	3	○	■
R335.14-097MNF200.06Z3	2	0.079	9,7 0.382	0,165 0.006	1,16 0.046	6,0 0.236	3,6 0.142	1,1 0.043	60,0	3	○	■
R335.14-097MNF250.06Z3	2,5	0.098	9,7 0.382	0,2 0.008	1,44 0.057	6,0 0.236	3,49 0.137	1,19 0.047	60,0	3	○	■
R335.14-137MNF100.08Z3	1	0.039	13,7 0.539	0,1 0.004	0,58 0.023	8,0 0.315	4,6 0.181	0,9 0.035	60,0	3	○	■
R335.14-137MNF150.08Z3	1,5	0.059	13,7 0.539	0,125 0.005	0,86 0.034	8,0 0.315	4,6 0.181	1,2 0.047	60,0	3	○	■
R335.14-137MNF200.08Z3	2	0.079	13,7 0.539	0,165 0.006	1,16 0.046	8,0 0.315	4,6 0.181	1,4 0.055	60,0	3	○	■
R335.14-137MNF250.08Z3	2,5	0.098	13,7 0.539	0,2 0.008	1,44 0.057	8,0 0.315	4,6 0.181	1,6 0.063	60,0	3	○	■
R335.14-177MNF150.09Z3	1,5	0.059	17,7 0.697	0,12 0.005	0,86 0.034	9,0 0.354	5,85 0.230	1,15 0.045	60,0	3	○	■
R335.14-177MNF150.09Z6	1,5	0.059	17,7 0.697	0,12 0.005	0,86 0.034	9,0 0.354	5,85 0.230	0,85 0.033	60,0	6	○	■
R335.14-177MNF200.09Z3	2	0.079	17,7 0.697	0,16 0.006	1,16 0.046	9,0 0.354	5,85 0.230	1,35 0.053	60,0	3	○	■
R335.14-177MNF200.09Z6	2	0.079	17,7 0.697	0,16 0.006	1,16 0.046	9,0 0.354	5,85 0.230	1,15 0.045	60,0	6	○	■
R335.14-177MNF300.09Z3	3	0.118	17,7 0.697	0,25 0.010	1,73 0.068	9,0 0.354	5,85 0.230	1,65 0.065	60,0	3	○	■
R335.14-177MNF350.09Z3	3,5	0.138	17,7 0.697	0,28 0.011	2,02 0.080	9,0 0.354	5,85 0.230	1,95 0.077	60,0	3	○	■
R335.14-217MNF400.12Z3	4	0.157	21,7 0.854	0,5 0.020	2,16 0.085	12,0 0.472	5,85 0.230	1,95 0.077	60,0	3	○	■
R335.14-217MNF450.12Z3	4,5	0.177	21,7 0.854	0,56 0.022	2,43 0.096	12,0 0.472	5,85 0.230	2,25 0.089	60,0	3	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

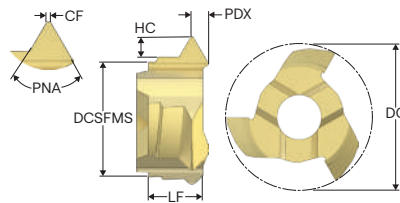
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 Insert: Threading profile UN

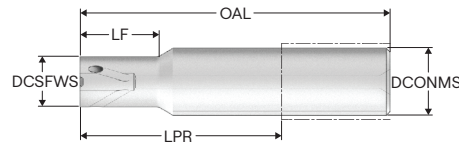


- Suitable shank, see page 387, 388–390
- Cutting data, see page(s) 395
- Technical information, see page 396
- For ISO attribute explanation, see page 16

												Grades
Designation	Pitch		DC	CF	DCSFMS	HC	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPIX	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch				F32M
R335.14-177UNNF6.09Z3	–	6	17,7 0.697	0,53 0.021	9,0 0.354	2,291 0.090	5,85 0.230	1,65 0.065	60,0	3	●	■
R335.14-177UNNF8.09Z3	–	8	17,7 0.697	0,4 0.016	9,0 0.354	1,718 0.068	5,85 0.230	1,45 0.057	60,0	3	●	■
R335.14-177UNNF10.09Z3	–	10	17,7 0.697	0,32 0.013	9,0 0.354	1,375 0.054	5,85 0.230	1,25 0.049	60,0	3	●	■
R335.14-177UNNF11.09Z3	–	11	17,7 0.697	0,29 0.011	9,0 0.354	1,249 0.049	5,85 0.230	1,05 0.041	60,0	3	●	■
R335.14-177UNNF12.09Z3	–	12	17,7 0.697	0,27 0.011	9,0 0.354	1,146 0.045	5,85 0.230	1,05 0.041	60,0	3	●	■
R335.14-177UNNF14.09Z3	–	14	17,7 0.697	0,23 0.009	9,0 0.354	0,982 0.039	5,85 0.230	0,85 0.033	60,0	3	●	■
R335.14-177UNNF16.09Z3	–	16	17,7 0.697	0,2 0.008	9,0 0.354	0,859 0.034	5,85 0.230	0,85 0.033	60,0	3	●	■
R335.14-177UNNF18.09Z3	–	18	17,7 0.697	0,18 0.007	9,0 0.354	0,763 0.030	5,85 0.230	0,85 0.033	60,0	3	●	■
R335.14-177UNNF20.09Z3	–	20	17,7 0.697	0,16 0.006	9,0 0.354	0,687 0.027	5,85 0.230	0,65 0.026	60,0	3	●	■
R335.14-177UNNF24.09Z3	–	24	17,7 0.697	0,13 0.005	9,0 0.354	0,572 0.023	5,85 0.230	0,65 0.026	60,0	3	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 shank - Cylindrical version - Metric



—Cutting data, see page(s) 390, 391 – 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	LPR	OAL	RPMX	CSP	Weight
		mm	mm	mm	mm	mm			kg
335.14-0805.0-017-065-E	10268993	4,8	8,0	13,5	25,5	61,5	30000	■	0,1
335.14-0805.0-025-075-E	10268994	4,8	8,0	21,5	35,5	71,5	30000	■	0,1
335.14-0805.0-035-085-E	10268995	4,8	8,0	31,5	45,5	81,5	30000	■	0,1
335.14-1005.0-010-060	10268996	4,8	10,0	6,5	16,5	56,5	30000	–	0,1
335.14-1006.0-015-060	03042024	6,0	10,0	11,5	16,5	56,5	30000	–	0,1
335.14-1206.0-021-080-E	03042025	6,0	12,0	17,5	31,5	76,5	30000	■	0,2
335.14-1206.0-030-090-E	03042026	6,0	12,0	26,5	41,5	86,5	30000	■	0,2
335.14-1206.0-042-100-E	03042027	6,0	12,0	38,5	51,5	96,5	30000	■	0,2
335.14-1008.0-017-060	03042040	8,0	10,0	12,5	15,5	55,5	30000	■	0,1
335.14-1208.0-029-095-E	03042041	8,0	12,0	24,5	45,5	90,5	30000	■	0,2
335.14-1208.0-042-110-E	03042042	8,0	12,0	37,5	60,5	105,5	30000	■	0,2
335.14-1208.0-056-120-E	03042043	8,0	12,0	51,5	70,5	115,5	30000	■	0,2
335.14-1212.0-042-100-E	10268997	12,0	12,0	49,3	49,3	94,3	30000	■	0,2
335.14-1212.0-060-130-E	10268998	12,0	12,0	79,3	79,3	124,3	30000	■	0,3
335.14-1609.0-018-080	03042028	9,0	16,0	12,2	26,2	74,2	30000	■	0,2
335.14-1609.0-032-100-E	03042029	9,0	16,0	26,2	46,2	94,2	30000	■	0,3
335.14-1609.0-045-110-E	03042030	9,0	16,0	39,2	56,2	104,2	30000	■	0,3
335.14-1609.0-064-130-E	03042031	9,0	16,0	58,2	76,2	124,2	30000	■	0,3
335.14-1612.0-024-080	03042032	12,0	16,0	18,3	26,3	74,3	30000	■	0,2
335.14-1612.0-042-100-E	03042033	12,0	16,0	36,3	46,3	94,3	30000	■	0,2
335.14-1612.0-060-130-E	03042034	12,0	16,0	54,3	76,3	124,3	30000	■	0,3
335.14-1612.0-085-160-E	03042035	12,0	16,0	76,3	106,3	154,3	30000	■	0,4
335.14-1614.0-042-100-E	03042036	14,3	16,0	35,5	45,5	93,5	30000	■	0,3
335.14-1614.0-060-130-E	03042037	14,3	16,0	53,5	75,5	123,5	30000	■	0,3
335.14-1614.0-085-160-E	03042038	14,3	16,0	78,5	105,5	153,5	30000	■	0,4
335.14-2014.0-036-100	03042039	14,0	20,0	29,2	43,5	93,5	30000	■	0,2
335.14-1616.0-060-125-E	10268999	16,0	16,0	70,65	70,65	118,65	30000	■	0,4
335.14-1616.0-090-155-E	10269000	16,0	16,0	100,65	100,65	148,65	30000	■	0,5
335.14-1616.0-120-185-E	10269001	16,0	16,0	130,65	130,65	178,65	30000	■	0,6
335.14-2016.0-032-100	10269002	16,0	20,0	25,65	43,65	93,65	30000	■	0,3

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

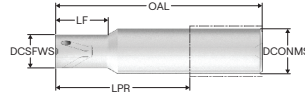
Spot facing
cutters

Inserts

Accessories

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = q6

335.14 shank - Cylindrical version - inch

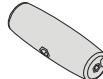


—Cutting data, see page(s) 390, 391 - 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	LPR	OAL	RPMX	CSP	Weight
		inch	inch	inch	inch	inch			lbs
335.14-050006.0-083-315-E	03042121	0.236	0.500	0.689	1.240	3.012	30000	■	0.220
335.14-050006.0-118-354-E	03042122	0.236	0.500	1.043	1.634	3.406	30000	■	0.440
335.14-050006.0-165-394-E	03042107	0.236	0.500	1.516	2.028	3.799	30000	■	0.440
335.14-050008.0-114-374-E	03042123	0.315	0.500	0.965	1.791	3.563	30000	■	0.440
335.14-050008.0-165-433-E	03042124	0.315	0.500	1.476	2.382	4.154	30000	■	0.440
335.14-050008.0-220-472-E	03042119	0.315	0.500	2.028	2.776	4.547	30000	■	0.440
335.14-062509.0-071-315	03042108	0.354	0.625	0.480	1.031	2.921	30000	■	0.440
335.14-062509.0-126-394-E	03042109	0.354	0.625	1.031	1.819	3.709	30000	■	0.440
335.14-062509.0-177-433-E	03042110	0.354	0.625	1.543	2.213	4.102	30000	■	0.440
335.14-062509.0-252-512-E	03042111	0.354	0.625	2.291	3.000	4.890	30000	■	0.660
335.14-062512.0-094-315	03042112	0.472	0.625	0.720	1.035	2.925	30000	■	0.440
335.14-062512.0-165-394-E	03042113	0.472	0.625	1.429	1.823	3.713	30000	■	0.440
335.14-062512.0-236-512-E	03042114	0.472	0.625	2.138	3.004	4.894	30000	■	0.660
335.14-062512.0-335-630-E	03042115	0.472	0.625	3.122	4.185	6.075	30000	■	0.880
335.14-062514.0-165-394-E	03042116	0.551	0.625	1.398	1.791	3.681	30000	■	0.660
335.14-062514.0-236-512-E	03042117	0.551	0.625	2.106	2.972	4.862	30000	■	0.880
335.14-062514.0-335-630-E	03042118	0.551	0.625	3.091	4.154	6.043	30000	■	0.880

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
335.14-..06	H4B-T08P	C92608-T08P	DOUBLE-T	2.0NM	T00-08P20
335.14-..08	H4B-T10P	C93510-T10P	DOUBLE-T	3.5NM	T00-10P35
335.14-..09	H4B-T15P	C94012-T15P	DOUBLE-T	5.0NM	T00-15P50
335.14-..12/14	H6B-T20P	C95012-T20P	DOUBLE-T	7.0NM	-

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = g6

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

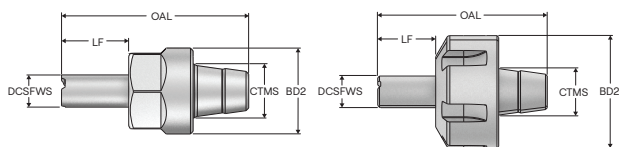
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.14 Shank with ER collet

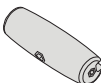


—Cutting data, see page(s) 390, 391 - 395
 —Technical information, see page 396
 —For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	OAL	CTMS	BD2	RPMX	Weight
		mm	mm	mm	mm	mm	mm		kg
335.14-ER11-06-016	03042072	6,0	11,0	12,5	34,9	ER 11	16,0	20000	0,1
335.14-ER11-08-016	03042085	8,0	11,0	11,5	33,8	ER 11	16,0	20000	0,1
335.14-ER16-08-022	03042086	8,0	16,0	17,5	49,6	ER 16	32,0	20000	0,2
335.14-ER11-09-022	03042073	9,0	11,0	16,2	38,5	ER 11	16,0	20000	0,1
335.14-ER16-09-022	03042074	9,0	16,0	16,2	48,3	ER 16	32,0	20000	0,2
335.14-ER25-09-022	03042075	9,0	25,0	16,2	55,3	ER 25	35,0	20000	0,2
335.14-ER16-12-030	03042076	12,0	16,0	24,3	56,4	ER 16	32,0	20000	0,2
335.14-ER25-12-030	03042078	12,0	25,0	24,3	63,4	ER 25	35,0	20000	0,2
335.14-ER32-12-030	03042079	12,0	32,0	24,3	69,4	ER 32	50,0	20000	0,4
335.14-ER25-14-019	03042080	14,0	25,0	12,5	52,3	ER 25	35,0	20000	0,2
335.14-ER25-14-035	03042081	14,0	25,0	28,5	67,6	ER 25	35,0	20000	0,2
335.14-ER32-14-019	03042082	14,0	32,0	12,5	58,3	ER 32	50,0	20000	0,5
335.14-ER32-14-035	03042083	14,0	32,0	28,5	73,6	ER 32	50,0	20000	0,4

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
335.14-ER...06	H4B-T08P	C92608-T08P	DOUBLE-T	2.0NM	T00-08P20
335.14-ER...08	H4B-T10P	C93510-T10P	DOUBLE-T	3.5NM	T00-10P35
335.14-ER...09	H4B-T15P	C94012-T15P	DOUBLE-T	5.0NM	T00-15P50
335.14-ER...12/14	H6B-T20P	C95012-T20P	DOUBLE-T	7.0NM	—

R335.14 – Grooving – Insert selection – mm/Inch

SMG		f_z			
		15%	10%	5%	
P1	R335.14...-M01 F32M	0,036 0,0014	0,042 0,0017	0,060 0,0024	Square shoulder and slot milling cutters
P2	R335.14...-M01 F32M	0,036 0,0014	0,042 0,0017	0,060 0,0024	
P3	R335.14...-M01 F32M	0,034 0,0013	0,040 0,0016	0,055 0,0022	
P4	R335.14...-M01 F32M	0,034 0,0013	0,040 0,0016	0,055 0,0022	Helical milling cutters
P5	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
P6	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
P7	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	Face milling cutters
P8	R335.14...-M01 F32M	0,034 0,0013	0,040 0,0016	0,055 0,0022	
P11	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
P12	R335.14...-M01 F32M	0,020 0,00075	0,024 0,00090	0,032 0,0013	Disc milling cutters
M1	R335.14...-M01 F32M	0,036 0,0014	0,042 0,0017	0,060 0,0024	
M2	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
M3	R335.14...-M01 F32M	0,026 0,0010	0,030 0,0012	0,042 0,0017	High feed milling cutters
M4	R335.14...-M01 F32M	0,020 0,00080	0,025 0,00095	0,034 0,0013	
M5	R335.14...-M01 F32M	0,020 0,00080	0,025 0,00095	0,034 0,0013	
K1	R335.14...-M01 F32M	0,036 0,0014	0,042 0,0017	0,060 0,0024	Copy milling cutters
K2	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
K3	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
K4	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	Plunge milling cutters
K5	R335.14...-M01 F32M	0,030 0,0012	0,034 0,0013	0,048 0,0019	
K6	R335.14...-M01 F32M	0,032 0,0013	0,038 0,0015	0,055 0,0022	
K7	R335.14...-M01 F32M	0,030 0,0012	0,034 0,0013	0,048 0,0019	Chamfer milling cutters
N1	R335.14...-M01 F32M	0,046 0,0018	0,055 0,0022	0,075 0,0030	
N2	R335.14...-M01 F32M	0,046 0,0018	0,055 0,0022	0,075 0,0030	
N3	R335.14...-M01 F32M	0,046 0,0018	0,055 0,0022	0,075 0,0030	Spot facing cutters
N11	R335.14...-M01 F32M	0,046 0,0018	0,055 0,0022	0,075 0,0030	
S1	R335.14...-M01 F32M	0,020 0,00080	0,025 0,00095	0,034 0,0013	
S2	R335.14...-M01 F32M	0,020 0,00080	0,025 0,00095	0,034 0,0013	Inserts
S3	R335.14...-M01 F32M	0,018 0,00070	0,022 0,00085	0,030 0,0012	
S11	R335.14...-M01 F32M	0,026 0,0010	0,030 0,0012	0,042 0,0017	
S12	R335.14...-M01 F32M	0,026 0,0010	0,030 0,0012	0,042 0,0017	
S13	R335.14...-M01 F32M	0,020 0,00080	0,025 0,00095	0,034 0,0013	
H5	R335.14...-M01 F32M	0,020 0,00075	0,024 0,00090	0,032 0,0013	
H8	R335.14...-M01 F32M	0,011 0,00044	0,014 0,00055	0,019 0,00075	
H11	R335.14...-M01 F32M	0,020 0,00075	0,024 0,00090	0,032 0,0013	
H12	R335.14...-M01 F32M	0,011 0,00044	0,014 0,00055	0,019 0,00075	
H21	R335.14...-M01 F32M	0,011 0,00044	0,014 0,00055	0,019 0,00075	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R335.14 – Grooving – Insert selection – mm/Inch

	SMG			f_z		
				15%	10%	5%
Square shoulder and slot milling cutters	P1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 0.0024	0,070 0.0028	0,095 0.0038
	P2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 0.0024	0,070 0.0028	0,10 0.0040
	P3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,095 0.0038
Helical milling cutters	P4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	P5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	P6	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
Face milling cutters	P7	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	P8	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,095 0.0038
	P11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	P12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 0.0013	0,038 0.0015	0,055 0.0022
	M1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 0.0024	0,070 0.0028	0,10 0.0040
	M2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
Disc milling cutters	M3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 0.0017	0,050 0.0020	0,070 0.0028
	M4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 0.0014	0,042 0.0016	0,055 0.0022
	M5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 0.0014	0,042 0.0016	0,055 0.0022
	K1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 0.0024	0,070 0.0028	0,10 0.0040
	K2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	K3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
High feed milling cutters	K4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
	K5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,048 0.0019	0,060 0.0024	0,080 0.0032
	K6	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 0.0022	0,065 0.0026	0,090 0.0036
Copy milling cutters	K7	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,048 0.0019	0,060 0.0024	0,080 0.0032
	N1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 0.0030	0,090 0.0036	0,13 0.0050
	N2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 0.0030	0,090 0.0036	0,13 0.0050
	N3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 0.0030	0,090 0.0036	0,13 0.0050
	N11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 0.0030	0,090 0.0036	0,13 0.0050
Plunge milling cutters	S1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 0.0014	0,042 0.0016	0,055 0.0022
	S2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 0.0014	0,042 0.0016	0,055 0.0022
	S3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,030 0.0012	0,036 0.0014	0,048 0.0019
Chamfer milling cutters	S11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 0.0017	0,050 0.0020	0,070 0.0028
	S12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 0.0017	0,050 0.0020	0,070 0.0028
	S13	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 0.0014	0,042 0.0016	0,055 0.0022
	H5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 0.0013	0,038 0.0015	0,055 0.0022
	H8	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 0.00075	0,022 0.00090	0,032 0.0012
	H11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 0.0013	0,038 0.0015	0,055 0.0022
Spot facing cutters	H12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 0.00075	0,022 0.00090	0,032 0.0012
	H21	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 0.00075	0,022 0.00090	0,032 0.0012

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

R335.14 – Grooving – Insert selection – mm/Inch

SMG		f_z				
		20%	15%	10%	5%	
P1	R335.14...-M03 F32M	0,065 0.0026	0,070 0.0028	0,085 0.0034	0,12 0.0048	Square shoulder and slot milling cutters
P2	R335.14...-M03 F32M	0,065 0.0026	0,070 0.0028	0,085 0.0034	0,12 0.0048	
P3	R335.14...-M03 F32M	0,060 0.0024	0,070 0.0028	0,080 0.0032	0,11 0.0044	
P4	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	Helical milling cutters
P5	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	
P6	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,075 0.0030	0,11 0.0044	
P7	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,075 0.0030	0,11 0.0044	Face milling cutters
P8	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,070 0.0030	0,11 0.0044	
P11	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,075 0.0030	0,11 0.0044	
P12	R335.14...-M03 F32M	0,036 0.0014	0,040 0.0016	0,046 0.0018	0,065 0.0026	Disc milling cutters
M1	R335.14...-M03 F32M	0,065 0.0026	0,070 0.0028	0,085 0.0034	0,12 0.0048	
M2	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	
M3	R335.14...-M03 F32M	0,046 0.0018	0,050 0.0020	0,065 0.0026	0,085 0.0034	High feed milling cutters
M4	R335.14...-M03 F32M	0,038 0.0015	0,042 0.0016	0,050 0.0020	0,070 0.0028	
M5	R335.14...-M03 F32M	0,038 0.0015	0,042 0.0016	0,050 0.0020	0,070 0.0028	
K1	R335.14...-M03 F32M	0,065 0.0026	0,070 0.0028	0,085 0.0034	0,12 0.0048	Copy milling cutters
K2	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	
K3	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	
K4	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	Plunge milling cutters
K5	R335.14...-M03 F32M	0,055 0.0022	0,060 0.0024	0,070 0.0028	0,095 0.0038	
K6	R335.14...-M03 F32M	0,060 0.0024	0,065 0.0026	0,080 0.0032	0,11 0.0044	
K7	R335.14...-M03 F32M	0,055 0.0022	0,060 0.0024	0,070 0.0028	0,095 0.0038	Chamfer milling cutters
N1	R335.14...-M03 F32M	0,080 0.0032	0,090 0.0036	0,11 0.0044	0,15 0.0060	
N2	R335.14...-M03 F32M	0,080 0.0032	0,090 0.0036	0,11 0.0044	0,15 0.0060	
N3	R335.14...-M03 F32M	0,080 0.0032	0,090 0.0036	0,11 0.0044	0,15 0.0060	Spot facing cutters
N11	R335.14...-M03 F32M	0,080 0.0032	0,090 0.0036	0,11 0.0044	0,15 0.0060	
S1	R335.14...-M03 F32M	0,038 0.0015	0,042 0.0016	0,050 0.0020	0,070 0.0028	
S2	R335.14...-M03 F32M	0,038 0.0015	0,042 0.0016	0,050 0.0020	0,070 0.0028	Inserts
S3	R335.14...-M03 F32M	0,032 0.0013	0,036 0.0014	0,042 0.0017	0,060 0.0024	
S11	R335.14...-M03 F32M	0,046 0.0018	0,050 0.0020	0,065 0.0026	0,085 0.0034	
S12	R335.14...-M03 F32M	0,046 0.0018	0,050 0.0020	0,065 0.0026	0,085 0.0034	
S13	R335.14...-M03 F32M	0,038 0.0015	0,042 0.0016	0,050 0.0020	0,070 0.0028	
H5	R335.14...-M03 F32M	0,036 0.0014	0,040 0.0016	0,046 0.0018	0,065 0.0026	
H8	R335.14...-M03 F32M	0,020 0.00080	0,024 0.00090	0,028 0.0011	0,038 0.0015	
H11	R335.14...-M03 F32M	0,036 0.0014	0,040 0.0016	0,046 0.0018	0,065 0.0026	
H12	R335.14...-M03 F32M	0,020 0.00080	0,024 0.00090	0,028 0.0011	0,038 0.0015	
H21	R335.14...-M03 F32M	0,020 0.00080	0,024 0.00090	0,028 0.0011	0,038 0.0015	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R335.14 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	335.14			
		20%	15%	10%	5%
Square shoulder and slot milling cutters	P1	230 750	240 790	255 840	275 900
	P2	225 740	235 770	245 800	265 870
Helical milling cutters	P3	195 640	200 660	215 710	230 750
	P4	170 560	180 590	190 620	205 670
	P5	165 540	170 560	180 590	195 640
	P6	185 610	190 620	205 670	220 720
	P7	175 570	180 590	195 640	205 670
Face milling cutters	P8	165 540	170 560	180 590	195 640
	P11	170 560	175 570	190 620	200 660
	P12	105 345	110 360	120 395	130 425
	M1	195 640	205 670	215 710	235 770
Disc milling cutters	M2	160 520	165 540	175 570	190 620
	M3	125 410	135 445	140 460	150 490
	M4	100 330	100 330	110 360	115 375
	M5	80 260	85 280	90 295	95 310
	K1	225 740	235 770	250 820	270 890
High feed milling cutters	K2	200 660	205 670	220 720	235 770
	K3	165 540	175 570	185 610	200 660
	K4	160 520	165 540	175 570	190 620
	K5	95 310	100 330	105 345	115 375
Copy milling cutters	K6	140 460	145 475	155 510	170 560
	K7	125 410	130 425	135 445	150 490
	N1	1000 3275	1050 3450	1100 3600	1200 3925
	N2	325 1075	340 1125	355 1175	385 1275
Plunge milling cutters	N3	215 710	225 740	235 770	260 850
	N11	290 950	300 980	315 1025	345 1125
	S1	29 95	31 100	32 105	35 115
	S2	24 80	25 80	26 85	28 90
Chamfer milling cutters	S3	21 70	22 70	23 75	25 80
	S11	41 135	43 140	45 150	49 160
	S12	38 125	40 130	42 140	45 150
	S13	22 70	23 75	24 80	26 85
Spot facing cutters	H5	55 180	55 180	60 195	65 215
	H8	60 195	60 195	65 215	70 230
	H11	70 230	75 245	80 260	85 280
	H12	70 230	70 230	75 245	80 260
Inserts	H21	60 195	60 195	65 215	70 230

335.14 – Threading – Cutting data $v_c = (m/min)/(sf/min)$

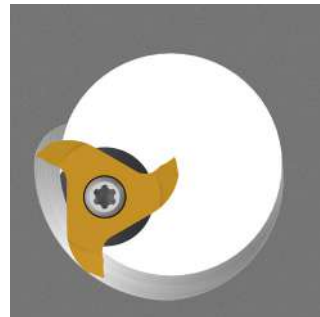
SMG	R335.14		
	f_z	v_c	
P1	0,070	275	Square shoulder and slot milling cutters
	0.0028	900	
P2	0,070	270	Helical milling cutters
	0.0028	890	
P3	0,070	230	Helical milling cutters
	0.0028	750	
P4	0,065	205	Helical milling cutters
	0.0026	670	
P5	0,065	195	Helical milling cutters
	0.0026	640	
P6	0,065	215	Helical milling cutters
	0.0026	710	
P7	0,065	205	Face milling cutters
	0.0026	670	
P8	0,070	195	Face milling cutters
	0.0028	640	
P11	0,065	200	Face milling cutters
	0.0026	660	
P12	0,044	120	Face milling cutters
	0.0017	395	
M1	0,070	215	Disc milling cutters
	0.0028	710	
M2	0,065	175	Disc milling cutters
	0.0026	570	
M3	0,050	130	Disc milling cutters
	0.0020	425	
M4	0,046	100	Disc milling cutters
	0.0018	330	
M5	0,046	80	High feed milling cutters
	0.0018	260	
K1	0,070	210	High feed milling cutters
	0.0028	690	
K2	0,065	185	High feed milling cutters
	0.0026	610	
K3	0,065	180	Copy milling cutters
	0.0026	590	
K4	0,065	150	Copy milling cutters
	0.0026	490	
K5	0,060	90	Copy milling cutters
	0.0024	295	
K6	0,065	130	Copy milling cutters
	0.0026	425	
K7	0,060	115	Copy milling cutters
	0.0024	375	
N1	0,090	970	Plunge milling cutters
	0.0036	3175	
N2	0,090	620	Plunge milling cutters
	0.0036	2025	
N3	0,090	415	Plunge milling cutters
	0.0036	1350	
N11	0,090	475	Plunge milling cutters
	0.0036	1550	
S1	0,046	50	Chamfer milling cutters
	0.0018	165	
S2	0,046	41	Chamfer milling cutters
	0.0018	135	
S3	0,042	35	Chamfer milling cutters
	0.0017	115	
S11	0,050	65	Chamfer milling cutters
	0.0020	215	
S12	0,050	50	Spot facing cutters
	0.0020	165	
S13	0,046	39	Spot facing cutters
	0.0018	130	
H5	0,044	43	Spot facing cutters
	0.0017	140	
H8	0,034	45	Spot facing cutters
	0.0013	150	
H11	0,044	60	Inserts
	0.0017	195	
H12	0,034	55	Inserts
	0.0013	180	
H21	0,034	45	Inserts
	0.0013	150	

Technical information

Recommendation for circular interpolation

To avoid vibration and insert damage when working with internal circular interpolation, we recommend a progressive entrance into the material. The circular arc angle for the progressive immersion should be between 45° and 180°

When calculating cutting datas for circular interpolation please be aware of the real radial depth of cut and the feed speed related to the centre of the cutter- See page 937 for more info



Milling insert with 6 cutting edges



If vibrations appear when working with milling insert with 6 cutting edges please reduce the radial depth of cut to reduce the number of teeth into contact with the material, an alternative is to choose an insert with 3 cutting edges instead.

Holder recommendation

For best result in terms of stability, precision and reliability, it is recommended to use the following SECO-Tooling holders

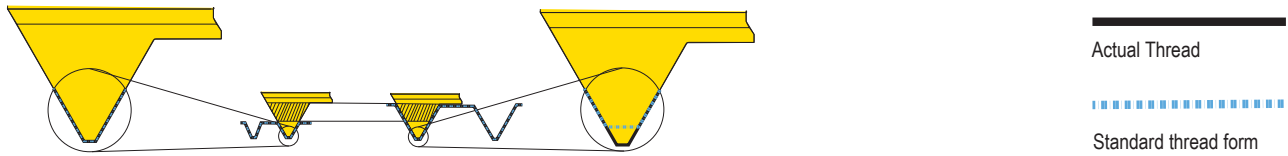
- High precision collet chucks ERHP 5672
- Shrink fit Holder SFD 5603, SFR 5600 and SFS 5801
- ER Collet chuck ER 5675
- Hydraulic chuck HC / HCR / HCS

Please see Seco Tooling System catalogue for more information.



Technical information – Threading

Pitch (as of/up to)



Thread milling by circular interpolation can cause thread profile violation when using insert for partial thread. Keep this in mind during the process of selecting tool. The tool diameter need to be small enough compare to the hole diameter. The pitch also needs to be considered.

Insert with partial profile for Metric ISO-Threads are multi tools. That means that each insert could machine different pitches. The insert is designed to meet the minimum pitch size (TPN); Machining this pitch will result in a standard conform thread form.

The given maximum pitch size (TPX) can be machined also with this insert at the expense of standard conformity: The result will be a slightly deeper thread than the standard. The deeper thread is normally accepted, but the application and use needs to be evaluated.

Following table is a recommendation over maximum tool diameter in relation to the thread size and pitch:

ISO-Thread, partial profile

Pitch	M12	M16	M20	M24	M27	M30	M36	M42	M48	M56	M60
1	10	14	18	22	25	28	34	40	45	53	57
1,5	8	12	16	20	24	26	32	37	43	51	55
2	7	10	14	18	22	24	30	35	40	48	52
2,5	6	8	12	16	20	22	28	32	37	45	48
3		6	10	14	18	20	26	30	36	43	47
3,5				12	16	18	24	29	35	42	46
4							22	27	32	39	43
4,5								24	30	37	40
5								22	27	34	37
5,5								20	25	31	35
6								19	23	29	32

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Code key – Fixed pocket cutters – Metric

Arbor or arbor hole type

R	335	25	-	080	15	22	-	4	-	NA
1	2	3		4	5	6		7		8

1.	2.	3.
For stub arbor mounting /right hand rotation	Disc milling cutters	System
4.	5.	6.
Cutter diameter	Cutter width / axial depth of cut	Dimension of arbor bore
7.	8.	
4 = ZEFP value	N=Three side cutting L or R: 2 sides cutting Left or Right hand A = Through coolant supply	

Cylindrical or Combimaster type

R	335	18	16	50	RE	10	3	NA
1	2	3	4	5	6	7	8	9
1.			2.			3.		
Right hand rotation			Disc milling cutter			System		
4.			5.			6.		
-DMM value for Cyl. version -M value (thread) for Combimaster version			Cutter diameter			-RE for Combimaster -.0 for Cyl. shanks		
7.			8.					
3=ZEFP Value			N=Three side cutting A = Through coolant supply					

Code key - Adjustable cutters - Metric

For adjustable disc milling cutters

1	2	3	4	5	6	7	8	9	10
R	335	18	200	12	15	XL	40	8N	R6
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
For stub arbor mounting/ right hand rotation	Disc milling cutters	System	Cutter diameter of the basic body See product page for exact diameter	Minimum cutter width (adjustable cassettes -3 sides cutting configuration)	Maximum cutter width (adjustable cassettes -3 sides cutting configuration)	XL for enlarged chip space	Dimension of arbor bore	8=ZEFP value N=Three side cutting R=Right hand version for two side cutting L=Left hand version for two side cutting	Insert radius if round inserts used or insert type variant

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Code key – Fixed pocket cutters – Inch

Arbor or arbor hole type

R	335	18	03.00	0.37F	4N
1	2	3	4	5	6

1.	2.	3.
For stub arbor mounting /right hand rotation	Disc milling cutters	System

4.	5.	6.
Cutter diameter	Cutter width (0.37 = 0.375 inch) F = fixed width, manufacturer's option	4 = ZEFP value N = Three side cutting A = Through coolant supply

Cylindrical or Combimaster type

R	335	18	02.00	RE	3NA
1	2	3	4	5	6

1.	2.	3.
Right hand rotation	Disc milling cutter	System

4.	5.	6.
Cutter diameter	.RE = Combimaster, connection size .0 = for Cylindrical shanks	3 = ZEFP value N=Three side cutting A = Through coolant supply

Code key - Adjustable cutters - inch

For adjustable disc milling cutters

R	335	18	08.00	XL0809N	R6
1	2	3	4	5	6

1.	2.	3.
For stub arbor mounting/ right hand rotation	Disc milling cutters	System
4.	5.	6.
Cutter diameter of the basic body See product page for exact diameter	08 Cutter body width min (16ths of an inch) 09 Cutter body width max (16ths of an inch) XL: For enlarged chip space, manufacturer's option N = Three side cutting R = Right-hand version, two side cutting L = Left-hand version, two side cutting	Insert radius in mm if round inserts used or insert type variant

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

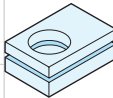
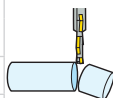
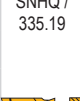
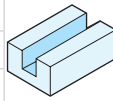
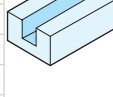
Chamfer milling
cutters

Spot facing
cutters

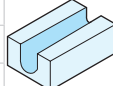
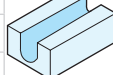
Inserts

Selection – Metric

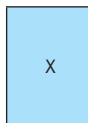
Full side and face – fixed pocket design

System	Insert		Application	Diameters (mm) available and max depth of cut (mm)												CEDC	RE	See page
				24	32	40	50	63	80	100	125	160	200	250	315			
335.15		335.15	 Circlip grooves	3	3			3								2	-	406
		1,1 - 2,65					5											
335.10		150.10				12	15	15	24	30	34	39				1	R0,15/R0,3	411
		2,25/2,5				12	15	15	24	30	43	39	59	84	117			
		3,1						16	22	29	34	39	59	84	117			
335.19		SNHQ / 335.19		4		11	14	17	26	32	45	42			4	R0,2/R0,4/R0,8/ R1,2/R1,6/R2,0/ R2,4/R3,0/R3,1/ R3,5/ R4,0/ R5,0/R6,0	424	
		5			11	14	17	26	32	45	43							
		6				14	17	26	32	31	43	61	86					
		7/ 8					17	26	26	32	44	62	87					
		10							27	33	46	63	88					
		12							27	29	45	64	89					
335.18 LNK		LNKT		8		9	12	15	15	23	27	34			4	R0,4/R0,8/R1,6/ R2,0/R2,4/R3,1/ R4,0	442	
		10			9	12	15	15	24	28	34							
		12				15	15	24	28	34								
		14					15	23	26	34	51							
		17						24	26	33	50							
		20						24	26	34	51							
335.25		XNHQ		15					22	25	32	52	64		4	R0,4, /R0,8/ R1,2/R1,6/R2,0/ R2,4/R3,1/R4,0/ R5,0/R6,0	469	
		20							25	32	51	64	88					
		25								33	50	62	87					

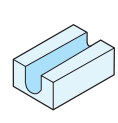
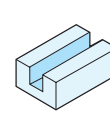
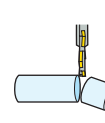
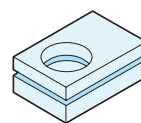
Full radius profile – fixed pocket design

System	Insert		Application	Diameters (mm) available and max depth of cut (mm)												CEDC	RE	See page
				25	32	40	50	63	80	100	125	160	200	250	315			
335.19	SNHQ / 335.19					11	14	17	26	32	45	42				4	R2,0/R3,0/ R3,5/R4,0/R5,0/ R6,0	424
	6					14	17	26	32	31	43	61	86					
	7/8						17	26	32	32	44	62	87					
	10								27	33	46	63	88					
	12								27	29	45	64	89					
335.29	Round insert			5	6	8	10	12								4	R2,5/R3,0/ R3,5/R4,0/R5,0/ R6,0	502
	6			6	8	10	12	15										
	7				8	10	12	15										
	8				8	10	12	15	20									
	10						12	15	20									
	12						12	15	20									

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)



Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)



CEDC = Max no. of cutting edges
RE = Radii available (mm)

Circlip groove and shallow slotting

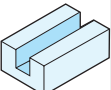
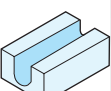
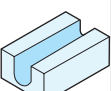
Sawing

Full side and face

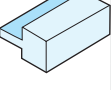
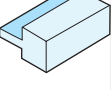
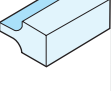
Full radius profile

Selection – Metric

Full side and and face – adjustable in width

System	Insert		Application	Diameters (mm) available and max depth of cut (mm)							CEDC	RE	See page
				80	100	125	160	200	250	315			
335.18 LNK		8 - 10		14	27	32	50	63	88	121	4	R0,4/R0,8/R1,6/ R2,0/R2,4/R3,1/ R4,0	442
		10 - 12		14	27	32	50	63	88	121			
		12 - 15		14	27	32	50	63	88	121			
335.25		13,5 - 17			24	32	50	63	88	121	4	R0,4/R0,8/R1,2/ R1,6/R2,0/R2,4/ R3,1/R4,0/R5,0/ R6,0	469
		17 - 21			24	32	50	63	88	121			
		21 - 26				32	50	63	88	113			
		26 - 32					50	63	88	113			
335.18/335.25		8 - 10		15	28	33	51	63	88	121	4	R4,0	442-469
		10 - 12		15	28	33	51	63	88	121		R5,0	
		12 - 15		15	28	33	51	63	88	121		R6,0	
		16 - 17			28	36	54	67	92	124		R8,0	
		20 - 21							92	124		R10,0	

Half side and face

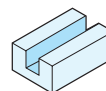
System	Insert		Application	Diameters (mm) available and max depth of cut (mm)							CEDC	RE	See page
				80	100	125	160	200	250	315			
335.98/18	XN05			14	27	32	50	63	88	121	4+4	R0,4/R0,8/R1,6	496, 492
335.98/25	XN07					32	50	63	88	121	4+4	R0,8/R1,6/R3,1	498, 493
335.18 LNK		≤5		14	27	32	50	63	88	121	2+2	R0,4/R0,8/R1,6/ R2,0/R2,4/R3,1/ R4,0	442
		≤6		14	27	32	50	63	88	121			
		≤7,5		14	27	32	50	63	88	121			
335.25		≤8,5			24	32	50	63	88	121	2+2	R0,4/R0,8/R1,2/ R1,6/R2,0/R2,4/ R3,1/R4,0/R5,0/ R6,0	469
		≤11			24	32	50	63	88	121			
		≤13				32	50	63	88	113			
		≤16					50	63	88	113			
335.18/335.25		≤4		15	28	33	51	63	88	121	4	R4,0	442-469
		≤5		15	28	33	51	63	88	121		R5,0	
		≤6		15	28	33	51	63	88	121		R6,0	
		≤8			28	36	54	67	92	124		R8,0	
		≤10							92	124		R10,0	

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

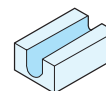
X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

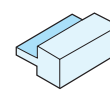
X



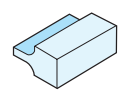
Full side and face



Full radius profile



Half side and face



Half radius profile

CEDC = Max no. of cutting edges
RE = Radii available (mm)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Inch

Full side and face – fixed pocket design

System	Insert		Application	Diameters (inch) available and max depth of cut (inch)											CEDC	RE	See page
				1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00			
335.15	335.15	.124-.203	 Circumferential grooves					0.22							2	–	406
							0.62	0.63	0.73	1.06	1.36	1.41			1	.006 .012	411
335.19	SNHQ / 335.19	0.156 0.187 0.250 0.313 0.375 0.500				0.45	0.6	0.7	0.95	1.32					4	.008 / .016 .031 / .047 .063 / .079 .094 / .118 .122 / .138 .157 / .197 .236	424
						0.45	0.6	0.7	0.95	1.32	1.41	1.91					
							0.6	0.7	0.95	1.32	1.45	1.95	2.51				
								0.56	0.81	1.07	1.45	1.95					
								0.56	0.81	1.11	1.49	2.02					
										1.13	1.52	2.00					
335.18 LNK	LNKT	0.312 0.375 0.500 0.625 0.750			0.35	0.41	0.59	0.63	0.71	1.06	1.38				4	.016 / .031 .063 / .079 .094 / .122 .157	442
					0.35	0.41	0.59	0.63	0.71	1.06	1.38						
							0.59	0.62	0.87	1.14	1.38	1.81					
									0.71	1.06							
									0.71	1.06	1.38						
335.25	XNHQ	0.750 1.00									1.33	1.83	2.48		4	.031 / .047 .063 / .079 .094 / .122 .157 / .197 .236	469
											1.35	1.85	2.43	3.43			

Full radius profile – fixed pocket design

System	Insert		Application	Diameters (inch) available and max depth of cut (inch)											CEDC	RE	See page
				1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00			
335.29	Round insert	0.236 0.315 0.394	 Full radius			0.30	0.41								4	0.118 0.157 0.197	502
							0.41	0.60									
								0.59	0.70								

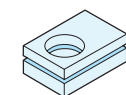
Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

X

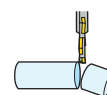
Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

X

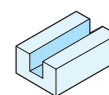
CEDC = Max no. of cutting edges
RE = Radii available (inch)



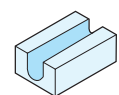
Circumferential groove and shallow slotting



Sawing



Full side and face



Full radius profile

Selection – Inch

Full side and face – adjustable in width

System	Insert		Applica- tion	Diameters (inch) available and max depth of cut (inch)						CEDC	RE	See page	
				4.00	5.00	6.00	8.00	10.00	12.00				
335.18 LNK				.315 - .394	1.1	1.34	1.77	2.42	3.39	4.39	4	.0157 / .031 .063 / .079 .094 / .122 .157	442
				.394 - .472	1.01	1.33	1.77	2.42	3.39	4.39			
				.472 - .591	1.01	1.33	1.77	2.42	3.39	4.39			
335.25				.53 - .67	1.01	1.33	1.80	2.42	3.42	4.46	4	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	469
				.67 - .83	1.01	1.33	1.80	2.42	3.42	4.46			
				.83 - 1.02		1.33	1.79	2.41	3.41	4.41			
				1.02 - 1.26			1.79	2.41	3.41	4.41			
335.18				.315 - .394	1.14	1.38	1.77	2.42	3.39	4.39	4	.157 / .197 .236 / .315 .393	442
				.394 - .472	1.06	1.38	1.81	2.42	3.39	4.39			
				.472 - .591	1.05	1.37	1.83	2.42	3.39	4.39			
				.630 - .669		1.41	1.91	2.54	3.54	4.58			
				.789 - .827					3.54	4.54			

Half side and face

System	Insert		Applica- tion	Diameters (inch) available and max depth of cut (inch)						CEDC	RE	See page		
				4.00	5.00	6.00	8.00	10.00	12.00					
335.98/18	XN05			≤0.197	1.01	1.33	1.77	2.42	3.39	4.39	4+4	R0.016/R0.031/ R0.063	442	
	335.98/25			XN07	≤0.271		1.33	1.79	2.41	3.41	4.41	4+4	R0.031/R0.063/R0.12	442
335.18 LNK				≤0.197	1.10	1.34	1.77	2.42	3.39	4.39	2+2	.016 / .031 .063 / .079 .094 / .122 .157	442	
				≤0.236	1.01	1.33	1.77	2.42	3.39	4.39				
				≤0.295	1.01	1.33	1.79	2.42	3.39	4.39				
335.25				≤0.354	1.01	1.33	1.80	2.42	3.42	4.46	2+2	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	469	
				≤0.437	1.01	1.33	1.80	2.42	3.42	4.46				
				≤0.512		1.33	1.79	2.41	3.41	4.41				
				≤0.630			1.79	2.41	3.41	4.41				
335.18					≤0.157	1.14	1.38	1.77	2.42	3.39	4.39	4	.157 .157 .197 .315 .315	442
					≤0.197	1.06	1.38	1.81	2.42	3.39	4.39			
					≤0.236	1.05	1.37	1.83	2.42	3.39	4.39			
					≤0.315		1.41	1.91	2.54	3.54	4.58			
					≤0.393					3.54	4.54			

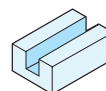
Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

X

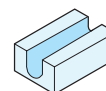
Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

X

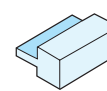
CEDC = Max no. of cutting edges
RE = Radii available (inch)



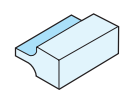
Full side and face



Full radius profile



Half side and face



Half radius profile

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

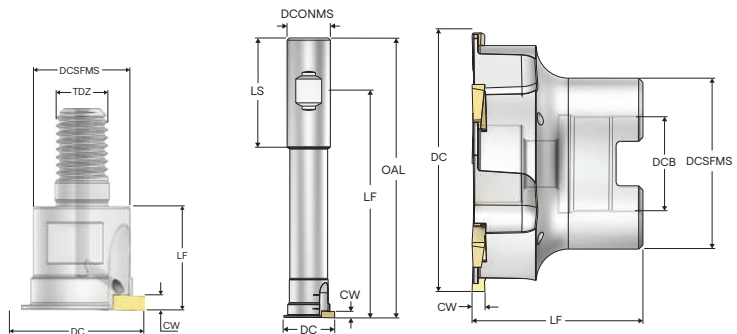


335.15

Disc Milling cutter system designed to generate circle snap-ring grooves and shallow slotting grooves

- Width of cut 1.1-5.15 mm (.043 - .202 inch)
- Cutter range diameter 24-63 mm (1 - 2.5 inch)
- Available with Weldon, Arbor and Combimaster with through coolant connection
- Economical light cutting insert with 2 cutting edges design
- Insert width precision +0/+0.05mm - +0/+0.002"

R335.15 – Metric



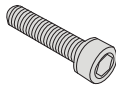
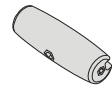
- For insert selection and cutting data recommendations, see page(s) 408, 409 - 410
- For complete insert programme, see page(s) 934
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	DCONMS	LF	LS	OAL	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm		mm	mm	mm	mm		kg	
R335.15-20024.3-03-1	75002642	Weldon	24,0	1,1	2,65	2,2	1	1	—	—	—	20,0	105,05	50,0	130,0	28200	0,4	R335.15-13..
R335.15-25034.3-03-2	75002643	Weldon	34,0	1,1	2,65	2,9	2	2	—	—	—	25,0	98,05	56,0	130,0	23600	0,5	R335.15-13..
R335.15-1024.RE-03.1A	03329402	Combimaster	24,0	1,1	2,65	2,2	1	1	—	18,5	M10	—	20,0	—	—	28200	0,5	R335.15-13..
R335.15-1234.RE-03.2A	03329403	Combimaster	34,0	1,1	2,65	2,9	2	2	—	23,0	M12	—	30,0	—	—	23600	0,2	R335.15-13..
R335.15-063-03.22-5	75011752	Arbor	63,0	1,1	2,65	3,8	5	5	22,0	40,0	—	—	40,0	—	—	17300	0,5	R335.15-13..
R335.15-063-05.22-5	75011753	Arbor	63,0	3,15	5,15	5,5	5	5	22,0	40,0	—	—	40,0	—	—	17300	0,5	R335.15-18..

CW depends on the insert width

For groove depth (CDX), please see insert pages 934

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R335.15 DC = 24/34	—	H4B-T15P	C03509-T15P	DOUBLE-T
R335.15 DC = 63	220.17-692	H4B-T15P	C03509-T15P	DOUBLE-T

Accessories

For	Insert clamping torque	Torque key
		
R335.15 DC = 24/34	3.0NM	T00-15P30
R335.15 DC = 63	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

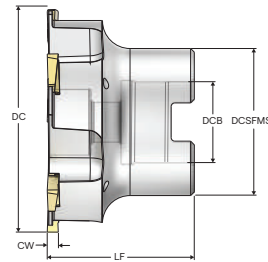
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.15 – inch



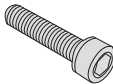
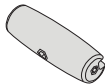
- For insert selection and cutting data recommendations, see page(s) 408, 409 – 410
- For complete insert programme, see page(s) 934
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch		lbs	
R335.15-02.50-18	75072222	Arbor	2.500	0.124	0.203	0.217	5	5	0.750	1.571	1.571	17300	1.100	R335.15-18...

CW depends on the insert width

For groove depth (CDX), please see insert pages 934

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R335.15-02.50-...	UC6S3/8UNFX1-1/4	H4B-T15P	C03509-T15P	DOUBLE-T

Accessories

For	Insert clamping torque	Torque key
		
R335.15-02.50-...	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R335.15– Insert selection – mm/Inch

SMG			f_z		
			10%	5%	2%
P1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 0.0075	0,26 0.010	0,42 0.017
P2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 0.0075	0,26 0.010	0,42 0.017
P3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 0.0070	0,25 0.010	0,40 0.016
P4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 0.0070	0,25 0.010	0,40 0.016
P5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
P6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
P7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
P8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 0.0070	0,25 0.010	0,40 0.016
P11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
P12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,16 0.0065	0,26 0.010
M1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 0.0075	0,26 0.010	0,42 0.017
M2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
M3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 0.0055	0,19 0.0075	0,30 0.012
M4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,17 0.0065	0,26 0.010
M5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,17 0.0065	0,26 0.010
K1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 0.0075	0,26 0.010	0,42 0.017
K2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
K3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
K4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
K5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 0.0065	0,22 0.0085	0,34 0.013
K6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 0.0065	0,24 0.0095	0,38 0.015
K7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 0.0065	0,22 0.0085	0,34 0.013
N1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 0.0095	0,34 0.013	0,55 0.022
N2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 0.0095	0,34 0.013	0,55 0.022
N3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 0.0095	0,34 0.013	0,55 0.022
N11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 0.0095	0,34 0.013	0,55 0.022
S1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,17 0.0065	0,26 0.010
S2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,17 0.0065	0,26 0.010
S3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,11 0.0044	0,16 0.0065	0,25 0.010
S11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 0.0055	0,19 0.0075	0,30 0.012
S12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 0.0055	0,19 0.0075	0,30 0.012
S13	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,17 0.0065	0,26 0.010
H5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,16 0.0065	0,26 0.010
H8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 0.0036	0,12 0.0048	0,20 0.0080
H11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 0.0048	0,16 0.0065	0,26 0.010
H12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 0.0036	0,12 0.0048	0,20 0.0080
H21	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 0.0036	0,12 0.0048	0,20 0.0080

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.15 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M		
		10%	5%	2%
Square shoulder and slot milling cutters	P1	260 850	285 940	280 920
	P2	255 840	275 900	275 900
Helical milling cutters	P3	220 720	240 790	240 790
	P4	195 640	210 690	210 690
	P5	190 620	205 670	205 670
	P6	210 690	230 750	230 750
	P7	200 660	215 710	215 710
Face milling cutters	P8	185 610	200 660	200 660
	P11	195 640	210 690	210 690
	P12	125 410	135 445	135 445
Disc milling cutters	M1	205 670	225 740	220 720
	M2	170 560	185 610	185 610
	M3	135 445	150 490	150 490
	M4	105 345	115 375	115 375
	M5	90 295	95 310	95 310
High feed milling cutters	K1	200 660	220 720	220 720
	K2	180 590	195 640	195 640
	K3	150 490	165 540	165 540
	K4	145 475	155 510	155 510
	K5	90 295	95 310	95 310
Copy milling cutters	K6	130 425	140 460	140 460
	K7	110 360	120 395	120 395
Plunge milling cutters	N1	1500 4925	1625 5325	1600 5250
	N2	600 1975	650 2125	650 2125
	N3	405 1325	435 1425	430 1400
	N11	460 1500	495 1625	495 1625
Chamfer milling cutters	S1	49 160	55 180	55 180
	S2	40 130	43 140	43 140
	S3	35 115	37 120	37 120
	S11	70 230	75 245	75 245
	S12	60 195	65 215	65 215
Spot facing cutters	S13	34 110	36 120	36 120
	H5	41 135	45 150	45 150
	H8	44 145	48 155	47 155
	H11	55 180	60 195	55 180
	H12	50 165	55 180	55 180
Inserts	H21	44 145	48 155	47 155



335.10

Easy to use and reliable disc milling cutter system dedicated for slim slotting and cut-off operations.

- Self-clamping carbide insert design, the insert is retained by the spring action of the steel part of the cutter
- Width of cut 2.25-4.1 mm (.088 - .161 inch)
- Cutter range diameter 40-315 mm (1.5 - 6.0 inch)
- Available with Weldon, Combimaster, Arbor and Arbor hole connection
- Large cutter diameter with HSS cutter body material for high rigidity and reliability
- Small cutter diameter with internal coolant and close pitch design for high productivity
- Insert width precision from +/- 0.05 to 0.08mm - +/-0.002 to 0.003"

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

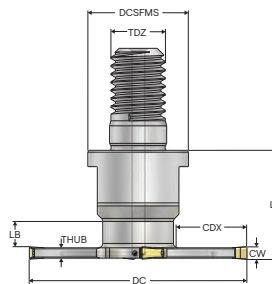
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

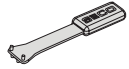
R335.10 - Insert 150.10 - Metric - full side - close pitch design with internal coolant



- For insert selection and cutting data recommendations, see page(s) 422-423
- For complete insert programme, see page(s) 928
- For ISO attribute explanation, see page 16

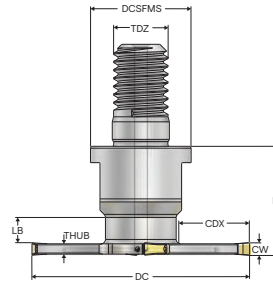
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert 150.10
			mm	mm	mm			mm		mm	mm	mm		kg	
R335.10-1040.RE-02-4A	02926773	Combimaster	40,0	2,25	12,7	4	4	18,5	M10	20,0	1,9	5,3	3970	0,2	-2.25N/2.5N
R335.10-1040.RE-03-4A	02926776	Combimaster	40,0	3,1	12,9	4	4	18,5	M10	20,0	2,4	4,3	3970	0,2	-3N
R335.10-1250.RE-02-5A	02926774	Combimaster	50,0	2,25	15,4	5	5	23,0	M12	20,0	1,9	5,3	3180	0,2	-2.25N/2.5N
R335.10-1250.RE-03-5A	02926777	Combimaster	50,0	3,1	15,6	5	5	23,0	M12	20,0	2,4	4,3	3180	0,1	-3N
R335.10-1663.RE-02-7A	03054405	Combimaster	63,0	2,25	15,7	7	7	30,0	M16	23,0	1,9	—	2520	0,3	-2.25N/2.5N
R335.10-1663.RE-03-7A	03054398	Combimaster	63,0	3,1	15,9	7	7	30,0	M16	23,0	2,4	0,0	2520	0,3	-3N
R335.10-1680.RE-02-9A	03054406	Combimaster	80,0	2,25	24,1	9	9	30,0	M16	23,0	1,9	—	1980	0,3	-2.25N/2.5N
R335.10-1680.RE-03-9A	03054399	Combimaster	80,0	3,1	24,3	9	9	30,0	M16	23,0	2,4	0,0	1980	0,3	-3N
R335.10-20100.RE-02-11A	03054407	Combimaster	100,0	2,25	30,4	11	11	36,5	M20	25,0	1,9	—	1580	0,5	-2.25N/2.5N
R335.10-20100.RE-03-11A	03054400	Combimaster	100,0	3,1	30,6	11	11	36,5	M20	25,0	2,4	0,0	1580	0,5	-3N
R335.10-20125.RE-03-13A	03279546	Combimaster	125,0	3,1	43,1	13	13	36,5	M20	25,0	2,4	0,0	1270	0,6	-3N

Spare Parts, included in delivery

For cutter	Insert key
	
R335.10 DC=125	150.10-150
R335.10 DC=40-100	335.10-155

Torque and fixed keys, see page 944

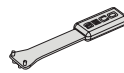
R335.10 - Insert 150.10 - Inch - full side - close pitch design with internal coolant



- For insert selection and cutting data recommendations, see page(s) 422-423
- For complete insert programme, see page(s) 928
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert 150.10
			inch	inch	inch			inch		inch	inch	inch		lbs	
R335.10-02.00-12RE-02-5A	03054409	Combimaster	2.000	0.089	0.622	5	5	0.906	M12	0.787	0.075	—	3180	0.660	-2.25N/2.5N
R335.10-02.00-12RE-03-5A	03054402	Combimaster	2.000	0.122	0.630	5	5	0.906	M12	0.787	0.094	0.169	3180	0.220	-3N
R335.10-02.50-16RE-02-7A	03054410	Combimaster	2.500	0.089	0.626	7	7	1.181	M16	0.906	0.075	—	2520	0.660	-2.25N/2.5N

Spare Parts, included in delivery

For cutter	Insert key
	
	335.10-155

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

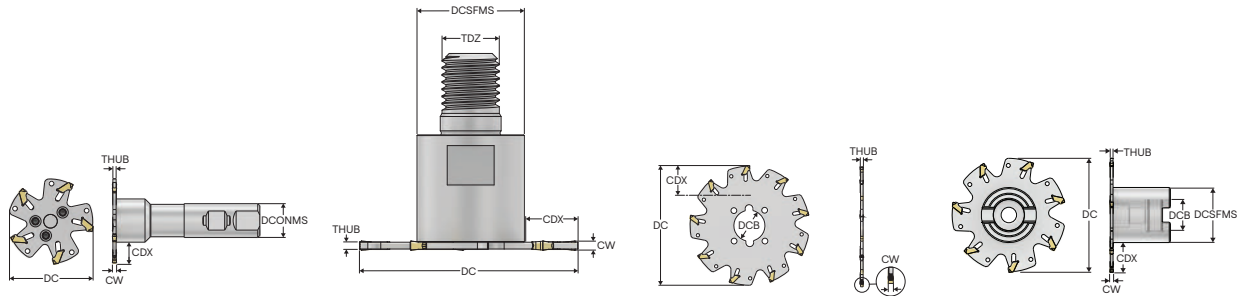
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.10/335.10 - Insert 150.10 - Metric - full side - HSS body

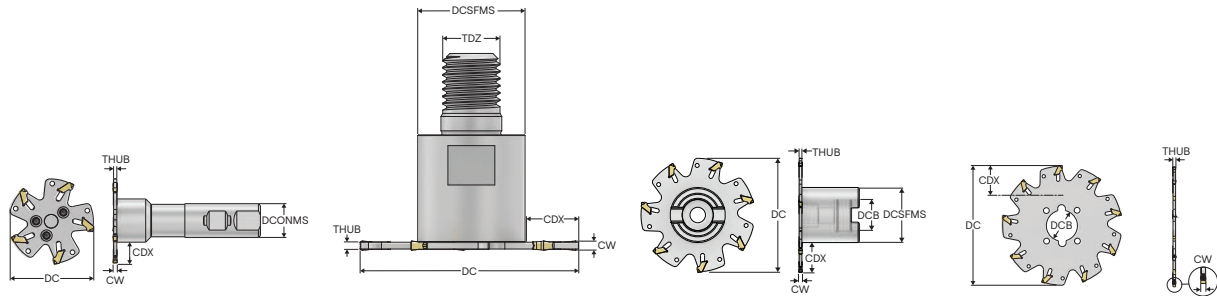


—For insert selection and cutting data recommendations, see page(s) 422-423
 —For complete insert programme, see page(s) 928
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	DCONMS	THUB	RPMX	Weight	Insert 150.10
			mm	mm	mm			mm	mm		mm	mm		kg	
R335.10-25063.3-02-5	75034462	Weldon	63,0	2,25	15,0	5	5	—	—	—	25,0	1,9	4000	0,6	-2.25N/2.5N
R335.10-25063.3-03-5	75027293	Weldon	63,0	3,1	15,0	5	5	—	—	—	25,0	2,4	4000	0,6	-3N
R335.10-32080.3-02-6	75034463	Weldon	80,0	2,25	19,5	6	6	—	—	—	32,0	1,9	3500	1,1	-2.25N/2.5N
R335.10-32080.3-03-6	75027296	Weldon	80,0	3,1	19,5	6	6	—	—	—	32,0	2,4	3500	1,2	-3N
R335.10-1663.RE-02-5	02731371	Combimaster	63,0	2,25	16,0	5	5	—	30,0	M16	—	1,9	4000	0,3	-2.25N/2.5N
R335.10-1663.RE-03-5	02731375	Combimaster	63,0	3,1	16,0	5	5	—	30,0	M16	—	2,4	4000	0,4	-3N
R335.10-1680.RE-02-6	02731373	Combimaster	80,0	2,25	19,5	6	6	—	30,0	M16	—	1,9	3500	0,6	-2.25N/2.5N
R335.10-1680.RE-03-6	02731378	Combimaster	80,0	3,1	19,5	6	6	—	30,0	M16	—	2,4	3500	0,6	-3N
335.10-080-02.22-6	75034458	Arbor hole	80,0	2,25	22,5	6	6	22,0	—	—	—	1,9	3500	0,2	-2.25N/2.5N
335.10-080-03.22-6	75012752	Arbor hole	80,0	3,1	22,5	6	6	22,0	—	—	—	2,4	3500	0,2	-3N
335.10-100-02.27-7	75034459	Arbor hole	100,0	2,25	29,0	7	7	27,0	—	—	—	1,9	3200	0,2	-2.25N/2.5N
335.10-100-03.27-7	75012754	Arbor hole	100,0	3,1	29,0	7	7	27,0	—	—	—	2,4	3200	0,3	-3N
335.10-125-02.32-9	75028096	Arbor hole	125,0	2,25	34,5	9	9	32,0	—	—	—	1,9	2800	0,3	-2.25N/2.5N
335.10-125-03.32-9	75012756	Arbor hole	125,0	3,1	34,5	9	9	32,0	—	—	—	2,4	2800	0,3	-3N
335.10-160-02.40-12	75034460	Arbor hole	160,0	2,25	39,5	12	12	40,0	—	—	—	1,9	2400	0,4	-2.25N/2.5N
335.10-160-03.40-12	75012758	Arbor hole	160,0	3,1	39,5	12	12	40,0	—	—	—	2,4	2400	0,4	-3N
335.10-200-03.40-14	75027697	Arbor hole	200,0	3,1	59,5	14	14	40,0	—	—	—	2,4	2200	1,3	-3N
335.10-250-03.40-18	75028688	Arbor hole	250,0	3,1	84,5	18	18	40,0	—	—	—	2,4	2000	1,5	-3N
335.10-315-03.40-24	75005264	Arbor hole	315,0	3,1	117,0	24	24	40,0	—	—	—	2,4	1700	1,3	-3N
R335.10-063-02.22-5	75034464	Arbor	63,0	2,25	15,0	5	5	22,0	32,0	—	—	1,9	4000	0,5	-2.25N/2.5N
R335.10-063-03.22-5	75027298	Arbor	63,0	3,1	15,0	5	5	22,0	32,0	—	—	2,4	4000	0,5	-3N
R335.10-080-02.22-6	75034465	Arbor	80,0	2,25	19,5	6	6	22,0	40,0	—	—	1,9	3500	0,6	-2.25N/2.5N
R335.10-080-03.22-6	75027301	Arbor	80,0	3,1	19,5	6	6	22,0	40,0	—	—	2,4	3500	0,6	-3N
R335.10-100-02.27-7	75034466	Arbor	100,0	2,25	25,5	7	7	27,0	48,0	—	—	1,9	3200	0,8	-2.25N/2.5N
R335.10-100-03.27-7	75027303	Arbor	100,0	3,1	25,5	7	7	27,0	48,0	—	—	2,4	3200	0,9	-3N
R335.10-125-02.32-9	75034467	Arbor	125,0	2,25	33,0	9	9	32,0	58,0	—	—	1,9	2800	1,3	-2.25N/2.5N
R335.10-125-03.32-9	75027307	Arbor	125,0	3,1	33,0	9	9	32,0	58,0	—	—	2,4	2800	1,4	-3N
R335.10-160-02.40-12	75034468	Arbor	160,0	2,25	39,5	12	12	40,0	80,0	—	—	1,9	2400	2,9	-2.25N/2.5N
R335.10-160-03.40-12	75027311	Arbor	160,0	3,1	39,5	12	12	40,0	80,0	—	—	2,4	2400	2,4	-3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80-100 mm. For cutter dia > 100 mm, please use Seco drive rings, see page 417
 Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

R335.10/335.10 - Insert 150.10 - Metric - full side - HSS body



- For insert selection and cutting data recommendations, see page(s) 422–423
- For complete insert programme, see page(s) 928
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	CW mm	CDX mm	ZEFP	ZNP	DCB mm	DCSFMS mm	TDZ	DCONMS mm	THUB mm	RPMX	Weight kg	Insert 150.10
R335.10-25063.3-04-5	75027294	Weldon	63,0	4,1	15,0	5	5	—	—	—	25,0	3,4	4000	0,5	-4N
R335.10-32080.3-04-6	75027297	Weldon	80,0	4,1	19,5	6	6	—	—	—	32,0	3,4	3500	1,1	-4N
R335.10-1663.RE-04-5	02731380	Combimaster	63,0	4,1	16,0	5	5	—	30,0	M16	—	3,4	4000	0,5	-4N
R335.10-1680.RE-04-6	02731382	Combimaster	80,0	4,1	19,5	6	6	—	30,0	M16	—	3,4	3500	0,5	-4N
335.10-080-04.22-6	75012753	Arbor hole	80,0	4,1	22,5	6	6	22,0	—	—	—	3,4	3500	0,2	-4N
335.10-100-04.27-7	75012755	Arbor hole	100,0	4,1	29,0	7	7	27,0	—	—	—	3,4	3200	0,2	-4N
335.10-125-04.32-9	75012757	Arbor hole	125,0	4,1	34,5	9	9	32,0	—	—	—	3,4	2800	0,4	-4N
335.10-160-04.40-12	75012759	Arbor hole	160,0	4,1	39,5	12	12	40,0	—	—	—	3,4	2400	0,6	-4N
335.10-200-04.40-14	75027826	Arbor hole	200,0	4,1	59,5	14	14	40,0	—	—	—	3,4	2200	0,9	-4N
335.10-250-04.40-18	75028689	Arbor hole	250,0	4,1	84,5	18	18	40,0	—	—	—	3,4	2000	1,2	-4N
335.10-315-04.40-24	75034461	Arbor hole	315,0	4,1	117,0	24	24	40,0	—	—	—	3,4	1700	1,9	-4N
R335.10-063-04.22-5	75027299	Arbor	63,0	4,1	15,0	5	5	22,0	32,0	—	—	3,4	4000	0,4	-4N
R335.10-080-04.22-6	75027302	Arbor	80,0	4,1	19,5	6	6	22,0	40,0	—	—	3,4	3500	0,7	-4N
R335.10-100-04.27-7	75027304	Arbor	100,0	4,1	25,5	7	7	27,0	48,0	—	—	3,4	3200	0,9	-4N
R335.10-125-04.32-9	75027309	Arbor	125,0	4,1	33,0	9	9	32,0	58,0	—	—	3,4	2800	1,5	-4N
R335.10-160-04.40-12	75027312	Arbor	160,0	4,1	39,5	12	12	40,0	80,0	—	—	3,4	2400	3,1	-4N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80–100 mm. For cutter dia > 100 mm, please use Seco drive rings, see page 417

Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

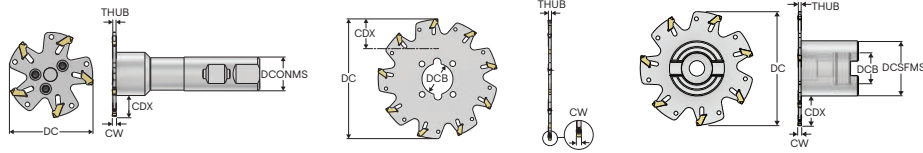
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.10/335.10 – Insert 150.10 – inch – full side – HSS body



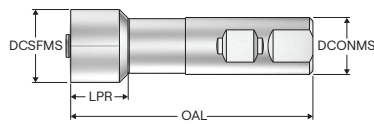
—For insert selection and cutting data recommendations, see page(s) 422–423
 —For complete insert programme, see page(s) 928
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	DCONMS	THUB	RPMX	Weight	Insert 150.10
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.10-02.50-3-2	75054664	Weldon	2.500	0.089	0.602	5	5	–	–	1.000	0.075	4000	0.440	2.25N/2.5N
R335.10-02.50-3-3	75054666	Weldon	2.500	0.122	0.602	5	5	–	–	1.000	0.094	4000	1.540	3N
R335.10-03.00-3-2	75054665	Weldon	3.000	0.089	0.728	6	6	–	–	1.250	0.075	3500	3.090	2.25N/2.5N
R335.10-03.00-3-3	75054667	Weldon	3.000	0.122	0.728	6	6	–	–	1.250	0.094	3500	3.090	3N
335.10-03.00-2	75054743	Arbor hole	3.000	0.089	0.669	6	6	1.000	–	–	0.075	3500	0.440	2.25N/2.5N
335.10-03.00-3	75070139	Arbor hole	3.000	0.122	0.669	6	6	1.000	–	–	0.094	3500	0.440	3N
335.10-04.00-2	75054744	Arbor hole	4.000	0.089	1.161	7	7	1.000	–	–	0.075	3200	0.440	2.25N/2.5N
335.10-04.00-3	75014456	Arbor hole	4.000	0.122	1.161	7	7	1.000	–	–	0.094	3200	0.660	3N
335.10-05.00-2	75054745	Arbor hole	5.000	0.089	1.398	9	9	1.250	–	–	0.075	2800	0.660	2.25N/2.5N
335.10-05.00-3	75014458	Arbor hole	5.000	0.122	1.398	9	9	1.250	–	–	0.094	2800	0.660	3N
335.10-06.00-3	75014460	Arbor hole	6.000	0.122	1.555	12	12	1.250	–	–	0.094	2400	0.880	3N
R335.10-02.50-2B	75054670	Arbor	2.500	0.089	0.600	5	5	0.750	1.575	–	0.075	4000	1.100	2.25N/2.5N
R335.10-02.50-3B	75054672	Arbor	2.500	0.122	0.600	5	5	0.750	1.575	–	0.094	4000	1.320	3N
R335.10-03.00-2B	75054671	Arbor	3.000	0.089	0.693	6	6	0.750	1.575	–	0.075	3500	1.760	2.25N/2.5N
R335.10-03.00-3B	75054673	Arbor	3.000	0.122	0.693	6	6	0.750	1.575	–	0.094	3500	1.980	3N
R335.10-04.00-2B	75054680	Arbor	4.000	0.089	1.035	7	7	1.000	1.890	–	0.075	3200	1.980	2.25N/2.5N
R335.10-04.00-3B	75054683	Arbor	4.000	0.122	1.035	7	7	1.000	1.890	–	0.094	3200	2.650	3N
R335.10-05.00-2B	75054681	Arbor	5.000	0.089	1.339	9	9	1.250	2.283	–	0.075	2800	3.970	2.25N/2.5N
R335.10-05.00-3B	75054684	Arbor	5.000	0.122	1.339	9	9	1.250	2.283	–	0.094	2800	3.750	3N
R335.10-06.00-2B	75054682	Arbor	6.000	0.089	1.406	12	12	1.500	3.150	–	0.075	2400	6.170	2.25N/2.5N
R335.10-06.00-3B	75054685	Arbor	6.000	0.122	1.406	12	12	1.500	3.150	–	0.094	2400	5.510	3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 3.00 –4.00". For cutter dia > 4.00", please use Seco drive rings, see page 420
 Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

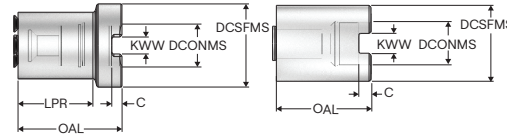
Spare Parts – Metric

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-25.3	25	32	106	25
335.10-32.3	32	40	150	30

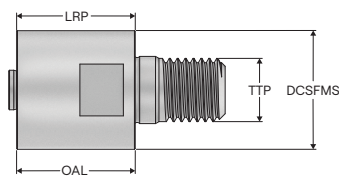
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-2232	22	40	50	36	10,4	6,3
335.10-2240M	22	40	50	–	10,4	6,3
335.10-2748	27	48	50	–	12,4	7
335.10-3258	32	58	63	–	14,4	8
335.10-4080	40	80	63	–	16,4	9

Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

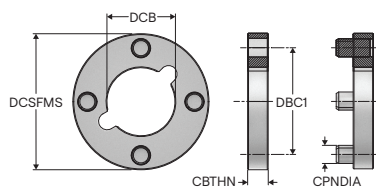
Combimaster type



Designation	LRP	TDZ	DCSFMS	OAL
335.10-16RE-10	28	M16	30	30
335.10-16RE-18	28	M16	30	40

Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

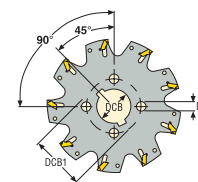
Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14532	32	55	10	45	5,7
335.10-16340	40	80	12	63	10,7

Drive ring to be ordered separately

Arbor hole type



Designation	DCB	DCB1	D1
335.10-080	22	–	–
335.10-100	27	–	–
335.10-125	32	45	6
335.10-160-315	40	63	11

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

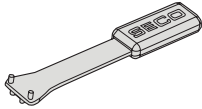
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

- Square shoulder and slot milling cutters
- Helical milling cutters
- Face milling cutters
- Disc milling cutters
- High feed milling cutters
- Copy milling cutters
- Plunge milling cutters
- Chamfer milling cutters
- Spot facing cutters
- Inserts

Assembly components/Standard parts – metric

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
					
R335.10-25063.3-02-5	B-R335.10-063.10-02	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-02-6	B-R335.10-080.18-02	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-03-5	B-R335.10-063.10-03	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-03-6	B-R335.10-080.18-03	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-04-5	B-R335.10-063.10-04	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-04-6	B-R335.10-080.18-04	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
						
R335.10-063-02.22-5	B-R335.10-063.10-02	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-02.22-6	B-R335.10-080.18-02	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-03.22-5	B-R335.10-063.10-03	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-03.22-6	B-R335.10-080.18-03	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-04.22-5	B-R335.10-063.10-04	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-04.22-6	B-R335.10-080.18-04	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
						
R335.10-100-02.27-7	B-R335.10-100.27-02	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-03.27-7	B-R335.10-100.27-03	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-04.27-7	B-R335.10-100.27-04	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-125-02.32-9	B-R335.10-125.32-02	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-03.32-9	B-R335.10-125.32-03	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-04.32-9	B-R335.10-125.32-04	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-160-02.40-12	B-R335.10-160.40-02	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-03.40-12	B-R335.10-160.40-03	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-04.40-12	B-R335.10-160.40-04	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40

Combimaster

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
					
R335.10-1663.RE-02-5	B-R335.10-063.10-02	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-02-6	B-R335.10-080.18-02	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-03-5	B-R335.10-063.10-03	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-03-6	B-R335.10-080.18-03	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-04-5	B-R335.10-063.10-04	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-04-6	B-R335.10-080.18-04	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

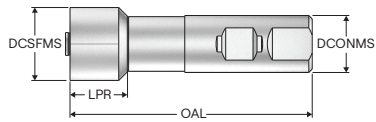
Chamfer milling
cutters

Spot facing
cutters

Inserts

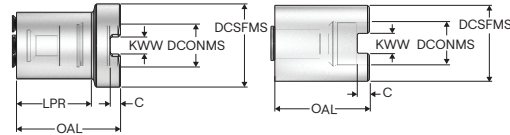
Spare Parts – Inch

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-01.00-3-A	1.00	1.25	4.17	1.00
335.10-01.25-3-A	1.25	1.50	5.90	1.18

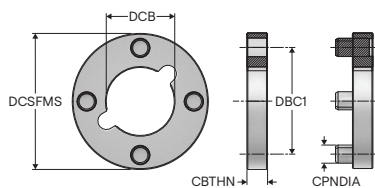
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-00.75-1.25B-A	0.75	1.26	1.969	1.50	0.32	0.20
335.10-00.75-1.50B-A	0.75	1.58	1.969	–	0.32	0.20
335.10-01.00-1.89B-A	1.00	1.89	1.969	–	0.38	0.23
335.10-01.25-2.28B-A	1.25	2.28	2.480	–	0.51	0.28
335.10-01.50-3.15B-A	1.50	3.15	2.480	–	0.63	0.38

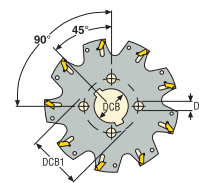
Note: Assembly screws delivered with Weldon and arbor holders

Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14531	2.16	1.25	1.77	0.22	0.39
335.10-15531	2.83	1.25	2.16	0.42	0.47
335.10-17451	3.50	2.00	2.91	0.42	0.47

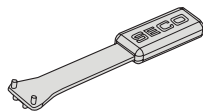
Arbor hole type



Designation	DCB	DCB1	D1
335.10-03.00-04.00	1.00	–	–
335.10-05.00	1.25	1.77	0.24
335.10-06.00	1.25	2.16	0.43
335.10-08.00-12.00	2.00	2.91	0.43

Drive ring to be ordered separately

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

Assembly components/Standard parts – inch

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs
					
R335.10-02.50-3-2	R335.10-02.50-2	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-02.50-3-3	R335.10-02.50-3	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-2	R335.10-03.00-2	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-3	R335.10-03.00-3	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs	Arbor screw
						
R335.10-02.50-2B	R335.10-02.50-2	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-02.50-3B	R335.10-02.50-3	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-2B	R335.10-03.00-2	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-3B	R335.10-03.00-3	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Insert key	Torque in/lbs	Arbor screw
						
R335.10-04.00-2B	R335.10-04.00-2	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-04.00-3B	R335.10-04.00-3	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-05.00-2B	R335.10-05.00-2	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-05.00-3B	R335.10-05.00-3	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-06.00-2B	R335.10-06.00-2	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4
R335.10-06.00-3B	R335.10-06.00-3	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.10– Insert selection – mm/Inch

	SMG					f_z			
						30%	20%	10%	5%
Square shoulder and slot milling cutters	P1	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,10 0.0040	0,11 0.0044	0,15 0.0060	0,20 0.0080
	P2	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,10 0.0040	0,11 0.0044	0,15 0.0060	0,22 0.0085
Helical milling cutters	P3	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,095 0.0038	0,11 0.0044	0,14 0.0055	0,20 0.0080
	P4	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,090 0.0036	0,11 0.0044	0,14 0.0055	0,19 0.0075
	P5	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	P6	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	P7	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
Face milling cutters	P8	150.10-2.25N-16 CP500	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,095 0.0038	0,11 0.0044	0,14 0.0055	0,20 0.0080
	P11	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,085 0.0034	0,095 0.0038	0,13 0.0050	0,17 0.0065
	P12	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	150.10-3N-12 CP600	150.10-4N-12 CP600	0,055 0.0022	0,065 0.0026	0,085 0.0034	0,12 0.0048
	M1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,10 0.0040	0,11 0.0044	0,15 0.0060	0,22 0.0085
Disc milling cutters	M2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	M3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,070 0.0028	0,085 0.0034	0,11 0.0044	0,15 0.0060
	M4	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,065 0.0026	0,075 0.0030	0,095 0.0038	0,13 0.0050
	M5	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,065 0.0026	0,075 0.0030	0,095 0.0038	0,13 0.0050
	K1	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,10 0.0040	0,11 0.0044	0,15 0.0060	0,22 0.0085
High feed milling cutters	K2	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	K3	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	K4	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	K5	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,080 0.0032	0,095 0.0038	0,12 0.0048	0,17 0.0065
	K6	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,090 0.0036	0,10 0.0040	0,14 0.0055	0,19 0.0075
	K7	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	150.10-3N-16 TGP45	150.10-4N-16 TGP45	0,080 0.0032	0,095 0.0038	0,12 0.0048	0,17 0.0065
Copy milling cutters	N1	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	150.10-3N-14 CP500	150.10-4N-14 CP500	0,12 0.0048	0,14 0.0055	0,19 0.0075	0,26 0.010
	N2	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	150.10-3N-14 CP500	150.10-4N-14 CP500	0,12 0.0048	0,14 0.0055	0,19 0.0075	0,26 0.010
	N3	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	150.10-3N-14 CP500	150.10-4N-14 CP500	0,12 0.0048	0,14 0.0055	0,19 0.0075	0,26 0.010
	N11	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	150.10-3N-14 CP500	150.10-4N-14 CP500	0,12 0.0048	0,14 0.0055	0,19 0.0075	0,26 0.010
Plunge milling cutters	S1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,065 0.0026	0,075 0.0030	0,095 0.0038	0,13 0.0050
	S2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,065 0.0026	0,075 0.0030	0,095 0.0038	0,13 0.0050
	S3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,060 0.0024	0,065 0.0026	0,090 0.0036	0,12 0.0048
	S11	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,070 0.0028	0,085 0.0034	0,11 0.0044	0,15 0.0060
Chamfer milling cutters	S12	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,070 0.0028	0,085 0.0034	0,11 0.0044	0,15 0.0060
	S13	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	150.10-3N-14 CP600	150.10-4N-14 CP600	0,065 0.0026	0,075 0.0030	0,095 0.0038	0,13 0.0050
	H5	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	150.10-3N-16 CP500	150.10-4N-16 CP500	0,060 0.0024	0,070 0.0028	0,095 0.0038	0,13 0.0050
	H8	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	150.10-3N-16 CP500	150.10-4N-16 CP500	0,048 0.0019	0,055 0.0022	0,070 0.0028	0,10 0.0040
Spot facing cutters	H11	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	150.10-3N-16 CP500	150.10-4N-16 CP500	0,060 0.0024	0,070 0.0028	0,095 0.0038	0,13 0.0050
	H12	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	150.10-3N-16 CP500	150.10-4N-16 CP500	0,048 0.0019	0,055 0.0022	0,070 0.0028	0,10 0.0040
	H21	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	150.10-3N-16 CP500	150.10-4N-16 CP500	0,048 0.0019	0,055 0.0022	0,070 0.0028	0,10 0.0040

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

335.10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	CP500				CP600				HX				TGP45				T350M				Square shoulder and slot milling cutters
	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	
P1	195	210	230	250	185	200	220	240	—	—	—	—	250	270	295	325	215	230	255	275	
	640	690	750	820	610	660	720	790	—	—	—	—	820	890	970	1075	710	750	840	900	
P2	190	205	225	245	180	195	215	235	—	—	—	—	240	260	290	310	210	225	245	270	
	620	670	740	800	590	640	710	770	—	—	—	—	790	850	950	1025	690	740	800	890	
P3	165	180	200	215	155	170	190	205	—	—	—	—	215	225	250	270	180	195	220	235	
	540	590	660	710	510	560	620	670	—	—	—	—	710	740	820	890	590	640	720	770	
P4	150	160	175	190	140	150	165	180	—	—	—	—	185	200	220	240	160	175	190	205	
	490	520	570	620	460	490	540	590	—	—	—	—	610	660	720	790	520	570	620	670	
P5	140	150	165	180	135	145	160	170	—	—	—	—	180	195	215	235	155	165	185	200	
	460	490	540	590	445	475	520	560	—	—	—	—	590	640	710	770	510	540	610	660	
P6	160	170	190	205	150	160	180	195	—	—	—	—	200	215	240	260	175	185	205	220	
	520	560	620	670	490	520	590	640	—	—	—	—	660	710	790	850	570	610	670	720	
P7	150	160	175	190	145	150	170	180	—	—	—	—	190	205	225	245	165	175	195	210	
	490	520	570	620	475	490	560	590	—	—	—	—	620	670	740	800	540	570	640	690	
P8	140	150	165	180	130	145	160	170	—	—	—	—	180	190	210	230	150	165	185	200	
	460	490	540	590	425	475	520	560	—	—	—	—	590	620	690	750	490	540	610	660	
P11	145	155	170	185	140	150	165	175	—	—	—	—	185	200	220	240	160	170	190	205	
	475	510	560	610	460	490	540	570	—	—	—	—	610	660	720	790	520	560	620	670	
P12	95	100	110	120	90	95	105	115	—	—	—	—	120	125	140	155	105	110	120	130	
	310	330	360	395	295	310	345	375	—	—	—	—	395	410	460	510	345	360	395	425	
M1	155	165	180	200	145	155	175	190	105	110	120	130	175	185	205	225	160	175	190	205	
	510	540	590	660	475	510	570	620	345	360	395	425	570	610	670	740	520	570	620	670	
M2	125	135	150	165	120	130	145	155	85	90	100	105	145	155	170	185	135	140	160	170	
	410	445	490	540	395	425	475	510	280	295	330	345	475	510	560	610	445	460	520	560	
M3	105	110	120	130	100	105	115	125	70	75	80	85	115	125	140	150	110	115	125	140	
	345	360	395	425	330	345	375	410	230	245	260	280	375	410	460	490	360	375	410	460	
M4	80	85	95	100	75	80	90	95	55	55	60	65	90	95	105	115	85	90	100	105	
	260	280	310	330	245	260	295	310	180	180	195	215	295	310	345	375	280	295	330	345	
M5	65	70	80	85	65	70	75	80	45	47	50	55	75	80	90	95	70	75	80	90	
	215	230	260	280	215	230	245	260	150	155	165	180	245	260	295	310	230	245	260	295	
K1	150	165	180	195	145	155	170	185	95	100	110	120	190	205	230	245	165	180	195	215	
	490	540	590	640	475	510	560	610	310	330	360	395	620	670	750	800	540	590	640	710	
K2	135	145	160	170	130	135	150	165	85	90	100	105	170	185	205	220	145	155	175	190	
	445	475	520	560	425	445	490	540	280	295	330	345	560	610	670	720	475	510	570	620	
K3	115	120	135	145	110	115	130	140	75	80	85	90	145	155	170	185	125	135	145	160	
	375	395	445	475	360	375	425	460	245	260	280	295	475	510	560	610	410	445	475	520	
K4	110	115	130	140	105	110	120	130	70	75	80	85	135	150	165	180	120	125	140	150	
	360	375	425	460	345	360	395	425	230	245	260	280	445	490	540	590	395	410	460	490	
K5	65	70	80	85	65	70	75	80	43	45	49	55	85	90	100	110	70	80	85	95	
	215	230	260	280	215	230	245	260	140	150	160	180	280	295	330	360	230	260	280	310	
K6	95	100	115	120	90	95	105	115	60	65	70	75	120	130	145	155	105	110	125	135	
	310	330	375	395	295	310	345	375	195	215	230	245	395	425	475	510	345	360	410	445	
K7	85	90	100	110	80	85	95	105	55	60	60	65	110	115	125	140	90	100	110	120	
	280	295	330	360	260	280	310	345	180	195	195	215	360	375	410	460	295	330	360	395	
N1	900	970	1050	1150	850	920	1000	1100	580	610	670	710	—	—	—	—	—	—	—	—	
	2950	3175	3450	3775	2800	3025	3275	3600	1900	2000	2200	2325	—	—	—	—	—	—	—	—	
N2	450	490	530	580	430	465	510	550	230	245	270	285	—	—	—	—	—	—	—	—	
	1475	1600	1750	1900	1400	1525	1675	1800	750	800	890	940	—	—	—	—	—	—	—	—	
N3	300	325	355	390	285	310	340	370	155	165	180	190	—	—	—	—	—	—	—	—	
	980	1075	1175	1275	940	1025	1125	1225	510	540	590	620	—	—	—	—	—	—	—	—	
N11	345	370	405	445	330	355	390	425	175	190	205	215	—	—	—	—	—	—	—	—	
	1125	1225	1325	1450	1075	1175	1275	1400	570	620	670	710	—	—	—	—	—	—	—	—	
S1	37	40	44	48	35	38	42	45	20	22	24	25	—	—	—	—	39	42	46	50	
	120	130	145	155	115	125	140	150	65	70	80	80	—	—	—	—	130	140	150	165	
S2	30	32	35	38	28	31	34	37	16	17	19	20	—	—	—	—	31	34	37	40	
	100	105	115	125	90	100	110	120	50	55	60	65	—	—	—	—	100	110	120	130	
S3	26	28	31	33	25	27	29	32	14	15	16	17	—	—	—	—	27	29	32	35	
	85	90	100	110	80	90	95	105	46	49	50	55	—	—	—	—	90	95	105	115	
S11	50	55	60	65	45	48	55	60	—	—	—	—	—	—	—	—	55	60	65	70	
	165	180	195	215	150	155	180	195	—	—	—	—	—	—	—	—	180	195	215	230	
S12	37	39	43	47	42	44	49	55	—	—	—	—	—	—	—	—	46	49	55	60	
	120	130	140	155	140	145	160	180	—	—	—	—	—	—	—	—	150	160	180	195	
S13	21	23	25	27	24	26	28	31	—	—	—	—	—	—	—	—	27	29	31	34	
	70	75	80	90	80	85	90	100	—	—	—	—	—	—	—	—	90	95	100	110	
H5	31	34	37	40	30	32	35	38	32	33	36	39	36	38	43	46	34	37	40	44	
	100																				

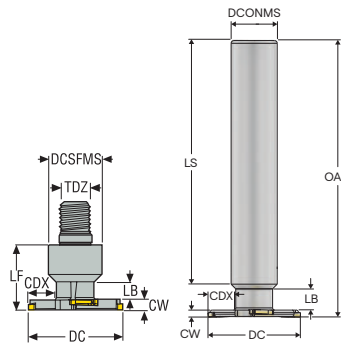


335.19

Economical, precise and free-cutting disc milling cutter system dedicated for small width of cut slotting and cutting off operations

- Width of cut 4-12 mm (.157 - .500 inch) - Flat bottom slot with SNHQ inserts.
- Cutter range diameter 40-250 mm (1.5 - 8 inch)
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- High insert precision with built-in wiper flat and corner radii range 0.2-6 mm (.008 - 0.236 inch)
- Economical solution with up to 4 cutting edges per inserts
- Theoretical tolerance of the slot -0.02 /+0.08mm - -0.001 / +0.003"

R335.19 – Insert SNHQ – Metric – full side



- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	DCONMS	LF	LS	LPR	OAL	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm	mm	mm	mm	mm		kg		
R335.19-2550.0-04.2	02565023	Cylindrical	50,0	4,0	13,9	2	4	–	–	25,0	–	132,2	94,0	150,0	11,0	19100	0,7	1102	1102
R335.19-2550.0-05.2	02565034	Cylindrical	50,0	5,0	13,9	2	4	–	–	25,0	–	132,2	94,0	150,0	10,0	16800	0,6	1103	1103
R335.19-3263.0-04.4	02565024	Cylindrical	63,0	4,0	13,9	4	8	–	–	32,0	–	148,6	110,0	170,0	0,0	17100	1,2	1102	1102
R335.19-3280.0-05.5	02565036	Cylindrical	80,0	5,0	22,5	5	10	–	–	32,0	–	148,6	110,0	170,0	0,0	13200	1,2	1103	1103
R335.19-1040.RE-04.2NA	03277857	Combimaster	40,0	4,0	11,6	2	4	18,5	M10	–	23,0	–	–	–	8,26	21500	0,1	1102	1102
R335.19-1040.RE-05.2NA	03277858	Combimaster	40,0	5,0	11,6	2	4	18,5	M10	–	23,0	–	–	–	7,275	18700	0,2	1103	1103
R335.19-1250.RE-04.3NA	03277859	Combimaster	50,0	4,0	14,9	3	6	23,0	M12	–	28,0	–	–	–	10,26	19100	0,2	1102	1102
R335.19-1250.RE-05.3NA	03277860	Combimaster	50,0	5,0	14,9	3	6	23,0	M12	–	28,0	–	–	–	9,275	16800	0,2	1103	1103
R335.19-1663.RE-04.4NA	03277862	Combimaster	63,0	4,0	17,7	4	8	30,0	M16	–	35,0	–	–	–	11,26	17100	0,3	1102	1102
R335.19-1663.RE-05.4NA	03277863	Combimaster	63,0	5,0	17,6	4	8	30,0	M16	–	35,0	–	–	–	10,275	14900	0,3	1103	1103
R335.19-1680.RE-04.5NA	03277866	Combimaster	80,0	4,0	26,2	5	10	30,0	M16	–	35,0	–	–	–	11,26	15200	0,4	1102	1102
R335.19-1680.RE-05.5NA	03277867	Combimaster	80,0	5,0	26,1	5	10	30,0	M16	–	35,0	–	–	–	10,275	13200	0,4	1103	1103
R335.19-20100.RE-04.7NA	03277870	Combimaster	100,0	4,0	32,7	7	14	36,5	M20	–	35,0	–	–	–	13,432	13500	0,6	1102	1102
R335.19-20100.RE-05.7NA	03277871	Combimaster	100,0	5,0	32,6	7	14	36,5	M20	–	35,0	–	–	–	12,447	11800	0,6	1103	1103
R335.19-20125.RE-04.8NA	03277873	Combimaster	125,0	4,0	45,2	8	16	36,5	M20	–	35,0	–	–	–	13,432	12200	0,6	1102	1102
R335.19-20125.RE-05.8NA	03277874	Combimaster	125,0	5,0	45,1	8	16	36,5	M20	–	35,0	–	–	–	12,447	10700	0,7	1103	1103

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Spare Parts, included in delivery

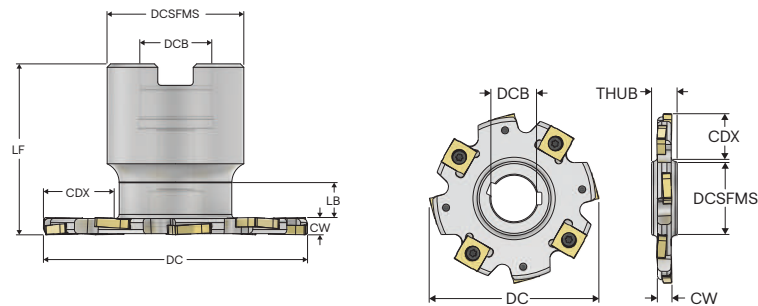
For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19 .0- DC=50-63 CW=4	T09P-7	C93504-T09P	-
R335.19 .0- DC=50-63 CW=5	T09P-7	C93505-T09P	-
R335.19 .0- DC=80 CW=5	1/4HEX-T09PX50	C93505-T09P	-
R335.19RE CW=4	H4B-T09P	C93504-T09P	DOUBLE-T
R335.19RE CW=5	H4B-T09P	C93505-T09P	DOUBLE-T

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
R335.19 .0- DC=50-63 CW=4	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 .0- DC=50-63 CW=5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 .0- DC=80 CW=5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20
R335.19RE CW=4	-	-	2.0NM	-	T00-09P20
R335.19RE CW=5	-	-	2.0NM	-	T00-09P20

Torque and fixed keys, see page 944

R335.19/335.19 - Insert SNHQ - full side



- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm	mm		kg		
335.19-063.04.22-4	02565012	Arbor hole	63,0	4,0	13,6	4	8	22,0	33,0	6,0	8,0	–	17100	0,1	1102	1102
335.19-080.05.22-5	02565027	Arbor hole	80,0	5,0	19,6	5	10	22,0	33,0	8,5	12,0	–	13200	0,2	1103	1103
335.19-100.04.27-6	75090131	Arbor hole	100,0	4,0	24,6	6	12	27,0	41,0	8,0	12,0	–	13500	0,3	1102	1102
335.19-100.05.27-6	75090132	Arbor hole	100,0	5,0	25,6	6	12	27,0	41,0	8,5	12,0	–	11800	0,3	1103	1103
335.19-125.04.40-7	75090190	Arbor hole	125,0	4,0	30,1	7	14	40,0	55,0	8,0	12,0	–	12200	0,4	1102	1102
335.19-125.05.40-7	75090191	Arbor hole	125,0	5,0	31,1	7	14	40,0	55,0	8,5	12,0	–	10700	0,5	1103	1103
335.19-160.04.40-9	75090137	Arbor hole	160,0	4,0	42,6	9	18	40,0	65,0	8,0	12,0	–	10700	0,7	1102	1102
335.19-160.05.40-9	75090138	Arbor hole	160,0	5,0	43,6	9	18	40,0	65,0	8,5	12,0	–	9300	0,8	1103	1103
R335.19-063.04.22-3	75011447	Arbor	63,0	4,0	13,9	3	6	22,0	40,0	50,0	–	11,3	17100	0,5	1102	1102
R335.19-063.04.16-4	02565016	Arbor	63,0	4,0	13,9	4	8	16,0	33,0	35,0	–	–	17100	0,3	1102	1102
R335.19-063.05.22-3	75011452	Arbor	63,0	5,0	13,9	3	6	22,0	40,0	50,0	–	10,3	14900	0,5	1103	1103
R335.19-080.04.22-4	75066088	Arbor	80,0	4,0	22,4	4	8	22,0	40,0	50,0	–	11,3	15200	0,5	1102	1102
R335.19-080.04.22-5	02565017	Arbor	80,0	4,0	22,4	5	10	22,0	40,0	50,0	–	11,3	15200	0,5	1102	1102
R335.19-080.05.22-5	02565029	Arbor	80,0	5,0	22,4	5	10	22,0	40,0	50,0	–	10,3	13200	0,5	1103	1103
R335.19-080.05.22-4	75066089	Arbor	80,0	5,0	22,4	4	8	22,0	40,0	50,0	–	10,3	13200	0,5	1103	1103
R335.19-100.04.27-6	75011449	Arbor	100,0	4,0	22,1	6	12	27,0	48,0	50,0	–	–	13500	0,8	1102	1102
R335.19-100.05.27-6	75011453	Arbor	100,0	5,0	22,1	6	12	27,0	48,0	50,0	–	–	11800	0,8	1103	1103
R335.19-125.04.32-7	02565018	Arbor	125,0	4,0	29,6	7	14	32,0	58,0	50,0	–	–	12200	1,1	1102	1102
R335.19-125.05.32-7	02565031	Arbor	125,0	5,0	29,6	7	14	32,0	58,0	50,0	–	–	10700	1,2	1103	1103
R335.19-160.04.40-9	02565020	Arbor	160,0	4,0	41,1	9	18	40,0	70,0	50,0	–	–	10700	1,2	1102	1102
R335.19-160.05.40-9	02565032	Arbor	160,0	5,0	41,1	9	18	40,0	70,0	50,0	–	–	9300	1,2	1103	1103

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

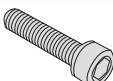
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Spare Parts, included in delivery

	For cutter	Arbor screw	Insert key	Insert screw
Square shoulder and slot milling cutters				
Helical milling cutters	335.19 DC=63 CW=4	-	T09P-7	C93504-T09P
	335.19 DC=80-160 CW=4	-	1/4HEX-T09PX50	C93504-T09P
	335.19 DC=80-160 CW=5	-	1/4HEX-T09PX50	C93505-T09P
	R335.19 DC=63 DCB=16 CW=4	TCEI0825	T09P-7	C93504-T09P
	R335.19 DC=63 DCB=22 CW=4	MC6S10X40	T09P-7	C93504-T09P
	R335.19 DC=63 DCB=22 CW=5	MC6S10X40	T09P-7	C93505-T09P
Face milling cutters	R335.19 DC=80 DCB=22 CW=4	MC6S10X40	1/4HEX-T09PX50	C93504-T09P
	R335.19 DC=80 DCB=22 CW=5	MC6S10X40	1/4HEX-T09PX50	C93505-T09P
	R335.19 DCB=27 CW=4	MC6S12X35	1/4HEX-T09PX50	C93504-T09P
	R335.19 DCB=27 CW=5	MC6S12X35	1/4HEX-T09PX50	C93505-T09P
	R335.19 DCB=32 CW=4	MC6S16X35	1/4HEX-T09PX50	C93504-T09P
	R335.19 DCB=32 CW=5	MC6S16X35	1/4HEX-T09PX50	C93505-T09P
Disc milling cutters	R335.19 DCB=40 CW=4	MLC6S20X40	1/4HEX-T09PX50	C93504-T09P
	R335.19 DCB=40 CW=5	MLC6S20X40	1/4HEX-T09PX50	C93505-T09P

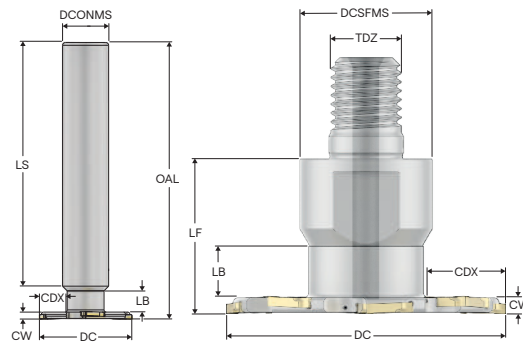
Accessories

	For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
High feed milling cutters						
	335/R335.19 DC=080-180	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20
	335/R335.19 DC=63	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20

Torque and fixed keys, see page 944

Copy milling cutters
Plunge milling cutters
Chamfer milling cutters
Spot facing cutters
Inserts

R335.19 – Insert SNHQ – Metric – full side

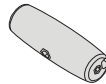


- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	DCONMS	LF	LS	OAL	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm		mm	mm	mm	mm	mm		kg		
R335.19-2550.0-06.2	02565041	Cylindrical	50,0	6,0	13,9	2	4	–	–	25,0	–	132,2	150,0	9,0	12300	0,7	1203	1203
R335.19-3263.0-06.3	02565042	Cylindrical	63,0	6,0	14,0	3	6	–	–	32,0	–	148,6	170,0	0,0	10900	1,1	1203	1203
R335.19-3280.0-06.4	02565043	Cylindrical	80,0	6,0	22,5	4	8	–	–	32,0	–	148,6	170,0	0,0	9700	1,3	1203	1203
R335.19-1250.RE-06.2NA	03277861	Combimaster	50,0	6,0	14,9	2	4	23,0	M12	–	28,0	–	–	8,285	12300	0,2	1203	1203
R335.19-1663.RE-06.3NA	03277864	Combimaster	63,0	6,0	17,6	3	6	30,0	M16	–	35,0	–	–	9,285	10900	0,3	1203	1203
R335.19-1663.RE-07.3NA	03277865	Combimaster	63,0	7,0	17,6	3	6	30,0	M16	–	35,0	–	–	8,285	9400	0,3	1204/12045*	1204/12045*
R335.19-1680.RE-06.4NA	03277868	Combimaster	80,0	6,0	26,3	4	8	30,0	M16	–	35,0	–	–	9,285	9700	0,4	1203	1203
R335.19-1680.RE-07.4NA	03277869	Combimaster	80,0	7,0	26,3	4	8	30,0	M16	–	35,0	–	–	8,285	8400	0,4	1204/12045*	1204/12045*
R335.19-20100.RE-06.6NA	03277872	Combimaster	100,0	6,0	32,8	6	12	36,5	M20	–	35,0	–	–	11,457	8700	0,6	1203	1203

*To generate CW=8mm use insert SNHQ12045..., LF=50,5mm and 35,5mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19 CW=6 RE	H4B-T15P	C94005-T15P	DOUBLE-T
R335.19 CW=7 RE	H4B-T15P	C94006-T15P	DOUBLE-T
R335.19 DC=50-63 .0-	T10P-7	C94005-T10P	–
R335.19 DC=80 .0-	1/4HEX-T10PX50	C94005-T10P	–

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
R335.19 DC=50-63 .0-	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
R335.19 DC=80 .0-	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-10P35
R335.19 RE	–	–	3.5NM	–	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

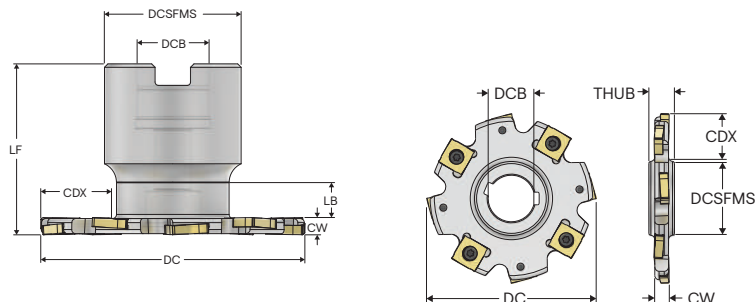
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.19/335.19 – Insert SNHQ – Metric – full side

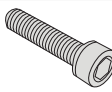


- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See "CW" Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm	mm		kg		
335.19-063.06.22-3	02565037	Arbor hole	63,0	6,0	13,6	3	6	22,0	33,0	9,0	12,0	–	10900	0,2	1203	1203
335.19-080.07.22-4	00088988	Arbor hole	80,0	7,0	20,6	4	8	22,0	33,0	9,5	12,0	–	8400	0,3	1204/12045*	1204/12045*
335.19-100.06.27-5	75011284	Arbor hole	100,0	6,0	25,6	5	10	27,0	41,0	9,0	12,0	–	8700	0,4	1203	1203
335.19-100.07.27-5	75012670	Arbor hole	100,0	7,0	26,6	5	10	27,0	41,0	9,5	12,0	–	7500	0,4	1204/12045*	1204/12045*
335.19-125.06.40-6	75011289	Arbor hole	125,0	6,0	31,1	6	12	40,0	55,0	9,0	12,0	–	7700	0,5	1203	1203
335.19-125.07.40-6	75012672	Arbor hole	125,0	7,0	32,1	6	12	40,0	55,0	9,5	12,0	–	6700	0,6	1204/12045*	1204/12045*
335.19-160.06.40-8	75011294	Arbor hole	160,0	6,0	43,6	8	16	40,0	65,0	9,0	12,0	–	6800	1,0	1203	1203
335.19-160.07.40-8	75012674	Arbor hole	160,0	7,0	44,6	8	16	40,0	65,0	9,5	12,0	–	5900	0,9	1204/12045*	1204/12045*
335.19-200.06.50-9	75090141	Arbor hole	200,0	6,0	61,6	9	18	50,0	69,0	9,0	12,0	–	6300	1,2	1203	1203
335.19-200.07.50-9	75012676	Arbor hole	200,0	7,0	62,6	9	18	50,0	69,0	9,5	12,0	–	5200	1,4	1204/12045*	1204/12045*
335.19-250.06.50-12	75012301	Arbor hole	250,0	6,0	86,6	12	24	50,0	69,0	9,0	12,0	–	5600	1,9	1203	1203
335.19-250.07.50-12	75012678	Arbor hole	250,0	7,0	87,6	12	24	50,0	69,0	9,5	12,0	–	4700	2,1	1204/12045*	1204/12045*
R335.19-063.06.16-3	02565038	Arbor	63,0	6,0	13,9	3	6	16,0	33,0	35,0	–	–	10900	0,3	1203	1203
R335.19-063.06.22-3	75011448	Arbor	63,0	6,0	13,9	3	6	22,0	40,0	50,0	–	9,3	10900	0,5	1203	1203
R335.19-063.07.16-3	02565044	Arbor	63,0	7,0	13,8	3	6	16,0	33,0	35,0	–	–	9400	0,3	1204/12045*	1204/12045*
R335.19-063.07.22-3	75012680	Arbor	63,0	7,0	13,8	3	6	22,0	40,0	50,0	–	8,3	9400	0,5	1204/12045*	1204/12045*
R335.19-080.06.22-4	75066090	Arbor	80,0	6,0	22,4	4	8	22,0	40,0	50,0	–	9,3	9700	0,6	1203	1203
R335.19-080.07.22-4	75066091	Arbor	80,0	7,0	22,0	4	8	22,0	40,0	50,0	–	8,3	8400	0,6	1204/12045*	1204/12045*
R335.19-100.06.27-5	75011450	Arbor	100,0	6,0	22,0	5	10	27,0	48,0	50,0	–	–	8700	0,9	1203	1203
R335.19-100.07.27-5	75012681	Arbor	100,0	7,0	22,0	5	10	27,0	48,0	50,0	–	–	7500	0,9	1204/12045*	1204/12045*
R335.19-125.06.32-6	02565039	Arbor	125,0	6,0	29,6	6	12	32,0	58,0	50,0	–	–	7700	1,2	1203	1203
R335.19-125.07.32-6	02565045	Arbor	125,0	7,0	29,6	6	12	32,0	58,0	50,0	–	–	6700	1,4	1204/12045*	1204/12045*
R335.19-160.06.40-8	75012913	Arbor	160,0	6,0	41,1	8	16	40,0	70,0	50,0	–	–	6800	1,2	1203	1203
R335.19-160.07.40-8	75012685	Arbor	160,0	7,0	41,1	8	16	40,0	70,0	50,0	–	–	5900	1,4	1204/12045*	1204/12045*

*To generate CW=8mm use insert SNHQ12045..., LF=50,5mm and 35,5mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.19 DC=63 CW=6	-	T10P-7	C94005-T10P
335.19 DC=80-250 CW=6	-	1/4HEX-T10PX50	C94005-T10P
335.19 DC=80-250 CW=7	-	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=63 DCB=16 CW=6	TCEI0825	T10P-7	C94005-T10P
R335.19 DC=63 DCB=16 CW=7	TCEI0825	T15P-7	C94006-T15P
R335.19 DC=63 DCB=22 CW=6	MC6S10X40	T10P-7	C94005-T10P
R335.19 DC=63 DCB=22 CW=7	MC6S10X40	T15P-7	C94006-T15P
R335.19 DC=80-160 DCB=22 CW=6	MC6S10X40	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=22 CW=7	MC6S10X40	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=27 CW=6	MC6S12X35	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=27 CW=7	MC6S12X35	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=32 CW=6	MC6S16X35	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=32 CW=7	MC6S16X35	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=40 CW=6	MLC6S20X40	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=40 CW=7	MLC6S20X40	1/4HEX-T15PX50	C94006-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
335.19 DC=63 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
335.19 DC=80-250 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-10P35
335.19 DC=80-250 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35
R335.19 DC=63 DCB=16 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
R335.19 DC=63 DCB=16 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=63 DCB=22 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX90	T00-10P35
R335.19 DC=63 DCB=22 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=80-160 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-10P35
R335.19 DC=80-160 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

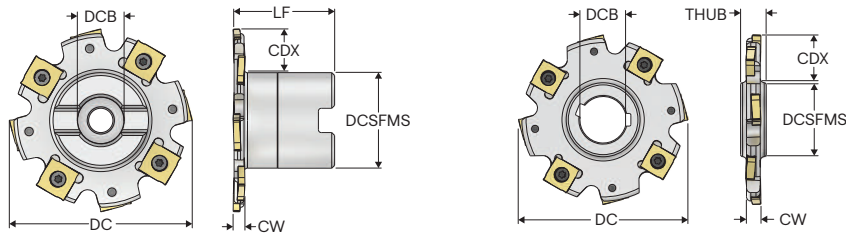
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

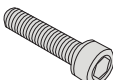
R335.19/335.19 – Insert SNHQ – Metric – full side



- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See "CW" Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm		kg		
335.19-100.10.27-5	75011288	Arbor hole	100,0	10,0	27,6	5	10	27,0	41,0	11,0	12,0	6600	0,5	1205	1205
335.19-100.12.27-5	75012671	Arbor hole	100,0	12,0	27,9	5	10	27,0	41,0	12,0	12,0	6000	0,5	1207	1207
335.19-125.10.40-6	75011293	Arbor hole	125,0	10,0	33,1	6	12	40,0	55,0	11,0	12,0	6000	0,7	1205	1205
335.19-160.10.40-8	75011298	Arbor hole	160,0	10,0	46,2	8	16	40,0	65,0	11,0	12,0	5200	1,3	1205	1205
335.19-160.12.40-8	75012339	Arbor hole	160,0	12,0	45,9	8	16	40,0	65,0	12,0	12,0	4700	1,3	1207	1207
335.19-200.10.50-9	75011373	Arbor hole	200,0	10,0	63,6	9	18	50,0	69,0	11,0	12,0	4700	1,9	1205	1205
335.19-200.12.50-9	75012677	Arbor hole	200,0	12,0	64,2	9	18	50,0	69,0	12,0	12,0	4200	2,2	1207	1207
335.19-250.10.50-12	75012210	Arbor hole	250,0	10,0	88,6	12	24	50,0	69,0	11,0	12,0	4200	3,0	1205	1205
335.19-250.12.50-11	75012679	Arbor hole	250,0	12,0	89,2	11	22	50,0	69,0	12,0	12,0	3700	3,7	1207	1207
R335.19-100.10.27-5	75011451	Arbor	100,0	10,0	22,0	5	10	27,0	48,0	50,0	–	6600	1,0	1205	1205
R335.19-100.12.27-5	75012682	Arbor	100,0	12,0	22,0	5	10	27,0	48,0	50,0	–	6000	1,0	1207	1207
R335.19-125.10.32-6	02565046	Arbor	125,0	10,0	29,6	6	12	32,0	58,0	50,0	–	6000	1,4	1205	1205
R335.19-125.12.32-6	02565047	Arbor	125,0	12,0	29,6	6	12	32,0	58,0	50,0	–	5300	1,5	1207	1207
R335.19-160.10.40-8	75012914	Arbor	160,0	10,0	41,1	8	16	40,0	70,0	50,0	–	5200	1,6	1205	1205
R335.19-160.12.40-8	75012686	Arbor	160,0	12,0	41,1	8	16	40,0	70,0	50,0	–	4700	1,8	1207	1207

Spare Parts, included in delivery

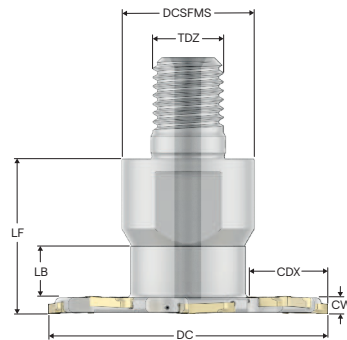
For cutter	Arbor screw	Insert key	Insert screw
			
335.19 CW=10	–	1/4HEX-T15PX50	C94008-T15P
335.19 CW=12	–	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=27 CW=10	MC6S12X35	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=27 CW=12	MC6S12X35	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=32 CW=10	MC6S16X35	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=32 CW=12	MC6S16X35	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=40 CW=10	MLC6S20X40	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=40 CW=12	MLC6S20X40	1/4HEX-T15PX50	C94010-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.19-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

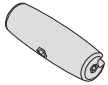
R335.19 – Insert SNHQ – inch – full side



- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	LB	RPMX	Weight	SNHQ.. R/L	335.19
			inch	inch	inch			inch		inch	inch		lbs		
R335.19-01.50-RE-0.15-2NA	03277875	Combimaster	1.500	0.156	0.445	2	4	0.728	M10	0.906	0.326	22000	0.220	1102	1102
R335.19-01.50-RE-0.18-2NA	03277876	Combimaster	1.500	0.187	0.445	2	4	0.728	M10	0.906	0.295	19100	0.220	1103	1103
R335.19-02.00-RE-0.15-3NA	03277877	Combimaster	2.000	0.156	0.602	3	6	0.906	M12	1.102	0.405	19100	0.440	1102	1102
R335.19-02.00-RE-0.18-3NA	03277878	Combimaster	2.000	0.187	0.602	3	6	0.906	M12	1.102	0.374	16800	0.440	1103	1103
R335.19-02.00-RE-0.25-2NA	03277879	Combimaster	2.000	0.250	0.602	2	4	0.906	M12	1.102	0.312	12300	0.440	1204	1204
R335.19-02.50-RE-0.15-4NA	03277880	Combimaster	2.500	0.156	0.705	4	8	1.181	M16	1.378	0.444	17100	0.660	1102	1102
R335.19-02.50-RE-0.25-3NA	03277882	Combimaster	2.500	0.250	0.705	3	6	1.181	M16	1.378	0.352	9400	0.660	1204	1204
R335.19-03.00-RE-0.15-5NA	03277883	Combimaster	3.000	0.156	0.957	5	10	1.181	M16	1.378	0.444	15200	0.880	1102	1102
R335.19-03.00-RE-0.18-5NA	03277884	Combimaster	3.000	0.187	0.953	5	10	1.181	M16	1.378	0.414	13200	0.880	1103	1103
R335.19-03.00-RE-0.25-4NA	03277885	Combimaster	3.000	0.250	0.961	4	8	1.181	M16	1.378	0.352	8400	0.880	1204	1204
R335.19-04.00-RE-0.15-7NA	03277886	Combimaster	4.000	0.156	1.319	7	14	1.437	M20	1.378	0.444	13500	1.100	1102	1102
R335.19-04.00-RE-0.18-7NA	03277887	Combimaster	4.000	0.187	1.315	7	14	1.437	M20	1.378	0.414	11800	1.320	1103	1103
R335.19-04.00-RE-0.25-6NA	03277888	Combimaster	4.000	0.250	1.323	6	12	1.437	M20	1.378	0.352	7500	1.320	1204	1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19RE CW=0.156	H4B-T09P	C93504-T09P	DOUBLE-T
R335.19RE CW=0.187	H4B-T09P	C93505-T09P	DOUBLE-T
R335.19 RE CW=0.250	H4B-T15P	C94055-T15P	DOUBLE-T

Accessories

For	Insert clamping torque	Torque key
		
R335.19RE CW=0.156	2.0NM	T00-09P20
R335.19RE CW=0.187	2.0NM	T00-09P20
R335.19 RE CW=0.250	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

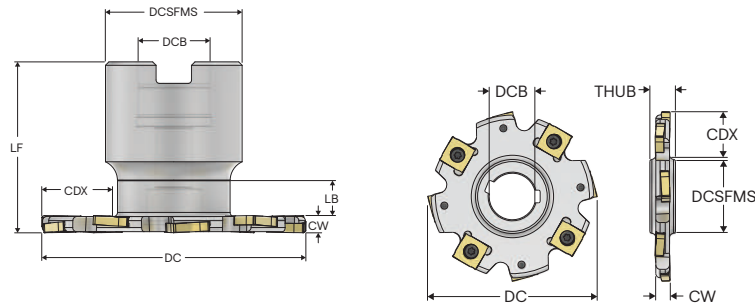
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.19/335.19 – Insert SNHQ – inch – full side



- For insert selection and cutting data recommendations, see page(s) 440–441
- For complete insert programme, see page(s) 898, 899, 904
- For spare parts and technical information, see page 436–437
- See "CW" Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			inch	inch	inch			inch	inch	inch	inch	inch		lbs		
335.19-04.00-0.18-6	02869718	Arbor hole	4.000	0.187	1.035	6	12	1.000	1.625	0.344	0.500	–	11800	0.660	1103	1103
335.19-04.00-0.25-5	02869721	Arbor hole	4.000	0.250	1.075	5	10	1.000	1.625	0.375	0.500	–	7500	0.660	1204	1204
335.19-04.00-0.37-5	02869731	Arbor hole	4.000	0.375	1.114	5	10	1.000	1.625	0.437	0.500	–	6600	1.100	1205	1205
335.19-04.00-0.50-5	02869736	Arbor hole	4.000	0.500	1.126	5	10	1.000	1.625	0.500	0.500	–	6000	1.100	1207	1207
335.19-05.00-0.18-7	02869719	Arbor hole	5.000	0.187	1.409	7	14	1.250	1.875	0.344	0.500	–	10700	1.100	1103	1103
335.19-05.00-0.25-6	02869722	Arbor hole	5.000	0.250	1.449	6	12	1.250	1.875	0.375	0.500	–	6700	1.100	1204	1204
335.19-05.00-0.31-6	02869727	Arbor hole	5.000	0.313	1.449	6	12	1.250	1.875	0.406	0.500	–	6700	1.320	12045	12045
335.19-05.00-0.37-6	02869732	Arbor hole	5.000	0.375	1.488	6	12	1.250	1.875	0.437	0.500	–	6000	1.540	1205	1205
335.19-06.00-0.18-9	02869720	Arbor hole	6.000	0.187	1.909	9	18	1.250	1.875	0.344	0.500	–	9300	1.320	1103	1103
335.19-06.00-0.25-7	02869723	Arbor hole	6.000	0.250	1.949	7	14	1.250	1.875	0.375	0.500	–	5900	1.760	1204	1204
335.19-06.00-0.31-7	02869728	Arbor hole	6.000	0.313	1.949	7	14	1.250	1.875	0.406	0.500	–	5900	2.430	12045	12045
335.19-06.00-0.37-7	02869733	Arbor hole	6.000	0.375	2.020	7	14	1.250	1.875	0.437	0.500	–	5200	2.200	1205	1205
335.19-06.00-0.50-7	02869738	Arbor hole	6.000	0.500	2.000	7	14	1.250	1.875	0.500	0.500	–	4700	2.870	1207	1207
335.19-08.00-0.25-9	02869724	Arbor hole	8.000	0.250	2.512	9	18	1.500	2.750	0.375	0.500	–	5200	0.880	1204	1204
R335.19-02.50-0.15-4	02881176	Arbor	2.500	0.156	0.559	4	8	0.750	1.575	2.000	–	0.445	17100	1.100	1102	1102
R335.19-02.50-0.18-4	02881177	Arbor	2.500	0.187	0.555	4	8	0.750	1.575	2.000	–	0.413	14900	1.100	1103	1103
R335.19-02.50-0.25-3	02881178	Arbor	2.500	0.250	0.555	3	6	0.750	1.575	2.000	–	0.350	9400	1.100	1204	1204
R335.19-02.50-0.31-3	02881179	Arbor	2.500	0.313	0.555	3	6	0.750	1.575	2.000	–	0.287	9400	1.100	12045	12045
R335.19-02.50-0.37-3	02881180	Arbor	2.500	0.375	0.555	3	6	0.750	1.575	2.000	–	0.224	8400	1.100	1205	1205
R335.19-03.00-0.15-5	02881184	Arbor	3.000	0.156	0.807	5	10	0.750	1.575	2.000	–	0.445	15200	1.320	1102	1102
R335.19-03.00-0.18-5	02881185	Arbor	3.000	0.187	0.807	5	10	0.750	1.575	2.000	–	0.413	13200	1.100	1103	1103
R335.19-03.00-0.25-4	02881186	Arbor	3.000	0.250	0.807	4	8	0.750	1.575	2.000	–	0.350	8400	1.320	1204	1204
R335.19-03.00-0.31-4	02881187	Arbor	3.000	0.313	0.807	4	8	0.750	1.575	2.000	–	0.287	8400	1.320	12045	12045
R335.19-03.00-0.37-4	02881188	Arbor	3.000	0.375	0.807	4	8	0.750	1.575	2.000	–	0.224	8400	1.100	1205	1205
R335.19-04.00-0.18-6	02869759	Arbor	4.000	0.187	0.906	6	12	1.000	1.880	2.000	–	–	11800	1.980	1103	1103
R335.19-04.00-0.25-5	02869760	Arbor	4.000	0.250	0.906	5	10	1.000	1.880	2.000	–	–	7500	1.760	1204	1204
R335.19-04.00-0.31-5	02869763	Arbor	4.000	0.313	0.906	5	10	1.000	1.880	2.000	–	–	7500	1.760	12045	12045
R335.19-04.00-0.37-5	02869766	Arbor	4.000	0.375	0.906	5	10	1.000	1.880	2.000	–	–	6600	1.980	1205	1205
R335.19-04.00-0.50-5	02869769	Arbor	4.000	0.500	0.906	5	10	1.000	1.880	2.000	–	–	6000	2.430	1207	1207
R335.19-05.00-0.25-6	02869761	Arbor	5.000	0.250	1.220	6	12	1.250	2.250	2.000	–	–	6700	2.650	1204	1204
R335.19-05.00-0.50-6	02869770	Arbor	5.000	0.500	1.220	6	12	1.250	2.250	2.000	–	–	5300	3.750	1207	1207
R335.19-06.00-0.25-7	02869762	Arbor	6.000	0.250	1.220	7	14	1.500	2.750	2.000	–	–	5900	3.750	1204	1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.19 CW=0.187	-	1/4HEX-T09PX50	C93505-T09P
335.19 CW=0.250	-	1/4HEX-T15PX50	C94055-T15P
335.19- CW=0.313	-	1/4HEX-T15PX50	C94006-T15P
335.19 CW=0.375	-	1/4HEX-T15PX50	C94008-T15P
335.19 CW=0.500	-	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=02.50 CW=0.15	UC6S3/8UNFX1-3/4	T09P-7	C93504-T09P
R335.19 DC=02.50 CW=0.18	UC6S3/8UNFX1-3/4	T09P-7	C93505-T09P
R335.19 DC=02.50 CW=0.25	UC6S3/8UNFX1-3/4	T15P-7	C94055-T15P
R335.19 DC=02.50 CW=0.31	UC6S3/8UNFX1-3/4	T15P-7	C94006-T15P
R335.19 DC=02.50 CW=0.37	UC6S3/8UNFX1-3/4	T15P-7	C94008-T15P
R335.19 DC=03.00 CW=0.15	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C93504-T09P
R335.19 DC=03.00 CW=0.18	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C93505-T09P
R335.19 DC=03.00 CW=0.25	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=03.00 CW=0.31	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=03.00 CW=0.37	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94008-T15P
R335.19 DC=04.00 CW=0.18	UC6S1/2UNFX1-1/2	1/4HEX-T09PX50	C93505-T09P
R335.19 DC=04.00 CW=0.25	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=04.00 CW=0.31	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=04.00 CW=0.37	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94008-T15P
R335.19 DC=04.00 CW=0.50	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=05.00 CW=0.25	UC6S5/8UNFX11/2	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=05.00 CW=0.50	UC6S5/8UNFX11/2	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=06.00 CW=0.25	ULC6S3/4UNFX11/2	1/4HEX-T15PX50	C94055-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
335.19 CW=0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20
335.19 CW=0.250-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35
R335.19 DC=02.50 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 DC=02.50 CW=0.25-0.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=03.00 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20
R335.19 DC=03.00 CW=0.25-0.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35
R335.19 DC=04.00 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20
R335.19 DC=04.00 CW=0.25-0.5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35
R335.19 DC=05.00-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Disc milling cutter 335.19 – Technical information

Cutter side



LH = Left hand insert
RH = Right hand insert

SNHQ insert choice: Width of cut and corner radius choice

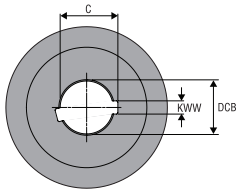


Inserts	a_p	R 0,2	R 0,4	R 0,8	R 1,0	R 1,2	R 1,6	R 2,0	R 2,4	R 3,0	R 3,1	R 3,5	R 4,0	R 5,0	R 6,0
SNHQ 1102	4	■	■	■		■	■	■							
SNHQ 1103	5	■	■	■		■	■	■							
SNHQ 1203	6	■	■	■	■	■	■	■	x	o					
SNHQ 1204	7	■	■	■		■	■	■	x		x	o			
SNHQ 12045	8	■	■	■		■	■	■	x		x		o		
SNHQ 1205	10	■	■	■	■	■	■	■	x		x		x	o	
SNHQ 1207	12		■	■		■	■	■	x		x		x	x	o

Inserts	a_p	.008	.016	.031	.039	.047	.063	.079	.094	.118	.122	.138	.157	.197	.236
SNHQ 1102	.156	■	■	■		■	■	■							
SNHQ 1103	.187	■	■	■		■	■	■							
SNHQ 1204	.250	■	■	■		■	■	■	x		x				
SNHQ 12045	.313	■	■	■		■	■	■	x		x				
SNHQ 1205	.375	■	■	■	■	■	■	■	x		x		x		
SNHQ 1207	.500		■	■		■	■	■	x		x		x	x	x

■ = SNHQ 4 edges
x = SNHQ 2 edges
o = Full radius possibilities

Keyway for Arbor hole type and Arbor type cutter



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6

Dimensions in inch		
DCB	KWW	C
1.00	0.250	1.110
1.25	0.312	1.393
1.50	0.375	1.673
2.00	0.500	2.198

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

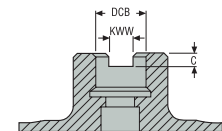
Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

Dimensions in inch		
DCB	KWW	C
0.75	0.32	0.19
1.00	0.38	0.22
1.25	0.51	0.28
1.50	0.63	0.38

SNHQ – Insert selection – Metric/ Inch

	SMG		f_z		
			30%	20%	10%
Square shoulder and slot milling cutters	P1	SNHQ...-M07 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075
	P2	SNHQ...-M07 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075
Helical milling cutters	P3	SNHQ...-M07 F40M	0,12 0.0048	0,14 0.0055	0,18 0.0070
	P4	SNHQ...-M07 F40M	0,12 0.0048	0,13 0.0050	0,18 0.0070
	P5	SNHQ...-M07 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P6	SNHQ...-M07 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P7	SNHQ...-M07 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P8	SNHQ...-M07 F30M	0,12 0.0048	0,14 0.0055	0,18 0.0070
Face milling cutters	P11	SNHQ...-M07 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P12	SNHQ...-M07 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	M1	SNHQ...-M07 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075
Disc milling cutters	M2	SNHQ...-M07 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	M3	SNHQ...-M07 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	M4	SNHQ...-M07 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	M5	SNHQ...-M07 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	K1	SNHQ...-M07 MP2501	0,13 0.0050	0,14 0.0055	0,19 0.0075
High feed milling cutters	K2	SNHQ...-M07 MP2501	0,11 0.0044	0,13 0.0050	0,17 0.0065
	K3	SNHQ...-M07 MP2501	0,11 0.0044	0,13 0.0050	0,17 0.0065
	K4	SNHQ...-M07 MP2501	0,11 0.0044	0,13 0.0050	0,17 0.0065
	K5	SNHQ...-M07 MP2501	0,10 0.0040	0,12 0.0048	0,16 0.0065
	K6	SNHQ...-M07 MP2501	0,11 0.0044	0,13 0.0050	0,17 0.0065
	K7	SNHQ...-M07 MP2501	0,10 0.0040	0,12 0.0048	0,16 0.0065
Copy milling cutters	N1	SNHQ...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085
	N2	SNHQ...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085
	N3	SNHQ...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085
	N11	SNHQ...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085
Plunge milling cutters	S1	SNHQ...-M07 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	S2	SNHQ...-M07 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	S3	SNHQ...-M07 F40M	0,075 0.0030	0,085 0.0034	0,11 0.0044
	S11	SNHQ...-M07 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
Chamfer milling cutters	S12	SNHQ...-M07 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	S13	SNHQ...-M07 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	H5	SNHQ...-M07 F30M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	H8	SNHQ...-M07 F30M	0,060 0.0024	0,070 0.0028	0,090 0.0036
Spot facing cutters	H11	SNHQ...-M07 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	H12	SNHQ...-M07 F40M	0,060 0.0024	0,070 0.0028	0,090 0.0036
	H21	SNHQ...-M07 F30M	0,060 0.0024	0,070 0.0028	0,090 0.0036

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

SNHQ – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F30M			F40M			H25			MP2501			
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	195	205	230	185	195	215	—	—	—	320	335	360	Square shoulder and slot milling cutters
	640	670	750	610	640	710	—	—	—	1050	1100	1175	
P2	185	200	220	175	190	210	—	—	—	305	325	350	Helical milling cutters
	610	660	720	570	620	690	—	—	—	1000	1075	1150	
P3	165	175	195	155	165	185	—	—	—	270	280	300	Helical milling cutters
	540	570	640	510	540	610	—	—	—	890	920	980	
P4	145	155	170	135	150	165	—	—	—	235	250	265	Helical milling cutters
	475	510	560	445	490	540	—	—	—	770	820	870	
P5	140	150	165	135	140	155	—	—	—	230	240	255	Helical milling cutters
	460	490	540	445	460	510	—	—	—	750	790	840	
P6	155	165	185	150	160	175	—	—	—	255	270	290	Face milling cutters
	510	540	610	490	520	570	—	—	—	840	890	950	
P7	150	160	175	140	150	165	—	—	—	240	255	270	Face milling cutters
	490	520	570	460	490	540	—	—	—	790	840	890	
P8	135	145	165	130	140	155	—	—	—	225	235	255	Face milling cutters
	445	475	540	425	460	510	—	—	—	740	770	840	
P11	145	155	170	135	145	160	—	—	—	235	245	265	Face milling cutters
	475	510	560	445	475	520	—	—	—	770	800	870	
P12	95	100	110	90	95	105	—	—	—	145	150	160	Disc milling cutters
	310	330	360	295	310	345	—	—	—	475	490	520	
M1	150	165	180	140	155	170	—	—	—	170	185	200	Disc milling cutters
	490	540	590	460	510	560	—	—	—	560	610	660	
M2	125	135	150	120	125	140	—	—	—	140	150	165	Disc milling cutters
	410	445	490	395	410	460	—	—	—	460	490	540	
M3	100	110	120	95	105	115	—	—	—	115	120	135	Disc milling cutters
	330	360	395	310	345	375	—	—	—	375	395	445	
M4	80	85	90	75	80	90	—	—	—	85	95	105	High feed milling cutters
	260	280	295	245	260	295	—	—	—	280	310	345	
M5	65	70	75	60	65	75	—	—	—	75	80	85	High feed milling cutters
	215	230	245	195	215	245	—	—	—	245	260	280	
K1	145	160	175	140	150	170	—	—	—	310	330	350	High feed milling cutters
	475	520	570	460	490	560	—	—	—	1025	1075	1150	
K2	135	140	155	125	135	150	—	—	—	275	290	310	High feed milling cutters
	445	460	510	410	445	490	—	—	—	900	950	1025	
K3	115	120	135	105	115	125	—	—	—	235	245	260	Copy milling cutters
	375	395	445	345	375	410	—	—	—	770	800	850	
K4	105	115	125	100	110	120	—	—	—	225	235	250	Copy milling cutters
	345	375	410	330	360	395	—	—	—	740	770	820	
K5	65	70	75	60	65	75	—	—	—	135	140	150	Copy milling cutters
	215	230	245	195	215	245	—	—	—	445	460	490	
K6	95	100	110	90	95	105	—	—	—	195	205	220	Copy milling cutters
	310	330	360	295	310	345	—	—	—	640	670	720	
K7	85	90	100	80	85	95	—	—	—	175	180	190	Plunge milling cutters
	280	295	330	260	280	310	—	—	—	570	590	620	
N1	1100	1175	1300	1050	1125	1250	1025	1100	1200	—	—	—	Plunge milling cutters
	3600	3850	4275	3450	3700	4100	3375	3600	3925	—	—	—	
N2	445	480	530	425	455	500	415	440	485	—	—	—	Plunge milling cutters
	1450	1575	1750	1400	1500	1650	1350	1450	1600	—	—	—	
N3	295	320	355	280	305	335	275	295	325	—	—	—	Plunge milling cutters
	970	1050	1175	920	1000	1100	900	970	1075	—	—	—	
N11	340	365	405	320	345	385	315	335	370	—	—	—	Plunge milling cutters
	1125	1200	1325	1050	1125	1275	1025	1100	1225	—	—	—	
S1	36	39	43	35	37	41	—	—	—	—	—	—	Chamfer milling cutters
	120	130	140	115	120	135	—	—	—	—	—	—	
S2	29	31	35	28	30	33	—	—	—	—	—	—	Chamfer milling cutters
	95	100	115	90	100	110	—	—	—	—	—	—	
S3	26	27	30	24	26	29	—	—	—	—	—	—	Chamfer milling cutters
	85	90	100	80	85	95	—	—	—	—	—	—	
S11	50	55	60	49	50	55	—	—	—	—	—	—	Chamfer milling cutters
	165	180	195	160	165	180	—	—	—	—	—	—	
S12	36	38	42	41	44	48	—	—	—	—	—	—	Spot facing cutters
	120	125	140	135	145	155	—	—	—	—	—	—	
S13	21	22	24	24	25	28	—	—	—	—	—	—	Spot facing cutters
	70	70	80	80	80	90	—	—	—	—	—	—	
H5	31	33	36	29	31	34	—	—	—	—	—	—	Spot facing cutters
	100	110	120	95	100	110	—	—	—	—	—	—	
H8	32	34	38	31	33	36	—	—	—	—	—	—	Spot facing cutters
	105	110	125	100	110	120	—	—	—	—	—	—	
H11	39	42	46	37	40	44	—	—	—	—	—	—	Spot facing cutters
	130	140	150	120	130	145	—	—	—	—	—	—	
H12	38	40	45	36	38	42	—	—	—	—	—	—	Inserts
	125	130	150	120	125	140	—	—	—	—	—	—	
H21	32	34	38	31	33	36	—	—	—	—	—	—	Inserts
	105	110	125	100	110	120	—	—	—	—	—	—	

335.19 – Insert selection – mm/Inch

	SMG		f_z		
			30%	20%	10%
Square shoulder and slot milling cutters	P1	335.19-...-M08 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075
	P2	335.19-...-M08 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075
Helical milling cutters	P3	335.19-...-M08 F40M	0,12 0.0048	0,14 0.0055	0,18 0.0070
	P4	335.19-...-M08 F40M	0,12 0.0048	0,13 0.0050	0,18 0.0070
	P5	335.19-...-M08 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P6	335.19-...-M08 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P7	335.19-...-M08 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
Face milling cutters	P8	335.19-...-MD09 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	P11	335.19-...-M08 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	P12	335.19-...-M08 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	M1	335.19-...-M08 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075
Disc milling cutters	M2	335.19-...-M08 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065
	M3	335.19-...-M08 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	M4	335.19-...-M08 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	M5	335.19-...-M08 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	K1	335.19-...-MD09 F40M	0,14 0.0055	0,16 0.0065	0,22 0.0085
High feed milling cutters	K2	335.19-...-MD09 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	K3	335.19-...-MD09 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	K4	335.19-...-MD09 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	K5	335.19-...-MD09 F40M	0,11 0.0044	0,13 0.0050	0,18 0.0070
	K6	335.19-...-MD09 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
Copy milling cutters	K7	335.19-...-MD09 F40M	0,11 0.0044	0,13 0.0050	0,18 0.0070
	S1	335.19-...-M08 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	S2	335.19-...-M08 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	S3	335.19-...-M08 F40M	0,075 0.0030	0,085 0.0034	0,11 0.0044
Plunge milling cutters	S11	335.19-...-M08 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	S12	335.19-...-M08 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	S13	335.19-...-M08 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	H5	335.19-...-MD09 F40M	0,085 0.0034	0,10 0.0040	0,13 0.0050
	H8	335.19-...-MD09 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040
Chamfer milling cutters	H11	335.19-...-MD09 F40M	0,085 0.0034	0,10 0.0040	0,13 0.0050
	H12	335.19-...-MD09 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040
	H21	335.19-...-MD09 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Spot facing cutters

Inserts

335.19 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			MP2501			
	30%	20%	10%	30%	20%	10%	
P1	175	185	205	295	310	330	Square shoulder and slot milling cutters
	570	610	670	970	1025	1075	
P2	170	180	200	285	300	320	Helical milling cutters
	560	590	660	940	980	1050	
P3	145	155	175	250	260	280	Face milling cutters
	475	510	570	820	850	920	
P4	130	140	155	220	230	250	Face milling cutters
	425	460	510	720	750	820	
P5	125	135	150	210	220	235	Face milling cutters
	410	445	490	690	720	770	
P6	140	150	165	235	250	270	Disc milling cutters
	460	490	540	770	820	890	
P7	135	140	160	225	235	255	Disc milling cutters
	445	460	520	740	770	840	
P8	125	130	145	210	220	235	Disc milling cutters
	410	425	475	690	720	770	
P11	130	140	155	215	230	245	Disc milling cutters
	425	460	510	710	750	800	
P12	85	90	100	140	145	155	Disc milling cutters
	280	295	330	460	475	510	
M1	135	145	160	155	165	185	High feed milling cutters
	445	475	520	510	540	610	
M2	115	120	135	130	135	150	High feed milling cutters
	375	395	445	425	445	490	
M3	90	100	105	105	110	120	High feed milling cutters
	295	330	345	345	360	395	
M4	70	75	85	80	85	95	High feed milling cutters
	230	245	280	260	280	310	
M5	60	65	70	65	70	80	High feed milling cutters
	195	215	230	215	230	260	
K1	135	145	160	290	305	325	Copy milling cutters
	445	475	520	950	1000	1075	
K2	120	125	140	255	265	285	Copy milling cutters
	395	410	460	840	870	940	
K3	100	110	120	215	225	245	Copy milling cutters
	330	360	395	710	740	800	
K4	95	105	115	205	215	230	Copy milling cutters
	310	345	375	670	710	750	
K5	60	60	70	125	130	140	Plunge milling cutters
	195	195	230	410	425	460	
K6	85	90	100	180	190	205	Plunge milling cutters
	280	295	330	590	620	670	
K7	75	80	90	160	170	180	Plunge milling cutters
	245	260	295	520	560	590	
N1	990	1075	1175	—	—	—	Chamfer milling cutters
	3250	3525	3850	—	—	—	
N2	400	430	475	—	—	—	Chamfer milling cutters
	1300	1400	1550	—	—	—	
N3	265	285	315	—	—	—	Spot facing cutters
	870	940	1025	—	—	—	
N11	305	325	365	—	—	—	Spot facing cutters
	1000	1075	1200	—	—	—	
S1	33	35	39	—	—	—	Inserts
	110	115	130	—	—	—	
S2	26	28	31	—	—	—	Inserts
	85	90	100	—	—	—	
S3	23	25	27	—	—	—	Inserts
	75	80	90	—	—	—	
S11	46	50	55	—	—	—	Inserts
	150	165	180	—	—	—	
S12	39	42	46	—	—	—	Inserts
	130	140	150	—	—	—	
S13	22	24	27	—	—	—	Inserts
	70	80	90	—	—	—	
H5	28	30	33	—	—	—	Inserts
	90	100	110	—	—	—	
H8	29	31	35	—	—	—	Inserts
	95	100	115	—	—	—	
H11	36	38	42	—	—	—	Inserts
	120	125	140	—	—	—	
H12	34	36	40	—	—	—	Inserts
	110	120	130	—	—	—	
H21	29	31	35	—	—	—	Inserts
	95	100	115	—	—	—	

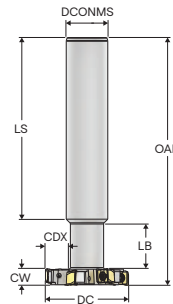


335.18

Highly economical, versatile and free-cutting disc milling cutter system dedicated for medium width of cut slotting, or half side and face cutting operations

- Width of cut 8-20 mm (.312 - .7500 inch) - slot with flat bottom
- Cutter range diameter 32-315 mm (1.25 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- Insert corner radii range 0.4-4 mm (.016 - 0.16 inch), and possibility to apply round insert dia 8/10/12mm in adjustable system
- Economical solution with up to 4 cutting edges per insert
- Quickly design and price custom 335.18 disc milling cutter bodies with Seco My Design
- Basic tolerance of the slot:
Fixed pocket cutters: $\pm 0.08\text{mm}$ ($\pm 0.003''$)
Adjustable cutters: $\pm 0.07\text{mm}$ ($\pm 0.0025''$)

R335.18 – LNK. – Metric – full side – Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	CW mm	CDX mm	ZEFP	ZNP	DCONMS mm	LS mm	OAL mm	LB mm	RPMX	Weight kg	Insert
R335.18-1632-0-08-1N	10092355	Cylindrical	32,0	8,0	8,5	1	2	16,0	108,0	140,0	23,0	18600	0,3	LNK.0504..
R335.18-1632-0-10-1N	10092359	Cylindrical	32,0	10,0	8,5	1	2	16,0	108,0	140,0	21,0	18600	0,3	LNK.0504..
R335.18-2040-0-08-2N	10092356	Cylindrical	40,0	8,0	11,5	2	4	20,0	108,0	140,0	22,0	16600	0,4	LNK.0504..
R335.18-2040-0-10-2N	10092360	Cylindrical	40,0	10,0	11,5	2	4	20,0	108,0	140,0	20,0	14000	0,4	LNK.0605.. / LNK.0805..
R335.18-2040-0-10-2N-LN05	10092361	Cylindrical	40,0	10,0	11,5	2	4	20,0	108,0	140,0	20,0	16600	0,4	LNK.0504..
R335.18-2550-0-08-3N	10092357	Cylindrical	50,0	8,0	14,5	3	6	25,0	110,0	150,0	29,5	14900	0,6	LNK.0504..
R335.18-2550-0-10-3N	10092362	Cylindrical	50,0	10,0	14,5	3	6	25,0	110,0	150,0	27,5	12400	0,6	LNK.0605.. / LNK.0805..
R335.18-2550-0-12-3N	10092363	Cylindrical	50,0	12,0	14,5	3	6	25,0	110,0	150,0	25,5	12400	0,6	LNK.0605.. / LNK.0805..
R335.18-3263-0-08-3N	10092358	Cylindrical	63,0	8,0	15,5	3	6	32,0	153,0	170,0	8,0	13300	1,2	LNK.0504..
R335.18-3263-0-10-3N	10092364	Cylindrical	63,0	10,0	15,5	3	6	32,0	153,0	170,0	6,0	11000	1,2	LNK.0605.. / LNK.0805..
R335.18-3263-0-12-3N	10092366	Cylindrical	63,0	12,0	15,5	3	6	32,0	153,0	170,0	4,0	11000	1,1	LNK.0605.. / LNK.0805..
R335.18-3280-0-10-4N	10092365	Cylindrical	80,0	10,0	24,0	4	8	32,0	153,0	170,0	6,0	9700	1,3	LNK.0605.. / LNK.0805..
R335.18-3280-0-12-4N	10092367	Cylindrical	80,0	12,0	24,0	4	8	32,0	153,0	170,0	4,0	9700	1,5	LNK.0605.. / LNK.0805..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R335.18-LNK.0504	1/4HEX-T08PX50	C02508-T08P
R335.18-LNK.0605/LNK.0805	1/4HEX-T09PX50	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335.18-LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R335.18-LNK.0605/LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

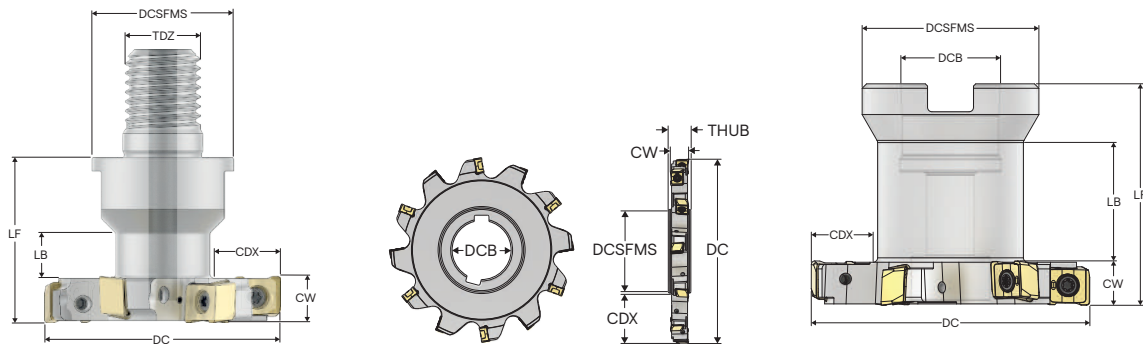
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

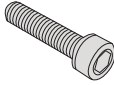
R335.18 - LNK. - Metric - full side - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513-514
- For complete insert programme, see page(s) 877-878
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm		mm	mm	mm		kg	
R335.18-1032.RE-08.2NA	03277891	Combimaster	32,0	8,0	8,4	2	4	—	18,5	M10	28,0	—	8,89	17300	0,1	LNK.0504
R335.18-1032.RE-10.2NA	03277892	Combimaster	32,0	10,0	8,5	2	4	—	18,5	M10	28,0	—	6,89	17300	0,1	LNK.0504
R335.18-1240.RE-08.2NA	03277893	Combimaster	40,0	8,0	11,2	2	4	—	23,0	M12	30,0	—	8,39	15400	0,2	LNK.0504
R335.18-1240.RE-10.2NA	03277894	Combimaster	40,0	10,0	11,5	2	4	—	23,0	M12	30,0	—	6,39	15400	0,2	LNK.0504
R335.18-1650.RE-08.3NA	03277895	Combimaster	50,0	8,0	14,2	3	6	—	30,0	M16	35,0	—	10,59	13800	0,3	LNK.0504
R335.18-1650.RE-10.3NA	03279026	Combimaster	50,0	10,0	14,4	3	6	—	30,0	M16	35,0	—	8,59	13400	0,3	LNK.0605 / LNK.0805
R335.18-2063.RE-08.4NA	03277897	Combimaster	63,0	8,0	15,0	4	8	—	36,5	M20	40,0	—	14,89	12300	0,4	LNK.0504
R335.18-2063.RE-10.4NA	03277898	Combimaster	63,0	10,0	15,1	4	8	—	36,5	M20	40,0	—	12,89	11900	0,5	LNK.0605 / LNK.0805
335.18-080-10-27-4N	10092420	Arbor hole	80,0	10,0	18,0	4	8	27,0	41,0	—	—	15,0	—	9700	0,3	LNK.0605.. / LNK.0805..
335.18-100-08-27-5N	10092419	Arbor hole	100,0	8,0	28,0	5	10	27,0	41,0	—	—	15,0	—	10500	1,0	LNK.0504..
335.18-100-10-27-5N	10092421	Arbor hole	100,0	10,0	28,0	5	10	27,0	41,0	—	—	15,0	—	8700	0,6	LNK.0605.. / LNK.0805..
R335.18-063-08-22-3N	10092379	Arbor	63,0	8,0	14,5	3	6	22,0	40,0	—	50,0	—	29,0	13300	0,5	LNK.0504..
R335.18-063-10-22-3N	10092383	Arbor	63,0	10,0	14,5	3	6	22,0	40,0	—	50,0	—	27,0	11000	0,5	LNK.0605.. / LNK.0805..
R335.18-080-08-22-4N	10092380	Arbor	80,0	8,0	23,0	4	8	22,0	40,0	—	50,0	—	29,0	11800	0,5	LNK.0504..
R335.18-080-10-22-4N	10092384	Arbor	80,0	10,0	23,0	4	8	22,0	40,0	—	50,0	—	27,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-100-08-27-5N	10092381	Arbor	100,0	8,0	25,5	5	10	27,0	48,0	—	50,0	—	49,7	10500	0,9	LNK.0504..
R335.18-100-10-27-5N	10092385	Arbor	100,0	10,0	25,5	5	10	27,0	48,0	—	50,0	—	50,0	8700	0,9	LNK.0605.. / LNK.0805..
R335.18-125-08-32-6N	10092382	Arbor	125,0	8,0	33,0	6	12	32,0	58,0	—	50,0	—	49,7	9400	1,3	LNK.0504..
R335.18-125-10-32-6N	10092386	Arbor	125,0	10,0	33,0	6	12	32,0	58,0	—	50,0	—	50,0	7700	1,4	LNK.0605.. / LNK.0805..

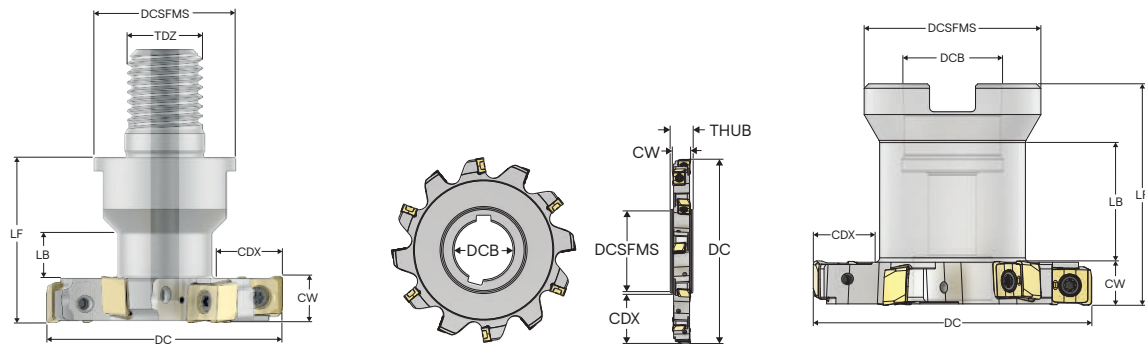
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	
				Square shoulder and slot milling cutters
335.18 DC=100 LNK.0605/LNK.0805	-	1/4HEX-T09PX90	C73009-T09P	Helical milling cutters
335.18 DC=80 LNK.0605/LNK.0805	-	1/4HEX-T09PX50	C73009-T09P	
335.18 LNK.0504	-	1/4HEX-T08PX90	C02508-T08P	
R335.18 .RE LNK.0504	-	1/4HEX-T08PX50	C02508-T08P	
R335.18 .RE LNK.0605/LNK.0805	-	1/4HEX-T09PX50	C73009-T09P	
R335.18-DCB=22 LNK.0504	MC6S10X40	1/4HEX-T08PX50	C02508-T08P	Face milling cutters
R335.18 DCB=22 LNK.0605/LNK.0805	MC6S10X40	1/4HEX-T09PX50	C73009-T09P	
R335.18 DCB=27 LNK.0504	MC6S12X40	1/4HEX-T08PX90	C02508-T08P	
R335.18 DCB=27 LNK.0605/LNK.0805	MC6S12X40	1/4HEX-T09PX90	C73009-T09P	
R335.18 DCB=32 LNK.0504	MC6S16X40	1/4HEX-T08PX90	C02508-T08P	
R335.18 DCB=32 LNK.0605/LNK.0805	MC6S16X40	1/4HEX-T09PX90	C73009-T09P	

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key	
					Disc milling cutters
335/R335.18 LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12	High feed milling cutters
335/R335.18 LNK.0605/LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20	
					Copy milling cutters
					Plunge milling cutters
					Chamfer milling cutters
					Spot facing cutters
					Inserts

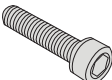
R335.18 - LNK. - Metric - full side - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513-514
- For complete insert programme, see page(s) 877-878
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm		mm	mm	mm		kg	
R335.18-1650.RE-12.3NA	03277896	Combimaster	50,0	12,0	14,5	3	6	—	30,0	M16	35,0	—	6,59	13400	0,3	LNK.0605 / LNK.0805
335.18-080-12-27-4N	10092422	Arbor hole	80,0	12,0	18,0	4	8	27,0	41,0	—	—	15,0	—	9700	0,3	LNK.0605.. / LNK.0805..
335.18-100-12-27-5N	10092423	Arbor hole	100,0	12,0	28,0	5	10	27,0	41,0	—	—	15,0	—	8700	0,6	LNK.0605.. / LNK.0805..
335.18-125-12-40-6N	10092424	Arbor hole	125,0	12,0	33,5	6	12	40,0	55,0	—	—	15,0	—	7700	1,0	LNK.0605.. / LNK.0805..
335.18-160-14-40-7N	10092425	Arbor hole	160,0	14,0	51,0	7	14	40,0	55,0	—	—	15,0	—	6800	1,7	LNK.0605.. / LNK.0805..
R335.18-063-12-22-3N	10092387	Arbor	63,0	12,0	14,5	3	6	22,0	40,0	—	50,0	—	25,0	11000	0,4	LNK.0605.. / LNK.0805..
R335.18-063-14-22-3N	10092391	Arbor	63,0	14,0	14,5	3	6	22,0	40,0	—	50,0	—	23,0	11000	0,5	LNK.0605.. / LNK.0805..
R335.18-080-12-22-4N	10092388	Arbor	80,0	12,0	23,0	4	8	22,0	40,0	—	50,0	—	25,0	9700	0,7	LNK.0605.. / LNK.0805..
R335.18-080-14-22-4N	10092392	Arbor	80,0	14,0	23,0	4	8	22,0	40,0	—	50,0	—	23,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-100-12-27-5N	10092389	Arbor	100,0	12,0	25,5	5	10	27,0	48,0	—	50,0	—	50,0	8700	1,1	LNK.0605.. / LNK.0805..
R335.18-100-14-27-5N	10092393	Arbor	100,0	14,0	25,5	5	10	27,0	48,0	—	50,0	—	50,0	8700	1,2	LNK.0605.. / LNK.0805..
R335.18-125-12-32-6N	10092390	Arbor	125,0	12,0	33,0	6	12	32,0	58,0	—	50,0	—	50,0	7700	1,5	LNK.0605.. / LNK.0805..
R335.18-125-14-32-6N	10092394	Arbor	125,0	14,0	33,0	6	12	32,0	58,0	—	50,0	—	50,0	7700	1,7	LNK.0605.. / LNK.0805..

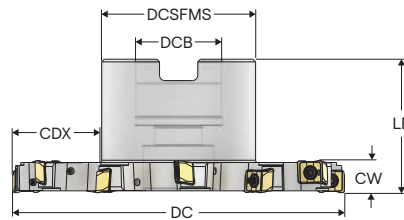
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.18 DC=100-160 CW=12/14	—	1/4HEX-T09PX90	C73009-T09P
335.18 DC=80 CW=12	—	1/4HEX-T09PX50	C73009-T09P
R335.18 .RE	—	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=22	MC6S10X40	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=27	MC6S12X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=32	MC6S16X40	1/4HEX-T09PX90	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335/R335.18-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

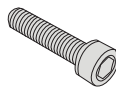
R335.18 – LNK. – Metric – full side – Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	CW mm	CDX mm	ZEFP	ZNP	DCB mm	DCSFMS mm	DCONMS mm	LF mm	LB mm	RPMX	Weight kg	Insert
R335.18-080-17-22-3N	10092395	Arbor	80,0	17,0	23,0	3	9	22,0	40,0	22,0	50,0	20,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-080-20-22-4N	10092398	Arbor	80,0	20,0	23,0	4	12	22,0	40,0	22,0	50,0	17,0	9700	0,7	LNK.0605.. / LNK.0805..
R335.18-100-20-27-5N	10092399	Arbor	100,0	20,0	25,5	5	15	27,0	48,0	27,0	50,0	49,3	8700	1,2	LNK.0605.. / LNK.0805..
R335.18-125-17-32-4N	10092396	Arbor	125,0	17,0	33,0	4	12	32,0	58,0	32,0	50,0	50,0	7700	1,9	LNK.0605.. / LNK.0805..
R335.18-125-20-32-6N	10092400	Arbor	125,0	20,0	33,0	6	18	32,0	58,0	32,0	50,0	49,3	7700	1,8	LNK.0605.. / LNK.0805..
R335.18-160-17-40-5N	10092397	Arbor	160,0	17,0	44,5	5	15	40,0	70,0	40,0	50,0	50,0	6800	3,0	LNK.0605.. / LNK.0805..
R335.18-160-20-40-7N	10092401	Arbor	160,0	20,0	44,5	7	21	40,0	70,0	40,0	50,0	49,3	6800	3,0	LNK.0605.. / LNK.0805..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R335.18 DCB=22	MC6S10X40	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=27	MC6S12X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=32	MC6S16X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=40	MLC6S20X40	1/4HEX-T09PX90	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335/R335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

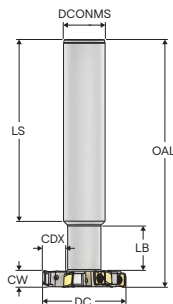
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18 - LNK. - Inch - full side - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	CW inch	CDX inch	ZEFP	ZNP	DCONMS inch	LS inch	OAL inch	LB inch	RPMX	Weight lbs	Insert
R335.18-01.25-0-0.31-1N	10092368	Cylindrical	1.250	0.312	0.332	1	2	0.625	4.370	5.500	0.748	18700	0.660	LNK.0504..
R335.18-01.25-0-0.37-1N	10092372	Cylindrical	1.250	0.375	0.332	1	2	0.625	4.370	5.500	0.685	18700	0.660	LNK.0504..
R335.18-01.50-0-0.31-2N	10092369	Cylindrical	1.500	0.312	0.395	2	4	0.750	4.370	5.500	0.748	17000	0.880	LNK.0504..
R335.18-01.50-0-0.37-2N	10092373	Cylindrical	1.500	0.375	0.395	2	4	0.750	4.370	5.500	0.685	17000	0.880	LNK.0504..
R335.18-02.00-0-0.31-3N	10092370	Cylindrical	2.000	0.312	0.571	3	6	1.000	4.331	6.000	1.197	14800	1.540	LNK.0504..
R335.18-02.00-0-0.37-3N	10092374	Cylindrical	2.000	0.375	0.571	3	6	1.000	4.331	6.000	1.134	14800	1.540	LNK.0504..
R335.18-02.00-0-0.50-3N	10092376	Cylindrical	2.000	0.500	0.571	3	6	1.000	4.331	6.000	1.008	12300	1.540	LNK.0605.. / LNK.0805..
R335.18-02.50-0-0.31-3N	10092371	Cylindrical	2.500	0.312	0.625	3	6	1.250	6.063	6.750	0.315	13200	2.650	LNK.0504..
R335.18-02.50-0-0.37-3N	10092375	Cylindrical	2.500	0.375	0.625	3	6	1.250	6.063	6.750	0.252	13200	2.650	LNK.0504..
R335.18-02.50-0-0.50-3N	10092377	Cylindrical	2.500	0.500	0.625	3	6	1.250	6.063	6.750	0.130	11000	2.430	LNK.0605.. / LNK.0805..
R335.18-03.00-0-0.50-4N	10092378	Cylindrical	3.000	0.500	0.875	4	8	1.250	6.063	6.750	0.130	10000	3.090	LNK.0605.. / LNK.0805..

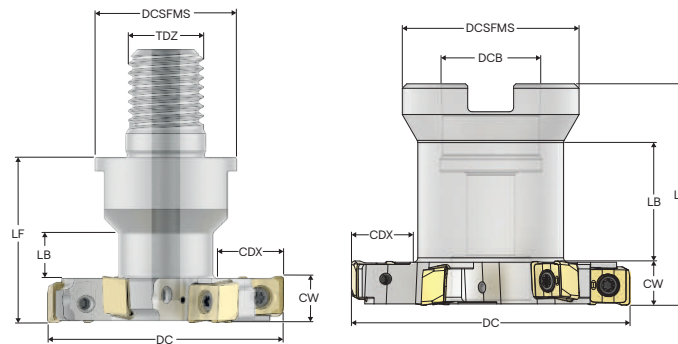
Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R335.18 LNK.0504	1/4HEX-T08PX50	C02508-T08P
R335.18 LNK.0605/LNK.0805	1/4HEX-T09PX50	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335.18 LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R335.18 LNK.0605/ LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18 – LNK. – Inch – full side – Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	CW inch	CDX inch	ZEFP	ZNP	DCB inch	DCSFMS inch	TDZ	LF inch	LB inch	RPMX	Weight lbs	Insert
R335.18-01.50-RE-0.31F-2NA	03277902	Combimaster	1.500	0.312	0.406	2	4	–	0.906	M12	1.181	0.333	15400	0.440	LNK.0504
R335.18-01.50-RE-0.37F-2NA	03277903	Combimaster	1.500	0.375	0.413	2	4	–	0.906	M12	1.181	0.270	15400	0.440	LNK.0504
R335.18-02.00-RE-0.31F-3NA	03277904	Combimaster	2.000	0.312	0.575	3	6	–	1.181	M16	1.378	0.420	13800	0.660	LNK.0504
R335.18-02.00-RE-0.37F-3NA	03277905	Combimaster	2.000	0.375	0.587	3	6	–	1.181	M16	1.378	0.357	13800	0.660	LNK.0504
R335.18-02.50-0.31-3N	10092402	Arbor	2.500	0.312	0.581	3	6	0.750	1.619	–	2.000	1.142	13200	1.320	LNK.0504..
R335.18-02.50-0.37-3N	10092406	Arbor	2.500	0.375	0.581	3	6	0.750	1.619	–	2.000	1.079	13200	0.880	LNK.0504..
R335.18-03.00-0.31-4N	10092403	Arbor	3.000	0.312	0.693	4	8	1.000	1.880	–	2.000	1.142	12000	1.320	LNK.0504..
R335.18-03.00-0.37-4N	10092407	Arbor	3.000	0.375	0.693	4	8	1.000	1.880	–	2.000	1.087	12000	0.220	LNK.0504..
R335.18-04.00-0.31-5N	10092404	Arbor	4.000	0.312	1.193	5	10	1.000	1.880	–	2.000	1.150	10400	1.980	LNK.0504..
R335.18-04.00-0.37-5N	10092408	Arbor	4.000	0.375	1.193	5	10	1.000	1.880	–	2.000	1.087	10400	1.980	LNK.0504..
R335.18-05.00-0.31-6N	10092405	Arbor	5.000	0.312	1.355	6	12	1.250	2.250	–	2.000	1.988	9300	3.090	LNK.0504..
R335.18-05.00-0.37-6N	10092409	Arbor	5.000	0.375	1.355	6	12	1.250	2.250	–	2.000	1.988	9300	3.090	LNK.0504..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R335.18 DC=02.50	UC6S3/8UNFX1-3/4	1/4HEX-T08PX50	C02508-T08P
R335.18 DC=03.00	UC6S1/2UNFX1-1/2	1/4HEX-T08PX50	C02508-T08P
R335.18 DC=04.00	UC6S1/2UNFX1-1/2	1/4HEX-T08PX90	C02508-T08P
R335.18 DC=05.00	UC6S5/8UNFX11/2	1/4HEX-T08PX90	C02508-T08P
R335.18-RE	–	1/4HEX-T08PX50	C02508-T08P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

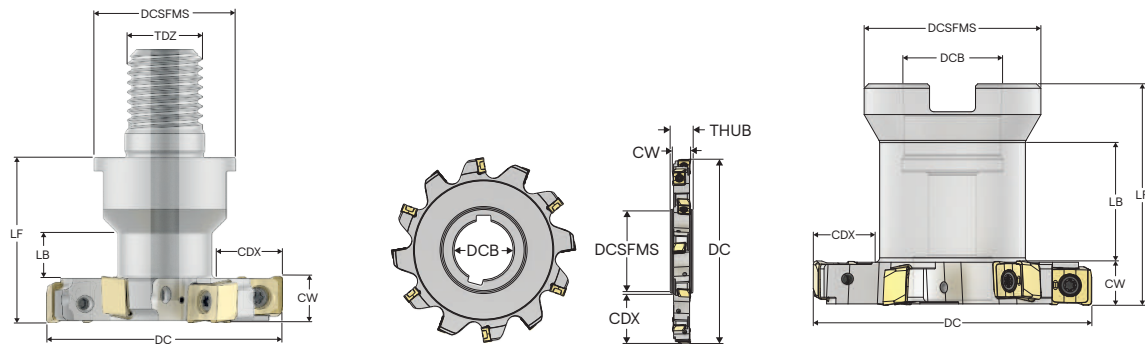
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18 - LNK. - Inch - full side - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513-514
- For complete insert programme, see page(s) 877-878
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch		inch	inch	inch		lbs	
R335.18-02.00-RE-0.5F-3NA	03277906	Combimaster	2.000	0.500	0.587	3	6	—	1.181	M16	1.378	—	0.232	13400	0.660	LNK.0605 / LNK.0805
335.18-03.00-0.50-4N	10092429	Arbor hole	3.000	0.500	0.665	4	8	1.000	1.551	—	—	0.625	—	10000	0.660	LNK.0605.. / LNK.0805..
335.18-06.00-0.50-7N	10092432	Arbor hole	6.000	0.500	1.815	7	14	1.500	2.252	—	—	0.625	—	7000	2.650	LNK.0605.. / LNK.0805..
R335.18-02.50-0.50-3N	10092410	Arbor	2.500	0.500	0.581	3	6	0.750	1.619	—	2.000	—	0.957	11000	1.100	LNK.0605.. / LNK.0805..
R335.18-03.00-0.50-4N	10092411	Arbor	3.000	0.500	0.693	4	8	1.000	1.880	—	2.000	—	0.961	10000	1.320	LNK.0605.. / LNK.0805..
R335.18-03.00-0.75-3N	10092416	Arbor	3.000	0.750	0.693	3	9	1.000	1.880	—	2.000	—	0.709	10000	1.980	LNK.0605.. / LNK.0805..
R335.18-04.00-0.50-5N	10092412	Arbor	4.000	0.500	1.193	5	10	1.000	1.880	—	2.000	—	0.961	8600	1.980	LNK.0605.. / LNK.0805..
R335.18-04.00-0.62-3N	10092415	Arbor	4.000	0.625	1.193	3	9	1.000	1.880	—	2.000	—	0.837	8600	2.200	LNK.0605.. / LNK.0805..
R335.18-04.00-0.75-3N	10092417	Arbor	4.000	0.750	1.193	3	9	1.000	1.880	—	2.000	—	0.712	8600	2.430	LNK.0605.. / LNK.0805..
R335.18-05.00-0.50-6N	10092413	Arbor	5.000	0.500	1.355	6	12	1.250	2.250	—	2.000	—	1.972	7700	1.320	LNK.0605.. / LNK.0805..
R335.18-05.00-0.75-4N	10092418	Arbor	5.000	0.750	1.355	4	12	1.250	2.250	—	2.000	—	1.972	7700	3.310	LNK.0605.. / LNK.0805..

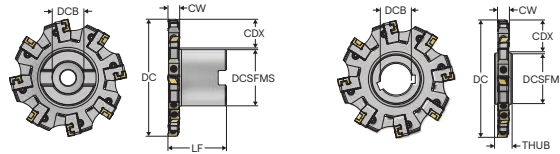
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.18 DC=03.00	—	1/4HEX-T09PX50	C73009-T09P
335.18 DC=06.00	—	1/4HEX-T09PX90	C73009-T09P
R335.18 DC=02.50	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C73009-T09P
R335.18 DC=03.00	UC6S1/2UNFX1-1/2	1/4HEX-T09PX50	C73009-T09P
R335.18 DC=04.00	UC6S1/2UNFX1-1/2	1/4HEX-T09PX90	C73009-T09P
R335.18 DC=05.00	UC6S5/8UNFX11/2	1/4HEX-T09PX90	C73009-T09P
R335.18-RE	—	1/4HEX-T09PX50	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.18...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18/335.18 – LNK. – Metric – full side – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.0810.27-4N	02575751	Arbor hole	100,0	8,0	10,0	27,2	4	8	27,0	41,0	11,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-4N	00018408	Arbor hole	100,0	10,0	12,0	27,2	4	8	27,0	41,0	12,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-5N	02575752	Arbor hole	125,0	8,0	10,0	32,7	5	10	40,0	55,0	11,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-5N	00018417	Arbor hole	125,0	10,0	12,0	32,7	5	10	40,0	55,0	12,5	15,0	8400	0,7	LNK.06..
335.18-160.0810.40-6N	02575753	Arbor hole	160,0	8,0	10,0	50,2	6	12	40,0	55,0	11,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-6N	00018427	Arbor hole	160,0	10,0	12,0	50,2	6	12	40,0	55,0	12,5	15,0	7500	1,2	LNK.06..
335.18-200.0810XL.50-7N	02712923	Arbor hole	200,0	8,0	10,0	63,5	7	14	50,0	69,0	11,5	15,0	6700	1,4	LNK.05..
335.18-200.1012XL.50-7N	02712930	Arbor hole	200,0	10,0	12,0	63,5	7	14	50,0	69,0	12,5	15,0	6700	1,5	LNK.06..
335.18-250.0810XL.50-9N	02712939	Arbor hole	250,0	8,0	10,0	88,5	9	18	50,0	69,0	11,5	15,0	6000	2,3	LNK.05..
335.18-250.1012XL.50-9N	02712940	Arbor hole	250,0	10,0	12,0	88,5	9	18	50,0	69,0	12,5	15,0	6000	2,8	LNK.06..
335.18-315.0810XL.50-12N	02712948	Arbor hole	315,0	8,0	10,0	121,0	12	24	50,0	69,0	11,5	15,0	5300	2,4	LNK.05..
335.18-315.1012XL.50-12N	02712950	Arbor hole	315,0	10,0	12,0	121,0	12	24	50,0	69,0	12,5	15,0	5300	4,5	LNK.06..
R335.18-080.0810.27-3N	02611694	Arbor	80,0	8,0	10,0	14,8	3	6	27,0	48,0	50,0	–	10900	0,8	LNK.05..
R335.18-080.1012.27-3N	00018581	Arbor	80,0	10,0	12,0	14,8	3	6	27,0	48,0	50,0	–	10500	0,9	LNK.06..
R335.18-100.0810.27-4N	02576013	Arbor	100,0	8,0	10,0	24,8	4	8	27,0	48,0	50,0	–	9400	0,9	LNK.05..
R335.18-100.1012.27-4N	00018597	Arbor	100,0	10,0	12,0	24,8	4	8	27,0	48,0	50,0	–	9400	0,9	LNK.06..
R335.18-125.0810.32-5N	02576014	Arbor	125,0	8,0	10,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-5N	00018613	Arbor	125,0	10,0	12,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,1	LNK.06..
R335.18-160.0810.40-6N	02576015	Arbor	160,0	8,0	10,0	43,8	6	12	40,0	70,0	50,0	–	7500	1,6	LNK.05..
R335.18-160.1012.40-6N	00018641	Arbor	160,0	10,0	12,0	43,8	6	12	40,0	70,0	50,0	–	7500	1,8	LNK.06..
R335.18-200.0810XL.40-7N	02713370	Arbor	200,0	8,0	10,0	53,5	7	14	40,0	90,0	50,0	–	6700	2,7	LNK.05..
R335.18-200.1012XL.40-7N	02713374	Arbor	200,0	10,0	12,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,0	LNK.06..
R335.18-250.0810XL.40-9N	02713381	Arbor	250,0	8,0	10,0	78,0	18	18	40,0	90,0	50,0	–	6000	4,4	LNK.05..
R335.18-250.1012XL.40-9N	02713382	Arbor	250,0	10,0	12,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,5	LNK.06..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

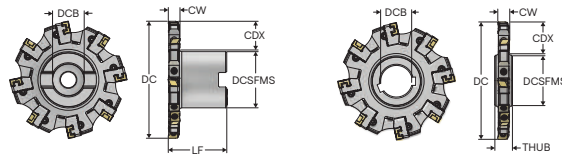
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18/335.18 – LNK. – Metric – full side – Adjustable design



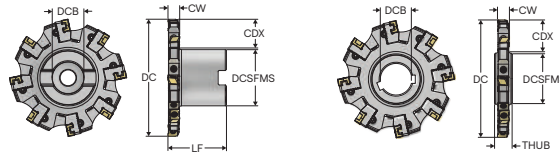
- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.1215.27-4N	00018513	Arbor hole	100,0	12,0	15,0	27,2	4	8	27,0	41,0	13,5	15,0	9400	0,6	LNK.08..
335.18-125.1215.40-5N	00018535	Arbor hole	125,0	12,0	15,0	32,7	5	10	40,0	55,0	13,5	15,0	8400	0,8	LNK.08..
335.18-160.1215.40-6N	00018543	Arbor hole	160,0	12,0	15,0	50,2	6	12	40,0	55,0	13,5	15,0	7500	1,4	LNK.08..
335.18-200.1215XL.50-7N	02712932	Arbor hole	200,0	12,0	15,0	63,5	7	14	50,0	69,0	13,5	15,0	6700	2,1	LNK.08..
335.18-250.1215XL.50-9N	02712941	Arbor hole	250,0	12,0	15,0	88,5	9	18	50,0	69,0	13,5	15,0	6000	3,6	LNK.08..
335.18-315.1215XL.50-12N	02712951	Arbor hole	315,0	12,0	15,0	121,0	12	24	50,0	69,0	13,5	15,0	5300	5,5	LNK.08..
R335.18-080.1215.27-3N	00018712	Arbor	80,0	12,0	15,0	14,8	3	6	27,0	48,0	50,0	–	10500	0,7	LNK.08..
R335.18-100.1215.27-4N	00018734	Arbor	100,0	12,0	15,0	24,8	4	8	27,0	48,0	50,0	–	9400	1,0	LNK.08..
R335.18-125.1215.32-5N	00018763	Arbor	125,0	12,0	15,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,2	LNK.08..
R335.18-160.1215.40-6N	00018782	Arbor	160,0	12,0	15,0	43,8	6	12	40,0	70,0	50,0	–	7500	2,0	LNK.08..
R335.18-200.1215XL.40-7N	02713376	Arbor	200,0	12,0	15,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,3	LNK.08..
R335.18-250.1215XL.40-9N	02713383	Arbor	250,0	12,0	15,0	78,0	9	18	40,0	90,0	50,0	–	6000	5,1	LNK.08..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.18/335.18 – LNK. – inch – full side – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.18-04.00-0506N	02834805	Arbor hole	4.000	0.312	0.394	1.102	4	8	1.000	1.551	0.470	0.625	9400	0.880	LNK.05
335.18-05.00-0506N	02834810	Arbor hole	5.000	0.312	0.394	1.299	5	10	1.500	2.252	0.470	0.625	8400	1.320	LNK.05
335.18-05.00-0708N	00079701	Arbor hole	5.000	0.394	0.472	1.258	5	10	1.500	2.252	0.509	0.625	8400	1.760	LNK.06
335.18-05.00-0809N	00079932	Arbor hole	5.000	0.472	0.591	1.285	5	10	1.500	2.252	0.549	0.625	8400	1.980	LNK.08
335.18-06.00-0506N	02834762	Arbor hole	6.000	0.312	0.394	1.772	6	12	1.500	2.252	0.470	0.625	7500	1.980	LNK.05
335.18-06.00-0708N	00079702	Arbor hole	6.000	0.394	0.472	1.766	6	12	1.500	2.252	0.509	0.625	7500	2.430	LNK.06
335.18-06.00-0809N	00079933	Arbor hole	6.000	0.472	0.591	1.790	6	12	1.500	2.252	0.549	0.625	7500	2.870	LNK.08
335.18-08.00-XL0506N	02740202	Arbor hole	8.000	0.312	0.394	2.421	7	14	2.000	3.000	0.469	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708N	02740235	Arbor hole	8.000	0.394	0.472	2.421	7	14	2.000	3.000	0.509	0.625	6700	4.190	LNK.06
335.18-08.00-XL0809N	02740236	Arbor hole	8.000	0.472	0.591	2.421	7	14	2.000	3.000	0.549	0.625	6700	7.500	LNK.08
335.18-10.00-XL0506N	02740460	Arbor hole	10.000	0.312	0.394	3.386	9	18	2.000	3.000	0.469	0.625	6000	5.290	LNK.05
335.18-10.00-XL0708N	02740497	Arbor hole	10.000	0.394	0.472	3.386	9	18	2.000	3.000	0.509	0.625	6000	9.260	LNK.06
335.18-10.00-XL0809N	02740498	Arbor hole	10.000	0.472	0.591	3.386	9	18	2.000	3.000	0.549	0.625	6000	8.160	LNK.08
335.18-12.00-XL0506N	02740860	Arbor hole	12.000	0.312	0.394	4.390	11	22	2.000	3.000	0.469	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708N	02740866	Arbor hole	12.000	0.394	0.472	4.390	11	22	2.000	3.000	0.509	0.625	5300	9.920	LNK.06
335.18-12.00-XL0809N	02740867	Arbor hole	12.000	0.472	0.591	4.390	11	22	2.000	3.000	0.549	0.625	5300	15.430	LNK.08
R335.18-04.00-0506N	02834763	Arbor	4.000	0.312	0.394	1.024	4	8	1.000	1.880	2.000	–	9400	1.760	LNK.05
R335.18-04.00-0708N	00079782	Arbor	4.000	0.394	0.472	1.014	4	8	1.000	1.880	2.000	–	9400	2.430	LNK.06
R335.18-04.00-0809N	00079963	Arbor	4.000	0.472	0.591	1.014	4	8	1.000	1.880	2.000	–	9400	3.090	LNK.08
R335.18-05.00-0506N	02834764	Arbor	5.000	0.312	0.394	1.339	5	10	1.250	2.250	2.000	–	8400	2.650	LNK.05
R335.18-05.00-0708N	00079783	Arbor	5.000	0.394	0.472	1.329	5	10	1.250	2.250	2.000	–	8400	3.530	LNK.06
R335.18-05.00-0809N	00079964	Arbor	5.000	0.472	0.591	1.329	5	10	1.250	2.250	2.000	–	8400	3.530	LNK.08
R335.18-06.00-0506N	02834765	Arbor	6.000	0.312	0.394	1.575	6	12	1.500	2.750	2.000	–	7500	3.310	LNK.05
R335.18-06.00-0708N	00079784	Arbor	6.000	0.394	0.472	1.534	6	12	1.500	2.750	2.000	–	7500	4.850	LNK.06
R335.18-06.00-0809N	00079965	Arbor	6.000	0.472	0.591	1.585	6	12	1.500	2.750	2.000	–	7500	4.190	LNK.08
R335.18-08.00-XL0506N	02740895	Arbor	8.000	0.312	0.394	2.224	7	14	1.500	3.500	2.000	–	6700	6.170	LNK.05
R335.18-08.00-XL0708N	02740896	Arbor	8.000	0.394	0.472	2.224	7	14	1.500	3.500	2.000	–	6700	2.870	LNK.06
R335.18-08.00-XL0809N	02740897	Arbor	8.000	0.472	0.591	2.224	7	14	1.500	3.500	2.000	–	6700	9.920	LNK.08
R335.18-10.00-XL0506N	02741525	Arbor	10.000	0.312	0.394	3.209	9	18	1.500	3.500	2.000	–	6000	17.640	LNK.05
R335.18-10.00-XL0708N	02741541	Arbor	10.000	0.394	0.472	3.209	9	18	1.500	3.500	2.000	–	6000	18.960	LNK.06
R335.18-10.00-XL0809N	02741544	Arbor	10.000	0.472	0.591	3.209	9	18	1.500	3.500	2.000	–	6000	10.580	LNK.08

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

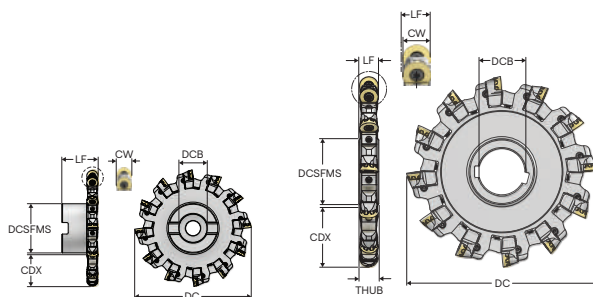
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18/335.18 – RD..08/RD..10T3 – Metric – full side – radius profile – Adjustable design



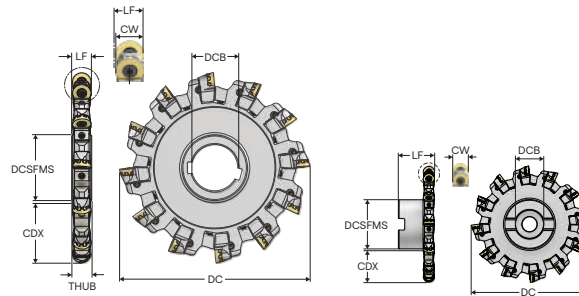
- For insert selection and cutting data recommendations, see page(s) 533–538
- For complete insert programme, see page(s) 886
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.0810.27-8N-R4	02575800	Arbor hole	102,0	8,03	10,0	28,2	8	8	27,0	41,0	11,5	15,0	9400	0,4	RD..08..
335.18-100.1012.27-4N-R5	00030328	Arbor hole	102,0	10,03	12,0	28,2	4	8	27,0	41,0	12,5	15,0	9400	0,6	RD..10T3
335.18-125.0810.40-10N-R4	02575801	Arbor hole	127,0	8,03	10,0	33,7	10	10	40,0	55,0	11,5	15,0	8400	0,6	RD..08..
335.18-125.1012.40-5N-R5	00030340	Arbor hole	127,0	10,03	12,0	33,7	5	10	40,0	55,0	12,5	15,0	8400	0,7	RD..10T3
335.18-160.0810.40-12N-R4	02575802	Arbor hole	162,0	8,03	10,0	51,2	12	12	40,0	55,0	11,5	15,0	7500	1,0	RD..08..
335.18-160.1012.40-6N-R5	00030343	Arbor hole	162,0	10,03	12,0	51,2	6	12	40,0	55,0	12,5	15,0	7500	1,3	RD..10T3
335.18-200.0810XL.50-14N-R4	02712934	Arbor hole	200,0	8,03	10,0	63,5	14	14	50,0	69,0	11,5	15,0	6700	1,4	RD..08..
335.18-200.1012XL.50-7N-R5	02712935	Arbor hole	200,0	10,03	12,0	63,5	7	14	50,0	69,0	12,5	15,0	6700	1,7	RD..10T3
335.18-250.0810XL.50-18N-R4	02712943	Arbor hole	250,0	8,03	10,0	88,5	18	18	50,0	69,0	11,5	15,0	6000	2,3	RD..08..
335.18-250.1012XL.50-9N-R5	02712946	Arbor hole	250,0	10,03	12,0	88,5	9	18	50,0	69,0	12,5	15,0	6000	1,7	RD..10T3
335.18-315.0810XL.50-24N-R4	02712952	Arbor hole	315,0	8,03	10,0	121,0	24	24	50,0	69,0	11,5	15,0	5300	3,7	RD..08..
335.18-315.1012XL.50-12N-R5	02712954	Arbor hole	315,0	10,03	12,0	121,0	12	24	50,0	69,0	12,5	15,0	5300	4,6	RD..10T3
R335.18-080.0810.27-6N-R4	02611700	Arbor	82,0	8,03	10,0	15,8	6	6	27,0	48,0	50,0	–	10500	0,7	RD..08..
R335.18-080.1012.27-3N-R5	00030352	Arbor	82,0	10,03	12,0	15,8	3	6	27,0	48,0	50,0	–	10500	0,7	RD..10T3
R335.18-100.0810.27-8N-R4	02576017	Arbor	102,0	8,03	10,0	25,8	8	8	27,0	48,0	50,0	–	9400	0,8	RD..08..
R335.18-100.1012.27-4N-R5	00030355	Arbor	102,0	10,03	12,0	25,8	4	8	27,0	48,0	50,0	–	9400	1,0	RD..10T3
R335.18-125.0810.32-10N-R4	02576018	Arbor	127,0	8,03	10,0	32,3	10	10	32,0	58,0	50,0	–	8400	1,0	RD..08..
R335.18-125.1012.32-5N-R5	00030359	Arbor	127,0	10,03	12,0	33,3	5	10	32,0	58,0	50,0	–	8400	1,1	RD..10T3
R335.18-160.0810.40-12N-R4	02576020	Arbor	162,0	8,03	10,0	44,8	12	12	40,0	70,0	50,0	–	7500	1,6	RD..08..
R335.18-160.1012.40-6N-R5	00030362	Arbor	162,0	10,03	12,0	44,8	6	12	40,0	70,0	50,0	–	7500	1,7	RD..10T3
R335.18-200.0810XL.40-14N-R4	02713377	Arbor	200,0	8,03	10,0	53,5	14	14	40,0	90,0	50,0	–	6700	2,6	RD..08..
R335.18-200.1012XL.40-7N-R5	02713379	Arbor	200,0	10,03	12,0	53,5	7	14	40,0	90,0	50,0	–	6700	2,2	RD..10T3
R335.18-250.0810XL.40-18N-R4	02713384	Arbor	250,0	8,03	10,0	78,0	18	18	40,0	90,0	50,0	–	6000	3,5	RD..08..
R335.18-250.1012XL.40-9N-R5	02713386	Arbor	250,0	10,03	12,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,0	RD..10T3

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.18/335.18 – RP..1204 – Metric – full side – radius profile – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 539–541
- For complete insert programme, see page(s) 889
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.1215.27-4N-R6	00030370	Arbor hole	102,0	12,03	15,0	28,2	4	8	27,0	41,0	13,5	15,0	9400	0,8	RP..1204
335.18-125.1215.40-5N-R6	00030374	Arbor hole	127,0	12,03	15,0	33,7	5	10	40,0	55,0	13,5	15,0	8400	0,9	RP..1204
335.18-160.1215.40-6N-R6	00030377	Arbor hole	162,0	12,03	15,0	51,2	6	12	40,0	55,0	13,5	15,0	7500	1,5	RP..1204
335.18-200.1215XL.50-7N-R6	02712937	Arbor hole	200,0	12,03	15,0	63,5	7	14	50,0	69,0	13,5	15,0	6700	2,0	RP..1204
335.18-250.1215XL.50-9N-R6	02712947	Arbor hole	250,0	12,03	15,0	88,5	9	18	50,0	69,0	13,5	15,0	6000	3,4	RP..1204
335.18-315.1215XL.50-12N-R6	02712955	Arbor hole	315,0	12,03	15,0	121,0	12	24	50,0	69,0	13,5	15,0	5300	5,5	RP..1204
R335.18-080.1215.27-3N-R6	00030404	Arbor	82,0	12,03	15,0	15,8	3	6	27,0	48,0	50,0	–	10000	0,7	RP..1204
R335.18-100.1215.27-4N-R6	00030412	Arbor	102,0	12,03	15,0	25,8	4	8	27,0	48,0	50,0	–	9400	0,9	RP..1204
R335.18-125.1215.32-5N-R6	00030417	Arbor	127,0	12,03	15,0	33,3	5	10	32,0	58,0	50,0	–	8400	1,2	RP..1204
R335.18-160.1215.40-6N-R6	00030420	Arbor	162,0	12,03	15,0	44,8	6	12	40,0	70,0	50,0	–	7500	1,9	RP..1204
R335.18-200.1215XL.40-7N-R6	02713380	Arbor	200,0	12,03	15,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,2	RP..1204
R335.18-250.1215XL.40-9N-R6	02713387	Arbor	250,0	12,03	15,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,5	RP..1204

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

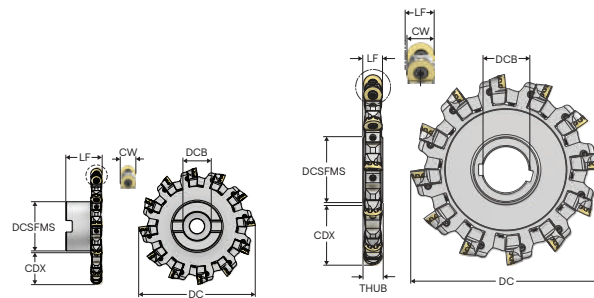
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18/335.18 – RD..08/RD..10/RP..12 – inch – full side – radius profile – Adjustable design



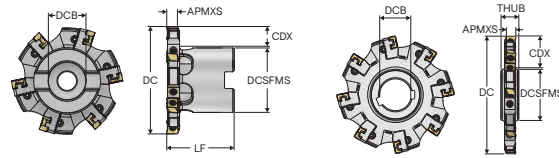
- For insert selection and cutting data recommendations, see page(s) 533–541
- For complete insert programme, see page(s) 886
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.18-04.00-0506N-R4	02834707	Arbor hole	4.079	0.316	0.394	1.142	4	8	1.000	1.551	0.470	0.625	9400	0.880	RD..08
335.18-05.00-0506N-R4	02834708	Arbor hole	5.079	0.316	0.394	1.299	5	10	1.500	2.252	0.470	0.625	8400	1.320	RD..08
335.18-05.00-0708N-R5	00079978	Arbor hole	5.079	0.395	0.472	1.295	5	10	1.500	2.252	0.509	0.625	8400	1.760	RD..10
335.18-05.00-0809N-R6	00080035	Arbor hole	5.079	0.474	0.591	1.339	5	10	1.500	2.252	0.549	0.625	8400	1.980	RP..12
335.18-06.00-0506N-R4	02834709	Arbor hole	6.079	0.316	0.394	1.772	6	12	1.500	2.252	0.470	0.625	7500	1.980	RD..08
335.18-06.00-0708N-R5	00079979	Arbor hole	6.079	0.395	0.472	1.811	6	12	1.500	2.252	0.509	0.625	7500	2.430	RD..10
335.18-06.00-0809N-R6	00080045	Arbor hole	6.079	0.474	0.591	1.829	6	12	1.500	2.252	0.549	0.625	7500	2.870	RP..12
335.18-08.00-XL0506N-R4	02740237	Arbor hole	8.000	0.316	0.394	2.421	14	14	2.000	3.000	0.470	0.625	6700	3.310	RD..08
335.18-08.00-XL0708N-R5	02740238	Arbor hole	8.000	0.395	0.472	2.421	7	14	2.000	3.000	0.509	0.625	6700	6.830	RD..10
335.18-08.00-XL0809N-R6	02740240	Arbor hole	8.000	0.474	0.591	2.421	7	14	2.000	3.000	0.549	0.625	6700	4.630	RP..12
335.18-10.00-XL0506N-R4	02740500	Arbor hole	10.000	0.316	0.394	3.386	9	18	2.000	3.000	0.470	0.625	6000	5.730	RD..08
335.18-10.00-XL0708N-R5	02740502	Arbor hole	10.000	0.395	0.472	3.386	9	18	2.000	3.000	0.509	0.625	6000	6.610	RD..10
335.18-10.00-XL0809N-R6	02740503	Arbor hole	10.000	0.474	0.591	3.386	9	18	2.000	3.000	0.549	0.625	6000	7.720	RP..12
335.18-12.00-XL0506N-R4	02740869	Arbor hole	12.000	0.316	0.394	4.390	11	22	2.000	3.000	0.470	0.625	5300	8.160	RD..08
335.18-12.00-XL0708N-R5	02740870	Arbor hole	12.000	0.395	0.472	4.390	11	22	2.000	3.000	0.509	0.625	5300	9.920	RD..10
335.18-12.00-XL0809N-R6	02740872	Arbor hole	12.000	0.474	0.591	4.390	11	22	2.000	3.000	0.549	0.625	5300	15.430	RP..12
R335.18-04.00-0506N-R4	02834713	Arbor	4.079	0.316	0.394	1.063	4	8	1.000	1.880	2.000	–	9400	1.760	RD..08
R335.18-04.00-0708N-R5	00079997	Arbor	4.079	0.395	0.472	1.063	4	8	1.000	1.880	2.000	–	9400	2.650	RD..10
R335.18-04.00-0809N-R6	00080158	Arbor	4.079	0.474	0.591	1.053	4	8	1.000	1.880	2.000	–	9400	2.650	RP..12
R335.18-05.00-0506N-R4	02834714	Arbor	5.079	0.316	0.394	1.378	5	10	1.250	2.250	2.000	–	8400	2.650	RD..08
R335.18-05.00-0708N-R5	00079998	Arbor	5.079	0.395	0.472	1.378	5	10	1.250	2.250	2.000	–	8400	3.090	RD..10
R335.18-05.00-0809N-R6	00080160	Arbor	5.079	0.474	0.591	1.368	5	10	1.250	2.250	2.000	–	8400	3.530	RP..12
R335.18-06.00-0506N-R4	02834715	Arbor	6.079	0.316	0.394	1.614	6	12	1.500	2.750	2.000	–	7500	3.310	RD..08
R335.18-06.00-0708N-R5	00079999	Arbor	6.079	0.395	0.472	1.614	6	12	1.500	2.750	2.000	–	7500	3.750	RD..10
R335.18-06.00-0809N-R6	00080181	Arbor	6.079	0.474	0.591	1.624	6	12	1.500	2.750	2.000	–	7500	5.070	RP..12
R335.18-08.00-XL0506N-R4	02740898	Arbor	8.000	0.316	0.394	2.224	7	14	1.500	3.500	2.000	–	6700	6.170	RD..08
R335.18-08.00-XL0708N-R5	02740899	Arbor	8.000	0.395	0.472	2.224	7	14	1.500	3.500	2.000	–	6700	7.050	RD..10
R335.18-08.00-XL0809N-R6	02740900	Arbor	8.000	0.474	0.591	2.224	7	14	1.500	3.500	2.000	–	6700	7.500	RP..12
R335.18-10.00-XL0506N-R4	02741547	Arbor	10.000	0.316	0.394	3.209	9	18	1.500	3.500	2.000	–	6000	17.640	RD..08
R335.18-10.00-XL0708N-R5	02741551	Arbor	10.000	0.395	0.472	3.209	9	18	1.500	3.500	2.000	–	6000	18.740	RD..10
R335.18-10.00-XL0809N-R6	02741552	Arbor	10.000	0.474	0.591	3.209	9	18	1.500	3.500	2.000	–	6000	2.200	RP..12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.18/335.18 – LNK.05/06 – Metric – Half side – Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.0810.27-8R	02575757	Arbor hole	100,0	5,0	27,2	8	27,0	41,0	11,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-8R	00018409	Arbor hole	100,0	6,0	27,2	8	27,0	41,0	12,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-10R	02575758	Arbor hole	125,0	5,0	32,7	10	40,0	55,0	11,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-10R	00018421	Arbor hole	125,0	6,0	32,7	10	40,0	55,0	12,5	15,0	8400	0,7	LNK.06..
335.18-160.0810.40-12R	02575759	Arbor hole	160,0	5,0	50,2	12	40,0	55,0	11,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-12R	00018431	Arbor hole	160,0	6,0	50,2	12	40,0	55,0	12,5	15,0	7500	1,5	LNK.06..
335.18-200.0810XL.50-14R	02713151	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	11,5	15,0	6700	1,7	LNK.05..
335.18-200.1012XL.50-14R	02713154	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	12,5	15,0	6700	1,7	LNK.06..
335.18-250.0810XL.50-18R	02713163	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	11,5	15,0	6000	2,3	LNK.05..
335.18-250.1012XL.50-18R	02713165	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	12,5	15,0	6000	2,8	LNK.06..
335.18-315.0810XL.50-24R	02713172	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	11,5	15,0	5300	1,9	LNK.05..
335.18-315.1012XL.50-24R	02713177	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	12,5	15,0	5300	1,9	LNK.06..
R335.18-080.0810.27-6R	02611697	Arbor	80,0	5,0	14,8	6	27,0	48,0	50,0	–	10500	0,7	LNK.05..
R335.18-080.1012.27-6R	00018584	Arbor	80,0	6,0	14,8	6	27,0	48,0	50,0	–	10500	0,8	LNK.06..
R335.18-100.0810.27-8R	02576023	Arbor	100,0	5,0	24,8	8	27,0	48,0	50,0	–	9400	0,8	LNK.05..
R335.18-100.1012.27-8R	00018603	Arbor	100,0	6,0	24,8	8	27,0	48,0	50,0	–	9400	1,2	LNK.06..
R335.18-125.0810.32-10R	02576025	Arbor	125,0	5,0	32,3	10	32,0	58,0	50,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-10R	00018618	Arbor	125,0	6,0	32,3	10	32,0	58,0	50,0	–	8400	1,0	LNK.06..
R335.18-160.0810.40-12R	02576026	Arbor	160,0	5,0	43,8	12	40,0	70,0	50,0	–	7500	1,5	LNK.05..
R335.18-160.1012.40-12R	00018674	Arbor	160,0	6,0	43,8	12	40,0	70,0	50,0	–	7500	1,9	LNK.06..
R335.18-200.0810XL.40-14R	02713422	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	–	6700	2,6	LNK.05..
R335.18-200.1012XL.40-14R	02713423	Arbor	200,0	6,0	53,5	14	40,0	90,0	50,0	–	6700	2,9	LNK.06..
R335.18-250.0810XL.40-18R	02713432	Arbor	250,0	5,0	78,0	18	40,0	90,0	50,0	–	6000	3,1	LNK.05..
R335.18-250.1012XL.40-18R	02713435	Arbor	250,0	6,0	78,0	18	40,0	90,0	50,0	–	6000	4,0	LNK.06..

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

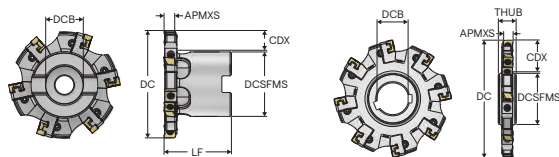
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

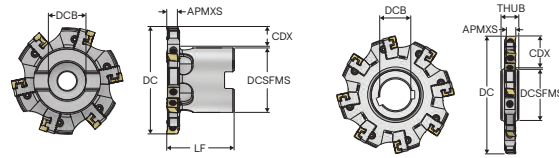
R335.18/335.18 – LNK.08 – Metric – Half side – Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513–514
 —For complete insert programme, see page(s) 877–878
 —For spare parts and technical information, see page 506–512
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1215.27-8R	00018515	Arbor hole	100,0	7,5	27,2	8	27,0	41,0	13,5	15,0	9400	0,5	LNK.08..
335.18-125.1215.40-10R	00018540	Arbor hole	125,0	7,5	32,7	10	40,0	55,0	13,5	15,0	8400	0,9	LNK.08..
335.18-160.1215.40-12R	00018546	Arbor hole	160,0	7,5	50,2	12	40,0	55,0	13,5	15,0	7500	1,5	LNK.08..
335.18-200.1215XL.50-14R	02713155	Arbor hole	200,0	7,5	63,5	14	50,0	69,0	13,5	15,0	6700	1,7	LNK.08..
335.18-250.1215XL.50-18R	02713166	Arbor hole	250,0	7,5	88,5	18	50,0	69,0	13,5	15,0	6000	2,5	LNK.08..
335.18-315.1215XL.50-24R	02713178	Arbor hole	315,0	7,5	121,0	24	50,0	69,0	13,5	15,0	5300	2,2	LNK.08..
R335.18-080.1215.27-6R	00018723	Arbor	80,0	7,5	14,8	6	27,0	48,0	50,0	–	10500	1,1	LNK.08..
R335.18-100.1215.27-8R	00018754	Arbor	100,0	7,5	24,8	8	27,0	48,0	50,0	–	9400	0,9	LNK.08..
R335.18-125.1215.32-10R	00018766	Arbor	125,0	7,5	32,3	10	32,0	58,0	50,0	–	8400	1,2	LNK.08..
R335.18-160.1215.40-12R	00018784	Arbor	160,0	7,5	43,8	12	40,0	70,0	50,0	–	7500	2,7	LNK.08..
R335.18-200.1215XL.40-14R	02713424	Arbor	200,0	7,5	53,5	14	40,0	90,0	50,0	–	6700	3,6	LNK.08..
R335.18-250.1215XL.40-18R	02713437	Arbor	250,0	7,5	78,0	18	40,0	90,0	50,0	–	6000	4,5	LNK.08..

R335.18/335.18 - LNK.05/06 - inch - Half side - Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	DCB inch	DCSFMS inch	LF inch	THUB inch	RPMX	Weight lbs	Insert
335.18-04.00-0506R	02834787	Arbor hole	4.000	0.197	1.102	8	1.000	1.550	0.469	0.625	9400	0.880	LNK.05
335.18-05.00-0506R	02834788	Arbor hole	5.000	0.197	1.299	10	1.500	2.252	0.469	0.625	8400	1.320	LNK.05
335.18-05.00-0708R	00079766	Arbor hole	5.000	0.236	1.258	10	1.500	2.252	0.508	0.625	8400	1.760	LNK.06
335.18-06.00-0506R	02834789	Arbor hole	6.000	0.197	1.772	12	1.500	2.252	0.469	0.625	7500	1.980	LNK.05
335.18-06.00-0708R	00079767	Arbor hole	6.000	0.236	1.766	12	1.500	2.252	0.508	0.625	7500	2.430	LNK.06
335.18-08.00-XL0506R	02740241	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.469	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708R	02740242	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.508	0.625	6700	4.190	LNK.06
335.18-10.00-XL0506R	02740505	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.469	0.625	6000	5.510	LNK.05
335.18-10.00-XL0708R	02740506	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.508	0.625	6000	6.610	LNK.06
335.18-12.00-XL0506R	02740874	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.469	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708R	02740875	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.508	0.625	5300	9.920	LNK.06
R335.18-04.00-0506R	02834790	Arbor	4.000	0.197	1.024	8	1.000	1.880	2.000	–	9400	1.760	LNK.05
R335.18-04.00-0708R	00079792	Arbor	4.000	0.236	1.014	8	1.000	1.880	2.000	–	9400	2.200	LNK.06
R335.18-05.00-0506R	02834791	Arbor	5.000	0.197	1.339	10	1.250	2.250	2.000	–	8400	2.650	LNK.05
R335.18-05.00-0708R	00079832	Arbor	5.000	0.236	1.329	10	1.250	2.250	2.000	–	8400	3.090	LNK.06
R335.18-06.00-0506R	02834792	Arbor	6.000	0.197	1.575	12	1.500	2.750	2.000	–	7500	3.310	LNK.05
R335.18-06.00-0708R	00079833	Arbor	6.000	0.236	1.534	12	1.500	2.750	2.000	–	7500	3.750	LNK.06
R335.18-08.00-XL0506R	02740901	Arbor	8.000	0.197	2.224	14	1.500	3.500	2.000	–	6700	6.170	LNK.05
R335.18-08.00-XL0708R	02740902	Arbor	8.000	0.236	2.224	14	1.500	3.500	2.000	–	6700	7.050	LNK.06
R335.18-10.00-XL0506R	02741554	Arbor	10.000	0.197	3.209	18	1.500	3.500	2.000	–	6000	8.380	LNK.05
R335.18-10.00-XL0708R	02741556	Arbor	10.000	0.236	3.209	18	1.500	3.500	2.000	–	6000	9.480	LNK.06

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

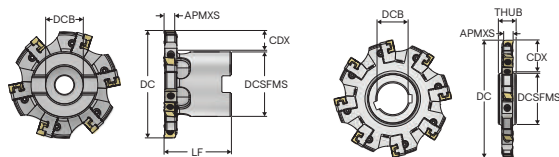
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

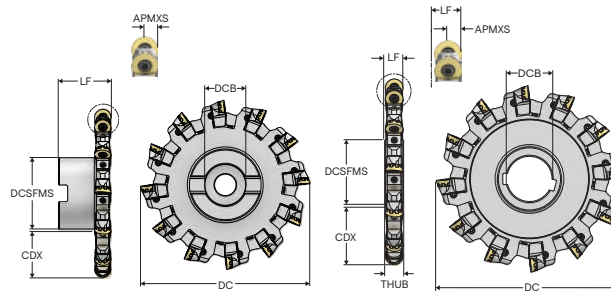
R335.18/335.18 – LNK.08 – inch – Half side – Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513–514
 —For complete insert programme, see page(s) 877–878
 —For spare parts and technical information, see page 506–512
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809R	00079951	Arbor hole	5.000	0.295	1.285	10	1.500	2.252	0.547	0.625	8400	2.650	LNK.08
335.18-06.00-0809R	00079952	Arbor hole	6.000	0.295	1.790	12	1.500	2.252	0.547	0.625	7500	2.870	LNK.08
335.18-08.00-XL0809R	02740244	Arbor hole	8.000	0.295	2.421	14	2.000	3.000	0.547	0.625	6700	5.070	LNK.08
335.18-10.00-XL0809R	02740507	Arbor hole	10.000	0.295	3.386	18	2.000	3.000	0.547	0.625	6000	8.160	LNK.08
335.18-12.00-XL0809R	02740876	Arbor hole	12.000	0.295	4.390	22	2.000	3.000	0.547	0.625	5300	12.130	LNK.08
R335.18-04.00-0809R	00079968	Arbor	4.000	0.295	1.014	8	1.000	1.880	2.000	–	9400	2.430	LNK.08
R335.18-05.00-0809R	00079969	Arbor	5.000	0.295	1.329	10	1.250	2.250	2.000	–	8400	3.530	LNK.08
R335.18-06.00-0809R	00079970	Arbor	6.000	0.295	1.585	12	1.500	2.750	2.000	–	7500	4.190	LNK.08
R335.18-08.00-XL0809R	02740903	Arbor	8.000	0.295	2.224	14	1.500	3.500	2.000	–	6700	8.380	LNK.08
R335.18-10.00-XL0809R	02741557	Arbor	10.000	0.295	3.209	18	1.500	3.500	2.000	–	6000	11.020	LNK.08

R335.18/335.18 – RD..10T3/ RP..1204 – Metric –Half side – Right hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 536–541
- For complete insert programme, see page(s) 886, 889
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm	mm		kg	
335.18-100.1012.27-8R-R5	00030329	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	12,5	15,0	9400	0,4	RD..10T3
335.18-100.1215.27-8R-R6	00030372	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	13,5	15,0	9400	0,5	RP..1204
335.18-125.1012.40-10R-R5	00030341	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	12,5	15,0	8400	1,0	RD..10T3
335.18-125.1215.40-10R-R6	00030375	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	13,5	15,0	8400	0,9	RP..1204
335.18-160.1012.40-12R-R5	00030344	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	12,5	15,0	7500	1,2	RD..10T3
335.18-160.1215.40-12R-R6	00030378	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	13,5	15,0	7500	1,5	RP..1204
335.18-200.1012XL.50-14R-R5	02713159	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	12,5	15,0	6700	1,7	RD..10T3
335.18-200.1215XL.50-14R-R6	02713162	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	13,5	15,0	6700	3,8	RP..1204
335.18-250.1012XL.50-18R-R5	02713169	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	12,5	15,0	6000	3,8	RD..10T3
335.18-250.1215XL.50-18R-R6	02713170	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	13,5	15,0	6000	4,7	RP..1204
335.18-315.1012XL.50-24R-R5	02713180	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	12,5	15,0	5300	4,6	RD..10T3
335.18-315.1215XL.50-24R-R6	02713182	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	13,5	15,0	5300	7,0	RP..1204
R335.18-080.1012.27-6R-R5	00030353	Arbor	82,0	5,0	15,8	6	27,0	48,0	50,0	–	10500	0,8	RD..10T3
R335.18-080.1215.27-6R-R6	00030407	Arbor	82,0	6,0	14,8	6	27,0	48,0	50,0	–	10500	0,7	RP..1204
R335.18-100.1012.27-8R-R5	00030357	Arbor	102,0	5,0	25,8	8	27,0	48,0	50,0	–	9400	1,2	RD..10T3
R335.18-100.1215.27-8R-R6	00030414	Arbor	102,0	6,0	25,8	8	27,0	48,0	50,0	–	9400	1,1	RP..1204
R335.18-125.1012.32-10R-R5	00030360	Arbor	127,0	5,0	33,3	10	32,0	58,0	50,0	–	8400	1,2	RD..10T3
R335.18-125.1215.32-10R-R6	00030418	Arbor	127,0	6,0	33,3	10	32,0	58,0	50,0	–	8400	1,4	RP..1204
R335.18-160.1012.40-12R-R5	00030364	Arbor	162,0	5,0	44,8	12	40,0	70,0	50,0	–	7500	0,1	RD..10T3
R335.18-160.1215.40-12R-R6	00030421	Arbor	162,0	6,0	44,8	12	40,0	70,0	50,0	–	7500	1,9	RP..1204
R335.18-200.1012XL.40-14R-R5	02713429	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	–	6700	3,4	RD..10T3
R335.18-200.1215XL.40-14R-R6	02713431	Arbor	200,0	6,0	53,5	14	40,0	90,0	50,0	–	6700	4,3	RP..1204
R335.18-250.1012XL.40-18R-R5	02713438	Arbor	250,0	5,0	78,0	18	40,0	90,0	50,0	–	6000	4,0	RD..10T3
R335.18-250.1215XL.40-18R-R6	02713441	Arbor	250,0	6,0	78,0	18	40,0	90,0	50,0	–	6000	4,5	RP..1204

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

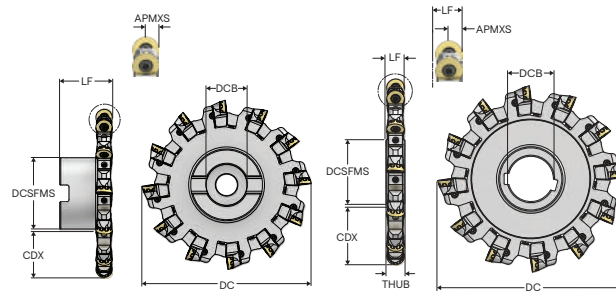
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

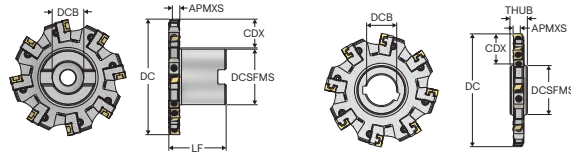
R335.18/335.18 – RD..10T3/RP..1204 – inch- Half side – Right hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 536–541
- For complete insert programme, see page(s) 886, 889
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809R-R6	02599495	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.548	0.625	8400	1.980	RP..12
335.18-06.00-0809R-R6	02599496	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.548	0.625	7500	2.870	RP..12
335.18-08.00-XL0708R-R5	02740245	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.509	0.625	6700	4.190	RD..10
335.18-08.00-XL0809R-R6	02740246	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.548	0.625	6700	5.070	RP..12
335.18-10.00-XL0708R-R5	02740508	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.509	0.625	6000	6.610	RD..10
335.18-10.00-XL0809R-R6	02740527	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.548	0.625	6000	8.160	RP..12
335.18-12.00-XL0708R-R5	02740883	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.509	0.625	5300	9.920	RD..10
335.18-12.00-XL0809R-R6	02740884	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.548	0.625	5300	12.130	RP..12
R335.18-04.00-0809R-R6	02599486	Arbor	4.079	0.236	1.053	8	1.000	1.880	2.000	–	9400	2.650	RP..12
R335.18-05.00-0809R-R6	02599487	Arbor	5.079	0.236	1.368	10	1.250	2.250	2.000	–	8400	3.530	RP..12
R335.18-06.00-0809R-R6	02599488	Arbor	6.079	0.236	1.624	12	1.500	2.750	2.000	–	7500	4.190	RP..12
R335.18-08.00-XL0708R-R5	02740905	Arbor	8.000	0.197	2.264	14	1.500	3.500	2.000	–	6700	7.050	RD..10
R335.18-08.00-XL0809R-R6	02740906	Arbor	8.000	0.236	2.264	14	1.500	3.500	2.000	–	6700	8.160	RP..12
R335.18-10.00-XL0708R-R5	02741559	Arbor	10.000	0.197	3.248	18	1.500	3.500	2.000	–	6000	9.480	RD..10
R335.18-10.00-XL0809R-R6	02741561	Arbor	10.000	0.236	3.248	18	1.500	3.500	2.000	–	6000	11.020	RP..12

R335.18/335.18 – LNK.05/06 – Metric – Half side – Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.0810.27-8L	02575778	Arbor hole	100,0	5,0	27,2	8	27,0	41,0	3,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-8L	00018412	Arbor hole	100,0	6,0	27,2	8	27,0	41,0	2,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-10L	02575787	Arbor hole	125,0	5,0	32,7	10	40,0	55,0	3,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-10L	00018426	Arbor hole	125,0	6,0	32,7	10	40,0	55,0	2,5	15,0	8400	0,8	LNK.06..
335.18-160.0810.40-12L	02575796	Arbor hole	160,0	5,0	50,2	12	40,0	55,0	3,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-12L	00018439	Arbor hole	160,0	6,0	50,2	12	40,0	55,0	2,5	15,0	7500	1,5	LNK.06..
335.18-200.0810XL.50-14L	02713344	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	3,5	15,0	6700	1,7	LNK.05..
335.18-200.1012XL.50-14L	02713348	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	2,5	15,0	6700	1,7	LNK.06..
335.18-250.0810XL.50-18L	02713355	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	3,5	15,0	6000	1,7	LNK.05..
335.18-250.1012XL.50-18L	02713356	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	2,5	15,0	6000	1,9	LNK.06..
335.18-315.0810XL.50-24L	02713361	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	3,5	15,0	5300	1,9	LNK.05..
335.18-315.1012XL.50-24L	02713363	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	2,5	15,0	5300	4,5	LNK.06..
R335.18-080.0810.27-6L	02611696	Arbor	80,0	5,0	14,8	6	27,0	48,0	42,0	–	10500	0,7	LNK.05..
R335.18-080.1012.27-6L	00018592	Arbor	80,0	6,0	14,8	6	27,0	48,0	40,0	–	10500	1,0	LNK.06..
R335.18-100.0810.27-8L	02576028	Arbor	100,0	5,0	24,8	8	27,0	48,0	42,0	–	9400	0,8	LNK.05..
R335.18-100.1012.27-8L	00018612	Arbor	100,0	6,0	24,8	8	27,0	48,0	40,0	–	9400	0,9	LNK.06..
R335.18-125.0810.32-10L	02576029	Arbor	125,0	5,0	32,3	10	32,0	58,0	42,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-10L	00018624	Arbor	125,0	6,0	32,3	10	32,0	58,0	40,0	–	8400	0,9	LNK.06..
R335.18-160.0810.40-12L	02576030	Arbor	160,0	5,0	43,8	12	40,0	70,0	42,0	–	7500	1,6	LNK.05..
R335.18-160.1012.40-12L	00018687	Arbor	160,0	6,0	43,8	12	40,0	70,0	40,0	–	7500	1,3	LNK.06..
R335.18-200.0810XL.40-14L	02713444	Arbor	200,0	5,0	53,5	14	40,0	90,0	42,0	–	6700	2,8	LNK.05..
R335.18-200.1012XL.40-14L	02713459	Arbor	200,0	6,0	53,5	14	40,0	90,0	40,0	–	6700	2,9	LNK.06..
R335.18-250.0810XL.40-18L	02713466	Arbor	250,0	5,0	78,0	18	40,0	90,0	42,0	–	6000	3,5	LNK.05..
R335.18-250.1012XL.40-18L	02713467	Arbor	250,0	6,0	78,0	18	40,0	90,0	40,0	–	6000	3,9	LNK.06..

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

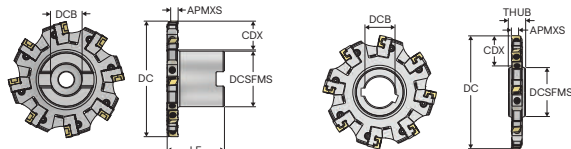
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

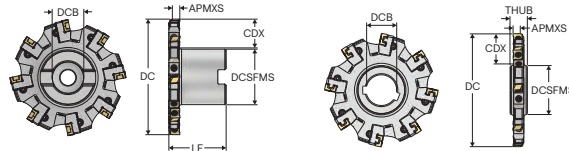
R335.18/335.18 – LNK.08 – Metric – Half side – Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1215.27-8L	00018530	Arbor hole	100,0	7,5	27,2	8	27,0	41,0	1,5	15,0	9400	0,6	LNK.08..
335.18-125.1215.40-10L	00018542	Arbor hole	125,0	7,5	32,7	10	40,0	55,0	1,5	15,0	8400	0,9	LNK.08..
335.18-160.1215.40-12L	00018548	Arbor hole	160,0	7,5	50,2	12	40,0	55,0	1,5	15,0	7500	1,4	LNK.08..
335.18-200.1215XL.50-14L	02713349	Arbor hole	200,0	7,5	63,5	14	50,0	69,0	1,5	15,0	6700	2,0	LNK.08..
335.18-250.1215XL.50-18L	02713357	Arbor hole	250,0	7,5	88,5	18	50,0	69,0	1,5	15,0	6000	3,2	LNK.08..
335.18-315.1215XL.50-24L	02713364	Arbor hole	315,0	7,5	121,0	24	50,0	69,0	1,5	15,0	5300	5,6	LNK.08..
R335.18-080.1215.27-6L	00018729	Arbor	80,0	7,5	14,8	6	27,0	48,0	38,0	–	10500	0,8	LNK.08..
R335.18-100.1215.27-8L	00018756	Arbor	100,0	7,5	24,8	8	27,0	48,0	38,0	–	9400	1,1	LNK.08..
R335.18-125.1215.32-10L	00018777	Arbor	125,0	7,5	33,3	10	32,0	58,0	38,0	–	8400	1,0	LNK.08..
R335.18-160.1215.40-12L	00018788	Arbor	160,0	7,5	43,8	12	40,0	70,0	38,0	–	7500	2,1	LNK.08..
R335.18-200.1215XL.40-14L	02713461	Arbor	200,0	7,5	53,5	14	40,0	90,0	38,0	–	6700	3,5	LNK.08..
R335.18-250.1215XL.40-18L	02713470	Arbor	250,0	7,5	78,0	18	40,0	90,0	38,0	–	6000	4,5	LNK.08..

R335.18/335.18 – LNK.05/06 – inch – Half side – Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-04.00-0506L	02834738	Arbor hole	4.000	0.197	1.102	8	1.000	1.550	0.154	0.625	9400	0.880	LNK.05
335.18-05.00-0506L	02834739	Arbor hole	5.000	0.197	1.299	10	1.500	2.252	0.154	0.625	8400	1.320	LNK.05
335.18-05.00-0708L	00079776	Arbor hole	5.000	0.236	1.258	10	1.500	2.252	0.117	0.625	8400	1.760	LNK.06
335.18-06.00-0506L	02834740	Arbor hole	6.000	0.197	1.772	12	1.500	2.252	0.154	0.625	7500	1.980	LNK.05
335.18-06.00-0708L	00079777	Arbor hole	6.000	0.236	1.766	12	1.500	2.252	0.117	0.625	7500	2.430	LNK.06
335.18-08.00-XL0506L	02740247	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.154	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708L	02740248	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.117	0.625	6700	4.190	LNK.06
335.18-10.00-XL0506L	02740528	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.154	0.625	6000	5.510	LNK.05
335.18-10.00-XL0708L	02740530	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.117	0.625	6000	6.610	LNK.06
335.18-12.00-XL0506L	02740885	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.154	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708L	02740887	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.117	0.625	5300	9.920	LNK.06
R335.18-04.00-0506L	02834741	Arbor	4.000	0.236	1.024	8	1.000	1.880	1.685	–	9400	1.760	LNK.05
R335.18-04.00-0708L	00079837	Arbor	4.000	0.236	1.014	8	1.000	1.880	1.606	–	9400	2.200	LNK.06
R335.18-05.00-0506L	02834742	Arbor	5.000	0.197	1.339	10	1.250	2.250	1.685	–	8400	2.650	LNK.05
R335.18-05.00-0708L	00079838	Arbor	5.000	0.236	1.329	10	1.250	2.250	1.606	–	8400	3.090	LNK.06
R335.18-06.00-0506L	02834743	Arbor	6.000	0.197	1.575	12	1.500	2.750	1.685	–	7500	3.310	LNK.05
R335.18-06.00-0708L	00079839	Arbor	6.000	0.236	1.534	12	1.500	2.750	1.606	–	7500	3.750	LNK.06
R335.18-08.00-XL0506L	02740907	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.685	–	6700	6.170	LNK.05
R335.18-08.00-XL0708L	02740908	Arbor	8.000	0.236	2.224	14	1.500	3.500	1.606	–	6700	7.050	LNK.06
R335.18-10.00-XL0506L	02741562	Arbor	10.000	0.197	3.209	18	1.500	3.500	1.685	–	6000	8.380	LNK.05
R335.18-10.00-XL0708L	02741564	Arbor	10.000	0.236	3.209	18	1.500	3.500	1.606	–	6000	9.480	LNK.06

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

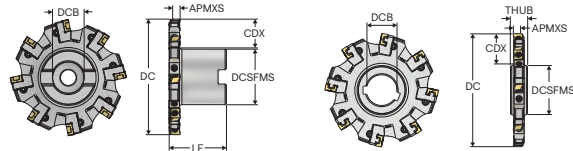
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

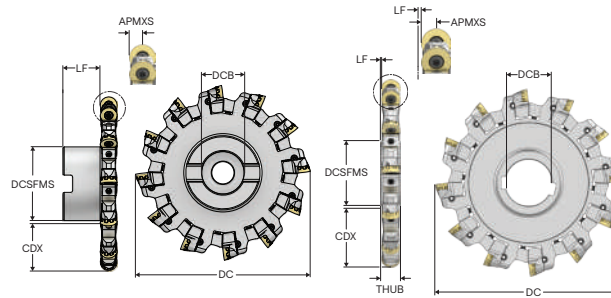
R335.18/335.18 – LNK.08 – inch – Half side – Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513–514
 —For complete insert programme, see page(s) 878
 —For spare parts and technical information, see page 506–512
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809L	00079957	Arbor hole	5.000	0.295	1.285	10	1.500	2.252	0.077	0.625	8400	1.760	LNK.08
335.18-06.00-0809L	00079958	Arbor hole	6.000	0.295	1.790	12	1.500	2.252	0.077	0.625	7500	2.870	LNK.08
335.18-08.00-XL0809L	02740249	Arbor hole	8.000	0.295	2.421	14	2.000	3.000	0.077	0.625	6700	5.070	LNK.08
335.18-10.00-XL0809L	02740531	Arbor hole	10.000	0.295	3.386	18	2.000	3.000	0.077	0.625	6000	8.160	LNK.08
335.18-12.00-XL0809L	02740888	Arbor hole	12.000	0.295	4.390	22	2.000	3.000	0.077	0.625	5300	12.130	LNK.08
R335.18-04.00-0809L	00079973	Arbor	4.000	0.295	1.014	8	1.000	1.880	1.528	–	9400	2.430	LNK.08
R335.18-05.00-0809L	00079974	Arbor	5.000	0.295	1.329	10	1.250	2.250	1.528	–	8400	3.530	LNK.08
R335.18-06.00-0809L	00079975	Arbor	6.000	0.295	1.585	12	1.500	2.750	1.528	–	7500	4.190	LNK.08
R335.18-08.00-XL0809L	02740909	Arbor	8.000	0.295	2.224	14	1.500	3.500	1.528	–	6700	6.610	LNK.08
R335.18-10.00-XL0809L	02741566	Arbor	10.000	0.295	3.209	18	1.500	3.500	1.528	–	6000	11.020	LNK.08

R335.18/335.18 – RD..10T3/RP..1204 – Metric – Half side – Left hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 536–541
- For complete insert programme, see page(s) 886, 889
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1012.27-8L-R5	00030339	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	2,5	15,0	9400	0,4	RD..10T3
335.18-100.1215.27-8L-R6	00030373	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	1,5	15,0	9400	0,6	RP..1204
335.18-125.1012.40-10L-R5	00030342	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	2,5	15,0	8400	0,8	RD..10T3
335.18-125.1215.40-10L-R6	00030376	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	1,5	15,0	8400	1,1	RP..1204
335.18-160.1012.40-12L-R5	00030345	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	2,5	15,0	7500	11,0	RD..10T3
335.18-160.1215.40-12L-R6	00030380	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	1,5	15,0	7500	1,7	RP..1204
335.18-200.1012XL.50-14L-R5	02713352	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	2,5	15,0	6700	3,0	RD..10T3
335.18-200.1215XL.50-14L-R6	02713354	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	1,5	15,0	6700	1,9	RP..1204
335.18-250.1012XL.50-18L-R5	02713359	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	2,5	15,0	6000	1,9	RD..10T3
335.18-250.1215XL.50-18L-R6	02713360	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	1,5	15,0	6000	2,0	RP..1204
335.18-315.1012XL.50-24L-R5	02713367	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	2,5	15,0	5300	4,6	RD..10T3
335.18-315.1215XL.50-24L-R6	02713368	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	1,5	15,0	5300	2,2	RP..1204
R335.18-080.1012.27-6L-R5	00030354	Arbor	82,0	5,0	15,8	6	27,0	48,0	40,0	–	10500	0,8	RD..10T3
R335.18-080.1215.27-6L-R6	00030408	Arbor	82,0	6,0	15,8	6	27,0	48,0	38,0	–	10500	0,8	RP..1204
R335.18-100.1012.27-8L-R5	00030358	Arbor	102,0	5,0	25,8	8	27,0	48,0	40,0	–	9400	1,0	RD..10T3
R335.18-100.1215.27-8L-R6	00030416	Arbor	102,0	6,0	25,8	8	27,0	48,0	38,0	–	9400	1,2	RP..1204
R335.18-125.1012.32-10L-R5	00030361	Arbor	127,0	5,0	33,3	10	32,0	58,0	42,0	–	8400	1,2	RD..10T3
R335.18-125.1215.32-10L-R6	00030419	Arbor	127,0	6,0	32,3	10	32,0	58,0	38,0	–	8400	1,1	RP..1204
R335.18-160.1012.40-12L-R5	00030366	Arbor	162,0	5,0	44,8	12	40,0	70,0	40,0	–	7500	2,3	RD..10T3
R335.18-160.1215.40-12L-R6	00030422	Arbor	162,0	6,0	44,8	12	40,0	70,0	38,0	–	7500	2,0	RP..1204
R335.18-200.1012XL.40-14L-R5	02713464	Arbor	200,0	5,0	53,5	14	40,0	90,0	40,0	–	6700	2,9	RD..10T3
R335.18-200.1215XL.40-14L-R6	02713465	Arbor	200,0	6,0	53,5	14	40,0	90,0	38,0	–	6700	3,4	RP..1204
R335.18-250.1012XL.40-18L-R5	02713476	Arbor	250,0	5,0	78,0	18	40,0	90,0	40,0	–	6000	9,5	RD..10T3
R335.18-250.1215XL.40-18L-R6	02713478	Arbor	250,0	6,0	78,0	18	40,0	90,0	38,0	–	6000	4,4	RP..1204

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

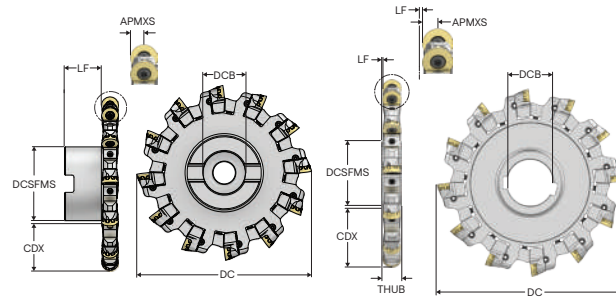
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.18/335.18 – RD..10T3/RP..1204 – inch – Half side – Left hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 536–541
- For complete insert programme, see page(s) 886, 889
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809L-R6	02599499	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.078	0.625	8400	1.980	RP..12
335.18-06.00-0809L-R6	02599500	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.078	0.625	7500	2.870	RP..12
335.18-08.00-XL0708L-R5	02740251	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.115	0.625	6700	4.190	RD..10
335.18-08.00-XL0809L-R6	02740252	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.078	0.625	6700	5.070	RP..12
335.18-10.00-XL0708L-R5	02740532	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.115	0.625	6000	6.610	RD..10
335.18-10.00-XL0809L-R6	02740534	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.078	0.625	6000	8.160	RP..12
335.18-12.00-XL0708L-R5	02740889	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.115	0.625	5300	9.920	RD..10
335.18-12.00-XL0809L-R6	02740891	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.078	0.625	5300	12.130	RP..12
R335.18-04.00-0809L-R6	02599491	Arbor	4.079	0.236	1.063	4	1.000	1.880	1.528	–	9400	2.430	RP..12
R335.18-05.00-0809L-R6	02599492	Arbor	5.079	0.236	1.368	10	1.250	2.250	1.528	–	8400	3.530	RP..12
R335.18-06.00-0809L-R6	02599493	Arbor	6.079	0.236	1.624	12	1.500	2.750	1.528	–	7500	4.190	RP..12
R335.18-08.00-XL0708L-R5	02740910	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.606	–	6700	7.050	RD..10
R335.18-08.00-XL0809L-R6	02740911	Arbor	8.000	0.236	2.224	14	1.500	3.500	1.528	–	6700	7.720	RP..12
R335.18-10.00-XL0708L-R5	02741572	Arbor	10.000	0.197	3.248	18	1.500	3.500	1.606	–	6000	9.480	RD..10
R335.18-10.00-XL0809L-R6	02741574	Arbor	10.000	0.236	3.248	18	1.500	3.500	1.528	–	6000	10.360	RP..12



335.25

Easy to use, strong and free-cutting disc milling cutter system dedicated for large width of cut slotting, or half side and face cutting operations

- Width of cut 13.5–32 mm (.512 - 1.25 inch) - slot with flat bottom
- Cutter range diameter 80–315 mm (4.0 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Arbor or Arbor hole connection , with through coolant option up to diameter 160mm
- Corner radii range 0.4–6 mm (.016 - 0.236 inch), and possibility to apply round insert dia 16/20 mm on adjustable system
- Economical solution with 4 cutting edges per insert
- Basic tolerance of the slot: Fixed pocket cutters: $\pm 0.08\text{mm}$ ($\pm 0.003''$), Adjustable cutter: $\pm 0.07\text{mm}$ ($\pm 0.0025''$)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

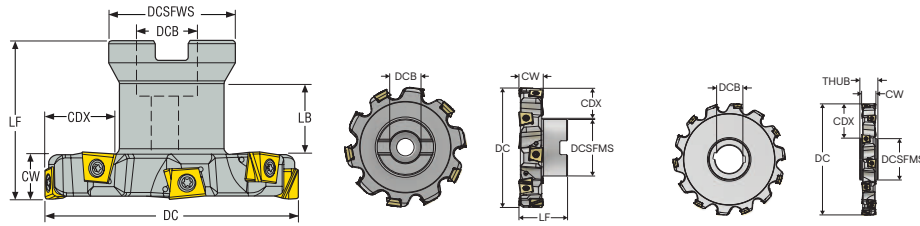
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – XNHQ/LNHQ09/12/14 – Metric – Full side and face – Fixed pocket

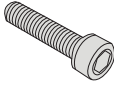
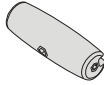
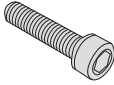


—For insert selection and cutting data recommendations, see page(s) 515–522
 —For complete insert programme, see page(s) 913
 —For spare parts and technical information, see page 506–512
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	CSP	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm	mm			kg		
335.25-160.15.40-7N	02989544	Arbor hole	160,0	15,0	52,0	7	14	40,0	55,0	15,0	15,0	–	–	7200	1,7	XNHQ09...	–
335.25-160.20.40-6N	02961517	Arbor hole	160,0	20,0	51,5	6	12	40,0	55,0	20,0	20,0	–	–	5600	2,3	XNHQ12...	–
335.25-200.15.50-8N	02989545	Arbor hole	200,0	15,0	64,5	8	16	50,0	69,0	15,0	15,0	–	–	6500	2,6	XNHQ09...	–
335.25-200.20.50-7N	02961518	Arbor hole	200,0	20,0	64,3	7	14	50,0	69,0	20,0	20,0	–	–	5100	3,5	XNHQ12...	–
335.25-200.25.50-7N	02788028	Arbor hole	200,0	25,0	62,7	7	14	50,0	71,0	25,0	32,0	–	–	3900	4,3	XNHQ1407... LNHQ1407...	–
335.25-250.20.50-9N	02961519	Arbor hole	250,0	20,0	88,5	9	18	50,0	71,0	20,0	20,0	–	–	4600	5,8	XNHQ12...	–
335.25-250.25.50-9N	02788029	Arbor hole	250,0	25,0	87,7	9	18	50,0	71,0	25,0	32,0	–	–	3500	7,3	XNHQ1407... LNHQ1407...	–
R335.25-080.15.22-4NA	02989533	Arbor	80,0	15,0	22,7	4	8	22,0	40,0	50,0	–	21,4	■	10200	0,7	XNHQ09...	–
R335.25-100.15.27-5NA	02989535	Arbor	100,0	15,0	25,3	5	10	27,0	48,0	50,0	–	–	■	9200	1,1	XNHQ09...	–
R335.25-100.20.27-4NA	02953594	Arbor	100,0	20,0	25,3	4	8	27,0	48,0	50,0	–	–	■	7200	1,3	XNHQ12...	–
R335.25-125.15.32-6NA	02989541	Arbor	125,0	15,0	32,8	6	12	32,0	58,0	50,0	–	–	■	8200	1,7	XNHQ09...	–
R335.25-125.20.32-5NA	02953595	Arbor	125,0	20,0	32,8	5	10	32,0	58,0	50,0	–	–	■	6500	1,9	XNHQ12...	–
R335.25-125.25.32-5NA	02788023	Arbor	125,0	25,0	33,0	5	10	32,0	58,0	50,0	–	–	■	4900	2,0	XNHQ1407... LNHQ1407...	–
R335.25-160.15.40-7NA	02989542	Arbor	160,0	15,0	44,3	7	14	40,0	70,0	50,0	–	–	■	7200	2,4	XNHQ09...	–
R335.25-160.20.40-6NA	02953596	Arbor	160,0	20,0	44,3	6	12	40,0	70,0	50,0	–	–	■	5700	2,9	XNHQ12...	–
R335.25-160.25.40-6NA	02788024	Arbor	160,0	25,0	44,4	6	12	40,0	70,0	50,0	–	–	■	4400	3,1	XNHQ1407... LNHQ1407...	–
R335.25-200.15.40-8N	02989543	Arbor	200,0	15,0	54,3	8	16	40,0	90,0	50,0	–	–	–	6500	4,3	XNHQ09...	–
R335.25-200.20.40-7N	02953597	Arbor	200,0	20,0	54,3	7	14	40,0	90,0	50,0	–	–	–	5100	5,1	XNHQ12...	–
R335.25-200.25.40-7N	02788025	Arbor	200,0	25,0	54,5	7	14	40,0	90,0	50,0	–	–	–	3900	5,8	XNHQ1407... LNHQ1407...	–
R335.25-250.20.60-9N	02953598	Arbor	250,0	20,0	59,3	9	18	60,0	130,0	50,0	–	–	–	4600	7,2	XNHQ12...	–
R335.25-250.25.60-9N	02788026	Arbor	250,0	25,0	59,5	9	18	60,0	130,0	50,0	–	–	–	3500	8,3	XNHQ1407... LNHQ1407...	–

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Arbor screw	Insert clamping torque	Torque key
							
335.25 CW=15	–	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
335.25 CW=20	–	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
335.25 CW=25	–	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=15 DC=100	MLC6S12X50	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=125	950E1645	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=160	MLC6S20X40	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=200	–	H4B-T10P	C03509-T10P	DOUBLE-T	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=15 DC=80	MLC6S10X45	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=100	MLC6S12X50	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=125	950E1645	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=160	MLC6S20X40	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=200	–	H4B-T10P	C03511-T10P	DOUBLE-T	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=20 DC=250	–	H4B-T10P	C03511-T10P	DOUBLE-T	MC6S16X50	3.0NM	T00-10P30
R335.25 CW=25 DC=125	MLC6S16X35	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=25 DC=160	MLC6S20X40	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=25 DC=200	–	H4B-T15PL	C04013-T15P	DOUBLE-T	MC6S12X50	5.0NM	T00-15P50
R335.25 CW=25 DC=250	–	H4B-T15PL	C04013-T15P	DOUBLE-T	MC6S16X50	5.0NM	T00-15P50

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

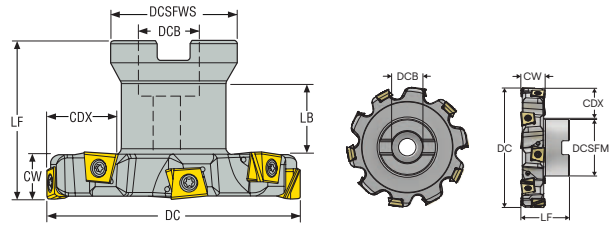
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – XNHQ/LNHQ12/14 – inch – Full side and face – Fixed pocket

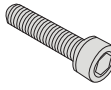
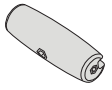


- For insert selection and cutting data recommendations, see page(s) 517–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

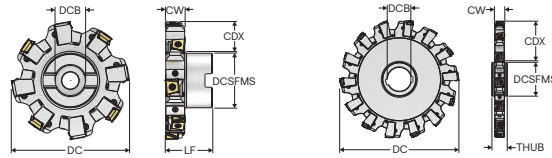
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	CSP	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch			lbs		
335.25-06.00-1.000-6N	02788034	Arbor hole	6.000	1.000	1.846	6	12	1.500	2.252	1.000	1.250	–	4400	5.730	XNHQ14	LNHQ14
335.25-10.00-1.000-9N	02788036	Arbor hole	10.000	1.000	3.429	9	18	2.000	3.000	1.000	1.250	–	3500	18.080	XNHQ14	LNHQ14
R335.25-05.00-0.75-5NA	02989512	Arbor	5.000	0.750	1.331	5	10	1.250	2.283	2.000	–	■	6500	4.410	XNHQ12	–
R335.25-05.00-1.000-5NA	02788030	Arbor	5.000	1.000	1.350	5	10	1.250	2.250	2.000	–	■	4900	4.630	XNHQ14	LNHQ14
R335.25-06.00-0.75-6NA	02989513	Arbor	6.000	0.750	1.595	6	12	1.500	2.756	2.000	–	■	5700	6.170	XNHQ12	–
R335.25-06.00-1.000-6NA	02788031	Arbor	6.000	1.000	1.598	6	12	1.500	2.750	2.000	–	■	4400	6.390	XNHQ14	LNHQ14
R335.25-08.00-1.000-7N	02788032	Arbor	8.000	1.000	2.224	7	14	1.500	3.500	2.000	–	–	3900	11.680	XNHQ14	LNHQ14

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
						
335.25 CW 1.000	–	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 0.750 DC=5.000	ULC6S5/8UNFX11/2	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW 0.750 DC=6.000	ULC6S3/4UNFX11/2	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW 1.000 DC=5.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 1.000 DC=6.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 1.000 DC=8.000	–	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50

R335.25/335.25 – Insert XNHQ09/12 – Metric – Full side and face – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 515–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-4N	02993731	Arbor hole	125,0	13,5	17,0	32,9	4	8	40,0	55,0	15,25	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-4N	02993720	Arbor hole	125,0	17,0	21,0	32,9	4	8	40,0	55,0	19,0	21,0	8200	1,2	XNHQ12..
335.25-160.1317.40-6N	02993732	Arbor hole	160,0	13,5	17,0	50,5	6	12	40,0	55,0	15,25	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-5N	02993721	Arbor hole	160,0	17,0	21,0	50,5	5	10	40,0	55,0	19,0	21,0	7200	1,9	XNHQ12..
335.25-200.1317.50-7N	02993733	Arbor hole	200,0	13,5	17,0	63,5	7	14	50,0	69,0	15,25	17,0	6500	2,5	XNHQ09..
335.25-200.1721.50-6N	02993722	Arbor hole	200,0	17,0	21,0	63,5	6	12	50,0	69,0	19,0	21,0	5100	3,2	XNHQ12..
335.25-250.1317XL.50-8N	02993734	Arbor hole	250,0	13,5	17,0	88,5	8	16	50,0	69,0	15,25	17,0	5800	3,9	XNHQ09..
335.25-250.1721XL.50-8N	02993723	Arbor hole	250,0	17,0	21,0	88,5	8	16	50,0	69,0	19,0	21,0	5800	4,9	XNHQ12..
335.25-315.1317XL.50-10N	02993735	Arbor hole	315,0	13,5	17,0	121,0	10	20	50,0	69,0	15,25	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-10N	02993724	Arbor hole	315,0	17,0	21,0	121,0	10	20	50,0	69,0	19,0	21,0	5200	8,2	XNHQ12..
R335.25-100.1317.27-3N	02993725	Arbor	100,0	13,5	17,0	24,8	3	6	27,0	48,0	50,0	–	9200	1,0	XNHQ09..
R335.25-100.1721.27-3N	02993714	Arbor	100,0	17,0	21,0	24,8	3	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-4N	02993726	Arbor	125,0	13,5	17,0	32,3	4	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-4N	02993715	Arbor	125,0	17,0	21,0	32,3	4	8	32,0	58,0	50,0	–	6500	1,6	XNHQ12..
R335.25-160.1317.40-6N	02993727	Arbor	160,0	13,5	17,0	43,8	6	12	40,0	70,0	50,0	–	7200	2,3	XNHQ09..
R335.25-160.1721.40-5N	02993716	Arbor	160,0	17,0	21,0	43,8	5	10	40,0	70,0	50,0	–	5700	2,7	XNHQ12..
R335.25-200.1317.40-7N	02993728	Arbor	200,0	13,5	17,0	54,0	7	14	40,0	90,0	50,0	–	6500	3,6	XNHQ09..
R335.25-200.1721.40-6N	02993717	Arbor	200,0	17,0	21,0	54,0	6	12	40,0	90,0	50,0	–	5100	4,1	XNHQ12..
R335.25-250.1317XL.60-8N	02993729	Arbor	250,0	13,5	17,0	59,0	8	16	60,0	130,0	50,0	–	5800	6,0	XNHQ09..
R335.25-250.1721XL.60-8N	02993718	Arbor	250,0	17,0	21,0	59,0	8	16	60,0	130,0	50,0	–	4600	6,7	XNHQ12..
R335.25-315.1317XL.60-10N	02993730	Arbor	315,0	13,5	17,0	91,5	10	20	60,0	130,0	50,0	–	5200	9,0	XNHQ09..
R335.25-315.1721XL.60-10N	02993719	Arbor	315,0	17,0	21,0	91,5	10	20	60,0	130,0	50,0	–	4100	10,0	XNHQ12..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

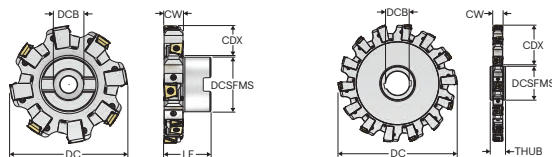
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – XNHQ/LNHQ14/17 – Metric – Full side and face – Adjustable design



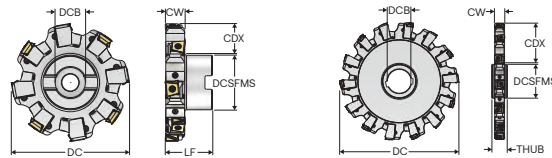
- For insert selection and cutting data recommendations, see page(s) 519–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-4N	02814599	Arbor hole	125,0	21,0	26,0	32,7	4	8	40,0	55,0	26,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-5N	02814603	Arbor hole	160,0	21,0	26,0	50,3	5	10	40,0	55,0	26,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-5N	02829065	Arbor hole	160,0	26,0	32,0	50,3	5	10	40,0	55,0	29,0	32,0	4600	3,0	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-6N	02814607	Arbor hole	200,0	21,0	26,0	63,3	6	12	50,0	69,0	26,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-6N	02827441	Arbor hole	200,0	26,0	32,0	63,3	6	12	50,0	69,0	29,0	32,0	4100	4,8	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-7N	02814611	Arbor hole	250,0	21,0	26,0	88,3	7	14	50,0	69,0	26,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-7N	02827445	Arbor hole	250,0	26,0	32,0	88,3	7	14	50,0	69,0	29,0	32,0	3700	7,4	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-9N	02814615	Arbor hole	315,0	21,0	26,0	113,3	9	18	60,0	84,0	26,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-9N	02827449	Arbor hole	315,0	26,0	32,0	113,3	9	18	60,0	84,0	29,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-4N	02814578	Arbor	125,0	21,0	26,0	32,3	4	8	32,0	58,0	50,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-5N	02814582	Arbor	160,0	21,0	26,0	43,8	5	10	40,0	70,0	50,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-5N	02827411	Arbor	160,0	26,0	32,0	43,8	5	10	40,0	70,0	50,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-6N	02814586	Arbor	200,0	21,0	26,0	54,0	6	12	40,0	90,0	50,0	–	3900	4,6	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-6N	02827415	Arbor	200,0	26,0	32,0	54,0	6	12	40,0	90,0	50,0	–	4100	5,3	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-7N	02814590	Arbor	250,0	21,0	26,0	59,0	7	14	60,0	130,0	50,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-7N	02827419	Arbor	250,0	26,0	32,0	59,0	7	14	60,0	130,0	50,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-9N	02814594	Arbor	315,0	21,0	26,0	91,5	9	18	60,0	130,0	50,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-9N	02827423	Arbor	315,0	26,0	32,0	91,5	9	18	60,0	130,0	50,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.25/335.25 – XNHQ09/12 – inch – Full side and face – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 515–518
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911N	02993931	Arbor hole	5.000	0.531	0.669	1.289	4	8	1.500	2.250	0.641	0.750	8200	1.980	XNHQ09
335.25-05.00-1113N	02993881	Arbor hole	5.000	0.669	0.827	1.289	4	8	1.500	2.250	0.835	1.000	6500	2.650	XNHQ12
335.25-06.00-0911N	02993935	Arbor hole	6.000	0.531	0.669	1.795	5	10	1.500	2.250	0.641	0.750	7200	3.750	XNHQ09
335.25-06.00-1113N	02993885	Arbor hole	6.000	0.669	0.827	1.795	5	10	1.500	2.250	0.835	1.000	5700	4.630	XNHQ12
335.25-08.00-0911N	02993939	Arbor hole	8.000	0.531	0.669	2.420	7	14	2.000	3.000	0.641	0.750	6500	5.950	XNHQ09
335.25-08.00-1113N	02993889	Arbor hole	8.000	0.669	0.827	2.420	6	12	2.000	3.000	0.835	1.000	5100	9.920	XNHQ12
335.25-10.00-XL0911N	02993943	Arbor hole	10.000	0.531	0.669	3.420	8	16	2.000	3.000	0.641	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113N	02993893	Arbor hole	10.000	0.669	0.827	3.420	8	16	2.000	3.000	0.835	1.000	4600	13.890	XNHQ12
335.25-12.00-XL0911N	02993947	Arbor hole	12.000	0.531	0.669	4.460	10	20	2.000	3.000	0.641	0.750	5200	16.530	XNHQ09
335.25-12.00-XL1113N	02993897	Arbor hole	12.000	0.669	0.827	4.420	10	20	2.000	3.000	0.835	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911N	02993907	Arbor	4.000	0.531	0.669	1.014	3	6	1.000	1.880	2.000	–	9200	2.870	XNHQ09
R335.25-04.00-1113N	02993850	Arbor	4.000	0.669	0.827	1.014	3	6	1.000	1.880	2.000	–	7200	2.870	XNHQ12
R335.25-05.00-0911N	02993911	Arbor	5.000	0.531	0.669	1.329	4	8	1.250	2.250	2.000	–	8200	3.970	XNHQ09
R335.25-05.00-1113N	02993854	Arbor	5.000	0.669	0.827	1.329	4	8	1.250	2.250	2.000	–	6500	4.410	XNHQ12
R335.25-06.00-0911N	02993915	Arbor	6.000	0.531	0.669	1.579	5	10	1.500	2.750	2.000	–	7200	4.850	XNHQ09
R335.25-06.00-1113N	02993858	Arbor	6.000	0.669	0.827	1.579	5	10	1.500	2.750	2.000	–	5700	5.730	XNHQ12
R335.25-08.00-0911N	02993919	Arbor	8.000	0.531	0.669	2.210	7	14	1.500	3.500	2.000	–	6500	9.260	XNHQ09
R335.25-08.00-1113N	02993862	Arbor	8.000	0.669	0.827	2.210	6	12	1.500	3.500	2.000	–	5100	10.800	XNHQ12
R335.25-10.00-XL0911N	02993923	Arbor	10.000	0.531	0.669	2.400	8	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113N	02993866	Arbor	10.000	0.669	0.827	2.400	8	16	2.500	5.120	2.000	–	4600	15.210	XNHQ12
R335.25-12.00-XL0911N	02993927	Arbor	12.000	0.531	0.669	3.400	10	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113N	02993870	Arbor	12.000	0.669	0.827	3.400	10	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

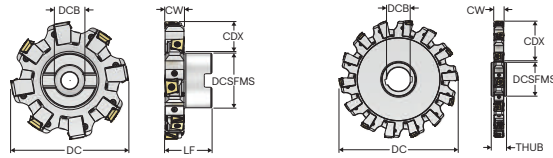
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – XNHQ/LNHQ14/17 – inch – Full side and face – Adjustable design



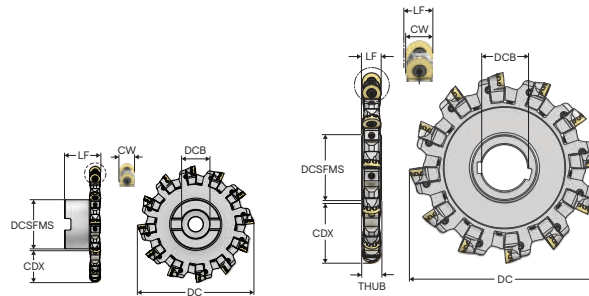
- For insert selection and cutting data recommendations, see page(s) 519–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316N	02814639	Arbor hole	5.000	0.827	1.024	1.291	4	8	1.500	2.250	1.038	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316N	02814643	Arbor hole	6.000	0.827	1.024	1.791	5	10	1.500	2.250	1.038	1.250	4500	4.630	XNHQ14	LNHQ14
335.25-06.00-1620N	02827735	Arbor hole	6.000	1.024	1.260	1.791	5	10	1.500	2.250	1.137	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316N	02814647	Arbor hole	8.000	0.827	1.024	2.413	6	12	2.000	3.000	1.038	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620N	02827740	Arbor hole	8.000	1.024	1.260	2.413	6	12	2.000	3.000	1.137	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316N	02814651	Arbor hole	10.000	0.827	1.024	3.413	7	14	2.000	3.000	1.038	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620N	02827744	Arbor hole	10.000	1.024	1.260	3.413	7	14	2.000	3.000	1.137	1.250	3600	16.980	XNHQ17	LNHQ17
335.25-12.00-XL1316N	02814655	Arbor hole	12.000	0.827	1.024	4.413	9	18	2.000	3.000	1.038	1.250	3200	20.500	XNHQ14	LNHQ14
335.25-12.00-XL1620N	02827748	Arbor hole	12.000	1.024	1.260	4.413	9	18	2.000	3.000	1.137	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316N	02814619	Arbor	5.000	0.827	1.024	1.327	4	8	1.250	2.250	2.000	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316N	02814623	Arbor	6.000	0.827	1.024	1.579	5	10	1.500	2.750	2.000	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620N	02827713	Arbor	6.000	1.024	1.260	1.579	5	10	1.500	2.750	2.000	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316N	02814627	Arbor	8.000	0.827	1.024	2.209	6	12	1.500	3.500	2.000	–	3900	10.800	XNHQ14	LNHQ14
R335.25-08.00-1620N	02827717	Arbor	8.000	1.024	1.260	2.209	6	12	1.500	3.500	2.000	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316N	02814631	Arbor	10.000	0.827	1.024	2.402	7	14	2.500	5.118	2.000	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620N	02827721	Arbor	10.000	1.024	1.260	2.402	7	14	2.500	5.118	2.000	–	3600	18.960	XNHQ17	LNHQ17
R335.25-12.00-XL1316N	02814635	Arbor	12.000	0.827	1.024	3.402	9	18	2.500	5.118	2.000	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620N	02827725	Arbor	12.000	1.024	1.260	3.402	9	18	2.500	5.118	2.000	–	3300	27.120	XNHQ17	LNHQ17

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.25/335.25 – RP..1605/RP..2006 – Metric – full side – radius profile – Adjustable design



- For insert selection and cutting data recommendations, see page(s) 542–547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-4N-R8	02993833	Arbor hole	130,0	16,03	17,0	36,0	4	8	40,0	55,0	16,52	17,0	8200	1,0	RP..1605
335.25-160.1317.40-6N-R8	02993836	Arbor hole	165,0	16,03	17,0	53,5	6	12	40,0	55,0	16,52	17,0	7200	1,5	RP..1605
335.25-200.1317.50-7N-R8	02993839	Arbor hole	205,0	16,03	17,0	66,5	7	14	50,0	69,0	16,52	17,0	6500	2,4	RP..1605
335.25-250.1317XL.50-8N-R8	02993842	Arbor hole	255,0	16,03	17,0	91,5	8	16	50,0	69,0	16,52	17,0	5800	5,2	RP..1605
335.25-250.1721XL.50-8N-R10I	10296551	Arbor hole	255,0	20,03	21,0	91,5	8	16	50,0	69,0	20,52	21,0	4600	5,5	RP..2006
335.25-315.1317XL.50-10N-R8	02993845	Arbor hole	320,0	16,03	17,0	124,0	10	20	50,0	69,0	16,52	17,0	5200	6,5	RP..1605
335.25-315.1721XL.50-10N-R10I	10296552	Arbor hole	320,0	20,03	21,0	124,1	10	20	50,0	69,0	20,52	21,0	4100	7,0	RP..2006
R335.25-100.1317.27-3N-R8	02993815	Arbor	105,0	16,03	17,0	28,0	3	6	27,0	48,0	51,265	–	9200	1,0	RP..1605
R335.25-125.1317.32-4N-R8	02993818	Arbor	130,0	16,03	17,0	35,5	4	8	32,0	58,0	51,265	–	8200	1,4	RP..1605
R335.25-160.1317.40-6N-R8	02993821	Arbor	165,0	16,03	17,0	47,0	6	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-7N-R8	02993824	Arbor	205,0	16,03	17,0	57,0	7	14	40,0	90,0	51,265	–	6500	4,0	RP..1605
R335.25-250.1317XL.60-8N-R8	02993827	Arbor	255,0	16,03	17,0	62,0	8	16	60,0	130,0	51,265	–	5800	10,3	RP..1605
R335.25-250.1721XL.60-8N-R10I	10296553	Arbor	255,0	20,03	21,0	62,0	8	16	60,0	130,0	51,515	–	4600	6,8	RP..2006
R335.25-315.1317XL.60-10N-R8	02993830	Arbor	320,0	16,03	17,0	94,5	10	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-10N-R10I	10296554	Arbor	320,0	20,03	21,0	94,5	10	20	60,0	130,0	51,515	–	4100	8,8	RP..2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

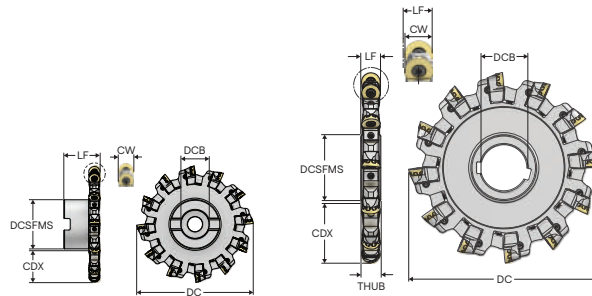
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – RP.1605/RP.2006 – inch – full side – radius profile – Adjustable design



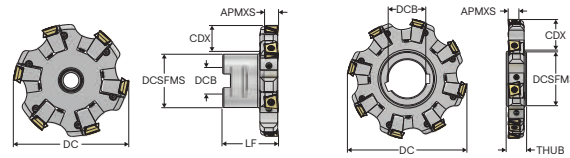
- For insert selection and cutting data recommendations, see page(s) 542–547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911N-R8	02993969	Arbor hole	5.197	0.631	0.669	1.415	4	8	1.500	2.250	0.691	0.750	8200	2.200	RP.1605
335.25-06.00-0911N-R8	02993972	Arbor hole	6.197	0.631	0.669	1.914	5	10	1.500	2.250	0.691	0.750	7200	3.090	RP.1605
335.25-08.00-0911N-R8	02993975	Arbor hole	8.197	0.631	0.669	2.539	7	14	2.000	3.000	0.691	0.750	6500	5.730	RP.1605
335.25-10.00-XL0911N-R8	02993978	Arbor hole	10.197	0.631	0.669	3.539	8	16	2.000	3.000	0.691	0.750	5800	9.260	RP.1605
335.25-10.00-XL1113N-R10I	10296555	Arbor hole	10.197	0.789	0.827	3.539	8	16	2.000	3.000	0.894	1.000	4600	9.480	RP.2006
335.25-12.00-XL0911N-R8	02993981	Arbor hole	12.197	0.631	0.669	4.579	10	20	2.000	3.000	0.691	0.750	5200	13.450	RP.1605
335.25-12.00-XL1113N-R10I	10296556	Arbor hole	12.197	0.789	0.827	4.539	10	20	2.000	3.000	0.894	1.000	4100	17.200	RP.2006
R335.25-04.00-0911N-R8	02993951	Arbor	4.197	0.631	0.669	1.139	3	6	1.000	1.880	2.050	–	9200	2.200	RP.1605
R335.25-05.00-0911N-R8	02993954	Arbor	5.197	0.631	0.669	1.454	4	8	1.250	2.250	2.050	–	8200	3.970	RP.1605
R335.25-06.00-0911N-R8	02993957	Arbor	6.197	0.631	0.669	1.704	5	10	1.500	2.750	2.050	–	7200	6.170	RP.1605
R335.25-08.00-0911N-R8	02993960	Arbor	8.197	0.631	0.669	2.329	7	14	1.500	3.500	2.050	–	6500	8.380	RP.1605
R335.25-10.00-XL0911N-R8	02993963	Arbor	10.197	0.631	0.669	2.519	8	16	2.500	5.120	2.050	–	5800	13.670	RP.1605
R335.25-10.00-XL1113N-R10I	10296557	Arbor	10.197	0.789	0.827	2.520	8	16	2.500	5.120	2.060	–	4600	13.670	RP.2006
R335.25-12.00-XL0911N-R8	02993966	Arbor	12.197	0.631	0.669	3.519	10	20	2.500	5.120	2.050	–	5200	31.530	RP.1605
R335.25-12.00-XL1113N-R10I	10296558	Arbor	12.197	0.789	0.827	3.520	10	20	2.500	5.120	2.060	–	4100	18.740	RP.2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).

Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN – CWX), see technical data for more info at page 506

R335.25/335.25 - XNHQ09/12 - Metric - Half side - Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 515–518
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.25-125.1317.40-8R	02993801	Arbor hole	125,0	8,5	32,9	8	40,0	55,0	15,25	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-8R	02993761	Arbor hole	125,0	11,0	32,9	8	40,0	55,0	19,0	21,0	6500	1,0	XNHQ12..
335.25-160.1317.40-12R	02993804	Arbor hole	160,0	8,5	50,5	12	40,0	55,0	15,25	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-10R	02993764	Arbor hole	160,0	11,0	50,5	10	40,0	55,0	19,0	21,0	5700	1,9	XNHQ12..
335.25-200.1317.50-14R	02993807	Arbor hole	200,0	8,5	63,5	14	50,0	69,0	15,25	17,0	6500	3,1	XNHQ09..
335.25-200.1721.50-12R	02993767	Arbor hole	200,0	11,0	63,5	12	50,0	69,0	19,0	21,0	5100	3,1	XNHQ12..
335.25-250.1317XL.50-16R	02993810	Arbor hole	250,0	8,5	88,5	16	50,0	69,0	15,25	17,0	5800	3,8	XNHQ09..
335.25-250.1721XL.50-16R	02993770	Arbor hole	250,0	11,0	88,5	16	50,0	69,0	19,0	21,0	4600	8,2	XNHQ12..
335.25-315.1317XL.50-20R	02993813	Arbor hole	315,0	8,5	121,0	20	50,0	69,0	15,25	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-20R	02993773	Arbor hole	315,0	11,0	121,0	20	50,0	69,0	19,0	21,0	4100	8,5	XNHQ12..
R335.25-100.1317.27-6R	02993783	Arbor	100,0	8,5	24,8	6	27,0	48,0	50,0	–	9200	1,2	XNHQ09..
R335.25-100.1721.27-6R	02993737	Arbor	100,0	11,0	24,8	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-8R	02993786	Arbor	125,0	8,5	32,3	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-8R	02993740	Arbor	125,0	11,0	32,3	8	32,0	58,0	50,0	–	6500	1,7	XNHQ12..
R335.25-160.1317.40-12R	02993789	Arbor	160,0	8,5	43,8	12	40,0	70,0	50,0	–	7200	2,8	XNHQ09..
R335.25-160.1721.40-10R	02993743	Arbor	160,0	11,0	43,8	10	40,0	70,0	50,0	–	5700	3,2	XNHQ12..
R335.25-200.1317.40-14R	02993792	Arbor	200,0	8,5	54,0	14	40,0	90,0	50,0	–	6500	3,7	XNHQ09..
R335.25-200.1721.40-12R	02993746	Arbor	200,0	11,0	54,0	12	40,0	90,0	50,0	–	5100	4,1	XNHQ12..
R335.25-250.1317XL.60-16R	02993795	Arbor	250,0	8,5	59,0	16	60,0	130,0	50,0	–	5800	6,0	XNHQ09..
R335.25-250.1721XL.60-16R	02993749	Arbor	250,0	11,0	59,0	16	60,0	130,0	50,0	–	4600	11,5	XNHQ12..
R335.25-315.1317XL.60-20R	02993798	Arbor	315,0	8,5	91,5	20	60,0	130,0	50,0	–	5200	8,5	XNHQ09..
R335.25-315.1721XL.60-20R	02993752	Arbor	315,0	11,0	91,5	20	60,0	130,0	50,0	–	4100	16,4	XNHQ12..

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

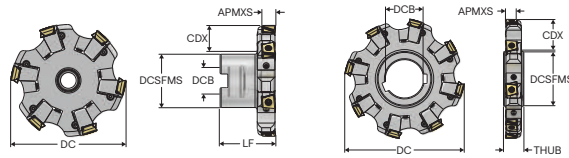
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

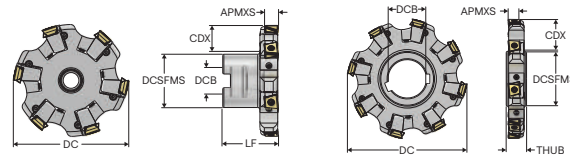
R335.25/335.25 – XNHQ/LNHQ14/17 – Metric – Half side – Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 519–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-8R	02814601	Arbor hole	125,0	13,0	32,7	8	8	40,0	55,0	26,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10R	02814605	Arbor hole	160,0	13,0	50,3	10	10	40,0	55,0	26,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-10R	02829067	Arbor hole	160,0	16,0	50,3	10	10	40,0	55,0	29,0	32,0	4600	2,9	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-12R	02814609	Arbor hole	200,0	13,0	63,3	12	12	50,0	69,0	26,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-12R	02827443	Arbor hole	200,0	16,0	63,3	12	12	50,0	69,0	29,0	32,0	4100	5,2	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-14R	02814613	Arbor hole	250,0	13,0	88,3	14	14	50,0	69,0	26,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-14R	02827447	Arbor hole	250,0	16,0	88,3	14	14	50,0	69,0	29,0	32,0	3700	7,4	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-18R	02814617	Arbor hole	315,0	13,0	113,3	18	18	60,0	84,0	26,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-18R	02827451	Arbor hole	315,0	16,0	113,3	18	18	60,0	84,0	29,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-8R	02814580	Arbor	125,0	13,0	32,3	8	8	32,0	58,0	50,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10R	02814584	Arbor	160,0	13,0	43,8	10	10	40,0	70,0	50,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10R	02827413	Arbor	160,0	16,0	43,8	10	10	40,0	70,0	50,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-12R	02814588	Arbor	200,0	13,0	54,0	12	12	40,0	90,0	50,0	–	3900	4,6	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-12R	02827417	Arbor	200,0	16,0	54,0	12	12	40,0	90,0	50,0	–	4100	5,4	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-14R	02814592	Arbor	250,0	13,0	59,0	14	14	60,0	130,0	50,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-14R	02827421	Arbor	250,0	16,0	59,0	14	14	60,0	130,0	50,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-18R	02814597	Arbor	315,0	13,0	91,5	18	18	60,0	130,0	50,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-18R	02827425	Arbor	315,0	16,0	91,5	18	18	60,0	130,0	50,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

R335.25/335.25 - XNHQ09/12 - inch - Half side - Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 515–518
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	ZNP	DCB inch	DCSFMS inch	LF inch	THUB inch	RPMX	Weight lbs	Insert
335.25-05.00-0911R	02993933	Arbor hole	5.000	0.335	1.289	8	8	1.500	2.250	0.641	0.750	8200	2.200	XNHQ09
335.25-05.00-1113R	02993883	Arbor hole	5.000	0.433	1.289	8	8	1.500	2.250	0.835	1.000	6500	2.650	XNHQ12
335.25-06.00-0911R	02993937	Arbor hole	6.000	0.335	1.795	10	10	1.500	2.250	0.641	0.750	7200	4.410	XNHQ09
335.25-06.00-1113R	02993887	Arbor hole	6.000	0.433	1.795	10	10	1.500	2.250	0.835	1.000	5700	4.630	XNHQ12
335.25-08.00-0911R	02993941	Arbor hole	8.000	0.335	2.420	14	14	2.000	3.000	0.641	0.750	6500	5.950	XNHQ09
335.25-08.00-1113R	02993891	Arbor hole	8.000	0.433	2.420	12	12	2.000	3.000	0.835	1.000	5100	10.140	XNHQ12
335.25-10.00-XL0911R	02993945	Arbor hole	10.000	0.335	3.420	16	16	2.000	3.000	0.641	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113R	02993895	Arbor hole	10.000	0.433	3.420	16	16	2.000	3.000	0.835	1.000	4600	11.680	XNHQ12
335.25-12.00-XL0911R	02993949	Arbor hole	12.000	0.335	4.460	20	20	2.000	3.000	0.641	0.750	5200	13.450	XNHQ09
335.25-12.00-XL1113R	02993899	Arbor hole	12.000	0.433	4.420	20	20	2.000	3.000	0.835	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911R	02993909	Arbor	4.000	0.335	1.014	6	6	1.000	1.880	2.000	–	9200	2.200	XNHQ09
R335.25-04.00-1113R	02993852	Arbor	4.000	0.433	1.014	6	6	1.000	1.880	2.000	–	7200	2.650	XNHQ12
R335.25-05.00-0911R	02993913	Arbor	5.000	0.335	1.329	8	8	1.250	2.250	2.000	–	8200	3.310	XNHQ09
R335.25-05.00-1113R	02993856	Arbor	5.000	0.433	1.329	8	8	1.250	2.250	2.000	–	6500	3.750	XNHQ12
R335.25-06.00-0911R	02993917	Arbor	6.000	0.335	1.579	10	10	1.500	2.750	2.000	–	7200	6.390	XNHQ09
R335.25-06.00-1113R	02993860	Arbor	6.000	0.433	1.579	10	10	1.500	2.750	2.000	–	5700	5.510	XNHQ12
R335.25-08.00-0911R	02993921	Arbor	8.000	0.335	2.210	14	14	1.500	3.500	2.000	–	6500	8.380	XNHQ09
R335.25-08.00-1113R	02993864	Arbor	8.000	0.433	2.210	12	12	1.500	3.500	2.000	–	5100	9.920	XNHQ12
R335.25-10.00-XL0911R	02993925	Arbor	10.000	0.335	2.400	16	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113R	02993868	Arbor	10.000	0.433	2.400	16	16	2.500	5.120	2.000	–	4600	15.430	XNHQ12
R335.25-12.00-XL0911R	02993929	Arbor	12.000	0.335	3.400	20	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113R	02993872	Arbor	12.000	0.433	3.400	20	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

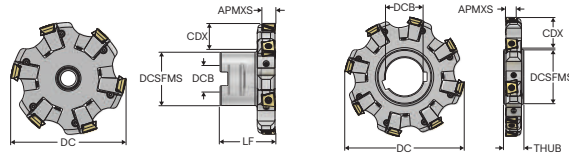
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

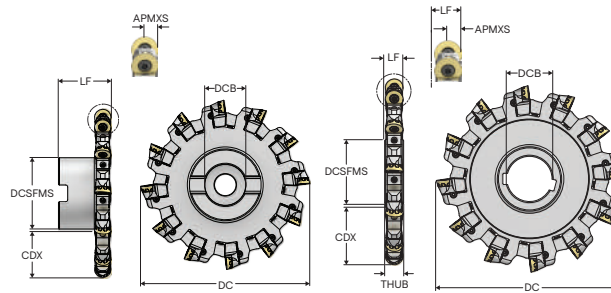
R335.25/335.25 – XNHQ/LNHQ14/17 – inch – Half side – Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 519–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316R	02814641	Arbor hole	5.000	0.512	1.291	8	8	1.500	2.250	1.038	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316R	02814645	Arbor hole	6.000	0.512	1.791	10	10	1.500	2.250	1.038	1.250	4500	4.850	XNHQ14	LNHQ14
335.25-06.00-1620R	02827738	Arbor hole	6.000	0.630	1.791	10	10	1.500	2.250	1.137	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316R	02814649	Arbor hole	8.000	0.512	2.413	12	12	2.000	3.000	1.038	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620R	02827742	Arbor hole	8.000	0.630	2.413	12	12	2.000	3.000	1.137	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316R	02814653	Arbor hole	10.000	0.512	3.413	14	14	2.000	3.000	1.038	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620R	02827746	Arbor hole	10.000	0.630	3.413	14	14	2.000	3.000	1.137	1.250	3600	16.980	XNHQ17	LNHQ17
335.25-12.00-XL1316R	02814657	Arbor hole	12.000	0.512	4.413	18	18	2.000	3.000	1.038	1.250	3200	20.720	XNHQ14	LNHQ14
335.25-12.00-XL1620R	02827750	Arbor hole	12.000	0.630	4.413	18	18	2.000	3.000	1.137	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316R	02814621	Arbor	5.000	0.512	1.327	8	8	1.250	2.250	2.000	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316R	02814625	Arbor	6.000	0.512	1.579	10	10	1.500	2.750	2.000	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620R	02827715	Arbor	6.000	0.630	1.579	10	10	1.500	2.750	2.000	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316R	02814629	Arbor	8.000	0.512	2.209	12	12	1.500	3.500	2.000	–	3900	12.130	XNHQ14	LNHQ14
R335.25-08.00-1620R	02827719	Arbor	8.000	0.630	2.209	12	12	1.500	3.500	2.000	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316R	02814633	Arbor	10.000	0.512	2.402	14	14	2.500	5.118	2.000	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620R	02827723	Arbor	10.000	0.630	2.402	14	14	2.500	5.118	2.000	–	3600	18.740	XNHQ17	LNHQ17
R335.25-12.00-XL1316R	02814637	Arbor	12.000	0.512	3.402	18	18	2.500	5.118	2.000	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620R	02827727	Arbor	12.000	0.630	3.402	18	18	2.500	5.118	2.000	–	3300	27.340	XNHQ17	LNHQ17

R335.25/335.25 – RP.1605/RP.2006 – Metric – Half side – Right hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 542–547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEPF	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8R-R8	02993834	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	16,52	17,0	8200	0,9	RP..1605
335.25-160.1317.40-12R-R8	02993837	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	16,52	17,0	7200	1,5	RP..1605
335.25-200.1317.50-14R-R8	02993840	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	16,52	17,0	6500	2,4	RP..1605
335.25-250.1317XL.50-16R-R8	02993843	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	16,52	17,0	5800	4,0	RP..1605
335.25-250.1721XL.50-16R-R10I	10296531	Arbor hole	255,0	10,0	91,5	16	16	50,0	69,0	20,52	21,0	4600	4,2	RP..2006
335.25-315.1317XL.50-20R-R8	02993846	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	16,52	17,0	5200	6,6	RP..1605
335.25-315.1721XL.50-20R-R10I	10296536	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	20,52	21,0	4100	7,3	RP..2006
R335.25-100.1317.27-6R-R8	02993816	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	51,265	–	9200	1,0	RP..1605
R335.25-125.1317.32-8R-R8	02993819	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	51,265	–	8200	1,4	RP..1605
R335.25-160.1317.40-12R-R8	02993822	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-14R-R8	02993825	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	51,265	–	6500	3,5	RP..1605
R335.25-250.1317XL.60-16R-R8	02993828	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	51,265	–	5800	6,0	RP..1605
R335.25-250.1721XL.60-16R-R10I	10296538	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	51,52	–	4600	6,0	RP..2006
R335.25-315.1317XL.60-20R-R8	02993831	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-20R-R10I	10296540	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	51,52	–	4100	9,1	RP..2006

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

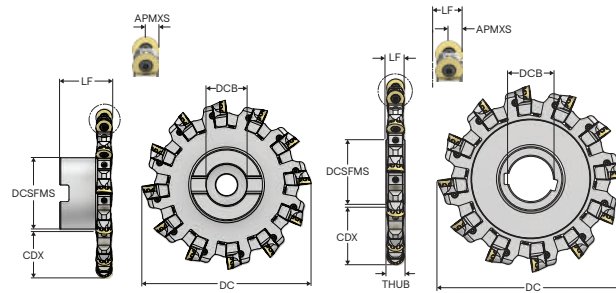
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

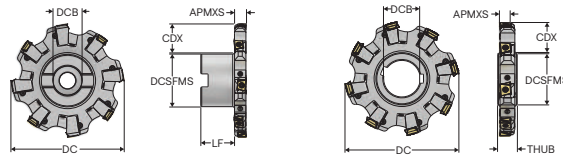
R335.25/335.25 – RP.1605/RP.2006 – inch-Half side – Right hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 542-547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	ZNP	DCB inch	DCSFMS inch	LF inch	THUB inch	RPMX	Weight lbs	Insert
335.25-05.00-0911R-R8	02993970	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.691	0.750	8200	2.200	RP..1605
335.25-06.00-0911R-R8	02993973	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.691	0.750	7200	3.090	RP..1605
335.25-08.00-0911R-R8	02993976	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.691	0.750	6500	5.730	RP..1605
335.25-10.00-XL0911R-R8	02993979	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.691	0.750	5800	9.260	RP..1605
335.25-10.00-XL1113R-R10I	10296542	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	0.894	1.000	4600	9.920	RP..2006
335.25-12.00-XL0911R-R8	02993982	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.691	0.750	5200	13.670	RP..1605
335.25-12.00-XL1113R-R10I	10296544	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	0.894	1.000	4100	14.990	RP..2006
R335.25-04.00-0911R-R8	02993952	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	2.050	–	9200	2.200	RP..1605
R335.25-05.00-0911R-R8	02993955	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	2.050	–	8200	3.310	RP..1605
R335.25-06.00-0911R-R8	02993958	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	2.050	–	7200	6.170	RP..1605
R335.25-08.00-0911R-R8	02993961	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	2.050	–	6500	8.380	RP..1605
R335.25-10.00-XL0911R-R8	02993964	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	2.050	–	5800	13.670	RP..1605
R335.25-10.00-XL1113R-R10I	10296546	Arbor	10.197	0.394	2.520	16	16	2.500	5.120	2.060	–	4600	13.670	RP..2006
R335.25-12.00-XL0911R-R8	02993967	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	2.050	–	5200	18.080	RP..1605
R335.25-12.00-XL1113R-R10I	10296548	Arbor	12.197	0.394	3.520	20	20	2.500	5.120	2.060	–	4100	18.740	RP..2006

R335.25/335.25 - XNHQ09/12 - Metric - Half side - Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 515–518
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8L	02993802	Arbor hole	125,0	8,5	32,9	8	8	40,0	55,0	1,75	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-8L	02993762	Arbor hole	125,0	11,0	32,9	8	8	40,0	55,0	2,0	21,0	6500	1,4	XNHQ12..
335.25-160.1317.40-12L	02993805	Arbor hole	160,0	8,5	50,5	12	12	40,0	55,0	1,75	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-10L	02993765	Arbor hole	160,0	11,0	50,5	10	10	40,0	55,0	2,0	21,0	5700	1,9	XNHQ12..
335.25-200.1317.50-14L	02993808	Arbor hole	200,0	8,5	63,5	14	14	50,0	69,0	1,75	17,0	6500	3,1	XNHQ09..
335.25-200.1721.50-12L	02993768	Arbor hole	200,0	11,0	63,5	12	12	50,0	69,0	2,0	21,0	5100	4,5	XNHQ12..
335.25-250.1317XL.50-16L	02993811	Arbor hole	250,0	8,5	88,5	16	16	50,0	69,0	1,75	17,0	5800	5,1	XNHQ09..
335.25-250.1721XL.50-16L	02993771	Arbor hole	250,0	11,0	88,5	16	16	50,0	69,0	2,0	21,0	4600	4,9	XNHQ12..
335.25-315.1317XL.50-20L	02993814	Arbor hole	315,0	8,5	121,0	20	20	50,0	69,0	1,75	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-20L	02993774	Arbor hole	315,0	11,0	121,0	20	20	50,0	69,0	2,0	21,0	4100	8,1	XNHQ12..
R335.25-100.1317.27-6L	02993784	Arbor	100,0	8,5	24,8	6	6	27,0	48,0	50,0	–	9200	1,3	XNHQ09..
R335.25-100.1721.27-6L	02993738	Arbor	100,0	11,0	24,8	6	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-8L	02993787	Arbor	125,0	8,5	32,3	8	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-8L	02993741	Arbor	125,0	11,0	32,3	8	8	32,0	58,0	50,0	–	6500	1,9	XNHQ12..
R335.25-160.1317.40-12L	02993790	Arbor	160,0	8,5	43,8	12	12	40,0	70,0	50,0	–	7200	2,3	XNHQ09..
R335.25-160.1721.40-10L	02993744	Arbor	160,0	11,0	43,8	10	10	40,0	70,0	50,0	–	5700	2,8	XNHQ12..
R335.25-200.1317.40-14L	02993793	Arbor	200,0	8,5	54,0	14	14	40,0	90,0	50,0	–	6500	3,5	XNHQ09..
R335.25-200.1721.40-12L	02993747	Arbor	200,0	11,0	54,0	12	12	40,0	90,0	50,0	–	5100	4,5	XNHQ12..
R335.25-250.1317XL.60-16L	02993796	Arbor	250,0	8,5	59,0	16	16	60,0	130,0	50,0	–	5800	5,9	XNHQ09..
R335.25-250.1721XL.60-16L	02993750	Arbor	250,0	11,0	59,0	16	16	60,0	130,0	50,0	–	4600	6,8	XNHQ12..
R335.25-315.1317XL.60-20L	02993799	Arbor	315,0	8,5	91,5	20	20	60,0	130,0	50,0	–	5200	8,5	XNHQ09..
R335.25-315.1721XL.60-20L	02993753	Arbor	315,0	11,0	91,5	20	20	60,0	130,0	50,0	–	4100	10,0	XNHQ12..

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

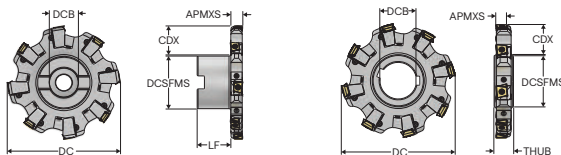
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

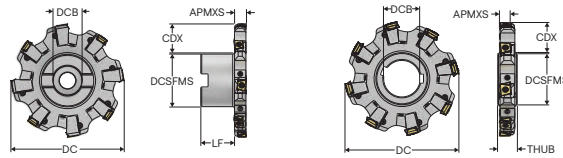
R335.25/335.25 – XNHQ/LNHQ14/17 – Metric – Half side – Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 519–522
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-8L	02814602	Arbor hole	125,0	13,0	32,7	8	8	40,0	55,0	5,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10L	02814606	Arbor hole	160,0	13,0	50,3	10	10	40,0	55,0	5,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-10L	02829068	Arbor hole	160,0	16,0	50,3	10	10	40,0	55,0	3,0	32,0	4600	2,9	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-12L	02814610	Arbor hole	200,0	13,0	63,3	12	12	50,0	69,0	5,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-12L	02827444	Arbor hole	200,0	16,0	63,3	12	12	50,0	69,0	3,0	32,0	4100	4,8	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-14L	02814614	Arbor hole	250,0	13,0	88,3	14	14	50,0	69,0	5,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-14L	02827448	Arbor hole	250,0	16,0	88,3	14	14	50,0	69,0	3,0	32,0	3700	8,5	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-18L	02814618	Arbor hole	315,0	13,0	113,3	18	18	60,0	84,0	5,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-18L	02827452	Arbor hole	315,0	16,0	113,3	18	18	60,0	84,0	3,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-8L	02814581	Arbor	125,0	13,0	32,3	8	8	32,0	58,0	29,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10L	02814585	Arbor	160,0	13,0	43,8	10	10	40,0	70,0	29,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10L	02827414	Arbor	160,0	16,0	43,8	10	10	40,0	70,0	24,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-12L	02814589	Arbor	200,0	13,0	54,0	12	12	40,0	90,0	29,0	–	3900	4,7	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-12L	02827418	Arbor	200,0	16,0	54,0	12	12	40,0	90,0	24,0	–	4100	5,4	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-14L	02814593	Arbor	250,0	13,0	59,0	14	14	60,0	130,0	29,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-14L	02827422	Arbor	250,0	16,0	59,0	14	14	60,0	130,0	24,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-18L	02814598	Arbor	315,0	13,0	91,5	18	18	60,0	130,0	29,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-18L	02827426	Arbor	315,0	16,0	91,5	18	18	60,0	130,0	24,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

R335.25/335.25 - XNHQ09/12 - inch - Half side - Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 515–518
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911L	02993934	Arbor hole	5.000	0.335	1.289	8	8	1.500	2.250	0.109	0.750	8200	2.200	XNHQ09
335.25-05.00-1113L	02993884	Arbor hole	5.000	0.433	1.289	8	8	1.500	2.250	0.165	1.000	6500	2.650	XNHQ12
335.25-06.00-0911L	02993938	Arbor hole	6.000	0.335	1.795	10	10	1.500	2.250	0.109	0.750	7200	4.410	XNHQ09
335.25-06.00-1113L	02993888	Arbor hole	6.000	0.433	1.795	10	10	1.500	2.250	0.165	1.000	5700	6.610	XNHQ12
335.25-08.00-0911L	02993942	Arbor hole	8.000	0.335	2.420	14	14	2.000	3.000	0.109	0.750	6500	5.950	XNHQ09
335.25-08.00-1113L	02993892	Arbor hole	8.000	0.433	2.420	12	12	2.000	3.000	0.165	1.000	5100	8.160	XNHQ12
335.25-10.00-XL0911L	02993946	Arbor hole	10.000	0.335	3.420	16	16	2.000	3.000	0.109	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113L	02993896	Arbor hole	10.000	0.433	3.420	16	16	2.000	3.000	0.165	1.000	4600	13.890	XNHQ12
335.25-12.00-XL0911L	02993950	Arbor hole	12.000	0.335	4.460	20	20	2.000	3.000	0.109	0.750	5200	13.450	XNHQ09
335.25-12.00-XL1113L	02993900	Arbor hole	12.000	0.433	4.420	20	20	2.000	3.000	0.165	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911L	02993910	Arbor	4.000	0.335	1.014	6	6	1.000	1.880	2.000	–	9200	2.200	XNHQ09
R335.25-04.00-1113L	02993853	Arbor	4.000	0.433	1.014	6	6	1.000	1.880	2.000	–	7200	2.650	XNHQ12
R335.25-05.00-0911L	02993914	Arbor	5.000	0.335	1.329	8	8	1.250	2.250	2.000	–	8200	3.310	XNHQ09
R335.25-05.00-1113L	02993857	Arbor	5.000	0.433	1.329	8	8	1.250	2.250	2.000	–	6500	3.750	XNHQ12
R335.25-06.00-0911L	02993918	Arbor	6.000	0.335	1.579	10	10	1.500	2.750	2.000	–	7200	6.170	XNHQ09
R335.25-06.00-1113L	02993861	Arbor	6.000	0.433	1.579	10	10	1.500	2.750	2.000	–	5700	6.830	XNHQ12
R335.25-08.00-0911L	02993922	Arbor	8.000	0.335	2.210	14	14	1.500	3.500	2.000	–	6500	8.380	XNHQ09
R335.25-08.00-1113L	02993865	Arbor	8.000	0.433	2.210	12	12	1.500	3.500	2.000	–	5100	10.800	XNHQ12
R335.25-10.00-XL0911L	02993926	Arbor	10.000	0.335	2.400	16	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113L	02993869	Arbor	10.000	0.433	2.400	16	16	2.500	5.120	2.000	–	4600	15.430	XNHQ12
R335.25-12.00-XL0911L	02993930	Arbor	12.000	0.335	3.400	20	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113L	02993873	Arbor	12.000	0.433	3.400	20	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

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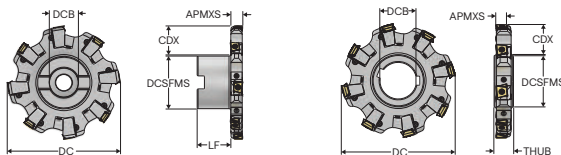
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

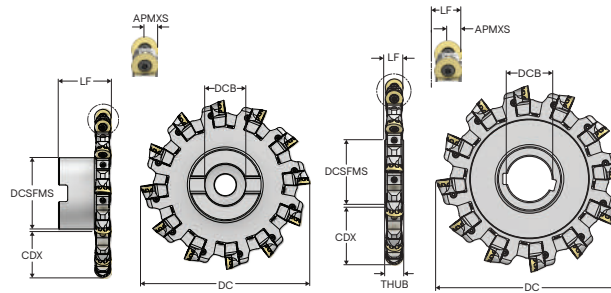
R335.25/335.25 – XNHQ/LNHQ14/17 – inch – Half side – Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 519–522
 —For complete insert programme, see page(s) 913
 —For spare parts and technical information, see page 506–512
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316L	02814642	Arbor hole	5.000	0.512	1.291	8	8	1.500	2.250	0.212	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316L	02814646	Arbor hole	6.000	0.512	1.791	10	10	1.500	2.250	0.212	1.250	4500	4.850	XNHQ14	LNHQ14
335.25-06.00-1620L	02827739	Arbor hole	6.000	0.630	1.791	10	10	1.500	2.250	0.113	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316L	02814650	Arbor hole	8.000	0.512	2.413	12	12	2.000	3.000	0.212	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620L	02827743	Arbor hole	8.000	0.630	2.413	12	12	2.000	3.000	0.113	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316L	02814654	Arbor hole	10.000	0.512	3.413	14	14	2.000	3.000	0.212	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620L	02827747	Arbor hole	10.000	0.630	3.413	14	14	2.000	3.000	0.113	1.250	3600	19.400	XNHQ17	LNHQ17
335.25-12.00-XL1316L	02814658	Arbor hole	12.000	0.512	4.413	18	18	2.000	3.000	0.212	1.250	3200	20.720	XNHQ14	LNHQ14
335.25-12.00-XL1620L	02827751	Arbor hole	12.000	0.630	4.413	18	18	2.000	3.000	0.113	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316L	02814622	Arbor	5.000	0.512	1.327	8	8	1.250	2.250	1.173	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316L	02814626	Arbor	6.000	0.512	1.579	10	10	1.500	2.750	1.173	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620L	02827716	Arbor	6.000	0.630	1.579	10	10	1.500	2.750	0.976	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316L	02814630	Arbor	8.000	0.512	2.209	12	12	1.500	3.500	1.173	–	3900	10.800	XNHQ14	LNHQ14
R335.25-08.00-1620L	02827720	Arbor	8.000	0.630	2.209	12	12	1.500	3.500	0.976	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316L	02814634	Arbor	10.000	0.512	2.402	14	14	2.500	5.118	1.173	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620L	02827724	Arbor	10.000	0.630	2.402	14	14	2.500	5.120	0.976	–	3600	18.740	XNHQ17	LNHQ17
R335.25-12.00-XL1316L	02814638	Arbor	12.000	0.512	3.402	18	18	2.500	5.118	1.173	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620L	02827728	Arbor	12.000	0.630	3.402	18	18	2.500	5.120	0.976	–	3300	27.340	XNHQ17	LNHQ17

R335.25/335.25 – RP..1605/RP..2006 – Metric – Half side – Left hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 542–547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEPF	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8L-R8	02993835	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	0,48	17,0	8200	1,1	RP..1605
335.25-160.1317.40-12L-R8	02993838	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	0,48	17,0	7200	1,5	RP..1605
335.25-200.1317.50-14L-R8	02993841	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	0,48	17,0	6500	3,8	RP..1605
335.25-250.1317XL.50-16L-R8	02993844	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	0,48	17,0	5800	5,3	RP..1605
335.25-250.1721XL.50-16L-R10I	10296534	Arbor hole	255,0	10,0	91,5	16	16	50,0	69,0	0,48	21,0	4600	4,2	RP..2006
335.25-315.1317XL.50-20L-R8	02993847	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	0,48	17,0	5200	6,5	RP..1605
335.25-315.1721XL.50-20L-R10I	10296535	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	0,48	21,0	4100	7,3	RP..2006
R335.25-100.1317.27-6L-R8	02993817	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	51,265	–	9200	1,2	RP..1605
R335.25-125.1317.32-8L-R8	02993820	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	51,265	–	8200	1,8	RP..1605
R335.25-160.1317.40-12L-R8	02993823	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-14L-R8	02993826	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	51,265	–	6500	3,5	RP..1605
R335.25-250.1317XL.60-16L-R8	02993829	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	51,265	–	5800	6,1	RP..1605
R335.25-250.1721XL.60-16L-R10I	10296537	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	31,48	–	4600	6,0	RP..2006
R335.25-315.1317XL.60-20L-R8	02993832	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-20L-R10I	10296539	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	31,48	–	4100	9,1	RP..2006

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

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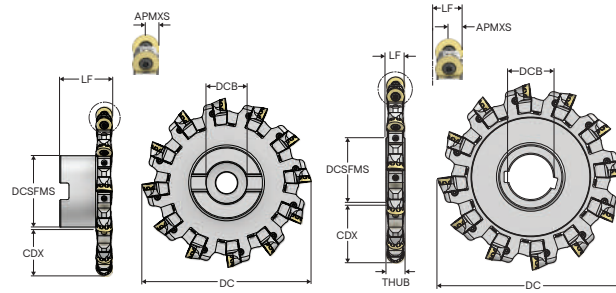
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.25/335.25 – RP.1605/RP.2006 – inch – Half side – Left hand – Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 542-547
- For complete insert programme, see page(s) 891
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	ZNP	DCB inch	DCSFMS inch	LF inch	THUB inch	RPMX	Weight lbs	Insert
335.25-05.00-0911L-R8	02993971	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.059	0.750	8200	2.200	RP..1605
335.25-06.00-0911L-R8	02993974	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.059	0.750	7200	3.090	RP..1605
335.25-08.00-0911L-R8	02993977	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.059	0.750	6500	18.080	RP..1605
335.25-10.00-XL0911L-R8	02993980	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.059	0.750	5800	9.260	RP..1605
335.25-10.00-XL1113L-R10I	10296541	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	0.106	1.000	4600	9.920	RP..2006
335.25-12.00-XL0911L-R8	02993983	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.059	0.750	5200	13.670	RP..1605
335.25-12.00-XL1113L-R10I	10296543	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	0.106	1.000	4100	14.990	RP..2006
R335.25-04.00-0911L-R8	02993953	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	2.050	–	9200	2.200	RP..1605
R335.25-05.00-0911L-R8	02993956	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	2.050	–	8200	3.310	RP..1605
R335.25-06.00-0911L-R8	02993959	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	2.050	–	7200	5.070	RP..1605
R335.25-08.00-0911L-R8	02993962	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	2.050	–	6500	8.380	RP..1605
R335.25-10.00-XL0911L-R8	02993965	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	2.050	–	5800	13.670	RP..1605
R335.25-10.00-XL1113L-R10I	10296545	Arbor	10.197	0.394	2.520	16	16	2.500	5.120	1.271	–	4600	13.670	RP..2006
R335.25-12.00-XL0911L-R8	02993968	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	2.050	–	5200	18.080	RP..1605
R335.25-12.00-XL1113L-R10I	10296547	Arbor	12.197	0.394	3.520	20	20	2.500	5.120	1.271	–	4100	18.740	RP..2006



335.98 / 335.18 XN05 / 335.25 XN07

Half side and Face Disc milling system with economical 8 cutting edges inserts

- Easy to use, strong and free-cutting disc milling cutter system dedicated for half side and face operation.
- Depth of cut up to 5mm with XNXU05 insert and 6,9 with XNXH07 inserts
- Cutter range diameter 80–315 mm (4.0 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Arbor or Arbor hole connection
- Corner radii range 0.4–3.1mm mm (.016 - 0.122 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
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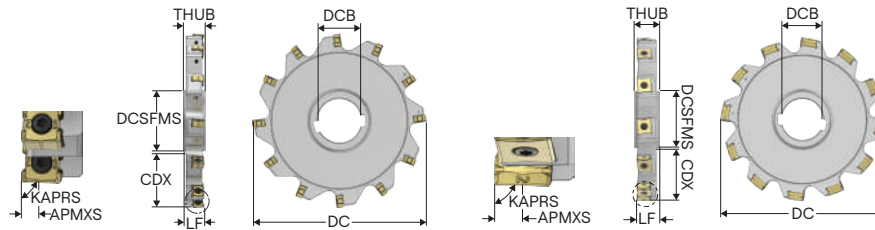
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.98 - XNXU05/XNHQ07 - Metric - Right hand - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	APMXS mm	CDX mm	ZEFP	DCB mm	DCSFMS mm	DCONMS mm	LF mm	THUB mm	KAPRS°	RPMX	Weight kg	Insert
335.98-160-05-40-12R	10272547	Arbor hole	160,0	5,0	50,5	12	40,0	54,0	40,0	19,0	20,0	90,0	5100	1,9	XNXU0505
335.98-160-07-40-12R	10266675	Arbor hole	160,0	6,9	50,5	12	40,0	54,0	40,0	23,0	25,0	90,0	4400	2,2	XNHQ0707

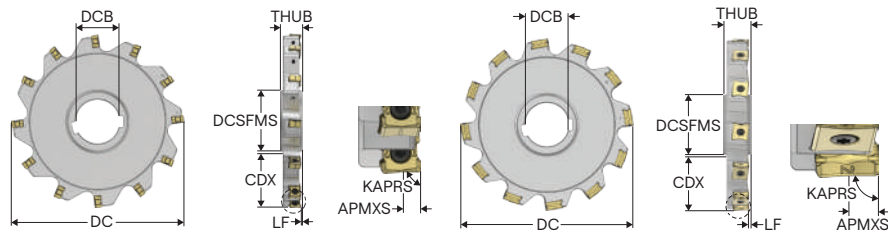
Spare Parts, included in delivery

For cutter	Insert key	Insert screw
335.98-05	1/4HEX-T10PX90	C03509-T10P
335.98-07	1/4HEX-T15PX50	C04013-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
335.98-05	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.98-07	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	–	T00T-15P50

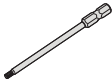
335.98 - XNXU05/XNHQ07 - Metric - Left hand - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 513–514
- For complete insert programme, see page(s) 877–878
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	APMXS mm	CDX mm	ZEFP	DCB mm	DCSFMS mm	LF mm	THUB mm	KAPRS°	RPMX	Weight kg	Insert
335.98-160-05-40-12L	10272548	Arbor hole	160,0	5,0	50,5	12	40,0	54,0	1,0	20,0	90,0	5100	1,8	XNXU0505
335.98-160-07-40-12L	10266676	Arbor hole	160,0	6,9	50,5	12	40,0	54,0	2,0	25,0	90,0	4400	2,2	XNHQ0707

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
335.98-05	1/4HEX-T10PX90	C03509-T10P
335.98-07	1/4HEX-T15PX50	C04013-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.98-05	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.98-07	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	-	T00T-15P50

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
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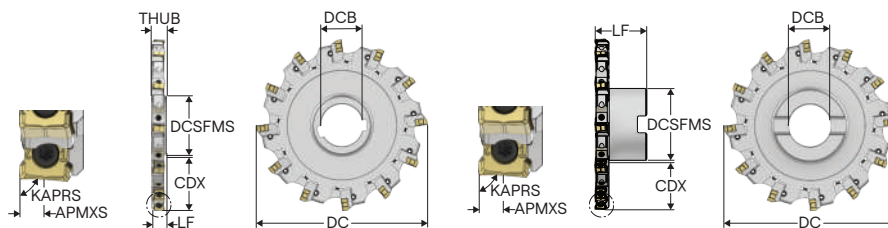
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.18 - XNXU05- Metric - Half side - Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 523-524
- For complete insert programme, see page(s) 916
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	APMXS mm	CDX mm	ZEFP	DCB mm	DCSFMS mm	LF mm	THUB mm	KAPRS°	RPMX	Weight kg	Insert
335.18-100.1215.27-8R-XN05	10272475	Arbor hole	104,85	5,0	27,7	8	27,0	41,0	13,5	15,0	90,0	9400	0,4	XNXU0505
335.18-125.1215.40-10R-XN05	10272476	Arbor hole	129,93	5,0	33,2	10	40,0	55,0	13,5	15,0	90,0	8400	0,7	XNXU0505
335.18-160.1215.40-12R-XN05	10272477	Arbor hole	165,0	5,0	50,5	12	40,0	55,0	13,5	15,0	90,0	7500	1,3	XNXU0505
335.18-200.1215XL.50-14R-XN05	10272478	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	13,5	15,0	90,0	6700	1,7	XNXU0505
335.18-250.1215XL.50-18R-XN05	10272479	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	13,5	15,0	90,0	6000	3,0	XNXU0505
335.18-315.1215XL.50-24R-XN05	10272480	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	13,5	15,0	90,0	5300	5,1	XNXU0505
R335.18-080.1215.27-6R-XN05	10272481	Arbor	84,86	5,0	14,8	6	27,0	48,0	50,0	—	90,0	10500	0,7	XNXU0505
R335.18-100.1215.27-8R-XN05	10272482	Arbor	104,85	5,0	24,8	8	27,0	48,0	50,0	—	90,0	9400	1,1	XNXU0505
R335.18-125.1215.32-10R-XN05	10272483	Arbor	129,93	5,0	32,3	10	32,0	58,0	50,0	—	90,0	8400	1,1	XNXU0505
R335.18-160.1215.40-12R-XN05	10272484	Arbor	165,0	5,0	44,0	12	40,0	70,0	50,0	—	90,0	7500	1,9	XNXU0505
R335.18-200.1215XL.40-14R-XN05	10272485	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	—	90,0	6700	2,9	XNXU0505
R335.18-250.1215XL.40-18R-XN05	10272486	Arbor	250,0	5,0	79,0	18	40,0	90,0	50,0	—	90,0	6000	4,2	XNXU0505

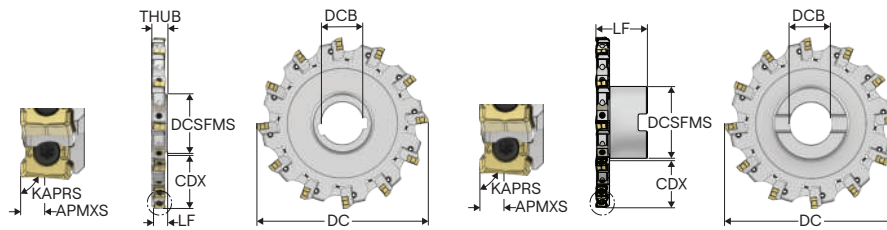
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18-..	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18-XL	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P
R335.18-080-160	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
R335.18-200-250	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

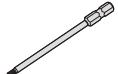
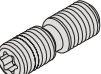
335.18 - XNXU05- inch - Half side - Right hand with cassette



- For insert selection and cutting data recommendations, see page(s) 523-524
- For complete insert programme, see page(s) 916
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	DCB inch	DCSFMS inch	LF inch	THUB inch	KAPRS°	RPMX	Weight lbs	Insert
335.18-05.00-0809R-XN05	10272497	Arbor hole	5.194	0.197	1.285	10	1.500	2.252	0.549	0.625	90,0	8400	1.760	XNXU0505
335.18-06.00-0809R-XN05	10272498	Arbor hole	6.197	0.197	1.790	12	1.500	2.252	0.549	0.625	90,0	7500	2.650	XNXU0505
335.18-08.00-XL0809R-XN05	10272499	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.547	0.625	90,0	6700	4.190	XNXU0505
335.18-10.00-XL0809R-XN05	10272500	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.547	0.625	90,0	6000	7.050	XNXU0505
335.18-12.00-XL0809R-XN05	10272501	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.547	0.625	90,0	5300	10.580	XNXU0505
R335.18-04.00-0809R-XN05	10272502	Arbor	4.191	0.197	1.014	8	1.000	1.880	2.000	—	90,0	9400	1.980	XNXU0505
R335.18-05.00-0809R-XN05	10272503	Arbor	5.194	0.197	1.329	10	1.250	2.250	2.000	—	90,0	8400	2.870	XNXU0505
R335.18-06.00-0809R-XN05	10272504	Arbor	6.197	0.197	1.585	12	1.500	2.750	2.000	—	90,0	7500	3.750	XNXU0505
R335.18-08.00-XL0809R-XN05	10272505	Arbor	8.000	0.197	2.224	14	1.500	3.500	2.000	—	90,0	6700	6.830	XNXU0505
R335.18-10.00-XL0809R-XN05	10272506	Arbor	10.000	0.197	3.209	18	1.500	3.500	2.000	—	90,0	6000	9.700	XNXU0505

Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18/R335.18-...	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18/R335.18XL	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.18/R335.18XL	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	—
335.18/R335.18XL	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Square shoulder
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

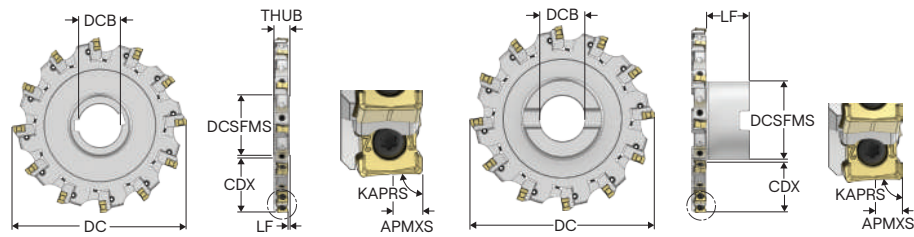
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

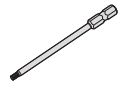
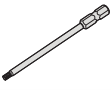
335.18 - XNXU05- Metric - Half side - Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 523-524
- For complete insert programme, see page(s) 916
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	APMXS mm	CDX mm	ZEFP	DCB mm	DCSFMS mm	LF mm	THUB mm	KAPRS°	RPMX	Weight kg	Insert
335.18-100.1215.27-8L-XN05	10272463	Arbor hole	104,85	5,0	27,7	8	27,0	41,0	1,5	15,0	90,0	9400	0,4	XNXU0505
335.18-125.1215.40-10L-XN05	10272464	Arbor hole	129,93	5,0	33,2	10	40,0	55,0	1,5	15,0	90,0	8400	0,7	XNXU0505
335.18-160.1215.40-12L-XN05	10272465	Arbor hole	165,0	5,0	50,5	12	40,0	55,0	1,5	15,0	90,0	7500	1,3	XNXU0505
335.18-200.1215XL.50-14L-XN05	10272466	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	1,5	15,0	90,0	6700	1,7	XNXU0505
335.18-250.1215XL.50-18L-XN05	10272467	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	1,5	15,0	90,0	6000	3,0	XNXU0505
335.18-315.1215XL.50-24L-XN05	10272468	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	1,5	15,0	90,0	5300	5,1	XNXU0505
R335.18-080.1215.27-6L-XN05	10272469	Arbor	84,86	5,0	14,8	6	27,0	48,0	38,0	—	90,0	10500	0,7	XNXU0505
R335.18-100.1215.27-8L-XN05	10272470	Arbor	104,85	5,0	24,8	8	27,0	48,0	38,0	—	90,0	9400	1,0	XNXU0505
R335.18-125.1215.32-10L-XN05	10272471	Arbor	129,93	5,0	32,3	10	32,0	58,0	38,0	—	90,0	8400	1,1	XNXU0505
R335.18-160.1215.40-12L-XN05	10272472	Arbor	165,0	5,0	44,0	12	40,0	70,0	38,0	—	90,0	7500	1,9	XNXU0505
R335.18-200.1215XL.40-14L-XN05	10272473	Arbor	200,0	5,0	53,5	14	40,0	90,0	38,0	—	90,0	6700	2,9	XNXU0505
R335.18-250.1215XL.40-18L-XN05	10272474	Arbor	250,0	5,0	79,0	18	40,0	90,0	38,0	—	90,0	6000	4,2	XNXU0505

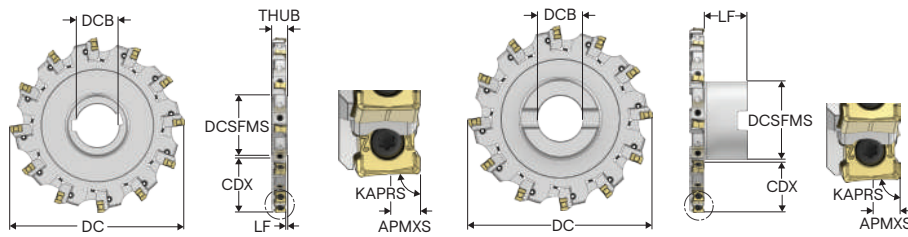
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18-..	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18-XL	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P
R335.18-080-160	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
R335.18-200-250	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

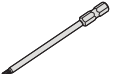
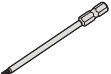
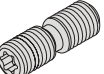
335.18 - XNXU05- inch - Half side - Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 523-524
- For complete insert programme, see page(s) 916
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	DCB inch	DCSFMS inch	LF inch	THUB inch	KAPRS°	RPMX	Weight lbs	Insert
335.18-05.00-0809L-XN05	10272487	Arbor hole	5.194	0.197	1.285	10	1.500	2.252	0.076	0.625	90,0	8400	1.760	XNXU0505
335.18-06.00-0809L-XN05	10272488	Arbor hole	6.197	0.197	1.790	12	1.500	2.252	0.076	0.625	90,0	7500	2.650	XNXU0505
335.18-08.00-XL0809L-XN05	10272489	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.078	0.625	90,0	6700	4.190	XNXU0505
335.18-10.00-XL0809L-XN05	10272490	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.078	0.625	90,0	6000	7.050	XNXU0505
335.18-12.00-XL0809L-XN05	10272491	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.078	0.625	90,0	5300	10.580	XNXU0505
R335.18-04.00-0809L-XN05	10272492	Arbor	4.191	0.197	1.014	8	1.000	1.880	1.528	—	90,0	9400	2.650	XNXU0505
R335.18-05.00-0809L-XN05	10272493	Arbor	5.194	0.197	1.329	10	1.250	2.250	1.528	—	90,0	8400	2.870	XNXU0505
R335.18-06.00-0809L-XN05	10272494	Arbor	6.197	0.197	1.585	12	1.500	2.750	1.528	—	90,0	7500	3.750	XNXU0505
R335.18-08.00-XL0809L-XN05	10272495	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.531	—	90,0	6700	6.830	XNXU0505
R335.18-10.00-XL0809L-XN05	10272496	Arbor	10.000	0.197	3.209	18	1.500	3.500	1.531	—	90,0	6000	9.700	XNXU0505

Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18/R335.18-...	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18/R335.18XL	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

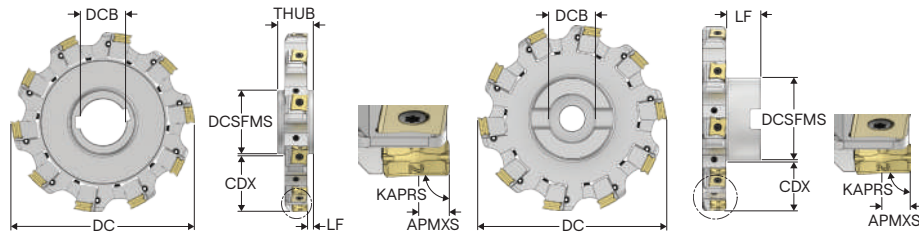
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

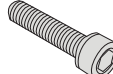
R335.25/335.25 - XNHQ07- Metric - Half side - Left hand with cassette



- For insert selection and cutting data recommendations, see page(s) 525–526
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	APMXS mm	CDX mm	ZEFP	DCB mm	DCSFMS mm	LF mm	THUB mm	KAPRS°	RPMX	Weight kg	Insert
335.25-125.2126.40-8L-XN07	10265808	Arbor hole	125,0	6,9	32,7	8	40,0	55,0	5,5	32,0	90,0	4900	1,4	XNHQ0707
335.25-160.2126.40-10L-XN07	10265809	Arbor hole	160,0	6,9	50,3	10	40,0	55,0	5,5	32,0	90,0	4400	2,4	XNHQ0707
335.25-200.2126.50-12L-XN07	10265810	Arbor hole	200,0	6,9	63,3	12	50,0	69,0	5,5	32,0	90,0	3900	4,0	XNHQ0707
335.25-250.2126XL.50-14L-XN07	10265811	Arbor hole	250,0	6,9	88,3	14	50,0	69,0	5,5	32,0	90,0	3500	6,0	XNHQ0707
335.25-315.2126XL.60-18L-XN07	10265812	Arbor hole	315,0	6,9	113,3	18	60,0	84,0	5,5	32,0	90,0	3100	10,1	XNHQ0707
R335.25-125.2126.32-8L-XN07	10265813	Arbor	125,0	6,9	32,3	8	32,0	58,0	29,0	–	90,0	4900	1,8	XNHQ0707
R335.25-160.2126.40-10L-XN07	10265814	Arbor	160,0	6,9	43,8	10	40,0	70,0	29,0	–	90,0	4400	3,0	XNHQ0707
R335.25-200.2126.40-12L-XN07	10265815	Arbor	200,0	6,9	54,0	12	40,0	90,0	29,0	–	90,0	3900	4,7	XNHQ0707
R335.25-250.2126XL.60-14L-XN07	10265816	Arbor	250,0	6,9	59,0	14	60,0	130,0	29,0	–	90,0	3500	7,4	XNHQ0707
R335.25-315.2126XL.60-18L-XN07	10265817	Arbor	315,0	6,9	91,5	18	60,0	130,0	29,0	–	90,0	3100	11,5	XNHQ0707

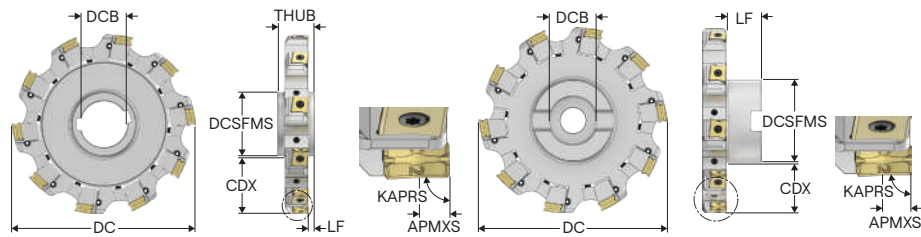
Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (L)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-125	SH6005-T09P	MC6S16X40	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-160	SH6005-T09P	MLC6S20X40	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-200	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-250-315	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

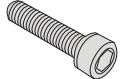
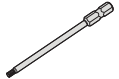
R335.25/335.25 - XNHQ07- inch - Half side - Left hand with cassette



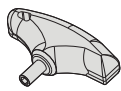
- For insert selection and cutting data recommendations, see page(s) 525–526
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	DCB inch	DCSFMS inch	LF inch	THUB inch	KAPRS°	RPMX	Weight lbs	Insert
335.25-05.00-1316L-XN07	10265828	Arbor hole	5.000	0.272	1.291	8	1.500	2.250	0.212	1.250	90,0	4900	3.310	XNHQ0707
335.25-06.00-1316L-XN07	10265829	Arbor hole	6.000	0.272	1.791	10	1.500	2.250	0.212	1.250	90,0	4500	4.850	XNHQ0707
335.25-08.00-1316L-XN07	10265830	Arbor hole	8.000	0.272	2.413	12	2.000	3.000	0.212	1.250	90,0	3900	9.260	XNHQ0707
335.25-10.00-XL1316L-XN07	10265831	Arbor hole	10.000	0.272	3.413	14	2.000	3.000	0.212	1.250	90,0	3500	14.110	XNHQ0707
335.25-12.00-XL1316L-XN07	10265832	Arbor hole	12.000	0.272	4.413	18	2.000	3.000	0.212	1.250	90,0	3200	20.720	XNHQ0707
R335.25-05.00-1316L-XN07	10265833	Arbor	5.000	0.272	1.327	8	1.250	2.250	1.173	–	90,0	4900	4.190	XNHQ0707
R335.25-06.00-1316L-XN07	10265834	Arbor	6.000	0.272	1.579	10	1.500	2.750	1.173	–	90,0	4500	6.170	XNHQ0707
R335.25-08.00-1316L-XN07	10265835	Arbor	8.000	0.272	2.209	12	1.500	3.500	1.173	–	90,0	3900	11.020	XNHQ0707
R335.25-10.00-XL1316L-XN07	10265836	Arbor	10.000	0.272	2.402	14	2.500	5.118	1.173	–	90,0	3500	16.760	XNHQ0707
R335.25-12.00-XL1316L-XN07	10265837	Arbor	12.000	0.272	3.402	18	2.500	5.118	1.173	–	90,0	3200	23.590	XNHQ0707

Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (L)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-...	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-05.00	SH6005-T09P	ULC6S5/8UNFX11/2	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-06.00	SH6005-T09P	ULC6S3/4UNFX11/2	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-08.00	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-10.00	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-12.00	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-...	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

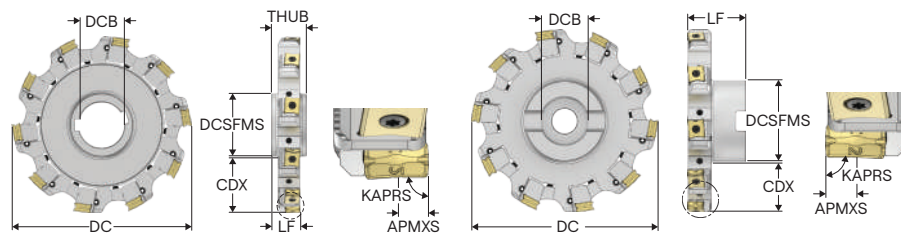
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

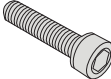
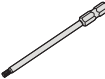
R335.25/335.25 - XNHQ07- Metric - Half side - Right hand with cassette



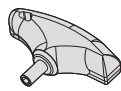
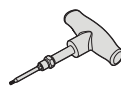
- For insert selection and cutting data recommendations, see page(s) 525-526
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.25-125.2126.40-8R-XN07	10265818	Arbor hole	125,0	6,9	32,7	8	40,0	55,0	26,5	32,0	90,0	4900	1,4	XNHQ0707
335.25-160.2126.40-10R-XN07	10265819	Arbor hole	160,0	6,9	50,3	10	40,0	55,0	26,5	32,0	90,0	4400	2,4	XNHQ0707
335.25-200.2126.50-12R-XN07	10265820	Arbor hole	200,0	6,9	63,3	12	50,0	69,0	26,5	32,0	90,0	3900	4,0	XNHQ0707
335.25-250.2126XL.50-14R-XN07	10265821	Arbor hole	250,0	6,9	88,3	14	50,0	69,0	26,5	32,0	90,0	3500	6,0	XNHQ0707
335.25-315.2126XL.60-18R-XN07	10265822	Arbor hole	315,0	6,9	113,3	18	60,0	84,0	26,5	32,0	90,0	3100	10,0	XNHQ0707
R335.25-125.2126.32-8R-XN07	10265823	Arbor	125,0	6,9	32,3	8	32,0	58,0	50,0	—	90,0	4900	1,8	XNHQ0707
R335.25-160.2126.40-10R-XN07	10265824	Arbor	160,0	6,9	43,8	10	40,0	70,0	50,0	—	90,0	4400	3,0	XNHQ0707
R335.25-200.2126.40-12R-XN07	10265825	Arbor	200,0	6,9	54,0	12	40,0	90,0	50,0	—	90,0	3900	4,7	XNHQ0707
R335.25-250.2126XL.60-14R-XN07	10265826	Arbor	250,0	6,9	59,0	14	60,0	130,0	50,0	—	90,0	3500	7,4	XNHQ0707
R335.25-315.2126XL.60-18R-XN07	10265827	Arbor	315,0	6,9	91,5	18	60,0	130,0	50,0	—	90,0	3100	11,5	XNHQ0707

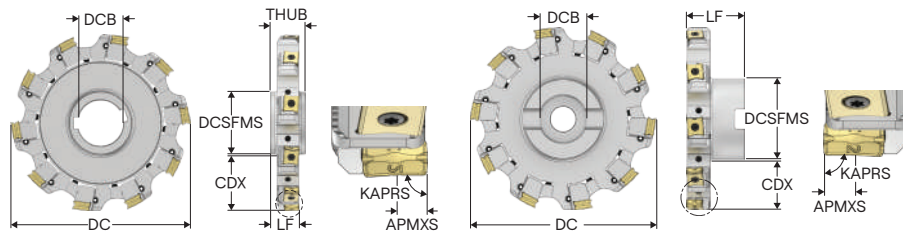
Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (R)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-..	SH6005-T09P	—	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-125	SH6005-T09P	MC6S16X40	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-160	SH6005-T09P	MLC6S20X40	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-200	SH6005-T09P	—	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-250	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-315	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

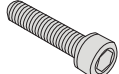
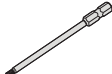
R335.25/335.25 - XNHQ07- inch - Half side - Right hand with cassette



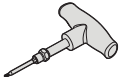
- For insert selection and cutting data recommendations, see page(s) 525-526
- For complete insert programme, see page(s) 913
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	APMXS inch	CDX inch	ZEFP	DCB inch	DCSFMS inch	LF inch	THUB inch	KAPRS°	RPM	Weight lbs	Insert
335.25-05.00-1316R-XN07	10265838	Arbor hole	5.000	0.272	1.291	8	1.500	2.250	1.038	1.250	90,0	4900	3.310	XNHQ0707
335.25-06.00-1316R-XN07	10265839	Arbor hole	6.000	0.272	1.791	10	1.500	2.250	1.038	1.250	90,0	4500	4.850	XNHQ0707
335.25-08.00-1316R-XN07	10265840	Arbor hole	8.000	0.272	2.413	12	2.000	3.000	1.038	1.250	90,0	3900	9.260	XNHQ0707
335.25-10.00-XL1316R-XN07	10265841	Arbor hole	10.000	0.272	3.413	14	2.000	3.000	1.038	1.250	90,0	3500	14.110	XNHQ0707
335.25-12.00-XL1316R-XN07	10265842	Arbor hole	12.000	0.272	4.413	18	2.000	3.000	1.038	1.250	90,0	3200	20.720	XNHQ0707
R335.25-05.00-1316R-XN07	10265843	Arbor	5.000	0.272	1.327	8	1.250	2.250	2.000	—	90,0	4900	4.190	XNHQ0707
R335.25-06.00-1316R-XN07	10265844	Arbor	6.000	0.272	1.579	10	1.500	2.750	2.000	—	90,0	4500	6.170	XNHQ0707
R335.25-08.00-1316R-XN07	10265845	Arbor	8.000	0.272	2.209	12	1.500	3.500	2.000	—	90,0	3900	11.020	XNHQ0707
R335.25-10.00-XL1316R-XN07	10265846	Arbor	10.000	0.272	2.402	14	2.500	5.118	2.000	—	90,0	3500	16.760	XNHQ0707
R335.25-12.00-XL1316R-XN07	10265847	Arbor	12.000	0.272	3.402	18	2.500	5.118	2.000	—	90,0	3200	23.590	XNHQ0707

Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (R)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-...	SH6005-T09P	—	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-05.00	SH6005-T09P	ULC6S5/8UNFX11/2	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-06.00	SH6005-T09P	ULC6S3/4UNFX11/2	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-08.00	SH6005-T09P	—	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-10.00	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-12.00	SH6005-T09P	—	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-...	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

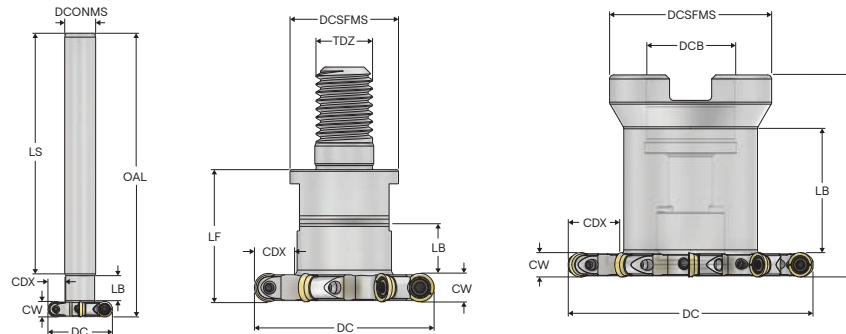


335.29

Free-cutting disc milling cutter system equipped with round inserts dedicated for slotting with full radius or 3D profiling operation

- Width of cut 5-12 mm (.236 - .394 inch)
- Cutter range diameter 25-80 mm (1.5 - 3.0 inch)
- Available with Cylindrical, Arbor, and Combimaster connection, with through coolant capability
- Economical solution with 4 cutting edges per insert

R335.29 - Round insert - Metric - full side - radius profile - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 527-541
- For complete insert programme, see page(s) 886, 889
- For spare parts and technical information, see page 506-512
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	DCB	DCSFMS	TDZ	DCONMS	LF	LS	OAL	LB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm		mm	mm	mm	mm	mm		kg	
R335.29-1225.0-05.4N-R25A	02628056	Cylindrical	25,0	5,0	6,9	4	—	—	—	12,0	—	94,0	110,0	10,0	44800	0,2	RD..0501
R335.29-1225.0-06.4N-R3A	02628045	Cylindrical	25,0	6,0	6,9	4	—	—	—	12,0	—	93,0	110,0	10,0	20600	0,2	RD..06T1
R335.29-1632.0-05.5N-R25A	02628063	Cylindrical	32,0	5,0	8,4	5	—	—	—	16,0	—	114,0	130,0	10,0	39600	0,3	RD..0501
R335.29-1632.0-06.5N-R3A	02628061	Cylindrical	32,0	6,0	8,4	5	—	—	—	16,0	—	113,0	130,0	10,0	18700	0,3	RD..06T1
R335.29-1632.0-07.5N-R35A	02628060	Cylindrical	32,0	7,0	8,4	5	—	—	—	16,0	—	112,0	130,0	10,0	31600	0,2	RD..0702
R335.29-1632.0-08.4N-R4A	02628058	Cylindrical	32,0	8,0	8,4	4	—	—	—	16,0	—	111,0	130,0	10,0	23300	0,3	RD..08..
R335.29-2040.0-05.6N-R25A	02628067	Cylindrical	40,0	5,0	10,4	6	—	—	—	20,0	—	124,0	140,0	10,0	35400	0,4	RD..0501
R335.29-2040.0-06.6N-R3A	02628066	Cylindrical	40,0	6,0	10,4	6	—	—	—	20,0	—	123,0	140,0	10,0	16300	0,4	RD..06T1
R335.29-2040.0-08.5N-R4A	02628064	Cylindrical	40,0	8,0	10,4	5	—	—	—	20,0	—	121,0	140,0	10,0	18800	0,4	RD..08..
R335.29-2550.0-05.8N-R25A	02628071	Cylindrical	50,0	5,0	12,9	8	—	—	—	25,0	—	134,0	150,0	10,0	31700	0,6	RD..0501
R335.29-2550.0-06.8N-R3A	02628069	Cylindrical	50,0	6,0	12,9	8	—	—	—	25,0	—	133,0	150,0	10,0	17300	0,6	RD..06T1
R335.29-2550.0-08.6N-R4A	02628068	Cylindrical	50,0	8,0	12,9	6	—	—	—	25,0	—	131,0	150,0	10,0	17300	0,6	RD..08..
R335.29-1240.RE-06.6N-R3A	02661227	Combimaster	40,0	6,0	10,0	6	—	23,0	M12	—	28,0	—	—	10,0	17600	0,2	RD..06T1
R335.29-1240.RE-07.6N-R35A	02627979	Combimaster	40,0	7,0	10,0	6	—	23,0	M12	—	28,0	—	—	9,0	28200	0,2	RD..0702
R335.29-1240.RE-08.5N-R4A	02627978	Combimaster	40,0	8,0	10,0	5	—	23,0	M12	—	28,0	—	—	8,0	18800	0,2	RD..08..
R335.29-1650.RE-06.8N-R3A	02661228	Combimaster	50,0	6,0	12,5	8	—	30,0	M16	—	28,0	—	—	9,0	17300	0,3	RD..06T1
R335.29-1650.RE-07.7N-R35A	02627984	Combimaster	50,0	7,0	12,5	7	—	30,0	M16	—	28,0	—	—	8,0	25300	0,2	RD..0702
R335.29-1650.RE-08.6N-R4A	02661229	Combimaster	50,0	8,0	12,5	6	—	30,0	M16	—	28,0	—	—	7,0	17300	0,2	RD..08..
R335.29I-1650.RE-10.6N-R5A	03278721	Combimaster	50,0	10,0	12,34	3	—	30,0	M16	—	28,0	—	—	4,3	15800	0,3	RD..10T3
R335.29I-1650.RE-12.4N-R6A	02988077	Combimaster	50,0	12,0	12,5	2	—	30,0	M16	—	28,0	—	—	4,3	11200	0,2	RP..1204
R335.29-063.06.22-10N-R3A	02627922	Arbor	63,0	6,0	15,0	10	22,0	40,0	—	—	50,0	—	—	30,6	13900	0,4	RD..06T1
R335.29-063.07.22-10N-R35A	02627950	Arbor	63,0	7,0	15,0	10	22,0	40,0	—	—	50,0	—	—	29,6	22500	0,4	RD..0702
R335.29-063.08.22-8N-R4A	02661224	Arbor	63,0	8,0	15,0	8	22,0	40,0	—	—	50,0	—	—	28,6	15600	0,4	RD..08..
R335.29I-063.10.22-6N-R5A	03278719	Arbor	63,0	10,0	14,67	6	22,0	38,0	—	—	50,0	—	—	26,61	13500	0,4	RD..10T3
R335.29I-063.12.22-6N-R6A	02988078	Arbor	63,0	12,0	15,0	6	22,0	40,0	—	—	50,0	—	—	24,6	10200	0,4	RP..1204
R335.29-080.08.27-10N-R4A	02627974	Arbor	80,0	8,0	20,0	10	27,0	48,0	—	—	50,0	—	—	26,8	13700	0,6	RD..08..
R335.29I-080.10.27-8N-R5A	03278720	Arbor	80,0	10,0	19,67	8	27,0	46,0	—	—	50,0	—	—	24,74	12000	0,6	RD..10T3
R335.29I-080.12.27-8N-R6A	02988079	Arbor	80,0	12,0	20,0	4	27,0	48,0	—	—	50,0	—	—	22,7	10000	0,6	RP..1204

R335.29I Disc Milling cutters offer indexing possibility - Indexing screw SX2035-T05P included in the delivery

Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

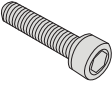
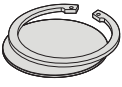
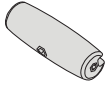
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Spare Parts, included in delivery

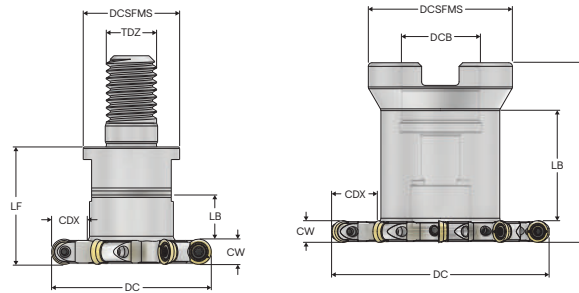
Square shoulder and slot milling cutters	For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Key	Key (T-handle)	Screw
								
Helical milling cutters	R335.29 .RExxx-R35A/.0-xxx-R35A	–	–	H4B-T07P	C02545-T07P	–	DOUBLE-T	–
	R335.29 .RExxx-R3A/.0-xxx-R3A	–	–	H4B-T07P	C02205-T07P	–	DOUBLE-T	–
	R335.29 .RExxx-R4A/.0-xxx-R4A	–	–	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
	R335.29 .RExxx-R5A/.0-xxx-R5A	–	–	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
	R335.29 .RExxx-R5A/.0-xxx-R6A	–	–	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P
	R335.29 -R25A	–	–	H4B-T06P	C02053-T06P	–	DOUBLE-T	–
Face milling cutters	R335.29 R35A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02545-T07P	–	DOUBLE-T	–
	R335.29 R3A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02205-T07P	–	DOUBLE-T	–
	R335.29 R4A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
	R335.29 R4A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
	R335.29 R5A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
	R335.29 R5A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
Disc milling cutters	R335.29 R6A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P
	R335.29 R6A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P

Accessories

	For	Insert clamping torque	Torque key
			
High feed milling cutters	R335.29 .RExxx-R35A/.0-xxx-R35A	0.9NM	T00-07P09
	R335.29 .RExxx-R3A/.0-xxx-R3A	0.9NM	T00-07P09
	R335.29 .RExxx-R4A/.0-xxx-R4A	1.2NM	T00-08P12
	R335.29 .RExxx-R5A/.0-xxx-R5A	2.0NM	T00-09P20
Copy milling cutters	R335.29 .RExxx-R5A/.0-xxx-R6A	3.0NM	T00-15P30
	R335.29 -R25A	0.5NM	T00-06P05
	R335.29 R35A DCB=22	0.9NM	T00-07P09
	R335.29 R3A DCB=22	0.9NM	T00-07P09
Plunge milling cutters	R335.29 R4A DCB=22	1.2NM	T00-08P12
	R335.29 R4A DCB=27	1.2NM	T00-08P12
	R335.29 R5A DCB=22	2.0NM	T00-09P20
	R335.29 R5A DCB=27	2.0NM	T00-09P20
	R335.29 R6A DCB=22	3.0NM	T00-15P30
	R335.29 R6A DCB=27	3.0NM	T00-15P30

Chamfer milling cutters	
Spot facing cutters	
Inserts	

R335.29 - Round insert - inch - full side - radius profile - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 529–530, 533–538
- For complete insert programme, see page(s) 886
- For spare parts and technical information, see page 506–512
- For ISO attribute explanation, see page 16

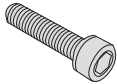
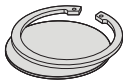
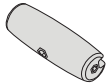
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	DCB	DCSFMS	TDZ	LF	LB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch		inch	inch		lbs	
R335.29-1.50-12RE-6N-R3	02477694	Combimaster	1.500	0.236	0.297	6	–	0.906	M12	1.102	–	33700	0.440	RD..06T1
R335.29-2.00-16RE-8N-R3	02477702	Combimaster	2.000	0.236	0.409	8	–	1.181	M16	1.102	–	30200	0.660	RD..06T1
R335.29-2.00-16RE-6N-R4	02477709	Combimaster	2.000	0.315	0.409	6	–	1.181	M16	1.102	–	20200	0.660	RD..08
R335.29I-02.50-6N-R5A	03278722	Arbor	2.500	0.394	0.587	6	0.750	1.501	–	1.998	1.075	13500	1.100	RD..10T3
R335.29I-03.00-8N-R5A	03278723	Arbor	3.000	0.394	0.700	8	1.000	1.803	–	2.000	1.052	12000	1.320	RD..10T3

R335.29I Disc Milling cutters offer indexing possibility

Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
							
R335.29I -R5A DCB=0.750	UC6S3/8UNFX11/2	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	DOUBLE-T	0.9NM	T00-07P09
R335.29I -R5A DCB=1.000	UC6S1/2UNFX1-1/2	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	DOUBLE-T	1.2NM	T00-08P12
R335.29 RE- R3	–	–	H4B-T07P	C02205-T07P	DOUBLE-T	2.0NM	T00-09P20
R335.29 RE- R4	–	–	H4B-T08P	C02506-T08P	DOUBLE-T		

Square shoulder
and slot milling
cutters

Helical milling
cutters

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cutters

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cutters

Copy milling
cutters

Plunge milling
cutters

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cutters

Spot facing
cutters

Inserts

335.18, 335.25 and 335.98 – Keyway for Arbor hole type and Arbor cutter

Square shoulder
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High feed milling
cutters

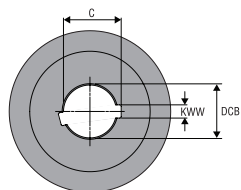
Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

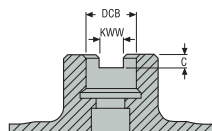
Spot facing
cutters

Inserts



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6
60	14	64,3

Dimensions in inch		
DCB	KWW	C
1.00	0.250	1.110
1.25	0.312	1.393
1.50	0.375	1.673
2.00	0.500	2.198



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

Dimensions in inch		
DCB	KWW	C
0.75	0.32	0.19
1.00	0.38	0.22
1.25	0.51	0.28
1.50	0.63	0.38

Retaining screw Arbor type cutter: R335.18 / R335.25 (supplied with the cutter in the delivery) - Metric/Inch

For cutter dia – metric	Cutter 335.18 adj. “0810”, “1012”, “1215” series – metric	Cutter 335.25 - adjustable – metric	For cutter dia – Inch	Cutter 335.25 - adjustable – Inch
63	MC6S 10x40	-	2.50	-
80	MC6S 12x40	-	3.00	MLC6S10X45
100	MC6S 12x40	MC6S12X40	4.00	UC6S1/2UNFX1-1/2
125	-	MC6S16X40	5.00	ULC6S5/8UNFX11/2
160	-	MLC6S20X40	6.00	ULC6S3/4UNFX1-1/2

Note: For disc cutter not mentioned in the tables, please use cross head retaining screw, supplied with the Seco Tooling System shell mill holder

To order a standard adjustable disc milling cutter set at a specific width:



To obtain an adjustable disc mill set to your required dimension add “/ADJ” at the end of the reference and specify your required width which will be set with a tolerance of +/- 0,03 mm (+/- .001”). Without specification the standard disc mill is set to the minimum cutting width.

Ordering example: R335.25-200.1317.40-7N/ADJ and specify on your order your width to any value within its range, for example specify a cutting width of 15.50mm in your order. The disc mill will be set to 15.50 +/- 0,03 mm (0.610” +/- .001”).

The delivery time is approx. 3 days for a set adjustable disc mill.

(R)335.18 – LNK inserts



LNK.05
For width 8-10, .312"-.375"



LNK.06
For width 10-12, .625"



LNK.08
For width 12-15, .500"-.750"

LNK.06 and LNK.08 have the same size, but LNK.06 have a reduced cutting length (6mm, .250") to decrease cutting forces for width= 10-12 mm, .394"-.472".
LNK.08 have a cutting length = 7,5 mm, .295" for width 12-15 mm, .500"-.750".

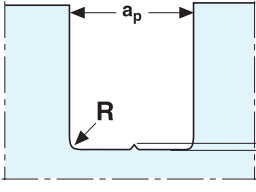
Radius possibilities/Number of cutting edges

	Insert	R	Fixed pocket version: CW =							Adjustable version: CW =				R	Fixed pocket version: CW inch =				Adjustable version: CW inch =					
			8	10	12	14	17	20	8	10	12	15	0.312/ 0.375		0.500	0.625	0.750	0.313	0.394	0.472	0.591			
4 cutting edges																								
	LNK.050404	0,4	x	x					x	x			.016	x					x	x				
	LNK.050408	0,8	x	x					x	x			.031	x					x	x				
	LNK.050416	1,6	x	x					x	x			.063	x					x	x				
	LNK.050420	2,0	x	x					x	x			.079	x					x	x				
	LNK.060504	0,4		x	x		x			x	x		.016				x			x	x			
	LNK.060508	0,8		x	x		x			x	x		.031				x			x	x			
	LNK.060516	1,6		x	x		x			x	x		.063				x			x	x			
	LNK.080504	0,4		o	o	x	o	x		o	o	x	.016			x	o	x		o	o	x		
	LNK.080508	0,8		o	o	x	o	x		o	o	x	.031			x	o	x		o	o	x		
	LNK.080516	1,6		o	o	x	o	x		o	o	x	.063			x	o	x		o	o	x		
LNK.080520	2,0		x	x	x	x	x		x	x	x	.079			x	x	x		x	x	x			
LNK.080524	2,4		x	x	x	x	x		x	x	x	.094			x	x	x		x	x	x			
2 cutting edges																								
	LNK.050424	2,4	x	x					x	x			.094	x					x	x				
	LNK.060531	3,1		x	x		x			x	x		.122				x			x	x			
	LNK.080531	3,1			o	x	o	x			o	x	.122			x	o	x			o	x		
1 cutting edge (L and R insert)																								
	LNK.050431...C*	3,1	x						x				.122	x					x	x				
	LNK.050431*	3,1		x						x			.157				x			x	x			
	LNK.060540	4,0		x	x		x			x	x		.157			x	o	x			o	x		
	LNK.080540	4,0			o	x	o	x			o	x												

*LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW = 9 to 10mm

x = First choice o = Alternative choice

Width and profile generated with LNK.06/08 radii R1,6/R2,0 and R2,4

	a _p (mm)		H (mm)		a _p (in)		H (in)	
		Radius 1,6		Radius 2 and 2,4		Radius .063		Radii .079 and .095
	13,4	–		0	.518	–		0
	14	–		0,03	.551	–		.001
	14,2	0		0,07	.559	0		.003
	14,5	0,01		0,13	.570	.0004		.005
	15	0,1		0,3	.591	.004		.012

Square shoulder
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Plunge milling
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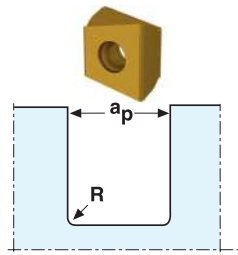
Chamfer milling
cutters

Spot facing
cutters

Inserts

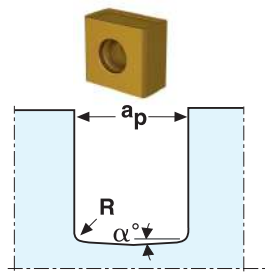
(R)335.25 – LNHQ/XNHQ inserts

Width and profile generated by XNHQ insert with fixed pocket cutter for $a_p = 15/20/25\text{mm}$, $a_p = 0.75''$, $1.00''$



Insert corner radius	$a_p = 15\text{mm}$	$a_p = 20\text{mm}$	$a_p = 25\text{mm}$	Insert corner radius	$a_p = 0.75''$	$a_p = 1.00''$
0,4	15	20	25	0.016	0.75	1.00
0,8	15	20	25	0.032	0.75	1.00
1,2	15	20	25	0.047	0.75	1.00
1,6	15	20	25	0.063	0.75	1.00
2	15	20	25	0.079	0.75	1.00
2,4	15	20	25	0.094	0.75	1.00
3,1	14,86	20	25	0.122	0.75	1.00
4	14,6	19,78	25	0.157	0.741	1.00
5	–	19,46	24,73	0.197	0.729	0.989
6	–	–	24,46	0.236	–	0.979

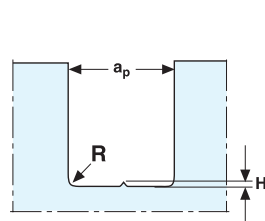
Width and profile generated by LNHQ* insert with fixed pocket cutter for $a_p = 25\text{mm}$, $a_p = 1.00''$



Insert corner radius mm	a_p mm generated	angle α°	Insert corner radius inch	a_p inch generated	angle α°
0,8	25,17	2	0.0315	1.007	2
3,1	25,02	2	0.122	1.001	2
4	24,92	2	0.157	0.997	2
5	24,78	2	0.197	0.992	2
6	24,64	2	0.236	0.986	2

*LNHQ is an insert intended for roughing in difficult conditions (this will not generate a flat bottom).

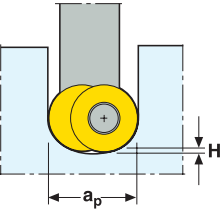
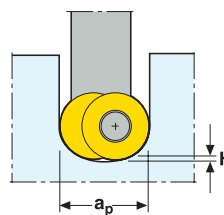
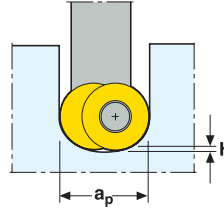
Width and profile generated with XNHQ 14 and 17 insert, radii 5 and 6 mm, radii 0.197'' and 0.236'' with adjustable cutter



Width cutter	a_p mm	H (mm)		Width cutter	a_p inch	H (inch)	
		Radius 5	Radius 6			Radius 0.197''	Radius 0.236''
21-26	25,5	0	0	0.83-1.02	1.004	0	0
21-26	25,8	0	0,01	0.83-1.02	1.016	0	.0004
21-26	26,0	0,01	0,03	0.83-1.02	1.024	.0004	.0011
26-32	31,7	0	0	1.02-1.26	1.248	0	0
26-32	32,0	0	0,01	1.02-1.26	1.260	0	.0004

Profile machined with adjustable 335.18/335.25 cutter

335.18/335.25 cutter equipped with round inserts mm/inch

 a_p min a_p max	Round 8		Round 8		Round 10		Round 10	
	a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
	8,03	0	.316	0	10,03	0	.406	0
	8,50	0	.335	0	10,50	0	.413	0
	9,00	0,03	.354	.001	11,00	0,025	.433	.001
	9,50	0,07	.374	.003	11,50	0,060	.453	.002
 a_p min a_p max	Round 12		Round 12		Round 16		Round 16	
	a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
	12,03	0	.474	0	16,03	0	.631	0
	12,50	0,01	.492	.0004	16,50	0	.650	0
	13,00	0,02	.512	.001	17,00	0,02	.669	.001
	14,00	0,08	.551	.002			.709	.002
 a_p min a_p max	Round 20		Round 20		Round 20		Round 20	
	a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
	20,03	0			20,03	0		
	20,5	0,01			20,5	0,01		
	21	0,02			21	0,02		
	Recom. min setting width is 20,03 mm		Recom. min setting width is 20,03 mm		Recom. min setting width is 20,03 mm		Recom. min setting width is 20,03 mm	

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Inserts

Spare parts

(R)335.18 -LNK and round insert - Adjustable design - Metric

(R)335.18-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0810	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
0810XL	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0810	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
0810XL	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
1012	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
1012XL	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
1012	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5I	...10-R5I
1012XL	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5I	...10XL-R5I
1215	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
1215XL	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
1215	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
1215XL	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 944

(R)335.18 -LNK and round insert - Adjustable design - Inch

(R)335.18-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
XL0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
XL0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
0708	LNK.06..	C73007-T09P 17.7	H4B-T08P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
XL0708	LNK.06..	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5	...10-R5
XL0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5	...10XL-R5
0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
XL0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
0809	RP..12..	C03508-T15P 26.6	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
XL0809	RP..12..	C03508-T15P 26.6	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 944

Spare parts

For adjustable cutter (R)335.25 equipped with XNHQ09/12/14/17 and LNHQ14/17 inserts - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
1317XL	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1721	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
1721XL	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
2126	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
2126XL	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
2632	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
2632XL	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal "DC" diameter

**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal "DC" diameter

***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal "DC" diameter

**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal "DC" diameter

For adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16-R8I-D5*	...16-R8I-D5*
1317XL	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16XL-R8I-D5	...16XL-R8I-D5
1721XL	RP..2006	C05013-T20P / 5	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10I-D5	...20XL-R10I-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal "DC" diameter +5mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Spare parts

Spare parts for adjustable cutter (R)335.25 equipped with XNHQ09/12/14/17 and LNHQ14/17 inserts - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
XL0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
XL1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
XL1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
XL1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal "DC" diameter

**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal "DC" diameter

***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal "DC" diameter

**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal "DC" diameter

Spare parts for adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16-R8I-D5*	...16-R8I-D5*
XL0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16XL-R8I-D5	...16XL-R8I-D5
XL1113	RP..2006	C05010-T20P/44.3	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10I-D5	...20XL-R10I-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal "DC" diameter +5mm

335.18-LNK – Insert selection – mm/Inch

SMG				f_z			
				30%	20%	10%	
P1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075	Square shoulder and slot milling cutters
P2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	
P3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,12 0.0048	0,14 0.0055	0,18 0.0070	
P4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,12 0.0048	0,13 0.0050	0,18 0.0070	Helical milling cutters
P5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065	
P6	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065	
P7	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065	Face milling cutters
P8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	LNKT08...-M06 MP3000	0,12 0.0048	0,14 0.0055	0,18 0.0070	
P11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065	
P12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	Disc milling cutters
M1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,13 0.0050	0,19 0.0055	0,19 0.0075	
M2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,11 0.0044	0,13 0.0050	0,17 0.0065	
M3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055	High feed milling cutters
M4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	
M5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	
K1	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,13 0.0050	0,14 0.0055	0,19 0.0075	Copy milling cutters
K2	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,11 0.0044	0,13 0.0050	0,17 0.0065	
K3	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,11 0.0044	0,13 0.0050	0,17 0.0065	
K4	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,11 0.0044	0,13 0.0050	0,17 0.0065	Plunge milling cutters
K5	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,10 0.0040	0,12 0.0048	0,16 0.0065	
K6	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,11 0.0044	0,13 0.0050	0,17 0.0065	
K7	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	LNKT08...-M06 MK2050	0,10 0.0040	0,12 0.0048	0,16 0.0065	Chamfer milling cutters
N1	LNKT05...-E05 H25	LNKT06...-E05 H25	LNKT08...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085	
N2	LNKT05...-E05 H25	LNKT06...-E05 H25	LNKT08...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085	
N3	LNKT05...-E05 H25	LNKT06...-E05 H25	LNKT08...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085	Spot facing cutters
N11	LNKT05...-E05 H25	LNKT06...-E05 H25	LNKT08...-E05 H25	0,14 0.0055	0,16 0.0065	0,22 0.0085	
S1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	
S2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	Inserts
S3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,075 0.0030	0,085 0.0034	0,11 0.0044	
S11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055	
S12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055	
S13	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	
H5	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	LNKT08...-M06 MP3000	0,075 0.0030	0,090 0.0036	0,12 0.0048	
H8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	LNKT08...-M06 MP3000	0,060 0.0024	0,070 0.0028	0,090 0.0036	
H11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
H12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	LNKT08...-M06 F40M	0,060 0.0024	0,070 0.0028	0,090 0.0036	
H21	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	LNKT08...-M06 MP3000	0,060 0.0024	0,070 0.0028	0,090 0.0036	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

335.18-LNK – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MP3000			F40M			H25			MK1501			MP2501			MP3501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	255 840	275 900	300 980	245 800	265 870	290 950	200 660	210 690	230 750	—	—	—	—	—	—	340 1125	355 1175	380 1250	305 1000	320 1050	345 1125
	P2	245 800	265 870	295 970	235 770	255 840	285 940	190 620	205 670	225 740	—	—	—	—	—	—	325 1075	345 1125	370 1225	295 970	315 1025	335 1100
Helical milling cutters	P3	215 710	230 750	255 840	205 670	220 720	245 800	165 540	175 570	195 640	—	—	—	—	—	—	285 940	300 980	325 1075	255 840	270 890	290 950
	P4	190 620	205 670	225 740	180 590	200 660	215 710	145 475	160 520	175 570	—	—	—	—	—	—	250 820	265 870	285 940	225 740	240 790	255 840
Face milling cutters	P5	185 610	195 640	220 720	180 590	190 620	210 690	140 460	150 490	170 560	—	—	—	—	—	—	245 800	255 840	275 900	220 720	230 750	245 800
	P6	210 690	220 720	245 800	200 660	210 690	235 770	160 520	170 560	190 620	—	—	—	—	—	—	275 900	285 940	305 1000	245 800	255 840	275 900
Disc milling cutters	P7	195 640	210 690	230 750	190 620	200 660	225 740	150 490	160 520	180 590	—	—	—	—	—	—	260 850	270 890	290 950	235 770	245 800	260 850
	P8	180 590	195 640	215 710	175 570	185 610	205 670	140 460	150 490	165 540	—	—	—	—	—	—	240 790	250 820	270 890	215 710	225 740	245 800
High feed milling cutters	P11	190 620	200 660	225 740	185 610	195 640	215 710	145 475	155 510	175 570	—	—	—	—	—	—	250 820	260 850	280 920	225 740	235 770	255 840
	P12	125 410	130 425	145 475	120 395	125 410	140 460	95 310	100 330	110 360	—	—	—	—	—	—	155 510	160 520	170 560	140 460	145 475	155 510
Copy milling cutters	M1	—	—	—	175 570	190 620	210 690	150 490	165 540	180 590	—	—	—	—	—	—	180 590	195 640	215 710	165 540	180 590	200 660
	M2	—	—	—	150 490	160 520	175 570	130 425	135 445	150 490	—	—	—	—	—	—	150 490	160 520	180 590	140 460	150 490	165 540
Plunge milling cutters	M3	—	—	—	120 395	130 425	140 460	105 345	110 360	120 395	—	—	—	—	—	—	120 395	130 425	140 460	115 375	120 395	135 445
	M4	—	—	—	90 295	100 330	110 360	80 260	85 280	95 310	—	—	—	—	—	—	95 310	100 330	110 360	85 280	95 310	105 345
Chamfer milling cutters	M5	—	—	—	75 245	80 260	90 295	65 215	70 230	80 260	—	—	—	—	—	—	80 260	85 280	90 295	70 230	80 260	85 280
	K1	265 870	290 950	315 1025	155 510	170 560	190 620	150 490	165 540	180 590	—	—	—	400 1300	455 1500	550 1800	330 1075	350 1150	375 1225	295 970	315 1025	340 1125
Spot facing cutters	K2	240 790	255 840	285 940	140 460	150 490	170 560	135 445	145 475	160 520	—	—	—	355 1175	400 1300	485 1600	295 970	310 1025	330 1075	265 870	275 900	300 980
	K3	205 670	215 710	240 790	120 395	130 425	140 460	115 375	120 395	135 445	—	—	—	245 800	265 870	305 1000	250 820	260 850	280 920	225 740	235 770	250 820
Inserts	K4	195 640	205 670	230 750	115 375	120 395	135 445	110 360	115 375	130 425	—	—	—	235 770	250 820	290 950	240 790	250 820	265 870	215 710	225 740	240 790
	K5	120 395	125 410	140 460	70 230	75 245	80 260	65 215	70 230	80 260	—	—	—	140 460	155 510	175 570	145 475	150 490	160 520	130 425	135 445	145 475
Spot facing cutters	K6	170 560	180 590	200 660	100 330	105 345	120 395	95 310	100 330	115 375	—	—	—	205 670	220 720	255 840	210 690	220 720	235 770	190 620	195 640	210 690
	K7	150 490	160 520	175 570	90 295	95 310	105 345	85 280	90 295	100 330	—	—	—	180 590	195 640	225 740	185 610	190 620	205 670	165 540	175 570	185 610
Spot facing cutters	N1	—	—	—	1400 4600	1500 4925	1675 5500	1125 3700	1200 3925	1325 4350	1150 3775	1225 4025	1350 4425	—	—	—	—	—	—	—	—	—
	N2	—	—	—	560 1825	610 2000	670 2200	450 1475	485 1600	540 1775	465 1525	500 1650	550 1800	—	—	—	—	—	—	—	—	—
Spot facing cutters	N3	—	—	—	375 1225	405 1325	450 1475	300 980	325 1075	360 1175	310 1025	330 1075	365 1200	—	—	—	—	—	—	—	—	—
	N11	—	—	—	430 1400	465 1525	510 1675	345 1125	370 1225	410 1350	355 1175	380 1250	415 1350	—	—	—	—	—	—	—	—	—
Spot facing cutters	S1	—	—	—	43 140	46 150	50 165	37 120	40 130	44 145	—	—	—	—	—	—	—	—	—	28 90	30 100	34 110
	S2	—	—	—	34 110	37 120	41 135	30 100	32 105	35 115	—	—	—	—	—	—	—	—	—	23 75	25 80	27 90
Spot facing cutters	S3	—	—	—	30 100	32 105	36 120	26 85	28 90	31 100	—	—	—	—	—	—	—	—	—	29 95	31 100	34 110
	S11	—	—	—	60 195	65 215	70 230	50 165	55 180	60 195	—	—	—	—	—	—	—	—	—	55 180	60 195	65 215
Spot facing cutters	S12	—	—	—	50 165	55 180	60 195	44 145	47 155	50 165	—	—	—	—	—	—	—	—	—	39 130	43 140	46 150
	S13	—	—	—	29 95	31 100	35 115	25 80	27 90	30 100	—	—	—	—	—	—	—	—	—	23 75	24 80	27 90
Spot facing cutters	H5	42 140	45 150	49 160	33 110	35 115	39 130	31 100	33 110	37 120	—	—	—	—	—	—	—	—	—	36 120	38 125	42 140
	H8	44 145	47 155	50 165	35 115	37 120	41 135	33 110	35 115	39 130	—	—	—	—	—	—	—	—	—	38 125	40 130	45 150
Spot facing cutters	H11	55 180	55 180	65 215	42 140	44 145	49 160	40 130	42 140	47 155	—	—	—	—	—	—	—	—	—	46 150	49 160	55 180
	H12	75 245	80 260	90 295	40 130	43 140	48 155	38 125	41 135	45 150	—	—	—	—	—	—	—	—	—	70 230	70 230	80 260
Spot facing cutters	H21	44 145	47 155	50 165	35 115	37 120	41 135	33 110	35 115	39 130	—	—	—	—	—	—	—	—	—	38 125	40 130	45 150

335.25-XN09 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	XNHQ090508TN4-M08 F40M	0,14 0,0055	0,16 0,0065	0,22 0,0085	Square shoulder and slot milling cutters
P2	XNHQ090508TN4-M08 F40M	0,14 0,0055	0,16 0,0065	0,22 0,0085	
P3	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P4	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	Helical milling cutters
P5	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P6	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,19 0,0075	
P7	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,19 0,0075	Face milling cutters
P8	XNHQ090508TN4-M08 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P11	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,19 0,0075	
P12	XNHQ090508TN4-M08 F40M	0,085 0,0034	0,10 0,0040	0,13 0,0050	Disc milling cutters
M1	XNHQ090508TN4-M08 F40M	0,14 0,0055	0,16 0,0065	0,22 0,0085	
M2	XNHQ090508TN4-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
M3	XNHQ090508TN4-M08 F40M	0,10 0,0040	0,12 0,0048	0,16 0,0065	High feed milling cutters
M4	XNHQ090508TN4-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
M5	XNHQ090508TN4-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
K1	XNHQ090508TN4-M08 MK2050	0,14 0,0055	0,16 0,0065	0,22 0,0085	Copy milling cutters
K2	XNHQ090508TN4-M08 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K3	XNHQ090508TN4-M08 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K4	XNHQ090508TN4-M08 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	Plunge milling cutters
K5	XNHQ090508TN4-M08 MK2050	0,12 0,0048	0,13 0,0050	0,18 0,0070	
K6	XNHQ090508TN4-M08 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K7	XNHQ090508TN4-M08 MK2050	0,12 0,0048	0,13 0,0050	0,18 0,0070	Chamfer milling cutters
N1	XNHQ090508EN4-E07 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	
N2	XNHQ090508EN4-E07 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	
N3	XNHQ090508EN4-E07 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	Spot facing cutters
N11	XNHQ090508EN4-E07 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	
S1	XNHQ090508TN4-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S2	XNHQ090508TN4-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	Inserts
S3	XNHQ090508TN4-M08 F40M	0,085 0,0034	0,095 0,0038	0,13 0,0050	
S11	XNHQ090508TN4-M08 F40M	0,10 0,0040	0,12 0,0048	0,16 0,0065	
S12	XNHQ090508TN4-M08 F40M	0,10 0,0040	0,12 0,0048	0,16 0,0065	
S13	XNHQ090508TN4-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
H5	XNHQ090508TN4-M08 MP2501	0,085 0,0034	0,10 0,0040	0,13 0,0050	
H8	XNHQ090508TN4-M08 MP2501	0,065 0,0026	0,075 0,0030	0,10 0,0040	
H11	XNHQ090508TN4-M08 F40M	0,085 0,0034	0,10 0,0040	0,13 0,0050	
H12	XNHQ090508TN4-M08 F40M	0,065 0,0026	0,075 0,0030	0,10 0,0040	
H21	XNHQ090508TN4-M08 MP2501	0,065 0,0026	0,075 0,0030	0,10 0,0040	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.25-XN09 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			F40M			MP2501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	240 790	255 840	280 920	185 610	195 640	215 710	320 1050	335 1100	360 1175
	P2	230 750	250 820	275 900	180 590	190 620	210 690	310 1025	325 1075	350 1150
Helical milling cutters	P3	205 670	220 720	240 790	155 510	170 560	185 610	270 890	285 940	305 1000
	P4	180 590	190 620	210 690	140 460	150 490	165 540	240 790	250 820	270 890
Face milling cutters	P5	170 560	185 610	205 670	130 425	140 460	155 510	230 750	240 790	260 850
	P6	195 640	205 670	230 750	150 490	160 520	180 590	255 840	270 890	290 950
	P7	180 590	195 640	220 720	140 460	150 490	170 560	240 790	255 840	275 900
	P8	170 560	185 610	205 670	130 425	140 460	155 510	230 750	240 790	260 850
	P11	175 570	190 620	210 690	135 445	145 475	165 540	235 770	245 800	270 890
	P12	115 375	125 410	135 445	90 295	95 310	105 345	150 490	155 510	165 540
Disc milling cutters	M1	— —	— —	— —	145 475	155 510	170 560	170 560	180 590	200 660
	M2	— —	— —	— —	120 395	125 410	140 460	140 460	150 490	165 540
	M3	— —	— —	— —	95 310	100 330	115 375	115 375	120 395	135 445
	M4	— —	— —	— —	75 245	80 260	90 295	90 295	95 310	105 345
High feed milling cutters	M5	— —	— —	— —	60 195	65 215	75 245	75 245	80 260	85 280
	K1	250 820	270 890	295 970	140 460	150 490	165 540	315 1025	330 1075	355 1175
	K2	220 720	235 770	260 850	125 410	135 445	150 490	275 900	290 950	310 1025
	K3	190 620	200 660	220 720	105 345	115 375	125 410	235 770	245 800	265 870
Copy milling cutters	K4	180 590	190 620	210 690	100 330	110 360	120 395	225 740	235 770	250 820
	K5	110 360	120 395	130 425	60 195	65 215	75 245	135 445	145 475	155 510
	K6	160 520	170 560	185 610	90 295	95 310	105 345	195 640	205 670	220 720
	K7	140 460	150 490	165 540	80 260	85 280	95 310	175 570	185 610	195 640
Plunge milling cutters	N1	— —	— —	— —	1050 3450	1125 3700	1225 4025	— —	— —	— —
	N2	— —	— —	— —	420 1375	455 1500	500 1650	— —	— —	— —
	N3	— —	— —	— —	280 920	305 1000	330 1075	— —	— —	— —
	N11	— —	— —	— —	320 1050	345 1125	380 1250	— —	— —	— —
Chamfer milling cutters	S1	— —	— —	— —	35 115	37 120	41 135	— —	— —	— —
	S2	— —	— —	— —	28 90	30 100	33 110	— —	— —	— —
	S3	— —	— —	— —	24 80	26 85	29 95	— —	— —	— —
	S11	— —	— —	— —	49 160	50 165	55 180	— —	— —	— —
Spot facing cutters	S12	— —	— —	— —	41 135	43 140	48 155	— —	— —	— —
	S13	— —	— —	— —	24 80	26 85	28 90	— —	— —	— —
	H5	— —	— —	— —	30 100	31 100	35 115	— —	— —	— —
	H8	— —	— —	— —	31 100	33 110	37 120	— —	— —	— —
Inserts	H11	— —	— —	— —	38 125	40 130	44 145	— —	— —	— —
	H12	— —	— —	— —	36 120	39 130	43 140	— —	— —	— —
	H21	— —	— —	— —	31 100	33 110	37 120	— —	— —	— —

335.25-XN12 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	XNHQ120608TN4-M10 F40M	0,17 0,0065	0,19 0,0075	0,26 0,010	Square shoulder and slot milling cutters
P2	XNHQ120608TN4-M10 F40M	0,17 0,0065	0,20 0,0080	0,26 0,010	
P3	XNHQ120608TN4-M10 F40M	0,16 0,0065	0,19 0,0075	0,25 0,010	
P4	XNHQ120608TN4-M10 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	Helical milling cutters
P5	XNHQ120608TN4-M10 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	
P6	XNHQ120608TN4-M10 F40M	0,15 0,0060	0,18 0,0070	0,24 0,0095	
P7	XNHQ120608TN4-M10 F40M	0,15 0,0060	0,18 0,0070	0,24 0,0095	Face milling cutters
P8	XNHQ120608TN4-M10 MP2501	0,16 0,0065	0,19 0,0075	0,25 0,010	
P11	XNHQ120608TN4-M10 F40M	0,15 0,0060	0,18 0,0070	0,24 0,0095	
P12	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,12 0,0048	0,16 0,0065	Disc milling cutters
M1	XNHQ120608TN4-M10 F40M	0,17 0,0065	0,20 0,0080	0,26 0,010	
M2	XNHQ120608TN4-M10 F40M	0,16 0,0065	0,18 0,0070	0,24 0,0095	
M3	XNHQ120608TN4-M10 F40M	0,12 0,0048	0,14 0,0055	0,19 0,0075	High feed milling cutters
M4	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
M5	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
K1	XNHQ120608TN4-M10 MK2050	0,17 0,0065	0,20 0,0080	0,26 0,010	Copy milling cutters
K2	XNHQ120608TN4-M10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	
K3	XNHQ120608TN4-M10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	
K4	XNHQ120608TN4-M10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	Plunge milling cutters
K5	XNHQ120608TN4-M10 MK2050	0,14 0,0055	0,16 0,0065	0,22 0,0085	
K6	XNHQ120608TN4-M10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	
K7	XNHQ120608TN4-M10 MK2050	0,14 0,0055	0,16 0,0065	0,22 0,0085	Chamfer milling cutters
N1	XNHQ120608EN4-E09 F40M	0,20 0,0080	0,22 0,0085	0,30 0,012	
N2	XNHQ120608EN4-E09 F40M	0,20 0,0080	0,22 0,0085	0,30 0,012	
N3	XNHQ120608EN4-E09 F40M	0,20 0,0080	0,22 0,0085	0,30 0,012	Spot facing cutters
N11	XNHQ120608EN4-E09 F40M	0,20 0,0080	0,22 0,0085	0,30 0,012	
S1	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
S2	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	Inserts
S3	XNHQ120608TN4-M10 F40M	0,10 0,0040	0,12 0,0048	0,16 0,0065	
S11	XNHQ120608TN4-M10 F40M	0,12 0,0048	0,14 0,0055	0,19 0,0075	
S12	XNHQ120608TN4-M10 F40M	0,12 0,0048	0,14 0,0055	0,19 0,0075	
S13	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
H5	XNHQ120608TN4-M10 MP2501	0,11 0,0044	0,12 0,0048	0,16 0,0065	
H8	XNHQ120608TN4-M10 MP2501	0,080 0,0032	0,095 0,0038	0,12 0,0048	
H11	XNHQ120608TN4-M10 F40M	0,11 0,0044	0,12 0,0048	0,16 0,0065	
H12	XNHQ120608TN4-M10 F40M	0,080 0,0032	0,095 0,0038	0,12 0,0048	
H21	XNHQ120608TN4-M10 MP2501	0,080 0,0032	0,095 0,0038	0,12 0,0048	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.25-XN12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			F40M			MP2501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	230	250	275	175	190	210	310	330	350
		750	820	900	570	620	690	1025	1075	1150
	P2	225	240	265	170	185	205	300	315	345
		740	790	870	560	610	670	980	1025	1125
	P3	195	210	230	150	160	180	265	275	300
		640	690	750	490	520	590	870	900	980
	P4	175	185	205	135	145	160	230	245	265
		570	610	670	445	475	520	750	800	870
	P5	165	175	195	125	135	150	220	235	255
		540	570	640	410	445	490	720	770	840
	P6	190	200	220	145	155	170	255	265	285
		620	660	720	475	510	560	840	870	940
	P7	180	190	210	135	145	160	240	250	270
		590	620	690	445	475	520	790	820	890
	P8	165	175	195	125	135	150	220	230	250
		540	570	640	410	445	490	720	750	820
	P11	175	185	200	135	140	155	230	240	260
		570	610	660	445	460	510	750	790	850
	P12	110	120	135	85	90	100	145	155	165
		360	395	445	280	295	330	475	510	540
	M1	—	—	—	140	150	165	165	175	195
		—	—	—	460	490	540	540	570	640
	M2	—	—	—	115	125	135	135	145	160
		—	—	—	375	410	445	445	475	520
	M3	—	—	—	95	100	110	110	120	130
		—	—	—	310	330	360	360	395	425
	M4	—	—	—	70	75	85	85	90	100
		—	—	—	230	245	280	280	295	330
	M5	—	—	—	60	65	70	70	75	85
		—	—	—	195	215	230	230	245	280
	K1	240	255	285	135	145	160	305	320	345
		790	840	940	445	475	520	1000	1050	1125
	K2	215	230	255	120	130	145	270	285	305
		710	750	840	395	425	475	890	940	1000
	K3	180	195	215	100	110	120	225	240	260
		590	640	710	330	360	395	740	790	850
	K4	170	185	205	95	105	115	215	230	245
		560	610	670	310	345	375	710	750	800
	K5	105	115	125	60	65	70	135	140	150
		345	375	410	195	215	230	445	460	490
	K6	150	165	180	85	90	100	190	200	220
		490	540	590	280	295	330	620	660	720
	K7	135	145	160	75	80	90	170	180	190
		445	475	520	245	260	295	560	590	620
	N1	—	—	—	1000	1075	1175	—	—	—
		—	—	—	3275	3525	3850	—	—	—
	N2	—	—	—	405	435	480	—	—	—
		—	—	—	1325	1425	1575	—	—	—
	N3	—	—	—	270	290	320	—	—	—
		—	—	—	890	950	1050	—	—	—
	N11	—	—	—	305	330	365	—	—	—
		—	—	—	1000	1075	1200	—	—	—
	S1	—	—	—	34	36	40	—	—	—
		—	—	—	110	120	130	—	—	—
	S2	—	—	—	27	29	32	—	—	—
		—	—	—	90	95	105	—	—	—
	S3	—	—	—	24	25	28	—	—	—
		—	—	—	80	80	90	—	—	—
	S11	—	—	—	48	50	55	—	—	—
		—	—	—	155	165	180	—	—	—
	S12	—	—	—	40	43	47	—	—	—
		—	—	—	130	140	155	—	—	—
	S13	—	—	—	23	24	27	—	—	—
		—	—	—	75	80	90	—	—	—
	H5	—	—	—	28	31	34	—	—	—
		—	—	—	90	100	110	—	—	—
	H8	—	—	—	31	32	36	—	—	—
		—	—	—	100	105	120	—	—	—
	H11	—	—	—	36	39	43	—	—	—
		—	—	—	120	130	140	—	—	—
	H12	—	—	—	36	38	42	—	—	—
		—	—	—	120	125	140	—	—	—
	H21	—	—	—	31	32	36	—	—	—
		—	—	—	100	105	120	—	—	—

335.25-XN14/XN17 – Insert selection – mm/Inch

SMG			f_z			
			30%	20%	10%	
P1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 0.0080	0,22 0.0085	0,30 0.012	Square shoulder and slot milling cutters
P2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
P3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012	
P4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011	Helical milling cutters
P5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	
P6	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	
P7	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	Face milling cutters
P8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,19 0.0075	0,22 0.0085	0,30 0.012	
P11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	
P12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	Disc milling cutters
M1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
M2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	
M3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	High feed milling cutters
M4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
M5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
K1	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,20 0.0080	0,24 0.0095	0,32 0.013	Copy milling cutters
K2	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 0.0070	0,22 0.0085	0,28 0.011	
K3	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 0.0070	0,22 0.0085	0,28 0.011	
K4	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 0.0070	0,22 0.0085	0,28 0.011	Plunge milling cutters
K5	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 0.0065	0,19 0.0075	0,25 0.010	
K6	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 0.0070	0,22 0.0085	0,28 0.011	
K7	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 0.0065	0,19 0.0075	0,25 0.010	Chamfer milling cutters
N1	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 0.0095	0,28 0.011	0,36 0.014	
N2	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 0.0095	0,28 0.011	0,36 0.014	
N3	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 0.0095	0,28 0.011	0,36 0.014	Spot facing cutters
N11	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 0.0095	0,28 0.011	0,36 0.014	
S1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
S2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	Inserts
S3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,12 0.0048	0,14 0.0055	0,18 0.0070	
S11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	
S12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	
S13	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
H5	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,13 0.0050	0,14 0.0055	0,19 0.0075	
H8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 0.0038	0,11 0.0044	0,15 0.0060	
H11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	
H12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,095 0.0038	0,11 0.0044	0,15 0.0060	
H21	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 0.0038	0,11 0.0044	0,15 0.0060	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

335.25-XN14/XN17 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			F40M			H25			MP2501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	225 740	245 800	265 870	170 560	185 610	205 670	— —	— —	— —	300 980	320 1050	345 1125
	P2	220 720	230 750	255 840	165 540	175 570	195 640	— —	— —	— —	290 950	305 1000	330 1075
Helical milling cutters	P3	190 620	205 670	225 740	145 475	155 510	170 560	— —	— —	— —	255 840	270 890	290 950
	P4	165 540	180 590	200 660	130 425	140 460	155 510	— —	— —	— —	225 740	235 770	260 850
Face milling cutters	P5	165 540	170 560	190 620	125 410	130 425	150 490	— —	— —	— —	220 720	225 740	250 820
	P6	180 590	195 640	215 710	140 460	150 490	165 540	— —	— —	— —	245 800	260 850	280 920
	P7	170 560	185 610	205 670	130 425	145 475	155 510	— —	— —	— —	230 750	245 800	265 870
	P8	160 520	170 560	190 620	125 410	130 425	145 475	— —	— —	— —	215 710	225 740	245 800
	P11	165 540	180 590	200 660	130 425	140 460	150 490	— —	— —	— —	225 740	240 790	255 840
	P12	110 360	120 395	130 425	85 280	90 295	100 330	— —	— —	— —	145 475	155 510	165 540
Disc milling cutters	M1	— —	— —	— —	135 445	145 475	160 520	— —	— —	— —	160 520	170 560	185 610
	M2	— —	— —	— —	115 375	120 395	135 445	— —	— —	— —	135 445	140 460	155 510
	M3	— —	— —	— —	90 295	95 310	110 360	— —	— —	— —	105 345	115 375	130 425
	M4	— —	— —	— —	70 230	75 245	85 280	— —	— —	— —	85 280	90 295	100 330
High feed milling cutters	M5	— —	— —	— —	60 195	65 215	70 230	— —	— —	— —	70 230	75 245	80 260
	K1	235 770	250 820	275 900	135 445	140 460	155 510	— —	— —	— —	295 970	305 1000	335 1100
	K2	210 690	220 720	250 820	120 395	125 410	140 460	— —	— —	— —	265 870	275 900	300 980
	K3	180 590	185 610	210 690	100 330	105 345	120 395	— —	— —	— —	225 740	230 750	255 840
Copy milling cutters	K4	170 560	180 590	200 660	95 310	100 330	115 375	— —	— —	— —	215 710	220 720	240 790
	K5	105 345	110 360	125 410	60 195	65 215	70 230	— —	— —	— —	130 425	135 445	150 490
	K6	150 490	155 510	175 570	85 280	90 295	100 330	— —	— —	— —	190 620	195 640	215 710
	K7	130 425	140 460	160 520	75 245	80 260	90 295	— —	— —	— —	165 540	175 570	190 620
Plunge milling cutters	N1	— —	— —	— —	970 3175	1025 3375	1150 3775	980 3225	1050 3450	1175 3850	— —	— —	— —
	N2	— —	— —	— —	390 1275	420 1375	465 1525	395 1300	420 1375	470 1550	— —	— —	— —
	N3	— —	— —	— —	260 850	280 920	310 1025	265 870	280 920	315 1025	— —	— —	— —
	N11	— —	— —	— —	295 970	320 1050	355 1175	300 980	320 1050	360 1175	— —	— —	— —
Chamfer milling cutters	S1	— —	— —	— —	33 110	35 115	39 130	— —	— —	— —	— —	— —	— —
	S2	— —	— —	— —	27 90	28 90	31 100	— —	— —	— —	— —	— —	— —
	S3	— —	— —	— —	23 75	25 80	28 90	— —	— —	— —	— —	— —	— —
	S11	— —	— —	— —	46 150	49 160	55 180	— —	— —	— —	— —	— —	— —
Spot facing cutters	S12	— —	— —	— —	38 125	41 135	46 150	— —	— —	— —	— —	— —	— —
	S13	— —	— —	— —	22 70	24 80	27 90	— —	— —	— —	— —	— —	— —
	H5	— —	— —	— —	28 90	30 100	33 110	— —	— —	— —	— —	— —	— —
	H8	— —	— —	— —	30 100	32 105	35 115	— —	— —	— —	— —	— —	— —
Inserts	H11	— —	— —	— —	35 115	38 125	42 140	— —	— —	— —	— —	— —	— —
	H12	— —	— —	— —	35 115	37 120	41 135	— —	— —	— —	— —	— —	— —
	H21	— —	— —	— —	30 100	32 105	35 115	— —	— —	— —	— —	— —	— —

335.25-LN14/LN17 – Insert selection – mm/Inch

SMG			f_z			
			30%	20%	10%	
P1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 0.0080	0,22 0.0085	0,30 0.012	Square shoulder and slot milling cutters
P2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
P3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012	Helical milling cutters
P4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011	
P5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	Face milling cutters
P6	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	
P7	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	Disc milling cutters
P8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012	
P11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011	High feed milling cutters
P12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	
M1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	Copy milling cutters
M2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	
M3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	Plunge milling cutters
M4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
M5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	Chamfer milling cutters
K1	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
K2	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	Spot facing cutters
K3	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	
K4	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	Inserts
K5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 0.0065	0,19 0.0075	0,25 0.010	
K6	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 0.0070	0,22 0.0085	0,28 0.011	
K7	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 0.0065	0,19 0.0075	0,25 0.010	
S1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
S2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
S3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,12 0.0048	0,14 0.0055	0,18 0.0070	
S11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	
S12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 0.0060	0,17 0.0065	0,22 0.0085	
S13	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
H5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	
H8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 0.0038	0,11 0.0044	0,15 0.0060	
H11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	
H12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,095 0.0038	0,11 0.0044	0,15 0.0060	
H21	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 0.0038	0,11 0.0044	0,15 0.0060	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

335.25-LN14/LN17 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M			MP2501		
		30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	170 560	185 610	205 670	300 980	320 1050	345 1125
		165 540	175 570	195 640	290 950	305 1000	330 1075
Helical milling cutters	P2	145 475	155 510	170 560	255 840	270 890	290 950
		130 425	140 460	155 510	225 740	235 770	260 850
Face milling cutters	P3	125 410	130 425	150 490	220 720	225 740	250 820
		140 460	150 490	165 540	245 800	260 850	280 920
Disc milling cutters	P4	130 425	145 475	155 510	230 750	245 800	265 870
		125 410	130 425	145 475	215 710	225 740	245 800
High feed milling cutters	P5	130 425	140 460	150 490	225 740	240 790	255 840
		85 280	90 295	100 330	145 475	155 510	165 540
Copy milling cutters	P6	135 445	145 475	160 520	160 520	170 560	185 610
		115 375	120 395	135 445	135 445	140 460	155 510
Plunge milling cutters	M1	90 295	95 310	110 360	105 345	115 375	130 425
		70 230	75 245	85 280	85 280	90 295	100 330
Chamfer milling cutters	M2	60 195	65 215	70 230	70 230	75 245	80 260
		135 445	140 460	155 510	295 970	305 1000	335 1100
Spot facing cutters	K1	120 395	125 410	140 460	265 870	275 900	300 980
		100 330	105 345	120 395	225 740	230 750	255 840
Inserts	K2	95 310	100 330	115 375	215 710	220 720	240 790
		60 195	65 215	70 230	130 425	135 445	150 490
Square shoulder and slot milling cutters	K3	85 280	90 295	100 330	190 620	195 640	215 710
		75 245	80 260	90 295	165 540	175 570	190 620
Helical milling cutters	K4	970 3175	1025 3375	1150 3775	—	—	—
		390 1275	420 1375	465 1525	—	—	—
Face milling cutters	K5	260 850	280 920	310 1025	—	—	—
		295 970	320 1050	355 1175	—	—	—
Disc milling cutters	N1	33 110	35 115	39 130	—	—	—
		27 90	28 90	31 100	—	—	—
Copy milling cutters	S1	23 75	25 80	28 90	—	—	—
		46 150	49 160	55 180	—	—	—
Plunge milling cutters	S2	38 125	41 135	46 150	—	—	—
		22 70	24 80	27 90	—	—	—
Chamfer milling cutters	S3	28 90	30 100	33 110	—	—	—
		30 100	32 105	35 115	—	—	—
Spot facing cutters	H5	35 115	38 125	42 140	—	—	—
		35 115	37 120	41 135	—	—	—
Inserts	H8	30 100	32 105	35 115	—	—	—
		30 100	32 105	35 115	—	—	—

335.25-XN05 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	XNXU050508TN8-M07 F40M	0,14 0,0055	0,16 0,0065	0,22 0,0085	Square shoulder and slot milling cutters
P2	XNXU050508TN8-M07 F40M	0,15 0,0060	0,17 0,0065	0,22 0,0085	
P3	XNXU050508TN8-M07 MP2501	0,14 0,0055	0,16 0,0065	0,22 0,0085	Helical milling cutters
P4	XNXU050508TN8-M07 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P5	XNXU050508TN8-M07 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P6	XNXU050508TN8-M07 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P7	XNXU050508TN8-M07 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	Face milling cutters
P8	XNXU050508TN8-M07 MP2501	0,14 0,0055	0,16 0,0065	0,22 0,0085	
P11	XNXU050508TN8-M07 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P12	XNXU050508TN8-M07 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
M1	XNXU050508TN8-M07 F40M	0,15 0,0060	0,17 0,0065	0,22 0,0085	Disc milling cutters
M2	XNXU050508TN8-M07 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
M3	XNXU050508TN8-M07 F40M	0,11 0,0044	0,12 0,0048	0,16 0,0065	
M4	XNXU050508TN8-M07 F40M	0,10 0,0040	0,11 0,0044	0,15 0,0060	
M5	XNXU050508TN8-M07 F40M	0,10 0,0040	0,11 0,0044	0,15 0,0060	
K1	XNXU050516TN8-M07 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	High feed milling cutters
K2	XNXU050508TN8-M07 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K3	XNXU050508TN8-M07 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K4	XNXU050508TN8-M07 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K5	XNXU050508TN8-M07 MK2050	0,12 0,0048	0,14 0,0055	0,18 0,0070	
K6	XNXU050508TN8-M07 MK2050	0,13 0,0050	0,15 0,0060	0,20 0,0080	
K7	XNXU050508TN8-M07 MK2050	0,12 0,0048	0,14 0,0055	0,18 0,0070	Copy milling cutters
S1	XNXU050508TN8-M07 F40M	0,10 0,0040	0,11 0,0044	0,15 0,0060	
S2	XNXU050508TN8-M07 F40M	0,10 0,0040	0,11 0,0044	0,15 0,0060	
S3	XNXU050508TN8-M07 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S11	XNXU050508TN8-M07 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	Plunge milling cutters
S12	XNXU050508TN8-M07 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
S13	XNXU050508TN8-M07 F40M	0,10 0,0040	0,11 0,0044	0,15 0,0060	
H5	XNXU050516TN8-M07 MK2050	0,10 0,0040	0,12 0,0048	0,16 0,0065	
H8	XNXU050508TN8-M07 MK2050	0,070 0,0028	0,080 0,0032	0,11 0,0044	Chamfer milling cutters
H11	XNXU050508TN8-M07 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
H12	XNXU050508TN8-M07 F40M	0,070 0,0028	0,080 0,0032	0,11 0,0044	
H21	XNXU050508TN8-M07 MK2050	0,070 0,0028	0,080 0,0032	0,11 0,0044	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

335.25-XN05 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			F40M			MP2501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	325 1075	345 1125	380 1250	250 820	265 870	295 970	435 1425	455 1500	485 1600
	P2	310 1025	335 1100	370 1225	240 790	255 840	285 940	415 1350	435 1425	475 1550
Helical milling cutters	P3	270 890	290 950	320 1050	210 690	225 740	245 800	360 1175	380 1250	405 1325
	P4	245 800	260 850	290 950	190 620	200 660	220 720	325 1075	340 1125	365 1200
Face milling cutters	P5	235 770	250 820	275 900	180 590	190 620	210 690	310 1025	325 1075	350 1150
	P6	260 850	280 920	310 1025	200 660	215 710	240 790	345 1125	365 1200	390 1275
Disc milling cutters	P7	245 800	265 870	290 950	190 620	205 670	225 740	330 1075	345 1125	370 1225
	P8	230 750	245 800	270 890	175 570	190 620	205 670	305 1000	320 1050	340 1125
High feed milling cutters	P11	240 790	255 840	285 940	185 610	195 640	220 720	320 1050	335 1100	360 1175
	P12	155 510	165 540	180 590	120 395	130 425	140 460	200 660	210 690	220 720
Copy milling cutters	M1	—	—	—	190 620	205 670	230 750	225 740	245 800	270 890
	M2	—	—	—	160 520	170 560	190 620	190 620	205 670	225 740
Plunge milling cutters	M3	—	—	—	130 425	140 460	155 510	150 490	165 540	180 590
	M4	—	—	—	100 330	105 345	120 395	120 395	125 410	140 460
Spot facing cutters	M5	—	—	—	85 280	90 295	100 330	100 330	105 345	115 375
	K1	335 1100	360 1175	400 1300	190 620	205 670	225 740	420 1375	440 1450	475 1550
Chamfer milling cutters	K2	300 980	320 1050	355 1175	170 560	180 590	200 660	375 1225	390 1275	420 1375
	K3	255 840	270 890	300 980	145 475	155 510	170 560	315 1025	330 1075	355 1175
Inserts	K4	245 800	260 850	290 950	135 445	145 475	160 520	300 980	315 1025	340 1125
	K5	150 490	155 510	175 570	85 280	90 295	100 330	185 610	190 620	205 670
Spot facing cutters	K6	215 710	230 750	255 840	120 395	130 425	145 475	265 870	280 920	300 980
	K7	190 620	200 660	225 740	105 345	115 375	125 410	235 770	245 800	265 870
Spot facing cutters	N1	—	—	—	1425 4675	1500 4925	1675 5500	—	—	—
	N2	—	—	—	570 1875	600 1975	680 2225	—	—	—
Spot facing cutters	N3	—	—	—	385 1275	400 1300	450 1475	—	—	—
	N11	—	—	—	435 1425	460 1500	520 1700	—	—	—
Spot facing cutters	S1	—	—	—	47 155	50 165	55 180	—	—	—
	S2	—	—	—	38 125	40 130	45 150	—	—	—
Spot facing cutters	S3	—	—	—	33 110	35 115	39 130	—	—	—
	S11	—	—	—	65 215	70 230	80 260	—	—	—
Spot facing cutters	S12	—	—	—	45 150	49 160	55 180	—	—	—
	S13	—	—	—	26 85	28 90	31 100	—	—	—
Spot facing cutters	H5	55 180	55 180	60 195	40 130	43 140	46 150	—	—	—
	H8	55 180	60 195	65 215	42 140	45 150	50 165	—	—	—
Spot facing cutters	H11	65 215	75 245	80 260	50 165	55 180	60 195	—	—	—
	H12	100 330	105 345	115 375	75 245	80 260	90 295	—	—	—
Spot facing cutters	H21	55 180	60 195	65 215	42 140	45 150	50 165	—	—	—

335.25-XN07 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	XNHQ070708TN8-M11 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	Square shoulder and slot milling cutters
P2	XNHQ070708TN8-M11 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
P3	XNHQ070708TN8-M11 MP2501	0,20 0.0080	0,22 0.0085	0,30 0.012	Helical milling cutters
P4	XNHQ070708TN8-M11 MP2501	0,19 0.0075	0,22 0.0085	0,30 0.012	
P5	XNHQ070708TN8-M11 MP2501	0,19 0.0075	0,22 0.0085	0,28 0.011	
P6	XNHQ070708TN8-M11 MP2501	0,19 0.0075	0,22 0.0085	0,28 0.011	
P7	XNHQ070708TN8-M11 MP2501	0,19 0.0075	0,22 0.0085	0,28 0.011	Face milling cutters
P8	XNHQ070708TN8-M11 MP2501	0,20 0.0080	0,22 0.0085	0,30 0.012	
P11	XNHQ070708TN8-M11 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011	
P12	XNHQ070708TN8-M11 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
M1	XNHQ070708TN8-M11 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	Disc milling cutters
M2	XNHQ070708TN8-M11 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011	
M3	XNHQ070708TN8-M11 F40M	0,15 0.0060	0,17 0.0065	0,24 0.0095	
M4	XNHQ070708TN8-M11 F40M	0,14 0.0055	0,16 0.0065	0,20 0.0080	
M5	XNHQ070708TN8-M11 F40M	0,14 0.0055	0,16 0.0065	0,20 0.0080	
K1	XNHQ070708TN8-M11 MK2050	0,20 0.0080	0,24 0.0095	0,32 0.013	High feed milling cutters
K2	XNHQ070708TN8-M11 MK2050	0,19 0.0075	0,22 0.0085	0,28 0.011	
K3	XNHQ070708TN8-M11 MK2050	0,19 0.0075	0,22 0.0085	0,28 0.011	
K4	XNHQ070708TN8-M11 MK2050	0,19 0.0075	0,22 0.0085	0,28 0.011	
K5	XNHQ070708TN8-M11 MK2050	0,17 0.0065	0,19 0.0075	0,26 0.010	
K6	XNHQ070708TN8-M11 MK2050	0,19 0.0075	0,22 0.0085	0,28 0.011	
K7	XNHQ070708TN8-M11 MK2050	0,17 0.0065	0,19 0.0075	0,26 0.010	
S1	XNHQ070708TN8-M11 F40M	0,14 0.0055	0,16 0.0065	0,20 0.0080	Copy milling cutters
S2	XNHQ070708TN8-M11 F40M	0,14 0.0055	0,16 0.0065	0,20 0.0080	
S3	XNHQ070708TN8-M11 F40M	0,13 0.0050	0,14 0.0055	0,19 0.0075	Plunge milling cutters
S11	XNHQ070708TN8-M11 F40M	0,15 0.0060	0,18 0.0070	0,24 0.0095	
S12	XNHQ070708TN8-M11 F40M	0,15 0.0060	0,18 0.0070	0,24 0.0095	
S13	XNHQ070708TN8-M11 F40M	0,14 0.0055	0,16 0.0065	0,20 0.0080	
H5	XNHQ070708TN8-M11 MK2050	0,13 0.0050	0,15 0.0060	0,20 0.0080	
H8	XNHQ070708TN8-M11 MK2050	0,10 0.0040	0,11 0.0044	0,15 0.0060	Chamfer milling cutters
H11	XNHQ070708TN8-M11 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
H12	XNHQ070708TN8-M11 F40M	0,10 0.0040	0,11 0.0044	0,15 0.0060	
H21	XNHQ070708TN8-M11 MK2050	0,10 0.0040	0,11 0.0044	0,15 0.0060	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Spot facing
cutters

Inserts

335.25-XN07 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			F40M			MP2501		
		30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	300 980	315 1025	350 1150	230 750	245 800	270 890	405 1325	420 1375	455 1500
		290 950	310 1025	340 1125	225 740	235 770	265 870	390 1275	410 1350	440 1450
Helical milling cutters	P2	250 820	270 890	300 980	195 640	210 690	230 750	335 1100	360 1175	385 1275
		225 740	240 790	265 870	175 570	185 610	205 670	300 980	320 1050	340 1125
Face milling cutters	P3	215 710	230 750	255 840	165 540	175 570	200 660	290 950	305 1000	330 1075
		240 790	255 840	290 950	185 610	200 660	220 720	325 1075	340 1125	370 1225
Disc milling cutters	P4	225 740	245 790	275 870	175 570	185 610	210 670	305 980	320 1050	350 1125
		210 690	230 750	250 820	160 520	175 570	195 640	285 940	305 1000	325 1075
High feed milling cutters	P5	220 720	235 770	265 870	170 560	180 590	205 670	295 970	310 1025	340 1125
		145 475	155 510	170 560	110 360	120 395	130 425	195 640	200 660	215 710
Copy milling cutters	P6	—	—	—	180 590	190 620	210 690	215 710	225 740	250 820
		—	—	—	150 490	160 520	180 590	175 570	185 610	210 690
Plunge milling cutters	P7	—	—	—	120 395	130 425	145 475	145 475	155 510	170 560
		—	—	—	95 310	100 330	110 360	110 360	120 395	130 425
Chamfer milling cutters	P8	—	—	—	80 260	85 280	95 310	95 310	100 330	110 360
		315 1025	335 1100	370 1225	180 590	190 620	210 690	395 1300	410 1350	445 1450
Spot facing cutters	P9	275 900	295 970	335 1100	155 510	165 540	190 620	350 1150	365 1200	400 1300
		235 770	250 820	280 920	130 425	140 460	160 520	295 970	310 1025	340 1125
Inserts	P10	225 740	240 790	270 890	125 410	135 445	150 490	280 920	295 970	325 1075
		140 460	150 490	165 540	80 260	85 280	90 295	175 570	185 610	195 640
Square shoulder and slot milling cutters	P11	195 640	210 690	235 770	110 360	120 395	135 445	250 820	260 850	285 940
		175 570	190 620	210 690	100 330	105 345	120 395	220 720	235 770	250 820
Helical milling cutters	P12	—	—	—	1300 4275	1400 4600	1550 5075	—	—	—
		—	—	—	520 1700	560 1825	620 2025	—	—	—
Face milling cutters	P13	—	—	—	350 1150	375 1225	415 1350	—	—	—
		—	—	—	400 1300	430 1400	475 1550	—	—	—
Disc milling cutters	P14	—	—	—	44 145	47 155	50 165	—	—	—
		—	—	—	36 120	38 125	42 140	—	—	—
High feed milling cutters	P15	—	—	—	31 100	33 110	37 120	—	—	—
		—	—	—	60 195	65 215	75 245	—	—	—
Copy milling cutters	P16	—	—	—	42 140	45 150	50 165	—	—	—
		—	—	—	25 80	26 85	29 95	—	—	—
Plunge milling cutters	P17	50 165	55 180	60 195	37 120	39 130	44 145	—	—	—
		55 180	55 180	65 215	40 130	43 140	47 155	—	—	—
Chamfer milling cutters	P18	65 215	65 215	75 245	47 155	50 165	55 180	—	—	—
		90 295	100 330	110 360	70 230	75 245	85 280	—	—	—
Spot facing cutters	P19	55 180	55 180	65 215	40 130	43 140	47 155	—	—	—
		—	—	—	—	—	—	—	—	—

335.29 Round 5 – Insert selection – mm/Inch

SMG		f_z			
		25%	10%	5%	
P1	RDHW0501M0-MD01 F40M	0,055 0,0022	0,080 0,0032	0,11 0,0044	Square shoulder and slot milling cutters
P2	RDHW0501M0-MD01 F40M	0,055 0,0022	0,080 0,0032	0,11 0,0044	
P3	RDHW0501M0-MD01 F40M	0,050 0,0020	0,075 0,0030	0,10 0,0040	
P4	RDHW0501M0-MD01 F40M	0,050 0,0020	0,075 0,0030	0,10 0,0040	Helical milling cutters
P5	RDHW0501M0-MD01 F40M	0,050 0,0020	0,075 0,0030	0,10 0,0040	
P6	RDHW0501M0-MD01 F40M	0,050 0,0020	0,070 0,0028	0,10 0,0040	
P7	RDHW0501M0-MD01 F40M	0,050 0,0020	0,070 0,0028	0,10 0,0040	Face milling cutters
P8	RDHW0501M0-MD01 MP3000	0,050 0,0020	0,075 0,0030	0,10 0,0040	
P11	RDHW0501M0-MD01 F40M	0,050 0,0020	0,070 0,0028	0,10 0,0040	
P12	RDHW0501M0-MD01 F40M	0,034 0,0013	0,050 0,0020	0,070 0,0028	Disc milling cutters
M1	RDHW0501M0-MD01 F40M	0,055 0,0022	0,080 0,0032	0,11 0,0044	
M2	RDHW0501M0-MD01 F40M	0,050 0,0020	0,075 0,0030	0,10 0,0040	High feed milling cutters
M3	RDHW0501M0-MD01 F40M	0,040 0,0016	0,060 0,0024	0,080 0,0032	
M4	RDHW0501M0-MD01 F40M	0,036 0,0014	0,050 0,0020	0,070 0,0028	
M5	RDHW0501M0-MD01 F40M	0,036 0,0014	0,050 0,0020	0,070 0,0028	Copy milling cutters
K1	RDHW0501M0-MD01 MP3000	0,055 0,0022	0,080 0,0032	0,11 0,0044	
K2	RDHW0501M0-MD01 MP3000	0,050 0,0020	0,075 0,0030	0,10 0,0040	Plunge milling cutters
K3	RDHW0501M0-MD01 MP3000	0,050 0,0020	0,075 0,0030	0,10 0,0040	
K4	RDHW0501M0-MD01 MP3000	0,050 0,0020	0,075 0,0030	0,10 0,0040	
K5	RDHW0501M0-MD01 MP3000	0,046 0,0018	0,065 0,0026	0,090 0,0036	Chamfer milling cutters
K6	RDHW0501M0-MD01 MP3000	0,050 0,0020	0,075 0,0030	0,10 0,0040	
K7	RDHW0501M0-MD01 MP3000	0,046 0,0018	0,065 0,0026	0,090 0,0036	
N1	RDHW0501M0-MD01 MP3000	0,070 0,0028	0,10 0,0040	0,14 0,0055	Spot facing cutters
N2	RDHW0501M0-MD01 MP3000	0,070 0,0028	0,10 0,0040	0,14 0,0055	
N3	RDHW0501M0-MD01 MP3000	0,070 0,0028	0,10 0,0040	0,14 0,0055	
N11	RDHW0501M0-MD01 MP3000	0,070 0,0028	0,10 0,0040	0,14 0,0055	Inserts
S1	RDHW0501M0-MD01 F40M	0,036 0,0014	0,050 0,0020	0,070 0,0028	
S2	RDHW0501M0-MD01 F40M	0,036 0,0014	0,050 0,0020	0,070 0,0028	
S3	RDHW0501M0-MD01 F40M	0,032 0,0013	0,048 0,0019	0,065 0,0026	Square shoulder and slot milling cutters
S11	RDHW0501M0-MD01 F40M	0,040 0,0016	0,060 0,0024	0,080 0,0032	
S12	RDHW0501M0-MD01 F40M	0,040 0,0016	0,060 0,0024	0,080 0,0032	
S13	RDHW0501M0-MD01 F40M	0,036 0,0014	0,050 0,0020	0,070 0,0028	Helical milling cutters
H5	RDHW0501M0-MD01 MP3000	0,034 0,0013	0,050 0,0020	0,070 0,0028	
H8	RDHW0501M0-MD01 MP3000	0,026 0,0010	0,038 0,0015	0,050 0,0020	
H11	RDHW0501M0-MD01 MP3000	0,034 0,0013	0,050 0,0020	0,070 0,0028	Face milling cutters
H12	RDHW0501M0-MD01 MP3000	0,026 0,0010	0,038 0,0015	0,050 0,0020	
H21	RDHW0501M0-MD01 MP3000	0,026 0,0010	0,038 0,0015	0,050 0,0020	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.29 Round 5 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP3000			F40M		
		25%	10%	5%	25%	10%	5%
Square shoulder and slot milling cutters	P1	325 1075	365 1200	400 1300	260 850	295 970	320 1050
	P2	315 1025	360 1175	390 1275	250 820	285 940	310 1025
Helical milling cutters	P3	275 900	310 1025	340 1125	220 720	250 820	270 890
	P4	240 790	275 900	300 980	195 640	220 720	240 790
	P5	230 750	260 850	285 940	185 610	210 690	225 740
	P6	260 850	295 970	320 1050	205 670	235 770	255 840
	P7	245 800	280 920	300 980	195 640	225 740	240 790
Face milling cutters	P8	230 750	260 850	285 940	185 610	210 690	225 740
	P11	235 770	270 890	295 970	190 620	215 710	235 770
	P12	145 475	165 540	180 590	120 395	135 445	145 475
	M1	235 770	270 890	290 950	200 660	230 750	250 820
Disc milling cutters	M2	195 640	220 720	240 790	165 540	190 620	205 670
	M3	150 490	170 560	185 610	130 425	150 490	160 520
	M4	115 375	130 425	140 460	100 330	115 375	120 395
	M5	95 310	110 360	120 395	80 260	95 310	100 330
	K1	210 690	240 790	260 850	200 660	225 740	245 800
High feed milling cutters	K2	185 610	210 690	225 740	175 570	200 660	215 710
	K3	155 510	175 570	190 620	150 490	170 560	185 610
	K4	150 490	170 560	185 610	140 460	160 520	175 570
	K5	90 295	100 330	110 360	85 280	95 310	105 345
Copy milling cutters	K6	130 425	150 490	160 520	125 410	140 460	155 510
	K7	115 375	130 425	140 460	110 360	125 410	135 445
	N1	1900 6225	2175 7125	2350 7700	1525 5000	1725 5650	1875 6150
	N2	760 2500	870 2850	950 3125	610 2000	700 2300	760 2500
Plunge milling cutters	N3	510 1675	580 1900	630 2075	410 1350	465 1525	500 1650
	N11	580 1900	670 2200	720 2350	465 1525	530 1750	580 1900
	S1	55 180	60 195	65 215	46 150	55 180	55 180
	S2	43 140	49 160	55 180	37 120	42 140	46 150
Chamfer milling cutters	S3	38 125	43 140	46 150	32 105	37 120	40 130
	S11	75 245	85 280	95 310	65 215	75 245	80 260
	S12	65 215	75 245	80 260	55 180	65 215	70 230
	S13	37 120	42 140	45 150	32 105	36 120	39 130
Spot facing cutters	H5	41 135	47 155	50 165	39 130	44 145	48 155
	H8	42 140	48 155	50 165	40 130	45 150	49 160
	H11	50 165	60 195	65 215	50 165	55 180	60 195
	H12	49 160	55 180	60 195	47 155	55 180	55 180
Inserts	H21	42 140	48 155	50 165	40 130	45 150	49 160

335.29 Round 6 – Insert selection – mm/Inch

SMG		f_z			
		20%	10%	5%	
P1	RDHW06T1M0-MD02 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	Square shoulder and slot milling cutters
P2	RDHW06T1M0-MD02 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	
P3	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,075 0.0030	0,10 0.0040	
P4	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,075 0.0030	0,10 0.0040	Helical milling cutters
P5	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,075 0.0030	0,10 0.0040	
P6	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,070 0.0028	0,10 0.0040	
P7	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,070 0.0028	0,10 0.0040	Face milling cutters
P8	RDHW06T1M0-MD02 MP3000	0,055 0.0022	0,075 0.0030	0,10 0.0040	
P11	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,070 0.0028	0,10 0.0040	
P12	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	Disc milling cutters
M1	RDHW06T1M0-MD02 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	
M2	RDHW06T1M0-MD02 F40M	0,055 0.0022	0,075 0.0030	0,10 0.0040	
M3	RDHW06T1M0-MD02 F40M	0,044 0.0017	0,060 0.0024	0,080 0.0032	High feed milling cutters
M4	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
M5	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
K1	RDHW06T1M0-MD02 MK2050	0,060 0.0024	0,080 0.0032	0,11 0.0044	Copy milling cutters
K2	RDHW06T1M0-MD02 MK2050	0,055 0.0022	0,075 0.0030	0,10 0.0040	
K3	RDHW06T1M0-MD02 MK2050	0,055 0.0022	0,075 0.0030	0,10 0.0040	
K4	RDHW06T1M0-MD02 MK2050	0,055 0.0022	0,075 0.0030	0,10 0.0040	Plunge milling cutters
K5	RDHW06T1M0-MD02 MK2050	0,050 0.0020	0,065 0.0026	0,090 0.0036	
K6	RDHW06T1M0-MD02 MK2050	0,055 0.0022	0,075 0.0030	0,10 0.0040	
K7	RDHW06T1M0-MD02 MK2050	0,050 0.0020	0,065 0.0026	0,090 0.0036	Chamfer milling cutters
N1	RDHT06T1M0-E02 H25	0,050 0.0020	0,070 0.0028	0,095 0.0038	
N2	RDHT06T1M0-E02 H25	0,050 0.0020	0,070 0.0028	0,095 0.0038	
N3	RDHT06T1M0-E02 H25	0,050 0.0020	0,070 0.0028	0,095 0.0038	Spot facing cutters
N11	RDHT06T1M0-E02 H25	0,050 0.0020	0,070 0.0028	0,095 0.0038	
S1	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
S2	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	Inserts
S3	RDHW06T1M0-MD02 F40M	0,036 0.0014	0,048 0.0019	0,065 0.0026	
S11	RDHW06T1M0-MD02 F40M	0,044 0.0017	0,060 0.0024	0,080 0.0032	
S12	RDHW06T1M0-MD02 F40M	0,044 0.0017	0,060 0.0024	0,080 0.0032	
S13	RDHW06T1M0-MD02 F40M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
H5	RDHW06T1M0-MD02 F15M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
H8	RDHW06T1M0-MD02 F15M	0,028 0.0011	0,038 0.0015	0,050 0.0020	
H11	RDHW06T1M0-MD02 F15M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
H12	RDHW06T1M0-MD02 F15M	0,028 0.0011	0,038 0.0015	0,050 0.0020	
H21	RDHW06T1M0-MD02 F15M	0,028 0.0011	0,038 0.0015	0,050 0.0020	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.29 Round 6 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M			MK2050			F30M			MP3000			F40M			H25		
		20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%
Square shoulder and slot milling cutters	P1	305 1000	340 1125	365 1200	330 1075	365 1200	395 1300	270 890	295 970	320 1050	320 1050	350 1150	380 1250	255 840	280 920	305 1000	—	—	—
		300 980	330 1075	355 1175	325 1075	355 1175	385 1275	260 850	290 950	310 1025	310 1025	345 1125	370 1225	250 820	275 900	295 970	—	—	—
Helical milling cutters	P2	260 850	285 940	310 1025	280 920	310 1025	335 1100	230 750	250 820	270 890	270 890	300 980	325 1075	215 710	240 790	260 850	—	—	—
		230 750	250 820	275 900	250 820	275 900	295 970	200 660	220 720	240 790	240 790	260 850	285 940	190 620	210 690	230 750	—	—	—
Face milling cutters	P3	220 720	240 790	260 850	235 770	260 850	285 940	190 620	210 690	230 750	230 750	250 820	275 900	180 590	200 660	220 720	—	—	—
		245 800	275 900	295 970	265 870	295 970	320 1050	215 710	240 790	255 840	255 840	285 940	305 1000	205 670	225 740	245 800	—	—	—
Disc milling cutters	P4	230 750	255 840	275 900	250 820	280 920	300 980	205 670	225 740	245 800	240 790	270 890	290 950	195 640	215 710	230 750	—	—	—
		220 720	240 790	260 850	235 770	260 850	285 940	190 620	210 690	230 750	230 750	250 820	275 900	180 590	200 660	220 720	—	—	—
High feed milling cutters	P5	225 740	250 820	270 890	245 800	270 890	290 950	195 640	220 720	235 770	235 770	260 850	280 920	190 620	210 690	225 740	—	—	—
		—	—	—	—	—	—	210 690	230 750	250 820	235 770	255 840	280 920	200 660	220 720	240 790	—	—	—
Copy milling cutters	M1	—	—	—	—	—	—	170 560	190 620	205 670	190 620	210 690	230 750	165 540	180 590	195 640	—	—	—
		—	—	—	—	—	—	135 445	150 490	160 520	150 490	165 540	180 590	130 425	140 460	155 510	—	—	—
Plunge milling cutters	M2	—	—	—	—	—	—	105 345	115 375	125 410	115 375	125 410	135 445	100 330	110 360	115 375	—	—	—
		—	—	—	—	—	—	85 280	95 310	105 345	95 310	105 345	115 375	80 260	90 295	100 330	—	—	—
Chamfer milling cutters	M3	235 770	260 850	285 940	350 1150	385 1275	415 1350	205 670	230 750	245 800	205 670	230 750	245 800	195 640	215 710	235 770	—	—	—
		210 690	230 750	250 820	305 1000	335 1100	365 1200	180 590	200 660	215 710	180 590	200 660	215 710	175 570	190 620	205 670	—	—	—
Spot facing cutters	K1	175 570	195 640	210 690	260 850	285 940	310 1025	155 510	170 560	185 610	155 510	170 560	185 610	145 475	160 520	175 570	—	—	—
		170 560	185 610	200 660	250 820	270 890	295 970	145 475	160 520	175 570	145 475	160 520	175 570	140 460	155 510	165 540	—	—	—
Inserts	K2	100 330	110 360	120 395	150 490	165 540	180 590	90 295	100 330	105 345	90 295	100 330	105 345	85 280	95 310	100 330	—	—	—
		150 490	160 520	175 570	220 720	240 790	260 850	130 425	140 460	155 510	130 425	140 460	155 510	125 410	145 445	155 475	—	—	—
Square shoulder and slot milling cutters	K3	130 425	145 475	155 510	190 620	210 690	230 750	115 375	125 410	135 445	115 375	125 410	135 445	110 360	120 395	130 425	—	—	—
		—	—	—	—	—	—	1575 5175	1750 5750	1875 6150	1875 6150	2075 6800	2250 7375	1500 4925	1650 5425	1800 5900	1725 5650	1900 6225	2050 6725
Helical milling cutters	N1	—	—	—	—	—	—	640 2100	700 2300	760 2500	760 2500	840 2750	910 2975	610 2000	670 2200	730 2400	700 2300	770 2525	830 2725
		—	—	—	—	—	—	425 1400	470 1550	510 1675	510 1675	560 1825	600 1975	405 1325	445 1450	485 1600	465 1525	510 1675	560 1825
Face milling cutters	N2	—	—	—	—	—	—	485 1600	540 1775	580 1900	580 1900	640 2100	690 2275	465 1525	510 1675	550 1800	530 1750	580 1900	630 2075
		—	—	—	—	—	—	48 155	55 180	55 180	55 180	60 195	65 215	46 150	50 165	55 180	—	—	—
Spot facing cutters	S1	—	—	—	—	—	—	39 130	43 140	46 150	43 140	47 155	50 165	37 120	41 135	44 145	—	—	—
		—	—	—	—	—	—	34 110	37 120	40 130	37 120	41 135	44 145	32 105	35 115	38 125	—	—	—
Chamfer milling cutters	S2	—	—	—	—	—	—	70 230	75 245	80 260	75 245	85 280	90 295	65 215	70 230	80 260	—	—	—
		—	—	—	—	—	—	48 155	55 180	55 180	65 215	70 230	75 245	55 180	60 195	65 215	—	—	—
Plunge milling cutters	S3	—	—	—	—	—	—	27 90	30 100	33 110	36 120	40 130	43 140	31 100	35 115	37 120	—	—	—
		46 150	50 165	55 180	—	—	—	40 130	45 150	48 155	40 130	45 150	48 155	39 130	43 140	46 150	—	—	—
Face milling cutters	H5	48 155	50 165	55 180	—	—	—	42 140	46 150	50 165	42 140	46 150	50 165	40 130	44 145	47 155	—	—	—
		60 195	65 215	70 230	—	—	—	50 165	55 180	60 195	50 165	55 180	60 195	49 160	55 180	60 195	—	—	—
Spot facing cutters	H8	55 180	60 195	65 215	—	—	—	49 160	55 180	60 195	49 160	55 180	60 195	46 150	50 165	55 180	—	—	—
		48 155	50 165	55 180	—	—	—	42 140	46 150	50 165	42 140	46 150	50 165	40 130	44 145	47 155	—	—	—
Chamfer milling cutters	H11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Face milling cutters	H12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

335.29 Round 7 – Insert selection – mm/Inch

SMG		f_z			
		20%	10%	5%	
P1	RDHW0702M0-MD03 F40M	0,080 0.0032	0,10 0.0040	0,14 0.0055	Square shoulder and slot milling cutters
P2	RDHW0702M0-MD03 F40M	0,080 0.0032	0,11 0.0044	0,15 0.0060	
P3	RDHW0702M0-MD03 F40M	0,075 0.0030	0,10 0.0040	0,14 0.0055	
P4	RDHW0702M0-MD03 F40M	0,075 0.0030	0,10 0.0040	0,14 0.0055	Helical milling cutters
P5	RDHW0702M0-MD03 F40M	0,075 0.0030	0,095 0.0038	0,13 0.0050	
P6	RDHW0702M0-MD03 F40M	0,070 0.0028	0,095 0.0038	0,13 0.0050	
P7	RDHW0702M0-MD03 F40M	0,070 0.0028	0,10 0.0040	0,14 0.0055	Face milling cutters
P8	RDHW0702M0-MD03 MP3000	0,075 0.0030	0,095 0.0038	0,13 0.0050	
P11	RDHW0702M0-MD03 F40M	0,070 0.0028	0,095 0.0038	0,13 0.0050	
P12	RDHW0702M0-MD03 F40M	0,050 0.0020	0,065 0.0026	0,090 0.0036	Disc milling cutters
M1	RDHW0702M0-MD03 F40M	0,080 0.0032	0,11 0.0044	0,15 0.0060	
M2	RDHW0702M0-MD03 F40M	0,075 0.0030	0,095 0.0038	0,13 0.0050	
M3	RDHW0702M0-MD03 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	High feed milling cutters
M4	RDHW0702M0-MD03 F40M	0,050 0.0020	0,070 0.0028	0,095 0.0038	
M5	RDHW0702M0-MD03 F40M	0,050 0.0020	0,070 0.0028	0,095 0.0038	
K1	RDHW0702M0-MD03 MP3000	0,080 0.0032	0,11 0.0044	0,15 0.0060	Copy milling cutters
K2	RDHW0702M0-MD03 MP3000	0,075 0.0030	0,095 0.0038	0,13 0.0050	
K3	RDHW0702M0-MD03 MP3000	0,075 0.0030	0,095 0.0038	0,13 0.0050	
K4	RDHW0702M0-MD03 MP3000	0,075 0.0030	0,095 0.0038	0,13 0.0050	Plunge milling cutters
K5	RDHW0702M0-MD03 MP3000	0,065 0.0026	0,085 0.0034	0,12 0.0048	
K6	RDHW0702M0-MD03 MP3000	0,075 0.0030	0,095 0.0038	0,13 0.0050	
K7	RDHW0702M0-MD03 MP3000	0,065 0.0026	0,085 0.0034	0,12 0.0048	Chamfer milling cutters
N1	RDHW0702M0-MD03 MP3000	0,10 0.0040	0,14 0.0055	0,19 0.0075	
N2	RDHW0702M0-MD03 MP3000	0,10 0.0040	0,14 0.0055	0,19 0.0075	
N3	RDHW0702M0-MD03 MP3000	0,10 0.0040	0,14 0.0055	0,19 0.0075	Spot facing cutters
N11	RDHW0702M0-MD03 MP3000	0,10 0.0040	0,14 0.0055	0,19 0.0075	
S1	RDHW0702M0-MD03 F40M	0,050 0.0020	0,070 0.0028	0,095 0.0038	
S2	RDHW0702M0-MD03 F40M	0,050 0.0020	0,070 0.0028	0,095 0.0038	Inserts
S3	RDHW0702M0-MD03 F40M	0,048 0.0019	0,065 0.0026	0,085 0.0034	
S11	RDHW0702M0-MD03 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	
S12	RDHW0702M0-MD03 F40M	0,060 0.0024	0,080 0.0032	0,11 0.0044	
S13	RDHW0702M0-MD03 F40M	0,050 0.0020	0,070 0.0028	0,095 0.0038	
H5	RDHW0702M0T-MD04 F15M	0,050 0.0020	0,065 0.0026	0,090 0.0036	
H8	RDHW0702M0T-MD04 F15M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
H11	RDHW0702M0T-MD04 F15M	0,050 0.0020	0,065 0.0026	0,090 0.0036	
H12	RDHW0702M0T-MD04 F15M	0,038 0.0015	0,050 0.0020	0,070 0.0028	
H21	RDHW0702M0T-MD04 F15M	0,038 0.0015	0,050 0.0020	0,070 0.0028	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.29 Round 7 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M			MP3000			F40M		
		20%	10%	5%	20%	10%	5%	20%	10%	5%
Square shoulder and slot milling cutters	P1	295 970	325 1075	355 1175	305 1000	340 1125	370 1225	245 800	270 890	295 970
	P2	285 940	315 1025	340 1125	295 970	325 1075	355 1175	235 770	260 850	285 940
Helical milling cutters	P3	250 820	275 900	295 970	260 850	285 940	310 1025	205 670	230 750	245 800
	P4	220 720	240 790	260 850	225 740	250 820	270 890	180 590	200 660	215 710
Face milling cutters	P5	210 690	230 750	250 820	215 710	240 790	260 850	175 570	195 640	210 690
	P6	235 770	260 850	285 940	245 800	270 890	295 970	195 640	215 710	235 770
	P7	225 740	245 800	265 870	235 770	255 840	280 920	185 610	205 670	220 720
	P8	210 690	230 750	250 820	215 710	240 790	260 850	175 570	190 620	205 670
	P11	215 710	240 790	260 850	225 740	250 820	270 890	180 590	200 660	215 710
	P12	— —	— —	— —	140 460	155 510	170 560	110 360	125 410	135 445
Disc milling cutters	M1	— —	— —	— —	220 720	245 800	265 870	190 620	210 690	230 750
	M2	— —	— —	— —	180 590	200 660	220 720	155 510	175 570	190 620
	M3	— —	— —	— —	145 475	160 520	170 560	125 410	135 445	150 490
	M4	— —	— —	— —	110 360	120 395	130 425	95 310	105 345	115 375
High feed milling cutters	M5	— —	— —	— —	90 295	100 330	110 360	80 260	85 280	95 310
	K1	225 740	250 820	270 890	200 660	215 710	235 770	190 620	205 670	225 740
	K2	200 660	220 720	240 790	175 570	195 640	210 690	165 540	185 610	200 660
	K3	165 540	185 610	200 660	145 475	165 540	175 570	140 460	155 510	170 560
Copy milling cutters	K4	160 520	180 590	195 640	140 460	155 510	170 560	135 445	150 490	160 520
	K5	95 310	110 360	115 375	85 280	95 310	100 330	80 260	90 295	95 310
	K6	140 460	155 510	170 560	125 410	135 445	150 490	115 375	130 425	140 460
	K7	125 410	140 460	150 490	110 360	120 395	130 425	105 345	115 375	125 410
Plunge milling cutters	N1	— —	— —	— —	1775 5825	1950 6400	2125 6975	1425 4675	1550 5075	1700 5575
	N2	— —	— —	— —	720 2350	790 2600	860 2825	580 1900	630 2075	690 2275
	N3	— —	— —	— —	480 1575	530 1750	570 1875	385 1275	420 1375	460 1500
	N11	— —	— —	— —	550 1800	600 1975	650 2125	440 1450	480 1575	520 1700
Chamfer milling cutters	S1	— —	— —	— —	50 165	55 180	60 195	44 145	49 160	55 180
	S2	— —	— —	— —	41 135	45 150	49 160	36 120	39 130	42 140
	S3	— —	— —	— —	36 120	39 130	43 140	31 100	34 110	37 120
	S11	— —	— —	— —	70 230	80 260	85 280	60 195	70 230	75 245
Spot facing cutters	S12	— —	— —	— —	60 195	65 215	75 245	50 165	60 195	65 215
	S13	— —	— —	— —	35 115	38 125	42 140	30 100	33 110	36 120
	H5	45 150	49 160	55 180	39 130	43 140	47 155	37 120	41 135	45 150
	H8	46 150	50 165	55 180	40 130	45 150	48 155	39 130	43 140	46 150
Inserts	H11	55 180	65 215	70 230	50 165	55 180	60 195	47 155	50 165	55 180
	H12	55 180	60 195	65 215	47 155	50 165	55 180	45 150	49 160	55 180
	H21	46 150	50 165	55 180	40 130	45 150	48 155	39 130	43 140	46 150

335.18/29 Round 8 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	RDHW0803M0-MD03 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040	Square shoulder and slot milling cutters
P2	RDHW0803M0-MD03 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040	
P3	RDHW0803M0-MD03 F40M	0,065 0.0026	0,075 0.0030	0,095 0.0038	
P4	RDKW0803M0T-MD05 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048	Helical milling cutters
P5	RDKW0803M0T-MD05 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
P6	RDKW0803M0T-MD05 F40M	0,075 0.0030	0,085 0.0034	0,12 0.0048	
P7	RDKW0803M0T-MD05 F40M	0,075 0.0030	0,085 0.0034	0,12 0.0048	Face milling cutters
P8	RDKW0803M0T-MD05 MP2501	0,080 0.0032	0,090 0.0036	0,12 0.0048	
P11	RDKW0803M0T-MD05 F40M	0,075 0.0030	0,085 0.0034	0,12 0.0048	
P12	RDKW0803M0T-MD05 F40M	0,050 0.0020	0,060 0.0024	0,080 0.0032	Disc milling cutters
M1	RDHW0803M0-MD03 F40M	0,065 0.0026	0,075 0.0030	0,10 0.0040	
M2	RDHW0803M0-MD03 F40M	0,060 0.0024	0,070 0.0028	0,095 0.0038	
M3	RDHW0803M0-MD03 F40M	0,048 0.0019	0,055 0.0022	0,075 0.0030	High feed milling cutters
M4	RDHW0803M0-MD03 F40M	0,042 0.0017	0,050 0.0020	0,065 0.0026	
M5	RDHW0803M0-MD03 F40M	0,042 0.0017	0,050 0.0020	0,065 0.0026	
K1	RDKW0803M0T-MD05 MK2050	0,085 0.0034	0,095 0.0038	0,13 0.0050	Copy milling cutters
K2	RDKW0803M0T-MD05 MK2050	0,075 0.0030	0,090 0.0036	0,12 0.0048	
K3	RDKW0803M0T-MD05 MK2050	0,075 0.0030	0,090 0.0036	0,12 0.0048	
K4	RDKW0803M0T-MD05 MK2050	0,075 0.0030	0,090 0.0036	0,12 0.0048	Plunge milling cutters
K5	RDKW0803M0T-MD05 MK2050	0,070 0.0028	0,080 0.0032	0,11 0.0044	
K6	RDKW0803M0T-MD05 MK2050	0,075 0.0030	0,090 0.0036	0,12 0.0048	
K7	RDKW0803M0T-MD05 MK2050	0,070 0.0028	0,080 0.0032	0,11 0.0044	Chamfer milling cutters
N1	RDHT0803M0-E03 H25	0,065 0.0026	0,075 0.0030	0,10 0.0040	
N2	RDHT0803M0-E03 H25	0,065 0.0026	0,075 0.0030	0,10 0.0040	
N3	RDHT0803M0-E03 H25	0,065 0.0026	0,075 0.0030	0,10 0.0040	Spot facing cutters
N11	RDHT0803M0-E03 H25	0,065 0.0026	0,075 0.0030	0,10 0.0040	
S1	RDHW0803M0-MD03 F40M	0,042 0.0017	0,050 0.0020	0,065 0.0026	
S2	RDHW0803M0-MD03 F40M	0,042 0.0017	0,050 0.0020	0,065 0.0026	Inserts
S3	RDHW0803M0-MD03 F40M	0,040 0.0016	0,046 0.0018	0,060 0.0024	
S11	RDHW0803M0-MD03 F40M	0,048 0.0019	0,055 0.0022	0,075 0.0030	
S12	RDHW0803M0-MD03 F40M	0,048 0.0019	0,055 0.0022	0,075 0.0030	
S13	RDHW0803M0-MD03 F40M	0,042 0.0017	0,050 0.0020	0,065 0.0026	
H5	RDKW0803M0T-MD05 F15M	0,050 0.0020	0,060 0.0024	0,080 0.0032	
H8	RDKW0803M0T-MD05 F15M	0,040 0.0016	0,046 0.0018	0,060 0.0024	
H11	RDKW0803M0T-MD05 F15M	0,050 0.0020	0,060 0.0024	0,080 0.0032	
H12	RDKW0803M0T-MD05 F15M	0,040 0.0016	0,046 0.0018	0,060 0.0024	
H21	RDKW0803M0T-MD05 F15M	0,040 0.0016	0,046 0.0018	0,060 0.0024	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.18/29 Round 8 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MH1051			F15M			MK2050			F25M			F30M			MP3000			MS2050		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	360 1175	380 1250	425 1400	260 850	275 900	305 1000	280 920	300 980	330 1075	240 790	255 840	280 920	235 770	250 820	280 920	280 920	300 980	335 1100	— —	— —	— —
	P2	350 1150	370 1225	410 1350	255 840	270 890	300 980	275 900	290 950	325 1075	230 750	245 800	275 900	230 750	245 800	270 890	275 900	290 950	320 1050	— —	— —	— —
Helical milling cutters	P3	305 1000	325 1075	355 1175	220 720	235 770	255 840	240 790	255 840	280 920	200 660	215 710	235 770	200 660	215 710	235 770	240 790	255 840	280 920	— —	— —	— —
	P4	270 890	285 940	315 1025	195 640	205 670	230 750	210 690	225 740	250 820	180 590	190 620	210 690	175 570	190 620	205 670	210 690	225 740	245 800	— —	— —	— —
Face milling cutters	P5	255 840	275 900	305 1000	185 610	200 660	220 720	200 660	215 710	240 790	170 560	180 590	200 660	170 560	180 590	200 660	200 660	215 710	240 790	— —	— —	— —
	P6	290 950	310 1025	340 1125	210 690	225 740	245 800	225 740	240 790	265 870	190 620	205 670	225 740	190 620	205 670	225 740	225 740	245 800	265 870	— —	— —	— —
Disc milling cutters	P7	270 890	290 950	320 1050	195 640	210 690	230 750	215 700	230 750	250 820	180 590	195 640	215 700	180 590	190 620	210 690	215 710	230 750	250 820	— —	— —	— —
	P8	255 840	270 890	300 980	185 610	195 640	215 710	200 660	215 710	235 770	170 560	180 590	200 660	170 560	180 590	200 660	200 660	215 710	235 770	— —	— —	— —
High feed milling cutters	P11	265 870	280 920	310 1025	190 620	205 670	225 740	205 720	220 720	245 800	175 570	185 610	205 670	175 570	185 610	205 670	205 670	225 740	245 800	— —	— —	— —
	P12	165 540	180 590	195 640	— —	— —	— —	130 425	140 460	155 510	110 360	120 395	130 425	110 360	115 375	130 425	130 425	140 460	155 510	— —	— —	— —
Copy milling cutters	M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	185 610	200 660	215 710	205 670	220 720	240 790	— —	— —	— —
	M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 490	160 520	180 590	170 560	180 590	200 660	— —	— —	— —
Plunge milling cutters	M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	120 395	130 425	140 460	135 445	140 460	155 510	— —	— —	— —
	M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	90 295	100 330	110 360	100 330	110 360	120 395	— —	— —	— —
Spot facing cutters	M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 245	80 260	90 295	85 280	90 295	100 330	— —	— —	— —
	K1	375 1225	395 1300	430 1400	200 660	215 710	235 770	295 970	315 1025	350 1150	185 610	195 640	215 710	180 590	195 640	215 710	180 590	195 640	215 710	— —	— —	— —
Chamfer milling cutters	K2	325 1075	345 1125	375 1225	175 570	190 620	210 690	260 850	280 920	305 1000	160 520	175 570	190 620	160 520	170 560	190 620	160 520	170 560	190 620	— —	— —	— —
	K3	275 900	295 970	320 1050	150 490	160 520	175 570	220 720	235 770	260 850	135 445	145 475	160 520	135 445	145 475	160 520	135 445	145 475	160 520	— —	— —	— —
Inserts	K4	265 870	280 920	305 1000	140 460	150 490	170 560	210 690	225 740	250 820	130 425	140 460	155 510	130 425	140 460	155 510	130 425	140 460	155 510	— —	— —	— —
	K5	160 520	170 560	180 590	85 280	95 310	100 330	130 425	135 445	150 490	80 260	85 280	95 310	80 260	85 280	95 310	80 260	85 280	95 310	— —	— —	— —
Spot facing cutters	K6	235 770	245 800	270 890	125 410	135 445	150 490	185 610	200 660	220 720	115 375	125 410	135 445	115 375	120 395	135 445	115 375	120 395	135 445	— —	— —	— —
	K7	205 670	215 710	235 770	110 360	120 395	130 425	165 540	175 570	190 620	100 330	110 360	120 395	100 330	105 345	120 395	100 330	105 345	120 395	— —	— —	— —
Spot facing cutters	N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1375 4500	1475 4850	1625 5325	1625 5325	1750 5750	1925 6325	— —	— —	— —
	N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	560 1825	600 1975	650 2125	710 2175	780 2325	860 2550	— —	— —	— —
Spot facing cutters	N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	370 1225	395 1300	435 1425	440 1450	475 1550	520 1700	— —	— —	— —
	N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	425 1400	455 1500	495 1625	500 1650	540 1775	590 1925	— —	— —	— —
Spot facing cutters	S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 140	46 150	50 165	48 155	50 165	55 180	45 150	48 155	55 180
	S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	35 115	37 120	40 130	38 125	41 135	45 150	36 120	39 130	42 140
Spot facing cutters	S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	30 100	32 105	35 115	33 110	35 115	39 130	32 105	34 110	37 120
	S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 195	65 215	70 230	65 215	70 230	80 260	65 215	70 230	75 245
Spot facing cutters	S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 140	45 150	50 165	55 180	60 195	65 215	55 180	55 180	65 215
	S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	25 80	26 85	29 95	32 105	35 115	38 125	31 100	33 110	36 120
Spot facing cutters	H5	85 280	90 295	100 330	40 130	43 140	47 155	— —	— —	— —	— —	— —	— —	36 120	39 130	43 140	36 120	39 130	43 140	— —	— —	— —
	H8	85 280	90 295	95 310	42 140	44 145	49 160	— —	— —	— —	— —	— —	— —	38 125	40 130	44 145	38 125	40 130	44 145	— —	— —	— —
Spot facing cutters	H11	110 360	115 375	125 410	50 165	55 180	60 195	— —	— —	— —	— —	— —	— —	46 150	49 160	55 180	46 150	49 160	55 180	— —	— —	— —
	H12	100 330	105 345	110 360	48 155	50 165	55 180	80 260	85 280	95 310	— —	— —	— —	44 145	46 150	50 165	44 145	46 150	50 165	— —	— —	— —
Spot facing cutters	H21	85 280	90 295	95 310	42 140	44 145	49 160	— —	— —	— —	— —	— —	— —	38 125	40 130	44 145	38 125	40 130	44 145	— —	— —	— —

335.18/29 Round 8 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			H25			MP2501			MS2500			MP3501			
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	225	240	270	—	—	—	345	355	380	315	330	370	350	360	380	Square shoulder and slot milling cutters
	740	790	890	—	—	—	1125	1175	1250	1025	1075	1225	1150	1175	1250	
P2	220	235	255	—	—	—	335	345	370	305	325	360	340	350	370	Helical milling cutters
	720	770	840	—	—	—	1100	1125	1225	1000	1075	1175	1125	1150	1225	
P3	190	205	225	—	—	—	290	300	315	265	280	310	290	300	315	Helical milling cutters
	620	670	740	—	—	—	950	980	1025	870	920	1025	950	980	1025	
P4	170	180	200	—	—	—	255	265	280	235	245	275	255	265	275	Helical milling cutters
	560	590	660	—	—	—	840	870	920	770	800	900	840	870	900	
P5	160	170	190	—	—	—	240	250	265	225	240	265	245	250	265	Helical milling cutters
	520	560	620	—	—	—	790	820	870	740	790	870	800	820	870	
P6	180	195	215	—	—	—	270	280	300	250	270	295	275	280	295	Helical milling cutters
	590	640	710	—	—	—	890	920	980	820	890	970	900	920	970	
P7	170	185	200	—	—	—	255	265	280	235	255	280	260	265	275	Face milling cutters
	560	610	660	—	—	—	840	870	920	770	840	920	850	870	900	
P8	160	170	190	—	—	—	240	250	265	225	235	260	245	250	265	Face milling cutters
	520	560	620	—	—	—	790	820	870	740	770	850	800	820	870	
P11	165	180	195	—	—	—	250	260	275	230	245	270	250	260	270	Face milling cutters
	540	590	640	—	—	—	820	850	900	750	800	890	820	850	890	
P12	105	110	120	—	—	—	145	150	155	145	155	170	135	140	145	Face milling cutters
	345	360	395	—	—	—	475	490	510	475	510	560	445	460	475	
M1	175	190	205	—	—	—	200	215	235	220	230	255	235	250	275	Disc milling cutters
	570	620	670	—	—	—	660	710	770	720	750	840	770	820	900	
M2	145	155	170	—	—	—	165	175	195	180	190	210	190	205	225	Disc milling cutters
	475	510	560	—	—	—	540	570	640	590	620	690	620	670	740	
M3	115	120	135	—	—	—	130	140	155	140	150	165	150	160	175	Disc milling cutters
	375	395	445	—	—	—	425	460	510	460	490	540	490	520	570	
M4	90	95	100	—	—	—	100	105	120	110	115	125	115	125	135	Disc milling cutters
	295	310	330	—	—	—	330	345	395	360	375	410	375	410	445	
M5	75	80	85	—	—	—	85	90	100	90	95	105	95	100	115	High feed milling cutters
	245	260	280	—	—	—	280	295	330	295	310	345	310	330	375	
K1	175	185	205	—	—	—	335	350	370	—	—	—	—	—	—	High feed milling cutters
	570	610	670	—	—	—	1100	1150	1225	—	—	—	—	—	—	
K2	150	160	180	—	—	—	295	305	320	—	—	—	—	—	—	High feed milling cutters
	490	520	590	—	—	—	970	1000	1050	—	—	—	—	—	—	
K3	130	135	155	—	—	—	250	255	270	—	—	—	—	—	—	High feed milling cutters
	425	445	510	—	—	—	820	840	890	—	—	—	—	—	—	
K4	125	130	145	—	—	—	235	245	260	—	—	—	—	—	—	Copy milling cutters
	410	425	475	—	—	—	770	800	850	—	—	—	—	—	—	
K5	75	80	90	—	—	—	140	145	155	—	—	—	—	—	—	Copy milling cutters
	245	260	295	—	—	—	460	475	510	—	—	—	—	—	—	
K6	110	115	130	—	—	—	210	215	230	—	—	—	—	—	—	Copy milling cutters
	360	375	425	—	—	—	690	710	750	—	—	—	—	—	—	
K7	95	100	115	—	—	—	180	185	195	—	—	—	—	—	—	Copy milling cutters
	310	330	375	—	—	—	590	610	640	—	—	—	—	—	—	
N1	1300	1400	1550	1525	1625	1800	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	4275	4600	5075	5000	5325	5900	—	—	—	—	—	—	—	—	—	
N2	530	570	620	620	650	720	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1750	1875	2025	2025	2125	2350	—	—	—	—	—	—	—	—	—	
N3	355	380	415	410	435	480	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1175	1250	1350	1350	1425	1575	—	—	—	—	—	—	—	—	—	
N11	405	435	475	470	500	550	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1325	1425	1550	1550	1650	1800	—	—	—	—	—	—	—	—	—	
S1	41	44	48	—	—	—	—	—	—	55	55	60	38	40	44	Chamfer milling cutters
	135	145	155	—	—	—	—	—	—	180	180	195	125	130	145	
S2	33	35	39	—	—	—	—	—	—	43	45	50	30	32	36	Chamfer milling cutters
	110	115	130	—	—	—	—	—	—	140	150	165	100	105	120	
S3	29	30	34	—	—	—	—	—	—	37	40	44	38	40	44	Chamfer milling cutters
	95	100	110	—	—	—	—	—	—	120	130	145	125	130	145	
S11	60	60	70	—	—	—	—	—	—	75	80	90	75	80	90	Chamfer milling cutters
	195	195	230	—	—	—	—	—	—	245	260	295	245	260	295	
S12	49	50	55	—	—	—	—	—	—	65	65	75	55	55	60	Spot facing cutters
	160	165	180	—	—	—	—	—	—	215	215	245	180	180	195	
S13	28	30	33	—	—	—	—	—	—	36	38	43	30	32	35	Spot facing cutters
	90	100	110	—	—	—	—	—	—	120	125	140	100	105	115	
H5	34	37	41	—	—	—	—	—	—	—	—	—	48	50	55	Spot facing cutters
	110	120	135	—	—	—	—	—	—	—	—	—	155	165	180	
H8	36	38	42	—	—	—	—	—	—	—	—	—	49	50	55	Spot facing cutters
	120	125	140	—	—	—	—	—	—	—	—	—	160	165	180	
H11	44	47	50	—	—	—	—	—	—	—	—	—	60	65	70	Inserts
	145	155	165	—	—	—	—	—	—	—	—	—	195	215	230	
H12	42	44	49	—	—	—	—	—	—	50	55	60	85	95	100	Inserts
	140	145	160	—	—	—	—	—	—	165	180	195	280	310	330	
H21	36	38	42	—	—	—	—	—	—	—	—	—	49	50	55	Inserts
	120	125	140	—	—	—	—	—	—	—	—	—	160	165	180	

335.18/29 Round 10 – Insert selection – mm/Inch

	SMG		f_z		
			30%	20%	10%
Square shoulder and slot milling cutters	P1	RDKT10T3M0T-8-M05 F40M	0,085 0.0034	0,095 0.0038	0,13 0.0050
	P2	RDKT10T3M0T-8-M05 F40M	0,085 0.0034	0,095 0.0038	0,13 0.0050
Helical milling cutters	P3	RDKT10T3M0T-8-M05 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	P4	RDKT10T3M0T-8-M05 F40M	0,080 0.0032	0,090 0.0036	0,12 0.0048
	P5	RDKT10T3M0T-8-M05 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	P6	RDKT10T3M0T-8-M05 F40M	0,075 0.0030	0,085 0.0034	0,12 0.0048
	P7	RDKW10T3M0T-8-MD06 F40M	0,090 0.0036	0,10 0.0040	0,14 0.0055
	P8	RDKW10T3M0T-8-MD06 MP2501	0,095 0.0038	0,11 0.0044	0,15 0.0060
Face milling cutters	P11	RDKT10T3M0T-8-M07 F40M	0,11 0.0044	0,12 0.0048	0,16 0.0065
	P12	RDKT10T3M0T-8-M07 F40M	0,075 0.0030	0,085 0.0034	0,11 0.0044
Disc milling cutters	M1	RDKT10T3M0T-8-M05 F40M	0,085 0.0034	0,095 0.0038	0,13 0.0050
	M2	RDKT10T3M0T-8-M05 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048
	M3	RDKT10T3M0T-8-M05 F40M	0,060 0.0024	0,070 0.0028	0,095 0.0038
	M4	RDKT10T3M0T-8-M05 F40M	0,055 0.0022	0,060 0.0024	0,080 0.0032
	M5	RDKT10T3M0T-8-M05 F40M	0,055 0.0022	0,060 0.0024	0,080 0.0032
High feed milling cutters	K1	RDKW10T3M0T-8-MD06 MK2050	0,10 0.0040	0,12 0.0048	0,16 0.0065
	K2	RDKW10T3M0T-8-MD06 MK2050	0,090 0.0036	0,11 0.0044	0,14 0.0055
	K3	RDKW10T3M0T-8-MD06 MK2050	0,090 0.0036	0,11 0.0044	0,14 0.0055
	K4	RDKW10T3M0T-8-MD06 MK2050	0,090 0.0036	0,11 0.0044	0,14 0.0055
	K5	RDKW10T3M0T-8-MD06 MK2050	0,085 0.0034	0,095 0.0038	0,13 0.0050
	K6	RDKW10T3M0T-8-MD06 MK2050	0,090 0.0036	0,11 0.0044	0,14 0.0055
	K7	RDKW10T3M0T-8-MD06 MK2050	0,085 0.0034	0,095 0.0038	0,13 0.0050
Copy milling cutters	N1	RDHT10T3M0-8-E04 H25	0,085 0.0034	0,10 0.0040	0,13 0.0050
	N2	RDHT10T3M0-8-E04 H25	0,085 0.0034	0,10 0.0040	0,13 0.0050
	N3	RDHT10T3M0-8-E04 H25	0,085 0.0034	0,10 0.0040	0,13 0.0050
	N11	RDHT10T3M0-8-E04 H25	0,085 0.0034	0,10 0.0040	0,13 0.0050
Plunge milling cutters	S1	RDKT10T3M0T-8-M05 F40M	0,055 0.0022	0,060 0.0024	0,080 0.0032
	S2	RDKT10T3M0T-8-M05 F40M	0,055 0.0022	0,060 0.0024	0,080 0.0032
	S3	RDKT10T3M0T-8-M05 F40M	0,050 0.0020	0,055 0.0022	0,075 0.0030
	S11	RDKT10T3M0T-8-M05 F40M	0,060 0.0024	0,070 0.0028	0,095 0.0038
Chamfer milling cutters	S12	RDKT10T3M0T-8-M05 F40M	0,060 0.0024	0,070 0.0028	0,095 0.0038
	S13	RDKT10T3M0T-8-M05 F40M	0,055 0.0022	0,060 0.0024	0,080 0.0032
	H5	RDKW10T3M0T-8-MD06 F15M	0,065 0.0026	0,070 0.0028	0,095 0.0038
	H8	RDKW10T3M0T-8-MD06 F15M	0,048 0.0019	0,055 0.0022	0,075 0.0030
Spot facing cutters	H11	RDKW10T3M0T-8-MD06 F15M	0,065 0.0026	0,070 0.0028	0,095 0.0038
	H12	RDKW10T3M0T-8-MD06 F15M	0,048 0.0019	0,055 0.0022	0,075 0.0030
	H21	RDKW10T3M0T-8-MD06 F15M	0,048 0.0019	0,055 0.0022	0,075 0.0030

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.18/29 Round 10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			F15M			MK2050			MS2050			F40M			H25			Square should and slot mill cutters
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	350	370	410	255	270	295	285	305	340	220	235	265	245	260	290	—	—	—	Helical milling cutters
	1150	1225	1350	840	890	970	940	1000	1125	720	770	870	800	850	950	—	—	—	
P2	340	360	400	245	260	290	280	295	325	215	230	255	240	255	280	—	—	—	Helical milling cutters
	1125	1175	1300	800	850	950	920	970	1075	710	750	840	790	840	920	—	—	—	
P3	295	315	345	210	230	250	240	260	285	190	205	220	210	220	240	—	—	—	Helical milling cutters
	970	1025	1125	690	750	820	790	850	940	620	670	720	690	720	790	—	—	—	
P4	260	280	305	190	200	220	215	230	255	165	180	195	185	195	215	—	—	—	Helical milling cutters
	850	920	1000	620	660	720	710	750	840	540	590	640	610	640	710	—	—	—	
P5	250	265	290	180	190	210	205	220	240	160	170	190	175	185	205	—	—	—	Helical milling cutters
	820	870	950	590	620	690	670	720	790	520	560	620	570	610	670	—	—	—	
P6	280	300	330	205	215	240	230	245	270	180	190	215	195	210	230	—	—	—	Face milling cutters
	920	980	1075	670	710	790	750	800	890	590	620	710	640	690	750	—	—	—	
P7	265	280	315	190	205	225	215	230	255	170	180	200	185	200	220	—	—	—	Face milling cutters
	870	920	1025	620	670	740	710	750	840	560	590	660	610	660	720	—	—	—	
P8	245	265	290	180	190	210	200	220	240	160	170	185	175	185	205	—	—	—	Face milling cutters
	800	870	950	590	620	690	660	720	790	520	560	610	570	610	670	—	—	—	
P11	255	275	305	185	200	220	210	225	250	165	175	195	180	190	210	—	—	—	Face milling cutters
	840	900	1000	610	660	720	690	740	820	540	570	640	590	620	690	—	—	—	
P12	165	175	190	—	—	—	135	145	155	105	115	125	115	120	135	—	—	—	Face milling cutters
	540	570	620	—	—	—	445	475	510	345	375	410	375	395	445	—	—	—	
M1	—	—	—	—	—	—	—	—	—	175	185	205	190	205	225	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	—	—	570	610	670	620	670	740	—	—	—	
M2	—	—	—	—	—	—	—	—	—	145	155	170	155	170	185	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	—	—	475	510	560	510	560	610	—	—	—	
M3	—	—	—	—	—	—	—	—	—	115	125	135	125	130	145	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	—	—	375	410	445	410	425	475	—	—	—	
M4	—	—	—	—	—	—	—	—	—	90	95	105	95	100	110	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	—	—	295	310	345	310	330	360	—	—	—	
M5	—	—	—	—	—	—	—	—	—	75	80	90	80	85	95	—	—	—	Disc milling cutters
	—	—	—	—	—	—	—	—	—	245	260	295	260	280	310	—	—	—	
K1	365	385	420	195	205	230	300	320	350	—	—	—	190	200	220	—	—	—	High feed milling cutters
	1200	1275	1375	640	670	750	980	1050	1150	—	—	—	620	660	720	—	—	—	
K2	320	340	370	170	185	200	265	280	310	—	—	—	165	175	195	—	—	—	High feed milling cutters
	1050	1125	1225	560	610	660	870	920	1025	—	—	—	540	570	640	—	—	—	
K3	270	285	315	145	155	170	225	240	265	—	—	—	140	150	165	—	—	—	High feed milling cutters
	890	940	1025	475	510	560	740	790	870	—	—	—	460	490	540	—	—	—	
K4	260	275	300	140	145	160	215	225	250	—	—	—	135	145	160	—	—	—	Copy milling cutters
	850	900	980	460	475	520	710	740	820	—	—	—	445	475	520	—	—	—	
K5	155	165	180	85	90	100	130	140	155	—	—	—	80	85	95	—	—	—	Copy milling cutters
	510	540	590	280	295	330	425	460	510	—	—	—	260	280	310	—	—	—	
K6	230	240	265	120	130	145	190	200	220	—	—	—	120	125	140	—	—	—	Copy milling cutters
	750	790	870	395	425	475	620	660	720	—	—	—	395	410	460	—	—	—	
K7	200	210	230	110	115	125	165	180	195	—	—	—	105	110	120	—	—	—	Copy milling cutters
	660	690	750	360	375	410	540	590	640	—	—	—	345	360	395	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1425	1500	1675	1450	1550	1700	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	4675	4925	5500	4750	5075	5575	
N2	—	—	—	—	—	—	—	—	—	—	—	—	570	610	670	580	620	680	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1875	2000	2200	1900	2025	2225	
N3	—	—	—	—	—	—	—	—	—	—	—	—	380	405	450	390	415	455	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1250	1325	1475	1275	1350	1500	
N11	—	—	—	—	—	—	—	—	—	—	—	—	435	460	510	445	475	520	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1425	1500	1675	1450	1550	1700	
S1	—	—	—	—	—	—	—	—	—	42	45	49	45	47	50	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	140	150	160	150	155	165	—	—	—	
S2	—	—	—	—	—	—	—	—	—	34	36	40	36	38	42	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	110	120	130	120	125	140	—	—	—	
S3	—	—	—	—	—	—	—	—	—	30	32	35	32	33	37	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	100	105	115	105	110	120	—	—	—	
S11	—	—	—	—	—	—	—	—	—	60	65	70	65	65	75	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	195	215	230	215	215	245	—	—	—	
S12	—	—	—	—	—	—	—	—	—	49	55	60	55	55	65	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	160	180	195	180	180	215	—	—	—	
S13	—	—	—	—	—	—	—	—	—	29	31	34	31	32	36	—	—	—	Spot facing cutters
	—	—	—	—	—	—	—	—	—	95	100	110	100	105	120	—	—	—	
H5	85	90	100	39	42	46	46	49	55	—	—	—	38	40	44	—	—	—	Spot facing cutters
	280	295	330	130	140	150	150	160	180	—	—	—	125	130	145	—	—	—	
H8	85	90	100	41	44	48	48	50	55	—	—	—	39	42	46	—	—	—	Spot facing cutters
	280	295	330	135	145	155	155	165	180	—	—	—	130	140	150	—	—	—	
H11	110	115	125	50	55	60	60	65	70	—	—	—	48	50	55	—	—	—	Inserts
	360	375	410	165	180	195	195	215	230	—	—	—	155	165	180	—	—	—	
H12	100	105	115	47	50	55	85	90	100	—	—	—	45	48	55	—	—	—	Inserts
	330	345	375	155	165	180	280	295	330	—	—	—	150	155	180	—	—	—	
H21	85	90	100	41	44	48	48	50	55	—	—	—	39	42	46	—	—	—	Inserts
	280	295	330	135	145	155	155	165	180	—	—	—	130	140	150	—	—	—	

335.18/29 Round 10 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	345 1125	360 1175	385 1275	365 1200	380 1250	410 1350	355 1175	375 1225	415 1350	350 1150	365 1200	385 1275	200 660	210 690	235 770
	P2	335 1100	350 1150	370 1225	355 1175	370 1225	395 1300	345 1125	365 1200	405 1325	340 1125	355 1175	375 1225	195 640	205 670	230 750
Helical milling cutters	P3	290 950	300 980	320 1050	305 1000	320 1050	340 1125	300 980	315 1025	350 1150	295 970	305 1000	325 1075	170 560	180 590	195 640
	P4	255 840	265 870	285 940	270 890	285 940	300 980	265 870	280 920	310 1025	260 850	270 890	285 940	150 490	155 510	175 570
	P5	245 800	255 840	270 890	260 850	270 890	290 950	250 820	270 890	295 970	245 800	255 840	270 890	140 460	150 490	165 540
	P6	275 900	285 940	305 1000	290 950	305 1000	325 1075	280 920	300 980	335 1100	275 900	285 940	305 1000	160 520	170 560	190 620
	P7	260 850	270 890	285 940	275 900	285 940	305 1000	265 870	285 940	315 1025	260 850	270 890	285 940	150 490	160 520	175 570
Face milling cutters	P8	245 800	255 840	270 890	260 850	270 890	285 940	250 820	265 870	290 950	245 800	255 840	270 890	140 460	150 490	165 540
	P11	250 820	260 850	280 920	270 890	280 920	295 970	260 850	275 900	305 1000	255 840	265 870	280 920	145 475	155 510	170 560
	P12	150 490	155 510	160 520	160 520	165 540	175 570	165 540	175 570	195 640	145 475	150 490	160 520	90 295	100 330	110 360
	M1	— —	— —	— —	205 670	215 710	240 790	245 800	260 850	290 950	210 690	225 740	250 820	165 540	175 570	195 640
Disc milling cutters	M2	— —	— —	— —	170 560	180 590	195 640	200 660	215 710	235 770	175 570	185 610	205 670	135 445	145 475	160 520
	M3	— —	— —	— —	135 445	145 475	155 510	160 520	170 560	190 620	135 445	145 475	160 520	105 345	115 375	125 410
	M4	— —	— —	— —	100 330	110 360	120 395	125 410	130 425	145 475	105 345	110 360	125 410	85 280	90 295	95 310
	M5	— —	— —	— —	85 280	90 295	100 330	100 330	110 360	120 395	90 295	95 310	105 345	70 230	75 245	80 260
	K1	340 1125	355 1175	375 1225	360 1175	375 1225	400 1300	270 890	290 950	320 1050	345 1125	355 1175	380 1250	— —	— —	— —
High feed milling cutters	K2	295 970	305 1000	325 1075	315 1025	325 1075	350 1150	240 790	255 840	280 920	300 980	310 1025	330 1075	— —	— —	— —
	K3	250 820	260 850	275 900	265 870	275 900	295 970	200 660	215 710	240 790	250 820	260 850	275 900	— —	— —	— —
	K4	240 790	250 820	265 870	255 840	265 870	280 920	195 640	205 670	230 750	240 790	250 820	265 870	— —	— —	— —
	K5	145 475	150 490	155 510	150 490	160 520	170 560	120 395	125 410	140 460	145 475	150 490	155 510	— —	— —	— —
Copy milling cutters	K6	210 690	220 720	230 750	225 740	235 770	250 820	170 560	180 590	200 660	210 690	220 720	235 770	— —	— —	— —
	K7	185 610	190 620	200 660	195 640	205 670	215 710	150 490	160 520	175 570	185 610	190 620	200 660	— —	— —	— —
	K8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Plunge milling cutters	N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Chamfer milling cutters	S1	— —	— —	— —	— —	— —	— —	60 195	65 215	70 230	34 110	37 120	40 130	25 80	27 90	30 100
	S2	— —	— —	— —	— —	— —	— —	48 155	50 165	55 180	28 90	29 95	33 110	20 65	22 70	24 80
	S3	— —	— —	— —	— —	— —	— —	42 140	45 150	49 160	35 115	37 120	40 130	18 60	19 60	21 70
	S11	— —	— —	— —	— —	— —	— —	85 280	90 295	100 330	70 230	75 245	80 260	36 120	38 125	42 140
	S12	— —	— —	— —	— —	— —	— —	70 230	75 245	85 280	48 155	50 165	55 180	33 110	35 115	39 130
	S13	— —	— —	— —	— —	— —	— —	41 135	43 140	48 155	28 90	29 95	32 105	19 60	20 65	22 70
	S14	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Spot facing cutters	H5	49 160	50 165	55 180	— —	— —	— —	49 160	50 165	60 195	43 140	46 150	50 165	— —	— —	— —
	H8	50 165	55 180	60 195	— —	— —	— —	50 165	55 180	60 195	45 150	48 155	55 180	— —	— —	— —
	H11	60 195	65 215	75 245	— —	— —	— —	60 195	65 215	75 245	55 180	55 195	65 215	— —	— —	— —
Inserts	H12	60 195	65 215	70 230	— —	— —	— —	60 195	65 215	70 230	80 260	85 280	95 310	— —	— —	— —
	H21	50 165	55 180	60 195	— —	— —	— —	50 165	55 180	60 195	45 150	48 155	55 180	— —	— —	— —

335.18/29 Round 12 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	RPHT1204M0T-6-ME07 F40M	0,12 0,0048	0,14 0,0055	0,18 0,0070	Square shoulder and slot milling cutters
P2	RPHT1204M0T-6-ME07 F40M	0,12 0,0048	0,14 0,0055	0,19 0,0075	
P3	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	Helical milling cutters
P4	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P5	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,15 0,0060	0,19 0,0075	Face milling cutters
P6	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,14 0,0055	0,19 0,0075	
P7	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,14 0,0055	0,19 0,0075	Disc milling cutters
P8	RPHT1204M0T-6-M08 MP2501	0,13 0,0050	0,15 0,0060	0,20 0,0080	
P11	RPHT1204M0T-6-M08 F40M	0,13 0,0050	0,14 0,0055	0,19 0,0075	High feed milling cutters
P12	RPHT1204M0T-6-M08 F40M	0,085 0,0034	0,10 0,0040	0,13 0,0050	
M1	RPHT1204M0T-6-ME07 F40M	0,12 0,0048	0,14 0,0055	0,19 0,0075	Copy milling cutters
M2	RPHT1204M0T-6-ME07 F40M	0,11 0,0044	0,13 0,0050	0,17 0,0065	
M3	RPHT1204M0T-6-M08 F40M	0,10 0,0040	0,12 0,0048	0,16 0,0065	Plunge milling cutters
M4	RPHT1204M0T-6-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
M5	RPHT1204M0T-6-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	Chamfer milling cutters
K1	RPKW1204M0T-6-MD10 MK2050	0,17 0,0065	0,20 0,0080	0,26 0,010	
K2	RPKW1204M0T-6-MD10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	Spot facing cutters
K3	RPKW1204M0T-6-MD10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	
K4	RPKW1204M0T-6-MD10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	Inserts
K5	RPKW1204M0T-6-MD10 MK2050	0,14 0,0055	0,16 0,0065	0,22 0,0085	
K6	RPKW1204M0T-6-MD10 MK2050	0,16 0,0065	0,18 0,0070	0,24 0,0095	
K7	RPKW1204M0T-6-MD10 MK2050	0,14 0,0055	0,16 0,0065	0,22 0,0085	
N1	RPHT1204M0-6-E05 H25	0,11 0,0044	0,13 0,0050	0,17 0,0065	
N2	RPHT1204M0-6-E05 H25	0,11 0,0044	0,13 0,0050	0,17 0,0065	
N3	RPHT1204M0-6-E05 H25	0,11 0,0044	0,13 0,0050	0,17 0,0065	
N11	RPHT1204M0-6-E05 H25	0,11 0,0044	0,13 0,0050	0,17 0,0065	
S1	RPHT1204M0T-6-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S2	RPHT1204M0T-6-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S3	RPHT1204M0T-6-M08 F40M	0,080 0,0032	0,095 0,0038	0,13 0,0050	
S11	RPHT1204M0T-6-ME07 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S12	RPHT1204M0T-6-ME07 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
S13	RPHT1204M0T-6-M08 F40M	0,090 0,0036	0,10 0,0040	0,14 0,0055	
H5	RPKW1204M0T-6-MD10 MH1051	0,11 0,0044	0,12 0,0048	0,16 0,0065	
H8	RPKW1204M0T-6-MD10 MH1051	0,080 0,0032	0,095 0,0038	0,13 0,0050	
H11	RPHT1204M0T-6-M13 MP3501	0,14 0,0055	0,16 0,0065	0,22 0,0085	
H12	RPHT1204M0T-4-M08 MP3501	0,065 0,0026	0,075 0,0030	0,10 0,0040	
H21	RPKW1204M0T-6-MD10 MH1051	0,080 0,0032	0,095 0,0038	0,13 0,0050	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.18/29 Round 12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MH1051			MK2050			MP3000			MS2050			F40M			H25		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	360 1175	380 1250	425 1400	240 790	255 840	285 940	270 890	285 940	320 1050	240 790	255 840	290 950	220 720	235 770	260 850	—	—	—
	P2	350 1150	370 1225	410 1350	235 770	250 820	275 900	265 870	280 920	310 1025	235 770	250 820	275 900	210 690	225 740	250 820	—	—	—
Helical milling cutters	P3	305 1000	320 1050	355 1175	200 660	220 720	240 790	230 750	245 800	265 870	205 670	220 720	240 790	185 610	200 660	220 720	—	—	—
	P4	270 890	285 940	315 1025	180 590	190 620	210 690	200 660	215 710	240 790	180 590	190 620	215 710	165 540	175 570	195 640	—	—	—
Face milling cutters	P5	255 840	275 900	300 980	170 560	185 610	205 670	195 640	205 670	230 750	170 560	185 610	205 670	155 510	165 540	185 610	—	—	—
	P6	285 940	305 1000	340 1125	195 640	210 690	230 750	215 710	230 750	255 840	195 640	210 690	230 750	175 570	190 620	210 690	—	—	—
Disc milling cutters	P7	270 890	290 950	320 1050	180 590	200 660	220 720	205 670	220 720	240 790	180 590	200 660	220 720	165 540	180 590	200 660	—	—	—
	P8	255 840	270 890	300 980	170 560	185 610	200 660	195 640	205 670	225 740	170 560	185 610	205 670	155 510	165 540	185 610	—	—	—
High feed milling cutters	P11	265 870	280 920	310 1025	175 570	195 640	210 690	200 660	210 690	235 770	175 570	190 620	210 690	160 520	175 570	190 620	—	—	—
	P12	165 540	180 590	195 640	115 375	125 410	135 445	125 410	135 445	150 490	115 375	120 395	135 445	105 345	110 360	125 410	—	—	—
Copy milling cutters	M1	—	—	—	—	—	—	195 640	210 690	230 750	190 620	200 660	220 720	170 560	185 610	200 660	—	—	—
	M2	—	—	—	—	—	—	160 520	175 570	190 620	155 510	165 540	185 610	140 460	150 490	170 560	—	—	—
Plunge milling cutters	M3	—	—	—	—	—	—	130 425	135 445	150 490	125 410	130 425	145 475	115 375	120 395	135 445	—	—	—
	M4	—	—	—	—	—	—	100 330	105 345	115 375	95 310	105 345	115 375	85 280	95 310	100 330	—	—	—
Spot facing cutters	M5	—	—	—	—	—	—	80 260	85 280	95 310	80 260	85 280	95 310	75 245	80 260	85 280	—	—	—
	K1	375 1225	395 1300	430 1400	250 820	270 890	295 970	175 570	185 610	205 670	—	—	—	170 560	180 590	200 660	—	—	—
Chamfer milling cutters	K2	325 1075	345 1125	375 1225	220 720	235 770	265 870	155 510	165 540	180 590	—	—	—	150 490	160 520	175 570	—	—	—
	K3	275 900	290 950	320 1050	190 620	200 660	225 740	130 425	140 460	155 510	—	—	—	125 410	135 445	150 490	—	—	—
Inserts	K4	265 870	280 920	305 1000	180 590	190 620	215 710	125 410	135 445	145 475	—	—	—	120 395	130 425	145 475	—	—	—
	K5	160 520	170 560	180 590	110 360	120 395	130 425	75 245	80 260	90 295	—	—	—	75 245	80 260	85 280	—	—	—
Spot facing cutters	K6	230 750	245 800	270 890	160 520	170 560	190 620	110 360	115 375	130 425	—	—	—	105 345	115 375	125 410	—	—	—
	K7	205 670	215 710	235 770	140 460	150 490	170 560	95 310	105 345	115 375	—	—	—	95 310	100 330	110 360	—	—	—
Spot facing cutters	N1	—	—	—	—	—	—	1575 5175	1650 5425	1850 6075	—	—	—	1250 4100	1350 4425	1475 4850	1375 4500	1450 4750	1625 5325
	N2	—	—	—	—	—	—	630 2075	670 2200	740 2425	—	—	—	500 1650	540 1775	600 1975	560 1825	590 1925	650 2125
Spot facing cutters	N3	—	—	—	—	—	—	420 1375	445 1450	495 1625	—	—	—	335 1100	365 1200	395 1300	370 1225	395 1300	435 1425
	N11	—	—	—	—	—	—	480 1575	510 1675	570 1875	—	—	—	385 1275	415 1350	455 1500	425 1400	450 1475	500 1650
Spot facing cutters	S1	—	—	—	—	—	—	46 150	49 160	55 180	45 150	48 155	55 180	41 135	44 145	48 155	—	—	—
	S2	—	—	—	—	—	—	37 120	39 130	43 140	36 120	39 130	42 140	33 110	35 115	38 125	—	—	—
Spot facing cutters	S3	—	—	—	—	—	—	32 105	34 110	38 125	32 105	34 110	37 120	29 95	31 100	34 110	—	—	—
	S11	—	—	—	—	—	—	65 215	70 230	75 245	65 215	65 215	75 245	55 180	60 195	65 215	—	—	—
Spot facing cutters	S12	—	—	—	—	—	—	55 180	60 195	65 215	55 180	55 180	60 195	48 155	50 165	55 180	—	—	—
	S13	—	—	—	—	—	—	31 100	33 110	37 120	31 100	33 110	36 120	28 90	30 100	33 110	—	—	—
Spot facing cutters	H5	85 280	90 295	95 310	40 130	42 140	47 155	35 115	37 120	41 135	—	—	—	35 115	37 120	41 135	—	—	—
	H8	85 280	90 295	95 310	43 140	46 150	50 165	36 120	39 130	42 140	—	—	—	36 120	39 130	43 140	—	—	—
Spot facing cutters	H11	110 360	115 375	125 410	50 165	55 180	60 195	44 145	48 155	55 180	—	—	—	44 145	47 155	50 165	—	—	—
	H12	100 330	105 345	110 360	75 245	80 260	85 280	42 140	45 150	49 160	—	—	—	42 140	45 150	50 165	—	—	—
Spot facing cutters	H21	85 280	90 295	95 310	43 140	46 150	50 165	36 120	39 130	42 140	—	—	—	36 120	39 130	43 140	—	—	—

335.18/29 Round 12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501			MP2501			MS2500			MP3501			MM4500			
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	325	345	370	370	385	415	315	335	375	335	350	375	175	190	210	Square shoulder and slot milling cutters
	1075	1125	1225	1225	1275	1350	1025	1100	1225	1100	1150	1225	570	620	690	
P2	320	335	360	360	375	400	305	325	360	325	340	360	170	185	200	Helical milling cutters
	1050	1100	1175	1175	1225	1300	1000	1075	1175	1075	1125	1175	560	610	660	
P3	275	295	315	315	325	350	270	285	315	280	295	315	150	160	180	Helical milling cutters
	900	970	1025	1025	1075	1150	890	940	1025	920	970	1025	490	520	590	
P4	245	260	275	275	285	305	235	250	280	250	260	275	135	140	155	Helical milling cutters
	800	850	900	900	940	1000	770	820	920	820	850	900	445	460	510	
P5	235	245	270	265	275	295	225	240	270	235	250	265	125	135	150	Helical milling cutters
	770	800	890	870	900	970	740	790	890	770	820	870	410	445	490	
P6	265	280	300	295	310	330	255	275	300	265	280	300	140	155	170	Face milling cutters
	870	920	980	970	1025	1075	840	900	980	870	920	980	460	510	560	
P7	250	265	285	280	295	310	240	260	285	250	265	280	135	145	160	Face milling cutters
	820	870	940	920	970	1025	790	850	940	820	870	920	445	475	520	
P8	235	245	265	265	275	295	225	240	265	235	250	265	125	135	150	Face milling cutters
	770	800	870	870	900	970	740	790	870	770	820	870	410	445	490	
P11	240	260	275	270	285	305	230	250	275	245	255	275	130	140	155	Face milling cutters
	790	850	900	890	940	1000	750	820	900	800	840	900	425	460	510	
P12	155	160	175	165	170	180	150	160	175	150	155	165	85	90	100	Face milling cutters
	510	520	570	540	560	590	490	520	570	490	510	540	280	295	330	
M1	—	—	—	200	215	235	220	235	255	190	200	220	150	160	175	Disc milling cutters
	—	—	—	660	710	770	720	770	840	620	660	720	490	520	570	
M2	—	—	—	165	175	200	180	190	215	155	165	185	120	130	145	Disc milling cutters
	—	—	—	540	570	660	590	620	710	510	540	610	395	425	475	
M3	—	—	—	135	140	155	145	155	170	125	130	145	100	105	115	Disc milling cutters
	—	—	—	445	460	510	475	510	560	410	425	475	330	345	375	
M4	—	—	—	105	110	120	110	120	130	95	105	115	75	80	90	Disc milling cutters
	—	—	—	345	360	395	360	395	425	310	345	375	245	260	295	
M5	—	—	—	85	90	100	95	100	110	80	85	95	65	65	75	Disc milling cutters
	—	—	—	280	295	330	310	330	360	260	280	310	215	215	245	
K1	320	340	365	365	380	405	240	260	285	330	345	365	—	—	—	High feed milling cutters
	1050	1125	1200	1200	1250	1325	790	850	940	1075	1125	1200	—	—	—	
K2	285	300	325	320	330	355	215	230	255	285	300	320	—	—	—	High feed milling cutters
	940	980	1075	1050	1075	1175	710	750	840	940	980	1050	—	—	—	
K3	240	250	275	270	280	300	180	195	215	245	255	270	—	—	—	High feed milling cutters
	790	820	900	890	920	980	590	640	710	800	840	890	—	—	—	
K4	230	240	260	255	270	290	175	185	205	230	240	260	—	—	—	Copy milling cutters
	750	790	850	840	890	950	570	610	670	750	790	850	—	—	—	
K5	140	145	160	155	160	175	105	115	125	140	145	155	—	—	—	Copy milling cutters
	460	475	520	510	520	570	345	375	410	460	475	510	—	—	—	
K6	200	210	230	225	235	255	150	160	180	205	215	230	—	—	—	Copy milling cutters
	660	690	750	740	770	840	490	520	590	670	710	750	—	—	—	
K7	180	190	205	200	205	220	135	145	160	180	185	200	—	—	—	Copy milling cutters
	590	620	670	660	670	720	445	475	520	590	610	660	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	55	60	65	31	34	37	23	25	27	Chamfer milling cutters
	—	—	—	—	—	—	180	195	215	100	110	120	75	80	90	
S2	—	—	—	—	—	—	44	47	50	25	27	30	19	20	22	Chamfer milling cutters
	—	—	—	—	—	—	145	155	165	80	90	100	60	65	70	
S3	—	—	—	—	—	—	39	41	45	32	34	37	16	17	19	Chamfer milling cutters
	—	—	—	—	—	—	130	135	150	105	110	120	50	55	60	
S11	—	—	—	—	—	—	75	80	90	65	65	75	32	34	38	Chamfer milling cutters
	—	—	—	—	—	—	245	260	295	215	215	245	105	110	125	
S12	—	—	—	—	—	—	65	70	75	44	46	50	30	32	35	Spot facing cutters
	—	—	—	—	—	—	215	230	245	145	150	165	100	105	115	
S13	—	—	—	—	—	—	37	40	44	25	27	30	17	19	20	Spot facing cutters
	—	—	—	—	—	—	120	130	145	80	90	100	55	60	65	
H5	44	47	50	—	—	—	45	48	55	40	42	47	—	—	—	Spot facing cutters
	145	155	165	—	—	—	150	155	180	130	140	155	—	—	—	
H8	48	50	55	—	—	—	47	50	55	42	44	49	—	—	—	Spot facing cutters
	155	165	180	—	—	—	155	165	180	140	145	160	—	—	—	
H11	55	60	65	—	—	—	55	60	65	50	55	60	—	—	—	Inserts
	180	195	215	—	—	—	180	195	215	165	180	195	—	—	—	
H12	55	60	65	—	—	—	55	60	65	75	80	90	—	—	—	Inserts
	180	195	215	—	—	—	180	195	215	245	260	295	—	—	—	
H21	48	50	55	—	—	—	47	50	55	42	44	49	—	—	—	Inserts
	155	165	180	—	—	—	155	165	180	140	145	160	—	—	—	

335.25 Round 16 – Insert selection – mm/Inch

	SMG		f_z		
			30%	20%	10%
Square shoulder and slot milling cutters	P1	RPHT1605M0T-8-ME11 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011
	P2	RPHT1605M0T-8-ME11 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012
	P3	RPHT1605M0T-8-ME11 F40M	0,18 0.0070	0,20 0.0080	0,28 0.011
Helical milling cutters	P4	RPHT1605M0T-8-M12 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012
	P5	RPHT1605M0T-8-M12 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011
	P6	RPHT1605M0T-8-M12 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011
	P7	RPHT1605M0T-8-M12 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011
	P8	RPKT1605M0T-8-M12 MP2501	0,20 0.0080	0,22 0.0085	0,30 0.012
Face milling cutters	P11	RPHT1605M0T-8-M12 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011
	P12	RPHT1605M0T-8-M12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	M1	RPHT1605M0T-8-ME11 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012
	M2	RPHT1605M0T-8-ME11 F40M	0,17 0.0065	0,20 0.0080	0,26 0.010
Disc milling cutters	M3	RPHT1605M0T-8-M12 F40M	0,15 0.0060	0,17 0.0065	0,24 0.0095
	M4	RPHT1605M0T-8-M12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	M5	RPHT1605M0T-8-M12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	K1	RPKT1605M0T-8-M18 MK2050	0,32 0.013	0,36 0.014	0,48 0.019
	K2	RPKT1605M0T-8-M18 MK2050	0,28 0.011	0,32 0.013	0,44 0.017
High feed milling cutters	K3	RPKT1605M0T-8-M18 MK2050	0,28 0.011	0,32 0.013	0,44 0.017
	K4	RPKT1605M0T-8-M18 MK2050	0,28 0.011	0,32 0.013	0,44 0.017
	K5	RPKT1605M0T-8-M18 MK2050	0,25 0.010	0,30 0.012	0,38 0.015
	K6	RPKT1605M0T-8-M18 MK2050	0,28 0.011	0,32 0.013	0,44 0.017
	K7	RPKT1605M0T-8-M18 MK2050	0,25 0.010	0,30 0.012	0,38 0.015
Copy milling cutters	N1	RPHT1605M0T-8-ME11 F40M	0,24 0.0095	0,28 0.011	0,36 0.014
	N2	RPHT1605M0T-8-ME11 F40M	0,24 0.0095	0,28 0.011	0,36 0.014
	N3	RPHT1605M0T-8-ME11 F40M	0,24 0.0095	0,28 0.011	0,36 0.014
	N11	RPHT1605M0T-8-ME11 F40M	0,24 0.0095	0,28 0.011	0,36 0.014
Plunge milling cutters	S1	RPHT1605M0T-8-M12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	S2	RPHT1605M0T-8-M12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080
	S3	RPHT1605M0T-8-M12 F40M	0,12 0.0048	0,14 0.0055	0,19 0.0075
	S11	RPHT1605M0T-8-ME11 F40M	0,14 0.0055	0,16 0.0065	0,22 0.0085
Chamfer milling cutters	S12	RPHT1605M0T-8-ME11 F40M	0,14 0.0055	0,16 0.0065	0,22 0.0085
	H5	RPKW1605M0T-8-MD20 F15M	0,22 0.0085	0,24 0.0095	0,32 0.013
	H8	RPKW1605M0T-8-MD20 F15M	0,16 0.0065	0,19 0.0075	0,25 0.010
	H11	RPKW1605M0T-8-MD20 F15M	0,22 0.0085	0,24 0.0095	0,32 0.013
Spot facing cutters	H12	RPKW1605M0T-8-MD20 F15M	0,16 0.0065	0,19 0.0075	0,25 0.010
	H21	RPKW1605M0T-8-MD20 F15M	0,16 0.0065	0,19 0.0075	0,25 0.010

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

335.25 Round 16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F15M			MK2050			MP3000			MS2050			F40M			
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	170	180	205	215	230	255	205	220	245	215	230	260	185	195	220	Square shoulder and slot milling cutters
	560	590	670	710	750	840	670	720	800	710	750	850	610	640	720	
P2	165	175	195	205	220	245	200	215	235	210	225	250	180	190	210	Helical milling cutters
	540	570	640	670	720	800	660	710	770	690	740	820	590	620	690	
P3	145	155	170	180	195	215	175	185	205	185	200	215	155	170	185	Helical milling cutters
	475	510	560	590	640	710	570	610	670	610	660	710	510	560	610	
P4	130	135	150	160	170	190	155	165	185	160	175	190	140	150	165	Helical milling cutters
	425	445	490	520	560	620	510	540	610	520	570	620	460	490	540	
P5	125	130	145	155	165	185	150	160	175	155	165	185	135	140	155	Helical milling cutters
	410	425	475	510	540	610	490	520	570	510	540	610	445	460	510	
P6	140	150	165	175	185	205	165	180	195	175	185	210	150	160	180	Helical milling cutters
	460	490	540	570	610	670	540	590	640	570	610	690	490	520	590	
P7	130	140	155	165	175	195	160	170	185	165	175	195	140	150	170	Face milling cutters
	425	460	510	540	570	640	520	560	610	540	570	640	460	490	560	
P8	125	130	145	150	165	180	145	155	175	155	165	180	130	140	155	Face milling cutters
	410	425	475	490	540	590	475	510	570	510	540	590	425	460	510	
P11	125	135	150	160	170	190	155	165	180	160	170	190	135	145	165	Face milling cutters
	410	445	490	520	560	620	510	540	590	520	560	620	445	475	540	
P12	—	—	—	105	110	125	100	110	120	105	110	125	90	95	105	Face milling cutters
	—	—	—	345	360	410	330	360	395	345	360	410	295	310	345	
M1	—	—	—	—	—	—	150	160	175	170	180	200	145	155	170	Disc milling cutters
	—	—	—	—	—	—	490	520	570	560	590	660	475	510	560	
M2	—	—	—	—	—	—	125	135	145	140	150	165	120	130	140	Disc milling cutters
	—	—	—	—	—	—	410	445	475	460	490	540	395	425	460	
M3	—	—	—	—	—	—	100	110	120	115	120	135	95	105	115	Disc milling cutters
	—	—	—	—	—	—	330	360	395	375	395	445	310	345	375	
M4	—	—	—	—	—	—	80	85	95	90	95	105	75	80	90	Disc milling cutters
	—	—	—	—	—	—	260	280	310	295	310	345	245	260	295	
M5	—	—	—	—	—	—	65	70	80	75	80	85	65	65	75	Disc milling cutters
	—	—	—	—	—	—	215	230	260	245	260	280	215	215	245	
K1	130	140	155	220	240	265	130	140	155	—	—	—	145	150	170	High feed milling cutters
	425	460	510	720	790	870	425	460	510	—	—	—	475	490	560	
K2	115	125	140	200	215	235	120	125	140	—	—	—	125	135	150	High feed milling cutters
	375	410	460	660	710	770	395	410	460	—	—	—	410	445	490	
K3	100	105	120	170	180	200	100	110	120	—	—	—	105	115	125	High feed milling cutters
	330	345	395	560	590	660	330	360	395	—	—	—	345	375	410	
K4	95	100	115	160	175	190	95	105	115	—	—	—	100	110	120	High feed milling cutters
	310	330	375	520	570	620	310	345	375	—	—	—	330	360	395	
K5	60	65	70	100	105	115	60	60	70	—	—	—	60	65	75	Copy milling cutters
	195	215	230	330	345	375	195	195	230	—	—	—	195	215	245	
K6	85	90	100	140	155	170	85	90	100	—	—	—	90	95	105	Copy milling cutters
	280	295	330	460	510	560	280	295	330	—	—	—	295	310	345	
K7	75	80	90	125	135	150	75	80	90	—	—	—	80	85	95	Copy milling cutters
	245	260	295	410	445	490	245	260	295	—	—	—	260	280	310	
N1	—	—	—	—	—	—	—	—	—	—	—	—	1050	1125	1250	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	3450	3700	4100	
N2	—	—	—	—	—	—	—	—	—	—	—	—	425	455	510	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1400	1500	1675	
N3	—	—	—	—	—	—	—	—	—	—	—	—	285	305	335	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	940	1000	1100	
N11	—	—	—	—	—	—	—	—	—	—	—	—	325	345	385	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	1075	1125	1275	
S1	—	—	—	—	—	—	37	40	43	41	44	48	35	37	41	Chamfer milling cutters
	—	—	—	—	—	—	120	130	140	135	145	155	115	120	135	
S2	—	—	—	—	—	—	29	32	35	33	35	39	28	30	33	Chamfer milling cutters
	—	—	—	—	—	—	95	105	115	110	115	130	90	100	110	
S3	—	—	—	—	—	—	26	27	31	29	31	34	25	26	29	Chamfer milling cutters
	—	—	—	—	—	—	85	90	100	95	100	110	80	85	95	
S11	—	—	—	—	—	—	—	—	—	55	60	65	49	55	55	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	180	195	215	160	180	180	
S12	—	—	—	—	—	—	—	—	—	48	50	55	41	44	48	Spot facing cutters
	—	—	—	—	—	—	—	—	—	155	165	180	135	145	155	
S13	—	—	—	—	—	—	—	—	—	28	30	33	24	26	28	Spot facing cutters
	—	—	—	—	—	—	—	—	—	90	100	110	80	85	90	
H5	28	30	33	—	—	—	28	30	33	—	—	—	29	31	35	Spot facing cutters
	90	100	110	—	—	—	90	100	110	—	—	—	95	100	115	
H8	30	32	35	—	—	—	30	32	36	—	—	—	31	34	37	Spot facing cutters
	100	105	115	—	—	—	100	105	120	—	—	—	100	110	120	
H11	35	38	42	—	—	—	36	38	42	—	—	—	38	40	44	Inserts
	115	125	140	—	—	—	120	125	140	—	—	—	125	130	145	
H12	35	37	41	—	—	—	35	37	42	—	—	—	36	39	43	Inserts
	115	120	135	—	—	—	115	120	140	—	—	—	120	130	140	
H21	30	32	35	—	—	—	30	32	36	—	—	—	31	34	37	Inserts
	100	105	115	—	—	—	100	105	120	—	—	—	100	110	120	

335.25 Round 16 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	295	310	335	325	335	360	285	305	340	305	320	350	160	170	190
	970	1025	1100	1075	1100	1175	940	1000	1125	1000	1050	1150	520	560	620
P2	280	300	325	315	330	355	275	295	325	300	315	335	155	165	180
	920	980	1075	1025	1075	1175	900	970	1075	980	1025	1100	510	540	590
P3	245	260	280	270	285	310	240	260	285	260	275	295	135	145	160
	800	850	920	890	940	1025	790	850	940	850	900	970	445	475	520
P4	220	230	250	240	255	270	210	230	250	230	240	260	120	130	140
	720	750	820	790	840	890	690	750	820	750	790	850	395	425	460
P5	210	225	240	230	240	260	205	220	245	220	230	250	115	125	135
	690	740	790	750	790	850	670	720	800	720	750	820	375	410	445
P6	240	250	270	260	270	295	230	245	275	250	260	280	130	140	155
	790	820	890	850	890	970	750	800	900	820	850	920	425	460	510
P7	225	240	255	245	255	280	220	230	260	235	245	265	125	130	145
	740	790	840	800	840	920	720	750	850	770	800	870	410	425	475
P8	210	220	235	230	240	260	200	220	240	220	230	245	115	125	135
	690	720	770	750	790	850	660	720	790	720	750	800	375	410	445
P11	220	230	245	235	250	270	210	225	250	230	240	255	120	125	140
	720	750	800	770	820	890	690	740	820	750	790	840	395	410	460
P12	140	150	160	150	155	165	135	145	160	140	150	160	75	80	90
	460	490	520	490	510	540	445	475	520	460	490	520	245	260	295
M1	—	—	—	170	180	200	200	210	230	170	180	200	135	140	155
	—	—	—	560	590	660	660	690	750	560	590	660	445	460	510
M2	—	—	—	140	150	165	165	175	195	140	150	165	110	120	130
	—	—	—	460	490	540	540	570	640	460	490	540	360	395	425
M3	—	—	—	115	125	135	130	140	155	115	120	135	90	95	105
	—	—	—	375	410	445	425	460	510	375	395	445	295	310	345
M4	—	—	—	90	95	105	100	110	120	90	95	105	70	75	80
	—	—	—	295	310	345	330	360	395	295	310	345	230	245	260
M5	—	—	—	75	80	85	85	90	100	75	80	85	55	60	65
	—	—	—	245	260	280	280	295	330	245	260	280	180	195	215
K1	285	300	325	320	330	355	220	235	255	300	315	340	—	—	—
	940	980	1075	1050	1075	1175	720	770	840	980	1025	1125	—	—	—
K2	255	270	290	280	290	315	195	205	230	270	280	300	—	—	—
	840	890	950	920	950	1025	640	670	750	890	920	980	—	—	—
K3	215	230	245	235	245	265	165	175	195	225	235	255	—	—	—
	710	750	800	770	800	870	540	570	640	740	770	840	—	—	—
K4	205	220	235	225	235	255	160	165	185	215	225	245	—	—	—
	670	720	770	740	770	840	520	540	610	710	740	800	—	—	—
K5	125	135	145	135	145	155	95	100	115	130	135	145	—	—	—
	410	445	475	445	475	510	310	330	375	425	445	475	—	—	—
K6	185	195	205	200	210	225	140	150	165	190	200	215	—	—	—
	610	640	670	660	690	740	460	490	540	620	660	710	—	—	—
K7	160	170	185	175	185	195	120	130	145	165	175	190	—	—	—
	520	560	610	570	610	640	395	425	475	540	570	620	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	50	55	60	29	31	34	21	22	25
	—	—	—	—	—	—	165	180	195	95	100	110	70	70	80
S2	—	—	—	—	—	—	40	43	47	23	25	27	17	18	20
	—	—	—	—	—	—	130	140	155	75	80	90	55	60	65
S3	—	—	—	—	—	—	35	38	42	29	31	34	15	16	18
	—	—	—	—	—	—	115	125	140	95	100	110	49	50	60
S11	—	—	—	—	—	—	70	75	80	55	60	65	29	31	34
	—	—	—	—	—	—	230	245	260	180	195	215	95	100	110
S12	—	—	—	—	—	—	60	65	70	40	42	46	27	29	32
	—	—	—	—	—	—	195	215	230	130	140	150	90	95	105
S13	—	—	—	—	—	—	34	36	40	23	25	27	16	17	19
	—	—	—	—	—	—	110	120	130	75	80	90	50	55	60
H5	40	43	47	—	—	—	41	43	48	36	38	43	—	—	—
	130	140	155	—	—	—	135	140	155	120	125	140	—	—	—
H8	42	46	50	—	—	—	43	47	50	38	41	45	—	—	—
	140	150	165	—	—	—	140	155	165	125	135	150	—	—	—
H11	50	55	60	—	—	—	50	55	60	46	49	55	—	—	—
	165	180	195	—	—	—	165	180	195	150	160	180	—	—	—
H12	49	55	60	—	—	—	50	55	60	70	75	80	—	—	—
	160	180	195	—	—	—	165	180	195	230	245	260	—	—	—
H21	42	46	50	—	—	—	43	47	50	38	41	45	—	—	—
	140	150	165	—	—	—	140	155	165	125	135	150	—	—	—

335.25 Round 20 – Insert selection – mm/Inch

SMG		f_z			
		30%	20%	10%	
P1	RPKT2006M0T-8-ME12 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	Square shoulder and slot milling cutters
P2	RPKT2006M0T-8-ME12 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
P3	RPKT2006M0T-8-ME12 F40M	0,20 0.0080	0,22 0.0085	0,30 0.012	
P4	RPKT2006M0T-8-ME12 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012	Helical milling cutters
P5	RPKT2006M0T-8-M15 F40M	0,24 0.0095	0,28 0.011	0,36 0.014	
P6	RPKT2006M0T-8-M15 F40M	0,24 0.0095	0,26 0.010	0,36 0.014	
P7	RPKT2006M0T-8-M15 F40M	0,24 0.0095	0,26 0.010	0,36 0.014	Face milling cutters
P8	RPKT2006M0T-8-M15 MP2501	0,25 0.010	0,28 0.011	0,38 0.015	
P11	RPKT2006M0T-8-ME12 F40M	0,19 0.0075	0,22 0.0085	0,28 0.011	
P12	RPKT2006M0T-8-ME12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	Disc milling cutters
M1	RPKT2006M0T-8-ME12 F40M	0,20 0.0080	0,24 0.0095	0,32 0.013	
M2	RPKT2006M0T-8-ME12 F40M	0,19 0.0075	0,22 0.0085	0,30 0.012	
M3	RPKT2006M0T-8-ME12 F40M	0,15 0.0060	0,17 0.0065	0,24 0.0095	High feed milling cutters
M4	RPKT2006M0T-8-ME12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
M5	RPKT2006M0T-8-ME12 F40M	0,13 0.0050	0,15 0.0060	0,20 0.0080	
K1	RPKT2006M0T-8-M20 MK2050	0,34 0.013	0,40 0.016	0,55 0.022	Copy milling cutters
K2	RPKT2006M0T-8-M20 MK2050	0,32 0.013	0,36 0.014	0,48 0.019	
K3	RPKT2006M0T-8-M20 MK2050	0,32 0.013	0,36 0.014	0,48 0.019	
K4	RPKT2006M0T-8-M20 MK2050	0,32 0.013	0,36 0.014	0,48 0.019	Plunge milling cutters
K5	RPKT2006M0T-8-M20 MK2050	0,28 0.011	0,32 0.013	0,44 0.017	
K6	RPKT2006M0T-8-M20 MK2050	0,32 0.013	0,36 0.014	0,48 0.019	
K7	RPKT2006M0T-8-M20 MK2050	0,28 0.011	0,32 0.013	0,44 0.017	Chamfer milling cutters
N1	RPKW2006M0-8-MD10 MP3000	0,22 0.0085	0,25 0.010	0,34 0.013	
N2	RPKW2006M0-8-MD10 MP3000	0,22 0.0085	0,25 0.010	0,34 0.013	
N3	RPKW2006M0-8-MD10 MP3000	0,22 0.0085	0,25 0.010	0,34 0.013	Spot facing cutters
N11	RPKW2006M0-8-MD10 MP3000	0,22 0.0085	0,25 0.010	0,34 0.013	
S1	RPKT2006M0T-8-ME12 MS2050	0,13 0.0050	0,15 0.0060	0,20 0.0080	
S2	RPKT2006M0T-8-ME12 MS2050	0,13 0.0050	0,15 0.0060	0,20 0.0080	Inserts
S3	RPKT2006M0T-8-ME12 MS2050	0,12 0.0048	0,14 0.0055	0,19 0.0075	
S11	RPHT2006M0T-8-M13 MS2050	0,16 0.0065	0,19 0.0075	0,25 0.010	
S12	RPHT2006M0T-8-M13 MS2050	0,16 0.0065	0,19 0.0075	0,25 0.010	
S13	RPHT2006M0T-8-M13 MS2050	0,14 0.0055	0,17 0.0065	0,22 0.0085	
H5	RPKW2006M0T-8-MD22 F15M	0,24 0.0095	0,28 0.011	0,36 0.014	
H8	RPKW2006M0T-8-MD22 F15M	0,18 0.0070	0,20 0.0080	0,28 0.011	
H11	RPKW2006M0T-8-MD22 F15M	0,24 0.0095	0,28 0.011	0,36 0.014	
H12	RPKW2006M0T-8-MD22 F15M	0,18 0.0070	0,20 0.0080	0,28 0.011	
H21	RPKW2006M0T-8-MD22 F15M	0,18 0.0070	0,20 0.0080	0,28 0.011	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.25 Round 20 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M			MK2050			MP3000			MS2050			F40M			MP2050		
		30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
Square shoulder and slot milling cutters	P1	165 540	175 570	195 640	205 670	220 720	250 820	215 710	230 750	255 840	200 660	210 690	235 770	190 620	205 670	225 740	235 770	250 820	280 920
	P2	160 520	170 560	190 620	200 660	215 710	235 770	210 690	225 740	250 820	195 640	205 670	230 750	185 610	195 640	220 720	230 750	245 800	270 890
Helical milling cutters	P3	140 460	150 490	165 540	175 570	185 610	210 690	185 610	195 640	215 710	165 540	180 590	200 660	160 520	175 570	190 620	195 640	210 690	235 770
	P4	125 410	135 445	145 475	155 510	165 540	185 610	160 520	170 560	190 620	145 475	160 520	175 570	145 475	155 510	170 560	175 570	190 620	210 690
Face milling cutters	P5	120 395	125 410	140 460	150 490	160 520	175 570	155 510	165 540	185 610	145 475	155 510	170 560	135 445	145 475	160 520	170 560	180 590	200 660
	P6	135 445	145 475	155 510	165 540	180 590	200 660	175 570	185 610	205 670	160 520	170 560	190 620	155 510	165 540	185 610	190 620	200 660	225 740
Face milling cutters	P7	125 410	135 445	150 490	155 510	170 560	185 610	165 540	175 570	195 640	155 510	160 520	180 590	145 475	155 510	175 570	180 590	190 620	210 690
	P8	115 375	125 410	140 460	150 490	155 510	175 570	155 510	165 540	180 590	140 460	150 490	170 560	135 445	145 475	160 520	165 540	180 590	200 660
Face milling cutters	P11	125 410	130 425	145 475	150 490	165 540	180 590	160 520	170 560	190 620	150 490	155 510	175 570	140 460	150 490	170 560	175 570	185 610	205 670
	P12	— —	— —	— —	100 330	110 360	120 395	100 330	110 360	120 395	95 310	105 345	115 375	90 295	100 330	110 360	115 375	120 395	135 445
Disc milling cutters	M1	— —	— —	— —	— —	— —	— —	155 510	165 540	185 610	155 510	165 540	185 610	150 490	160 520	175 540	165 540	175 570	195 640
	M2	— —	— —	— —	— —	— —	— —	130 425	140 460	155 510	130 425	135 445	150 490	125 410	130 425	145 475	135 445	145 475	160 520
Disc milling cutters	M3	— —	— —	— —	— —	— —	— —	105 345	110 360	125 410	105 345	110 360	125 410	100 330	105 345	115 375	110 360	115 375	130 425
	M4	— —	— —	— —	— —	— —	— —	80 260	85 280	95 310	80 260	85 280	95 310	75 245	85 280	90 295	85 280	90 295	100 330
Disc milling cutters	M5	— —	— —	— —	— —	— —	— —	65 215	70 230	80 260	70 230	70 230	80 260	65 215	70 230	75 245	70 230	75 245	85 280
High feed milling cutters	K1	125 410	135 445	150 490	215 710	230 750	255 840	140 460	150 490	165 540	— —	— —	— —	150 490	155 510	175 570	— —	— —	— —
	K2	115 375	120 395	135 445	190 620	205 670	230 750	125 410	130 425	145 475	— —	— —	— —	130 425	140 460	155 510	— —	— —	— —
High feed milling cutters	K3	95 310	100 330	110 360	160 520	175 570	195 640	105 345	110 360	125 410	— —	— —	— —	110 360	115 375	130 425	— —	— —	— —
	K4	90 295	95 310	105 345	155 510	165 540	185 610	100 330	105 345	120 395	— —	— —	— —	105 345	110 360	125 410	— —	— —	— —
Copy milling cutters	K5	55 180	60 195	65 215	95 310	105 345	115 375	60 195	65 215	70 230	— —	— —	— —	65 215	70 230	75 245	— —	— —	— —
	K6	80 260	85 280	95 310	135 445	145 475	160 520	85 280	95 310	105 345	— —	— —	— —	90 295	100 330	110 360	— —	— —	— —
Copy milling cutters	K7	70 230	75 245	85 280	120 395	130 425	145 475	80 260	85 280	90 295	— —	— —	— —	80 260	85 280	95 310	— —	— —	— —
Plunge milling cutters	N1	— —	— —	— —	— —	— —	— —	1225 4025	1325 4350	1450 4750	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N2	— —	— —	— —	— —	— —	— —	495 1625	530 1750	590 1925	— —	— —	— —	— —	— —	— —	— —	— —	— —
Plunge milling cutters	N3	— —	— —	— —	— —	— —	— —	330 1075	355 1175	390 1275	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N11	— —	— —	— —	— —	— —	— —	380 1250	405 1325	445 1450	— —	— —	— —	— —	— —	— —	— —	— —	— —
Chamfer milling cutters	S1	— —	— —	— —	— —	— —	— —	38 125	40 130	44 145	38 125	40 130	45 150	36 120	39 130	43 140	42 140	44 145	49 160
	S2	— —	— —	— —	— —	— —	— —	30 100	32 105	36 120	31 100	32 105	36 120	29 95	31 100	34 110	34 110	35 115	39 130
Chamfer milling cutters	S3	— —	— —	— —	— —	— —	— —	27 90	28 90	31 100	27 90	29 95	32 105	26 85	27 90	30 100	29 95	31 100	35 115
	S11	— —	— —	— —	— —	— —	— —	50 165	55 180	60 195	55 180	55 180	60 195	50 165	55 180	60 195	60 195	60 195	70 230
Spot facing cutters	S12	— —	— —	— —	— —	— —	— —	44 145	47 155	50 165	45 150	47 155	50 165	42 140	45 150	50 165	40 130	43 140	47 155
	S13	— —	— —	— —	— —	— —	— —	26 85	27 90	30 100	26 85	27 90	30 100	25 80	26 85	29 95	23 75	25 80	27 90
Spot facing cutters	H5	27 90	29 95	32 105	34 110	37 120	41 135	29 95	31 100	34 110	— —	— —	— —	30 100	32 105	36 120	— —	— —	— —
	H8	29 95	31 100	34 110	37 120	40 130	44 145	30 100	32 105	35 115	— —	— —	— —	32 105	35 115	38 125	— —	— —	— —
Inserts	H11	34 110	36 120	41 135	44 145	47 155	55 180	36 120	39 130	43 140	— —	— —	— —	39 130	41 135	46 150	43 140	46 150	50 165
	H12	34 110	36 120	40 130	65 215	70 230	75 245	35 115	38 125	41 135	— —	— —	— —	37 120	40 130	44 145	70 230	75 245	85 280
Inserts	H21	29 95	31 100	34 110	37 120	40 130	44 145	30 100	32 105	35 115	— —	— —	— —	32 105	35 115	38 125	36 120	39 130	43 140

335.25 Round 20 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501			MP2501			MS2500			MP3501			T25M			MM4500			Square should and slot mill cutters
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	
P1	280	295	325	300	315	340	230	240	275	300	310	335	210	225	245	145	155	175	Helical milling cutters
	920	970	1075	980	1025	1125	750	790	900	980	1025	1100	690	740	800	475	510	570	
P2	275	290	310	290	310	330	220	235	260	290	305	325	205	215	240	145	150	170	Helical milling cutters
	900	950	1025	950	1025	1075	720	770	850	950	1000	1075	670	710	790	475	490	560	
P3	240	250	275	255	270	290	195	205	230	250	265	285	175	190	210	125	130	150	Helical milling cutters
	790	820	900	840	890	950	640	670	750	820	870	940	570	620	690	410	425	490	
P4	210	220	240	225	240	255	170	180	200	225	235	250	160	170	185	110	120	130	Helical milling cutters
	690	720	790	740	790	840	560	590	660	740	770	820	520	560	610	360	395	425	
P5	200	215	235	215	225	245	165	175	195	215	225	240	150	160	175	105	110	125	Helical milling cutters
	660	710	770	710	740	800	540	570	640	710	740	790	490	520	570	345	360	410	
P6	225	240	260	245	260	275	185	200	220	240	250	275	170	180	200	120	125	140	Helical milling cutters
	740	790	850	800	850	900	610	660	720	790	820	900	560	590	660	395	410	460	
P7	215	230	245	230	245	260	175	185	205	225	235	255	160	170	190	115	120	130	Helical milling cutters
	710	750	800	750	800	850	570	610	670	740	770	840	520	560	620	375	395	425	
P8	200	210	230	215	225	245	165	175	195	210	225	240	150	160	175	105	110	125	Helical milling cutters
	660	690	750	710	740	800	540	570	640	690	740	790	490	520	570	345	360	410	
P11	210	220	240	225	240	255	170	180	200	220	230	250	155	165	185	110	115	130	Helical milling cutters
	690	720	790	740	790	840	560	590	660	720	750	820	510	540	610	360	375	425	
P12	135	145	155	145	150	160	110	120	135	140	145	155	100	105	120	70	75	85	Helical milling cutters
	445	475	510	475	490	520	360	395	445	460	475	510	330	345	395	230	245	280	
M1	—	—	—	160	170	190	160	170	185	165	175	195	165	175	195	125	130	145	Disc milling cutters
	—	—	—	520	560	620	520	560	610	540	570	640	540	570	640	410	425	475	
M2	—	—	—	130	140	155	130	140	155	135	145	160	135	145	160	100	110	120	Disc milling cutters
	—	—	—	425	460	510	425	460	510	445	475	520	445	475	520	330	360	395	
M3	—	—	—	105	115	125	105	115	130	110	120	130	110	120	130	80	85	95	Disc milling cutters
	—	—	—	345	375	410	345	375	425	360	395	425	360	395	425	260	280	310	
M4	—	—	—	85	90	100	85	90	100	85	90	100	85	90	100	65	65	75	Disc milling cutters
	—	—	—	280	295	330	280	295	330	280	295	330	280	295	330	215	215	245	
M5	—	—	—	70	75	80	70	75	80	70	75	85	70	75	85	55	55	60	Disc milling cutters
	—	—	—	230	245	260	230	245	260	230	245	280	230	245	280	180	180	195	
K1	275	290	310	295	310	335	175	185	205	295	305	330	165	170	190	—	—	—	High feed milling cutters
	900	950	1025	970	1025	1100	570	610	670	970	1000	1075	540	560	620	—	—	—	
K2	245	260	280	260	275	300	155	165	185	260	270	290	145	150	170	—	—	—	High feed milling cutters
	800	850	920	850	900	980	510	540	610	850	890	950	475	490	560	—	—	—	
K3	205	220	240	220	230	255	130	140	155	220	230	245	120	130	140	—	—	—	High feed milling cutters
	670	720	790	720	750	840	425	460	510	720	750	800	395	425	460	—	—	—	
K4	200	210	230	210	220	240	125	135	150	210	220	235	115	125	135	—	—	—	High feed milling cutters
	660	690	750	690	720	790	410	445	490	690	720	770	375	410	445	—	—	—	
K5	125	130	140	130	135	145	80	85	90	125	135	145	70	75	85	—	—	—	Copy milling cutters
	410	425	460	425	445	475	260	280	295	410	445	475	230	245	280	—	—	—	
K6	175	185	200	185	195	210	110	120	130	185	190	205	100	110	120	—	—	—	Copy milling cutters
	570	610	660	610	640	690	360	395	425	610	620	670	330	360	395	—	—	—	
K7	155	165	180	165	175	190	100	105	115	165	170	185	90	95	105	—	—	—	Copy milling cutters
	510	540	590	540	570	620	330	345	375	540	560	610	295	310	345	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	41	44	48	28	30	33	—	—	—	20	21	23	Chamfer milling cutters
	—	—	—	—	—	—	135	145	155	90	100	110	—	—	—	65	70	75	
S2	—	—	—	—	—	—	33	35	39	22	24	26	—	—	—	16	17	18	Chamfer milling cutters
	—	—	—	—	—	—	110	115	130	70	80	85	—	—	—	50	55	60	
S3	—	—	—	—	—	—	29	31	34	28	30	33	—	—	—	14	15	16	Chamfer milling cutters
	—	—	—	—	—	—	95	100	110	90	100	110	—	—	—	46	49	50	
S11	—	—	—	—	—	—	55	60	70	55	60	65	—	—	—	27	29	32	Chamfer milling cutters
	—	—	—	—	—	—	180	195	230	180	195	215	—	—	—	90	95	105	
S12	—	—	—	—	—	—	48	50	55	38	41	45	—	—	—	25	27	30	Spot facing cutters
	—	—	—	—	—	—	155	165	180	125	135	150	—	—	—	80	90	100	
S13	—	—	—	—	—	—	28	30	33	22	24	26	—	—	—	15	15	17	Spot facing cutters
	—	—	—	—	—	—	90	100	110	70	80	85	—	—	—	49	49	55	
H5	38	41	46	—	—	—	33	36	40	35	37	41	—	—	—	—	—	—	Spot facing cutters
	125	135	150	—	—	—	110	120	130	115	120	135	—	—	—	—	—	—	
H8	41	44	49	—	—	—	36	38	43	37	40	44	—	—	—	—	—	—	Spot facing cutters
	135	145	160	—	—	—	120	125	140	120	130	145	—	—	—	—	—	—	
H11	49	50	60	—	—	—	42	45	50	44	47	50	—	—	—	—	—	—	Spot facing cutters
	160	165	195	—	—	—	140	150	165	145	155	165	—	—	—	—	—	—	
H12	48	50	55	—	—	—	42	45	50	65	70	80	—	—	—	—	—	—	Inserts
	155	165	180	—	—	—	140	150	165	215	230	260	—	—	—	—	—	—	
H21	41	44	49	—	—	—	36	38	43	37	40	44							

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

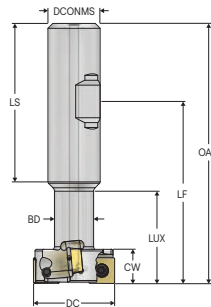


335.16

Free-cutting and reliable disc milling cutter system dedicated for T-shape slotting

- Width of cut 10.91 -21 mm (.387 - .823 inch)
- Cutter range diameter 25-50 mm (0.969 - 1.844 inch)
- Weldon connection, with through coolant capability for reliable chips evacuation
- Economical solution with 4 cutting edges per insert

R335.16 – Metric

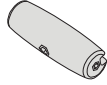


- For insert selection and cutting data recommendations, see page(s) 551-556
- For complete insert programme, see page(s) 878, 910
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LF	LS	LUX	OAL	BD	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm	mm	mm		kg	
R335.16-1625.3-11.2NA	02980627	Weldon	25,0	10,91	5,87	2	4	16,0	56,0	49,0	28,4	80,0	12,0	24500	0,2	SPMX07..
R335.16-2032.3-14.2NA	02980628	Weldon	32,0	13,91	7,44	2	4	20,0	65,0	52,0	35,4	90,0	16,0	17600	0,2	LNK.08..
R335.16-2540.3-18.2NA	02980629	Weldon	40,0	17,91	9,23	2	5	25,0	73,0	58,0	43,7	105,0	20,0	14600	0,4	LNK.08..
R335.16-3250.3-21.2NA	02980630	Weldon	50,0	21,0	11,18	2	6	32,0	84,0	61,0	55,2	120,0	26,0	9800	0,8	LNK.08..

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
ø 25	H4B-T07P	C02506-T07P	DOUBLE-T	1.2NM	T00-07P12
ø 32-50	1/4HEX-T09PX50	C73009-T09P	—	2.0NM	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage $H = \min 20\%$ of the CW at the bottom of the T-slot. $H = 0.2 \times CW$

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

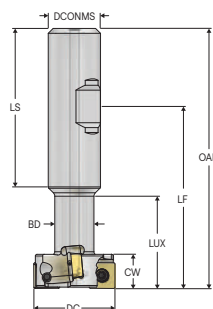
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.16 – inch



—For insert selection and cutting data recommendations, see page(s) 551-556
 —For complete insert programme, see page(s) 878, 910
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LF	LS	LUX	OAL	BD	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch	inch	inch		lbs	
R335.16-00.97-3-0.39-2NA	02980638	Weldon	0.969	0.387	0.232	2	4	0.750	2.528	2.307	1.063	3.543	0.453	24500	0.440	SPMX06..
R335.16-01.25-3-0.48-2NA	02980639	Weldon	1.249	0.477	0.275	2	4	1.000	2.796	2.539	1.256	3.937	0.656	17600	0.880	LNK.08..
R335.16-01.47-3-0.63-2NA	02980640	Weldon	1.469	0.626	0.330	2	5	1.000	3.190	2.539	1.633	4.331	0.748	14600	0.880	LNK.08..
R335.16-01.84-3-0.83-2NA	02980641	Weldon	1.844	0.823	0.389	2	6	1.250	3.978	2.697	2.264	5.118	1.000	9800	1.760	LNK.08..

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
ø 0.97	H4B-T07P	C02205-T07P	DOUBLE-T	0.9NM	T00-07P09
ø 1.25-1.84	1/4HEX-T09PX50	C73009-T09P	—	2.0NM	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage $H = \min 20\%$ of the CW at the bottom of the T-slot. $H = 0.2 \times CW$
 Torque and fixed keys, see page 944

335.16 – SP06 – Insert selection – mm/Inch

SMG		f_z			
		100%	20%	10%	
P1	SPMX060204-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	Square shoulder and slot milling cutters
P2	SPMX060204-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	
P3	SPMX060204-75 F40M	0,070 0.0028	0,085 0.0034	0,11 0.0044	Helical milling cutters
P4	SPMX060204-75 F40M	0,065 0.0026	0,085 0.0034	0,11 0.0044	
P5	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	Face milling cutters
P6	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	
P7	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	Disc milling cutters
P8	SPMX060204-75 F40M	0,070 0.0028	0,085 0.0034	0,11 0.0044	
P11	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	High feed milling cutters
P12	SPMX060204-75 F40M	0,044 0.0017	0,055 0.0022	0,075 0.0030	
M1	SPMX060204-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	Copy milling cutters
M2	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	
M3	SPMX060204-75 F40M	0,050 0.0020	0,065 0.0026	0,085 0.0034	Plunge milling cutters
M4	SPMX060204-75 F40M	0,046 0.0018	0,055 0.0022	0,075 0.0030	
M5	SPMX060204-75 F40M	0,046 0.0018	0,055 0.0022	0,075 0.0030	Chamfer milling cutters
K1	SPMX060204-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	
K2	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	Spot facing cutters
K3	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	
K4	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	Inserts
K5	SPMX060204-75 F40M	0,060 0.0024	0,075 0.0030	0,10 0.0040	
K6	SPMX060204-75 F40M	0,065 0.0026	0,080 0.0032	0,11 0.0044	
K7	SPMX060204-75 F40M	0,060 0.0024	0,075 0.0030	0,10 0.0040	
N1	SPMX060204-75 F40M	0,090 0.0036	0,11 0.0044	0,15 0.0060	
N2	SPMX060204-75 F40M	0,090 0.0036	0,11 0.0044	0,15 0.0060	
N3	SPMX060204-75 F40M	0,090 0.0036	0,11 0.0044	0,15 0.0060	
N11	SPMX060204-75 F40M	0,090 0.0036	0,11 0.0044	0,15 0.0060	
S1	SPMX060204-75 F40M	0,046 0.0018	0,055 0.0022	0,075 0.0030	
S2	SPMX060204-75 F40M	0,046 0.0018	0,055 0.0022	0,075 0.0030	
S3	SPMX060204-75 F40M	0,042 0.0017	0,055 0.0022	0,070 0.0028	
S11	SPMX060204-75 F40M	0,050 0.0020	0,065 0.0026	0,085 0.0034	
S12	SPMX060204-75 F40M	0,050 0.0020	0,065 0.0026	0,085 0.0034	
S13	SPMX060204-75 F40M	0,046 0.0018	0,055 0.0022	0,075 0.0030	
H5	SPMX060204-75 F40M	0,044 0.0017	0,055 0.0022	0,075 0.0030	
H8	SPMX060204-75 F40M	0,034 0.0013	0,042 0.0017	0,055 0.0022	
H11	SPMX060204-75 F40M	0,044 0.0017	0,055 0.0022	0,075 0.0030	
H12	SPMX060204-75 F40M	0,034 0.0013	0,042 0.0017	0,055 0.0022	
H21	SPMX060204-75 F40M	0,034 0.0013	0,042 0.0017	0,055 0.0022	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.16 – SP06 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M			T25M		
		100%	20%	10%	100%	20%	10%
Square shoulder and slot milling cutters	P1	190 620	270 890	295 970	210 690	295 970	325 1075
	P2	185 610	260 850	290 950	205 670	290 950	320 1050
Helical milling cutters	P3	160 520	230 750	255 840	175 570	250 820	280 920
	P4	145 475	200 660	225 740	160 520	220 720	245 800
	P5	140 460	195 640	215 710	150 490	215 710	235 770
	P6	155 510	220 720	240 790	170 560	240 790	265 870
	P7	145 475	205 670	225 740	160 520	225 740	250 820
Face milling cutters	P8	135 445	190 620	215 710	150 490	210 690	235 770
	P11	140 460	200 660	220 720	155 510	220 720	240 790
	P12	90 295	125 410	140 460	100 330	140 460	155 510
	M1	150 490	210 690	235 770	165 540	230 750	255 840
	M2	125 410	175 570	190 620	135 445	190 620	210 690
Disc milling cutters	M3	100 330	140 460	155 510	110 360	155 510	170 560
	M4	75 245	105 345	120 395	85 280	120 395	130 425
	M5	65 215	90 295	100 330	70 230	100 330	110 360
	K1	150 490	205 670	230 750	165 540	230 750	250 820
	K2	130 425	185 610	200 660	145 475	205 670	225 740
High feed milling cutters	K3	110 360	155 510	170 560	120 395	170 560	190 620
	K4	105 345	150 490	165 540	115 375	165 540	180 590
	K5	65 215	90 295	100 330	70 230	100 330	110 360
	K6	95 310	130 425	145 475	100 330	145 475	160 520
	K7	80 260	115 375	125 410	90 295	125 410	140 460
Copy milling cutters	N1	1100 3600	1575 5175	1725 5650	— —	— —	— —
	N2	445 1450	630 2075	700 2300	— —	— —	— —
	N3	295 970	420 1375	465 1525	— —	— —	— —
	N11	340 1125	480 1575	530 1750	— —	— —	— —
	S1	36 120	50 165	55 180	— —	— —	— —
Plunge milling cutters	S2	29 95	40 130	44 145	— —	— —	— —
	S3	25 80	35 115	39 130	— —	— —	— —
	S11	50 165	70 230	80 260	— —	— —	— —
	S12	42 140	60 195	65 215	— —	— —	— —
	S13	24 80	34 110	38 125	— —	— —	— —
Chamfer milling cutters	H5	30 100	42 140	46 150	— —	— —	— —
	H8	32 105	44 145	49 160	— —	— —	— —
	H11	38 125	55 180	60 195	— —	— —	— —
	H12	37 120	50 165	55 180	— —	— —	— —
	H21	32 105	44 145	49 160	— —	— —	— —
Spot facing cutters							
Inserts							

335.16 – SP07 – Insert selection – mm/Inch

SMG		f_z			
		100%	20%	10%	
P1	SPMX070304-75 F40M	0,085 0.0034	0,11 0.0044	0,14 0.0055	Square shoulder and slot milling cutters
P2	SPMX070304-75 F40M	0,085 0.0034	0,11 0.0044	0,14 0.0055	
P3	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,14 0.0055	
P4	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	Helical milling cutters
P5	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	
P6	SPMX070304-75 F40M	0,075 0.0030	0,095 0.0038	0,13 0.0050	
P7	SPMX070304-75 F40M	0,075 0.0030	0,095 0.0038	0,13 0.0050	Face milling cutters
P8	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,14 0.0055	
P11	SPMX070304-75 F40M	0,075 0.0030	0,095 0.0038	0,13 0.0050	
P12	SPMX070304-75 F40M	0,055 0.0022	0,065 0.0026	0,090 0.0036	Disc milling cutters
M1	SPMX070304-75 F40M	0,085 0.0034	0,11 0.0044	0,14 0.0055	
M2	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	
M3	SPMX070304-75 F40M	0,060 0.0024	0,080 0.0032	0,10 0.0040	High feed milling cutters
M4	SPMX070304-75 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	
M5	SPMX070304-75 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	
K1	SPMX070304-75 F40M	0,085 0.0034	0,11 0.0044	0,14 0.0055	Copy milling cutters
K2	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	
K3	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	
K4	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	Plunge milling cutters
K5	SPMX070304-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	
K6	SPMX070304-75 F40M	0,080 0.0032	0,10 0.0040	0,13 0.0050	
K7	SPMX070304-75 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	Chamfer milling cutters
N1	SPMX070304-75 F40M	0,11 0.0044	0,14 0.0055	0,18 0.0070	
N2	SPMX070304-75 F40M	0,11 0.0044	0,14 0.0055	0,18 0.0070	
N3	SPMX070304-75 F40M	0,11 0.0044	0,14 0.0055	0,18 0.0070	Spot facing cutters
N11	SPMX070304-75 F40M	0,11 0.0044	0,14 0.0055	0,18 0.0070	
S1	SPMX070304-75 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	
S2	SPMX070304-75 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	Inserts
S3	SPMX070304-75 F40M	0,050 0.0020	0,065 0.0026	0,085 0.0034	
S11	SPMX070304-75 F40M	0,060 0.0024	0,080 0.0032	0,10 0.0040	
S12	SPMX070304-75 F40M	0,060 0.0024	0,080 0.0032	0,10 0.0040	
S13	SPMX070304-75 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	
H5	SPMX070304-75 F40M	0,055 0.0022	0,065 0.0026	0,090 0.0036	
H8	SPMX070304-75 F40M	0,040 0.0016	0,050 0.0020	0,070 0.0028	
H11	SPMX070304-75 F40M	0,055 0.0022	0,065 0.0026	0,090 0.0036	
H12	SPMX070304-75 F40M	0,040 0.0016	0,050 0.0020	0,070 0.0028	
H21	SPMX070304-75 F40M	0,040 0.0016	0,050 0.0020	0,070 0.0028	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.16 - SP07 - Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F40M			T25M		
		100%	20%	10%	100%	20%	10%
Square shoulder and slot milling cutters	P1	175 570	250 820	275 900	195 640	275 900	305 1000
	P2	170 560	240 790	270 890	190 620	265 870	295 970
Helical milling cutters	P3	150 490	210 690	230 750	165 540	235 770	255 840
	P4	130 425	185 610	210 690	145 475	205 670	230 750
Face milling cutters	P5	125 410	180 590	200 660	140 460	195 640	220 720
	P6	145 475	205 670	225 740	160 520	225 740	245 800
Disc milling cutters	P7	135 445	190 620	210 690	150 490	210 690	230 750
	P8	125 410	180 590	195 640	140 460	195 640	215 710
High feed milling cutters	P11	130 425	185 610	205 670	145 475	205 670	225 740
	P12	85 280	120 395	130 425	90 295	130 425	145 475
Copy milling cutters	M1	140 460	195 640	215 710	155 510	215 710	240 790
	M2	115 375	160 520	180 590	125 410	175 570	195 640
Plunge milling cutters	M3	95 310	130 425	145 475	100 330	140 460	160 520
	M4	70 230	100 330	110 360	80 260	110 360	120 395
Chamfer milling cutters	M5	60 195	85 280	90 295	65 215	90 295	100 330
	K1	135 445	190 620	215 710	150 490	210 690	235 770
Spot facing cutters	K2	120 395	170 560	190 620	130 425	185 610	205 670
	K3	100 330	145 475	160 520	110 360	160 520	175 570
Inserts	K4	95 310	135 445	150 490	105 345	150 490	165 540
	K5	60 195	85 280	90 295	65 215	90 295	100 330
Square shoulder and slot milling cutters	K6	85 280	120 395	135 445	95 310	135 445	145 475
	K7	75 245	105 345	120 395	85 280	115 375	130 425
Helical milling cutters	N1	1000 3275	1425 4675	1600 5250	— —	— —	— —
	N2	405 1325	570 1875	640 2100	— —	— —	— —
Face milling cutters	N3	270 890	385 1275	430 1400	— —	— —	— —
	N11	310 1025	440 1450	490 1600	— —	— —	— —
Spot facing cutters	S1	33 110	46 150	50 165	— —	— —	— —
	S2	27 90	37 120	41 135	— —	— —	— —
Chamfer milling cutters	S3	23 75	33 110	36 120	— —	— —	— —
	S11	47 155	65 215	75 245	— —	— —	— —
Inserts	S12	39 130	55 180	60 195	— —	— —	— —
	S13	23 75	32 105	35 115	— —	— —	— —
Square shoulder and slot milling cutters	H5	28 90	39 130	43 140	— —	— —	— —
	H8	30 100	41 135	45 150	— —	— —	— —
Face milling cutters	H11	35 115	50 165	55 180	— —	— —	— —
	H12	34 110	48 155	55 180	— —	— —	— —
Helical milling cutters	H21	30 100	41 135	45 150	— —	— —	— —

335.16 -LNK – Insert selection – mm/Inch

SMG		f_z			
		100%	20%	10%	
P1	LNKT080508PPTN-M06 F40M	0,11 0.0044	0,14 0.0055	0,19 0.0075	Square shoulder and slot milling cutters
P2	LNKT080508PPTN-M06 F40M	0,11 0.0044	0,14 0.0055	0,19 0.0075	
P3	LNKT080508PPTN-M06 F40M	0,11 0.0044	0,14 0.0055	0,18 0.0070	
P4	LNKT080508PPTN-M06 F40M	0,11 0.0044	0,13 0.0050	0,18 0.0070	Helical milling cutters
P5	LNKT080508PPTN-M06 F40M	0,10 0.0040	0,13 0.0050	0,17 0.0065	
P6	LNKT080508PPTN-M06 F40M	0,10 0.0040	0,13 0.0050	0,17 0.0065	
P7	LNKT080508PPTN-M06 F40M	0,10 0.0040	0,13 0.0050	0,17 0.0065	Face milling cutters
P8	LNKT080508PPTN-M06 MP3000	0,11 0.0044	0,14 0.0055	0,18 0.0070	
P11	LNKT080508PPTN-M06 F40M	0,10 0.0040	0,13 0.0050	0,17 0.0065	
P12	LNKT080508PPTN-M06 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	Disc milling cutters
M1	LNKT080508PPTN-M06 F40M	0,11 0.0044	0,14 0.0055	0,19 0.0075	
M2	LNKT080508PPTN-M06 F40M	0,10 0.0040	0,13 0.0050	0,17 0.0065	
M3	LNKT080508PPTN-M06 F40M	0,085 0.0034	0,10 0.0040	0,14 0.0055	High feed milling cutters
M4	LNKT080508PPTN-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
M5	LNKT080508PPTN-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
K1	LNKT080508PPTN-M06 MK2050	0,11 0.0044	0,14 0.0055	0,19 0.0075	Copy milling cutters
K2	LNKT080508PPTN-M06 MK2050	0,10 0.0040	0,13 0.0050	0,17 0.0065	
K3	LNKT080508PPTN-M06 MK2050	0,10 0.0040	0,13 0.0050	0,17 0.0065	
K4	LNKT080508PPTN-M06 MK2050	0,10 0.0040	0,13 0.0050	0,17 0.0065	Plunge milling cutters
K5	LNKT080508PPTN-M06 MK2050	0,095 0.0038	0,12 0.0048	0,16 0.0065	
K6	LNKT080508PPTN-M06 MK2050	0,10 0.0040	0,13 0.0050	0,17 0.0065	
K7	LNKT080508PPTN-M06 MK2050	0,095 0.0038	0,12 0.0048	0,16 0.0065	Chamfer milling cutters
N1	LNKT080508PPN-E05 H25	0,13 0.0050	0,16 0.0065	0,22 0.0085	
N2	LNKT080508PPN-E05 H25	0,13 0.0050	0,16 0.0065	0,22 0.0085	
N3	LNKT080508PPN-E05 H25	0,13 0.0050	0,16 0.0065	0,22 0.0085	Spot facing cutters
N11	LNKT080508PPN-E05 H25	0,13 0.0050	0,16 0.0065	0,22 0.0085	
S1	LNKT080508PPTN-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
S2	LNKT080508PPTN-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	Inserts
S3	LNKT080508PPTN-M06 F40M	0,070 0.0028	0,085 0.0034	0,11 0.0044	
S11	LNKT080508PPTN-M06 F40M	0,085 0.0034	0,10 0.0040	0,14 0.0055	
S12	LNKT080508PPTN-M06 F40M	0,085 0.0034	0,10 0.0040	0,14 0.0055	
S13	LNKT080508PPTN-M06 F40M	0,075 0.0030	0,090 0.0036	0,12 0.0048	
H5	LNKT080508PPTN-M06 MP3000	0,070 0.0028	0,090 0.0036	0,12 0.0048	
H8	LNKT080508PPTN-M06 MP3000	0,055 0.0022	0,070 0.0028	0,090 0.0036	
H11	LNKT080508PPTN-M06 F40M	0,070 0.0028	0,090 0.0036	0,12 0.0048	
H12	LNKT080508PPTN-M06 F40M	0,055 0.0022	0,070 0.0028	0,090 0.0036	
H21	LNKT080508PPTN-M06 MP3000	0,055 0.0022	0,070 0.0028	0,090 0.0036	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

335.16 -LNK – Cutting data $v_c = (m/min)/(sf/min)$

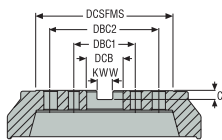
SMG	MK2050			MP3000			F40M			H25			MK1501			MP2501			MP3501		
	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%
Square shoulder and slot milling cutters	P1	200 660	280 920	310 1025	190 620	270 890	300 980	155 510	215 710	240 790	—	—	—	—	—	285 940	370 1225	395 1300	260 850	330 1075	355 1175
	P2	195 640	275 900	300 980	185 610	265 870	290 950	150 490	210 690	230 750	—	—	—	—	—	280 920	360 1175	385 1275	250 820	320 1050	345 1125
Helical milling cutters	P3	165 540	235 770	265 870	160 520	225 740	255 840	130 425	180 590	205 670	—	—	—	—	—	240 790	310 1025	335 1100	215 710	275 900	300 980
	P4	145 475	210 690	230 750	140 460	205 670	225 740	115 375	165 540	180 590	—	—	—	—	—	210 690	275 900	295 970	190 620	250 820	265 870
Face milling cutters	P5	145 475	200 660	225 740	140 460	195 640	215 710	110 360	155 510	175 570	—	—	—	—	—	205 670	260 850	280 920	185 610	235 770	255 840
	P6	160 520	225 740	250 820	155 510	220 720	245 800	125 410	175 570	195 640	—	—	—	—	—	230 750	295 970	315 1025	210 690	265 870	285 940
Disc milling cutters	P7	155 510	215 710	240 790	145 475	205 670	230 750	115 375	165 540	185 610	—	—	—	—	—	220 720	280 920	300 980	195 640	250 820	270 890
	P8	140 460	200 660	220 720	135 445	190 620	215 710	110 360	150 490	170 560	—	—	—	—	—	200 660	260 850	280 920	180 590	235 770	250 820
High feed milling cutters	P11	150 490	210 690	230 750	145 475	200 660	220 720	115 375	160 520	180 590	—	—	—	—	—	215 710	270 890	290 950	190 620	245 800	260 850
	P12	95 310	135 445	150 490	90 295	130 425	140 460	75 245	105 345	115 375	—	—	—	—	—	135 445	165 540	180 590	120 395	150 490	160 520
Copy milling cutters	M1	—	—	—	140 460	195 640	215 710	120 395	170 560	185 610	—	—	—	—	—	140 460	200 660	220 720	130 425	185 610	205 670
	M2	—	—	—	115 375	160 520	180 590	100 330	140 460	155 510	—	—	—	—	—	120 395	165 540	185 610	110 360	155 510	170 560
Plunge milling cutters	M3	—	—	—	90 295	130 425	145 475	80 260	115 375	125 410	—	—	—	—	—	95 310	135 445	145 475	85 280	125 410	135 445
	M4	—	—	—	70 230	100 330	110 360	60 195	85 280	95 310	—	—	—	—	—	70 230	105 345	115 375	65 215	95 310	105 345
Chamfer milling cutters	M5	—	—	—	60 195	85 280	95 310	50 165	75 245	80 260	—	—	—	—	—	60 195	85 280	95 310	55 180	80 260	90 295
	K1	210 690	295 970	325 1075	125 410	175 570	195 640	120 395	165 540	185 610	—	—	—	245 800	470 1550	570 1875	280 920	360 1175	385 1275	255 840	325 1075
Spot facing cutters	K2	185 610	260 850	290 950	110 360	155 510	170 560	105 345	150 490	165 540	—	—	—	215 710	410 1350	500 1650	250 820	315 1025	340 1125	225 740	285 940
	K3	160 520	220 720	245 800	95 310	130 425	145 475	90 295	125 410	140 460	—	—	—	175 570	270 890	310 1025	210 690	270 950	190 620	240 790	260 850
Inserts	K4	150 490	210 690	235 770	90 295	125 410	140 460	85 280	120 395	135 445	—	—	—	165 540	260 850	295 970	200 660	255 840	275 900	180 590	230 750
	K5	90 295	130 425	140 460	55 180	75 245	85 280	50 165	70 230	80 260	—	—	—	100 330	155 510	180 590	120 395	155 510	165 540	110 360	140 460
Spot facing cutters	K6	135 445	185 610	205 670	80 260	110 360	125 410	75 245	105 345	115 375	—	—	—	145 475	230 750	260 850	180 590	225 740	245 800	160 520	205 670
	K7	115 375	165 540	180 590	70 230	95 310	110 360	65 215	95 310	100 330	—	—	—	130 425	200 660	230 750	155 510	200 660	210 690	140 460	180 590
Spot facing cutters	N1	—	—	—	1075 3525	1550 5075	1700 5575	860 2825	1225 4025	1375 4500	900 2950	1275 4175	1400 4600	—	—	—	—	—	—	—	—
	N2	—	—	—	430 1400	620 2025	690 2275	345 1125	500 1650	550 1800	365 1200	520 1700	570 1875	—	—	—	—	—	—	—	—
Spot facing cutters	N3	—	—	—	290 950	415 1350	460 1500	230 750	330 1075	370 1225	240 790	345 1125	380 1250	—	—	—	—	—	—	—	—
	N11	—	—	—	330 1075	475 1550	530 1750	265 870	380 1250	420 1375	275 900	395 1300	435 1425	—	—	—	—	—	—	—	—
Spot facing cutters	S1	—	—	—	33 110	47 155	50 165	29 95	41 135	45 150	—	—	—	—	—	—	—	—	22 70	31 101	35 115
	S2	—	—	—	27 90	38 125	42 140	23 75	33 110	36 120	—	—	—	—	—	—	—	—	18 60	25 80	28 90
Spot facing cutters	S3	—	—	—	23 75	33 110	37 120	20 65	29 95	32 105	—	—	—	—	—	—	—	—	22 70	31 100	35 115
	S11	—	—	—	46 150	65 215	75 245	40 130	55 180	65 215	—	—	—	—	—	—	—	—	44 145	65 215	70 230
Spot facing cutters	S12	—	—	—	39 130	55 180	60 195	34 110	48 155	55 180	—	—	—	—	—	—	—	—	31 100	44 145	48 155
	S13	—	—	—	23 75	32 105	36 120	20 65	28 90	31 100	—	—	—	—	—	—	—	—	18 60	25 80	28 90
Spot facing cutters	H5	33 110	46 150	50 165	26 85	36 120	40 130	24 80	34 110	38 125	—	—	—	—	—	—	—	—	28 90	39 130	43 140
	H8	35 115	48 155	55 180	27 90	38 125	42 140	26 85	36 120	40 130	—	—	—	—	—	—	—	—	30 100	41 135	46 150
Spot facing cutters	H11	42 140	60 195	65 215	33 110	46 150	50 165	31 100	44 145	48 155	—	—	—	—	—	—	—	—	36 120	50 165	55 180
	H12	60 195	85 280	95 310	31 100	44 145	49 160	30 100	42 140	47 155	—	—	—	—	—	—	—	—	55 180	75 245	85 280
Spot facing cutters	H21	35 115	48 155	55 180	27 90	38 125	42 140	26 85	36 120	40 130	—	—	—	—	—	—	—	—	30 100	41 135	46 150

Code keys metric and inch

R	217	21	12	25	RE	LP06	4	A
1	2	3	4	5	6	7	8	9

R	217	21	01.00	0	LP06	3	A
1	2	3	5	6	7	8	9

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4. (Not for inch designation)	5.	6.
Connecting diameter	Cutter diameter	Shank type .RE for Combimaster .0 for Cylindrical .3 for Weldon .3S for Seco Weldon
7.	8.	9.
Insert type and size	No. of teeth	A = Through coolant supply E = Solid carbide shank



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	—	—	8,4	5,6
22	42-47	—	—	10,4	6,3
27	48-62	—	—	12,4	7
32	60-90	—	—	14,4	8
40	90-130	66,7	—	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	1.181 - 1.378	—	—	0.258	0.165
0.750	1.378 - 1.850	—	—	0.321	0.193
1.000	1.803 - 2.441	—	—	0.382	0.224
1.250	2.250 - 3.031	—	—	0.508	0.287
1.500	2.750 - 3.543	—	—	0.630	0.382
2.000	4.331	—	—	0.756	0.445
2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

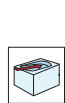
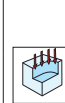
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

	Insert	a_p max	Material suitability									
			P	M	K	N	S	H				
Square shoulder and slot milling cutters	SPKT10 	1,1	■	■	■	□	■	▣	■	▣	■	■
	SPKT14 	1,8	■	■	■	□	■	▣	▣	■	■	■
	SPKT18 	2,5	■	■	■	□	■	▣	□	■	■	■

Disc milling cutters	1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
	Alternative choice	▣	Strong stable machine with rigid connection		Ramping ability	
	Possible choice	□	Not recommended	-	Plunging ability	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																								See page		
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	100	108	125	153	160	188		228	
SPKT10	4										3	3	4	4	5	5	6												573
													4	5	5	6	6	7											
SPKT14	4											3		4	4	5	5	6	6		8		9					578	
															5	5	6	6	7										
SPKT18	4															5	5	5			7		8	6	10	8	10	583	
																		6											

x
x

x indicates number of teeth (first choice)

x indicates number of teeth



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Inch

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
SPKT10 	0.043	■	■	■	□	■	▣	■	▣	■	■
SPKT14 	0.071	■	■	■	□	■	▣	▣	■	■	■
SPKT18 	0.098	■	■	■	□	■	▣	□	■	■	■

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	▣	Strong stable machine with rigid connection		Ramping ability	
Possible choice	□	Not recommended	-	Plunging ability	

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth													See page	
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00		
SPKT10	4						3	4	5	6							573
									6	7							
SPKT14	4								4	5	6		8				578
									5	6	7						
SPKT18	4									5	5		7	8	10		583
											6						

x
x

x indicates number of teeth (first choice)

x indicates number of teeth



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0,65	■	■	■	□	■	■	■	□	■	■
LP06 	0,8	■	■	■	■	■	■	■	□	■	■
LP09 	1,8	■	■	■	□	■	□	■	■	■	■
LO06 	0,9	■	▣	■	-	■	■	■	▣	▣	▣
218.19-080 	0,6	■	▣	■	■	▣	■	■	▣	■	■
218.19-100 	0,7	■	▣	■	■	▣	■	■	▣	■	■
218.19-125 	1,0	■	▣	■	■	▣	■	▣	■	■	■
218.19-160 	1,8	■	▣	■	■	▣	□	-	■	■	■
218.21-230 	1,8	■	■	■	-	▣	▣	-	■	□	■
SCET 	1,5	■	■	■	-	■	-	-	■	□	■
ON09 	2,0	■	-	■	-	-	-	-	■	-	-

1st choice



High speed machine with low
power/torque



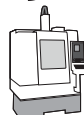
Unstable condition suitability



Alternative choice



Strong stable machine with rigid
connection



Ramping ability



Possible choice



Not recommended

-

Plunging ability



Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																		See page
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	
LP05	2				2		3														596
			2	2	3	3	4														
LP06	2										4										603
							2	3	3	4	5	6									
					2	2	3	4		5	6	7									
LP09	2									3				5							610
								2		4	4	4	4	6	5	6	6	7			
											5	5	7	7	8	8	9	7		10	
LO06	4										5										618
							2	3	3	4	5	6									
								4		5	6	7	7	8	8	9					
218.19-080	3				2																638
218.19-100	3							2													
							2	3													
218.19-125	3								2												
								2		3	3	4									
218.19-160	3													3		4					626
														4	4	5	5	6	6	7	
										2		3		5	5	6	6	7		9	
218.21-230	6													4		5		6	6	7	632
											3	3	5	5	6	6	7	8		9	
SCET	4															4	4	5	5		656
																4	4	5		7	
																5	5	6	6	7	
ON09	16																	6			656

x	x indicates number of teeth (first choice)
x	x indicates number of teeth



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Inch

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0.020	■	■	■	□	■	■	■	□	■	■
LP06 	0.031	■	■	■	■	■	■	■	□	■	■
LP09 	0.071	■	■	■	□	■	□	■	■	■	■
LO06 	0.031	■	▣	■	-	■	■	■	▣	▣	▣
218.19-080 	0.025	■	▣	■	■	▣	■	■	▣	■	■
218.19-100 	0.028	■	▣	■	■	▣	■	■	▣	■	■
218.19-125 	0.039	■	▣	■	■	▣	■	▣	■	■	■
218.19-160 	0.071	■	▣	■	■	▣	□	-	■	■	■
218.21-230 	0.071	■	■	■	-	▣	▣	-	■	□	■
SCET 	0.059	■	■	■	-	■	-	-	■	□	■
ON09 	0.079	■	-	■	-	-	-	-	■	-	-

1st choice



High speed machine with low
power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid
connection



Ramping ability



Possible choice



Not recommended

-

Plunging ability



Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth													See page
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
LP05	2			2	3											596
			2	3	4											
LP06	2				2	3	4	6								603
				2	3	4	5	7								
																
LP09	2						4	5	6	6	6	8	9			610
									7	8	8		10			
																
LO06	4					3	4	5								618
						4	5	6	8	9						
																
218.19-080	3			2												638
218.19-100	3				2	3										
																
218.19-125	3					2	3	4								
																
218.19-160	3						2	3	3	5	6		7			626
									4	6	7		9			
									5							
218.21-230	6							3	4	5	5		7			632
									5	6	6	8	9			
SCET	4									4	5		5			632
									4	6	6		8			
									5	6						
ON09	16										6		7	8	10	656

x	x indicates number of teeth (first choice)
x	x indicates number of teeth



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

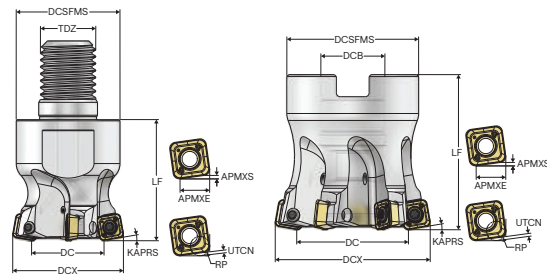


High Feed SP

For challenging ISO P, M and S materials, the Seco High Feed SP features a combination of dedicated cutting geometries and insert grades, as well as optimized lead angles, that combine to boost material removal rates, maximize chip evacuation and extend tool life. Packed with versatility, one High Feed SP tool optimizes copy milling, ramping, pocketing, face milling and plunging operations to reduce tooling inventory further. Designed for ease of use, the milling tools provide simple foolproof insert indexing that prevents operator mistakes, unexpected machine downtime and scrapped parts.

- 4 insert sizes, with IC = 07, 10, 14 & 18mm
- 58 items in metric version, Ø20 to Ø228mm
- 31 items in inch version, Ø0.75 to Ø06.00"
- Standard and close pitch
- Well proven SPKT inserts with a range of premium Seco grades optimized for tough materials.

R217/220.21-SP07 – Metric

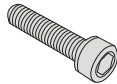


- For insert selection and cutting data recommendations, see page(s) 571-572
- For complete insert programme, see page(s) 908
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	KAPRS°	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm			mm	mm	mm			kg	
R217.21-1020.RE-SP07-3A	10358468	Combimaster	8,5	20,0	3	0,65	5,7	–	18,5	M10	8,0 °	28,0	1,83	0,6	4,57	30200	0,1	SPKT070312
R217.21-1020.RE-SP07-2A	10358503	Combimaster	8,6	20,0	2	0,8	5,7	–	18,5	M10	10,0 °	28,0	1,99	0,6	4,53	30200	0,1	SPKT070312
R217.21-1225.RE-SP07-4A	10358471	Combimaster	13,5	25,0	4	0,65	5,7	–	23,0	M12	8,0 °	30,0	1,83	0,6	2,7	27000	0,1	SPKT070312
R217.21-1225.RE-SP07-3A	10358469	Combimaster	13,6	25,0	3	0,8	5,7	–	23,0	M12	10,0 °	30,0	1,98	0,7	2,69	27000	0,1	SPKT070312
R217.21-1632.RE-SP07-5A	10358473	Combimaster	20,5	32,0	5	0,65	5,7	–	30,0	M16	8,0 °	35,0	1,83	0,6	1,71	23800	0,2	SPKT070312
R217.21-1632.RE-SP07-4A	10358472	Combimaster	20,6	32,0	4	0,8	5,7	–	30,0	M16	10,0 °	35,0	1,99	0,7	1,66	23800	0,2	SPKT070312
R217.21-1635.RE-SP07-5A	10358474	Combimaster	23,6	35,0	5	0,8	5,7	–	30,0	M16	10,0 °	35,0	1,99	0,7	1,52	22800	0,2	SPKT070312
R217.21-2040.RE-SP07-5A	10358475	Combimaster	28,6	40,0	5	0,8	5,7	–	36,5	M20	10,0 °	40,0	1,98	0,7	1,34	21300	0,3	SPKT070312
R217.21-2040.RE-SP07-6A	10358476	Combimaster	28,6	40,0	6	0,8	5,7	–	36,5	M20	10,0 °	40,0	1,98	0,7	1,34	21300	0,3	SPKT070312
R220.21-0040-SP07-6A	10358477	Arbor	28,6	40,0	6	0,8	5,7	16,0	33,0	–	10,0 °	40,0	1,98	0,7	1,34	21300	0,2	SPKT070312

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T08PX50	C02555-T08P
R220.21-..	220.17-689	1/4HEX-T08PX50	C02555-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

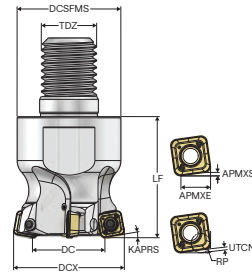
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.21-SP07 – inch



—For insert selection and cutting data recommendations, see page(s) 571-572
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	KAPRS°	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch			inch	inch	inch			lbs	
R217.21-00.75-10RE-SP07-2A	10358478	Combimaster	0.303	0.750	2	0.031	0.224	0.728	M10	10,0 °	1.102	0.078	0.024	5,15	30900	0.220	SPKT070312
R217.21-01.00-12RE-SP07-4A	10358480	Combimaster	0.547	1.000	4	0.026	0.224	0.906	M12	8,0 °	1.181	0.072	0.024	2,67	26800	0.220	SPKT070312
R217.21-01.00-12RE-SP07-3A	10358479	Combimaster	0.551	1.000	3	0.031	0.224	0.906	M12	10,0 °	1.181	0.078	0.028	2,65	26800	0.220	SPKT070312
R217.21-01.25-16RE-SP07-4A	10358481	Combimaster	0.799	1.250	4	0.031	0.224	1.181	M16	10,0 °	1.378	0.078	0.028	1,7	23800	0.440	SPKT070312
R217.21-01.50-20RE-SP07-5A	10358482	Combimaster	1.051	1.500	5	0.031	0.224	1.437	M20	10,0 °	1.575	0.078	0.028	1,44	21300	0.660	SPKT070312

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

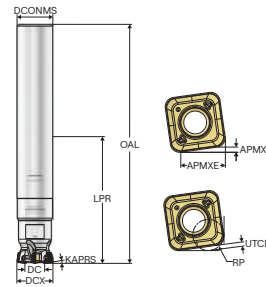
For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T08PX50	C02555-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R217.21-SP07 – Metric



- For insert selection and cutting data recommendations, see page(s) 571-572
- For complete insert programme, see page(s) 908
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	KAPRS°	DCONMS	RP	UTCN	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-1820.0R-SP07-3SA	10362253	Cylindrical	8,5	20,0	3	0,65	5,7	8,0 °	18,0	1,83	0,6	98,0	146,0	4,57	30200	0,2	SPKT070312
R217.21-1820.0R-SP07-2SA	10362252	Cylindrical	8,6	20,0	2	0,8	5,7	10,0 °	18,0	1,99	0,6	98,0	146,0	4,53	30200	0,2	SPKT070312
R217.21-2525.0R-SP07-4SA	10362255	Cylindrical	13,5	25,0	4	0,65	5,7	8,0 °	25,0	1,83	0,6	100,0	148,0	2,7	27000	0,6	SPKT070312
R217.21-2525.0R-SP07-3SA	10362254	Cylindrical	13,6	25,0	3	0,8	5,7	10,0 °	25,0	1,98	0,7	100,0	148,0	2,69	27000	0,6	SPKT070312
R217.21-3232.0R-SP07-5SA	10362257	Cylindrical	20,5	32,0	5	0,65	5,7	8,0 °	32,0	1,83	0,6	135,0	195,0	1,71	23800	1,1	SPKT070312
R217.21-3232.0R-SP07-4SA	10362256	Cylindrical	20,6	32,0	4	0,8	5,7	10,0 °	32,0	1,99	0,7	135,0	195,0	1,66	23800	1,1	SPKT070312
R217.21-3235.0R-SP07-5SA	10362258	Cylindrical	23,6	35,0	5	0,8	5,7	10,0 °	32,0	1,99	0,7	135,0	195,0	1,52	22800	1,1	SPKT070312

Spare Parts, included in delivery

For cutter	Cutter body	Extension	Insert key	Insert screw
				
R217.21-1820-2	R217.21-1020.RE-SP07-2A	BD01858221070	1/4HEX-T08PX50	C02555-T08P
R217.21-1820-3	R217.21-1020.RE-SP07-3A	BD01858221070	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-3	R217.21-1225.RE-SP07-3A	BD02558221280	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-4	R217.21-1225.RE-SP07-4A	BD02558221280	1/4HEX-T08PX50	C02555-T08P
R217.21-3232-4	R217.21-1632.RE-SP07-4A	BD032582116100	1/4HEX-T08PX50	C02555-T08P
R217.21-3232-5	R217.21-1632.RE-SP07-5A	BD032582116100	1/4HEX-T08PX50	C02555-T08P
R217.21-3235-5	R217.21-1635.RE-SP07-5A	BD032582116100	1/4HEX-T08PX50	C02555-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

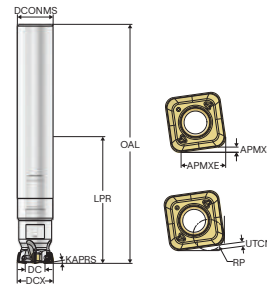
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217.21-SP07 – inch



—For insert selection and cutting data recommendations, see page(s) 571-572
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	KAPRS°	DCONMS	RP	UTCN	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-00.75-0R-SP07-2SA	10362259	Cylindrical	0.303	0.750	2	0.031	0.224	10,0 °	0.750	0.078	0.024	4.102	6.102	5,15	30900	0.660	SPKT070312
R217.21-00.79-0R-SP07-3SA	10368365	Cylindrical	0.335	0.787	3	0.026	0.224	8,0 °	0.750	0.072	0.024	4.102	6.102	4,57	30200	0.880	SPKT070312
R217.21-01.00-0R-SP07-4SA	10362261	Cylindrical	0.547	1.000	4	0.026	0.224	8,0 °	1.000	0.072	0.024	4.433	6.681	2,67	26800	1.540	SPKT070312
R217.21-01.00-0R-SP07-3SA	10362260	Cylindrical	0.551	1.000	3	0.031	0.224	10,0 °	1.000	0.078	0.028	4.433	6.681	2,65	26800	1.320	SPKT070312
R217.21-01.25-0R-SP07-4SA	10362262	Cylindrical	0.799	1.250	4	0.031	0.224	10,0 °	1.250	0.078	0.028	5.630	7.878	1,7	23800	2.430	SPKT070312
R217.21-01.26-0R-SP07-5SA	10368366	Cylindrical	0.807	1.260	5	0.026	0.224	8,0 °	1.250	0.072	0.024	5.630	7.878	1,71	23800	2.430	SPKT070312
R217.21-01.38-0R-SP07-5SA	10368367	Cylindrical	0.929	1.378	5	0.031	0.224	10,0 °	1.250	0.078	0.028	5.630	7.878	1,52	22800	2.430	SPKT070312

Spare Parts, included in delivery

For cutter	Cutter body	Extension	Insert key	Insert screw
				
R217.21-00.75-2	R217.21-00.75-10RE-SP07-2A	BD119582210300	1/4HEX-T08PX50	C02555-T08P
R217.21-00.79-3	R217.21-1020.RE-SP07-3A	BD119582210300	1/4HEX-T08PX50	C02555-T08P
R217.21-01.00-3	R217.21-01.00-12RE-SP07-3A	BD125582212325	1/4HEX-T08PX50	C02555-T08P
R217.21-01.00-4	R217.21-01.00-12RE-SP07-4A	BD125582212325	1/4HEX-T08PX50	C02555-T08P
R217.21-01.25-4	R217.21-01.25-16RE-SP07-4A	BD131582116425	1/4HEX-T08PX50	C02555-T08P
R217.21-01.26-5	R217.21-1632.RE-SP07-5A	BD131582116425	1/4HEX-T08PX50	C02555-T08P
R217.21-01.38-5	R217.21-1635.RE-SP07-5A	BD131582116425	1/4HEX-T08PX50	C02555-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R220.21-SP07 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	SPKT070312TN-M08 MP3501	0,80 0.032	0,75 0.030	0,75 0.030	1,0 0.040	Square shoulder and slot milling cutters
P2	SPKT070312TN-M08 MP3501	0,80 0.032	0,75 0.030	0,75 0.030	1,0 0.040	
P3	SPKT070312TN-M08 MP3501	0,80 0.032	0,70 0.028	0,75 0.030	1,0 0.040	
P4	SPKT070312TN-M08 MP2501	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	Helical milling cutters
P5	SPKT070312TN-M08 MP2501	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
P6	SPKT070312TN-M08 MP2501	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
P7	SPKT070312TN-M08 MP2501	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	Face milling cutters
P8	SPKT070312TN-M08 MP2501	0,80 0.032	0,70 0.028	0,75 0.030	1,0 0.040	
P11	SPKT070312TN-ME06 MP2051	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
P12	SPKT070312TN-M08 MP2501	0,60 0.024	0,46 0.018	0,48 0.019	0,65 0.026	Disc milling cutters
M1	SPKT070312TN-ME06 MS2050	0,80 0.032	0,75 0.030	0,75 0.030	1,0 0.040	
M2	SPKT070312TN-ME06 MS2050	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
M3	SPKT070312TN-ME06 MS2050	0,60 0.024	0,55 0.022	0,55 0.022	0,75 0.030	High feed milling cutters
M4	SPKT070312TN-ME06 MP2051	0,60 0.024	0,48 0.019	0,50 0.020	0,65 0.026	
M5	SPKT070312TN-ME06 MP2051	0,60 0.024	0,48 0.019	0,50 0.020	0,65 0.026	
K1	SPKT070312TN-M08 MK2050	0,80 0.032	0,75 0.030	0,75 0.030	1,0 0.040	Copy milling cutters
K2	SPKT070312TN-M08 MK2050	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
K3	SPKT070312TN-M08 MK2050	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
K4	SPKT070312TN-M08 MK2050	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	Plunge milling cutters
K5	SPKT070312TN-M08 MK2050	0,80 0.032	0,60 0.024	0,65 0.026	0,85 0.034	
K6	SPKT070312TN-M08 MK2050	0,80 0.032	0,70 0.028	0,70 0.028	0,95 0.038	
K7	SPKT070312TN-M08 MK2050	0,80 0.032	0,60 0.024	0,65 0.026	0,85 0.034	Chamfer milling cutters
S1	SPKT070312TN-ME06 MP2051	0,60 0.024	0,48 0.019	0,50 0.020	0,65 0.026	
S2	SPKT070312TN-ME06 MP2051	0,60 0.024	0,48 0.019	0,50 0.020	0,65 0.026	
S3	SPKT070312TN-ME06 MP2051	0,60 0.024	0,44 0.017	0,46 0.018	0,60 0.024	Spot facing cutters
S11	SPKT070312TN-ME06 MS2050	0,60 0.024	0,55 0.022	0,55 0.022	0,75 0.030	
S12	SPKT070312TN-ME06 MS2050	0,60 0.024	0,55 0.022	0,55 0.022	0,75 0.030	
S13	SPKT070312TN-ME06 MS2050	0,60 0.024	0,48 0.019	0,50 0.020	0,65 0.026	Inserts
H5	SPKT070312TN-MD10 MH1051	0,60 0.024	0,46 0.018	0,48 0.019	0,65 0.026	
H8	SPKT070312TN-MD10 MH1051	0,60 0.024	0,36 0.014	0,36 0.014	0,48 0.019	
H11	SPKT070312TN-MD10 MH1051	0,60 0.024	0,46 0.018	0,48 0.019	0,65 0.026	
H12	SPKT070312TN-MD10 MH1051	0,60 0.024	0,36 0.014	0,36 0.014	0,48 0.019	

SMG = Seco material group

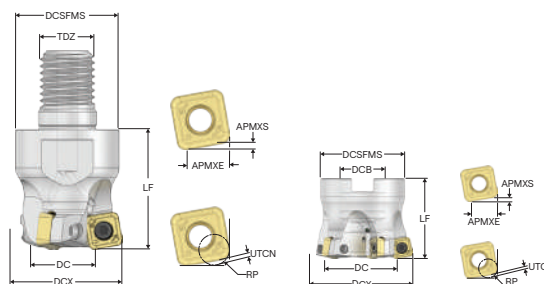
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R220.21-SP07 – Cutting data $v_c = (m/min)/(sf/min)$

R220.21-SP07 – Cutting data v _c = (m/min)/(sf/min)																										
Square shoulder and slot milling cutters	SMG	MH1051			MK2050			MP3000			MS2050			MP2051			MP1501			MP2501			MP3501			
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
	P1	—	—	—	290	350	410	260	315	375	260	305	360	260	330	425	395	455	520	405	470	540	360	415	475	
		—	—	—	950	1150	1350	850	1025	1225	850	1000	1175	850	1075	1400	1300	1500	1700	1325	1550	1775	1175	1350	1550	
	P2	—	—	—	285	340	395	255	305	365	255	300	350	255	325	410	385	445	510	395	455	520	350	405	465	
		—	—	—	940	1125	1300	840	1000	1200	840	980	1150	840	1075	1350	1275	1450	1675	1300	1500	1700	1150	1325	1525	
	P3	—	—	—	250	300	350	230	275	325	225	265	305	235	295	370	340	390	445	350	405	455	310	360	405	
		—	—	—	820	980	1150	750	900	1075	740	870	1000	770	970	1225	1125	1275	1450	1150	1325	1500	1025	1175	1325	
	P4	—	—	—	220	265	305	200	240	285	195	235	270	205	260	325	300	345	390	310	355	405	275	315	360	
		—	—	—	720	870	1000	660	790	940	640	770	890	670	850	1075	980	1125	1275	1025	1175	1325	900	1025	1175	
	P5	340	410	500	210	250	300	190	230	280	190	225	265	195	250	325	285	330	380	295	340	395	260	300	350	
		1125	1350	1650	690	820	980	620	750	920	620	740	870	640	820	1075	940	1075	1250	970	1125	1300	850	980	1150	
	P6	380	460	570	235	285	335	215	260	315	210	250	295	220	280	365	320	370	425	330	380	440	295	340	390	
		1250	1500	1875	770	940	1100	710	850	1025	690	820	970	720	920	1200	1050	1225	1400	1075	1250	1450	970	1125	1275	
	P7	360	435	530	220	265	315	205	245	295	200	235	280	210	265	340	305	350	405	315	360	415	280	320	370	
		1175	1425	1750	720	870	1025	670	800	970	660	770	920	690	870	1125	1000	1150	1325	1025	1175	1350	920	1050	1225	
	P8	340	410	485	210	250	290	190	230	270	190	225	255	195	250	310	285	330	375	295	340	385	260	300	340	
		1125	1350	1600	690	820	950	620	750	890	620	740	840	640	820	1025	940	1075	1225	970	1125	1275	850	980	1125	
	P11	350	420	520	215	260	305	195	235	290	195	230	270	190	260	360	295	340	390	305	350	405	270	310	360	
		1150	1375	1700	710	850	1000	640	770	950	640	750	890	620	850	1175	970	1125	1275	1000	1150	1325	890	1025	1175	
	P12	260	305	365	140	170	200	140	165	195	130	155	180	155	205	270	195	225	255	205	235	265	180	210	235	
		850	1000	1200	460	560	660	460	540	640	425	510	590	510	670	890	640	740	840	670	770	870	590	690	770	
	M1	—	—	—	—	—	—	—	195	230	270	195	235	275	210	285	385	—	—	—	205	250	290	195	230	270
		—	—	—	—	—	—	—	640	750	890	640	770	900	690	940	1275	—	—	—	670	820	950	640	750	890
	M2	—	—	—	—	—	—	—	160	190	225	160	195	230	180	245	340	—	—	—	170	205	245	160	190	225
		—	—	—	—	—	—	—	520	620	740	520	640	750	590	800	1125	—	—	—	560	670	800	520	620	740
	M3	—	—	—	—	—	—	—	130	155	180	130	155	185	170	225	300	—	—	—	140	165	195	130	155	180
		—	—	—	—	—	—	—	425	510	590	425	510	610	560	740	980	—	—	—	460	540	640	425	510	590
	M4	—	—	—	—	—	—	—	100	120	140	100	120	145	135	180	245	—	—	—	105	130	155	100	120	145
		—	—	—	—	—	—	—	330	395	460	330	395	475	445	590	800	—	—	—	345	425	510	330	395	475
	M5	—	—	—	—	—	—	—	85	100	120	85	100	120	115	150	205	—	—	—	90	105	130	85	100	120
		—	—	—	—	—	—	—	280	330	395	280	330	395	375	490	670	—	—	—	295	345	425	280	330	395
	K1	450	540	660	305	365	430	205	245	285	—	—	—	—	—	—	390	450	510	400	460	530	355	410	465	
		1475	1775	2175	1000	1200	1400	670	800	940	—	—	—	—	—	—	1275	1475	1675	1300	1500	1750	1175	1350	1525	
	K2	410	495	610	270	325	385	180	215	255	—	—	—	—	—	—	345	400	460	355	410	475	315	365	425	
		1350	1625	2000	890	1075	1275	590	710	840	—	—	—	—	—	—	1125	1300	1500	1175	1350	1550	1025	1200	1400	
	K3	345	420	520	230	275	325	155	185	215	—	—	—	—	—	—	295	340	390	300	345	400	270	310	360	
		1125	1375	1700	750	900	1075	510	610	710	—	—	—	—	—	—	970	1125	1275	980	1125	1300	890	1025	1175	
	K4	330	400	490	220	265	310	145	175	205	—	—	—	—	—	—	280	320	370	290	330	385	255	295	340	
		1075	1300	1600	720	870	1025	475	570	670	—	—	—	—	—	—	920	1050	1225	950	1075	1275	840	970	1125	
	K5	215	260	305	135	165	190	90	110	125	—	—	—	—	—	—	175	205	225	180	210	235	165	185	210	
		710	850	1000	445	540	620	295	360	410	—	—	—	—	—	—	570	670	740	590	690	770	540	610	690	
	K6	290	350	435	195	230	275	130	155	185	—	—	—	—	—	—	245	285	325	255	290	340	225	260	300	
		950	1150	1425	640	750	900	425	510	610	—	—	—	—	—	—	800	940	1075	840	950	1125	740	850	980	
	K7	280	335	390	175	210	240	115	140	160	—	—	—	—	—	—	225	260	290	235	270	300	210	240	265	
		920	1100	1275	570	690	790	375	460	520	—	—	—	—	—	—	740	850	950	770	890	980	690	790	870	
	S1	—	—	—	—	—	—	46	55	65	47	55	65	50	60	75	—	—	—	—	—	—	47	55	65	
		—	—	—	—	—	—	—	150	180	215	155	180	215	165	195	245	—	—	—	—	—	155	180	215	
	S2	—	—	—	—	—	—	37	45	55	38	45	55	41	50	60	—	—	—	—	—	—	38	45	55	
		—	—	—	—	—	—	—	120	150	180	125	150	180	135	165	195	—	—	—	—	—	125	150	180	
	S3	—	—	—	—	—	—	33	39	47	33	40	48	36	44	50	—	—	—	—	—	—	33	39	47	
		—	—	—	—	—	—	—	110	130	155	110	130	155	120	145	165	—	—	—	—	—	110	130	155	
	S11	—	—	—	—	—	—	65	80	90	65	80	90	70	85	100	—	—	—	—	—	—	65	80	90	
		—	—	—	—	—	—	—	215	260	295	215	260	295	230	280	330	—	—	—	—	—	215	260	295	
	S12	—	—	—	—	—	—	45	55	65	46	55	65	50	60											

Square shoulder and slot milling cutters



Helical milling cutters

Face milling
cutters

sc milling cutters

High feed milling cutters

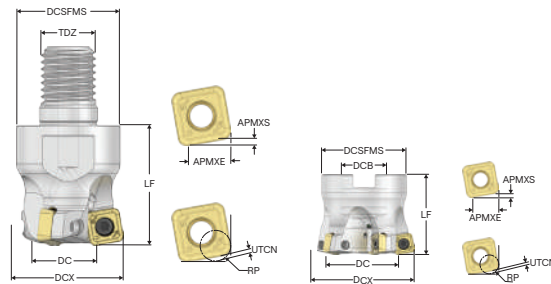
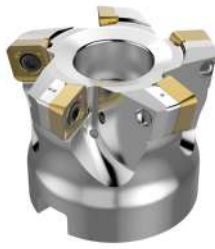
Copy milling cutters

Large milling cutters

transfer milling cutters

Spot facing cutters

R217/220.21-SP10 – Inch

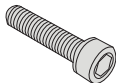


—For insert selection and cutting data recommendations, see page(s) 575–577
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-01.25.16RE-SP10.3A	10097569	Combimaster	0.606	1.250	3	0.043	0.276	–	1.181	M16	–	1.378	0.111	0.035	2.274	5,6	21600	0.440	SPKT10T317
R217.21-01.50.20RE-SP10.4A	10097571	Combimaster	0.858	1.500	4	0.043	0.276	–	1.437	M20	–	1.575	0.110	0.035	2.638	3,0	19300	0.880	SPKT10T317
R220.21-02.00-SP10.5A	10128666	Arbor	1.358	2.000	5	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,9	17300	0.880	SPKT10T317
R220.21-02.00-SP10.6A	10097573	Arbor	1.358	2.000	6	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,9	17300	0.880	SPKT10T317
R220.21-02.50-SP10.6A	10128667	Arbor	1.858	2.500	6	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,3	15800	1.100	SPKT10T317
R220.21-02.50-SP10.7A	10097574	Arbor	1.858	2.500	7	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,3	15800	1.320	SPKT10T317

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-...	–	1/4HEX-T10PX50	C03508-T10P
R220.21-02.00	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03508-T10P
R220.21-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R220.21-SP10 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	SPKT10T317TN-ME08 MP3501	1,1 0.044	0,75 0.030	0,75 0.030	0,95 0.038	Square shoulder and slot milling cutters
P2	SPKT10T317TN-ME08 MP3501	1,1 0.044	0,75 0.030	0,75 0.030	0,95 0.038	
P3	SPKT10T317TN-ME08 MP2501	1,1 0.044	0,75 0.030	0,75 0.030	0,90 0.036	
P4	SPKT10T317TN-M10 MP2501	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	Helical milling cutters
P5	SPKT10T317TN-M10 MP2501	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	
P6	SPKT10T317TN-M10 MP2501	1,1 0.044	0,70 0.028	0,70 0.028	0,85 0.034	
P7	SPKT10T317TN-M10 MP2501	1,1 0.044	0,70 0.028	0,70 0.028	0,85 0.034	Face milling cutters
P8	SPKT10T317TN-M10 MP2501	1,1 0.044	0,75 0.030	0,75 0.030	0,90 0.036	
P11	SPKT10T317TN-ME08 MP3501	1,1 0.044	0,70 0.028	0,70 0.028	0,85 0.034	
P12	SPKT10T317TN-M10 MP2501	0,85 0.034	0,48 0.019	0,48 0.019	0,60 0.024	Disc milling cutters
M1	SPKT10T317TN-ME08 MS2050	1,1 0.044	0,75 0.030	0,75 0.030	0,95 0.038	
M2	SPKT10T317TN-ME08 MS2050	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	
M3	SPKT10T317TN-ME08 MS2050	0,85 0.034	0,55 0.022	0,55 0.022	0,70 0.028	High feed milling cutters
M4	SPKT10T317TN-ME08 MP3501	0,85 0.034	0,50 0.020	0,50 0.020	0,60 0.024	
M5	SPKT10T317TN-ME08 MP3501	0,85 0.034	0,50 0.020	0,50 0.020	0,60 0.024	
K1	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,75 0.030	0,75 0.030	0,95 0.038	Copy milling cutters
K2	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	
K3	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	
K4	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	Plunge milling cutters
K5	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,65 0.026	0,65 0.026	0,80 0.032	
K6	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,70 0.028	0,70 0.028	0,90 0.036	
K7	SPKT10T317TN-MD12 MK2050	1,1 0.044	0,65 0.026	0,65 0.026	0,80 0.032	Chamfer milling cutters
S1	SPKT10T317TN-ME08 MP3501	0,85 0.034	0,50 0.020	0,50 0.020	0,60 0.024	
S2	SPKT10T317TN-ME08 MP3501	0,85 0.034	0,50 0.020	0,50 0.020	0,60 0.024	
S3	SPKT10T317TN-ME08 MP3501	0,85 0.034	0,46 0.018	0,46 0.018	0,55 0.022	Spot facing cutters
S11	SPKT10T317TN-ME08 MS2050	0,85 0.034	0,55 0.022	0,55 0.022	0,70 0.028	
S12	SPKT10T317TN-ME08 MS2050	0,85 0.034	0,55 0.022	0,55 0.022	0,70 0.028	
S13	SPKT10T317TN-ME08 MS2050	0,85 0.034	0,50 0.020	0,50 0.020	0,60 0.024	Inserts
H5	SPKT10T317TN-MD12 MH1051	0,85 0.034	0,48 0.019	0,48 0.019	0,60 0.024	
H8	SPKT10T317TN-MD12 MH1051	0,85 0.034	0,36 0.014	0,36 0.014	0,46 0.018	
H11	SPKT10T317TN-MD12 MP1501	0,85 0.034	0,48 0.019	0,48 0.019	0,60 0.024	
H12	SPKT10T317TN-MD12 MP1501	0,85 0.034	0,36 0.014	0,36 0.014	0,46 0.018	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

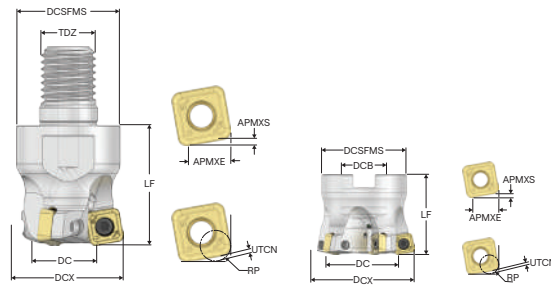
R220.21-SP10 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	—	—	—	260 850	300 980	360 1175	245 800	280 920	355 1175	245 800	275 900	340 1125	230 750	250 820	300 980	240 790	285 940	395 1300	275 900	320 1050	385 1275
	P2	—	—	—	250 820	290 950	345 1125	240 790	270 890	335 1100	240 790	270 890	320 1050	225 740	245 800	285 940	235 770	275 900	370 1225	270 890	310 1025	370 1225
Helical milling cutters	P3	—	—	—	220 720	255 840	305 1000	215 710	245 800	295 970	210 690	240 790	285 940	200 660	215 710	250 820	215 710	255 840	330 1075	235 770	275 900	325 1075
	P4	—	—	—	195 640	225 740	270 890	190 620	215 710	270 890	185 610	210 690	255 840	180 590	205 670	245 800	190 620	225 740	305 1000	210 690	240 790	290 950
Face milling cutters	P5	315 1025	360 1175	460 1500	185 610	215 710	260 850	180 590	205 670	255 840	180 590	200 660	245 800	165 540	180 590	215 710	180 590	215 710	290 950	200 660	230 750	275 900
	P6	355 1175	405 1325	520 1700	210 690	240 790	290 950	200 660	230 750	290 950	200 660	225 740	275 900	185 610	205 670	245 800	205 670	240 790	330 1075	225 740	260 850	310 1025
Disc milling cutters	P7	335 1100	380 1250	490 1600	200 660	230 750	275 900	190 620	215 710	270 890	190 620	215 710	260 850	175 570	195 640	230 750	190 620	225 740	310 1025	210 690	245 800	295 970
	P8	315 1025	360 1175	445 1450	185 610	215 710	255 840	180 590	205 670	250 820	180 590	200 660	240 790	165 540	180 590	210 690	180 590	215 710	280 920	200 660	230 750	270 890
Face milling cutters	P11	325 1075	370 1225	475 1550	190 620	220 720	265 870	185 610	210 690	265 870	185 610	205 670	250 820	170 560	190 620	225 740	175 570	220 720	320 1050	205 670	235 770	285 940
	P12	245 800	275 900	345 1125	125 410	145 475	175 570	135 445	150 490	185 610	125 410	140 460	170 560	120 395	130 425	150 490	145 475	180 590	245 800	135 445	155 510	190 620
Disc milling cutters	M1	—	—	—	—	—	—	180 590	210 690	250 820	185 610	210 690	250 820	165 540	190 620	225 740	190 620	240 790	340 1125	195 640	220 720	265 870
	M2	—	—	—	—	—	—	150 490	175 570	210 690	150 490	175 570	210 690	135 445	155 510	190 620	165 540	205 670	305 1000	160 520	185 610	220 720
High feed milling cutters	M3	—	—	—	—	—	—	120 395	140 460	170 560	125 410	145 475	170 560	110 360	130 425	155 510	160 520	195 640	270 890	130 425	150 490	180 590
	M4	—	—	—	—	—	—	95 310	110 360	135 445	95 310	110 360	135 445	85 280	100 330	120 395	130 425	160 520	225 740	100 330	115 375	140 460
Copy milling cutters	M5	—	—	—	—	—	—	80 260	90 295	110 360	80 260	90 295	110 360	70 230	85 280	100 330	105 345	130 425	190 620	85 280	95 310	120 395
	K1	420 1375	480 1575	600 1975	270 890	315 1025	370 1225	190 620	220 720	265 870	—	—	—	160 520	185 610	220 720	—	—	—	—	—	—
Plunge milling cutters	K2	380 1250	435 1425	560 1825	240 790	280 920	335 1100	170 560	195 640	235 770	—	—	—	145 475	165 540	200 660	—	—	—	—	—	—
	K3	325 1075	370 1225	475 1550	205 670	235 770	285 940	145 475	165 540	200 660	—	—	—	120 395	140 460	170 560	—	—	—	—	—	—
Chamfer milling cutters	K4	310 1025	350 1150	450 1475	195 640	225 740	270 890	135 445	160 520	190 620	—	—	—	115 375	135 445	160 520	—	—	—	—	—	—
	K5	205 670	230 750	280 920	120 395	140 460	165 540	85 280	100 330	115 375	—	—	—	75 245	85 280	100 330	—	—	—	—	—	—
Spot facing cutters	K6	270 890	310 1025	400 1300	170 560	200 660	240 790	120 395	140 460	170 560	—	—	—	100 330	120 395	145 475	—	—	—	—	—	—
	K7	260 850	295 970	360 1175	155 510	180 590	210 690	110 360	125 410	150 490	—	—	—	95 310	110 360	125 410	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	—	—	44 145	50 165	60 195	45 150	50 165	65 215	40 130	46 150	55 180	49 160	55 180	70 230	49 160	55 180	70 230
	S2	—	—	—	—	—	—	36 120	41 135	50 165	36 120	42 140	50 165	32 105	37 120	45 150	39 130	45 150	55 180	40 130	46 150	55 180
Chamfer milling cutters	S3	—	—	—	—	—	—	31 100	36 120	44 145	32 105	36 120	44 145	28 90	33 110	40 130	34 110	39 130	48 155	35 115	40 130	49 160
	S11	—	—	—	—	—	—	60 195	70 230	85 280	65 215	70 230	85 280	55 180	65 215	75 245	70 230	80 260	95 310	70 230	80 260	95 310
Chamfer milling cutters	S12	—	—	—	—	—	—	43 140	49 160	60 195	43 140	50 165	60 195	39 130	45 150	55 180	47 155	55 180	65 215	48 155	55 180	65 215
	S13	—	—	—	—	—	—	25 80	29 95	35 115	25 80	29 95	35 115	23 75	26 85	32 105	27 90	31 100	38 125	28 90	32 105	39 130
Spot facing cutters	H5	125 410	140 460	175 570	—	—	—	38 125	44 145	50 165	—	—	—	34 110	40 130	47 155	—	—	—	—	—	—
	H8	140 460	160 520	200 660	—	—	—	41 135	47 155	55 180	—	—	—	37 120	43 140	50 165	—	—	—	—	—	—
Inserts	H11	160 520	180 590	225 740	—	—	—	48 155	55 180	65 215	—	—	—	44 145	50 165	60 195	95 310	115 375	160 520	50 165	60 195	70 230
	H12	165 540	185 610	230 750	80 260	95 310	115 375	80 260	90 295	110 360	—	—	—	65 215	75 245	90 295	100 330	125 410	165 540	85 280	100 330	120 395

R220.21-SP10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501			MP2501			MS2500			MP3501			MM4500			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	370	415	490	380	425	500	365	405	490	345	380	455	210	240	295	Square shoulder and slot milling cutters
	1225	1350	1600	1250	1400	1650	1200	1325	1600	1125	1250	1500	690	790	970	
P2	365	400	465	370	410	480	355	395	465	335	370	430	205	230	280	Helical milling cutters
	1200	1300	1525	1225	1350	1575	1175	1300	1525	1100	1225	1400	670	750	920	
P3	320	355	410	330	365	425	315	350	410	295	330	380	185	205	245	Helical milling cutters
	1050	1175	1350	1075	1200	1400	1025	1150	1350	970	1075	1250	610	670	800	
P4	280	315	370	290	320	380	275	310	370	260	290	345	175	195	240	Helical milling cutters
	920	1025	1225	950	1050	1250	900	1025	1225	850	950	1125	570	640	790	
P5	270	300	350	275	305	365	265	295	350	250	275	330	155	175	215	Helical milling cutters
	890	980	1150	900	1000	1200	870	970	1150	820	900	1075	510	570	710	
P6	305	335	395	310	345	410	295	330	395	280	310	370	175	195	240	Face milling cutters
	1000	1100	1300	1025	1125	1350	970	1075	1300	920	1025	1225	570	640	790	
P7	285	315	375	295	325	385	280	315	370	265	290	345	165	185	225	Face milling cutters
	940	1025	1225	970	1075	1275	920	1025	1225	870	950	1125	540	610	740	
P8	270	300	345	275	305	355	265	295	345	250	275	320	155	175	210	Face milling cutters
	890	980	1125	900	1000	1175	870	970	1125	820	900	1050	510	570	690	
P11	280	310	365	285	315	375	275	305	360	255	285	335	160	180	220	Face milling cutters
	920	1025	1200	940	1025	1225	900	1000	1175	840	940	1100	520	590	720	
P12	185	205	240	195	215	245	185	205	240	175	195	225	110	125	145	Face milling cutters
	610	670	790	640	710	800	610	670	790	570	640	740	360	410	475	
M1	—	—	—	195	225	265	210	245	290	185	210	250	140	165	195	Disc milling cutters
	—	—	—	640	740	870	690	800	950	610	690	820	460	540	640	
M2	—	—	—	160	185	225	175	200	245	150	175	210	120	135	165	Disc milling cutters
	—	—	—	520	610	740	570	660	800	490	570	690	395	445	540	
M3	—	—	—	130	150	180	145	165	195	125	145	170	95	110	130	Disc milling cutters
	—	—	—	425	490	590	475	540	640	410	475	560	310	360	425	
M4	—	—	—	100	115	145	110	125	155	95	110	135	75	85	105	Disc milling cutters
	—	—	—	330	375	475	360	410	510	310	360	445	245	280	345	
M5	—	—	—	85	100	120	90	105	130	80	90	110	60	70	85	Disc milling cutters
	—	—	—	280	330	395	295	345	425	260	295	360	195	230	280	
K1	365	405	470	375	415	485	235	270	320	335	370	435	—	—	—	High feed milling cutters
	1200	1325	1550	1225	1350	1600	770	890	1050	1100	1225	1425	—	—	—	
K2	325	360	425	335	370	440	205	240	290	300	335	395	—	—	—	High feed milling cutters
	1075	1175	1400	1100	1225	1450	670	790	950	980	1100	1300	—	—	—	
K3	275	305	360	285	315	370	175	200	245	255	280	335	—	—	—	High feed milling cutters
	900	1000	1175	940	1025	1225	570	660	800	840	920	1100	—	—	—	
K4	265	290	345	270	300	355	165	195	235	245	270	320	—	—	—	Copy milling cutters
	870	950	1125	890	980	1175	540	640	770	800	890	1050	—	—	—	
K5	165	185	210	170	190	215	105	120	140	155	170	195	—	—	—	Copy milling cutters
	540	610	690	560	620	710	345	395	460	510	560	640	—	—	—	
K6	230	255	305	240	265	315	150	170	205	215	235	280	—	—	—	Copy milling cutters
	750	840	1000	790	870	1025	490	560	670	710	770	920	—	—	—	
K7	215	235	270	220	245	275	135	155	180	200	220	250	—	—	—	Copy milling cutters
	710	770	890	720	800	900	445	510	590	660	720	820	—	—	—	
S1	—	—	—	—	—	—	55	60	75	45	50	65	23	26	32	Plunge milling cutters
	—	—	—	—	—	—	180	195	245	150	165	215	75	85	105	
S2	—	—	—	—	—	—	43	50	60	36	42	50	18	21	26	Plunge milling cutters
	—	—	—	—	—	—	140	165	195	120	140	165	60	70	85	
S3	—	—	—	—	—	—	38	44	55	32	36	44	16	18	22	Plunge milling cutters
	—	—	—	—	—	—	125	145	180	105	120	145	50	60	70	
S11	—	—	—	—	—	—	75	85	105	65	70	85	32	37	44	Plunge milling cutters
	—	—	—	—	—	—	245	280	345	215	230	280	105	120	145	
S12	—	—	—	—	—	—	50	60	70	43	50	60	29	34	40	Plunge milling cutters
	—	—	—	—	—	—	165	195	230	140	165	195	95	110	130	
S13	—	—	—	—	—	—	30	35	43	25	29	35	17	20	24	Chamfer milling cutters
	—	—	—	—	—	—	100	115	140	80	95	115	55	65	80	
H5	48	55	65	—	—	—	45	50	60	40	46	55	—	—	—	Chamfer milling cutters
	155	180	215	—	—	—	150	165	195	130	150	180	—	—	—	
H8	50	60	70	—	—	—	48	55	65	43	50	60	—	—	—	Chamfer milling cutters
	165	195	230	—	—	—	155	180	215	140	165	195	—	—	—	
H11	60	70	85	—	—	—	55	65	80	50	60	70	—	—	—	Spot facing cutters
	195	230	280	—	—	—	180	215	260	165	195	230	—	—	—	
H12	95	110	130	—	—	—	95	110	130	75	90	105	—	—	—	Spot facing cutters
	310	360	425	—	—	—	310	360	425	245	295	345	—	—	—	

R217/220.21-SP14 – Metric

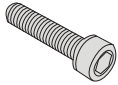


—For insert selection and cutting data recommendations, see page(s) 580-582
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	RP	OAL	RMPX°	RPMX	Weight	Insert		
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm		kg			
R217.21-2040.RE-SP14.3A	10135958	Combimaster	17,0	40,0	3	1,8	10,0	–	36,5	M20	–	45,0	4,06	1,4	72,0	2,9	11900	0,4	SPKT140523
R220.21-0050-SP14.4A	10068147	Arbor	27,1	50,0	4	1,8	10,0	22,0	41,0	–	22,0	40,0	4,02	1,4	–	3,5	10700	0,3	SPKT140523
R220.21-0050-SP14.5A	10068148	Arbor	27,1	50,0	5	1,8	10,0	22,0	41,0	–	22,0	40,0	4,04	1,4	–	1,8	10700	0,3	SPKT140523
R220.21-0052-SP14.4A	10068149	Arbor	29,1	52,0	4	1,8	10,0	22,0	49,0	–	22,0	40,0	4,02	1,4	–	3,2	10500	0,4	SPKT140523
R220.21-0052-SP14.5A	10101535	Arbor	29,1	52,0	5	1,8	10,0	22,0	49,0	–	22,0	40,0	4,02	1,4	–	3,2	10500	0,4	SPKT140523
R220.21-0063-SP14.5A	10068150	Arbor	40,1	63,0	5	1,8	10,0	27,0	49,0	–	27,0	50,0	4,01	1,4	–	2,3	9600	0,5	SPKT140523
R220.21-0063-SP14.6A	10068151	Arbor	40,1	63,0	6	1,8	10,0	27,0	49,0	–	27,0	50,0	4,01	1,4	–	2,3	9600	0,6	SPKT140523
R220.21-0066-SP14.5A	10068152	Arbor	43,0	66,0	5	1,8	10,0	27,0	61,0	–	27,0	50,0	4,02	1,4	–	2,1	9400	0,8	SPKT140523
R220.21-0066-SP14.6A	10101540	Arbor	43,0	66,0	6	1,8	10,0	27,0	61,0	–	27,0	50,0	4,02	1,4	–	2,1	9400	0,8	SPKT140523
R220.21-0080-SP14.6A	10068154	Arbor	57,0	80,0	6	1,8	10,0	27,0	61,0	–	27,0	50,0	4,01	1,41	–	1,6	8500	1,0	SPKT140523
R220.21-0080-SP14.7A	10068155	Arbor	57,0	80,0	7	1,8	10,0	27,0	61,0	–	27,0	50,0	4,01	1,4	–	1,6	8500	1,1	SPKT140523
R220.21-0084-SP14.6A	10068156	Arbor	61,0	84,0	6	1,8	10,0	32,0	79,0	–	32,0	50,0	4,01	1,4	–	1,5	8300	1,3	SPKT140523
R220.21-0100-SP14.8A	10068157	Arbor	77,0	100,0	8	1,8	10,0	32,0	79,0	–	32,0	50,0	4,01	1,4	–	1,2	7600	1,7	SPKT140523
R220.21-0125-SP14.9A	10132522	Arbor	102,0	125,0	9	1,8	10,0	40,0	90,0	–	40,0	63,0	4,0	1,4	–	0,9	6800	3,1	SPKT140523

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

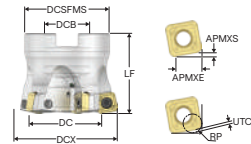
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	—	1/4HEX-T20PX50	C45011-T20P
R220.21-0050-0052	220.17-692M	1/4HEX-T20PX50	C45011-T20P
R220.21-0063	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0066	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0080	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0084-0100	MLC6S16X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0084-0100	MLC6S16X35	1/4HEX-T20PX90	C45011-T20P
R220.21-0125	MC6S20X50	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

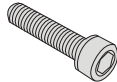
R220.21-SP14 – inch



—For insert selection and cutting data recommendations, see page(s) 580-582
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.00-SP14.4A	10068158	Arbor	1.098	2.000	4	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	3,3	10700	0.880	SPKT140523
R220.21-02.00-SP14.5A	10068159	Arbor	1.098	2.000	5	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	3,3	10700	0.880	SPKT140523
R220.21-02.50-SP14.5A	10068160	Arbor	1.594	2.500	5	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	2,2	9600	1.100	SPKT140523
R220.21-02.50-SP14.6A	10068161	Arbor	1.594	2.500	6	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	2,2	9600	1.100	SPKT140523
R220.21-03.00-SP14.6A	10068162	Arbor	2.094	3.000	6	0.071	0.394	1.000	2.289	1.000	2.000	0.158	0.056	1,7	8500	1.980	SPKT140523
R220.21-03.00-SP14.7A	10068163	Arbor	2.094	3.000	7	0.071	0.394	1.000	2.289	1.000	2.000	0.158	0.056	1,7	8500	2.200	SPKT140523
R220.21-04.00-SP14.8A	10068164	Arbor	3.094	4.000	8	0.071	0.394	1.500	3.539	1.500	2.000	0.158	0.055	1,2	7600	4.190	SPKT140523

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T20PX50	C45011-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C45011-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R220.21-SP14 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	SPKT140523TN-ME10 MP3501	1,8 0.070	1,3 0.050	1,3 0.050	1,5 0.060
	P2	SPKT140523TN-ME10 MP3501	1,8 0.070	1,3 0.050	1,3 0.050	1,5 0.060
Helical milling cutters	P3	SPKT140523TN-ME10 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,5 0.060
	P4	SPKT140523TN-M14 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	P5	SPKT140523TN-M14 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	P6	SPKT140523TN-M14 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	P7	SPKT140523TN-M14 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
Face milling cutters	P8	SPKT140523TN-M14 MP2501	1,8 0.070	1,2 0.048	1,2 0.048	1,5 0.060
	P11	SPKT140523TN-ME10 MP3501	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	P12	SPKT140523TN-M14 MP2501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	M1	SPKT140523TN-ME10 MS2050	1,8 0.070	1,3 0.050	1,3 0.050	1,5 0.060
Disc milling cutters	M2	SPKT140523TN-ME10 MS2050	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	M3	SPKT140523TN-ME10 MS2050	1,4 0.055	0,95 0.038	0,95 0.038	1,1 0.044
	M4	SPKT140523TN-ME10 MP3501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	M5	SPKT140523TN-ME10 MP3501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	K1	SPKT140523TN-MD16 MK2050	1,8 0.070	1,3 0.050	1,3 0.050	1,5 0.060
High feed milling cutters	K2	SPKT140523TN-MD16 MK2050	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	K3	SPKT140523TN-MD16 MK2050	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	K4	SPKT140523TN-MD16 MK2050	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
	K5	SPKT140523TN-MD16 MK2050	1,8 0.070	1,1 0.044	1,1 0.044	1,3 0.050
	K6	SPKT140523TN-MD16 MK2050	1,8 0.070	1,2 0.048	1,2 0.048	1,4 0.055
Copy milling cutters	K7	SPKT140523TN-MD16 MK2050	1,8 0.070	1,1 0.044	1,1 0.044	1,3 0.050
	S1	SPKT140523TN-ME10 MP3501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	S2	SPKT140523TN-ME10 MP3501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	S3	SPKT140523TN-ME10 MP3501	1,4 0.055	0,75 0.030	0,75 0.030	0,90 0.036
Plunge milling cutters	S11	SPKT140523TN-ME10 MS2050	1,4 0.055	0,95 0.038	0,95 0.038	1,1 0.044
	S12	SPKT140523TN-ME10 MS2050	1,4 0.055	0,95 0.038	0,95 0.038	1,1 0.044
	S13	SPKT140523TN-ME10 MS2050	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	H5	SPKT140523TN-MD16 MH1051	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	H8	SPKT140523TN-MD16 MH1051	1,4 0.055	0,60 0.024	0,60 0.024	0,70 0.028
Chamfer milling cutters	H11	SPKT140523TN-MD16 MP1501	1,4 0.055	0,80 0.032	0,80 0.032	0,95 0.038
	H12	SPKT140523TN-MD16 MP1501	1,4 0.055	0,60 0.024	0,60 0.024	0,70 0.028

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

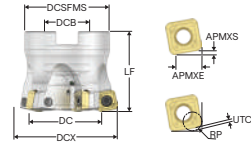
R220.21-SP14 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			Square shoulder and slot milling cutters
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	260	305	370	245	280	360	245	280	345	230	255	305	235	285	400	280	325	395	
	—	—	—	850	1000	1225	800	920	1175	800	920	1125	750	840	1000	770	940	1300	920	1075	1300	
P2	—	—	—	255	295	350	235	275	335	240	275	325	225	245	290	225	275	370	270	315	375	
	—	—	—	840	970	1150	770	900	1100	790	900	1075	740	800	950	740	900	1225	890	1025	1225	
P3	—	—	—	225	260	310	215	245	300	215	245	290	200	220	255	210	255	335	240	280	330	
	—	—	—	740	850	1025	710	800	980	710	800	950	660	720	840	690	840	1100	790	920	1075	
P4	—	—	—	195	230	270	190	220	265	185	215	255	180	205	240	185	225	295	210	245	290	
	—	—	—	640	750	890	620	720	870	610	710	840	590	670	790	610	740	970	690	800	950	
P5	315	365	470	190	220	265	180	210	260	180	205	250	165	185	220	180	215	295	200	235	285	
	1025	1200	1550	620	720	870	590	690	850	590	670	820	540	610	720	590	710	970	660	770	940	
P6	355	410	530	210	245	300	200	235	295	200	230	280	190	210	250	200	240	330	225	265	320	
	1175	1350	1750	690	800	980	660	770	970	660	750	920	620	690	820	660	790	1075	740	870	1050	
P7	335	390	495	200	235	280	190	220	275	190	220	265	175	195	235	190	230	315	215	250	300	
	1100	1275	1625	660	770	920	620	720	900	620	720	870	570	640	770	620	750	1025	710	820	980	
P8	315	365	450	190	220	260	180	210	250	180	205	240	165	185	215	180	215	280	200	235	275	
	1025	1200	1475	620	720	850	590	690	820	590	670	790	540	610	710	590	710	920	660	770	900	
P11	325	375	485	195	225	275	185	215	270	185	210	255	170	190	225	170	220	325	205	240	290	
	1075	1225	1600	640	740	900	610	710	890	610	690	840	560	620	740	560	720	1075	670	790	950	
P12	240	275	350	130	150	180	135	150	185	125	145	170	120	130	155	140	180	250	135	160	190	
	790	900	1150	425	490	590	445	490	610	410	475	560	395	425	510	460	590	820	445	520	620	
M1	—	—	—	—	—	—	180	215	255	185	215	255	165	195	230	185	240	340	195	225	270	
	—	—	—	—	—	—	590	710	840	610	710	840	540	640	750	610	790	1125	640	740	890	
M2	—	—	—	—	—	—	150	175	215	155	180	215	140	160	195	165	210	310	160	190	225	
	—	—	—	—	—	—	490	570	710	510	590	710	460	520	640	540	690	1025	520	620	740	
M3	—	—	—	—	—	—	120	140	175	125	145	175	110	130	160	155	195	280	130	150	185	
	—	—	—	—	—	—	395	460	570	410	475	570	360	425	520	510	640	920	425	490	610	
M4	—	—	—	—	—	—	95	110	135	95	110	135	85	100	120	125	160	225	100	115	140	
	—	—	—	—	—	—	310	360	445	310	360	445	280	330	395	410	520	740	330	375	460	
M5	—	—	—	—	—	—	80	90	110	80	95	115	70	85	100	105	130	185	85	100	120	
	—	—	—	—	—	—	260	295	360	260	310	375	230	280	330	345	425	610	280	330	395	
K1	415	485	600	275	320	380	195	225	270	—	—	—	165	190	225	—	—	—	—	—	—	
	1350	1600	1975	900	1050	1250	640	740	890	—	—	—	540	620	740	—	—	—	—	—	—	
K2	380	445	570	245	285	345	170	200	240	—	—	—	145	170	205	—	—	—	—	—	—	
	1250	1450	1875	800	940	1125	560	660	790	—	—	—	475	560	670	—	—	—	—	—	—	
K3	320	375	480	205	240	290	145	170	205	—	—	—	125	145	175	—	—	—	—	—	—	
	1050	1225	1575	670	790	950	475	560	670	—	—	—	410	475	570	—	—	—	—	—	—	
K4	310	360	460	195	230	275	140	160	195	—	—	—	115	135	165	—	—	—	—	—	—	
	1025	1175	1500	640	750	900	460	520	640	—	—	—	375	445	540	—	—	—	—	—	—	
K5	195	225	285	120	140	170	85	100	120	—	—	—	70	85	100	—	—	—	—	—	—	
	640	740	940	395	460	560	280	330	395	—	—	—	230	280	330	—	—	—	—	—	—	
K6	270	315	405	175	200	245	120	145	170	—	—	—	105	120	145	—	—	—	—	—	—	
	890	1025	1325	570	660	800	395	475	560	—	—	—	345	395	475	—	—	—	—	—	—	
K7	250	290	365	155	180	215	110	125	150	—	—	—	90	105	130	—	—	—	—	—	—	
	820	950	1200	510	590	710	360	410	490	—	—	—	295	345	425	—	—	—	—	—	—	
S1	—	—	—	—	—	—	44	50	60	45	50	65	40	47	55	49	55	70	49	55	70	
	—	—	—	—	—	—	145	165	195	150	165	215	130	155	180	160	180	230	160	180	230	
S2	—	—	—	—	—	—	36	41	50	36	42	50	33	38	46	39	45	55	40	46	55	
	—	—	—	—	—	—	120	135	165	120	140	165	110	125	150	130	150	180	130	150	180	
S3	—	—	—	—	—	—	31	37	45	32	38	45	29	34	41	34	41	49	35	41	50	
	—	—	—	—	—	—	100	120	150	105	125	150	95	110	135	110	135	160	115	135	165	
S11	—	—	—	—	—	—	60	70	90	65	75	90	55	65	80	70	80	95	70	80	100	
	—	—	—	—	—	—	195	230	295	215	245	295	180	215	260	230	260	310	230	260	330	
S12	—	—	—	—	—	—	43	50	60	44	50	60	39	45	55	47	55	65	48	55	70	
	—	—	—	—	—	—	140	165	195	145	165	195	130	150	180	155	180	215	155	180	230	
S13	—	—	—	—	—	—	25	29	35	25	29	36	23	26	32	27	32	39	28	32	39	
	—	—	—	—	—	—	80	95	115	80	95	120	75	85	105	90	105	130	90	105	130	
H5	125	140	180	—	—	—	38	44	55	—	—	—	35	40	48	—	—	—	—	—	—	
	410	460	590	—	—	—	125	145	180	—	—	—	115	130	155	—	—	—	—	—	—	
H8	145	165	200	—	—	—	41	48	55	—	—	—	37	43	50	—	—	—	—	—	—	
	475	540	660	—	—	—	135	155	180	—	—	—	120	140	165	—	—	—	—	—	—	
H11	160	180	225	—	—	—	49	55	70	—	—	—	44	50	60	95	115	165	50	60	75	
	520	590	740	—	—	—	160	180	230	—	—	—	145	165	195	310	375	540	165	195	245	
H12	165	190	230	85	95	115	80	90	110	—	—	—	65	80	95	100	125	165	90	100	120	
	540	620	750	280	310	375	260	295	360	—	—	—	215	260	310	330	410	540	295	330	395	

R220.21-SP14 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	375 1225	420 1375	500 1650	385 1275	430 1400	510 1675	365 1200	415 1350	495 1625	345 1125	385 1275	460 1500	210 690	240 790	300 980
	P2	365 1200	410 1350	475 1550	375 1225	420 1375	485 1600	355 1175	400 1300	470 1550	335 1100	375 1225	440 1450	205 670	235 770	285 940
Helical milling cutters	P3	325 1075	365 1200	415 1350	330 1075	370 1225	430 1400	315 1025	360 1175	415 1350	300 980	335 1100	385 1275	185 610	210 690	250 820
	P4	285 940	320 1050	370 1225	290 950	325 1075	380 1250	280 920	315 1025	365 1200	260 850	295 970	340 1125	175 570	200 660	240 790
	P5	270 890	305 1000	360 1175	280 920	315 1025	370 1225	265 870	300 980	360 1175	250 820	280 920	335 1100	155 510	175 570	215 710
	P6	305 1000	340 1125	405 1325	315 1025	350 1150	415 1350	300 980	340 1125	400 1300	280 920	315 1025	375 1225	175 570	200 660	245 800
	P7	290 950	325 1075	380 1250	295 970	330 1075	390 1275	280 920	320 1050	380 1250	265 870	295 970	355 1175	165 540	190 620	230 750
Face milling cutters	P8	270 890	305 1000	350 1150	280 920	315 1025	360 1175	265 870	300 980	350 1150	250 820	280 920	325 1075	155 510	175 570	210 690
	P11	280 920	315 1025	370 1225	285 940	320 1050	380 1250	275 900	310 1025	370 1225	260 850	290 950	345 1125	160 520	185 610	225 740
	P12	185 610	210 690	245 800	195 640	215 710	250 820	185 610	205 670	245 800	175 570	195 640	230 750	110 360	125 410	150 490
	M1	— —	— —	— —	195 640	230 750	270 890	215 710	250 820	295 970	185 610	215 710	255 840	145 475	165 540	200 660
Disc milling cutters	M2	— —	— —	— —	165 540	190 620	230 750	175 570	205 670	250 820	155 510	180 590	215 710	120 395	140 460	165 540
	M3	— —	— —	— —	130 425	155 510	185 610	145 475	165 540	200 660	125 410	145 475	175 570	95 310	110 360	135 445
	M4	— —	— —	— —	100 330	120 395	145 475	110 360	130 425	155 510	95 310	110 360	135 445	75 245	85 280	105 345
	M5	— —	— —	— —	85 280	100 330	120 395	90 295	105 345	130 425	80 260	95 310	115 375	60 195	70 230	90 295
	K1	365 1200	410 1350	480 1575	375 1225	420 1375	490 1600	235 770	275 900	325 1075	335 1100	380 1250	440 1450	— —	— —	— —
High feed milling cutters	K2	330 1075	370 1225	435 1425	335 1100	380 1250	450 1475	210 690	245 800	295 970	305 1000	340 1125	405 1325	— —	— —	— —
	K3	280 920	310 1025	370 1225	285 940	320 1050	380 1250	175 570	205 670	250 820	255 840	285 940	340 1125	— —	— —	— —
	K4	265 870	300 980	350 1150	270 890	305 1000	360 1175	170 560	195 640	240 790	245 800	275 900	325 1075	— —	— —	— —
Copy milling cutters	K5	165 540	185 610	215 710	170 560	190 620	220 720	105 345	120 395	145 475	150 490	170 560	200 660	— —	— —	— —
	K6	235 770	260 850	310 1025	240 790	270 890	320 1050	150 490	175 570	210 690	215 710	240 790	285 940	— —	— —	— —
	K7	210 690	235 770	275 900	215 710	240 790	285 940	130 425	155 510	185 610	195 640	215 710	255 840	— —	— —	— —
	S1	— —	— —	— —	— —	— —	— —	55 180	65 215	75 245	45 150	50 165	65 215	23 75	26 85	32 105
	S2	— —	— —	— —	— —	— —	— —	44 145	50 165	60 195	36 120	42 140	50 165	18 60	21 70	26 85
Plunge milling cutters	S3	— —	— —	— —	— —	— —	— —	38 125	45 150	55 180	32 105	38 125	45 150	16 50	19 60	23 75
	S11	— —	— —	— —	— —	— —	— —	75 245	90 295	105 345	65 215	75 245	90 295	32 105	37 120	45 150
	S12	— —	— —	— —	— —	— —	— —	50 165	60 195	75 245	44 145	50 165	60 195	29 95	34 110	42 140
	S13	— —	— —	— —	— —	— —	— —	30 100	35 115	43 140	25 80	29 95	36 120	17 55	20 65	24 80
Chamfer milling cutters	H5	49 160	55 180	70 230	— —	— —	— —	45 150	50 165	65 215	40 130	47 155	55 180	— —	— —	— —
	H8	55 180	60 195	75 245	— —	— —	— —	49 160	55 180	65 215	44 145	50 165	60 195	— —	— —	— —
	H11	60 195	70 230	85 280	— —	— —	— —	55 180	65 215	80 260	50 165	60 195	70 230	— —	— —	— —
Spot facing cutters	H12	95 310	110 360	130 425	— —	— —	— —	95 310	110 360	135 445	80 260	90 295	110 360	— —	— —	— —

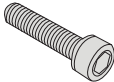
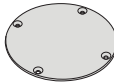
R220.21-SP18 – Metric



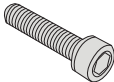
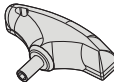
- For insert selection and cutting data recommendations, see page(s) 586–588
- For complete insert programme, see page(s) 908
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R220.21-0063-SP18.5A	10097579	Arbor	33,7	63,0	5	2,5	14,0	22,0	49,0	22,0	50,0	5,41	1,9	2,4	5800	0,6	SPKT180630
R220.21-0066-SP18.5A	10097580	Arbor	36,7	66,0	5	2,5	14,0	27,0	61,0	27,0	55,0	5,4	1,9	3,4	5700	0,8	SPKT180630
R220.21-0080-SP18.5A	10097581	Arbor	50,7	80,0	5	2,5	14,0	27,0	61,0	27,0	50,0	5,4	1,9	2,4	5100	1,0	SPKT180630
R220.21-0080-SP18.6A	10097582	Arbor	50,7	80,0	6	2,5	14,0	27,0	61,0	27,0	50,0	5,4	1,9	2,4	5100	1,0	SPKT180630
R220.21-0100-SP18.7A	10097583	Arbor	70,7	100,0	7	2,5	14,0	32,0	79,0	32,0	50,0	5,39	1,9	1,7	4500	1,6	SPKT180630
R220.21-0125-SP18.8A	10097584	Arbor	95,6	125,0	8	2,5	14,0	40,0	90,0	40,0	63,0	5,39	1,9	1,2	4000	3,1	SPKT180630
R220.21-8160-SP18.10A	10097585	Arbor	130,6	160,0	10	2,5	14,0	40,0	90,0	40,0	63,0	5,39	1,9	0,9	3600	3,9	SPKT180630

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.21-0063	MLC6S10X45	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0066	MLC6S12X50	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0080	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0100	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.21-0125	MC6S20X50	1/4HEX-T20PX90	C05013-T20P	–	–
R220.21-8160	–	1/4HEX-T20PX90	C05013-T20P	SC160-53	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

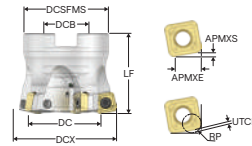
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

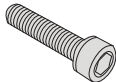
R220.21-SP18 – inch



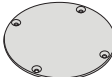
—For insert selection and cutting data recommendations, see page(s) 586–588
 —For complete insert programme, see page(s) 908
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.50-SP18.5A	10097586	Arbor	1.346	2.500	5	0.098	0.551	0.750	1.789	0.750	2.000	0.213	0.075	3,7	5800	1.320	SPKT180630
R220.21-03.00-SP18.5A	10128670	Arbor	1.846	3.000	5	0.098	0.551	1.000	2.289	1.000	2.000	0.213	0.075	2,6	5100	1.760	SPKT180630
R220.21-03.00-SP18.6A	10097587	Arbor	1.846	3.000	6	0.098	0.551	1.000	2.289	1.000	2.000	0.213	0.075	2,6	5100	1.980	SPKT180630
R220.21-04.00-SP18.7A	10097588	Arbor	2.846	4.000	7	0.098	0.551	1.500	3.539	1.500	2.000	0.212	0.075	1,7	4500	3.750	SPKT180630
R220.21-05.00-SP18.8A	10097589	Arbor	3.843	5.000	8	0.098	0.551	1.500	3.539	1.500	2.500	0.212	0.075	1,2	4000	6.610	SPKT180630
R220.21-06.00-SP18.10A	10097590	Arbor	4.843	6.000	10	0.098	0.551	2.000	4.909	2.000	2.500	0.212	0.075	1,0	3700	8.600	SPKT180630

Spare Parts, included in delivery

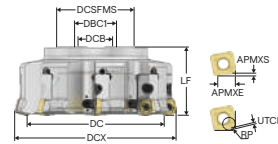
For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX90	C05013-T20P
R220.21-05.00	UC6S3/4UNFX2	1/4HEX-T20PX90	C05013-T20P
R220.21-06.00	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Lid	Lid Screw	Torque key
						
R220.21-02.50-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	–	–	T00-20P50
R220.21-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	SC-160-90	MF6S4X10	T00-20P50

Torque and fixed keys, see page 944

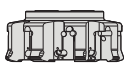
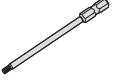
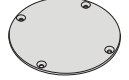
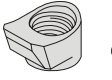
R220.21-SP18CA – Metric



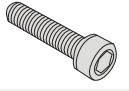
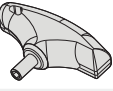
- For insert selection and cutting data recommendations, see page(s) 589–594
- For complete insert programme, see page(s) 908
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R220.21-0153-SP18HF-6CA	10135928	Arbor	123,8	153,0	6	2,9	14,0	40,0	90,0	40,0	80,0	5,79	2,1	0,8	3700	6,1	SPKT180630
R220.21-0153-SP18MF-6CA	10135931	Arbor	124,5	153,0	6	4,1	14,0	40,0	90,0	40,0	80,0	6,99	2,6	0,7	3700	6,1	SPKT180630
R220.21-8188-SP18HF-8CA	10135929	Arbor	158,8	188,0	8	2,9	14,0	40,0	90,0	40,0	80,0	5,79	2,1	0,6	3300	8,2	SPKT180630
R220.21-8188-SP18MF-8CA	10135932	Arbor	159,5	188,0	8	4,1	14,0	40,0	90,0	40,0	80,0	6,99	2,6	0,5	3300	8,2	SPKT180630
R220.21-8228-SP18HF-10CA	10135930	Arbor	198,7	228,0	10	2,9	14,0	60,0	130,0	60,0	80,0	5,79	2,1	0,5	3000	11,3	SPKT180630
R220.21-8228-SP18MF-10CA	10135933	Arbor	199,5	228,0	10	4,1	14,0	60,0	130,0	60,0	80,0	6,99	2,6	0,4	3000	12,2	SPKT180630

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Basic body	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
											
R220.21-0153HF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-8CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-0153MF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-8188HF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8188MF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228HF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228MF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Setting key	Wedge key
					
R220.21-0153	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50
R220.21-8188	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50
R220.21-8228	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R220.21-SP18 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	SPKT180630TN-ME10 MP3501	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
	P2	SPKT180630TN-ME10 MP3501	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
Helical milling cutters	P3	SPKT180630TN-ME10 MP2501	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
	P4	SPKT180630TN-M14 MP2501	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	P5	SPKT180630TN-M14 MP2501	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	P6	SPKT180630TN-M14 MP2501	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	P7	SPKT180630TN-M14 MP2501	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	P8	SPKT180630TN-M14 MP2501	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
	P11	SPKT180630TN-ME10 MP3501	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
Face milling cutters	P12	SPKT180630TN-M14 MP2501	2,0 0.075	0,75 0.030	0,75 0.030	0,85 0.034
	M1	SPKT180630TN-ME10 MS2050	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
Disc milling cutters	M2	SPKT180630TN-ME10 MS2050	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	M3	SPKT180630TN-ME10 MS2050	2,0 0.075	0,90 0.036	0,90 0.036	1,0 0.040
	M4	SPKT180630TN-ME10 MP3501	2,0 0.075	0,80 0.032	0,80 0.032	0,90 0.036
	M5	SPKT180630TN-ME10 MP3501	2,0 0.075	0,80 0.032	0,80 0.032	0,90 0.036
	K1	SPKT180630TN-MD16 MK2050	2,5 0.10	1,2 0.048	1,2 0.048	1,4 0.055
High feed milling cutters	K2	SPKT180630TN-MD16 MK2050	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	K3	SPKT180630TN-MD16 MK2050	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	K4	SPKT180630TN-MD16 MK2050	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	K5	SPKT180630TN-MD16 MK2050	2,5 0.10	1,0 0.040	1,0 0.040	1,2 0.048
	K6	SPKT180630TN-MD16 MK2050	2,5 0.10	1,1 0.044	1,1 0.044	1,3 0.050
	K7	SPKT180630TN-MD16 MK2050	2,5 0.10	1,0 0.040	1,0 0.040	1,2 0.048
	S1	SPKT180630TN-ME10 MP3501	2,0 0.075	0,80 0.032	0,80 0.032	0,90 0.036
Copy milling cutters	S2	SPKT180630TN-ME10 MP3501	2,0 0.075	0,80 0.032	0,80 0.032	0,90 0.036
	S3	SPKT180630TN-ME10 MP3501	2,0 0.075	0,70 0.028	0,70 0.028	0,85 0.034
	S11	SPKT180630TN-ME10 MS2050	2,0 0.075	0,90 0.036	0,90 0.036	1,0 0.040
Plunge milling cutters	S12	SPKT180630TN-ME10 MS2050	2,0 0.075	0,90 0.036	0,90 0.036	1,0 0.040
	S13	SPKT180630TN-ME10 MS2050	2,0 0.075	0,80 0.032	0,80 0.032	0,90 0.036
	H5	SPKT180630TN-MD16 MH1051	2,0 0.075	0,75 0.030	0,75 0.030	0,85 0.034
	H8	SPKT180630TN-MD16 MH1051	2,0 0.075	0,60 0.024	0,60 0.024	0,65 0.026
Chamfer milling cutters	H11	SPKT180630TN-MD16 MP1501	2,0 0.075	0,75 0.030	0,75 0.030	0,85 0.034
	H12	SPKT180630TN-MD16 MP1501	2,0 0.075	0,60 0.024	0,60 0.024	0,65 0.026

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R220.21-SP18 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	250	285	345	230	260	330	230	255	315	215	235	280	220	255	360	Square shoulder and slot milling cutters
	—	—	—	820	940	1125	750	850	1075	750	840	1025	710	770	920	720	840	1175	
P2	—	—	—	240	275	335	225	255	320	220	250	305	210	230	275	215	250	350	Helical milling cutters
	—	—	—	790	900	1100	740	840	1050	720	820	1000	690	750	900	710	820	1150	
P3	—	—	—	215	245	295	205	230	285	200	225	270	190	205	245	200	235	320	Face milling cutters
	—	—	—	710	800	970	670	750	940	660	740	890	620	670	800	660	770	1050	
P4	—	—	—	190	215	260	180	200	255	175	195	240	175	190	230	175	205	280	Face milling cutters
	—	—	—	620	710	850	590	660	840	570	640	790	570	620	750	570	670	920	
P5	300	340	430	180	205	245	170	195	240	165	190	225	160	170	205	170	195	270	Face milling cutters
	980	1125	1400	590	670	800	560	640	790	540	620	740	520	560	670	560	640	890	
P6	335	380	485	200	230	280	190	215	270	190	210	255	180	195	230	190	220	300	Face milling cutters
	1100	1250	1600	660	750	920	620	710	890	620	690	840	590	640	750	620	720	980	
P7	320	360	455	190	220	260	180	205	255	175	200	240	170	185	215	180	210	285	Face milling cutters
	1050	1175	1500	620	720	850	590	670	840	570	660	790	560	610	710	590	690	940	
P8	300	340	430	180	205	245	170	195	240	165	190	225	160	170	205	170	195	270	Face milling cutters
	980	1125	1400	590	670	800	560	640	790	540	620	740	520	560	670	560	640	890	
P11	310	350	445	185	210	255	175	200	250	170	195	235	165	175	210	160	200	295	Face milling cutters
	1025	1150	1450	610	690	840	570	660	820	560	640	770	540	570	690	520	660	970	
P12	230	255	330	120	140	170	125	140	180	120	130	160	115	120	145	135	160	235	Face milling cutters
	750	840	1075	395	460	560	410	460	590	395	425	520	375	395	475	445	520	770	
M1	—	—	—	—	—	—	175	200	240	175	200	240	155	180	215	175	215	320	Disc milling cutters
	—	—	—	—	—	—	570	660	790	570	660	790	510	590	710	570	710	1050	
M2	—	—	—	—	—	—	145	165	200	145	165	200	130	150	180	155	190	280	Disc milling cutters
	—	—	—	—	—	—	475	540	660	475	540	660	425	490	590	510	620	920	
M3	—	—	—	—	—	—	115	130	165	115	130	165	105	120	150	140	170	260	Disc milling cutters
	—	—	—	—	—	—	375	425	540	375	425	540	345	395	490	460	560	850	
M4	—	—	—	—	—	—	90	105	125	90	105	125	85	95	115	120	150	210	Disc milling cutters
	—	—	—	—	—	—	295	345	410	295	345	410	280	310	375	395	490	690	
M5	—	—	—	—	—	—	75	85	105	75	85	105	70	80	95	100	125	175	Disc milling cutters
	—	—	—	—	—	—	245	280	345	245	280	345	230	260	310	330	410	570	
K1	395	445	580	260	300	360	185	210	255	—	—	—	155	175	215	—	—	—	High feed milling cutters
	1300	1450	1900	850	980	1175	610	690	840	—	—	—	510	570	710	—	—	—	
K2	365	410	520	230	265	320	165	190	225	—	—	—	140	160	190	—	—	—	High feed milling cutters
	1200	1350	1700	750	870	1050	540	620	740	—	—	—	460	520	620	—	—	—	
K3	305	345	440	195	225	270	140	160	190	—	—	—	115	135	160	—	—	—	High feed milling cutters
	1000	1125	1450	640	740	890	460	520	620	—	—	—	375	445	520	—	—	—	
K4	295	330	420	190	215	260	135	150	180	—	—	—	110	130	155	—	—	—	Copy milling cutters
	970	1075	1375	620	710	850	445	490	590	—	—	—	360	425	510	—	—	—	
K5	185	210	275	115	130	160	80	95	115	—	—	—	70	80	95	—	—	—	Copy milling cutters
	610	690	900	375	425	520	260	310	375	—	—	—	230	260	310	—	—	—	
K6	260	290	370	165	190	230	115	135	160	—	—	—	100	110	135	—	—	—	Copy milling cutters
	850	950	1225	540	620	750	375	445	520	—	—	—	330	360	445	—	—	—	
K7	240	270	355	150	170	205	105	120	145	—	—	—	85	100	125	—	—	—	Copy milling cutters
	790	890	1175	490	560	670	345	395	475	—	—	—	280	330	410	—	—	—	
S1	—	—	—	—	—	—	43	49	60	43	49	60	39	44	55	47	55	65	Plunge milling cutters
	—	—	—	—	—	—	140	160	195	140	160	195	130	145	180	155	180	215	
S2	—	—	—	—	—	—	35	39	48	34	39	48	31	36	43	38	43	50	Plunge milling cutters
	—	—	—	—	—	—	115	130	155	110	130	155	100	120	140	125	140	165	
S3	—	—	—	—	—	—	30	35	42	30	34	42	28	31	38	33	38	46	Plunge milling cutters
	—	—	—	—	—	—	100	115	140	100	110	140	90	100	125	110	125	150	
S11	—	—	—	—	—	—	60	65	85	60	65	85	55	60	75	65	75	90	Plunge milling cutters
	—	—	—	—	—	—	195	215	280	195	215	280	180	195	245	215	245	295	
S12	—	—	—	—	—	—	41	46	55	40	46	55	37	42	50	44	50	65	Chamfer milling cutters
	—	—	—	—	—	—	135	150	180	130	150	180	120	140	165	145	165	215	
S13	—	—	—	—	—	—	24	27	33	24	27	33	22	25	30	26	30	36	Chamfer milling cutters
	—	—	—	—	—	—	80	90	110	80	90	110	70	80	100	85	100	120	
H5	115	130	170	—	—	—	36	41	50	—	—	—	33	37	46	—	—	—	Chamfer milling cutters
	375	425	560	—	—	—	120	135	165	—	—	—	110	120	150	—	—	—	
H8	135	155	190	—	—	—	40	45	55	—	—	—	36	41	49	—	—	—	Spot facing cutters
	445	510	620	—	—	—	130	150	180	—	—	—	120	135	160	—	—	—	
H11	150	165	215	—	—	—	46	55	65	—	—	—	42	47	60	85	105	155	Spot facing cutters
	490	540	710	—	—	—	150	180	215	—	—	—	140	155	195	280	345	510	
H12	160	180	220	80	90	110	75	85	105	—	—	—	65	75	90	95	115	160	Spot facing cutters
	520	590	720	260	295	360	245	280	345	—	—	—	215	245	295	310	375	520	

R220.21-SP18 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2050			MP1501			MP2501			MS2500			MP3501		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	260 850	295 970	360 1175	355 1175	390 1275	465 1525	360 1175	400 1300	475 1550	345 1125	385 1275	460 1500	325 1075	360 1175	430 1400
	P2	255 840	290 950	350 1150	345 1125	380 1250	450 1475	350 1150	385 1275	460 1500	335 1100	375 1225	445 1450	315 1025	350 1150	415 1350
Helical milling cutters	P3	225 740	255 840	310 1025	310 1025	340 1125	400 1300	315 1025	345 1125	410 1350	300 980	335 1100	395 1300	285 940	310 1025	370 1225
	P4	195 640	225 740	270 890	270 890	300 980	350 1150	275 900	305 1000	360 1175	265 870	295 970	345 1125	250 820	275 900	325 1075
	P5	190 620	215 710	260 850	260 850	285 940	335 1100	265 870	290 950	345 1125	255 840	280 920	330 1075	240 790	260 850	310 1025
	P6	210 690	240 790	290 950	290 950	320 1050	375 1225	295 970	325 1075	385 1275	285 940	315 1025	370 1225	270 890	295 970	350 1150
	P7	200 660	230 750	275 900	275 900	305 1000	355 1175	280 920	310 1025	365 1200	270 890	295 970	350 1150	255 840	280 920	330 1075
Face milling cutters	P8	190 620	215 710	260 850	260 850	285 940	335 1100	265 870	290 950	345 1125	255 840	280 920	330 1075	240 790	260 850	310 1025
	P11	195 640	220 720	265 870	265 870	295 970	345 1125	270 890	300 980	355 1175	260 850	290 950	340 1125	245 800	270 890	320 1050
	P12	125 410	145 475	180 590	180 590	195 640	230 750	185 610	200 660	240 790	175 570	190 620	230 750	165 540	180 590	220 720
	M1	180 590	205 670	250 820	—	—	—	185 610	210 690	255 840	200 660	230 750	280 920	175 570	200 660	245 800
Disc milling cutters	M2	150 490	170 560	205 670	—	—	—	155 510	175 570	210 690	165 540	190 620	230 750	145 475	170 560	200 660
	M3	120 395	135 445	170 560	—	—	—	125 410	140 460	175 570	135 445	155 510	190 620	120 395	135 445	165 540
	M4	95 310	110 360	130 425	—	—	—	100 330	110 360	135 445	105 345	120 395	145 475	95 310	105 345	130 425
	M5	80 260	90 295	110 360	—	—	—	80 260	95 310	115 375	90 295	100 330	125 410	80 260	90 295	105 345
	K1	—	—	—	350 1150	385 1275	455 1500	355 1175	390 1275	465 1525	225 740	255 840	310 1025	320 1050	350 1150	420 1375
High feed milling cutters	K2	—	—	—	315 1025	345 1125	405 1325	320 1050	350 1150	415 1350	200 660	225 740	275 900	290 950	315 1025	375 1225
	K3	—	—	—	265 870	290 950	345 1125	270 890	295 970	350 1150	170 560	190 620	230 750	245 800	270 890	320 1050
	K4	—	—	—	255 840	280 920	330 1075	260 850	285 940	335 1100	160 520	185 610	220 720	235 770	255 840	305 1000
	K5	—	—	—	155 510	170 560	205 670	160 520	175 570	210 690	100 330	115 375	140 460	145 475	160 520	195 640
Copy milling cutters	K6	—	—	—	225 740	245 800	290 950	225 740	250 820	295 970	140 460	160 520	195 640	205 670	225 740	270 890
	K7	—	—	—	200 660	220 720	265 870	205 670	225 740	270 890	125 410	145 475	175 570	185 610	205 670	245 800
	S1	47 155	55 180	65 215	—	—	—	—	—	—	50 165	60 195	70 230	44 145	50 165	60 195
	S2	38 125	43 140	50 165	—	—	—	—	—	—	42 140	48 155	60 195	35 115	40 130	48 155
Plunge milling cutters	S3	33 110	38 125	46 150	—	—	—	—	—	—	37 120	42 140	50 165	31 100	35 115	42 140
	S11	65 215	75 245	90 295	—	—	—	—	—	—	70 230	80 260	100 330	60 195	70 230	85 280
	S12	44 145	50 165	65 215	—	—	—	—	—	—	49 160	55 180	70 230	41 135	47 155	60 195
	S13	26 85	30 100	36 120	—	—	—	—	—	—	29 95	33 110	40 130	25 80	28 90	34 110
Chamfer milling cutters	H5	—	—	—	46 150	55 180	65 215	—	—	—	42 140	48 155	60 195	38 125	44 145	55 180
	H8	—	—	—	50 165	60 195	70 230	—	—	—	46 150	55 180	65 215	42 140	48 155	60 195
	H11	49 160	55 180	70 230	60 195	65 215	85 280	—	—	—	55 180	60 195	75 245	49 160	55 180	70 230
	H12	85 280	95 310	115 375	90 295	105 345	125 410	—	—	—	90 295	105 345	125 410	75 245	85 280	105 345

R220.21-SP18HF-CA – Insert selection – Metric/ Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	SPKT180630TN-ME10 MP3501	3,0 0.11	1,0 0.040	1,0 0.040	1,1 0.044	Square shoulder and slot milling cutters
P2	SPKT180630TN-ME10 MP3501	3,0 0.11	1,0 0.040	1,0 0.040	1,1 0.044	
P3	SPKT180630TN-ME10 MP2501	3,0 0.11	0,95 0.038	0,95 0.038	1,1 0.044	Helical milling cutters
P4	SPKT180630TN-M14 MP2501	3,0 0.11	0,95 0.038	0,95 0.038	1,1 0.044	
P5	SPKT180630TN-M14 MP2501	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	Face milling cutters
P6	SPKT180630TN-M14 MP2501	3,0 0.11	0,90 0.036	0,90 0.036	1,0 0.040	
P7	SPKT180630TN-M14 MP2501	3,0 0.11	0,90 0.036	0,90 0.036	1,0 0.040	Disc milling cutters
P8	SPKT180630TN-M14 MP2501	3,0 0.11	0,95 0.038	0,95 0.038	1,1 0.044	
P11	SPKT180630TN-ME10 MP3501	3,0 0.11	0,90 0.036	0,90 0.036	1,0 0.040	High feed milling cutters
P12	SPKT180630TN-M14 MP2501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
M1	SPKT180630TN-ME10 MS2050	3,0 0.11	1,0 0.040	1,0 0.040	1,1 0.044	Copy milling cutters
M2	SPKT180630TN-ME10 MS2050	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	
M3	SPKT180630TN-ME10 MS2050	2,5 0.090	0,75 0.030	0,75 0.030	0,85 0.034	Plunge milling cutters
M4	SPKT180630TN-ME10 MP3501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
M5	SPKT180630TN-ME10 MP3501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	Chamfer milling cutters
K1	SPKT180630TN-MD16 MK2050	3,0 0.11	1,0 0.040	1,0 0.040	1,1 0.044	
K2	SPKT180630TN-MD16 MK2050	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	Spot facing cutters
K3	SPKT180630TN-MD16 MK2050	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	
K4	SPKT180630TN-MD16 MK2050	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	Inserts
K5	SPKT180630TN-MD16 MK2050	3,0 0.11	0,85 0.034	0,85 0.034	0,95 0.038	
K6	SPKT180630TN-MD16 MK2050	3,0 0.11	0,95 0.038	0,95 0.038	1,0 0.040	
K7	SPKT180630TN-MD16 MK2050	3,0 0.11	0,85 0.034	0,85 0.034	0,95 0.038	
S1	SPKT180630TN-ME10 MP3501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
S2	SPKT180630TN-ME10 MP3501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
S3	SPKT180630TN-ME10 MP3501	2,5 0.090	0,60 0.024	0,60 0.024	0,65 0.026	
S11	SPKT180630TN-ME10 MS2050	2,5 0.090	0,75 0.030	0,75 0.030	0,85 0.034	
S12	SPKT180630TN-ME10 MS2050	2,5 0.090	0,75 0.030	0,75 0.030	0,85 0.034	
S13	SPKT180630TN-ME10 MS2050	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
H5	SPKT180630TN-MD16 MH1051	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
H8	SPKT180630TN-MD16 MH1051	2,5 0.090	0,48 0.019	0,48 0.019	0,55 0.022	
H11	SPKT180630TN-MD16 MP1501	2,5 0.090	0,65 0.026	0,65 0.026	0,70 0.028	
H12	SPKT180630TN-MD16 MP1501	2,5 0.090	0,48 0.019	0,48 0.019	0,55 0.022	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R220.21-SP18HF-CA – Cutting data $v_c = (m/min)/(sf/min)$

R220.21-SP18HF-CA – Cutting data v _c = (m/min)/(sf/min)																			
Square shoulder and slot milling cutters	SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
	P1	—	—	—	230	255	315	215	235	305	215	235	295	200	210	260	210	225	330
		—	—	—	750	840	1025	710	770	1000	710	770	970	660	690	850	690	740	1075
Helical milling cutters	P2	—	—	—	225	250	295	210	225	280	210	230	275	195	205	240	200	220	300
	P3	—	—	—	740	820	970	690	740	920	690	750	900	640	670	790	660	720	980
		—	—	—	195	215	265	180	195	255	180	195	245	170	175	215	175	190	280
	P4	—	—	—	640	710	870	590	640	840	590	640	800	560	570	710	570	620	920
Face milling cutters	P5	—	—	—	175	190	230	165	175	225	165	180	215	160	170	205	160	175	245
		—	—	—	570	620	750	540	570	740	540	590	710	520	560	670	520	570	800
	P6	275	295	380	165	185	220	155	170	215	155	170	205	145	155	180	155	170	235
	P7	900	970	1250	540	610	720	510	560	710	510	560	670	475	510	590	510	560	770
310		335	455	185	205	255	175	190	250	175	190	240	165	170	215	175	190	280	
Disc milling cutters	P8	1025	1100	1500	610	670	840	570	620	820	570	620	790	540	560	710	570	620	920
		290	315	430	175	195	240	165	180	240	165	180	225	155	160	200	165	180	265
	P11	950	1025	1400	570	640	790	540	590	790	540	590	740	510	520	660	540	590	870
	P12	265	285	380	160	180	220	150	165	215	155	165	205	140	150	180	145	160	235
870		940	1250	520	590	720	490	540	710	510	540	670	460	490	590	475	520	770	
High feed milling cutters	K1	285	305	415	170	190	235	160	175	230	160	175	220	150	155	195	150	170	275
		940	1000	1350	560	620	770	520	570	750	520	570	720	490	510	640	490	560	900
	K2	210	230	295	115	125	155	115	125	160	110	120	150	105	110	130	125	140	210
	M1	690	750	970	375	410	510	375	410	520	360	395	490	345	360	425	410	460	690
—		—	—	—	—	—	160	180	215	165	180	215	145	160	195	165	190	275	
Copy milling cutters	M2	—	—	—	—	—	—	520	590	710	540	590	710	475	520	640	540	620	900
		—	—	—	—	—	—	135	145	175	135	150	180	120	135	160	140	160	240
	M3	—	—	—	—	—	—	445	475	570	445	490	590	395	445	520	460	520	790
	M4	—	—	—	—	—	—	110	120	145	110	120	150	100	110	130	135	155	225
—		—	—	—	—	—	360	395	475	360	395	490	330	360	425	445	510	740	
Plunge milling cutters	M5	—	—	—	—	—	—	85	95	115	85	95	115	75	85	105	115	130	185
		—	—	—	—	—	—	280	310	375	280	310	375	245	280	345	375	425	610
	K5	—	—	—	—	—	—	70	80	95	70	80	95	65	70	85	95	110	155
	K6	—	—	—	—	—	—	230	260	310	230	260	310	215	230	280	310	360	510
370		400	500	240	270	320	170	190	225	—	—	—	145	160	190	—	—	—	
Chamfer milling cutters	K7	1225	1300	1650	790	890	1050	560	620	740	—	—	—	475	520	620	—	—	—
		335	360	460	215	235	285	150	165	200	—	—	—	125	140	170	—	—	—
	K8	1100	1175	1500	710	770	940	490	540	660	—	—	—	410	460	560	—	—	—
	K9	280	305	390	180	200	240	130	140	170	—	—	—	105	120	145	—	—	—
920		1000	1275	590	660	790	425	460	560	—	—	—	345	395	475	—	—	—	
Facing cutters	K10	270	290	370	175	190	230	120	135	165	—	—	—	100	115	135	—	—	—
		890	950	1225	570	620	750	395	445	540	—	—	—	330	375	445	—	—	—
	K11	170	185	240	105	120	145	75	85	100	—	—	—	65	70	85	—	—	—
	K12	560	610	790	345	395	475	245	280	330	—	—	—	215	230	280	—	—	—
235		255	330	150	170	205	105	120	145	—	—	—	90	100	120	—	—	—	
Chamfer milling cutters	K13	770	840	1075	490	560	670	345	395	475	—	—	—	295	330	395	—	—	—
		220	240	310	135	150	185	95	105	130	—	—	—	80	90	110	—	—	—
	K14	720	790	1025	445	490	610	310	345	425	—	—	—	260	295	360	—	—	—
	S1	—	—	—	—	—	—	40	44	55	40	45	55	36	40	48	43	48	60
—		—	—	—	—	—	130	145	180	130	150	180	120	130	155	140	155	195	
Plunge milling cutters	S2	—	—	—	—	—	—	32	35	43	33	36	43	29	32	39	35	39	47
		—	—	—	—	—	—	105	115	140	110	120	140	95	105	130	115	130	155
	S3	—	—	—	—	—	—	28	31	38	29	32	38	26	28	34	31	34	41
	S4	—	—	—	—	—	—	90	100	125	95	105	125	85	90	110	100	110	135
—		—	—	—	—	—	55	60	75	55	60	75	50	55	65	60	65	80	
Chamfer milling cutters	S5	—	—	—	—	—	—	180	195	245	180	195	245	165	180	215	195	215	260
		—	—	—	—	—	—	38	42	50	39	43	50	34	38	46	42	46	55
	S6	—	—	—	—	—	—	125	140	165	130	140	165	110	125	150	140	150	180
	S7	—	—	—	—	—	—	22	25	30	23	25	30	20	22	27	24	27	33
—		—	—	—	—	—	70	80	100	75	80	100	65	70	90	80	90	110	
Facing cutters	H5	110	115	150	—	—	—	34	37	46	—	—	—	30	33	41	—	—	—
		360	375	490	—	—	—	110	120	150	—	—	—	100	110	135	—	—	—
	H8	125	135	170	—	—	—	36	40	49	—	—	—	33	36	44	—	—	—
	H9	410	445	560	—	—	—	120	130	160	—	—	—	110	120	145	—	—	—
140		150	195	—	—	—	43	47	60	—	—	—	38	43	50	80	90	135	
Facing cutters	H10	460	490	640	—	—	—	140	155	195	—	—	—	125	140	165	260	295	445
		145	155	195	70	80	100	70	75	95	—	—	—	60	65	80	85	100	140
	H11	475	510	640	230	260	330	230	245	310	—	—	—	195	215	260	280	330	460

R220.21-SP18HF-CA – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP2050			MP1501			MP2501			MS2500			MP3501			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	240	265	330	330	355	425	335	360	435	320	345	420	305	325	395	Square shoulder and slot milling cutters
	790	870	1075	1075	1175	1400	1100	1175	1425	1050	1125	1375	1000	1075	1300	
P2	235	260	310	325	345	400	330	350	410	315	335	395	295	315	370	Helical milling cutters
	770	850	1025	1075	1125	1300	1075	1150	1350	1025	1100	1300	970	1025	1225	
P3	200	225	275	280	295	360	280	300	365	270	290	355	255	270	330	Helical milling cutters
	660	740	900	920	970	1175	920	980	1200	890	950	1175	840	890	1075	
P4	180	200	240	250	265	315	255	270	320	245	260	310	230	245	290	Helical milling cutters
	590	660	790	820	870	1025	840	890	1050	800	850	1025	750	800	950	
P5	175	190	230	240	255	300	245	260	305	230	250	295	220	235	280	Helical milling cutters
	570	620	750	790	840	980	800	850	1000	750	820	970	720	770	920	
P6	195	215	270	265	285	350	270	290	355	260	280	345	245	260	325	Face milling cutters
	640	710	890	870	940	1150	890	950	1175	850	920	1125	800	850	1075	
P7	185	205	255	250	270	330	255	275	335	245	265	325	230	245	305	Face milling cutters
	610	670	840	820	890	1075	840	900	1100	800	870	1075	750	800	1000	
P8	170	190	230	235	250	300	235	255	305	225	245	295	215	225	280	Face milling cutters
	560	620	750	770	820	980	770	840	1000	740	800	970	710	740	920	
P11	180	195	245	245	260	320	250	265	325	240	255	315	225	240	295	Face milling cutters
	590	640	800	800	850	1050	820	870	1075	790	840	1025	740	790	970	
P12	120	130	160	165	175	210	170	180	215	160	175	210	155	165	195	Face milling cutters
	395	425	520	540	570	690	560	590	710	520	570	690	510	540	640	
M1	170	185	225	—	—	—	175	190	230	185	205	245	165	180	215	Disc milling cutters
	560	610	740	—	—	—	570	620	750	610	670	800	540	590	710	
M2	140	155	185	—	—	—	140	155	190	155	170	205	135	150	180	Disc milling cutters
	460	510	610	—	—	—	460	510	620	510	560	670	445	490	590	
M3	115	125	150	—	—	—	115	130	155	125	140	170	110	120	150	Disc milling cutters
	375	410	490	—	—	—	375	425	510	410	460	560	360	395	490	
M4	90	100	120	—	—	—	90	100	120	100	110	130	85	95	115	High feed milling cutters
	295	330	395	—	—	—	295	330	395	330	360	425	280	310	375	
M5	75	80	100	—	—	—	75	85	100	80	90	110	70	80	95	High feed milling cutters
	245	260	330	—	—	—	245	280	330	260	295	360	230	260	310	
K1	—	—	—	325	345	405	330	350	415	205	230	275	300	315	375	High feed milling cutters
	—	—	—	1075	1125	1325	1075	1150	1350	670	750	900	980	1025	1225	
K2	—	—	—	290	305	365	295	310	370	180	200	245	265	280	335	High feed milling cutters
	—	—	—	950	1000	1200	970	1025	1225	590	660	800	870	920	1100	
K3	—	—	—	245	260	310	250	265	315	155	170	205	225	240	285	High feed milling cutters
	—	—	—	800	850	1025	820	870	1025	510	560	670	740	790	940	
K4	—	—	—	235	250	295	235	250	300	145	165	195	215	230	270	Copy milling cutters
	—	—	—	770	820	970	770	820	980	475	540	640	710	750	890	
K5	—	—	—	145	155	185	150	155	190	90	100	125	135	140	170	Copy milling cutters
	—	—	—	475	510	610	490	510	620	295	330	410	445	460	560	
K6	—	—	—	205	220	260	210	220	265	130	145	175	190	200	240	Copy milling cutters
	—	—	—	670	720	850	690	720	870	425	475	570	620	660	790	
K7	—	—	—	185	200	235	190	200	240	115	130	155	170	180	220	Copy milling cutters
	—	—	—	610	660	770	620	660	790	375	425	510	560	590	720	
S1	43	48	60	—	—	—	—	—	—	48	55	65	40	45	55	Plunge milling cutters
	140	155	195	—	—	—	—	—	—	155	180	215	130	150	180	
S2	35	39	47	—	—	—	—	—	—	39	43	50	33	36	43	Plunge milling cutters
	115	130	155	—	—	—	—	—	—	130	140	165	110	120	140	
S3	31	34	41	—	—	—	—	—	—	34	38	45	29	32	38	Plunge milling cutters
	100	110	135	—	—	—	—	—	—	110	125	150	95	105	125	
S11	60	65	80	—	—	—	—	—	—	65	75	90	55	60	75	Plunge milling cutters
	195	215	260	—	—	—	—	—	—	215	245	295	180	195	245	
S12	42	46	55	—	—	—	—	—	—	46	50	60	39	43	50	Chamfer milling cutters
	140	150	180	—	—	—	—	—	—	150	165	195	130	140	165	
S13	24	27	33	—	—	—	—	—	—	27	30	36	23	25	30	Chamfer milling cutters
	80	90	110	—	—	—	—	—	—	90	100	120	75	80	100	
H5	—	—	—	43	47	60	—	—	—	39	44	55	35	39	48	Chamfer milling cutters
	—	—	—	140	155	195	—	—	—	130	145	180	115	130	155	
H8	—	—	—	46	50	60	—	—	—	42	47	55	38	42	50	Chamfer milling cutters
	—	—	—	150	165	195	—	—	—	140	155	180	125	140	165	
H11	45	50	60	55	60	75	—	—	—	50	55	70	45	50	60	Spot facing cutters
	150	165	195	180	195	245	—	—	—	165	180	230	150	165	195	
H12	75	85	100	85	90	110	—	—	—	85	95	115	70	75	95	Spot facing cutters
	245	280	330	280	295	360	—	—	—	280	310	375	230	245	310	

R220.21-SP18MF-CA – Insert selection – Metric/ Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	SPKT180630TN-ME10 MP3501	4,0 0.16	0,75 0.030	0,75 0.030	0,80 0.032
	P2	SPKT180630TN-ME10 MP3501	4,0 0.16	0,75 0.030	0,75 0.030	0,85 0.034
Helical milling cutters	P3	SPKT180630TN-ME10 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,80 0.032
	P4	SPKT180630TN-M14 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,80 0.030
	P5	SPKT180630TN-M14 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	P6	SPKT180630TN-M14 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	P7	SPKT180630TN-M14 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	P8	SPKT180630TN-M14 MP2501	4,0 0.16	0,70 0.028	0,70 0.028	0,80 0.032
Face milling cutters	P11	SPKT180630TN-ME10 MP3501	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	P12	SPKT180630TN-M14 MP2501	3,0 0.12	0,46 0.018	0,46 0.018	0,50 0.020
	M1	SPKT180630TN-ME10 MS2050	4,0 0.16	0,75 0.030	0,75 0.030	0,85 0.034
Disc milling cutters	M2	SPKT180630TN-ME10 MS2050	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	M3	SPKT180630TN-ME10 MS2050	3,0 0.12	0,55 0.022	0,55 0.022	0,60 0.024
	M4	SPKT180630TN-ME10 MP3501	3,0 0.12	0,48 0.019	0,48 0.019	0,55 0.022
	M5	SPKT180630TN-ME10 MP3501	3,0 0.12	0,48 0.019	0,48 0.019	0,55 0.022
	K1	SPKT180630TN-MD16 MK2050	4,0 0.16	0,75 0.030	0,75 0.030	0,85 0.034
High feed milling cutters	K2	SPKT180630TN-MD16 MK2050	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	K3	SPKT180630TN-MD16 MK2050	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	K4	SPKT180630TN-MD16 MK2050	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	K5	SPKT180630TN-MD16 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028
	K6	SPKT180630TN-MD16 MK2050	4,0 0.16	0,70 0.028	0,70 0.028	0,75 0.030
	K7	SPKT180630TN-MD16 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028
Copy milling cutters	S1	SPKT180630TN-ME10 MP3501	3,0 0.12	0,48 0.019	0,48 0.019	0,55 0.022
	S2	SPKT180630TN-ME10 MP3501	3,0 0.12	0,48 0.019	0,48 0.019	0,55 0.022
	S3	SPKT180630TN-ME10 MP3501	3,0 0.12	0,44 0.017	0,44 0.017	0,50 0.020
Plunge milling cutters	S11	SPKT180630TN-ME10 MS2050	3,0 0.12	0,55 0.022	0,55 0.022	0,60 0.024
	S12	SPKT180630TN-ME10 MS2050	3,0 0.12	0,55 0.022	0,55 0.022	0,60 0.024
	S13	SPKT180630TN-ME10 MS2050	3,0 0.12	0,48 0.019	0,48 0.019	0,55 0.022
	H5	SPKT180630TN-MD16 MH1051	3,0 0.12	0,46 0.018	0,46 0.018	0,50 0.020
	H8	SPKT180630TN-MD16 MH1051	3,0 0.12	0,36 0.014	0,36 0.014	0,40 0.016
Chamfer milling cutters	H11	SPKT180630TN-MD16 MP1501	3,0 0.12	0,46 0.018	0,46 0.018	0,50 0.020
	H12	SPKT180630TN-MD16 MP1501	3,0 0.12	0,36 0.014	0,36 0.014	0,40 0.016

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Spot facing cutters

Inserts

R220.21-SP18MF-CA – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	225	250	310	210	225	300	210	230	290	195	205	255	195	215	325	Square shoulder and slot milling cutters
	—	—	—	740	820	1025	690	740	980	690	750	950	640	670	840	640	710	1075	
P2	—	—	—	220	240	295	200	220	280	205	220	275	190	200	240	190	205	300	Helical milling cutters
	—	—	—	720	790	970	660	720	920	670	720	900	620	660	790	620	670	980	
P3	—	—	—	195	215	260	180	195	250	185	200	240	170	180	215	175	190	270	Helical milling cutters
	—	—	—	640	710	850	590	640	820	610	660	790	560	590	710	570	620	890	
P4	—	—	—	170	190	235	160	170	230	160	175	220	155	165	205	155	170	250	Helical milling cutters
	—	—	—	560	620	770	520	560	750	520	570	720	510	540	670	510	560	820	
P5	280	300	390	165	185	225	160	170	215	160	170	210	150	155	185	160	175	240	Helical milling cutters
	920	980	1275	540	610	740	520	560	710	520	560	690	490	510	610	520	570	790	
P6	315	340	435	185	205	250	180	195	245	180	195	235	165	175	205	180	195	270	Helical milling cutters
	1025	1125	1425	610	670	820	590	640	800	590	640	770	540	570	670	590	640	890	
P7	300	320	410	175	195	235	170	180	230	170	180	220	155	165	195	170	185	255	Face milling cutters
	980	1050	1350	570	640	770	560	590	750	560	590	720	510	540	640	560	610	840	
P8	265	285	375	160	180	220	155	165	210	155	165	205	140	150	180	150	160	230	Face milling cutters
	870	940	1225	520	590	720	510	540	690	510	540	670	460	490	590	490	520	750	
P11	290	310	400	170	190	230	165	175	225	165	175	215	150	160	190	155	175	260	Face milling cutters
	950	1025	1300	560	620	750	540	570	740	540	570	710	490	520	620	510	570	850	
P12	210	230	295	110	125	150	115	125	160	110	120	145	105	110	130	125	140	205	Face milling cutters
	690	750	970	360	410	490	375	410	520	360	395	475	345	360	425	410	460	670	
M1	—	—	—	—	—	—	160	175	210	160	175	215	145	160	190	155	175	270	Disc milling cutters
	—	—	—	—	—	—	520	570	690	520	570	710	475	520	620	510	570	890	
M2	—	—	—	—	—	—	135	150	180	135	150	180	120	135	160	145	165	245	Disc milling cutters
	—	—	—	—	—	—	445	490	590	445	490	590	395	445	520	475	540	800	
M3	—	—	—	—	—	—	105	120	145	110	120	150	95	105	130	130	150	225	Disc milling cutters
	—	—	—	—	—	—	345	395	475	360	395	490	310	345	425	425	490	740	
M4	—	—	—	—	—	—	85	95	110	85	95	115	75	85	100	110	125	180	High feed milling cutters
	—	—	—	—	—	—	280	310	360	280	310	375	245	280	330	360	410	590	
M5	—	—	—	—	—	—	70	75	95	70	80	95	65	70	85	90	105	150	High feed milling cutters
	—	—	—	—	—	—	230	245	310	230	260	310	215	230	280	295	345	490	
K1	355	380	500	235	260	320	165	185	225	—	—	—	140	155	190	—	—	—	High feed milling cutters
	1175	1250	1650	770	850	1050	540	610	740	—	—	—	460	510	620	—	—	—	
K2	340	365	470	215	240	290	150	170	205	—	—	—	130	140	170	—	—	—	High feed milling cutters
	1125	1200	1550	710	790	950	490	560	670	—	—	—	425	460	560	—	—	—	
K3	290	310	400	180	200	245	130	140	170	—	—	—	110	120	145	—	—	—	High feed milling cutters
	950	1025	1300	590	660	800	425	460	560	—	—	—	360	395	475	—	—	—	
K4	275	295	380	175	190	230	125	135	165	—	—	—	105	115	140	—	—	—	Copy milling cutters
	900	970	1250	570	620	750	410	445	540	—	—	—	345	375	460	—	—	—	
K5	170	185	235	105	115	140	75	85	100	—	—	—	65	70	85	—	—	—	Copy milling cutters
	560	610	770	345	375	460	245	280	330	—	—	—	215	230	280	—	—	—	
K6	240	260	335	155	170	205	110	120	145	—	—	—	90	100	120	—	—	—	Copy milling cutters
	790	850	1100	510	560	670	360	395	475	—	—	—	295	330	395	—	—	—	
K7	220	240	300	135	150	180	95	105	130	—	—	—	80	90	105	—	—	—	Copy milling cutters
	720	790	980	445	490	590	310	345	425	—	—	—	260	295	345	—	—	—	
S1	—	—	—	—	—	—	39	43	50	40	44	55	35	39	47	43	47	55	Plunge milling cutters
	—	—	—	—	—	—	130	140	165	130	145	180	115	130	155	140	155	180	
S2	—	—	—	—	—	—	32	35	42	32	35	43	29	32	38	34	38	46	Plunge milling cutters
	—	—	—	—	—	—	105	115	140	105	115	140	95	105	125	110	125	150	
S3	—	—	—	—	—	—	28	31	38	28	31	38	25	28	34	30	34	41	Plunge milling cutters
	—	—	—	—	—	—	90	100	125	90	100	125	80	90	110	100	110	135	
S11	—	—	—	—	—	—	55	60	75	55	60	75	49	55	65	60	65	80	Plunge milling cutters
	—	—	—	—	—	—	180	195	245	180	195	245	160	180	215	195	215	260	
S12	—	—	—	—	—	—	38	41	50	38	42	50	34	38	46	41	45	55	Chamfer milling cutters
	—	—	—	—	—	—	125	135	165	125	140	165	110	125	150	135	150	180	
S13	—	—	—	—	—	—	22	24	29	22	25	30	20	22	27	24	27	32	Chamfer milling cutters
	—	—	—	—	—	—	70	80	95	70	80	100	65	70	90	80	90	105	
H5	110	115	150	—	—	—	34	37	46	—	—	—	30	33	41	—	—	—	Chamfer milling cutters
	360	375	490	—	—	—	110	120	150	—	—	—	100	110	135	—	—	—	
H8	125	135	165	—	—	—	36	40	48	—	—	—	32	36	43	—	—	—	Chamfer milling cutters
	410	445	540	—	—	—	120	130	155	—	—	—	105	120	140	—	—	—	
H11	140	150	190	—	—	—	43	47	60	—	—	—	38	43	50	80	90	135	Spot facing cutters
	460	490	620	—	—	—	140	155	195	—	—	—	125	140	165	260	295	445	
H12	145	155	195	70	80	95	70	75	95	—	—	—	60	65	80	85	100	140	Spot facing cutters
	475	510	640	230	260	310	230	245	310	—	—	—	195	215	260	280	330	460	

R220.21-SP18MF-CA – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2050			MP1501			MP2501			MS2500			MP3501		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	235 770	260 850	325 1075	320 1050	345 1125	420 1375	330 1075	350 1150	430 1400	315 1025	335 1100	415 1350	295 970	315 1025	390 1275
	P2	230 750	255 840	310 1025	315 1025	335 1100	400 1300	320 1050	340 1125	410 1350	305 1000	325 1075	395 1300	290 950	305 1000	370 1225
Helical milling cutters	P3	200 660	225 740	270 890	280 920	295 970	350 1150	285 940	300 980	360 1175	270 890	290 950	350 1150	255 840	270 890	325 1075
	P4	180 590	195 640	245 800	245 800	260 850	320 1050	250 820	265 870	325 1075	240 790	255 840	315 1025	225 740	240 790	295 970
Face milling cutters	P5	175 570	195 640	235 770	240 790	255 840	305 1000	245 800	260 850	310 1025	235 770	250 820	300 980	220 720	235 770	280 920
	P6	195 640	215 710	260 850	270 890	290 950	340 1125	275 900	295 970	350 1150	265 870	280 920	335 1100	250 820	265 870	315 1025
Disc milling cutters	P7	185 610	205 670	245 800	255 840	270 890	320 1050	260 850	275 900	330 1075	250 820	265 870	315 1025	235 770	250 820	300 980
	P8	170 560	190 620	230 750	235 770	250 820	295 970	240 790	255 840	305 1000	225 740	245 800	290 950	215 710	230 750	275 900
High feed milling cutters	P11	180 590	200 660	240 790	250 820	265 870	310 1025	255 840	270 890	320 1050	240 790	260 850	310 1025	230 750	245 800	290 950
	P12	120 395	130 425	160 520	165 540	175 570	210 690	170 560	180 590	215 710	160 520	175 570	205 670	155 510	165 540	195 640
Copy milling cutters	M1	165 540	180 590	220 720	—	—	—	170 560	185 610	225 740	185 610	200 660	245 800	160 520	175 570	215 710
	M2	140 460	155 510	185 610	—	—	—	145 475	160 520	190 620	155 510	170 560	205 670	135 445	150 490	180 590
Plunge milling cutters	M3	110 360	125 410	150 490	—	—	—	115 375	125 410	155 510	125 410	135 445	170 560	110 360	120 395	150 490
	M4	90 295	95 310	115 375	—	—	—	90 295	100 330	120 395	95 310	110 360	130 425	85 280	95 310	115 375
Chamfer milling cutters	M5	75 245	80 260	95 310	—	—	—	75 245	85 280	100 330	80 260	90 295	110 360	70 230	80 260	95 310
	K1	—	—	—	315 1025	335 1100	405 1325	320 1050	340 1125	410 1350	200 660	225 740	270 890	290 950	305 1000	375 1225
Spot facing cutters	K2	—	—	—	290 950	310 1025	365 1200	295 970	315 1025	375 1225	185 610	205 670	245 800	270 890	285 940	340 1125
	K3	—	—	—	245 800	265 870	310 1025	250 820	265 870	315 1025	155 510	170 560	210 690	225 740	240 790	290 950
Chamfering cutters	K4	—	—	—	235 770	250 820	295 970	240 790	255 840	305 1000	150 490	165 540	200 660	215 710	230 750	275 900
	K5	—	—	—	145 475	155 510	180 590	145 475	155 510	185 610	90 295	100 330	120 395	135 445	140 460	170 560
Spot facing cutters	K6	—	—	—	205 670	220 720	260 850	210 690	225 740	265 870	130 425	145 475	175 570	190 620	205 670	240 790
	K7	—	—	—	185 610	195 640	230 750	190 620	200 660	235 770	115 375	130 425	155 510	170 560	180 590	215 710
Spot facing cutters	S1	43 140	47 155	55 180	—	—	—	—	—	—	48 155	55 180	65 215	40 130	44 145	55 180
	S2	34 110	38 125	46 150	—	—	—	—	—	—	38 125	42 140	50 165	32 105	35 115	43 140
Spot facing cutters	S3	30 100	34 110	41 135	—	—	—	—	—	—	34 110	37 120	46 150	28 90	31 100	38 125
	S11	60 195	65 215	80 260	—	—	—	—	—	—	65 215	75 245	90 295	55 180	60 195	75 245
Spot facing cutters	S12	41 135	45 150	55 180	—	—	—	—	—	—	46 150	50 165	60 195	38 125	42 140	50 165
	S13	24 80	27 90	32 105	—	—	—	—	—	—	27 90	30 100	36 120	22 70	25 80	30 100
Spot facing cutters	H5	—	—	—	43 140	47 155	60 195	—	—	—	39 130	43 140	55 180	35 115	39 130	48 155
	H8	—	—	—	46 150	50 165	60 195	—	—	—	42 140	47 155	55 180	38 125	42 140	50 165
Spot facing cutters	H11	45 150	50 165	60 195	55 180	60 195	75 245	—	—	—	50 165	55 180	70 230	45 150	50 165	60 195
	H12	75 245	85 280	100 330	80 260	90 295	110 360	—	—	—	85 280	95 310	110 360	70 230	75 245	90 295



R217/220.21 High Feed 2

Highfeed 2 for LP05/06/09 insert types, 2-cutting edge, single sided positive inserts.

The inserts have modern geometries that provide the lowest possible cutting forces in all materials. These low forces lead to superior tool life.

- Cutter range 12-100 mm (.5 - 4 inch)
- Max depths of cut by insert type: LP05/0.65 mm, LP06/0.8 mm, LP09/1.8 mm
- First choice for ISO M & S materials in small-to-medium size machines
- Excellent solution for plunge milling

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

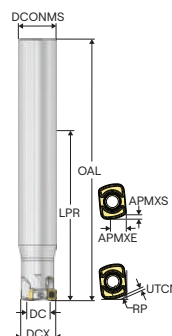
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.21-LP05 – Metric



- For insert selection and cutting data recommendations, see page(s) 600–602
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	APMXE mm	DCONMS mm	RP mm	UTCN mm	LUX mm	LPR mm	OAL mm	RMPX°	RPMX	Weight kg	Insert
R217.21-1012.0-LP05.2A	02952509	Cylindrical	5,4	12,0	2	0,65	3,5	10,0	1,5	0,32	60,0	60,0	100,0	3,9	45000	0,1	LP..05T210
R217.21-1214.0-LP05.2A	02881032	Cylindrical	7,4	14,0	2	0,65	3,5	12,0	1,5	0,32	75,0	75,0	120,0	3,5	42000	0,1	LP..05T210
R217.21-1416.0-LP05.2A	02881033	Cylindrical	9,4	16,0	2	0,65	3,5	14,0	1,5	0,32	105,0	105,0	150,0	3,0	39000	0,2	LP..05T210
R217.21-1618.0-LP05.3A	02881034	Cylindrical	11,4	18,0	3	0,65	3,5	16,0	1,5	0,32	112,0	112,0	160,0	2,2	37000	0,3	LP..05T210
R217.21-1820.0-LP05.3A	02881035	Cylindrical	13,4	20,0	3	0,65	3,5	18,0	1,5	0,32	110,0	112,0	160,0	1,9	35000	0,4	LP..05T210

Spare Parts, included in delivery

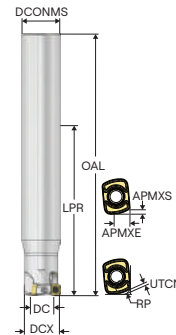
For cutter	Insert key	Insert screw
		
R217.21-1012	1/4HEX-T06PX50	C02005-T06P
R217.21-1214-1820	1/4HEX-T06PX50	C02053-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – inch



- For insert selection and cutting data recommendations, see page(s) 600–602
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-0.500-0-LP05.2A	02881043	Cylindrical	0.240	0.500	2	0.026	0.138	0.500	0.059	0.013	0.609	3.228	5.000	5,4	45000	0.440	LP..05T210
R217.21-0.625-0-LP05.2A	02881044	Cylindrical	0.362	0.625	2	0.026	0.138	0.625	0.059	0.013	0.979	4.016	6.000	3,0	39000	0.440	LP..05T210

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-0.500	1/4HEX-T06PX50	C02005-T06P
R217.21-0.625-0.750	1/4HEX-T06PX50	C02053-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R217.21-0.625-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

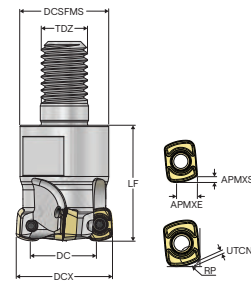
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217.21-LP05 – Metric



—For insert selection and cutting data recommendations, see page(s) 600–602
 —For complete insert programme, see page(s) 880
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm	mm			kg	
R217.21-0612.RE-LP05.2A	02952506	Combimaster	5,4	12,0	2	0,65	3,5	11,0	M6	18,0	1,5	0,32	31,5	3,9	45000	0,1	LP..05T210
R217.21-0812.RE-LP05.2A	02952507	Combimaster	5,4	12,0	2	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,9	45000	0,1	LP..05T210
R217.21-0614.RE-LP05.2A	02881029	Combimaster	7,4	14,0	2	0,65	3,5	11,0	M6	18,0	1,5	0,32	31,5	3,5	42000	0,1	LP..05T210
R217.21-0814.RE-LP05.2A	02952508	Combimaster	7,4	14,0	2	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,5	42000	0,1	LP..05T210
R217.21-0816.RE-LP05.3A	02881030	Combimaster	9,4	16,0	3	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,0	39000	0,1	LP..05T210
R217.21-1020.RE-LP05.4A	02881031	Combimaster	13,4	20,0	4	0,65	3,5	18,5	M10	23,0	1,5	0,32	41,75	1,9	35000	0,1	LP..05T210

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

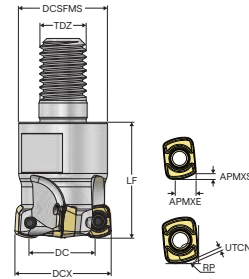
For cutter	Insert key	Insert screw
		
R217.21-... Ø12	1/4HEX-T06PX50	C02005-T06P
R217.21-... Ø14-20	1/4HEX-T06PX50	C02053-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – inch



- For insert selection and cutting data recommendations, see page(s) 600–602
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch	inch			lbs	
R217.21-0.50006RELPO5.2A	02881039	Combimaster	0.240	0.500	2	0.026	0.138	0.433	M6	0.709	0.059	0.013	1.240	3,9	45000	0.220	LP..05T210
R217.21-0.62508RELPO5.3A	02881040	Combimaster	0.362	0.625	3	0.026	0.138	0.531	M8	0.787	0.059	0.013	1.486	3,0	39000	0.220	LP..05T210

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-0.500-00.625	1/4HEX-T06PX50	C02005-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217.21-LP05 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	LPHT05T210TR-ME04 MP3501	0,60 0.024	0,44 0.017	0,44 0.017	0,55 0.022
	P2	LPHT05T210TR-ME04 MP3501	0,60 0.024	0,44 0.017	0,44 0.017	0,55 0.022
Helical milling cutters	P3	LPKT05T210TR-M05 MP2501	0,60 0.024	0,55 0.022	0,55 0.022	0,65 0.026
	P4	LPKT05T210TR-M05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	P5	LPKT05T210TR-M05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	P6	LPKT05T210TR-M05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,60 0.024
	P7	LPKT05T210TR-M05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,60 0.024
	P8	LPKT05T210TR-M05 MP2501	0,60 0.024	0,55 0.022	0,55 0.022	0,65 0.026
	P11	LPHT05T210TR-ME04 MP3501	0,60 0.024	0,40 0.016	0,40 0.016	0,48 0.020
Face milling cutters	P12	LPKT05T210TR-M05 MP2501	0,46 0.018	0,40 0.016	0,40 0.016	0,48 0.019
	M1	LPHT05T210TR-ME04 MS2050	0,60 0.024	0,44 0.017	0,44 0.017	0,55 0.022
Disc milling cutters	M2	LPHT05T210TR-ME04 MS2050	0,60 0.024	0,40 0.016	0,40 0.016	0,50 0.020
	M3	LPHT05T210TR-ME04 MS2050	0,46 0.018	0,38 0.015	0,38 0.015	0,46 0.018
	M4	LPHT05T210TR-ME04 MP3501	0,36 0.014	0,34 0.013	0,34 0.013	0,42 0.017
	M5	LPHT05T210TR-ME04 MP3501	0,36 0.014	0,34 0.013	0,34 0.013	0,42 0.017
	K1	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,55 0.022	0,55 0.022	0,70 0.028
High feed milling cutters	K2	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	K3	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	K4	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	K5	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,46 0.018	0,46 0.018	0,55 0.022
	K6	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,50 0.020	0,50 0.020	0,65 0.026
	K7	LPKW05T210TR-MD05 MP2501	0,60 0.024	0,46 0.018	0,46 0.018	0,55 0.022
	S1	LPHT05T210TR-ME04 MP3501	0,36 0.014	0,34 0.013	0,34 0.013	0,42 0.017
Copy milling cutters	S2	LPHT05T210TR-ME04 MP3501	0,36 0.014	0,34 0.013	0,34 0.013	0,42 0.017
	S3	LPHT05T210TR-ME04 MP3501	0,36 0.014	0,32 0.013	0,32 0.013	0,38 0.015
	S11	LPHT05T210TR-ME04 MS2050	0,40 0.016	0,40 0.016	0,40 0.016	0,48 0.019
Plunge milling cutters	S12	LPHT05T210TR-ME04 MS2050	0,40 0.016	0,40 0.016	0,40 0.016	0,48 0.019
	S13	LPHT05T210TR-ME04 MS2050	0,36 0.014	0,34 0.013	0,34 0.013	0,42 0.017
	H5	LPKW05T210TR-MD05 MH1051	0,36 0.014	0,36 0.014	0,36 0.014	0,44 0.017
	H8	LPKW05T210TR-MD05 MH1051	0,32 0.013	0,28 0.011	0,28 0.011	0,34 0.013
Chamfer milling cutters	H11	LPKW05T210TR-MD05 MP3000	0,36 0.014	0,36 0.014	0,36 0.014	0,44 0.017
	H12	LPKW05T210TR-MD05 MP3000	0,32 0.013	0,28 0.011	0,28 0.011	0,34 0.013

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Spot facing cutters

Inserts

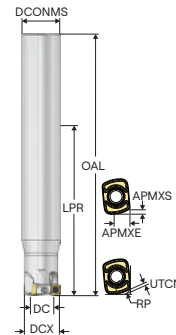
R217.21-LP05 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MP3000			MS2050			F40M			MP2051			Square shoulder and slot milling cutters
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	325	380	445	340	390	450	295	330	375	400	470	550	Helical milling cutters
	—	—	—	1075	1250	1450	1125	1275	1475	970	1075	1225	1300	1550	1800	
P2	—	—	—	315	370	430	330	380	435	290	325	365	390	460	540	Helical milling cutters
	—	—	—	1025	1225	1400	1075	1250	1425	950	1075	1200	1275	1500	1775	
P3	—	—	—	275	320	380	290	330	385	250	280	320	335	395	475	Helical milling cutters
	—	—	—	900	1050	1250	950	1075	1275	820	920	1050	1100	1300	1550	
P4	—	—	—	250	290	335	255	290	340	230	260	295	310	360	420	Helical milling cutters
	—	—	—	820	950	1100	840	950	1125	750	850	970	1025	1175	1375	
P5	445	520	610	235	275	320	245	280	320	215	240	270	295	345	400	Helical milling cutters
	1450	1700	2000	770	900	1050	800	920	1050	710	790	890	970	1125	1300	
P6	500	590	700	265	310	365	275	315	360	240	270	310	330	390	455	Helical milling cutters
	1650	1925	2300	870	1025	1200	900	1025	1175	790	890	1025	1075	1275	1500	
P7	470	550	660	250	295	345	260	300	340	230	255	290	315	365	430	Face milling cutters
	1550	1800	2175	820	970	1125	850	980	1125	750	840	950	1025	1200	1400	
P8	425	500	610	230	270	320	240	280	320	210	235	270	280	330	400	Face milling cutters
	1400	1650	2000	750	890	1050	790	920	1050	690	770	890	920	1075	1300	
P11	455	540	650	245	285	335	250	290	330	220	250	280	280	370	480	Face milling cutters
	1500	1775	2125	800	940	1100	820	950	1075	720	820	920	920	1225	1575	
P12	305	360	420	160	185	210	160	185	210	145	160	180	185	240	295	Face milling cutters
	1000	1175	1375	520	610	690	520	610	690	475	520	590	610	790	970	
M1	—	—	—	210	250	290	240	280	330	200	235	275	320	420	530	Disc milling cutters
	—	—	—	690	820	950	790	920	1075	660	770	900	1050	1375	1750	
M2	—	—	—	175	210	240	195	235	270	165	195	225	270	350	445	Disc milling cutters
	—	—	—	570	690	790	640	770	890	540	640	740	890	1150	1450	
M3	—	—	—	140	165	195	160	185	215	130	155	185	220	285	360	Disc milling cutters
	—	—	—	460	540	640	520	610	710	425	510	610	720	940	1175	
M4	—	—	—	110	130	150	120	140	165	100	120	140	170	220	270	Disc milling cutters
	—	—	—	360	425	490	395	460	540	330	395	460	560	720	890	
M5	—	—	—	90	105	125	100	120	140	85	100	115	140	180	225	Disc milling cutters
	—	—	—	295	345	410	330	395	460	280	330	375	460	590	740	
K1	590	700	830	225	265	310	—	—	—	195	230	270	—	—	—	High feed milling cutters
	1925	2300	2725	740	870	1025	—	—	—	640	750	890	—	—	—	
K2	540	630	740	200	235	275	—	—	—	170	205	235	—	—	—	High feed milling cutters
	1775	2075	2425	660	770	900	—	—	—	560	670	770	—	—	—	
K3	455	530	620	170	200	230	—	—	—	145	175	200	—	—	—	High feed milling cutters
	1500	1750	2025	560	660	750	—	—	—	475	570	660	—	—	—	
K4	435	510	600	160	190	220	—	—	—	140	165	190	—	—	—	High feed milling cutters
	1425	1675	1975	520	620	720	—	—	—	460	540	620	—	—	—	
K5	265	315	375	100	115	135	—	—	—	85	100	120	—	—	—	Copy milling cutters
	870	1025	1225	330	375	445	—	—	—	280	330	395	—	—	—	
K6	380	450	520	140	170	195	—	—	—	125	145	170	—	—	—	Copy milling cutters
	1250	1475	1700	460	560	640	—	—	—	410	475	560	—	—	—	
K7	340	400	480	125	150	175	—	—	—	110	130	150	—	—	—	Copy milling cutters
	1125	1300	1575	410	490	570	—	—	—	360	425	490	—	—	—	
S1	—	—	—	50	60	70	55	65	80	48	55	65	60	65	80	Plunge milling cutters
	—	—	—	165	195	230	180	215	260	155	180	215	195	215	260	
S2	—	—	—	41	48	55	46	55	65	39	45	55	46	55	65	Plunge milling cutters
	—	—	—	135	155	180	150	180	215	130	150	180	150	180	215	
S3	—	—	—	36	42	50	40	47	55	34	39	46	40	47	55	Plunge milling cutters
	—	—	—	120	140	165	130	155	180	110	130	150	130	155	180	
S11	—	—	—	70	85	100	80	95	110	65	80	90	80	95	110	Plunge milling cutters
	—	—	—	230	280	330	260	310	360	215	260	295	260	310	360	
S12	—	—	—	49	60	70	55	65	75	46	55	65	55	65	75	Chamfer milling cutters
	—	—	—	160	195	230	180	215	245	150	180	215	180	215	245	
S13	—	—	—	29	34	39	32	37	44	27	31	37	32	38	44	Chamfer milling cutters
	—	—	—	95	110	130	105	120	145	90	100	120	105	125	145	
H5	165	190	225	45	50	60	—	—	—	41	48	55	—	—	—	Chamfer milling cutters
	540	620	740	150	165	195	—	—	—	135	155	180	—	—	—	
H8	180	205	230	48	55	65	—	—	—	45	50	60	—	—	—	Chamfer milling cutters
	590	670	750	155	180	215	—	—	—	150	165	195	—	—	—	
H11	210	245	285	55	65	80	—	—	—	55	60	75	120	155	185	Spot facing cutters
	690	800	940	180	215	260	—	—	—	180	195	245	395	510	610	
H12	205	235	270	90	105	125	—	—	—	80	95	110	105	135	160	Spot facing cutters
	670	770	890	295	345	410	—	—	—	260	310	360	345	445	520	

R217.21-LP05 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2050			MP2501			MS2500			MP3501		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	325 1075	385 1275	450 1475	470 1550	530 1750	600 1975	450 1475	510 1675	580 1900	460 1500	520 1700	580 1900
		320 1050	375 1225	440 1450	460 1500	520 1700	580 1900	440 1450	500 1650	560 1825	450 1475	510 1675	570 1875
Helical milling cutters	P2	275 900	325 1075	385 1275	395 1300	445 1450	510 1675	375 1225	430 1400	490 1600	390 1275	440 1450	495 1625
		245 800	290 950	340 1125	355 1175	400 1300	445 1450	340 1125	385 1275	430 1400	345 1125	385 1275	435 1425
Face milling cutters	P3	235 770	280 920	325 1075	340 1125	385 1275	425 1400	325 1075	370 1225	410 1350	330 1075	375 1225	415 1350
		265 870	315 1025	370 1225	380 1250	430 1400	485 1600	365 1200	415 1350	470 1550	370 1225	420 1375	465 1525
Disc milling cutters	P4	250 820	295 970	350 1150	360 1175	405 1325	460 1500	345 1125	390 1275	440 1450	350 1150	395 1300	440 1450
		230 750	270 890	325 1075	330 1075	375 1225	425 1400	315 1025	360 1175	410 1350	330 1075	370 1225	415 1350
High feed milling cutters	P5	240 790	285 940	340 1125	350 1150	395 1300	445 1450	335 1100	380 1250	430 1400	340 1125	385 1275	425 1400
		155 510	185 610	215 710	220 720	245 800	275 900	210 690	240 790	265 870	210 690	235 770	260 850
Copy milling cutters	P6	230 750	270 890	315 1025	235 770	275 900	320 1050	255 840	300 980	350 1150	240 790	280 920	330 1075
		190 620	225 740	260 850	195 640	230 750	265 870	210 690	250 820	285 940	195 640	235 770	270 890
Plunge milling cutters	M1	150 490	180 590	210 690	155 510	185 610	215 710	170 560	200 660	235 770	160 520	185 610	215 710
		120 395	135 445	160 520	120 395	140 460	165 540	130 425	155 510	180 590	120 395	140 460	165 540
Spot facing cutters	M2	100 330	115 375	135 445	100 330	115 375	140 460	110 360	125 410	150 490	100 330	120 395	140 460
		—	—	—	465 1525	520 1700	580 1900	280 920	330 1075	385 1275	455 1500	510 1675	570 1875
Chamfer milling cutters	K1	—	—	—	410 1350	465 1525	510 1675	250 820	295 970	340 1125	400 1300	450 1475	500 1650
		—	—	—	345 1125	390 1275	435 1425	210 690	250 820	290 950	340 1125	380 1250	425 1400
Chamfer milling cutters	K2	—	—	—	330 1075	375 1225	415 1350	200 660	240 790	275 900	325 1075	365 1200	405 1325
		—	—	—	200 660	225 740	255 840	120 395	145 475	170 560	195 640	220 720	245 800
Chamfer milling cutters	K3	—	—	—	290 950	330 1075	365 1200	175 570	210 690	240 790	285 940	320 1050	355 1175
		—	—	—	255 840	290 950	325 1075	155 510	185 610	220 720	250 820	280 920	315 1025
Chamfer milling cutters	K4	60 195	65 215	80 260	—	—	—	65 215	75 245	85 280	55 180	65 215	80 260
		46 150	55 180	65 215	—	—	—	50 165	60 195	70 230	46 150	55 180	65 215
Chamfer milling cutters	K5	40 130	47 155	55 180	—	—	—	45 150	50 165	60 195	40 130	47 155	55 180
		80 260	95 310	110 360	—	—	—	90 295	105 345	125 410	80 260	95 310	110 360
Chamfer milling cutters	S1	55 180	65 215	75 245	—	—	—	60 195	70 230	85 280	55 180	65 215	75 245
		32 105	38 125	44 145	—	—	—	36 120	42 140	49 160	32 105	37 120	44 145
Chamfer milling cutters	S2	—	—	—	—	—	—	55 180	65 215	75 245	50 165	60 215	70 245
		—	—	—	—	—	—	60 195	65 215	80 260	55 180	65 215	75 245
Chamfer milling cutters	S3	60 195	70 230	85 280	—	—	—	70 230	80 260	95 310	65 215	75 245	90 295
		105 345	120 395	140 460	—	—	—	115 375	135 445	155 510	100 330	115 375	135 445

R217.21-LP06 – Metric



- For insert selection and cutting data recommendations, see page(s) 607–609
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1416.0-LP06.2A	02789713	Cylindrical	7,5	16,0	2	0,8	4,5	14,0	1,8	0,45	102,0	102,0	150,0	5,0	39000	0,2	LP..060310
R217.21-1618.0-LP06.2A	02789715	Cylindrical	9,5	18,0	2	0,8	4,5	16,0	1,8	0,45	112,0	112,0	160,0	3,5	37000	0,3	LP..060310
R217.21-1820.0-LP06.2A	02789717	Cylindrical	11,6	20,0	2	0,8	4,5	18,0	1,8	0,45	110,0	110,0	160,0	3,0	35000	0,4	LP..060310
R217.21-2525.0-LP06.3A	02789720	Cylindrical	16,5	25,0	3	0,8	4,5	25,0	1,8	0,45	40,0	124,0	180,0	2,0	30000	0,7	LP..060310
R217.21-2527.0-LP06.3A	02789722	Cylindrical	18,5	27,0	3	0,8	4,5	25,0	1,8	0,45	194,0	194,0	250,0	1,5	30000	0,9	LP..060310
R217.21-3232.0-LP06.4A	02789725	Cylindrical	23,5	32,0	4	0,8	4,5	32,0	1,8	0,45	40,0	140,0	200,0	1,5	27000	1,3	LP..060310
R217.21-3235.0-LP06.4A	02789729	Cylindrical	26,5	35,0	4	0,8	4,5	32,0	1,8	0,45	190,0	190,0	250,0	1,2	26000	1,5	LP..060310

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-1416-1820	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-3235	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

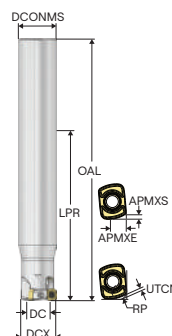
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217.21-LP06 - inch



- For insert selection and cutting data recommendations, see page(s) 607-609
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-00.625.0-LP06.2A	02789777	Cylindrical	0.290	0.625	2	0.030	0.177	0.625	0.071	0.018	4.016	4.000	6.000	5,0	39000	0.660	LP..060310
R217.21-0.75.0-LP06.2A	02789778	Cylindrical	0.410	0.750	2	0.030	0.177	0.750	0.071	0.018	4.331	4.400	6.500	3,0	35000	0.660	LP..060310
R217.21-1.25.0-LP06.4A	02789785	Cylindrical	0.659	1.250	4	0.030	0.177	1.250	0.071	0.018	5.512	5.500	8.000	1,5	27000	2.650	LP..060310
R217.21-1.00.0-LP06.3A	02789782	Cylindrical	0.660	1.000	3	0.030	0.177	1.000	0.071	0.018	5.217	4.800	7.000	2,0	30000	1.540	LP..060310

Spare Parts, included in delivery

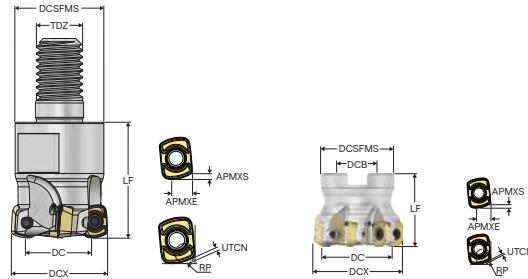
For cutter	Insert key	Insert screw
		
R217.21-0.625-0.750	1/4HEX-T08PX50	C02555-T08P
R217.21-1.00-1.50	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LP06 – Metric

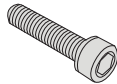


- For insert selection and cutting data recommendations, see page(s) 607–609
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP	OAL	RMPX°	RPMX	Weight	Insert	
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm			kg		
R217.21-0816.RE-LP06.2A	02789697	Combimaster	7,5	16,0	2	0,8	4,5	–	13,5	M8	–	20,0	1,8	0,45	37,75	5,0	39000	0,1	LP..060310
R217.21-1020.RE-LP06.2A	02789700	Combimaster	11,5	20,0	2	0,8	4,5	–	18,5	M10	–	28,0	1,8	0,45	46,75	3,0	35000	0,1	LP..060310
R217.21-1020.RE-LP06.3A	02789701	Combimaster	11,5	20,0	3	0,8	4,5	–	18,5	M10	–	28,0	1,8	0,45	46,75	3,0	35000	0,1	LP..060310
R217.21-1225.RE-LP06.3A	02789702	Combimaster	16,5	25,0	3	0,8	4,5	–	23,0	M12	–	30,0	1,8	0,45	51,75	2,0	30000	0,2	LP..060310
R217.21-1225.RE-LP06.4A	02789705	Combimaster	16,5	25,0	4	0,8	4,5	–	23,0	M12	–	30,0	1,8	0,45	51,75	2,0	30000	0,1	LP..060310
R217.21-1632.RE-LP06.5A	02789708	Combimaster	23,5	32,0	5	0,8	4,5	–	30,0	M16	–	35,0	1,8	0,45	57,75	1,5	27000	0,2	LP..060310
R217.21-1635.RE-LP06.5A	02789711	Combimaster	26,5	35,0	5	0,8	4,5	–	30,0	M16	–	35,0	1,8	0,45	57,75	1,5	26000	0,2	LP..060310
R217.21-2040.RE-LP06.7A	02928084	Combimaster	31,5	40,0	7	0,8	4,5	–	36,5	M20	–	40,0	1,8	0,45	67,0	0,9	24000	0,4	LP..060310
R220.21-0035-LP06.6A	02789734	Arbor	26,5	35,0	6	0,8	4,5	16,0	32,0	–	16,0	35,0	1,8	0,45	–	1,29	26000	0,2	LP..060310
R220.21-0040-LP06.6A	02892228	Arbor	31,5	40,0	6	0,8	4,5	16,0	32,0	–	16,0	40,0	1,8	0,45	–	0,9	24000	0,3	LP..060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0816-1020	–	1/4HEX-T08PX50	C02555-T08P
R217.21-1225-2040	–	1/4HEX-T08PX50	C02506-T08P
R220.21-..	220.17-689	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

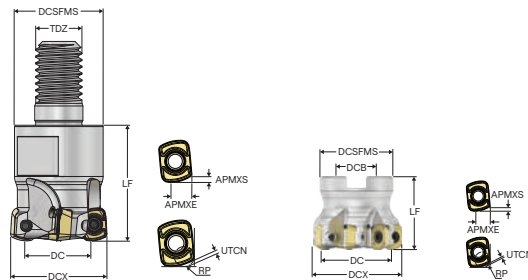
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.21-LP06 – inch

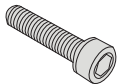


—For insert selection and cutting data recommendations, see page(s) 607-609
 —For complete insert programme, see page(s) 880
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCNMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-0.62508RELP06.2A	02789772	Combimaster	0.2900	0.625	2	0.031	0.177	—	0.531	M8	—	0.7870	0.071	0.018	1.486	5,0	39000	0.040	LP..060310
R217.21-0.7510RELP06.3A	02789773	Combimaster	0.4090	0.750	3	0.031	0.177	—	0.728	M10	—	1.1020	0.071	0.018	1.841	3,0	35000	0.220	LP..060310
R217.21-1.0012RELP06.3A	02789774	Combimaster	0.6601	1.000	3	0.031	0.177	—	0.906	M12	—	1.1810	0.071	0.018	2.037	2,0	30000	0.440	LP..060310
R217.21-1.0012RELP06.4A	02789775	Combimaster	0.6601	1.000	4	0.031	0.177	—	0.906	M12	—	1.1810	0.071	0.018	2.037	2,0	30000	0.440	LP..060310
R217.21-1.2516RELP06.5A	02789776	Combimaster	0.9091	1.250	5	0.031	0.177	—	1.181	M16	—	1.3780	0.071	0.018	2.274	1,2	27000	0.660	LP..060310
R217.21-01.50-20RE-LP06.7A	02928069	Combimaster	1.1811	1.500	7	0.031	0.177	—	1.437	M20	—	1.5750	0.071	0.018	2.638	0,9	24000	0.880	LP..060310
R220.21-1.50-LP06-6A	02892229	Arbor	1.1651	1.500	6	0.031	0.177	0.500	1.260	—	0.500	1.5000	0.071	0.018	—	1,0	25000	0.440	LP..060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.625-0.750	—	1/4HEX-T08PX50	C02555-T08P
R217.21-1.00-1.50	—	1/4HEX-T08PX50	C02506-T08P
R220.21-..	UC6S1/4UNFX1	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LP06 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	LPHT060310TR-M06 MP3501	0,70 0.028	0,70 0.028	0,70 0.028	0,85 0.034	Square shoulder and slot milling cutters
P2	LPHT060310TR-M06 MP3501	0,70 0.028	0,70 0.028	0,70 0.028	0,85 0.034	
P3	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	Helical milling cutters
P4	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	
P5	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	Face milling cutters
P6	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,75 0.030	
P7	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,75 0.030	Disc milling cutters
P8	LPHT060310TR-M06 MP2501	0,70 0.028	0,65 0.026	0,65 0.026	0,75 0.032	
P11	LPHT060310TR-M06 MP3501	0,70 0.028	0,65 0.026	0,65 0.026	0,75 0.030	High feed milling cutters
P12	LPHT060310TR-M06 MP2501	0,60 0.024	0,46 0.018	0,46 0.018	0,55 0.022	
M1	LPHT060310TR-ME05 MS2050	0,70 0.028	0,60 0.024	0,60 0.024	0,70 0.028	Copy milling cutters
M2	LPHT060310TR-ME05 MS2050	0,70 0.028	0,55 0.022	0,55 0.022	0,65 0.026	
M3	LPHT060310TR-ME05 MS2050	0,60 0.024	0,44 0.017	0,44 0.017	0,55 0.022	Plunge milling cutters
M4	LPHT060310TR-M06 MP3501	0,44 0.017	0,50 0.020	0,50 0.020	0,60 0.024	
M5	LPHT060310TR-M06 MP3501	0,44 0.017	0,50 0.020	0,50 0.020	0,60 0.024	Chamfer milling cutters
K1	LPHW060310TR-D06 MP3000	0,70 0.028	0,70 0.028	0,70 0.028	0,85 0.034	
K2	LPHW060310TR-D06 MP3000	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	Spot facing cutters
K3	LPHW060310TR-D06 MP3000	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	
K4	LPHW060310TR-D06 MP3000	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	Inserts
K5	LPHW060310TR-D06 MP3000	0,70 0.028	0,55 0.022	0,55 0.022	0,70 0.028	
K6	LPHW060310TR-D06 MP3000	0,70 0.028	0,65 0.026	0,65 0.026	0,80 0.032	
K7	LPHW060310TR-D06 MP3000	0,70 0.028	0,55 0.022	0,55 0.022	0,70 0.028	
N1	LPHT060310ER-E05 H25	0,70 0.028	0,75 0.030	0,75 0.030	0,90 0.036	
N2	LPHT060310ER-E05 H25	0,70 0.028	0,75 0.030	0,75 0.030	0,90 0.036	
N3	LPHT060310ER-E05 H25	0,70 0.028	0,75 0.030	0,75 0.030	0,90 0.036	
N11	LPHT060310ER-E05 H25	0,70 0.028	0,75 0.030	0,75 0.030	0,90 0.036	
S1	LPHT060310TR-M06 MP3501	0,44 0.017	0,50 0.020	0,50 0.020	0,60 0.024	
S2	LPHT060310TR-M06 MP3501	0,44 0.017	0,50 0.020	0,50 0.020	0,60 0.024	
S3	LPHT060310TR-M06 MP3501	0,44 0.017	0,48 0.019	0,48 0.019	0,60 0.024	
S11	LPHT060310TR-ME05 MS2050	0,50 0.020	0,50 0.020	0,50 0.020	0,60 0.024	
S12	LPHT060310TR-ME05 MS2050	0,50 0.020	0,50 0.020	0,50 0.020	0,60 0.024	
S13	LPHT060310TR-ME05 MS2050	0,44 0.017	0,44 0.017	0,44 0.017	0,50 0.020	
H5	LPHW060310TR-D06 MH1051	0,44 0.017	0,44 0.017	0,44 0.017	0,50 0.020	
H8	LPHW060310TR-D06 MH1051	0,40 0.016	0,34 0.013	0,34 0.013	0,40 0.016	
H11	LPHW060310TR-D06 MP3000	0,44 0.017	0,44 0.017	0,44 0.017	0,50 0.020	
H12	LPHW060310TR-D06 MP3000	0,40 0.016	0,34 0.013	0,34 0.013	0,40 0.016	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

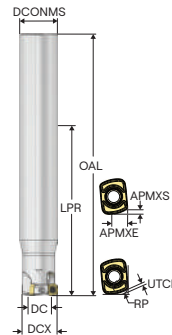
R217/220.21-LP06 – Cutting data $v_c = (m/min)/(sf/min)$

R217/220.21-LP06 - Cutting data v _c = (m/min)/(sf/min)																						
Square shoulder and slot milling cutters	SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
	P1	—	—	—	295	335	405	350	395	470	270	305	365	260	285	335	335	385	485	295	335	405
		—	—	—	970	1100	1325	1150	1300	1550	890	1000	1200	850	940	1100	1100	1275	1600	970	1100	1325
Helical milling cutters	P2	—	—	—	285	330	395	330	375	450	265	295	355	255	275	325	325	375	475	285	325	395
	P3	—	—	—	940	1075	1300	1075	1225	1475	870	970	1175	840	900	1075	1075	1225	1550	940	1075	1300
		—	—	—	250	290	345	295	330	395	235	260	310	225	245	285	295	335	420	250	285	345
	P4	—	—	—	820	950	1125	970	1075	1300	770	850	1025	740	800	940	970	1100	1375	820	940	1125
		—	—	—	220	255	305	260	290	350	205	230	275	200	225	265	260	295	370	220	255	305
Face milling cutters	P5	—	—	—	720	840	1000	850	950	1150	670	750	900	660	740	870	850	970	1225	720	840	1000
		380	430	530	210	240	290	245	280	340	195	220	260	190	205	240	250	280	350	210	240	290
	P6	1250	1400	1750	690	790	950	800	920	1125	640	720	850	620	670	790	820	920	1150	690	790	950
		425	485	600	235	270	325	285	325	380	220	245	295	215	230	270	280	315	395	235	270	325
	P7	1400	1600	1975	770	890	1075	940	1075	1250	720	800	970	710	750	890	920	1025	1300	770	890	1075
		400	455	560	225	255	305	270	305	360	210	235	275	200	220	255	260	300	375	225	255	305
	P8	1300	1500	1825	740	840	1000	890	1000	1175	690	770	900	660	720	840	850	980	1225	740	840	1000
		380	430	530	210	240	290	245	280	330	195	220	260	190	205	240	250	280	350	210	240	290
Disc milling cutters	P11	1250	1400	1750	690	790	950	800	920	1075	640	720	850	620	670	790	820	920	1150	690	790	950
		390	445	550	215	250	300	260	295	350	200	225	270	195	210	245	240	295	405	215	250	300
	P12	1275	1450	1800	710	820	980	850	970	1150	660	740	890	640	690	800	790	970	1325	710	820	980
		275	310	380	145	165	195	170	190	220	135	150	180	130	145	165	170	210	270	145	165	195
	900	1025	1250	475	540	640	560	620	720	445	490	590	425	475	540	560	690	890	475	540	640	
Copy milling cutters	M1	—	—	—	—	—	—	220	255	305	195	225	270	175	205	245	270	335	460	205	235	280
	M2	—	—	—	—	—	—	720	840	1000	640	740	890	570	670	800	890	1100	1500	670	770	920
		—	—	—	—	—	—	185	210	255	160	185	220	145	170	200	225	280	385	170	195	230
	M3	—	—	—	—	—	—	610	690	840	520	610	720	475	560	660	740	920	1275	560	640	750
		—	—	—	—	—	—	150	170	205	130	150	180	120	135	165	195	245	320	135	155	190
High feed milling cutters	M4	—	—	—	—	—	—	490	560	670	425	490	590	395	445	540	640	800	1050	445	510	620
		—	—	—	—	—	—	115	130	160	100	115	140	95	105	125	155	190	245	105	120	145
	M5	—	—	—	—	—	—	375	425	520	330	375	460	310	345	410	510	620	800	345	395	475
		—	—	—	—	—	—	100	110	130	85	95	115	75	85	105	130	155	205	90	100	120
	—	—	—	—	—	—	—	330	360	425	280	310	375	245	280	345	425	510	670	295	330	395
Plunge milling cutters	K1	510	580	720	310	355	425	235	270	320	—	—	—	175	200	240	—	—	—	—	—	—
	K2	1675	1900	2350	1025	1175	1400	770	890	1050	—	—	—	570	660	790	—	—	—	—	—	—
		460	520	640	275	315	375	210	240	290	—	—	—	155	175	210	—	—	—	—	—	—
	K3	1500	1700	2100	900	1025	1225	690	790	950	—	—	—	510	570	690	—	—	—	—	—	—
		390	440	540	230	265	315	175	200	245	—	—	—	130	150	180	—	—	—	—	—	—
	K4	1275	1450	1775	750	870	1025	570	660	800	—	—	—	425	490	590	—	—	—	—	—	—
		370	420	520	220	255	305	170	195	235	—	—	—	125	145	170	—	—	—	—	—	—
Chamfer milling cutters	K5	1225	1375	1700	720	840	1000	560	640	770	—	—	—	410	475	560	—	—	—	—	—	—
		240	270	330	135	155	185	105	120	140	—	—	—	75	90	105	—	—	—	—	—	—
	K6	790	890	1075	445	510	610	345	395	460	—	—	—	245	295	345	—	—	—	—	—	—
		325	370	460	195	225	265	150	170	205	—	—	—	110	125	150	—	—	—	—	—	—
	K7	1075	1225	1500	640	740	870	490	560	670	—	—	—	360	410	490	—	—	—	—	—	—
Spot facing cutters	N1	305	345	420	175	200	240	135	155	180	—	—	—	100	115	135	—	—	—	—	—	—
		1000	1125	1375	570	660	790	445	510	590	—	—	—	330	375	445	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	—	—	—	1275	1475	1775	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	4175	4850	5825	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	520	590	720	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	1700	1925	2350	—	—	—	—	—	—	
Inserts	S1	—	—	—	—	—	—	—	—	—	—	—	—	345	395	480	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	1125	1300	1575	—	—	—	—	—	—
	S2	—	—	—	—	—	—	—	—	—	—	—	—	395	455	550	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	1300	1500	1800	—	—	—	—	—	—
	S3	—	—	—	—	—	—	—	—	—	—	—	—	65	75	90	60	70	85	75	85	100

R217/220.21-LP06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	H25			MP2501			MS2500			MP3501			MM4500			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	420	465	540	405	445	520	380	415	485	265	300	345	Square shoulder and slot milling cutters
	—	—	—	1375	1525	1775	1325	1450	1700	1250	1350	1600	870	980	1125	
P2	—	—	—	410	450	520	395	435	510	370	405	470	255	285	330	Helical milling cutters
	—	—	—	1350	1475	1700	1300	1425	1675	1225	1325	1550	840	940	1075	
P3	—	—	—	360	400	460	345	380	445	325	355	410	225	250	290	Face milling cutters
	—	—	—	1175	1300	1500	1125	1250	1450	1075	1175	1350	740	820	950	
P4	—	—	—	320	350	405	305	335	390	285	315	365	210	240	275	Disc milling cutters
	—	—	—	1050	1150	1325	1000	1100	1275	940	1025	1200	690	790	900	
P5	—	—	—	305	335	385	290	320	370	270	300	345	185	210	245	High feed milling cutters
	—	—	—	1000	1100	1275	950	1050	1225	890	980	1125	610	690	800	
P6	—	—	—	340	375	435	325	360	420	305	335	390	215	240	275	Copy milling cutters
	—	—	—	1125	1225	1425	1075	1175	1375	1000	1100	1275	710	790	900	
P7	—	—	—	320	355	410	305	340	395	290	315	365	205	230	260	Plunge milling cutters
	—	—	—	1050	1175	1350	1000	1125	1300	950	1025	1200	670	750	850	
P8	—	—	—	305	335	385	290	320	370	270	300	345	185	210	245	Chamfer milling cutters
	—	—	—	1000	1100	1275	950	1050	1225	890	980	1125	610	690	800	
P11	—	—	—	315	345	395	300	330	385	280	310	355	195	220	255	Spot facing cutters
	—	—	—	1025	1125	1300	980	1075	1275	920	1025	1175	640	720	840	
P12	—	—	—	205	225	255	195	215	245	185	200	230	120	135	155	Inserts
	—	—	—	670	740	840	640	710	800	610	660	750	395	445	510	
M1	—	—	—	210	240	290	225	260	315	195	225	270	165	190	225	
	—	—	—	690	790	950	740	850	1025	640	740	890	540	620	740	
M2	—	—	—	170	200	235	185	215	255	160	185	220	135	155	190	
	—	—	—	560	660	770	610	710	840	520	610	720	445	510	620	
M3	—	—	—	140	160	195	150	175	210	130	150	180	110	125	150	
	—	—	—	460	520	640	490	570	690	425	490	590	360	410	490	
M4	—	—	—	110	125	150	120	135	160	100	115	140	85	100	115	
	—	—	—	360	410	490	395	445	520	330	375	460	280	330	375	
M5	—	—	—	90	100	125	100	110	135	85	95	115	75	80	100	
	—	—	—	295	330	410	330	360	445	280	310	375	245	260	330	
K1	—	—	—	415	455	530	250	290	345	370	410	475	—	—	—	
	—	—	—	1350	1500	1750	820	950	1125	1225	1350	1550	—	—	—	
K2	—	—	—	365	405	465	220	255	305	330	360	420	—	—	—	
	—	—	—	1200	1325	1525	720	840	1000	1075	1175	1375	—	—	—	
K3	—	—	—	310	340	395	190	215	260	280	305	355	—	—	—	
	—	—	—	1025	1125	1300	620	710	850	920	1000	1175	—	—	—	
K4	—	—	—	295	325	375	180	205	245	265	290	340	—	—	—	
	—	—	—	970	1075	1225	590	670	800	870	950	1125	—	—	—	
K5	—	—	—	185	205	230	110	130	150	165	180	210	—	—	—	
	—	—	—	610	670	750	360	425	490	540	590	690	—	—	—	
K6	—	—	—	260	290	330	160	180	215	235	260	300	—	—	—	
	—	—	—	850	950	1075	520	590	710	770	850	980	—	—	—	
K7	—	—	—	235	260	295	145	165	195	210	235	265	—	—	—	
	—	—	—	770	850	970	475	540	640	690	770	870	—	—	—	
N1	1325	1525	1825	—	—	—	—	—	—	—	—	—	—	—	—	
	4350	5000	6000	—	—	—	—	—	—	—	—	—	—	—	—	
N2	540	620	740	—	—	—	—	—	—	—	—	—	—	—	—	
	1775	2025	2425	—	—	—	—	—	—	—	—	—	—	—	—	
N3	360	410	495	—	—	—	—	—	—	—	—	—	—	—	—	
	1175	1350	1625	—	—	—	—	—	—	—	—	—	—	—	—	
N11	410	470	570	—	—	—	—	—	—	—	—	—	—	—	—	
	1350	1550	1875	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	60	65	80	48	55	65	27	30	36	
	—	—	—	—	—	—	195	215	260	155	180	215	90	100	120	
S2	—	—	—	—	—	—	47	55	65	38	43	50	21	24	29	
	—	—	—	—	—	—	155	180	215	125	140	165	70	80	95	
S3	—	—	—	—	—	—	41	47	55	34	38	46	19	21	25	
	—	—	—	—	—	—	135	155	180	110	125	150	60	70	80	
S11	—	—	—	—	—	—	80	95	110	65	75	90	37	42	50	
	—	—	—	—	—	—	260	310	360	215	245	295	120	140	165	
S12	—	—	—	—	—	—	55	65	75	46	55	65	34	39	47	
	—	—	—	—	—	—	180	215	245	150	180	215	110	130	155	
S13	—	—	—	—	—	—	33	37	44	27	30	36	20	23	27	
	—	—	—	—	—	—	110	120	145	90	100	120	65	75	90	
H5	—	—	—	—	—	—	50	55	70	44	50	60	—	—	—	
	—	—	—	—	—	—	165	180	230	145	165	195	—	—	—	
H8	—	—	—	—	—	—	55	60	70	47	55	65	—	—	—	
	—	—	—	—	—	—	180	195	230	155	180	215	—	—	—	
H11	—	—	—	—	—	—	65	70	85	55	65	75	—	—	—	
	—	—	—	—	—	—	215	230	280	180	215	245	—	—	—	
H12	—	—	—	—	—	—	105	120	140	85	95	115	—	—	—	
	—	—	—	—	—	—	345	395	460	280	310	375	—	—	—	

R217.21-LP09 - inch



- For insert selection and cutting data recommendations, see page(s) 614–616
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-01.25-0-LP09-4A	03212900	Cylindrical	0.744	1.250	4	0.071	0.287	1.250	0.137	0.028	1.870	5.719	8.000	4,9	31200	2.430	LP..09T420
R217.21-01.50-0-LP09-5A	03212901	Cylindrical	0.992	1.500	5	0.071	0.287	1.500	0.137	0.028	1.870	5.313	8.000	3,4	28500	3.530	LP..09T420

Spare Parts, included in delivery

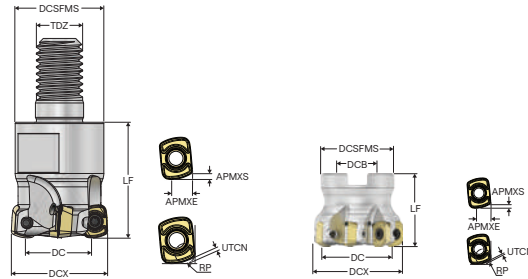
For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.21-LP09 – Metric



- For insert selection and cutting data recommendations, see page(s) 614–616
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	RP	OAL	RMPX°	RPMX	Weight	Insert		
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm		kg			
R217.21-1225.RE-LP09.2A	03212883	Combimaster	12,0	25,0	2	1,8	7,3	–	23,0	M12	–	35,0	3,49	0,7	56,75	8,8	35200	0,2	LP..09T420
R217.21-1632.RE-LP09.3A	03212884	Combimaster	19,1	32,0	3	1,8	7,3	–	30,0	M16	–	35,0	3,45	0,7	57,75	4,8	31100	0,2	LP..09T420
R217.21-1632.RE-LP09.4A	03212885	Combimaster	19,1	32,0	4	1,8	7,3	–	30,0	M16	–	35,0	3,47	0,7	57,75	4,8	31100	0,3	LP..09T420
R217.21-1635.RE-LP09.4A	03212886	Combimaster	22,1	35,0	4	1,8	7,3	–	30,0	M16	–	35,0	3,47	0,7	57,75	4,0	29700	0,2	LP..09T420
R217.21-2040.RE-LP09.5A	03212887	Combimaster	27,0	40,0	5	1,8	7,3	–	36,5	M20	–	40,0	3,48	0,7	67,0	3,2	27800	0,4	LP..09T420
R217.21-2042.RE-LP09.5A	03212888	Combimaster	28,9	42,0	5	1,8	7,3	–	36,5	M20	–	40,0	3,48	0,7	67,0	2,9	27100	0,4	LP..09T420
R220.21-0040-LP09.4A	03212889	Arbor	27,5	40,0	4	1,8	7,3	16,0	32,0	–	16,0	40,0	3,46	0,7	–	3,2	27800	0,3	LP..09T420
R220.21-0050-LP09.5A	03212890	Arbor	37,0	50,0	5	1,8	7,3	22,0	40,0	–	22,0	40,0	3,45	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0050-LP09.6A	03212891	Arbor	37,0	50,0	6	1,8	7,3	22,0	40,0	–	22,0	40,0	3,45	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0050-LP09.7A	03212892	Arbor	37,1	50,0	7	1,8	7,3	22,0	40,0	–	22,0	40,0	3,47	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0052-LP09.5A	03252422	Arbor	39,0	51,98	5	1,8	7,3	22,0	49,0	–	22,0	40,0	3,45	0,7	–	2,1	24400	0,5	LP..09T420
R220.21-0052-LP09.7A	03212893	Arbor	39,1	51,98	7	1,8	7,3	22,0	48,0	–	22,0	40,0	3,47	0,7	–	2,1	24400	0,4	LP..09T420
R220.21-0063-LP09.6A	03212894	Arbor	50,0	63,0	6	1,8	7,3	22,0	48,0	–	22,0	40,0	3,45	0,7	–	2,7	22100	0,5	LP..09T420
R220.21-0063-LP09.6A-27	03317247	Arbor	50,0	63,0	6	1,8	7,3	27,0	61,0	–	27,0	50,0	3,45	0,7	–	2,7	22100	0,8	LP..09T420
R220.21-0063-LP09.8A	03212895	Arbor	50,1	63,0	8	1,8	7,3	22,0	48,0	–	22,0	40,0	3,47	0,7	–	1,6	22100	0,5	LP..09T420
R220.21-0063-LP09.8A-27	03317248	Arbor	50,1	63,0	8	1,8	7,3	27,0	61,0	–	27,0	50,0	3,47	0,7	–	1,6	22100	0,8	LP..09T420
R220.21-0066-LP09.6A	03252423	Arbor	53,1	66,0	6	1,8	7,3	27,0	61,0	–	27,0	50,0	3,47	0,7	–	1,5	21600	0,8	LP..09T420
R220.21-0066-LP09.8A	03212896	Arbor	53,1	66,0	8	1,8	7,3	27,0	60,0	–	27,0	50,0	3,47	0,7	–	1,5	21600	0,8	LP..09T420
R220.21-0080-LP09.7A	03212897	Arbor	67,0	80,0	7	1,8	7,3	27,0	60,0	–	27,0	50,0	3,45	0,7	–	1,1	19600	1,0	LP..09T420
R220.21-0080-LP09.9A	03212898	Arbor	67,0	80,0	9	1,8	7,3	27,0	60,0	–	27,0	50,0	3,45	0,7	–	1,1	19600	1,0	LP..09T420
R220.21-0084-LP09.7A	03252424	Arbor	71,0	84,0	7	1,8	7,3	32,0	79,0	–	32,0	50,0	3,44	0,7	–	1,1	18600	1,4	LP..09T420
R220.21-0100-LP09.10A	03212899	Arbor	87,0	100,0	10	1,8	7,3	32,0	78,0	–	32,0	50,0	3,44	0,7	–	0,8	17600	1,7	LP..09T420

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

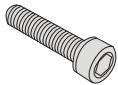
Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-...	-	1/4HEX-T15PX50	C04009-T15P
R220.21-0040	MC6S8X30	1/4HEX-T15PX50	C04009-T15P
R220.21-0050-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.21-0063-6A	220.17-692	1/4HEX-T15PX50	C04011-T15P
R220.21-0063-6A-27	MC6S12X40	1/4HEX-T15PX50	C04011-T15P
R220.21-0063-8A-27	MC6S12X40	1/4HEX-T15PX50	C04009-T15P
R220.21-0066	MC6S12X35	1/4HEX-T15PX50	C04009-T15P
R220.21-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R220.21-0084	MLC6S16X35	1/4HEX-T15PX50	C04009-T15P
R220.21-0100	MLC6S16X35	1/4HEX-T15PX90	C04011-T15P

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

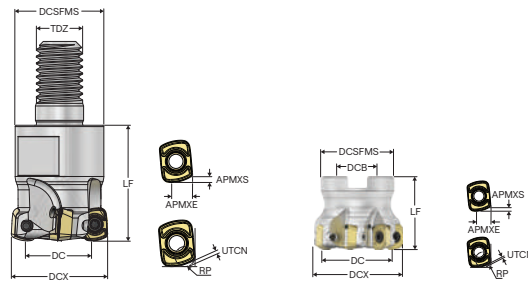
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

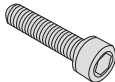
R217/220.21-LP09 – Inch



- For insert selection and cutting data recommendations, see page(s) 614–616
- For complete insert programme, see page(s) 880
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch		lbs		
R217.21-01.25-16RE-LP09-4A	03212902	Combimaster	0.744	1.250	4	0.071	0.287	–	1.181	M16	–	1.378	0.137	0.028	2.274	4,9	31100	0.660	LP..09T420
R220.21-02.00-LP09-6A	03212903	Arbor	1.488	2.000	6	0.071	0.287	0.750	1.750	–	0.750	1.500	0.136	0.028	–	2,2	24600	0.880	LP..09T420
R220.21-02.00-LP09-7A	03212904	Arbor	1.492	2.000	7	0.071	0.287	0.750	1.750	–	0.750	1.500	0.137	0.028	–	2,2	24600	0.880	LP..09T420
R220.21-02.50-LP09-6A	03212905	Arbor	1.988	2.500	6	0.071	0.287	0.750	1.750	–	0.750	1.500	0.136	0.028	–	1,6	22000	1.320	LP..09T420
R220.21-03.00-LP09-6A	03212907	Arbor	2.488	3.000	6	0.071	0.287	1.000	2.250	–	1.000	2.000	0.136	0.028	–	1,2	19600	2.200	LP..09T420
R220.21-03.00-LP09-8A	03212908	Arbor	2.488	3.000	8	0.071	0.287	1.000	2.250	–	1.000	2.000	0.136	0.028	–	1,2	20100	2.200	LP..09T420

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T15PX50	C04009-T15P
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.21-LP09 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	LPKT09T420TR-M13 MP3501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P2	LPKT09T420TR-M13 MP3501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
Helical milling cutters	P3	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,3 0.050
	P4	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
	P5	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
	P6	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
	P7	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
	P8	LPKT09T420TR-M13 MP2501	1,6 0.065	1,0 0.040	1,0 0.040	1,3 0.050
Face milling cutters	P11	LPKT09T420TR-M13 MP3501	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
	P12	LPKT09T420TR-M13 MP2501	1,3 0.050	0,75 0.030	0,75 0.030	0,90 0.036
	M1	LPKT09T420TR-ME08 MS2050	1,6 0.065	0,70 0.028	0,70 0.028	0,80 0.032
	M2	LPKT09T420TR-ME08 MS2050	1,6 0.065	0,60 0.024	0,60 0.024	0,75 0.030
Disc milling cutters	M3	LPKT09T420TR-ME08 MS2050	1,3 0.050	0,55 0.022	0,55 0.022	0,65 0.026
	M4	LPKT09T420TR-M13 MP3501	0,95 0.038	0,90 0.036	0,90 0.036	1,1 0.044
	M5	LPKT09T420TR-M13 MP3501	0,95 0.038	0,90 0.036	0,90 0.036	1,1 0.044
	K1	LPKW09T420TR-D15 MK2050	1,6 0.065	1,3 0.050	1,3 0.050	1,5 0.060
	K2	LPKW09T420TR-D15 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
High feed milling cutters	K3	LPKW09T420TR-D15 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	K4	LPKW09T420TR-D15 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	K5	LPKW09T420TR-D15 MK2050	1,6 0.065	1,0 0.040	1,0 0.040	1,3 0.050
	K6	LPKW09T420TR-D15 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	K7	LPKW09T420TR-D15 MK2050	1,6 0.065	1,0 0.040	1,0 0.040	1,3 0.050
	N1	LPHT09T420R-E08 H25	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
Copy milling cutters	N2	LPHT09T420R-E08 H25	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
	N3	LPHT09T420R-E08 H25	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
	N11	LPHT09T420R-E08 H25	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
Plunge milling cutters	S1	LPKT09T420TR-M13 MP3501	0,95 0.038	0,90 0.036	0,90 0.036	1,1 0.044
	S2	LPKT09T420TR-M13 MP3501	0,95 0.038	0,90 0.036	0,90 0.036	1,1 0.044
	S3	LPKT09T420TR-M13 MP3501	0,95 0.038	0,85 0.034	0,85 0.034	1,0 0.040
	S11	LPKT09T420TR-ME08 MS2050	1,1 0.044	0,60 0.024	0,60 0.024	0,70 0.028
Chamfer milling cutters	S12	LPKT09T420TR-ME08 MS2050	1,1 0.044	0,60 0.024	0,60 0.024	0,70 0.028
	S13	LPKT09T420TR-ME08 MS2050	0,95 0.038	0,55 0.022	0,55 0.022	0,65 0.026
	H5	LPKW09T420TR-D15 MH1051	1,0 0.040	0,85 0.034	0,85 0.034	1,0 0.040
	H8	LPKW09T420TR-D15 MH1051	0,90 0.036	0,70 0.028	0,70 0.028	0,80 0.032
Spot facing cutters	H11	LPKW09T420TR-D15 MP3000	1,0 0.040	0,85 0.034	0,85 0.034	1,0 0.040
	H12	LPKW09T420TR-D15 MP3000	0,90 0.036	0,70 0.028	0,70 0.028	0,80 0.032

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R217/220.21-LP09 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			F40M			MS2050			MP2051			MP2050			Square shoulder and slot milling cutters
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	215	250	295	180	205	255	190	210	250	260	300	355	165	205	295	235	275	330	Helical milling cutters
	—	—	—	710	820	970	590	670	840	620	690	820	850	980	1175	540	670	970	770	900	1075	
P2	—	—	—	200	235	285	165	190	250	185	205	245	245	285	345	160	200	285	230	265	320	Helical milling cutters
	—	—	—	660	770	940	540	620	820	610	670	800	800	940	1125	520	660	940	750	870	1050	
P3	—	—	—	180	210	245	150	175	215	165	185	210	220	250	305	155	190	245	205	235	275	Helical milling cutters
	—	—	—	590	690	800	490	570	710	540	610	690	720	820	1000	510	620	800	670	770	900	
P4	—	—	—	155	185	220	130	155	195	155	175	205	195	220	265	135	170	235	180	210	250	Helical milling cutters
	—	—	—	510	610	720	425	510	640	510	570	670	640	720	870	445	560	770	590	690	820	
P5	215	250	330	150	175	210	125	145	190	140	155	180	190	220	255	130	160	225	170	200	240	Face milling cutters
	710	820	1075	490	570	690	410	475	620	460	510	590	620	720	840	425	520	740	560	660	790	
P6	255	300	370	175	200	235	150	175	210	155	175	205	215	245	285	145	180	250	190	225	270	Face milling cutters
	840	980	1225	570	660	770	490	570	690	510	570	670	710	800	940	475	590	820	620	740	890	
P7	245	280	345	165	190	225	140	165	200	145	165	195	200	230	270	140	170	235	180	210	255	Face milling cutters
	800	920	1125	540	620	740	460	540	660	475	540	640	660	750	890	460	560	770	590	690	840	
P8	215	250	310	150	175	205	125	145	180	140	155	175	185	210	255	130	160	205	170	200	230	Face milling cutters
	710	820	1025	490	570	670	410	475	590	460	510	570	610	690	840	425	520	670	560	660	750	
P11	235	275	340	160	185	220	135	160	195	145	160	190	195	225	260	125	160	240	175	205	245	Face milling cutters
	770	900	1125	520	610	720	445	520	640	475	520	620	640	740	850	410	520	790	570	670	800	
P12	180	200	260	105	120	145	100	115	145	100	110	130	130	150	175	110	135	195	120	135	165	Face milling cutters
	590	660	850	345	395	475	330	375	475	330	360	425	425	490	570	360	445	640	395	445	540	
M1	—	—	—	—	—	—	—	—	—	140	165	200	190	220	265	130	170	255	165	190	230	Disc milling cutters
	—	—	—	—	—	—	—	—	—	460	540	660	620	720	870	425	560	840	540	620	750	
M2	—	—	—	—	—	—	—	—	—	120	140	165	160	185	220	120	150	225	135	160	190	Disc milling cutters
	—	—	—	—	—	—	—	—	—	395	460	540	520	610	720	395	490	740	445	520	620	
M3	—	—	—	—	—	—	—	—	—	95	115	135	130	145	180	115	145	210	110	130	155	Disc milling cutters
	—	—	—	—	—	—	—	—	—	310	375	445	425	475	590	375	475	690	360	425	510	
M4	—	—	—	—	—	—	—	—	—	75	90	105	100	115	140	100	125	175	90	100	120	Disc milling cutters
	—	—	—	—	—	—	—	—	—	245	295	345	330	375	460	330	410	570	295	330	395	
M5	—	—	—	—	—	—	—	—	—	65	75	90	85	95	115	85	100	145	75	85	100	Disc milling cutters
	—	—	—	—	—	—	—	—	—	215	245	295	280	310	375	280	330	475	245	280	330	
K1	280	330	435	215	255	310	155	180	220	140	165	195	—	—	—	—	—	—	—	—	—	High feed milling cutters
	920	1075	1425	710	840	1025	510	590	720	460	540	640	—	—	—	—	—	—	—	—	—	
K2	260	300	395	195	225	275	135	160	195	125	145	175	—	—	—	—	—	—	—	—	—	High feed milling cutters
	850	980	1300	640	740	900	445	520	640	410	475	570	—	—	—	—	—	—	—	—	—	
K3	220	255	335	165	190	230	115	135	165	105	125	150	—	—	—	—	—	—	—	—	—	High feed milling cutters
	720	840	1100	540	620	750	375	445	540	345	410	490	—	—	—	—	—	—	—	—	—	
K4	210	245	320	155	180	220	110	130	155	100	120	140	—	—	—	—	—	—	—	—	—	Copy milling cutters
	690	800	1050	510	590	720	360	425	510	330	395	460	—	—	—	—	—	—	—	—	—	
K5	145	165	200	100	115	135	70	80	95	60	75	85	—	—	—	—	—	—	—	—	—	Copy milling cutters
	475	540	660	330	375	445	230	260	310	195	245	280	—	—	—	—	—	—	—	—	—	
K6	185	215	280	140	160	195	95	115	135	90	105	125	—	—	—	—	—	—	—	—	—	Copy milling cutters
	610	710	920	460	520	640	310	375	445	295	345	410	—	—	—	—	—	—	—	—	—	
K7	185	215	255	125	150	170	90	105	120	80	95	110	—	—	—	—	—	—	—	—	—	Copy milling cutters
	610	710	840	410	490	560	295	345	395	260	310	360	—	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	1025	1175	1425	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	3375	3850	4675	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	410	480	570	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1350	1575	1875	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	275	320	380	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	900	1050	1250	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	315	365	435	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1025	1200	1425	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	36	41	49	47	55	65	43	49	60	43	49	60	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	120	135	160	155	180	215	140	160	195	140	160	195	
S2	—	—	—	—	—	—	—	—	—	29	33	40	38	44	50	35	40	48	35	40	48	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	95	110	130	125	145	165	115	130	155	115	130	155	
S3	—	—	—	—	—	—	—	—	—	25	29	35	33	38	46	30	35	42	30	35	42	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	80	95	115	110	125	150	100	115	140	100	115	140	
S11	—	—	—	—	—	—	—	—	—	49	55	70	65	75	90	60	70	85	60	70	85	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	160	180	230	215	245	295	195	230	280	195	230	280	
S12	—	—	—	—	—	—	—	—	—	34	39	48	45	50	60	41	47	55	41	47	55	Spot facing cutters
	—	—	—	—	—	—	—	—	—	110	130	155	150	165	195	135	155	180	135	155	180	
S13	—	—	—	—	—	—	—	—	—	20	23	28	26	31	36	24	28	33	24	28	33	Spot facing cutters
	—	—	—	—	—	—	—	—	—	65	75	90	85	100	120	80	90	110	80	90	110	

R217/220.21-LP09 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	H25			MP1501			MP2501			MS2500			MP3501			MM4500		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	—	—	—	330	370	440	320	355	425	305	345	415	280	315	375	230	265	315
		—	—	—	1075	1225	1450	1050	1175	1400	1000	1125	1350	920	1025	1225	750	870	1025
Helical milling cutters	P2	—	—	—	320	360	430	310	345	415	295	335	400	270	305	365	220	250	305
	P3	—	—	—	1050	1175	1400	1025	1125	1350	970	1100	1300	890	1000	1200	720	820	1000
		—	—	—	290	325	370	280	310	355	265	300	345	245	275	315	195	220	270
	P4	—	—	—	950	1075	1225	920	1025	1175	870	980	1125	800	900	1025	640	720	890
		—	—	—	255	285	335	245	275	325	235	265	315	215	240	290	185	210	255
Face milling cutters	P5	—	—	—	840	940	1100	800	900	1075	770	870	1025	710	790	950	610	690	840
	P6	—	—	—	245	270	320	235	260	310	225	255	300	205	230	275	170	195	225
		—	—	—	800	890	1050	770	850	1025	740	840	980	670	750	900	560	640	740
	P7	—	—	—	270	305	360	265	295	350	250	285	340	230	260	310	190	215	255
		—	—	—	890	1000	1175	870	970	1150	820	940	1125	750	850	1025	620	710	840
Disc milling cutters	P8	—	—	—	255	290	340	250	280	330	235	270	320	220	245	290	180	205	240
	P11	—	—	—	840	950	1125	820	920	1075	770	890	1050	720	800	950	590	670	790
		—	—	—	245	270	310	235	260	300	225	255	290	205	230	265	165	185	225
	P12	—	—	—	800	890	1025	770	850	980	740	840	950	670	750	870	540	610	740
		—	—	—	250	280	330	240	270	320	230	260	310	210	240	285	175	200	230
High feed milling cutters	M1	—	—	—	820	920	1075	790	890	1050	750	850	1025	690	790	940	570	660	750
	M2	—	—	—	170	190	220	170	185	215	160	175	210	150	165	195	115	130	155
		—	—	—	560	620	720	560	610	710	520	570	690	490	540	640	375	425	510
	M3	—	—	—	—	—	—	170	195	235	180	210	255	155	180	220	145	170	210
		—	—	—	—	—	—	560	640	770	590	690	840	510	590	720	475	560	690
Copy milling cutters	M4	—	—	—	—	—	—	140	165	195	150	175	210	130	150	180	125	145	170
	M5	—	—	—	—	—	—	460	540	640	490	570	690	425	490	590	410	475	560
		—	—	—	—	—	—	115	135	160	125	145	175	105	125	150	100	115	140
	K1	—	—	—	—	—	—	375	445	520	410	475	570	345	410	490	330	375	460
		—	—	—	—	—	—	90	105	125	100	110	135	85	95	115	80	90	110
Plunge milling cutters	K2	—	—	—	—	—	—	295	345	410	330	360	445	280	310	375	260	295	360
	K3	—	—	—	—	—	—	75	85	105	80	95	110	70	80	95	65	75	90
		—	—	—	—	—	—	245	280	345	260	310	360	230	260	310	215	245	295
	K4	—	—	—	—	—	—	200	235	285	180	210	250	250	280	330	—	—	—
		—	—	—	—	—	—	1150	1375	1660	770	940	900	1025	1225	—	—	—	—
Spot facing cutters	K5	—	—	—	—	—	—	390	460	540	420	490	590	420	490	590	—	—	—
	K6	—	—	—	—	—	—	240	270	320	150	180	215	210	235	280	—	—	—
		—	—	—	—	—	—	890	1050	1225	590	690	820	820	920	1075	—	—	—
	K7	—	—	—	—	—	—	230	255	305	145	170	205	200	225	270	—	—	—
		—	—	—	—	—	—	770	870	1025	475	560	670	660	740	890	—	—	—
Chamfer milling cutters	N1	1225	1425	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N2	4025	4675	5650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		495	580	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N3	1625	1900	2275	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		330	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N11	1075	1275	1500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S1	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1225	1450	1750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S2	—	—	—	—	—	—	—	—	—	48	55	65	39	45	55	24	28	33
		—	—	—	—	—	—	—	—	—	155	180	215	130	150	180	80	90	110
Inserts	S3	—	—	—	—	—	—	—	—	—	39	44	55	32	36	44	19	23	27
	S11	—	—	—	—	—	—	—	—	—	130	145	180	105	120	145	60	75	90
		—	—	—	—	—	—	—	—	—	34	39	47	28	32	38	17	20	24
	S12	—	—	—	—	—	—	—	—	—	110	130	155	90	105	125	55	65	80
		—	—	—	—	—	—	—	—	—	65	75	90	55	60	75	33	39	46
Spot facing cutters	S13	—	—	—	—	—	—	—	—	—	215	245	295	180	195	245	110	130	150
	H5	—	—	—	—	—	—	—	—	—	46	55	65	38	43	50	31	36	42
		—	—	—	—	—	—	—	—	—	150	180	215	125	140	165	100	120	140
	H8	—	—	—	—	—	—	—	—	—	27	31	37	22	25	30	18	21	25
		—	—	—	—	—	—	—	—	—	90	100	120	70	80	100	60	70	80
Inserts	H11	—	—	—	47	55	65	—	—	—	41	47	55	36	42	49	—	—	—
	H12	—	—	—	155	180	215	—	—	—	135	155	180	120	140	160	—	—	—
		—	—	—	50	60	70	—	—	—	44	50	60	39	45	55	—	—	—
	H12	—	—	—	165	195	230	—	—	—	145	165	195	130	150	180	—	—	—
		—	—	—	60	70	80	—	—	—	50	60	70	46	55	65	—	—	—



R217/220.21 High Feed 4

Highfeed 4 for LO06 insert types, 4-cutting edge, double sided inserts.

The inserts is strong and reliable for applications with low demands on ramping capability. A wide selection of inserts and geometries make it easy to find the right combination for your application.

- Cutter range 20-63 mm (1 - 2.5 inch)
- Max depth of cut 0.9 mm
- First choice for ISO P & K materials in small-to-medium-size machines

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

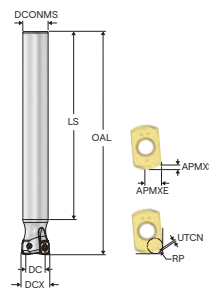
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.21-LO06 – Metric



—For insert selection and cutting data recommendations, see page(s) 622–624
 —For complete insert programme, see page(s) 874
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1820.0-LO06.2A	02952673	Cylindrical	13,3	20,0	2	0,9	2,5	18,0	1,8	0,38	110,0	110,0	160,0	1,0	23400	0,4	LOH.060310
R217.21-2525.0-LO06.3A	02828469	Cylindrical	18,3	25,0	3	0,9	2,5	25,0	1,8	0,38	39,5	124,0	180,0	0,8	20900	0,7	LOH.060310
R217.21-2527.0-LO06.3A	02828470	Cylindrical	20,3	27,0	3	0,9	2,5	25,0	1,8	0,38	140,0	140,0	200,0	0,7	20100	0,8	LOH.060310
R217.21-3232.0-LO06.4A	02828474	Cylindrical	25,3	32,0	4	0,9	2,5	32,0	1,8	0,38	39,5	140,0	200,0	0,5	18500	1,2	LOH.060310

Spare Parts, included in delivery

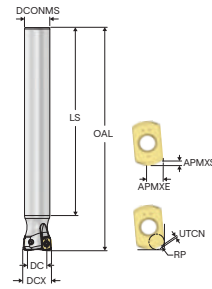
For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T08PX50	C02508-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217.21-LO06 – inch



- For insert selection and cutting data recommendations, see page(s) 622–624
- For complete insert programme, see page(s) 874
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-1.00.0-LO06.3A	02842018	Cylindrical	0.736	1.000	3	0.035	0.098	1.000	0.071	0.015	1.480	4.882	7.000	0,7	20700	1.540	LOH.060310
R217.21-1.25.0-LO06.4A	02842021	Cylindrical	0.984	1.250	4	0.035	0.098	1.250	0.071	0.015	1.480	5.512	8.000	0,5	18600	2.650	LOH.060310

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21..	1/4HEX-T08PX50	C02508-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

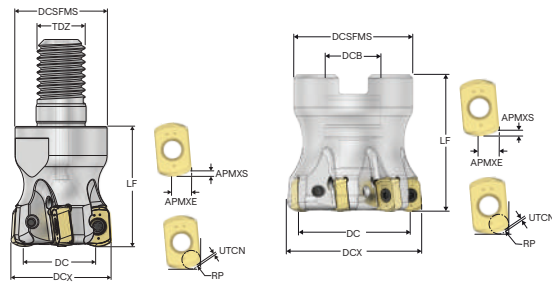
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.21-LO06 – Metric

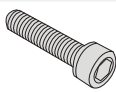


—For insert selection and cutting data recommendations, see page(s) 622–624
 —For complete insert programme, see page(s) 874
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	RP	OAL	RMPX°	RPMX	Weight	Insert		
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm		kg			
R217.21-1020.RE-LO06.2A	03020137	Combimaster	13,3	20,0	2	0,9	2,5	–	18,5	M10	–	28,0	1,8	0,38	46,75	1,0	23400	0,1	LOH.060310
R217.21-1225.RE-LO06.3A	03020140	Combimaster	18,3	25,0	3	0,9	2,5	–	23,0	M12	–	30,0	1,8	0,38	51,75	0,8	20900	0,2	LOH.060310
R217.21-1225.RE-LO06.4A	02828468	Combimaster	18,3	25,0	4	0,9	2,5	–	23,0	M12	–	30,0	1,8	0,38	51,75	0,8	20900	0,1	LOH.060310
R217.21-1632.RE-LO06.4A	02927092	Combimaster	25,3	32,0	4	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	18500	0,2	LOH.060310
R217.21-1632.RE-LO06.5A	02828471	Combimaster	25,3	32,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	18500	0,2	LOH.060310
R217.21-1635.RE-LO06.5A	02828472	Combimaster	28,3	35,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	17700	0,3	LOH.060310
R217.21-2040.RE-LO06.6A	02991177	Combimaster	33,0	40,0	6	0,9	2,5	–	36,5	M20	–	40,0	1,8	0,38	67,0	0,4	16500	0,4	LOH.060310
R217.21-1640.RE-LO06.5A	02828478	Combimaster	33,3	40,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,4	16500	0,3	LOH.060310
R220.21-0035-LO06.6A	02952739	Arbor	28,3	35,0	6	0,9	2,5	16,0	32,0	–	16,0	35,0	1,8	0,38	–	0,5	17700	0,2	LOH.060310
R220.21-0040-LO06.7A	02927090	Arbor	33,3	40,0	7	0,9	2,5	16,0	35,0	–	16,0	40,0	1,8	0,38	–	0,4	16500	0,3	LOH.060310
R220.21-0042-LO06.7A	02828477	Arbor	35,3	42,0	7	0,9	2,5	16,0	35,0	–	16,0	40,0	1,8	0,38	–	0,4	16100	0,3	LOH.060310
R220.21-0050-LO06.8A	02927091	Arbor	43,3	50,0	8	0,9	2,5	22,0	42,0	–	22,0	40,0	1,8	0,38	–	0,3	14800	0,4	LOH.060310
R220.21-0052-LO06.8A	02952735	Arbor	45,3	52,0	8	0,9	2,5	22,0	42,0	–	22,0	40,0	1,8	0,38	–	0,3	14500	0,4	LOH.060310
R220.21-0063-LO06.9A	02952736	Arbor	56,3	63,0	9	0,9	2,5	22,0	47,0	–	22,0	40,0	1,8	0,38	–	0,25	13100	0,6	LOH.060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

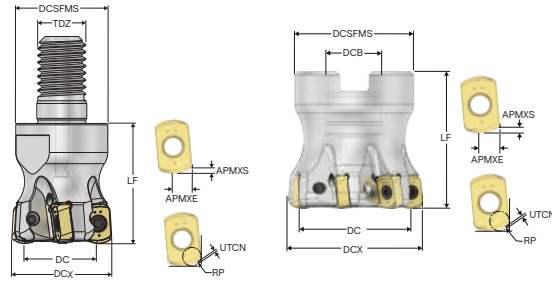
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø35	TCEI0825	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø40-42	220.17-689	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø50-63	220.17-692	1/4HEX-T08PX50	C02508-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LO06 – inch

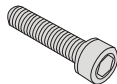


- For insert selection and cutting data recommendations, see page(s) 622–624
- For complete insert programme, see page(s) 874
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFS	TDZ	DCNMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-1.0012RELO06.4A	02842017	Combimaster	0.736	1.000	4	0.035	0.098	–	0.906	M12	–	1.181	0.071	0.015	2.037	0,7	20700	0.440	LOH.060310
R217.21-1.5016RELO06.5A	02952695	Combimaster	1.236	1.500	5	0.035	0.098	–	1.181	M16	–	1.378	0.071	0.015	2.274	0,4	16900	0.440	LOH.060310
R217.21-01.50-20RE-LO06.6A	03002406	Combimaster	1.299	1.500	6	0.035	0.098	–	1.437	M20	–	1.575	0.071	0.015	2.638	0,4	16900	0.660	LOH.060310
R220.21-2.00-LO06.8A	02952697	Arbor	1.736	2.000	8	0.035	0.098	0.750	1.654	–	0.750	1.500	0.071	0.015	–	0,3	14700	0.880	LOH.060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-...	–	1/4HEX-T08PX50	C02508-T08P
R220.21-2.00-2.50	UC6S3/8UNFX1	1/4HEX-T08PX50	C02508-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.21-LO06 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	LOHT060310TR-M07 MP3501	0,80 0.032	0,60 0.024	0,60 0.024	0,70 0.028
	P2	LOHT060310TR-M07 MP3501	0,80 0.032	0,60 0.024	0,60 0.024	0,70 0.028
Helical milling cutters	P3	LOHT060310TR-M07 MP2501	0,80 0.032	0,60 0.024	0,60 0.024	0,65 0.026
	P4	LOHT060310TR-M07 MP2501	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	P5	LOHT060310TR-M07 MP2501	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	P6	LOHT060310TR-M07 MP2501	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	P7	LOHT060310TR-M07 MP2501	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	P8	LOHT060310TR-M07 MP2501	0,80 0.032	0,60 0.024	0,60 0.024	0,65 0.026
	P11	LOHT060310TR-M07 MP3501	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
Face milling cutters	P12	LOHT060310TR-M07 MP2501	0,65 0.026	0,42 0.017	0,42 0.017	0,48 0.019
	M1	LOHT060310TR-ME06 MS2050	0,80 0.032	0,55 0.022	0,55 0.022	0,60 0.024
Disc milling cutters	M2	LOHT060310TR-ME06 MS2050	0,80 0.032	0,48 0.019	0,48 0.019	0,55 0.022
	M3	LOHT060310TR-ME06 MS2050	0,65 0.026	0,44 0.017	0,44 0.017	0,48 0.019
	M4	LOHT060310TR-ME06 MP3501	0,48 0.019	0,44 0.017	0,44 0.017	0,50 0.020
	M5	LOHT060310TR-ME06 MP3501	0,48 0.019	0,44 0.017	0,44 0.017	0,50 0.020
	K1	LOHT060310TR-MD07 MK2050	0,80 0.032	0,60 0.024	0,60 0.024	0,70 0.028
High feed milling cutters	K2	LOHT060310TR-MD07 MK2050	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	K3	LOHT060310TR-MD07 MK2050	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	K4	LOHT060310TR-MD07 MK2050	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	K5	LOHT060310TR-MD07 MK2050	0,80 0.032	0,50 0.020	0,50 0.020	0,55 0.022
	K6	LOHT060310TR-MD07 MK2050	0,80 0.032	0,55 0.022	0,55 0.022	0,65 0.026
	K7	LOHT060310TR-MD07 MK2050	0,80 0.032	0,50 0.020	0,50 0.020	0,55 0.022
	S1	LOHT060310TR-ME06 MP3501	0,48 0.019	0,44 0.017	0,44 0.017	0,50 0.020
Copy milling cutters	S2	LOHT060310TR-ME06 MP3501	0,48 0.019	0,44 0.017	0,44 0.017	0,50 0.020
	S3	LOHT060310TR-ME06 MP3501	0,48 0.019	0,42 0.017	0,42 0.017	0,46 0.018
	S11	LOHT060310TR-ME06 MS2050	0,55 0.022	0,46 0.018	0,46 0.018	0,55 0.022
Plunge milling cutters	S12	LOHT060310TR-ME06 MS2050	0,55 0.022	0,46 0.018	0,46 0.018	0,55 0.022
	S13	LOHT060310TR-ME06 MS2050	0,48 0.019	0,44 0.017	0,44 0.017	0,50 0.020
	H5	LOHW060310TR-D07 MH1051	0,50 0.020	0,42 0.017	0,42 0.017	0,48 0.019
Chamfer milling cutters	H8	LOHW060310TR-D07 MH1051	0,44 0.017	0,36 0.014	0,36 0.014	0,40 0.016
	H11	LOHT060310TR-MD07 MP1501	0,50 0.020	0,42 0.017	0,42 0.017	0,48 0.019
	H12	LOHT060310TR-MD07 MP1501	0,44 0.017	0,36 0.014	0,36 0.014	0,40 0.016

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Spot facing cutters
Inserts

R217/220.21-LO06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	250	280	335	255	285	345	270	300	365	240	255	300	300	335	430	Square shoulder and slot milling cutters
	—	—	—	820	920	1100	840	940	1125	890	980	1200	790	840	980	980	1100	1400	
P2	—	—	—	240	270	325	250	275	335	265	290	355	235	250	290	290	325	415	Helical milling cutters
	—	—	—	790	890	1075	820	900	1100	870	950	1175	770	820	950	950	1075	1350	
P3	—	—	—	205	235	285	215	235	300	235	260	305	200	215	260	250	280	375	Helical milling cutters
	—	—	—	670	770	940	710	770	980	770	850	1000	660	710	850	820	920	1225	
P4	—	—	—	185	205	250	190	210	260	205	230	275	180	200	240	220	245	330	Helical milling cutters
	—	—	—	610	670	820	620	690	850	670	750	900	590	660	790	720	800	1075	
P5	320	355	440	180	200	240	185	205	250	200	220	260	175	185	215	225	250	315	Helical milling cutters
	1050	1175	1450	590	660	790	610	670	820	660	720	850	570	610	710	740	820	1025	
P6	360	400	495	200	225	270	210	235	280	225	250	295	195	210	245	250	280	350	Face milling cutters
	1175	1300	1625	660	740	890	690	770	920	740	820	970	640	690	800	820	920	1150	
P7	340	380	465	190	215	255	200	220	265	210	235	280	185	200	230	235	265	330	Face milling cutters
	1125	1250	1525	620	710	840	660	720	870	690	770	920	610	660	750	770	870	1075	
P8	310	340	440	175	195	240	180	200	250	195	220	255	170	180	215	210	235	315	Face milling cutters
	1025	1125	1450	570	640	790	590	660	820	640	720	840	560	590	710	690	770	1025	
P11	330	365	450	185	205	245	195	215	260	205	225	270	180	195	225	215	260	355	Face milling cutters
	1075	1200	1475	610	670	800	640	710	850	670	740	890	590	640	740	710	850	1175	
P12	235	255	310	120	135	160	130	145	170	135	150	175	120	130	150	155	185	245	Face milling cutters
	770	840	1025	395	445	520	425	475	560	445	490	570	395	425	490	510	610	800	
M1	—	—	—	—	—	—	175	195	235	195	220	265	165	185	220	240	285	400	Disc milling cutters
	—	—	—	—	—	—	570	640	770	640	720	870	540	610	720	790	940	1300	
M2	—	—	—	—	—	—	145	160	195	165	185	220	135	155	185	205	245	335	Disc milling cutters
	—	—	—	—	—	—	475	520	640	540	610	720	445	510	610	670	800	1100	
M3	—	—	—	—	—	—	115	130	155	130	150	175	110	125	145	175	210	280	Disc milling cutters
	—	—	—	—	—	—	375	425	510	425	490	570	360	410	475	570	690	920	
M4	—	—	—	—	—	—	90	100	120	105	115	140	85	95	115	140	170	225	Disc milling cutters
	—	—	—	—	—	—	295	330	395	345	375	460	280	310	375	460	560	740	
M5	—	—	—	—	—	—	75	85	100	85	95	115	70	80	95	120	140	185	Disc milling cutters
	—	—	—	—	—	—	245	280	330	280	310	375	230	260	310	395	460	610	
K1	430	475	590	260	295	350	185	205	245	—	—	—	160	180	220	—	—	—	High feed milling cutters
	1400	1550	1925	850	970	1150	610	670	800	—	—	—	520	590	720	—	—	—	
K2	390	430	530	230	260	310	165	185	220	—	—	—	145	160	195	—	—	—	High feed milling cutters
	1275	1400	1750	750	850	1025	540	610	720	—	—	—	475	520	640	—	—	—	
K3	330	365	450	195	220	260	140	155	185	—	—	—	120	135	165	—	—	—	High feed milling cutters
	1075	1200	1475	640	720	850	460	510	610	—	—	—	395	445	540	—	—	—	
K4	315	350	430	185	210	250	130	150	175	—	—	—	115	130	155	—	—	—	High feed milling cutters
	1025	1150	1400	610	690	820	425	490	570	—	—	—	375	425	510	—	—	—	
K5	195	220	265	115	130	150	80	90	110	—	—	—	70	80	95	—	—	—	Copy milling cutters
	640	720	870	375	425	490	260	295	360	—	—	—	230	260	310	—	—	—	
K6	275	305	380	165	185	220	115	130	155	—	—	—	100	115	135	—	—	—	Copy milling cutters
	900	1000	1250	540	610	720	375	425	510	—	—	—	330	375	445	—	—	—	
K7	250	280	340	145	165	195	105	115	140	—	—	—	90	100	120	—	—	—	Copy milling cutters
	820	920	1125	475	540	640	345	375	460	—	—	—	295	330	395	—	—	—	
S1	—	—	—	—	—	—	42	47	55	48	55	65	40	45	55	48	55	65	Plunge milling cutters
	—	—	—	—	—	—	140	155	180	155	180	215	130	150	180	155	180	215	
S2	—	—	—	—	—	—	34	38	45	39	43	50	32	36	43	39	43	50	Plunge milling cutters
	—	—	—	—	—	—	110	125	150	130	140	165	105	120	140	130	140	165	
S3	—	—	—	—	—	—	30	33	40	34	38	45	28	32	38	34	38	46	Plunge milling cutters
	—	—	—	—	—	—	100	110	130	110	125	150	90	105	125	110	125	150	
S11	—	—	—	—	—	—	60	65	80	65	75	90	55	65	75	65	75	90	Plunge milling cutters
	—	—	—	—	—	—	195	215	260	215	245	295	180	215	245	215	245	295	
S12	—	—	—	—	—	—	41	46	55	46	50	60	38	44	50	46	55	65	Chamfer milling cutters
	—	—	—	—	—	—	135	150	180	150	165	195	125	145	165	150	180	215	
S13	—	—	—	—	—	—	24	26	32	27	30	36	23	25	30	27	30	36	Chamfer milling cutters
	—	—	—	—	—	—	80	85	105	90	100	120	75	80	100	90	100	120	
H5	125	140	170	—	—	—	37	42	50	—	—	—	35	39	47	—	—	—	Chamfer milling cutters
	410	460	560	—	—	—	120	140	165	—	—	—	115	130	155	—	—	—	
H8	140	150	180	—	—	—	40	44	55	—	—	—	37	42	50	—	—	—	Chamfer milling cutters
	460	490	590	—	—	—	130	145	180	—	—	—	120	140	165	—	—	—	
H11	160	180	215	—	—	—	47	55	65	—	—	—	45	50	60	105	130	165	Spot facing cutters
	520	590	710	—	—	—	155	180	215	—	—	—	150	165	195	345	425	540	
H12	160	175	210	80	90	105	75	85	100	—	—	—	65	75	90	100	125	155	Spot facing cutters
	520	570	690	260	295	345	245	280	330	—	—	—	215	245	295	330	410	510	

R217/220.21-LO06 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2050			MP2501			MS2500			MP2501			MP3501		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	270 890	305 1000	365 1200	390 1275	425 1400	490 1600	375 1225	405 1325	475 1550	390 1275	425 1400	490 1600	350 1150	380 1250	440 1450
	P2	265 870	300 980	355 1175	380 1250	410 1350	480 1575	365 1200	395 1300	460 1500	380 1250	410 1350	480 1575	340 1125	370 1225	430 1400
Helical milling cutters	P3	230 750	255 840	315 1025	325 1075	355 1175	420 1375	315 1025	340 1125	405 1325	325 1075	355 1175	420 1375	290 950	315 1025	375 1225
	P4	200 660	225 740	275 900	290 950	310 1025	370 1225	275 900	300 980	355 1175	290 950	310 1025	370 1225	255 840	280 920	330 1075
Face milling cutters	P5	195 640	220 720	265 870	285 940	305 1000	355 1175	270 890	295 970	340 1125	285 940	305 1000	355 1175	255 840	275 900	315 1025
	P6	220 720	250 820	295 970	315 1025	345 1125	395 1300	305 1000	330 1075	385 1275	315 1025	345 1125	395 1300	285 940	305 1000	355 1175
Disc milling cutters	P7	210 690	235 770	280 920	300 980	325 1075	375 1225	285 940	310 1025	360 1175	300 980	325 1075	375 1225	270 890	290 950	335 1100
	P8	190 620	215 710	265 870	275 900	300 980	355 1175	265 870	285 940	340 1125	275 900	300 980	355 1175	245 800	265 870	315 1025
High feed milling cutters	P11	200 660	225 740	270 890	290 950	315 1025	365 1200	280 920	305 1000	350 1150	290 950	315 1025	365 1200	260 850	280 920	325 1075
	P12	130 425	145 475	175 570	190 620	205 670	235 770	180 590	195 640	225 740	190 620	205 670	235 770	170 560	185 610	210 690
Copy milling cutters	M1	190 620	215 710	255 840	195 640	220 720	260 850	210 690	235 770	285 940	195 640	220 720	260 850	180 590	205 670	245 800
	M2	155 510	175 570	210 690	160 520	180 590	215 710	175 570	195 640	235 770	160 520	180 590	215 710	150 490	170 560	200 660
Plunge milling cutters	M3	125 410	140 460	170 560	130 425	145 475	175 570	140 460	160 520	190 620	130 425	145 475	175 570	120 395	135 445	160 520
	M4	100 330	110 360	130 425	100 330	115 375	135 445	110 360	125 410	145 475	100 330	115 375	135 445	95 310	105 345	125 410
Spot facing cutters	M5	85 280	90 295	110 360	85 280	95 310	115 375	90 295	100 330	125 410	85 280	95 310	115 375	80 260	90 295	105 345
	K1	— —	— —	— —	385 1275	415 1350	485 1600	235 770	260 850	315 1025	385 1275	415 1350	485 1600	345 1125	370 1225	430 1400
Chamfer milling cutters	K2	— —	— —	— —	340 1125	370 1225	425 1400	205 670	235 770	280 920	340 1125	370 1225	425 1400	305 1000	330 1075	385 1275
	K3	— —	— —	— —	290 950	315 1025	360 1175	175 570	195 640	235 770	290 950	315 1175	360 1175	260 850	280 920	325 1075
Spot facing cutters	K4	— —	— —	— —	275 900	300 980	345 1125	165 540	190 620	225 740	275 900	300 980	345 1125	245 800	265 870	310 1025
	K5	— —	— —	— —	170 560	185 610	210 690	100 330	115 375	135 445	170 560	185 610	210 690	150 490	165 540	190 620
Spot facing cutters	K6	— —	— —	— —	245 800	265 870	305 1000	145 475	165 540	200 660	245 800	265 870	305 1000	220 720	235 770	270 890
	K7	— —	— —	— —	215 710	235 770	270 890	130 425	145 475	175 570	215 710	235 770	270 890	195 640	210 690	240 790
Spot facing cutters	N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Spot facing cutters	N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
	N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Spot facing cutters	S1	48 155	55 180	65 215	— —	— —	— —	55 180	60 195	70 230	— —	— —	— —	44 145	49 160	60 195
	S2	39 130	43 140	50 165	— —	— —	— —	43 140	48 155	60 195	— —	— —	— —	36 120	40 130	47 155
Spot facing cutters	S3	34 110	38 125	46 150	— —	— —	— —	38 125	43 140	50 165	— —	— —	— —	31 100	35 115	42 140
	S11	65 215	75 245	90 295	— —	— —	— —	75 245	85 280	100 330	— —	— —	— —	60 195	70 230	80 260
Spot facing cutters	S12	46 150	55 180	65 215	— —	— —	— —	50 165	60 195	70 230	— —	— —	— —	42 140	48 155	55 180
	S13	27 90	30 100	36 120	— —	— —	— —	30 100	34 110	40 130	— —	— —	— —	25 80	28 90	33 110
Spot facing cutters	H5	— —	— —	— —	— —	— —	— —	46 150	50 165	60 195	— —	— —	— —	40 130	45 150	55 180
	H8	— —	— —	— —	— —	— —	— —	49 160	55 180	65 215	— —	— —	— —	43 140	48 155	55 180
Spot facing cutters	H11	50 165	60 195	70 230	— —	— —	— —	60 195	65 215	80 260	— —	— —	— —	50 165	60 195	70 230
	H12	85 280	95 310	115 375	— —	— —	— —	95 310	110 360	130 425	— —	— —	— —	75 245	85 280	100 330



R217/220.21 High Feed 6

High feed 6, for 218.21 insert type, 6-cutting edge, double sided inserts.

This family consists of shell end mill bodies with fixed pockets and very strong negative inserts with six cutting edges.

- Cutter range 40-160 mm (1.5 - 6 inch)
- Max depth of cut 1.8 mm
- First choice for ISO P & K materials for medium-size machines

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

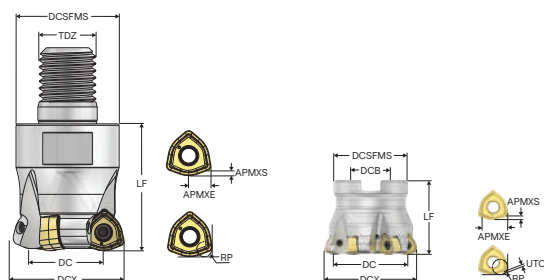
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

ure shoulder
slot milling
cutters



Face milling cutters

Disc milling cutters

Copy milling cutters

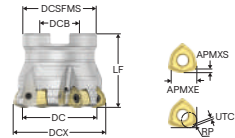
Large milling cutters

Transfer milling cutters

Spot facing cutters

Inserts

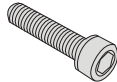
R220.21-R230 – inch



- For insert selection and cutting data recommendations, see page(s) 628–630
- For complete insert programme, see page(s) 931
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.00-R230.4A	02842027	Arbor	1.421	2.000	4	0.071	0.394	0.750	1.654	0.750	1.575	0.131	0.033	0,9	12100	0.660	218.21-230
R220.21-02.00-R230.5A	02842026	Arbor	1.421	2.000	5	0.071	0.394	0.750	1.654	0.750	1.575	0.131	0.033	0,9	12100	0.880	218.21-230
R220.21-02.50-R230.5A	02842028	Arbor	1.921	2.500	5	0.071	0.394	0.750	1.850	0.750	1.575	0.131	0.035	0,6	9600	1.100	218.21-230
R220.21-02.50-R230.6A	02842029	Arbor	1.921	2.500	6	0.071	0.394	0.750	1.850	0.750	1.575	0.131	0.035	0,6	9600	1.100	218.21-230
R220.21-03.00-R230.5A	02842030	Arbor	2.429	2.996	5	0.071	0.394	1.000	2.441	1.000	1.969	0.131	0.034	0,5	9800	1.980	218.21-230
R220.21-03.00-R230.6A	02842031	Arbor	2.429	2.996	6	0.071	0.394	1.000	2.441	1.000	1.969	0.131	0.034	0,5	9800	2.200	218.21-230
R220.21-04.00-R230.7A	03067226	Arbor	3.433	4.000	7	0.071	0.394	1.500	3.543	1.500	1.969	0.130	0.035	0,3	8500	3.970	218.21-230

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R217/220.21-R230 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	218.21-230TR-06-M15 MP3501	1,6 0.065	1,3 0.050	1,3 0.050	1,5 0.060
	P2	218.21-230TR-06-M15 MP3501	1,6 0.065	1,3 0.050	1,3 0.050	1,5 0.060
Helical milling cutters	P3	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P4	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P5	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P6	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P7	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P8	218.21-230TR-06-M15 MP2501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
Face milling cutters	P11	218.21-230TR-06-M15 MP3501	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	P12	218.21-230TR-06-M15 MP2501	1,3 0.050	0,85 0.034	0,85 0.034	0,95 0.038
	M1	218.21-230TR-06-ME13 MS2050	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	M2	218.21-230TR-06-ME13 MS2050	1,6 0.065	1,0 0.040	1,0 0.040	1,2 0.048
Disc milling cutters	M3	218.21-230TR-06-ME13 MS2050	1,3 0.050	0,85 0.034	0,85 0.034	1,0 0.040
	M4	218.21-230TR-06-M15 MP3501	0,95 0.038	1,0 0.040	1,0 0.040	1,1 0.044
	M5	218.21-230TR-06-M15 MP3501	0,95 0.038	1,0 0.040	1,0 0.040	1,1 0.044
	K1	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,5 0.060	1,5 0.060	1,7 0.065
	K2	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,4 0.055	1,4 0.055	1,6 0.065
High feed milling cutters	K3	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,4 0.055	1,4 0.055	1,6 0.065
	K4	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,4 0.055	1,4 0.055	1,6 0.065
	K5	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	K6	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,4 0.055	1,4 0.055	1,6 0.065
	K7	218.21-230TR-06-MD17 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	S1	218.21-230TR-06-M15 MP3501	0,95 0.038	1,0 0.040	1,0 0.040	1,1 0.044
Copy milling cutters	S2	218.21-230TR-06-M15 MP3501	0,95 0.038	1,0 0.040	1,0 0.040	1,1 0.044
	S3	218.21-230TR-06-M15 MP3501	0,95 0.038	0,90 0.036	0,90 0.036	1,0 0.040
	S11	218.21-230TR-06-ME13 MS2050	1,1 0.044	0,95 0.038	0,95 0.038	1,1 0.044
Plunge milling cutters	S12	218.21-230TR-06-ME13 MS2050	1,1 0.044	0,95 0.038	0,95 0.038	1,1 0.044
	S13	218.21-230TR-06-ME13 MS2050	0,95 0.038	0,85 0.034	0,85 0.034	0,95 0.038
	H5	218.21-230TR-06-MD17 MP3000	1,0 0.040	0,95 0.038	0,95 0.038	1,1 0.044
	H8	218.21-230TR-06-MD17 MP3000	0,90 0.036	0,75 0.030	0,75 0.030	0,85 0.034
Chamfer milling cutters	H11	218.21-230TR-06-MD17 MP1501	1,0 0.040	0,95 0.038	0,95 0.038	1,1 0.044
	H12	218.21-230TR-06-MD17 MP1501	0,90 0.036	0,75 0.030	0,75 0.030	0,85 0.034

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.21-R230 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050			MP3000			MS2050			F40M			MP2050			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	190	215	260	150	165	220	200	225	270	165	180	220	215	240	295	Square shoulder and slot milling cutters
	620	710	850	490	540	720	660	740	890	540	590	720	710	790	970	
P2	185	210	255	145	160	215	195	215	265	160	175	215	205	235	285	Helical milling cutters
	610	690	840	475	520	710	640	710	870	520	570	710	670	770	940	
P3	160	185	225	130	145	190	165	185	235	145	155	190	185	210	250	Helical milling cutters
	520	610	740	425	475	620	540	610	770	475	510	620	610	690	820	
P4	140	160	195	115	130	170	155	170	205	135	150	180	160	185	220	Helical milling cutters
	460	520	640	375	425	560	510	560	670	445	490	590	520	610	720	
P5	140	160	190	115	130	160	145	165	200	120	130	160	155	175	210	Helical milling cutters
	460	520	620	375	425	520	475	540	660	395	425	520	510	570	690	
P6	155	180	215	130	145	190	165	185	220	135	150	180	175	195	240	Face milling cutters
	510	590	710	425	475	620	540	610	720	445	490	590	570	640	790	
P7	150	170	205	125	140	180	155	175	210	130	140	170	165	185	225	Face milling cutters
	490	560	670	410	460	590	510	570	690	425	460	560	540	610	740	
P8	135	155	190	110	125	160	140	155	200	120	130	160	155	175	210	Face milling cutters
	445	510	620	360	410	520	460	510	660	395	425	520	510	570	690	
P11	145	165	200	120	135	175	150	170	205	125	135	165	160	180	220	Face milling cutters
	475	540	660	395	445	570	490	560	670	410	445	540	520	590	720	
P12	95	110	130	90	100	125	105	115	140	90	95	115	105	120	145	Face milling cutters
	310	360	425	295	330	410	345	375	460	295	310	375	345	395	475	
M1	—	—	—	130	150	185	155	175	210	130	145	180	150	170	205	Disc milling cutters
	—	—	—	425	490	610	510	570	690	425	475	590	490	560	670	
M2	—	—	—	110	125	150	130	145	175	105	120	145	125	140	170	Disc milling cutters
	—	—	—	360	410	490	425	475	570	345	395	475	410	460	560	
M3	—	—	—	90	105	125	105	120	145	90	100	120	100	115	140	Disc milling cutters
	—	—	—	295	345	410	345	395	475	295	330	395	330	375	460	
M4	—	—	—	70	80	100	80	90	110	70	75	95	80	90	110	Disc milling cutters
	—	—	—	230	260	330	260	295	360	230	245	310	260	295	360	
M5	—	—	—	60	65	80	70	75	95	55	65	80	65	75	90	High feed milling cutters
	—	—	—	195	215	260	230	245	310	180	215	260	215	245	295	
K1	200	225	275	140	160	195	—	—	—	125	145	175	—	—	—	High feed milling cutters
	660	740	900	460	520	640	—	—	—	410	475	570	—	—	—	
K2	180	205	245	125	145	170	—	—	—	115	130	155	—	—	—	High feed milling cutters
	590	670	800	410	475	560	—	—	—	375	425	510	—	—	—	
K3	155	175	205	110	120	145	—	—	—	95	110	130	—	—	—	High feed milling cutters
	510	570	670	360	395	475	—	—	—	310	360	425	—	—	—	
K4	145	165	195	105	115	140	—	—	—	90	105	125	—	—	—	Copy milling cutters
	475	540	640	345	375	460	—	—	—	295	345	410	—	—	—	
K5	90	100	120	65	70	85	—	—	—	55	65	80	—	—	—	Copy milling cutters
	295	330	395	215	230	280	—	—	—	180	215	260	—	—	—	
K6	130	145	175	90	105	120	—	—	—	80	90	110	—	—	—	Copy milling cutters
	425	475	570	295	345	395	—	—	—	260	295	360	—	—	—	
K7	115	130	155	80	90	110	—	—	—	70	80	100	—	—	—	Copy milling cutters
	375	425	510	260	295	360	—	—	—	230	260	330	—	—	—	
S1	—	—	—	33	37	46	38	43	50	32	36	44	38	43	55	Plunge milling cutters
	—	—	—	110	120	150	125	140	165	105	120	145	125	140	180	
S2	—	—	—	27	30	37	31	35	42	26	29	35	31	35	43	Plunge milling cutters
	—	—	—	90	100	120	100	115	140	85	95	115	100	115	140	
S3	—	—	—	24	26	33	27	30	37	23	26	31	28	31	37	Plunge milling cutters
	—	—	—	80	85	110	90	100	120	75	85	100	90	100	120	
S11	—	—	—	46	50	65	55	60	70	44	50	60	55	60	75	Plunge milling cutters
	—	—	—	150	165	215	180	195	230	145	165	195	180	195	245	
S12	—	—	—	32	36	44	37	41	50	30	35	43	37	42	50	Chamfer milling cutters
	—	—	—	105	120	145	120	135	165	100	115	140	120	140	165	
S13	—	—	—	19	21	26	21	24	29	18	20	25	22	24	30	Chamfer milling cutters
	—	—	—	60	70	85	70	80	95	60	65	80	70	80	100	
H5	—	—	—	30	34	40	—	—	—	29	32	38	—	—	—	Chamfer milling cutters
	—	—	—	100	110	130	—	—	—	95	105	125	—	—	—	
H8	—	—	—	32	36	44	—	—	—	31	35	42	—	—	—	Chamfer milling cutters
	—	—	—	105	120	145	—	—	—	100	115	140	—	—	—	
H11	—	—	—	38	43	50	—	—	—	36	41	49	43	48	55	Spot facing cutters
	—	—	—	125	140	165	—	—	—	120	135	160	140	155	180	
H12	65	70	90	60	70	85	—	—	—	55	60	75	70	80	100	Spot facing cutters
	215	230	295	195	230	280	—	—	—	180	195	245	230	260	330	

R217/220.21-R230 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	255 840	280 920	345 1125	285 940	310 1025	375 1225	270 890	300 980	365 1200	250 820	270 890	330 1075	170 560	190 620	235 770
	P2	250 820	275 900	335 1100	275 900	300 980	365 1200	265 870	290 950	355 1175	240 790	265 870	320 1050	165 540	185 610	230 750
Helical milling cutters	P3	220 720	245 800	295 970	245 800	270 890	325 1075	235 770	260 850	315 1025	215 710	235 770	285 940	145 475	160 520	205 670
	P4	195 640	215 710	260 850	220 720	240 790	285 940	210 690	230 750	275 900	190 620	210 690	250 820	145 475	160 520	195 640
	P5	195 640	210 690	250 820	210 690	225 740	275 900	200 660	220 720	265 870	180 590	200 660	240 790	125 410	140 460	170 560
	P6	215 710	240 790	285 940	235 770	255 840	305 1000	225 740	245 800	295 970	205 670	225 740	270 890	145 475	160 520	195 640
Face milling cutters	P7	205 670	225 740	270 890	220 720	240 790	290 950	210 690	230 750	280 920	195 640	210 690	255 840	135 445	150 490	185 610
	P8	185 610	205 670	250 820	210 690	225 740	275 900	200 660	220 720	265 870	180 590	200 660	240 790	120 395	135 445	170 560
	P11	200 660	220 720	265 870	215 710	235 770	280 920	205 670	225 740	270 890	190 620	205 670	250 820	130 425	145 475	175 570
	P12	140 460	150 490	175 570	150 490	165 540	195 640	145 475	155 510	190 620	135 445	145 475	175 570	90 295	100 330	125 410
Disc milling cutters	M1	— —	— —	— —	150 490	175 570	210 690	165 540	185 610	230 750	140 460	160 520	195 640	120 395	140 460	165 540
	M2	— —	— —	— —	125 410	145 475	175 570	135 445	155 510	190 620	120 395	135 445	160 520	100 330	115 375	135 445
	M3	— —	— —	— —	105 345	115 375	145 475	115 375	125 410	155 510	95 310	110 360	135 445	80 260	95 310	115 375
	M4	— —	— —	— —	80 260	90 295	110 360	90 295	100 330	120 395	75 245	85 280	105 345	65 215	70 230	90 295
	M5	— —	— —	— —	65 215	75 245	95 310	75 245	80 260	100 330	65 215	70 230	85 280	55 180	60 195	75 245
High feed milling cutters	K1	250 820	275 900	340 1125	280 920	305 1000	370 1225	180 590	205 670	250 820	245 800	265 870	325 1075	— —	— —	— —
	K2	235 770	255 840	300 980	250 820	275 900	330 1075	165 540	185 610	225 740	220 720	240 790	290 950	— —	— —	— —
	K3	200 660	215 710	255 840	215 710	230 750	280 920	140 460	155 510	190 620	185 610	205 670	245 800	— —	— —	— —
	K4	190 620	205 670	245 800	205 670	220 720	265 870	130 425	150 490	180 590	180 590	195 640	235 770	— —	— —	— —
	K5	115 375	130 425	155 510	125 410	140 460	170 560	80 260	90 295	115 375	110 360	120 395	150 490	— —	— —	— —
	K6	165 540	180 590	215 710	180 590	195 640	235 770	115 375	130 425	160 520	155 510	170 560	205 670	— —	— —	— —
	K7	150 490	165 540	195 640	160 520	175 570	215 710	105 345	115 375	145 475	140 460	155 510	190 620	— —	— —	— —
Copy milling cutters	S1	— —	— —	— —	— —	— —	— —	43 140	48 155	60 195	35 115	40 130	48 155	20 65	22 70	27 90
	S2	— —	— —	— —	— —	— —	— —	34 110	39 130	48 155	28 90	32 105	39 130	16 50	18 60	22 70
	S3	— —	— —	— —	— —	— —	— —	31 100	35 115	42 140	25 80	28 90	34 110	14 46	16 50	19 60
	S11	— —	— —	— —	— —	— —	— —	60 195	70 230	85 280	48 155	55 180	70 230	27 90	31 100	37 120
	S12	— —	— —	— —	— —	— —	— —	41 135	47 155	55 180	33 110	39 130	47 155	25 80	28 90	34 110
Plunge milling cutters	S13	— —	— —	— —	— —	— —	— —	24 80	27 90	33 110	20 65	22 70	27 90	15 49	17 55	20 65
	H5	38 125	43 140	50 165	— —	— —	— —	37 120	42 140	50 165	33 110	37 120	44 145	— —	— —	— —
	H8	41 135	46 150	55 180	— —	— —	— —	40 130	45 150	55 180	35 115	40 130	48 155	— —	— —	— —
Chamfer milling cutters	H11	48 155	55 180	65 215	— —	— —	— —	47 155	55 180	65 215	42 140	47 155	55 180	— —	— —	— —
	H12	75 245	80 260	100 330	— —	— —	— —	80 260	90 295	110 360	65 215	70 230	85 280	— —	— —	— —
Spot facing cutters																
Inserts																



R220.21 (ON09) High Feed

High feed double octomill insert cutters. ON09 inserts have 16 cutting edges, making them the most cost-effective choice for face milling applications using a high feed strategy. HSS pins securely position inserts in the fixed pockets of the cutter and decrease the time required for indexing.

- Cutter range 80-160 mm (3 - 6 inch)
- Max depth of cut 2 mm (.078 inch)
- Facing applications only

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

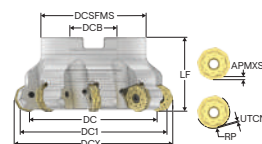
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

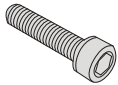
R220.21-ON09 – Metric



—For insert selection and cutting data recommendations, see page(s) 634–635
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	UTCN	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		kg	
R220.21-0080-ON09-6A	02848781	Arbor	65,35	89,9	6	2,0	7,0	27,0	62,0	50,0	10,28	0,85	4400	1,0	ON..09
R220.21-0100-ON09-7A	02848782	Arbor	85,35	109,9	7	2,0	7,0	32,0	77,0	50,0	10,28	0,85	3900	1,5	ON..09
R220.21-0125-ON09-8A	02848783	Arbor	110,35	134,9	8	2,0	7,0	40,0	90,0	63,0	10,28	0,85	3500	2,9	ON..09
R220.21-8160-ON09-10	02848784	Arbor	145,35	169,9	10	2,0	7,0	40,0	90,0	63,0	10,28	0,85	3100	4,2	ON..09

Spare Parts, included in delivery

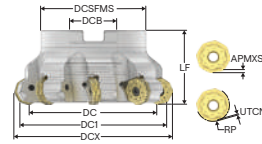
For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.21-0100-0125	–	1/4HEX-T20PX90	C05013-T20P
R220.21-8160	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

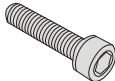
R220.21-ON09 – inch



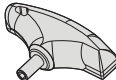
—For insert selection and cutting data recommendations, see page(s) 634–635
 —For complete insert programme, see page(s) 884
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	UTCN	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		lbs	
R220.21-03.00-ON09-6A	02848785	Arbor	2.423	3.389	6	0.079	0.276	1.000	2.441	1.969	0.405	0.033	4400	1.980	ON..09
R220.21-06.00-ON09-10	02848788	Arbor	5.423	6.389	10	0.079	0.276	2.000	4.331	2.480	0.405	0.033	3200	8.380	ON..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P
R220.21-06.00	—	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-03.00	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.21-ON09 – Insert selection – mm/Inch

	SMG		a_p	f_z	
				70%	30%
Square shoulder and slot milling cutters	P1	ONMU090512TN-ME16 MP3501	2,0 0.080	0,75 0.030	0,85 0.034
	P2	ONMU090512TN-ME16 MP3501	2,0 0.080	0,75 0.030	0,85 0.034
Helical milling cutters	P3	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,80 0.032
	P4	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,80 0.032
	P5	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,80 0.032
	P6	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,75 0.030
	P7	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,75 0.030
	P8	ONMU090512TN-ME16 MP2501	2,0 0.080	0,70 0.028	0,80 0.032
Face milling cutters	P11	ONMU090512TN-ME16 MP3501	2,0 0.080	0,70 0.028	0,75 0.030
	P12	ONMU090512TN-ME16 MP3501	1,6 0.060	0,46 0.018	0,50 0.020
	M1	ONMU090512TN-ME16 MS2050	2,0 0.080	0,75 0.030	0,85 0.034
Disc milling cutters	M2	ONMU090512TN-ME16 MS2050	2,0 0.080	0,70 0.028	0,80 0.032
	M3	ONMU090512TN-ME16 MS2050	1,6 0.060	0,55 0.022	0,60 0.024
	M4	ONMU090512TN-ME16 MP3501	1,6 0.060	0,48 0.019	0,55 0.022
	M5	ONMU090512TN-ME16 MP3501	1,6 0.060	0,48 0.019	0,55 0.022
	K1	ONMU090512TN-M30 MK1501	2,0 0.080	1,4 0.055	1,6 0.065
High feed milling cutters	K2	ONMU090512TN-M30 MK1501	2,0 0.080	1,3 0.050	1,4 0.055
	K3	ONMU090512TN-M30 MK1501	2,0 0.080	1,3 0.050	1,4 0.055
	K4	ONMU090512TN-M30 MK1501	2,0 0.080	1,3 0.050	1,4 0.055
	K5	ONMU090512TN-M30 MK1501	2,0 0.080	1,1 0.044	1,3 0.050
	K6	ONMU090512TN-M30 MK1501	2,0 0.080	1,3 0.050	1,4 0.055
	K7	ONMU090512TN-M30 MK1501	2,0 0.080	1,1 0.044	1,3 0.050
Copy milling cutters	S1	ONMU090512TN-ME16 MP2051	1,6 0.060	0,48 0.019	0,55 0.022
	S2	ONMU090512TN-ME16 MP2051	1,6 0.060	0,48 0.019	0,55 0.022
	S3	ONMU090512TN-ME16 MP2051	1,6 0.060	0,44 0.017	0,50 0.020
Plunge milling cutters	S11	ONMU090512TN-ME16 MS2050	1,6 0.060	0,55 0.022	0,60 0.024
	S12	ONMU090512TN-ME16 MS2050	1,6 0.060	0,55 0.022	0,60 0.024
	S13	ONMU090512TN-ME16 MS2050	1,6 0.060	0,48 0.019	0,55 0.022
	H5	ONMU090512TN-M30 MP1501	1,6 0.060	0,85 0.034	0,95 0.038
	H8	ONMU090512TN-M30 MP1501	1,6 0.060	0,65 0.026	0,75 0.030

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			MK1501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	270	305	370	265	290	370	245	270	325	230	245	295	260	290	400	270	305	370	—	—	—
	890	1000	1225	870	950	1225	800	890	1075	750	800	970	850	950	1300	890	1000	1225	—	—	—
P2	265	295	360	255	285	360	235	260	320	225	240	290	250	280	390	265	295	360	—	—	—
	870	970	1175	840	940	1175	770	850	1050	740	790	950	820	920	1275	870	970	1175	—	—	—
P3	230	260	315	230	255	320	210	230	280	200	215	255	230	255	350	230	260	315	—	—	—
	750	850	1025	750	840	1050	690	750	920	660	710	840	750	840	1150	750	850	1025	—	—	—
P4	205	230	280	200	225	280	185	205	245	180	200	235	200	225	310	205	230	280	—	—	—
	670	750	920	660	740	920	610	670	800	590	660	770	660	740	1025	670	750	920	—	—	—
P5	195	220	270	200	220	275	175	195	240	175	185	220	195	215	305	195	220	270	—	—	—
	640	720	890	660	720	900	570	640	790	570	610	720	640	710	1000	640	720	890	—	—	—
P6	225	250	305	225	250	310	205	225	270	195	210	245	230	260	345	225	250	305	—	—	—
	740	820	1000	740	820	1025	670	740	890	640	690	800	750	850	1125	740	820	1000	—	—	—
P7	210	240	285	215	235	290	190	210	255	185	195	230	220	245	325	210	240	285	—	—	—
	690	790	940	710	770	950	620	690	840	610	640	750	720	800	1075	690	790	940	—	—	—
P8	195	220	265	195	215	270	175	195	235	170	180	215	195	215	295	195	220	265	—	—	—
	640	720	870	640	710	890	570	640	770	560	590	710	640	710	970	640	720	870	—	—	—
P11	205	230	280	205	230	285	185	205	250	180	190	225	200	235	340	205	230	280	—	—	—
	670	750	920	670	750	940	610	670	820	590	620	740	660	770	1125	670	750	920	—	—	—
P12	135	150	185	140	155	195	125	135	165	120	130	155	150	180	250	135	150	185	—	—	—
	445	490	610	460	510	640	410	445	540	395	425	510	490	590	820	445	490	610	—	—	—
M1	—	—	—	190	215	260	180	205	245	165	185	225	205	245	365	190	210	260	—	—	—
	—	—	—	620	710	850	590	670	800	540	610	740	670	800	1200	620	690	850	—	—	—
M2	—	—	—	160	180	215															

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

feed milling cutters

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tters

Plum

Challenging Characters

Sports

635 Ins

R220.21-ON09 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	395 1300	425 1400	510 1675	385 1275	415 1350	495 1625	365 1200	400 1300	475 1550	340 1125	365 1200	440 1450	235 770	260 850	315 1025
	P2	385 1275	415 1350	490 1600	375 1225	405 1325	480 1575	355 1175	390 1275	465 1525	330 1075	360 1175	430 1400	230 750	255 840	305 1000
Helical milling cutters	P3	340 1125	365 1200	430 1400	330 1075	355 1175	420 1375	315 1025	345 1125	405 1325	295 970	315 1025	375 1225	205 670	225 740	265 870
	P4	300 980	325 1075	380 1250	290 950	315 1025	370 1225	275 900	300 980	360 1175	260 850	280 920	330 1075	195 640	215 710	255 840
	P5	285 940	310 1025	370 1225	275 900	300 980	360 1175	265 870	290 950	350 1150	245 800	265 870	325 1075	175 570	195 640	225 740
	P6	325 1075	355 1175	415 1350	320 1050	345 1125	405 1325	305 1000	335 1100	390 1275	285 940	310 1025	365 1200	195 640	215 710	255 840
Face milling cutters	P7	310 1025	335 1100	390 1275	300 980	325 1075	385 1275	290 950	315 1025	370 1225	270 890	290 950	345 1125	185 610	205 670	240 790
	P8	285 940	310 1025	365 1200	275 900	300 980	355 1175	265 870	290 950	340 1125	245 800	265 870	315 1025	170 560	190 620	220 720
	P11	300 980	325 1075	380 1250	295 970	315 1025	375 1225	280 920	305 1000	360 1175	260 850	280 920	335 1100	180 590	200 660	235 770
	P12	195 640	210 690	250 820	190 620	210 690	245 800	185 610	200 660	235 770	170 560	185 610	220 720	115 375	125 410	145 475
Disc milling cutters	M1	— —	— —	— —	195 640	215 710	265 870	210 690	235 770	285 940	180 590	205 670	245 800	150 490	170 560	205 670
	M2	— —	— —	— —	160 520	180 590	220 720	175 570	195 640	240 790	150 490	165 540	205 670	125 410	145 475	170 560
	M3	— —	— —	— —	130 425	145 475	180 590	140 460	160 520	195 640	120 395	135 445	165 540	100 330	115 375	140 460
	M4	— —	— —	— —	100 330	115 375	140 460	110 360	125 410	150 490	95 310	105 345	130 425	80 260	90 295	110 360
High feed milling cutters	M5	— —	— —	— —	85 280	95 310	115 375	90 295	105 345	125 410	80 260	90 295	105 345	65 215	75 245	90 295
	K1	385 1275	420 1375	495 1625	375 1225	405 1325	485 1600	230 750	260 850	315 1025	335 1100	360 1175	430 1400	— —	— —	— —
Copy milling cutters	K2	345 1125	370 1225	445 1450	335 1100	360 1175	440 1450	205 670	230 750	285 940	300 980	320 1050	390 1275	— —	— —	— —
	K3	290 950	315 1025	380 1250	285 940	305 1000	370 1225	175 570	195 640	240 790	250 820	270 890	330 1075	— —	— —	— —
	K4	275 900	300 980	360 1175	270 890	295 970	355 1175	165 540	185 610	230 750	240 790	260 850	315 1025	— —	— —	— —
	K5	175 570	190 620	220 720	170 560	185 610	215 710	105 345	115 375	140 460	150 490	165 540	190 620	— —	— —	— —
	K6	245 800	265 870	320 1050	240 790	260 850	310 1025	145 475	165 540	205 670	210 690	230 750	280 920	— —	— —	— —
	K7	225 740	240 790	280 920	220 720	235 770	275 900	130 425	150 490	180 590	195 640	210 690	245 800	— —	— —	— —
Plunge milling cutters																
Chamfer milling cutters																
Spot facing cutters																
Inserts																



R217/220.21 High Feed

High feed mills for general purpose applications, 3-cutting edge, single sided inserts.
218.19 insert range include a wide selection of cutting geometries and grades for many different materials.

- Cutter range 16-100 mm (.625-4 inch)
- Suitable for long overhangs and/or unstable conditions
- Small-to-medium sized CNC machines with high rpms and high feed rates
- Also works for machines that run lower rpms and feed rates

Square shoulder
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High feed milling
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Copy milling
cutters

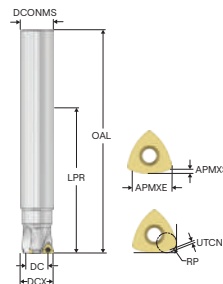
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.21 – Metric



—For insert selection and cutting data recommendations, see page(s) 644–654
 —For complete insert programme, see page(s) 929
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1416.0-R080.2A	02554443	Cylindrical	9,25	16,0	2	0,63	5,0	14,0	1,0	0,39	105,0	105,0	150,0	6,1	53400	0,2	218.19-080
R217.21-1820.0-R100.2A	02554439	Cylindrical	11,4	20,0	2	0,74	7,0	18,0	1,47	0,45	110,0	110,0	160,0	5,7	32600	0,3	218.19-100
R217.21-2025.0-R100.2A	02616308	Cylindrical	16,46	25,0	2	0,74	7,0	20,0	1,47	0,45	120,0	120,0	170,0	3,48	29100	0,4	218.19-100
R217.21-2525.0-R100.3A	02616320	Cylindrical	16,46	25,0	3	0,74	7,0	25,0	1,47	0,45	114,0	114,0	170,0	3,48	29100	0,6	218.19-100
R217.21-2532.0-R125.2A	02616323	Cylindrical	21,16	32,0	2	1,0	9,0	25,0	1,74	0,61	140,0	140,0	195,0	3,67	19700	0,7	218.19-125
R217.21-3232.0-R125.3A	02616325	Cylindrical	21,16	32,0	3	1,0	9,0	32,0	1,74	0,61	39,5	135,0	195,0	3,67	19700	1,2	218.19-125

Spare Parts, included in delivery

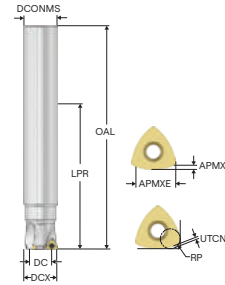
For cutter	Insert key	Insert screw
		
R217.21-R080	1/4HEX-T07PX50	C02205-T07P
R217.21-R100	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217.21 – inch



—For insert selection and cutting data recommendations, see page(s) 644–654
—For complete insert programme, see page(s) 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-0.750-0-R100.2HA	02548132	Cylindrical	0.357	0.750	2	0.043	0.276	0.750	0.071	0.024	1.250	4.000	6.500	4,5	32600	0.880	218.19-100
R217.21-0.750-0-R100.2A	02559353	Cylindrical	0.410	0.750	2	0.029	0.276	0.750	0.058	0.018	4.531	4.531	6.500	6,45	32600	0.880	218.19-100
R217.21-1.25-0-R160.2HA	02553730	Cylindrical	0.583	1.250	2	0.080	0.433	1.250	0.121	0.041	5.217	5.220	7.500	3,37	16200	2.200	218.19-160
R217.21-1.50-0-R160.3HA	02553733	Cylindrical	0.591	1.500	3	0.080	0.433	1.500	0.120	0.041	2.087	5.310	8.000	3,09	17600	3.530	218.19-160
R217.21-1.00-0-R100.3A	02559354	Cylindrical	0.660	1.000	3	0.029	0.276	1.000	0.058	0.018	4.795	4.795	7.000	3,38	29100	1.320	218.19-100
R217.21-1.25-0-R125.3A	02553726	Cylindrical	0.823	1.250	3	0.039	0.354	1.250	0.069	0.024	1.575	5.138	7.500	3,73	19700	2.430	218.19-125

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-R100	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	1/4HEX-T09PX50	C03007-T09P
R217.21-R160	1/4HEX-T15PX50	C03510-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-R160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
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High feed milling
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Copy milling
cutters

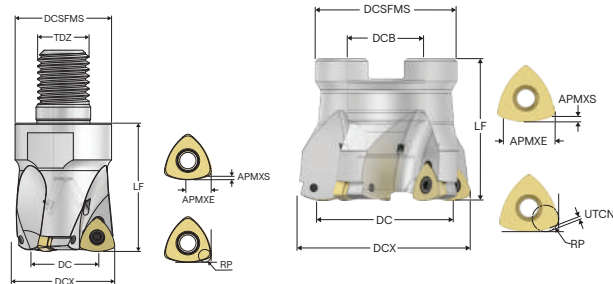
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.21 – Metric

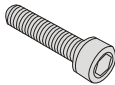


—For insert selection and cutting data recommendations, see page(s) 644–654
 —For complete insert programme, see page(s) 929
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ	LF	RP	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm		kg	
R217.21-0816.RE-R080.2	00030707	Combimaster	9,25	16,0	2	0,6	5,0	–	13,5	M8	–	23,0	1,0	0,39	40,75	6,1	53400 0,1 218.19-080
R217.21-1020.RE-R100.2HA	02546332	Combimaster	10,44	20,0	2	1,0	7,0	–	18,5	M10	–	28,0	1,7	0,55	46,75	4,32	32600 0,1 218.19-100
R217.21-1020.RE-R100.2A	00030708	Combimaster	11,45	20,0	2	0,7	7,0	–	18,5	M10	–	28,0	1,47	0,45	46,75	5,71	32600 0,1 218.19-100
R217.21-1225.RE-R125.2HA	02502370	Combimaster	12,36	25,0	2	1,5	9,0	–	23,0	M12	–	35,0	2,18	0,8	56,75	4,25	29100 0,1 218.19-125
R217.21-1632.RE-R160.2HA	02546333	Combimaster	16,09	32,0	2	1,8	11,0	–	30,0	M16	–	40,0	2,87	0,97	62,75	3,76	16200 0,2 218.19-160
R217.21-1225.RE-R100.3A	00030710	Combimaster	16,46	25,0	3	0,7	7,0	–	23,0	M12	–	35,0	1,47	0,45	56,75	3,48	29100 0,1 218.19-100
R217.21-1632.RE-R125.3A	00030714	Combimaster	21,21	32,0	3	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	3,7	19700 0,2 218.19-125
R217.21-1640.RE-R160.3HA	02546335	Combimaster	23,99	40,0	3	1,8	11,0	–	30,0	M16	–	40,0	2,87	0,97	62,75	2,18	14500 0,3 218.19-160
R217.21-1635.RE-R125.3A	00030715	Combimaster	24,16	35,0	3	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	3,1	18800 0,2 218.19-125
R217.21-1640.RE-R125.4A	00039503	Combimaster	29,25	40,0	4	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	2,47	17600 0,3 218.19-125
R220.21-0040-R125.4A	00030717	Arbor	29,2	40,0	4	1,0	9,0	16,0	35,0	–	16,0	40,0	1,75	0,61	–	2,47	17600 0,2 218.19-125
R220.21-0042-R125.4A	00030720	Arbor	31,2	42,0	4	1,0	9,0	16,0	35,0	–	16,0	40,0	1,75	0,61	–	2,28	17200 0,2 218.19-125
R220.21-0050-R160.5A	03136664	Arbor	33,7	50,0	5	1,8	11,0	22,0	47,0	–	22,0	40,0	3,01	1,03	–	0,9	12900 0,3 218.19-160
R220.21-0050-R160.4A	00030723	Arbor	34,17	50,0	4	1,8	11,0	22,0	47,0	–	22,0	40,0	2,85	0,97	–	1,47	12900 0,3 218.19-160
R220.21-0052-R160.5A	03136665	Arbor	35,7	52,0	5	1,8	11,0	22,0	47,0	–	22,0	40,0	3,03	1,03	–	0,8	12700 0,4 218.19-160
R220.21-0052-R160.4A	02425827	Arbor	36,19	52,0	4	1,8	11,0	22,0	47,0	–	22,0	40,0	2,85	0,97	–	1,38	12700 0,4 218.19-160
R220.21-0063-R160.4A	00030724	Arbor	47,2	63,0	4	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	1,0	11500 0,6 218.19-160
R220.21-0063-R160.5A	00030726	Arbor	47,2	63,0	5	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	1,0	11500 0,5 218.19-160
R220.21-0063-R160.6A	03136666	Arbor	47,9	63,0	6	1,8	11,0	27,0	50,0	–	27,0	50,0	3,0	0,98	–	0,6	11500 0,6 218.19-160
R220.21-0066-R160.5A	02409011	Arbor	50,21	66,0	5	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	0,95	11200 0,5 218.19-160
R220.21-0066-R160.6A	03136667	Arbor	50,9	66,0	6	1,8	11,0	27,0	62,0	–	27,0	50,0	3,0	1,05	–	0,5	11200 0,8 218.19-160
R220.21-0080-R160.7A	03136668	Arbor	63,6	80,0	7	1,8	11,0	27,0	62,0	–	27,0	50,0	3,0	1,04	–	0,4	10200 1,0 218.19-160
R220.21-0080-R160.6A	02530950	Arbor	64,15	80,0	6	1,8	11,0	27,0	62,0	–	27,0	50,0	2,85	0,97	–	0,73	10200 0,9 218.19-160
R220.21-0084-R160.6A	02969095	Arbor	68,0	84,0	6	1,8	11,0	32,0	77,0	–	32,0	50,0	2,85	0,97	–	0,7	10000 1,3 218.19-160
R220.21-0100-R160.9A	03136671	Arbor	83,6	100,0	9	1,8	11,0	32,0	77,0	–	32,0	50,0	3,0	1,03	–	0,3	9700 1,8 218.19-160
R220.21-0100-R160.7A	02530946	Arbor	84,13	100,0	7	1,8	11,0	32,0	77,0	–	32,0	50,0	2,85	0,97	–	0,54	9700 1,6 218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-R080	-	1/4HEX-T07PX50	C02205-T07P
R217.21-R100	-	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	-	1/4HEX-T09PX50	C03007-T09P
R217.21-R160	-	1/4HEX-T15PX50	C03510-T15P
R220.21-0040-0042	220.17-689	1/4HEX-T09PX50	C03007-T09P
R220.21-0050-0052	220.17-692	1/4HEX-T15PX50	C03510-T15P
R220.21-0063	MC6S12X35	1/4HEX-T15PX50	C03510-T15P
R220.21-0080	MC6S12X35	1/4HEX-T15PX50	C03510-T15P
R220.21-0084	950E1645	1/4HEX-T15PX50	C03510-T15P
R220.21-0100	MC6S16X35	1/4HEX-T15PX90	C03510-T15P
R220.21-0100.9A	950E1645	1/4HEX-T15PX90	C03510-T15P

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-R160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.21-0040-0042	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.21-0050-0100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Disc milling
cutters

High feed milling
cutters

Torque and fixed keys, see page 944

Copy milling
cutters

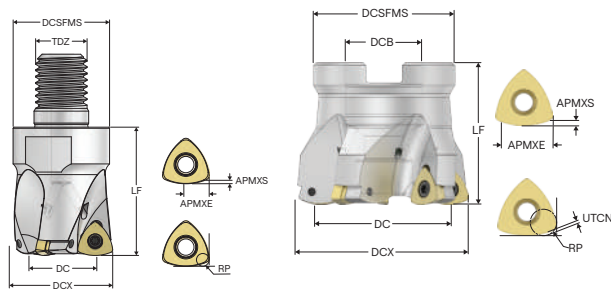
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.21 – Inch

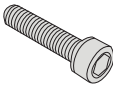


—For insert selection and cutting data recommendations, see page(s) 644–654
 —For complete insert programme, see page(s) 929
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCNMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-0.75RE-R100.2HA	02548133	Combimaster	0.357	0.750	2	0.043	0.276	–	0.728	M10	–	1.100	0.071	0.024	1.838	4,5	32600	0.220	218.19-100
R217.21-0.7510RER100.2A	00098320	Combimaster	0.414	0.750	2	0.028	0.276	–	0.728	M10	–	1.100	0.058	0.017	1.838	6,45	32600	0.220	218.19-100
R217.21-1.25RE-R160.2HA	02548129	Combimaster	0.543	1.250	2	0.079	0.433	–	1.181	M16	–	1.600	0.121	0.041	2.496	3,37	16200	0.660	218.19-160
R217.21-1.0012RER100.3A	00098330	Combimaster	0.663	1.000	3	0.028	0.276	–	0.906	M12	–	1.400	0.058	0.018	2.256	3,38	29100	0.220	218.19-100
R217.21-1.50RE-R160.3HA	02548130	Combimaster	0.791	1.498	3	0.079	0.433	–	1.181	M16	–	1.600	0.121	0.041	2.496	1,96	14500	0.660	218.19-160
R217.21-1.2516RER125.3A	00098351	Combimaster	0.823	1.250	3	0.039	0.354	–	1.181	M16	–	1.600	0.069	0.024	2.496	3,73	19700	0.660	218.19-125
R217.21-1.5016RER125.4A	02435615	Combimaster	1.002	1.500	4	0.059	0.354	–	1.181	M16	–	1.600	0.086	0.031	2.496	1,69	17600	0.660	218.19-125
R220.21-1.50-R125.4A	00098850	Arbor	1.002	1.500	4	0.060	0.354	0.500	1.378	–	0.500	1.600	0.087	0.032	–	1,69	17600	0.440	218.19-125
R220.21-02.00-R160.5A	02789050	Arbor	1.327	2.000	5	0.079	0.433	0.750	1.850	–	0.750	1.600	0.119	0.041	–	1,17	12900	0.660	218.19-160
R220.21-02.00-R160.4A	00098952	Arbor	1.346	2.000	4	0.079	0.433	0.750	1.850	–	0.750	1.600	0.119	0.041	–	1,17	12900	0.880	218.19-160
R220.21-02.50-R160.6A	02825654	Arbor	1.827	2.500	6	0.079	0.433	0.750	2.350	–	0.750	2.000	0.119	0.041	–	0,83	11500	1.540	218.19-160
R220.21-02.50-R160.5A	00099029	Arbor	1.843	2.500	5	0.079	0.433	0.750	2.350	–	0.750	2.000	0.119	0.041	–	0,83	11500	1.320	218.19-160
R220.21-03.00-R160.6A	02427189	Arbor	2.280	3.000	6	0.098	0.433	1.000	2.441	–	1.000	2.000	0.138	0.047	–	0,39	10200	1.980	218.19-160
R220.21-03.00-R160.7A	02828389	Arbor	2.348	3.000	7	0.079	0.433	1.000	2.441	–	1.000	2.000	0.119	0.041	–	0,39	10200	2.430	218.19-160
R220.21-04.00-R160.7A	02427191	Arbor	3.286	4.000	7	0.098	0.433	1.500	3.543	–	1.500	2.000	0.138	0.047	–	0,27	9100	4.190	218.19-160
R220.21-04.00-R160.9A	02810684	Arbor	3.348	4.000	9	0.083	0.433	1.500	3.543	–	1.500	2.000	0.119	0.041	–	0,27	9100	4.630	218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.75/1.00/0.75HA	-	1/4HEX-T08PX50	C02506-T08P
R217.21-1.25/1.50/1.00HA	-	1/4HEX-T09PX50	C03007-T09P
R217.21-1.25HA/1.50HA	-	1/4HEX-T15PX50	C03510-T15P
R220.21-01.50	UC6S1/4UNFX1	1/4HEX-T09PX50	C03007-T09P
R220.21-02.00	UC6S3/8UNFX1	1/4HEX-T15PX50	C03510-T15P
R220.21-02.00.5A	UC6S3/8UNFX1	1/4HEX-T15PX50	C03508-T15P
R220.21-02.50	UC6S3/8UNFX11/2	1/4HEX-T15PX50	C03510-T15P
R220.21-02.50.5A	UC6S3/8UNFX11/2	1/4HEX-T15PX50	C03508-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C03510-T15P
R220.21-03.00.7A	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	-
R220.21-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C03510-T15P
R220.21-04.00.9A	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-0.75 / 1.00 / 0.75HA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-1.25-1.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-1.25HA-1.50HA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.21-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.21-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.21-080 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	218.19-080T-M04 MP2501	0,55 0,022	0,50 0,020	0,50 0,020	0,65 0,026
	P2	218.19-080T-M04 MP2501	0,55 0,022	0,50 0,020	0,50 0,020	0,65 0,026
Helical milling cutters	P3	218.19-080T-M04 MP2501	0,55 0,022	0,48 0,019	0,48 0,019	0,60 0,026
	P4	218.19-080T-M04 MP2501	0,55 0,022	0,48 0,019	0,48 0,019	0,60 0,024
	P5	218.19-080T-M04 MP2501	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	P6	218.19-080T-M04 MP2501	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	P7	218.19-080T-M04 MP2501	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	P8	218.19-080T-M04 MP2501	0,55 0,022	0,48 0,019	0,48 0,019	0,60 0,026
	P11	218.19-080T-M04 F40M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
Face milling cutters	P12	218.19-080T-M04 MP2501	0,44 0,017	0,34 0,013	0,34 0,013	0,42 0,017
	M1	218.19-080T-M04 F40M	0,55 0,022	0,50 0,020	0,50 0,020	0,65 0,026
Disc milling cutters	M2	218.19-080T-M04 F40M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	M3	218.19-080T-M04 F40M	0,44 0,017	0,40 0,016	0,40 0,016	0,50 0,020
	M4	218.19-080T-M04 F40M	0,32 0,013	0,34 0,013	0,34 0,013	0,42 0,017
	M5	218.19-080T-M04 F40M	0,32 0,013	0,34 0,013	0,34 0,013	0,42 0,017
	K1	218.19-080T-MD04 F15M	0,55 0,022	0,50 0,020	0,50 0,020	0,65 0,026
High feed milling cutters	K2	218.19-080T-MD04 F15M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	K3	218.19-080T-MD04 F15M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	K4	218.19-080T-MD04 F15M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	K5	218.19-080T-MD04 F15M	0,55 0,022	0,42 0,017	0,42 0,017	0,55 0,022
	K6	218.19-080T-MD04 F15M	0,55 0,022	0,46 0,018	0,46 0,018	0,60 0,024
	K7	218.19-080T-MD04 F15M	0,55 0,022	0,42 0,017	0,42 0,017	0,55 0,022
	S1	218.19-080T-M04 F40M	0,32 0,013	0,34 0,013	0,34 0,013	0,42 0,017
Copy milling cutters	S2	218.19-080T-M04 F40M	0,32 0,013	0,34 0,013	0,34 0,013	0,42 0,017
	S3	218.19-080T-M04 F40M	0,32 0,013	0,32 0,013	0,32 0,013	0,40 0,016
	S11	218.19-080T-M04 F40M	0,38 0,015	0,40 0,016	0,40 0,016	0,50 0,020
Plunge milling cutters	S12	218.19-080T-M04 F40M	0,38 0,015	0,40 0,016	0,40 0,016	0,50 0,020
	S13	218.19-080T-M04 F40M	0,32 0,013	0,34 0,013	0,34 0,013	0,42 0,017
	H5	218.19-080T-MD04 F15M	0,34 0,013	0,30 0,012	0,30 0,012	0,36 0,014
	H8	218.19-080T-MD04 F15M	0,30 0,012	0,22 0,0085	0,22 0,0085	0,28 0,011
Chamfer milling cutters	H11	218.19-080T-MD04 F15M	0,34 0,013	0,30 0,012	0,30 0,012	0,36 0,014
	H12	218.19-080T-MD04 F15M	0,30 0,012	0,22 0,0085	0,22 0,0085	0,28 0,011

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217.21-080 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F15M			F30M			F40M			MP2501			MS2500			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	310	380	440	285	350	405	270	330	385	510	580	640	375	455	520	Square shoulder and slot milling cutters
	1025	1250	1450	940	1150	1325	890	1075	1275	1675	1900	2100	1225	1500	1700	
P2	305	360	420	280	330	385	265	315	365	490	560	620	365	430	500	Helical milling cutters
	1000	1175	1375	920	1075	1275	870	1025	1200	1600	1825	2025	1200	1400	1650	
P3	260	315	365	240	290	335	230	280	320	425	485	540	310	380	440	Helical milling cutters
	850	1025	1200	790	950	1100	750	920	1050	1400	1600	1775	1025	1250	1450	
P4	230	280	325	215	260	295	205	245	285	375	430	475	280	340	385	Helical milling cutters
	750	920	1075	710	850	970	670	800	940	1225	1400	1550	920	1125	1275	
P5	220	270	315	205	250	290	195	235	275	360	410	455	265	325	375	Helical milling cutters
	720	890	1025	670	820	950	640	770	900	1175	1350	1500	870	1075	1225	
P6	250	300	350	230	280	325	215	265	310	405	460	510	300	365	425	Face milling cutters
	820	980	1150	750	920	1075	710	870	1025	1325	1500	1675	980	1200	1400	
P7	235	285	335	215	260	305	205	250	290	380	435	485	280	340	400	Face milling cutters
	770	940	1100	710	850	1000	670	820	950	1250	1425	1600	920	1125	1300	
P8	220	265	310	200	245	285	190	235	270	355	410	450	265	320	370	Face milling cutters
	720	870	1025	660	800	940	620	770	890	1175	1350	1475	870	1050	1225	
P11	230	275	325	210	255	295	200	245	285	370	425	470	275	330	390	Face milling cutters
	750	900	1075	690	840	970	660	800	940	1225	1400	1550	900	1075	1275	
P12	—	—	—	135	165	190	130	155	180	230	260	285	180	215	245	Face milling cutters
	—	—	—	445	540	620	425	510	590	750	850	940	590	710	800	
M1	—	—	—	225	265	310	215	255	295	250	300	350	260	310	360	Disc milling cutters
	—	—	—	740	870	1025	710	840	970	820	980	1150	850	1025	1175	
M2	—	—	—	185	225	260	175	210	245	205	250	290	210	260	300	Disc milling cutters
	—	—	—	610	740	850	570	690	800	670	820	950	690	850	980	
M3	—	—	—	150	180	205	140	170	200	165	200	235	175	205	240	Disc milling cutters
	—	—	—	490	590	670	460	560	660	540	660	770	570	670	790	
M4	—	—	—	120	140	160	110	130	150	130	155	180	135	160	185	Disc milling cutters
	—	—	—	395	460	520	360	425	490	425	510	590	445	520	610	
M5	—	—	—	100	115	135	95	110	125	110	130	150	115	135	155	Disc milling cutters
	—	—	—	330	375	445	310	360	410	360	425	490	375	445	510	
K1	240	285	330	220	260	305	210	250	290	495	560	620	—	—	—	High feed milling cutters
	790	940	1075	720	850	1000	690	820	950	1625	1825	2025	—	—	—	
K2	210	255	300	195	235	275	185	225	260	435	500	550	—	—	—	High feed milling cutters
	690	840	980	640	770	900	610	740	850	1425	1650	1800	—	—	—	
K3	180	215	250	165	200	230	155	190	220	365	420	465	—	—	—	High feed milling cutters
	590	710	820	540	660	750	510	620	720	1200	1375	1525	—	—	—	
K4	170	205	240	155	190	220	150	180	210	350	400	445	—	—	—	Copy milling cutters
	560	670	790	510	620	720	490	590	690	1150	1300	1450	—	—	—	
K5	105	125	145	95	115	135	90	110	130	215	245	270	—	—	—	Copy milling cutters
	345	410	475	310	375	445	295	360	425	710	800	890	—	—	—	
K6	150	180	210	135	165	195	130	160	185	310	355	395	—	—	—	Copy milling cutters
	490	590	690	445	540	640	425	520	610	1025	1175	1300	—	—	—	
K7	135	160	185	125	150	170	115	140	165	275	315	345	—	—	—	Copy milling cutters
	445	520	610	410	490	560	375	460	540	900	1025	1125	—	—	—	
N1	—	—	—	1625	2000	2300	1550	1900	2200	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	5325	6550	7550	5075	6225	7225	—	—	—	—	—	—	
N2	—	—	—	660	800	930	630	770	880	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	2175	2625	3050	2075	2525	2875	—	—	—	—	—	—	
N3	—	—	—	440	540	620	420	510	590	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	1450	1775	2025	1375	1675	1925	—	—	—	—	—	—	
N11	—	—	—	500	610	710	480	580	670	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	1650	2000	2325	1575	1900	2200	—	—	—	—	—	—	
S1	—	—	—	—	—	—	50	60	70	—	—	—	65	80	90	Chamfer milling cutters
	—	—	—	—	—	—	165	195	230	—	—	—	215	260	295	
S2	—	—	—	—	—	—	42	50	55	—	—	—	55	65	75	Chamfer milling cutters
	—	—	—	—	—	—	140	165	180	—	—	—	180	215	245	
S3	—	—	—	—	—	—	37	44	50	—	—	—	47	55	65	Chamfer milling cutters
	—	—	—	—	—	—	120	145	165	—	—	—	155	180	215	
S11	—	—	—	—	—	—	75	85	100	—	—	—	95	110	130	Chamfer milling cutters
	—	—	—	—	—	—	245	280	330	—	—	—	310	360	425	
S12	—	—	—	—	—	—	50	60	70	—	—	—	65	75	90	Spot facing cutters
	—	—	—	—	—	—	165	195	230	—	—	—	215	245	295	
S13	—	—	—	—	—	—	29	35	40	—	—	—	37	44	50	Spot facing cutters
	—	—	—	—	—	—	95	115	130	—	—	—	120	145	165	
H5	50	60	70	48	55	65	—	—	—	—	—	—	—	—	—	Spot facing cutters
	165	195	230	155	180	215	—	—	—	—	—	—	—	—	—	
H8	55	65	75	50	60	70	—	—	—	—	—	—	—	—	—	Spot facing cutters
	180	215	245	165	195	230	—	—	—	—	—	—	—	—	—	
H11	65	80	90	60	70	85	—	—	—	—	—	—	—	—	—	Inserts
	215	260	295	195	230	280	—	—	—	—	—	—	—	—	—	
H12	100	115	135	90	110	125	—	—	—	—	—	—	120	140	160	Inserts
	330	375	445	295	360	410	—	—	—	—	—	—	395	460	520	

R217.21-100 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	218.19-100T-M06 MP3501	0,65 0.026	0,80 0.032	0,80 0.032	1,0 0.040
	P2	218.19-100T-M06 MP3501	0,65 0.026	0,80 0.032	0,80 0.032	1,1 0.044
Helical milling cutters	P3	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,80 0.032	1,0 0.040
	P4	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,75 0.030	1,0 0.040
	P5	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,75 0.030	0,95 0.038
	P6	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,75 0.030	0,95 0.038
	P7	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,75 0.030	0,95 0.038
	P8	218.19-100T-M06 MP2501	0,65 0.026	0,75 0.030	0,80 0.032	1,0 0.040
	P11	218.19-100T-M06 MP3501	0,65 0.026	0,75 0.030	0,75 0.030	0,95 0.038
Face milling cutters	P12	218.19-100T-M06 MP2501	0,50 0.020	0,50 0.020	0,50 0.020	0,65 0.026
	M1	218.19-100T-M06 MS2050	0,65 0.026	0,80 0.032	0,80 0.032	1,1 0.044
Disc milling cutters	M2	218.19-100T-M06 MS2050	0,65 0.026	0,75 0.030	0,75 0.030	0,95 0.038
	M3	218.19-100T-M06 MS2050	0,50 0.020	0,60 0.024	0,60 0.024	0,75 0.030
	M4	218.19-100T-M06 MP3501	0,38 0.015	0,50 0.020	0,50 0.020	0,65 0.026
	M5	218.19-100T-M06 MP3501	0,38 0.015	0,50 0.020	0,50 0.020	0,65 0.026
	K1	218.19-100T-MD08 MP2501	0,65 0.026	1,1 0.044	1,1 0.044	1,4 0.055
High feed milling cutters	K2	218.19-100T-MD08 MP2501	0,65 0.026	1,0 0.040	1,0 0.040	1,3 0.050
	K3	218.19-100T-MD08 MP2501	0,65 0.026	1,0 0.040	1,0 0.040	1,3 0.050
	K4	218.19-100T-MD08 MP2501	0,65 0.026	1,0 0.040	1,0 0.040	1,3 0.050
	K5	218.19-100T-MD08 MP2501	0,65 0.026	0,90 0.036	0,90 0.036	1,2 0.048
	K6	218.19-100T-MD08 MP2501	0,65 0.026	1,0 0.040	1,0 0.040	1,3 0.050
	K7	218.19-100T-MD08 MP2501	0,65 0.026	0,90 0.036	0,90 0.036	1,2 0.048
	S1	218.19-100T-M06 MS2500	0,38 0.015	0,50 0.020	0,50 0.020	0,65 0.026
Copy milling cutters	S2	218.19-100T-M06 MS2500	0,38 0.015	0,50 0.020	0,50 0.020	0,65 0.026
	S3	218.19-100T-M06 MS2500	0,38 0.015	0,48 0.019	0,48 0.019	0,60 0.024
Plunge milling cutters	S11	218.19-100T-M06 MS2050	0,44 0.017	0,60 0.024	0,60 0.024	0,75 0.030
	S12	218.19-100T-M06 MS2050	0,44 0.017	0,60 0.024	0,60 0.024	0,75 0.030
	S13	218.19-100T-M06 MS2050	0,38 0.015	0,50 0.020	0,50 0.020	0,65 0.026
	H5	218.19-100T-MD08 MH1000	0,40 0.016	0,60 0.024	0,60 0.024	0,70 0.030
	H8	218.19-100T-MD08 MH1000	0,34 0.013	0,44 0.017	0,44 0.017	0,55 0.022
Chamfer milling cutters	H11	218.19-100T-M06 MP3000	0,40 0.016	0,44 0.017	0,44 0.017	0,55 0.022
	H12	218.19-100T-M06 MP3000	0,34 0.013	0,34 0.013	0,34 0.013	0,40 0.017

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217.21-100 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1000			F15M			F25M			F30M			MP3000			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	—	—	—	245	290	345	225	265	320	250	295	345	295	350	410	Square shoulder and slot milling cutters
	—	—	—	800	950	1125	740	870	1050	820	970	1125	970	1150	1350	
P2	—	—	—	240	285	340	220	260	310	240	285	335	285	340	395	Helical milling cutters
	—	—	—	790	940	1125	720	850	1025	790	940	1100	940	1125	1300	
P3	—	—	—	210	250	290	195	230	265	210	250	290	250	295	345	Helical milling cutters
	—	—	—	690	820	950	640	750	870	690	820	950	820	970	1125	
P4	—	—	—	185	220	260	170	200	240	185	220	260	220	260	310	Helical milling cutters
	—	—	—	610	720	850	560	660	790	610	720	850	720	850	1025	
P5	215	255	300	180	210	250	165	195	230	175	210	250	210	250	295	Helical milling cutters
	710	840	980	590	690	820	540	640	750	570	690	820	690	820	970	
P6	245	290	340	205	240	280	185	220	255	200	235	280	235	280	330	Face milling cutters
	800	950	1125	670	790	920	610	720	840	660	770	920	770	920	1075	
P7	230	275	320	190	225	265	175	205	245	190	220	265	225	265	315	Face milling cutters
	750	900	1050	620	740	870	570	670	800	620	720	870	740	870	1025	
P8	215	255	295	180	210	245	165	195	225	175	210	245	210	250	290	Face milling cutters
	710	840	970	590	690	800	540	640	740	570	690	800	690	820	950	
P11	225	265	310	185	220	255	170	200	235	185	215	255	215	255	305	Face milling cutters
	740	870	1025	610	720	840	560	660	770	610	710	840	710	840	1000	
P12	150	175	205	—	—	—	115	130	155	125	145	165	145	170	195	Face milling cutters
	490	570	670	—	—	—	375	425	510	410	475	540	475	560	640	
M1	—	—	—	—	—	—	—	—	—	195	230	270	215	255	295	Disc milling cutters
	—	—	—	—	—	—	—	—	—	640	750	890	710	840	970	
M2	—	—	—	—	—	—	—	—	—	160	190	225	175	210	245	Disc milling cutters
	—	—	—	—	—	—	—	—	—	520	620	740	570	690	800	
M3	—	—	—	—	—	—	—	—	—	135	155	180	145	170	200	Disc milling cutters
	—	—	—	—	—	—	—	—	—	445	510	590	475	560	660	
M4	—	—	—	—	—	—	—	—	—	105	120	140	115	135	155	Disc milling cutters
	—	—	—	—	—	—	—	—	—	345	395	460	375	445	510	
M5	—	—	—	—	—	—	—	—	—	90	100	115	95	110	130	Disc milling cutters
	—	—	—	—	—	—	—	—	—	295	330	375	310	360	425	
K1	230	270	325	190	225	265	175	205	245	190	225	265	225	270	315	High feed milling cutters
	750	890	1075	620	740	870	570	670	800	620	740	870	740	890	1025	
K2	205	240	285	170	200	235	155	185	215	170	200	235	200	235	280	High feed milling cutters
	670	790	940	560	660	770	510	610	710	560	660	770	660	770	920	
K3	175	205	240	145	170	200	130	155	185	145	170	200	170	200	235	High feed milling cutters
	570	670	790	475	560	660	425	510	610	475	560	660	560	660	770	
K4	165	195	230	135	160	190	125	150	175	135	160	190	160	190	225	Copy milling cutters
	540	640	750	445	520	620	410	490	570	445	520	620	520	620	740	
K5	100	120	140	85	100	115	75	90	105	85	100	115	100	120	140	Copy milling cutters
	330	395	460	280	330	375	245	295	345	280	330	375	330	395	460	
K6	145	170	205	120	140	170	110	130	155	120	140	170	145	170	200	Copy milling cutters
	475	560	670	395	460	560	360	425	510	395	460	560	475	560	660	
K7	130	155	180	105	125	150	100	115	135	110	125	150	130	150	180	Copy milling cutters
	425	510	590	345	410	490	330	375	445	360	410	490	425	490	590	
N1	—	—	—	—	—	—	—	—	—	1425	1675	1950	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	4675	5500	6400	—	—	—	
N2	—	—	—	—	—	—	—	—	—	570	680	790	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1875	2225	2600	—	—	—	
N3	—	—	—	—	—	—	—	—	—	380	450	520	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1250	1475	1700	—	—	—	
N11	—	—	—	—	—	—	—	—	—	435	520	600	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	1425	1700	1975	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
H5	55	60	75	44	50	60	—	—	—	43	50	60	48	55	65	Spot facing cutters
	180	195	245	145	165	195	—	—	—	140	165	195	155	180	215	
H8	55	65	75	47	55	65	—	—	—	46	55	60	50	60	70	Spot facing cutters
	180	215	245	155	180	215	—	—	—	150	180	195	165	195	230	
H11	65	80	95	55	65	75	—	—	—	55	65	75	60	70	85	Spot facing cutters
	215	260	310	180	215	245	—	—	—	180	215	245	195	230	280	
H12	100	120	140	85	100	115	—	—	—	85	95	110	100	115	135	Spot facing cutters
	330	395	460	280	330	375	—	—	—	280	310	360	330	375	445	

R217.21-100 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MS2050			F40M			MP2501			MS2500			MP3501		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	285 940	330 1075	380 1250	275 900	305 1000	345 1125	440 1450	495 1625	560 1825	420 1375	480 1575	540 1775	395 1300	445 1450	510 1675
	P2	275 900	320 1050	370 1225	265 870	295 970	340 1125	430 1400	485 1600	550 1800	410 1350	465 1525	530 1750	385 1275	435 1425	490 1600
Helical milling cutters	P3	245 800	280 920	325 1075	235 770	260 850	295 970	375 1225	425 1400	480 1575	360 1175	410 1350	460 1500	335 1100	380 1250	430 1400
	P4	215 710	245 800	290 950	210 690	240 790	280 920	330 1075	375 1225	425 1400	315 1025	360 1175	410 1350	295 970	335 1100	385 1275
Face milling cutters	P5	205 670	235 770	275 900	195 640	220 720	255 840	315 1025	355 1175	405 1325	300 980	345 1125	395 1300	285 940	320 1050	365 1200
	P6	230 750	265 870	310 1025	220 720	245 800	285 940	355 1175	400 1300	455 1500	340 1125	385 1275	440 1450	320 1050	360 1175	410 1350
Disc milling cutters	P7	215 710	250 820	295 970	210 690	235 770	270 890	335 1100	380 1250	430 1400	320 1050	365 1200	415 1350	300 980	340 1125	385 1275
	P8	205 670	235 770	270 890	195 640	220 720	250 820	315 1025	355 1175	400 1300	300 980	345 1125	390 1275	285 940	320 1050	360 1175
High feed milling cutters	P11	210 690	245 800	285 940	205 670	225 740	260 850	325 1075	365 1200	420 1375	310 1025	355 1175	405 1325	290 950	330 1075	375 1225
	P12	145 475	165 540	185 610	140 460	155 510	170 560	215 710	240 790	265 870	205 670	230 750	255 840	195 640	215 710	240 790
Copy milling cutters	M1	205 670	240 790	280 920	185 610	220 720	255 840	220 720	260 850	300 980	235 770	280 920	330 1075	205 670	240 790	280 920
	M2	165 540	200 660	235 770	150 490	180 590	215 710	180 590	210 690	250 820	195 640	230 750	270 890	165 540	200 660	235 770
Spot facing cutters	M3	140 460	160 520	190 620	125 410	150 490	170 560	150 490	175 570	200 660	160 520	190 620	220 720	140 460	160 520	190 620
	M4	110 360	125 410	145 475	100 330	115 375	135 445	120 395	135 445	160 520	130 425	145 475	170 560	110 360	125 410	145 475
Plunge milling cutters	M5	90 295	105 345	125 410	85 280	95 310	110 360	100 330	115 375	130 425	105 345	125 410	145 475	90 295	105 345	125 410
	K1	—	—	—	180 590	215 710	250 820	435 1425	490 1600	550 1800	260 850	310 1025	365 1200	390 1275	435 1425	495 1625
Chamfer milling cutters	K2	—	—	—	160 520	190 620	225 740	380 1250	430 1400	490 1600	230 750	275 900	325 1075	345 1125	385 1275	440 1450
	K3	—	—	—	135 445	160 520	190 620	325 1075	365 1200	415 1350	195 640	230 750	275 900	290 950	325 1075	375 1225
Spot facing cutters	K4	—	—	—	130 425	155 510	180 590	310 1025	350 1150	395 1300	185 610	220 720	260 850	275 900	310 1025	355 1175
	K5	—	—	—	80 260	95 310	110 360	190 620	215 710	240 790	115 375	135 445	160 520	170 560	195 640	220 720
Chamfer milling cutters	K6	—	—	—	115 375	135 445	160 520	270 890	305 1000	350 1150	165 540	195 640	230 750	245 800	275 900	315 1025
	K7	—	—	—	105 345	120 395	140 460	245 800	275 900	310 1025	150 490	175 570	205 670	220 720	245 800	280 920
Spot facing cutters	N1	—	—	—	1350 4425	1600 5250	1850 6075	—	—	—	—	—	—	—	—	—
	N2	—	—	—	550 1800	640 2100	750 2450	—	—	—	—	—	—	—	—	—
Spot facing cutters	N3	—	—	—	365 1200	430 1400	500 1650	—	—	—	—	—	—	—	—	—
	N11	—	—	—	415 1350	490 1600	570 1875	—	—	—	—	—	—	—	—	—
Spot facing cutters	S1	50 165	60 195	70 230	47 155	55 180	60 195	—	—	—	65 215	70 230	85 280	50 165	60 195	70 230
	S2	41 135	47 155	55 180	38 125	43 140	50 165	—	—	—	50 165	60 195	65 215	41 135	47 155	55 180
Spot facing cutters	S3	37 120	42 140	49 160	33 110	38 125	44 145	—	—	—	44 145	50 165	60 195	37 120	42 140	49 160
	S11	70 230	85 280	95 310	65 215	75 245	85 280	—	—	—	85 280	100 330	115 375	70 230	85 280	95 310
Spot facing cutters	S12	50 165	55 180	65 215	45 150	50 165	60 195	—	—	—	60 195	70 230	80 260	50 165	55 180	65 215
	S13	29 95	33 110	39 130	26 85	30 100	35 115	—	—	—	35 115	40 130	47 155	29 95	33 110	39 130
Spot facing cutters	H5	—	—	—	41 135	48 155	55 180	—	—	—	—	—	—	—	—	—
	H8	—	—	—	44 145	50 165	60 195	—	—	—	—	—	—	—	—	—
Spot facing cutters	H11	—	—	—	50 165	60 195	70 230	—	—	—	—	—	—	—	—	—
	H12	—	—	—	80 260	90 295	105 345	—	—	—	—	—	—	—	—	—

R217/220.21-125 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	218.19-125T-T3-M07 MP3501	0,90	0,90	0,90	1,1	Square shoulder and slot milling cutters
		0.036	0.036	0.036	0.044	
P2	218.19-125T-T3-M07 MP3501	0,90	0,90	0,90	1,1	Helical milling cutters
		0.036	0.036	0.036	0.044	
P3	218.19-125T-T3-M07 MP2501	0,90	0,85	0,85	1,0	Helical milling cutters
		0.036	0.034	0.034	0.040	
P4	218.19-125T-T3-M07 MP2501	0,90	0,85	0,85	1,0	Helical milling cutters
		0.036	0.034	0.034	0.040	
P5	218.19-125T-T3-M07 MP2501	0,90	0,80	0,80	1,0	Helical milling cutters
		0.036	0.032	0.032	0.040	
P6	218.19-125T-T3-M07 MP2501	0,90	0,80	0,80	1,0	Helical milling cutters
		0.036	0.032	0.032	0.040	
P7	218.19-125T-T3-M07 MP2501	0,90	0,80	0,80	1,0	Helical milling cutters
		0.036	0.032	0.032	0.040	
P8	218.19-125T-T3-M07 MP2501	0,90	0,85	0,85	1,0	Face milling cutters
		0.036	0.034	0.034	0.040	
P11	218.19-125T-T3-M07 MP3501	0,90	0,80	0,80	1,0	Face milling cutters
		0.036	0.032	0.032	0.040	
P12	218.19-125T-T3-M07 MP2501	0,70	0,60	0,60	0,70	Face milling cutters
		0.028	0.024	0.024	0.028	
M1	218.19-125T-T3-M07 MS2050	0,90	0,90	0,90	1,1	Disc milling cutters
		0.036	0.036	0.036	0.044	
M2	218.19-125T-T3-M07 MS2050	0,90	0,80	0,80	1,0	Disc milling cutters
		0.036	0.032	0.032	0.040	
M3	218.19-125T-T3-M07 MS2050	0,70	0,70	0,70	0,85	Disc milling cutters
		0.028	0.028	0.028	0.034	
M4	218.19-125T-T3-M07 MP3501	0,55	0,60	0,60	0,70	Disc milling cutters
		0.022	0.024	0.024	0.028	
M5	218.19-125T-T3-M07 MP3501	0,55	0,60	0,60	0,70	Disc milling cutters
		0.022	0.024	0.024	0.028	
K1	218.19-125T-T3-MD08 MP3000	0,90	1,0	1,0	1,3	High feed milling cutters
		0.036	0.040	0.040	0.050	
K2	218.19-125T-T3-MD08 MP3000	0,90	0,95	0,95	1,1	High feed milling cutters
		0.036	0.038	0.038	0.048	
K3	218.19-125T-T3-MD08 MP3000	0,90	0,95	0,95	1,1	High feed milling cutters
		0.036	0.038	0.038	0.048	
K4	218.19-125T-T3-MD08 MP3000	0,90	0,95	0,95	1,1	High feed milling cutters
		0.036	0.038	0.038	0.048	
K5	218.19-125T-T3-MD08 MP3000	0,90	0,85	0,85	1,0	High feed milling cutters
		0.036	0.034	0.034	0.040	
K6	218.19-125T-T3-MD08 MP3000	0,90	0,95	0,95	1,1	High feed milling cutters
		0.036	0.038	0.038	0.048	
K7	218.19-125T-T3-MD08 MP3000	0,90	0,85	0,85	1,0	High feed milling cutters
		0.036	0.034	0.034	0.040	
S1	218.19-125T-T3-M07 MP3501	0,55	0,60	0,60	0,70	Copy milling cutters
		0.022	0.024	0.024	0.028	
S2	218.19-125T-T3-M07 MP3501	0,55	0,60	0,60	0,70	Copy milling cutters
		0.022	0.024	0.024	0.028	
S3	218.19-125T-T3-M07 MP3501	0,55	0,55	0,55	0,65	Copy milling cutters
		0.022	0.022	0.022	0.026	
S11	218.19-125T-T3-M07 MS2050	0,65	0,70	0,70	0,85	Plunge milling cutters
		0.026	0.028	0.028	0.034	
S12	218.19-125T-T3-M07 MS2050	0,65	0,70	0,70	0,85	Plunge milling cutters
		0.026	0.028	0.028	0.034	
S13	218.19-125T-T3-M07 MS2050	0,55	0,60	0,60	0,70	Plunge milling cutters
		0.022	0.024	0.024	0.028	
H5	218.19-125T-T3-MD10 MH1000	0,55	0,75	0,75	0,85	Chamfer milling cutters
		0.022	0.030	0.030	0.034	
H8	218.19-125T-T3-MD10 MH1000	0,50	0,55	0,55	0,65	Chamfer milling cutters
		0.020	0.022	0.022	0.026	
H11	218.19-125T-T3-MD08 MP3000	0,55	0,60	0,60	0,70	Chamfer milling cutters
		0.022	0.024	0.024	0.028	
H12	218.19-125T-T3-MD08 MP3000	0,50	0,44	0,44	0,55	Chamfer milling cutters
		0.020	0.017	0.017	0.022	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R217/220.21-125 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MH1000			F15M			F25M			F30M			MP3000			MS2050		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	—	—	—	225	260	310	205	235	285	235	270	330	295	340	425	265	300	365
		—	—	—	740	850	1025	670	770	940	770	890	1075	970	1125	1400	870	980	1200
Helical milling cutters	P2	—	—	—	215	250	305	200	230	280	230	265	310	290	330	395	260	295	345
	P3	—	—	—	710	820	1000	660	750	920	750	870	1025	950	1075	1300	850	970	1125
		—	—	—	190	220	265	175	205	245	200	230	275	255	290	355	225	255	305
		—	—	—	620	720	870	570	670	800	660	750	900	840	950	1175	740	840	1000
Face milling cutters	P4	—	—	—	170	195	235	155	180	215	175	205	245	225	255	310	200	225	270
	P5	—	—	—	560	640	770	510	590	710	570	670	800	740	840	1025	660	740	890
		195	225	270	160	185	225	150	170	205	170	200	235	220	250	305	195	220	260
		640	740	890	520	610	740	490	560	670	560	660	770	720	820	1000	640	720	850
Disc milling cutters	P6	225	260	305	185	215	250	170	195	230	190	220	265	245	280	340	220	250	295
	P7	740	850	1000	610	710	820	560	640	750	620	720	870	800	920	1125	720	820	970
		210	245	285	175	205	235	160	185	215	180	210	250	235	265	320	205	235	275
		690	800	940	570	670	770	520	610	710	590	690	820	770	870	1050	670	770	900
High feed milling cutters	P8	195	225	270	160	185	225	150	170	205	170	195	230	215	245	300	190	215	255
	P11	640	740	890	520	610	740	490	560	670	560	640	750	710	800	980	620	710	840
		205	240	280	170	195	230	155	180	210	175	205	240	225	260	315	200	225	270
		670	790	920	560	640	750	510	590	690	570	670	790	740	850	1025	660	740	890
Copy milling cutters	P12	135	155	185	—	—	—	105	120	140	115	135	160	155	175	210	135	150	180
	M1	445	510	610	—	—	—	345	395	460	375	445	520	510	570	690	445	490	590
		—	—	—	—	—	—	—	—	—	185	215	250	205	235	280	195	225	265
		—	—	—	—	—	—	—	—	—	610	710	820	670	770	920	640	740	870
Plunge milling cutters	M2	—	—	—	—	—	—	—	—	—	155	180	210	170	195	235	160	185	220
	M3	—	—	—	—	—	—	—	—	—	510	590	690	560	640	770	520	610	720
		—	—	—	—	—	—	—	—	—	125	145	170	140	160	190	130	150	180
		—	—	—	—	—	—	—	—	—	410	475	560	460	520	620	425	490	590
Spot facing cutters	M4	—	—	—	—	—	—	—	—	—	100	115	130	110	125	145	105	120	140
	M5	—	—	—	—	—	—	—	—	—	330	375	425	360	410	475	345	395	460
		—	—	—	—	—	—	—	—	—	85	95	110	95	105	120	90	100	115
		—	—	—	—	—	—	—	—	—	280	310	360	310	345	395	295	330	375
Chamfer milling cutters	K1	210	240	290	170	200	240	160	180	220	180	210	245	215	250	295	—	—	—
	K2	690	790	950	560	660	790	520	590	720	590	690	800	710	820	970	—	—	—
		185	215	255	155	175	210	140	160	195	160	190	225	195	225	265	—	—	—
		610	710	840	510	570	690	460	520	640	520	620	740	640	740	870	—	—	—
Inserts	K3	155	180	215	130	150	180	120	135	165	135	160	190	165	190	225	—	—	—
	K4	510	590	710	425	490	590	395	445	540	445	520	620	540	620	740	—	—	—
		150	175	205	125	145	170	115	130	155	130	150	180	155	180	215	—	—	—
		490	570	670	410	475	560	375	425	510	425	490	590	510	590	710	—	—	—
Spot facing cutters	K5	95	110	130	80	90	105	70	80	100	80	90	110	95	110	130	—	—	—
	K6	310	360	425	260	295	345	230	260	330	260	295	360	310	360	425	—	—	—
		130	150	185	110	125	150	100	115	140	115	135	160	135	160	190	—	—	—
		425	490	610	360	410	490	330	375	460	375	445	520	445	520	620	—	—	—
Spot facing cutters	K7	120	140	165	100	115	135	90	105	125	100	120	140	120	140	170	—	—	—
	N1	395	460	540	330	375	445	295	345	410	330	395	460	395	460	560	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S1	—	—	—	—	—	—	—	—	—	47	55	60	50	60	70	49	55	65
		—	—	—	—	—	—	—	—	—	155	180	195	165	195	230	160	180	215
		—	—	—	—	—	—	—	—	—	38	43	49	42	47	55	40	45	50
Spot facing cutters	S2	—	—	—	—	—	—	—	—	—	125	140	160	140	155	180	130	150	165
	S3	—	—	—	—	—	—	—	—	—	33	37	43	36	41	48	34	39	45
		—	—	—	—	—	—	—	—	—	110	120	140	120	135	155	110	130	150
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	75	90
Spot facing cutters	S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	215	245	295
	S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	55	65
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155	180	215
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	31	36
Spot facing cutters	S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	100	120
	H5	48	55	65	40	46	55	—	—	—	41	47	55	46	55	60	—	—	—
		155	180	215	130	150	180	—	—	—	135	155	180	150	180	195	—	—	—
		55	60	70	44	50	60	—	—	—	44	50	60	49	55	65	—	—	—
Spot facing cutters	H8	180	195	230	145	165	195	—	—	—	145	165	195	160	180	215	—	—	—
	H11	60	70	85	50	60	70	—	—	—	55	60	70	60	65	80	—	—	—
		195	230	280	165	195	230	—	—	—	180	195	230	195	215	260	—	—	—
		95	110	125	80	90	105	—	—	—	80	90	105	95	105	125	—	—	—
Spot facing cutters	H12	310	360	410	260	295	345	—	—	—	260	295	345	310	345	410	—	—	—

R217/220.21-125 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			MP1501			MP2501			MS2500			MP3501			MM4500			Square shoulder and slot mill cutters
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	255	280	330	350	385	455	415	460	540	395	440	520	370	410	485	235	265	325	Helical milling cutters
	840	920	1075	1150	1275	1500	1350	1500	1775	1300	1450	1700	1225	1350	1600	770	870	1075	
P2	245	270	310	340	375	445	405	450	510	385	430	495	360	400	460	230	260	305	Helical milling cutters
	800	890	1025	1125	1225	1450	1325	1475	1675	1275	1400	1625	1175	1300	1500	750	850	1000	
P3	220	240	280	300	335	390	355	395	455	340	380	440	315	350	405	200	230	270	Helical milling cutters
	720	790	920	980	1100	1275	1175	1300	1500	1125	1250	1450	1025	1150	1325	660	750	890	
P4	195	220	260	265	295	345	310	345	400	300	330	385	280	310	360	190	215	255	Helical milling cutters
	640	720	850	870	970	1125	1025	1125	1300	980	1075	1275	920	1025	1175	620	710	840	
P5	185	205	240	250	280	330	305	335	390	290	325	375	270	300	345	175	195	230	Helical milling cutters
	610	670	790	820	920	1075	1000	1100	1275	950	1075	1225	890	980	1125	570	640	750	
P6	210	230	265	290	325	370	340	380	435	325	365	420	305	340	390	195	220	260	Face milling cutters
	690	750	870	950	1075	1225	1125	1250	1425	1075	1200	1375	1000	1125	1275	640	720	850	
P7	200	220	250	275	305	350	320	355	410	305	345	395	285	320	370	185	205	245	Face milling cutters
	660	720	820	900	1000	1150	1050	1175	1350	1000	1125	1300	940	1050	1225	610	670	800	
P8	185	200	235	250	280	330	295	330	380	285	315	370	265	295	340	170	190	225	Face milling cutters
	610	660	770	820	920	1075	970	1075	1250	940	1025	1225	870	970	1125	560	620	740	
P11	195	210	245	270	300	340	310	345	400	300	335	385	280	310	360	180	200	235	Face milling cutters
	640	690	800	890	980	1125	1025	1125	1300	980	1100	1275	920	1025	1175	590	660	770	
P12	130	140	165	180	195	225	205	225	255	195	215	250	185	205	230	115	130	150	Face milling cutters
	425	460	540	590	640	740	670	740	840	640	710	820	610	670	750	375	425	490	
M1	175	205	240	—	—	—	205	240	285	225	260	305	195	225	265	150	175	205	Disc milling cutters
	570	670	790	—	—	—	670	790	940	740	850	1000	640	740	870	490	570	670	
M2	145	170	200	—	—	—	175	200	240	185	215	260	160	185	220	125	145	175	Disc milling cutters
	475	560	660	—	—	—	570	660	790	610	710	850	520	610	720	410	475	570	
M3	120	135	160	—	—	—	140	160	190	155	175	205	130	150	180	105	120	140	Disc milling cutters
	395	445	520	—	—	—	460	520	620	510	570	670	425	490	590	345	395	460	
M4	95	110	125	—	—	—	115	130	150	125	140	160	105	120	140	85	95	110	Disc milling cutters
	310	360	410	—	—	—	375	425	490	410	460	520	345	395	460	280	310	360	
M5	80	90	105	—	—	—	95	105	125	105	115	135	90	100	115	70	80	90	Disc milling cutters
	260	295	345	—	—	—	310	345	410	345	375	445	295	330	375	230	260	295	
K1	170	200	235	340	380	450	405	450	520	250	285	340	365	405	465	—	—	—	High feed milling cutters
	560	660	770	1125	1250	1475	1325	1475	1700	820	940	1125	1200	1325	1525	—	—	—	
K2	155	180	215	305	340	400	365	405	470	220	255	305	330	365	420	—	—	—	High feed milling cutters
	510	590	710	1000	1125	1300	1200	1325	1550	720	840	1000	1075	1200	1375	—	—	—	
K3	130	150	180	260	285	335	310	345	395	190	220	260	275	310	355	—	—	—	High feed milling cutters
	425	490	590	850	940	1100	1025	1125	1300	620	720	850	900	1025	1175	—	—	—	
K4	125	145	170	245	275	320	295	330	380	180	210	245	265	295	340	—	—	—	Copy milling cutters
	410	475	560	800	900	1050	970	1075	1250	590	690	800	870	970	1125	—	—	—	
K5	75	85	105	155	175	200	180	200	230	110	125	150	160	180	210	—	—	—	Copy milling cutters
	245	280	345	510	570	660	590	660	750	360	410	490	520	590	690	—	—	—	
K6	110	125	150	215	240	285	260	290	335	160	185	220	235	260	300	—	—	—	Copy milling cutters
	360	410	490	710	790	940	850	950	1100	520	610	720	770	850	980	—	—	—	
K7	95	110	135	200	220	255	230	255	295	140	160	195	205	230	265	—	—	—	Copy milling cutters
	310	360	445	660	720	840	750	840	970	460	520	640	670	750	870	—	—	—	
N1	1275	1475	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	4175	4850	5650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	520	600	700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1700	1975	2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	345	400	465	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1125	1300	1525	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	395	455	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	1300	1500	1750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	45	50	60	—	—	—	—	—	—	60	70	80	49	55	65	25	29	33	Chamfer milling cutters
	150	165	195	—	—	—	—	—	—	195	230	260	160	180	215	80	95	110	
S2	36	41	47	—	—	—	—	—	—	48	55	65	40	45	50	20	23	27	Chamfer milling cutters
	120	135	155	—	—	—	—	—	—	155	180	215	130	150	165	65	75	90	
S3	31	35	41	—	—	—	—	—	—	42	47	55	34	39	45	18	20	23	Chamfer milling cutters
	100	115	135	—	—	—	—	—	—	140	155	180	110	130	150	60	65	75	
S11	60	70	80	—	—	—	—	—	—	80	95	110	65	75	90	35	39	47	Chamfer milling cutters
	195	230	260	—	—	—	—	—	—	260	310	360	215	245	295	115	130	155	
S12	42	48	55	—	—	—	—	—	—	55	65	75	47	55	65	32	36	43	Spot facing cutters
	140	155	180	—	—	—	—	—	—	180	215	245	155	180	215	105	120	140	
S13	25	28	33	—	—	—	—	—	—	34	38	44	28	31	36	19	21	25	Spot facing cutters
	80	90	110	—	—	—	—	—	—	110	125	145	90	100	120	60	70	80	
H5	39	45	55	50	55	70	—	—	—	50	60	70	45	50	60	—	—	—	Spot facing cutters
	130	150	180	165	180	230	—	—	—	165	195	230	150	165	195	—	—	—	
H8	42	48	55	55	60	70	—	—	—	55	60	75	48	55	65	—	—	—	Spot facing cutters
	140	155	180	180	195	230	—	—	—	180	195	245	155	180	215	—	—	—	
H11	50	60	70	65	70	85	—	—	—	65	75	90	60	65	80	—	—	—	Inserts
	165	195	230	215	230	280	—	—	—	215	245	295	195	215	260	—	—	—	
H12	75	85	100	95	110	130	—	—	—	110	125	145	85	100	115	—	—	—	Inserts
	245	280	330	310															

R217/220.21-160 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				100%	70%	30%
Square shoulder and slot milling cutters	P1	218.19-160T-04-M08 MP3501	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
	P2	218.19-160T-04-M08 MP3501	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
Helical milling cutters	P3	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P4	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P5	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P6	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P7	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	P8	218.19-160T-04-M11 MP2501	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
Face milling cutters	P11	218.19-160T-04-M08 MP3501	1,6 0.065	0,75 0.030	0,75 0.030	0,95 0.038
	P12	218.19-160T-04-M11 MP2501	1,3 0.050	0,85 0.034	0,85 0.034	1,0 0.040
	M1	218.19-160T-04-M08 MS2050	1,6 0.065	0,85 0.034	0,85 0.034	1,0 0.040
	M2	218.19-160T-04-M08 MS2050	1,6 0.065	0,80 0.032	0,80 0.032	0,95 0.038
Disc milling cutters	M3	218.19-160T-04-M08 MS2050	1,3 0.050	0,70 0.028	0,70 0.028	0,85 0.034
	M4	218.19-160T-04-M08 MP3501	0,95 0.038	0,70 0.028	0,70 0.028	0,80 0.032
	M5	218.19-160T-04-M08 MP3501	0,95 0.038	0,70 0.028	0,70 0.028	0,80 0.032
	K1	218.19-160T-04-MD11 MK2050	1,6 0.065	1,2 0.048	1,2 0.048	1,4 0.055
	K2	218.19-160T-04-MD11 MK2050	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
High feed milling cutters	K3	218.19-160T-04-MD11 MK2050	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	K4	218.19-160T-04-MD11 MK2050	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	K5	218.19-160T-04-MD11 MK2050	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.048
	K6	218.19-160T-04-MD11 MK2050	1,6 0.065	1,1 0.044	1,1 0.044	1,3 0.050
	K7	218.19-160T-04-MD11 MK2050	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.048
	N1	218.19-160-04-E07 H25	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.044
Copy milling cutters	N2	218.19-160-04-E07 H25	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.044
	N3	218.19-160-04-E07 H25	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.044
	N11	218.19-160-04-E07 H25	1,6 0.065	0,95 0.038	0,95 0.038	1,2 0.044
	S1	218.19-160T-04-M08 MS2500	0,95 0.038	0,70 0.028	0,70 0.028	0,80 0.032
Plunge milling cutters	S2	218.19-160T-04-M08 MS2500	0,95 0.038	0,70 0.028	0,70 0.028	0,80 0.032
	S3	218.19-160T-04-M08 MS2500	0,95 0.038	0,65 0.026	0,65 0.026	0,75 0.030
	S11	218.19-160T-04-M08 MS2050	1,1 0.044	0,75 0.030	0,75 0.030	0,90 0.036
	S12	218.19-160T-04-M08 MS2050	1,1 0.044	0,75 0.030	0,75 0.030	0,90 0.036
Chamfer milling cutters	S13	218.19-160T-04-M08 MS2050	0,95 0.038	0,70 0.028	0,70 0.028	0,80 0.032
	H5	218.19-160T-04-MD11 MH1000	1,0 0.040	0,80 0.032	0,80 0.032	0,95 0.038
	H8	218.19-160T-04-MD11 MH1000	0,90 0.036	0,60 0.024	0,60 0.024	0,70 0.028
	H11	218.19-160T-04-MD09 MP3000	1,0 0.040	0,65 0.026	0,65 0.026	0,75 0.030
Spot facing cutters	H12	218.19-160T-04-MD09 MP3000	0,90 0.036	0,50 0.020	0,50 0.020	0,60 0.024

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed millin cutters

Copy milling cutters

Plunge milling cutters

Chamfer millir cuttersSpot facing cuttersInserts

R217/220.21-160 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			MP2050			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	240	270	315	280	330	395	370	415	495	360	405	480	380	430	510	355	400	470	225	260	310
	790	890	1025	920	1075	1300	1225	1350	1625	1175	1325	1575	1250	1400	1675	1175	1300	1550	740	850	1025
P2	235	260	310	270	320	385	360	405	480	350	390	470	370	420	495	345	390	455	220	250	300
	770	850	1025	890	1050	1275	1175	1325	1575	1150	1275	1550	1225	1375	1625	1125	1275	1500	720	820	980
P3	210	230	265	240	280	330	320	360	415	310	350	405	325	370	425	305	340	390	195	220	260
	690	750	870	790	920	1075	1050	1175	1350	1025	1150	1325	1075	1225	1400	1000	1125	1275	640	720	850
P4	190	215	255	210	245	295	285	320	375	275	310	365	285	325	380	270	300	350	185	210	250
	620	710	840	690	800	970	940	1050	1225	900	1025	1200	940	1075	1250	890	980	1150	610	690	820
P5	175	195	225	200	235	280	270	305	360	260	295	350	275	310	360	255	285	335	160	185	220
	570	640	740	660	770	920	890	1000	1175	850	970	1150	900	1025	1175	840	940	1100	520	610	720
P6	195	220	255	225	265	315	305	340	400	295	330	390	310	350	405	285	320	375	180	210	250
	640	720	840	740	870	1025	1000	1125	1300	970	1075	1275	1025	1150	1325	940	1050	1225	590	690	820
P7	185	205	240	215	250	300	285	325	380	275	310	370	290	330	385	270	305	355	170	195	235
	610	670	790	710	820	980	940	1075	1250	900	1025	1225	950	1075	1275	890	1000	1175	560	640	770
P8	175	195	225	200	235	275	270	305	350	260	295	340	275	310	355	255	285	330	160	185	220
	570	640	740	660	770	900	890	1000	1150	850	970	1125	900	1025	1175	840	940	1075	520	610	720
P11	180	200	235	205	240	290	280	315	370	270	305	360	280	320	375	265	295	345	165	190	230
	590	660	770	670	790	950	920	1025	1225	890	1000	1175	920	1050	1225	870	970	1125	540	620	750
P12	125	140	160	135	160	190	190	210	245	185	205	240	190	215	245	175	200	225	110	130	150
	410	460	520	445	520	620	620	690	800	610	670	790	620	710	800	570	660	740	360	425	490
M1	170	200	240	195	230	275	—	—	—	185	215	260	215	255	305	185	220	260	145	170	205
	560	660	790	640	750	900	—	—	—	610	710	850	710	840	1000	610	720	850	475	560	670
M2	140	165	195	160	190	225	—	—	—	155	180	215	180	210	250	155	180	215	120	140	170
	460	540	640	520	620	740	—	—	—	510	590	710	590	690	820	510	590	710	395	460	560
M3	115	130	155	130	150	180	—	—	—	125	145	175	145	170	200	125	145	175	100	115	135
	375	425	510	425	490	590	—	—	—	410	475	570	475	560	660	410	475	570	330	375	445
M4	90	105	125	105	120	140	—	—	—	100	115	140	115	130	160	100	115	135	75	90	105
	295	345	410	345	395	460	—	—	—	330	375	460	375	425	520	330	375	445	245	295	345
M5	75	85	105	85	100	120	—	—	—	80	95	115	95	110	130	80	95	115	65	75	90
	245	280	345	280	330	395	—	—	—	260	310	375	310	360	425	260	310	375	215	245	295
K1	165	195	235	—	—	—	365	410	485	350	395	475	240	280	335	350	390	460	—	—	—
	540	640	770	—	—	—	1200	1350	1600	1150	1300	1550	790	920	1100	1150	1275	1500	—	—	—
K2	145	170	205	—	—	—	325	370	435	315	355	420	210	250	295	310	345	405	—	—	—
	475	560	670	—	—	—	1075	1225	1425	1025	1175	1375	690	820	970	1025	1125	1325	—	—	—
K3	125	145	175	—	—	—	275	310	365	270	300	355	180	210	250	260	295	345	—	—	—
	410	475	570	—	—	—	900	1025	1200	890	980	1175	590	690	820	850	970	1125	—	—	—
K4	120	140	165	—	—	—	265	295	350	255	290	340	170	200	240	250	280	325	—	—	—
	395	460	540	—	—	—	870	970	1150	840	950	1125	560	660	790	820	920	1075	—	—	—
K5	75	85	100	—	—	—	165	185	215	160	180	210	105	125	145	155	175	200	—	—	—
	245	280	330	—	—	—	540	610	710	520	590	690	345	410	475	510	570	660	—	—	—
K6	105	125	145	—	—	—	230	260	310	225	255	300	150	175	210	220	245	290	—	—	—
	345	410	475	—	—	—	750	850	1025	740	840	980	490	570	690	720	800	950	—	—	—
K7	95	110	130	—	—	—	210	235	275	205	230	265	135	160	190	200	225	260	—	—	—
	310	360	425	—	—	—	690	770	900	670	750	870	445	520	620	660	740	850	—	—	—
N1	1225	1425	1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	4025	4675	5575	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	490	570	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1600	1875	2275	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	325	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1075	1275	1500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1225	1450	1750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	42	48	60	50	60	70	—	—	—	—	—	—	55	65	75	46	55	65	24	27	33
	140	155	195	165	195	230	—	—	—	—	—	—	180	215	245	150	180	215	80	90	110
S2	33	39	46	40	47	55	—	—	—	—	—	—	45	50	60	37	43	50	19	22	26
	110	130	150	130	155	180	—	—	—	—	—	—	150	165	195	120	140	165	60	70	85
S3	29	34	41	36	41	49	—	—	—	—	—	—	39	46	55	32	38	45	17	19	23
	95	110	135	120	135	160	—	—	—	—	—	—	130	150	180	105	125	150	55	60	75
S11	60	65	80	70	80	95	—	—	—	—	—	—	75	90	105	65	75	90	33	38	45
	195	215	260	230	260	310	—	—	—	—	—	—	245	295	345	215	245	295	110	125	150
S12	40	46	55	48	55	65	—	—	—	—	—	—	55	60	75	44	50	60	30	35	42
	130	150	180	155	180	215	—	—	—	—	—	—	180	195	245	145	165	195	100	115	140
S13	23	27	32	28	33	39	—	—	—	—	—	—	31	36	43	26	30	36	18	20	24
	75	90	105	90	110	130	—	—	—	—	—	—	100	120	140	85	100	120	60	65	80
H5	36	42	50	—	—	—	50	60													



R220.21 (SC12) High Feed

High feed mills for high-torque machines, for SCET12 inserts, 4-cutting edge, single sided. These cutter bodies with fixed pockets are optimised for strong horizontal machines. SCET120630T is our 6.35-mm thick insert range with a corner radius of 3.0 mm.

- Cutter range 50-160 mm (2 - 4 inch)
- Max depth of cut 1,5 mm (.059 inch)
- Heavy roughing operations
- Large, powerful machines

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

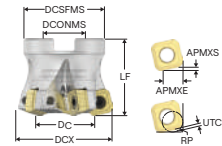
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

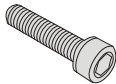
R220.21-SC – Metric



—For insert selection and cutting data recommendations, see page(s) 657-658
 —For complete insert programme, see page(s) 892
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	APMXE mm	DCB mm	DCSFMS mm	DCONMS mm	LF mm	RP mm	UTCN mm	RMPX°	RPMX	Weight kg	Insert
R220.21-0050-SC12.4A	02600275	Arbor	31,0	50,0	4	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,3	10700	0,3	SC.T1206
R220.21-0050-SC12.5A	03136672	Arbor	31,0	50,0	5	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,1	10700	0,3	SC.T1206
R220.21-0052-SC12.4A	02585965	Arbor	33,0	52,0	4	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,2	10500	0,3	SC.T1206
R220.21-0052-SC12.5A	03138188	Arbor	33,0	52,0	5	1,5	9,0	22,0	47,0	22,0	40,0	4,5	1,1	2,0	10500	0,4	SC.T1206
R220.21-0063-SC12.5A	02682416	Arbor	44,0	63,0	5	1,5	9,0	27,0	50,0	27,0	50,0	4,4	1,1	0,9	9600	0,6	SC.T1206
R220.21-0080-SC12.5A	02585971	Arbor	61,0	80,0	5	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,1	0,8	8500	0,9	SC.T1206
R220.21-0080-SC12.6A	02682419	Arbor	61,0	80,0	6	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,1	0,8	8500	1,0	SC.T1206
R220.21-0080-SC12.7A	03136674	Arbor	61,1	80,0	7	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,2	0,8	8500	1,1	SC.T1206
R220.21-0100-SC12.5A	02585973	Arbor	81,0	100,0	5	1,5	9,0	32,0	77,0	32,0	50,0	4,4	1,1	0,75	7600	1,6	SC.T1206
R220.21-0100-SC12.7A	02682422	Arbor	81,0	100,0	7	1,5	9,0	32,0	77,0	32,0	50,0	4,4	1,1	0,75	7600	1,6	SC.T1206
R220.21-0125-SC12.6A	02585974	Arbor	106,0	125,0	6	1,5	9,0	40,0	90,0	40,0	63,0	4,4	1,1	0,7	6800	2,5	SC.T1206
R220.21-8160-SC12.7	02585975	Arbor	141,0	160,0	7	1,5	9,0	40,0	90,0	40,0	63,0	4,4	1,1	0,7	6000	3,6	SC.T1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0050-0052	220.17-692M	1/4HEX-T20PX50	C45011-T20P
R220.21-0063-0066	MC6S12X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0080	MC6S12X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0100	MLC6S16X35	1/4HEX-T20PX90	C45011-T20P
R220.21-0125	—	1/4HEX-T20PX90	C45011-T20P
R220.21-8160	—	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Adjustable Torque key 2	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.21-0050-0125	1/4HEX-S-HANDLE-0.8-5.0NM	—	—	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.21-0050-0125	1/4HEX-S-HANDLE-0.8-5.0NM	—	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-SC12 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	
P1	SCET120630T-M14 MP3501	1,5 0.060	0,95 0.038	0,95 0.038	1,1 0.044	Square shoulder and slot milling cutters
P2	SCET120630T-M14 MP3501	1,5 0.060	0,95 0.038	0,95 0.038	1,1 0.044	
P3	SCET120630T-M14 MP2501	1,5 0.060	0,90 0.036	0,90 0.036	1,1 0.044	Helical milling cutters
P4	SCET120630T-M14 MP2501	1,5 0.060	0,90 0.036	0,90 0.036	1,1 0.044	
P5	SCET120630T-M14 MP2501	1,5 0.060	0,85 0.034	0,85 0.034	1,0 0.040	Face milling cutters
P6	SCET120630T-M14 MP2501	1,5 0.060	0,85 0.034	0,85 0.034	1,0 0.040	
P7	SCET120630T-M14 MP2501	1,5 0.060	0,85 0.034	0,85 0.034	1,0 0.040	Disc milling cutters
P8	SCET120630T-M14 MP2501	1,5 0.060	0,90 0.036	0,90 0.036	1,1 0.044	
P11	SCET120630T-M14 MP3501	1,5 0.060	0,85 0.034	0,85 0.034	1,0 0.040	High feed milling cutters
P12	SCET120630T-M14 MP2501	1,5 0.060	0,60 0.024	0,60 0.024	0,70 0.028	
M1	SCET120630T-M14 MS2050	1,5 0.060	0,95 0.038	0,95 0.038	1,1 0.044	Copy milling cutters
M2	SCET120630T-M14 MS2050	1,5 0.060	0,85 0.034	0,85 0.034	1,0 0.040	
M3	SCET120630T-M14 MS2050	1,5 0.060	0,70 0.028	0,70 0.028	0,85 0.034	Plunge milling cutters
M4	SCET120630T-M14 MP3501	1,5 0.060	0,60 0.024	0,60 0.024	0,75 0.030	
M5	SCET120630T-M14 MP3501	1,5 0.060	0,60 0.024	0,60 0.024	0,75 0.030	Chamfer milling cutters
K1	SCET120630T-MD16 MP1501	1,5 0.060	1,1 0.044	1,1 0.044	1,3 0.050	
K2	SCET120630T-MD16 MP1501	1,5 0.060	1,0 0.040	1,0 0.040	1,2 0.048	Spot facing cutters
K3	SCET120630T-MD16 MP1501	1,5 0.060	1,0 0.040	1,0 0.040	1,2 0.048	
K4	SCET120630T-MD16 MP1501	1,5 0.060	1,0 0.040	1,0 0.040	1,2 0.048	Inserts
K5	SCET120630T-MD16 MP1501	1,5 0.060	0,90 0.036	0,90 0.036	1,1 0.044	
K6	SCET120630T-MD16 MP1501	1,5 0.060	1,0 0.040	1,0 0.040	1,2 0.048	
K7	SCET120630T-MD16 MP1501	1,5 0.060	0,90 0.036	0,90 0.036	1,1 0.044	
S1	SCET120630T-M14 MS2500	1,5 0.060	0,60 0.024	0,60 0.024	0,75 0.030	
S2	SCET120630T-M14 MS2500	1,5 0.060	0,60 0.024	0,60 0.024	0,75 0.030	
S3	SCET120630T-M14 MS2500	1,5 0.060	0,55 0.022	0,55 0.022	0,70 0.028	
S11	SCET120630T-M14 MS2050	1,5 0.060	0,70 0.028	0,70 0.028	0,85 0.034	
S12	SCET120630T-M14 MS2050	1,5 0.060	0,70 0.028	0,70 0.028	0,85 0.034	
S13	SCET120630T-M14 MS2050	1,5 0.060	0,60 0.024	0,60 0.024	0,75 0.030	
H5	SCET120630T-MD16 MP3501	1,5 0.060	0,70 0.028	0,70 0.028	0,80 0.032	
H8	SCET120630T-MD16 MP3501	1,5 0.060	0,50 0.020	0,50 0.020	0,60 0.024	
H11	SCET120630T-MD16 MP1501	1,5 0.060	0,70 0.028	0,70 0.028	0,80 0.032	
H12	SCET120630T-MD16 MP1501	1,5 0.060	0,50 0.020	0,50 0.020	0,60 0.024	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R220.21-SC12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MK2050			MP3000			MS2050			F40M		
		100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
Square shoulder and slot milling cutters	P1	275 900	320 1050	390 1275	275 900	310 1025	395 1300	250 820	280 920	345 1125	240 790	260 850	315 1025
	P2	265 870	305 1000	370 1225	260 850	295 970	370 1225	240 790	270 890	325 1075	230 750	245 800	295 970
Helical milling cutters	P3	230 750	265 870	330 1075	230 750	260 850	330 1075	210 690	235 770	290 950	200 660	220 720	265 870
	P4	210 690	240 790	290 950	210 690	235 770	290 950	190 620	210 690	255 840	185 610	205 670	245 800
Face milling cutters	P5	200 660	230 750	285 940	200 660	225 740	290 950	180 590	205 670	255 840	170 560	185 610	230 750
	P6	225 740	255 840	320 1050	225 740	255 840	325 1075	200 660	225 740	285 940	195 640	210 690	255 840
Disc milling cutters	P7	210 690	240 790	300 980	210 690	240 790	310 1025	190 620	215 710	270 890	180 590	200 660	245 800
	P8	195 640	225 740	275 900	195 640	220 720	280 920	175 570	200 660	245 800	170 560	185 610	220 720
High feed milling cutters	P11	205 670	235 770	290 950	205 670	230 750	300 980	185 610	210 690	260 850	175 570	195 640	235 770
	P12	135 445	155 510	190 620	145 475	160 520	200 660	125 410	140 460	170 560	120 395	130 425	155 510
Copy milling cutters	M1	— —	— —	— —	190 620	220 720	265 870	180 590	210 690	255 840	165 540	190 620	230 750
	M2	— —	— —	— —	160 520	185 610	230 750	150 490	175 570	215 710	135 445	160 520	195 640
Plunge milling cutters	M3	— —	— —	— —	130 425	145 475	180 590	120 395	135 445	170 560	110 360	125 410	155 510
	M4	— —	— —	— —	100 330	115 375	140 460	95 310	105 345	135 445	85 280	95 310	120 395
Chamfer milling cutters	M5	— —	— —	— —	85 280	95 310	115 375	80 260	90 295	110 360	70 230	80 260	100 330
	K1	285 940	330 1075	400 1300	200 660	230 750	285 940	— —	— —	— —	160 520	185 610	225 740
Spot facing cutters	K2	255 840	295 970	365 1200	180 590	210 690	260 850	— —	— —	— —	145 475	165 540	205 670
	K3	215 710	250 820	310 1025	155 510	175 570	220 720	— —	— —	— —	125 410	140 460	175 570
Inserts	K4	205 670	240 790	295 970	145 475	170 560	210 690	— —	— —	— —	115 375	135 445	165 540
	K5	130 425	145 475	180 590	90 295	105 345	125 410	— —	— —	— —	70 230	85 280	100 330
Spot facing cutters	K6	185 610	210 690	260 850	130 425	150 490	185 610	— —	— —	— —	105 345	120 395	145 475
	K7	165 540	190 620	230 750	115 375	135 445	160 520	— —	— —	— —	90 295	105 345	130 425
Spot facing cutters	N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1175 3850	1350 4425	1675 5500
	N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	475 1550	550 1800	670 2200
Spot facing cutters	N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 1050	365 1200	450 1475
	N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 1200	415 1350	510 1675
Spot facing cutters	S1	— —	— —	— —	46 150	55 180	65 215	44 145	50 165	60 195	40 130	45 150	55 180
	S2	— —	— —	— —	37 120	42 140	55 180	35 115	40 130	50 165	32 105	37 120	45 150
Spot facing cutters	S3	— —	— —	— —	33 110	37 120	46 150	31 100	36 120	44 145	28 90	32 105	40 130
	S11	— —	— —	— —	— —	— —	— —	60 195	70 230	85 280	55 180	65 215	80 260
Spot facing cutters	S12	— —	— —	— —	— —	— —	— —	42 140	48 155	60 195	38 125	44 145	55 180
	S13	— —	— —	— —	— —	— —	— —	25 80	28 90	35 115	23 75	26 85	32 105
Spot facing cutters	H5	46 150	50 165	65 215	40 130	46 150	55 180	— —	— —	— —	34 110	39 130	48 155
	H8	49 160	55 180	70 230	43 140	49 160	60 195	— —	— —	— —	36 120	41 135	50 165
Spot facing cutters	H11	60 195	65 215	80 260	50 165	60 195	70 230	— —	— —	— —	44 145	50 165	60 195
	H12	85 280	95 310	120 395	80 260	95 310	115 375	— —	— —	— —	65 215	75 245	90 295
Spot facing cutters	H21	49 160	55 180	70 230	43 140	49 160	60 195	— —	— —	— —	36 120	41 135	50 165

R220.21-SC12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501			MP2501			MS2500			MP3501			
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	
P1	385	425	500	370	410	490	375	415	500	350	385	465	Square shoulder and slot milling cutters
	1275	1400	1650	1225	1350	1600	1225	1350	1650	1150	1275	1525	
P2	375	410	490	365	400	480	360	400	475	335	370	440	Helical milling cutters
	1225	1350	1600	1200	1300	1575	1175	1300	1550	1100	1225	1450	
P3	320	355	435	310	345	425	315	350	420	295	325	390	Helical milling cutters
	1050	1175	1425	1025	1125	1400	1025	1150	1375	970	1075	1275	
P4	295	325	380	285	315	375	285	315	370	265	290	345	Helical milling cutters
	970	1075	1250	940	1025	1225	940	1025	1225	870	950	1125	
P5	280	310	365	270	300	355	270	300	365	250	275	340	Helical milling cutters
	920	1025	1200	890	980	1175	890	980	1200	820	900	1125	
P6	315	345	410	305	335	400	305	335	410	285	310	380	Helical milling cutters
	1025	1125	1350	1000	1100	1300	1000	1100	1350	940	1025	1250	
P7	295	325	385	290	315	375	285	315	385	265	295	360	Face milling cutters
	970	1075	1275	950	1025	1225	940	1025	1275	870	970	1175	
P8	270	300	365	260	290	355	265	295	355	245	270	325	Face milling cutters
	890	980	1200	850	950	1175	870	970	1175	800	890	1075	
P11	290	315	375	280	310	365	280	310	375	260	285	350	Face milling cutters
	950	1025	1225	920	1025	1200	920	1025	1225	850	940	1150	
P12	190	205	245	185	200	240	185	205	240	175	190	225	Face milling cutters
	620	670	800	610	660	790	610	670	790	570	620	740	
M1	—	—	—	190	215	265	210	240	295	180	210	255	Disc milling cutters
	—	—	—	620	710	870	690	790	970	590	690	840	
M2	—	—	—	155	180	220	175	200	250	150	175	215	Disc milling cutters
	—	—	—	510	590	720	570	660	820	490	570	710	
M3	—	—	—	125	140	180	140	160	200	120	135	170	Disc milling cutters
	—	—	—	410	460	590	460	520	660	395	445	560	
M4	—	—	—	95	110	140	110	125	155	95	105	135	Disc milling cutters
	—	—	—	310	360	460	360	410	510	310	345	445	
M5	—	—	—	80	90	115	90	105	130	80	90	110	Disc milling cutters
	—	—	—	260	295	375	295	345	425	260	295	360	
K1	375	415	495	365	405	485	235	270	325	335	370	445	High feed milling cutters
	1225	1350	1625	1200	1325	1600	770	890	1075	1100	1225	1450	
K2	340	375	440	330	360	430	210	240	300	305	335	410	High feed milling cutters
	1125	1225	1450	1075	1175	1400	690	790	980	1000	1100	1350	
K3	285	315	375	280	305	365	175	205	255	260	285	345	High feed milling cutters
	940	1025	1225	920	1000	1200	570	670	840	850	940	1125	
K4	275	300	355	265	295	350	170	195	240	245	270	330	Copy milling cutters
	900	980	1175	870	970	1150	560	640	790	800	890	1075	
K5	165	185	220	160	180	215	105	120	145	155	170	200	Copy milling cutters
	540	610	720	520	590	710	345	395	475	510	560	660	
K6	240	265	315	235	260	305	150	170	210	215	240	290	Copy milling cutters
	790	870	1025	770	850	1000	490	560	690	710	790	950	
K7	210	240	280	205	230	275	135	155	185	195	215	255	Copy milling cutters
	690	790	920	670	750	900	445	510	610	640	710	840	
N1	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	55	60	75	44	50	60	Chamfer milling cutters
	—	—	—	—	—	—	180	195	245	145	165	195	
S2	—	—	—	—	—	—	43	49	60	35	40	50	Chamfer milling cutters
	—	—	—	—	—	—	140	160	195	115	130	165	
S3	—	—	—	—	—	—	38	43	55	31	36	44	Chamfer milling cutters
	—	—	—	—	—	—	125	140	180	100	120	145	
S11	—	—	—	—	—	—	75	85	105	60	70	85	Chamfer milling cutters
	—	—	—	—	—	—	245	280	345	195	230	280	
S12	—	—	—	—	—	—	50	60	75	42	48	60	Spot facing cutters
	—	—	—	—	—	—	165	195	245	140	155	195	
S13	—	—	—	—	—	—	30	34	42	25	28	35	Spot facing cutters
	—	—	—	—	—	—	100	110	140	80	90	115	
H5	49	55	70	—	—	—	45	50	65	40	45	55	Spot facing cutters
	160	180	230	—	—	—	150	165	215	130	150	180	
H8	50	60	75	—	—	—	47	55	65	42	48	60	Spot facing cutters
	165	195	245	—	—	—	155	180	215	140	155	195	
H11	65	70	90	—	—	—	55	65	80	50	55	70	Inserts
	215	230	295	—	—	—	180	215	260	165	180	230	
H12	95	105	135	—	—	—	95	105	135	75	85	105	Inserts
	310	345	445	—	—	—	310	345	445	245	280	345	
H21	50	60	75	—	—	—	47	55	65	42	48	60	Inserts
	165	195	245	—	—	—	155	180	215	140	155	195	

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

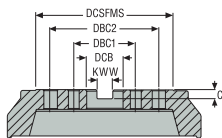


Code keys metric and inch

R	217	29	16	16	0	04	2	140	A
1	2	3	4	5	6	7	8	9	10

R	217	29I	01.00	0	06	2	A
1	2	3	4	6	7	8	9

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	5. (Not for inch designation)	6.
Shank diameter (connecting thread diameter for Combimaster)	Outer cutting diameter/ball nose type = cutting diameter	Shank type RE = Combimaster 0. = Cylindrical 3. = Weldon
7.	8.	9.
Max. axial cutting depth	No. of teeth	Setting length (for the shank for combimaster)
10.		
A = Through coolant supply E = Solid carbide shank		



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	—	—	8,4	5,6
22	42-47	—	—	10,4	6,3
27	48-62	—	—	12,4	7
32	60-90	—	—	14,4	8
40	90-130	66,7	—	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	1.181 - 1.378	—	—	0.258	0.165
0.750	1.378 - 1.850	—	—	0.321	0.193
1.000	1.803 - 2.441	—	—	0.382	0.224
1.250	2.250 - 3.031	—	—	0.508	0.287
1.500	2.750 - 3.543	—	—	0.630	0.382
2.000	4.331	—	—	0.756	0.445
2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

Selection – Metric																							
Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)								See page		
		P	M	K	N	S	H						12	16	20	25	30	32	40	50			
Square shoulder and slot milling cutters	R218.20	218.20-060 	■	■	■	■	■	-	6,0	■	□	■	2	10								730, 731	
		218.20-080 	■	■	■	■	■	■	8,0	■	■	■	2		14								
		218.20-100 	■	■	■	■	■	■	10,0	■	■	■	2			18							
		218.20-125 	■	■	■	■	■	■	12,5	■	■	■	2				22						
		218.20-150 	■	■	■	■	■	■	15,0	■	■	■	2					27					
		218.20-160 	■	■	■	■	■	■	16,0	■	■	■	2						28				
		218.20-200 	■	■	■	■	■	-	20,0	□	■	■	2							35			
		218.20-250 	■	■	■	■	■	-	25,0	□	■	■	2								44		
		Helical milling cutters	R218.20 long cutting edge	218.20-150 / SPMT10 	■	■	■	■	■	■	15,0	■	■	■	2/4					44			
218.20-160 / SPMT10 	■			■	■	■	■	■	16,0	■	■	■	2/4						54				
218.20-200 / SC..12 	■			■	■	■	■	-	20,0	□	■	■	2/4							60			
218.20-250 / SC..12 	■			■	■	■	■	-	25,0	□	■	■	2/4								70		
Face milling cutters	R218.20																						
Disc milling cutters	R218.20																						
High feed milling cutters	R218.20																						
Copy milling cutters	R218.20																						
Plunge milling cutters	R218.20																						
Chamfer milling cutters	R218.20																						
Spot facing cutters	R218.20																						
Inserts	R218.20																						

1st choice

Alternative choice

Possible choice

Not recommended

■

■

□

-

High speed machine with low power/torque

Strong stable machine with rigid connexion

Unstable condition suitability



x indicates the maximum depth of cut

x

1st choice



High speed machine with low power/torque

Alternative choice



Strong stable machine with rigid connection

Possible choice



Unstable condition suitability

Not recommended



x indicates the maximum depth of cut

x



Selection – Metric

Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)							See page
		P	M	K	N	S	H						16	20	25	30	32	40	50	
R218.19	218.19-080/SPMX06 	■	■	■	■	■	■	8,0	■	■	■	3/4	12 17							760
	218.19-100/SPMX07 	■	■	■	■	■	■	10,0	■	■	■	3/4		16 21						
	218.19-125/SPMX09 	■	■	■	■	■	■	16,0	■	■	■	3/4			26					
	218.19-160/SPMT10 	■	■	■	■	■	■	16,0	■	■	■	3/4					31 38			
	218.19-125 	■	■	■	■	■	■	12,5	■	■	■	3			12					762
R218.19 HFA	218.19-160 	■	■	■	■	■	■	16,0	■	■	■	3					16			
	218.19-200 	■	■	■	■	■	□	20,0	□	■	■	3						20		

1st choice



High speed machine with low power/torque

Alternative choice



Strong stable machine with rigid connection

Possible choice



Unstable condition suitability

Not recommended



x indicates the maximum depth of cut

x

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)							See page
		P	M	K	N	S	H						0.50	0.63	0.75	1.00	1.25	1.50	2.00	
R218.20	218.20-0.250 	■	■	■	▣	■	-	0.250	■	□	▣	2	0.433							730, 731
	218.20-080 	■	■	■	▣	■	▣	0.315	■	▣	▣	2			0.669					
	218.20-0.375 	■	■	■	▣	■	▣	0.375	■	■	▣	2					1.102			
	218.20-125 	■	■	■	▣	■	▣	0.492	■	■	▣	2						1.732		
	218.20-160 	■	■	■	▣	■	▣	0.630	▣	■	▣	2					2.126			
	218.20-0.750 	■	■	■	▣	■	▣	0.750	▣	■	▣	2						2.756		
	218.20-250 	■	■	■	▣	■	-		□	■	▣	2		0.551						
R218.20 long cutting edge	218.20-125 / SPMT10 	■	■	■	▣	■	▣	0.630	▣	■	▣	2/4				0.866				
	218.20-160 / SPMT10 	■	■	■	▣	■	▣		▣	■	▣	2/4						1.339		
	218.20-0.750 / SC..12 	■	■	■	▣	■	-	0.750	□	■	▣	2/4				1.772				
	218.20-250 / SC..12 	■	■	■	▣	■	-	0.984	□	■	▣	2/4						2.362		

1st choice



High speed machine with low power/torque

Alternative choice



Strong stable machine with rigid connection

Possible choice



Unstable condition suitability

Not recommended

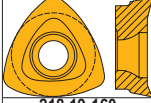


x indicates the maximum depth of cut

x



Selection – Inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)							See page
		P	M	K	N	S	H						0.50	0.63	0.75	1.00	1.25	1.50	2.00	
R218.19	218.19-100/SPMX07 	■	■	■	■	■	■	0.394	■	■	■	3/4			0.835					760
	218.19-125/SPMX09 	■	■	■	■	■	■	0.492	■	■	■	3/4				1.063				
R218.19 HFA	218.19-125 	■	■	■	■	■	■		■	■	■	3								762
	218.19-160 	■	■	■	■	■	■		■	■	■	3								
	218.19-200 	■	■	■	■	■	□		□	■	■	3								

1st choice

■ High speed machine with low power/torque

Alternative choice

▣ Strong stable machine with rigid connection

Possible choice

□ Unstable condition suitability

Not recommended

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x indicates the maximum depth of cut

x

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

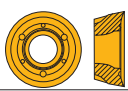
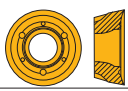
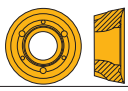
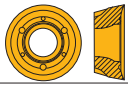
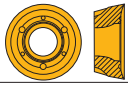
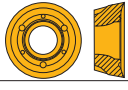
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Metric

	Insert	a_p max	a_p rec.	Material suitability									
				P	M	K	N	S	H				
Square shoulder and slot milling cutters													
Helical milling cutters	Round 5	2,5	1	■	▣	■	□	■	■	■	▣	■	□
													
Face milling cutters	Round 6	3	1	■	■	■	■	▣	■	■	▣	■	□
													
Disc milling cutters	Round 7	3,5	1,5	■	▣	■	■	▣	■	■	▣	■	□
													
High feed milling cutters	Round 8	4	1,5	■	■	■	■	■	■	■	▣	■	▣
													
Copy milling cutters	Round 10	5	2	■	■	■	■	■	■	■	■	■	▣
													
Plunge milling cutters	Round 12	6	3	■	■	■	■	■	■	□	■	■	▣
													
Chamfer milling cutters	Round 16	8	5	■	■	■	-	■	▣	-	■	■	▣
													
Spot facing cutters	Round 20	10	6	■	■	■	-	■	□	-	■	■	▣
													
Inserts	Round 12 R217/220.28	6	3	■	■	■	□	■	▣	□	■	□	▣
													
1st choice				■	High speed machine with low power/torque					Unstable condition suitability			
Alternative choice				□	Strong stable machine with rigid connection					Ramping ability			
Possible choice				▣	Not recommended				-	Plunging ability			

a_p max = Maximum depth of cut possible
 a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	Applica- tion	Cutter diameter available (mm)/number of teeth																									See page				
		10	12	15	16	20	25	27	32	35	40	42	44	50	52	63	66	80	84	92	100	112	125	137	153	160		188	200	228	250
Round 5		2	3	4		5																									672
Round 6			2		3	4	5		6	7	8																				676
Round 7					3	4	5																								681
Round 8						2	3							5																	684
					2	3	4		5		6			7																	684
Round 10											4			4		6															689
							2		4		5	5																			689
					1	2	3	3	5	5	6	6		6	7	8															689
Round 12										3	3		4	4	4	5		6	6			7		8							696
														5	5	6	6	7		7											696
						2		3	4	4	5			6		7		8			9		11								
Round 16																4	5	5	5		6		6			7					705, 706
									2		3			4	4	5/6	6	7			8		10			10					
Round 20																4		5			5		6		6	7	8		10		714
											2			3		5	5	6			7		8						9		10
Round 12														5	5	6	7	8			10										722
R217/220.28									3		4			6		8					12										722

x	x indicates number of teeth (first choice)		Coarse pitch-troubleshooter for unstable conditions and long overhang
x	x indicates number of teeth		Normal pitch-alternative choice
			Close pitch-basic choice for productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

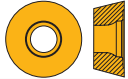
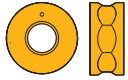
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Inch

	Insert	a_p max	a_p rec.	Material suitability									
				P	M	K	N	S	H				
Square shoulder and slot milling cutters													
Helical milling cutters	Round 5 	0.059	0.039	■	▣	■	□	■	■	■	▣	■	□
	Round 6 	0.118	0.04	■	■	■	■	▣	■	■	▣	■	□
Face milling cutters	Round 7 	0.138	0.059	■	▣	■	■	▣	■	■	▣	■	□
	Round 8 	0.158	0.059	■	■	■	■	■	■	■	▣	■	▣
Disc milling cutters	Round 10 	0.197	0.079	■	■	■	■	■	■	■	■	■	▣
	Round 12 	0.236	0.118	■	■	■	■	■	■	□	■	■	▣
High feed milling cutters	Round 16 	0.315	0.197	■	■	■	-	■	▣	-	■	■	▣
	Round 19 	0.374	0.160	■	■	■	-	■	□	-	■	■	▣
Copy milling cutters	Round 20 	0.394	0.236	■	■	■	-	■	□	-	■	■	▣
	Round 12 R217/220.28 	0.236	0.118	■	■	■	□	■	▣	□	■	□	▣
Plunge milling cutters													
Chamfer milling cutters													

1st choice



High speed machine with low power/torque



Unstable condition suitability



Alternative choice



Strong stable machine with rigid connection



Ramping ability



Possible choice



Not recommended



Plunging ability



a_p max = Maximum depth of cut possible

a_p rec. = Recommended depth of cut for optimal result

Selection – Inch

Insert	Applica- tion	Cutter diameter available (inch)/number of teeth									6.00	See page
		0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00		
Round 5												672
Round 6		4	5	6								676
Round 7												681
Round 8												684
												
Round 10			3	4	5	6						689
												
												
Round 12			2	3	4	(4/5)	(6/7)	(6/7)	(7/9)		8	696
												
												
Round 16						4	5	6	7			705, 706
												
Round 19							4	6	5	7		714
									5	9		714
Round 20							4	5				714
												
Round 12												722
R217/220.28				3	4	(5/6)	7	8	(10/12)			

x	x indicates number of teeth (first choice)		Coarse pitch-troubleshooter for unstable conditions and long overhang
x	x indicates number of teeth		Normal pitch-alternative choice
			Close pitch-basic choice for productivity

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)								See page
		P	M	K	N	S	H						16								
R217/220.97	R217/220.97-XP08 				■			0,4/0,8/ 1,6/2,0/ 2,4/3,1	■	■	■	2	2	2/3	3/4						780
	R217/220.97-XP12 				■			0,4/0,8/ 2,0/2,4/ 3,1/4,0	■	■	■	2		2	2/3	3	4				784
	R217/220.97-VP22 				■			0,5/0,8/ 1,6/2,0/ 2,4/3,1/ 4,0/4,8/6,3		■	■	2			2	2	2/3	3/4	4	5	788

1st choice



High speed machine with low power/torque

Alternative choice



Strong stable machine with rigid connection

Possible choice



Unstable condition suitability

Not recommended



x indicates the maximum depth of cut

x

Selection – inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)								See page	
		P	M	K	N	S	H						0.63	0.08	1.00	1.25	1.50	2.00	2.50	3.00		4.00
R217/220.97	R217/220.97-XP08 				■			0.016/0.031/ 0.063/0.079/ 0.094/0.122	■	■	■	2	2	2	3							780
	R217/220.97-XP12 				■			0.016/0.031/ 0.079/0.094/ 0.122/0.157	■	■	■	2				2	2	(2/3)	4	4	5	784
	R217/220.97-VP22 				■			0.020/0.031/ 0.063/0.079/ 0.094/0.122/		■	■	2				2	3	3	(3/4)			

1st choice



High speed machine with low power/torque

Alternative choice



Strong stable machine with rigid connection

Possible choice



Unstable condition suitability

Not recommended



x indicates the maximum depth of cut

x



R217/220.29 Round insert cutters

Our comprehensive range of round insert cutters, R217/220.29, is ideal for semi-finishing and roughing in all copy milling applications and materials.

- Insert size 05, cutter range 10-20mm
- Insert size 06, cutter range 12-40mm (0.75 - 1.25 inch)
- Insert size 07, cutter range 16-25mm
- Insert size 08, cutter range 16-50mm
- Insert size 3/4, cutter range (2.5 - 5 inch)
- Insert size 10, cutter range 16-63mm (1 - 2.0 inch)
- Insert size 12, cutter range 25-137mm (1 - 6 inch)
- Insert size 16, cutter range 32-160mm (2.0 - 4.0 inch)
- Insert size 20, cutter range 25-250mm (2 - 3 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

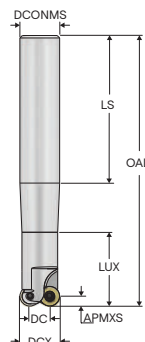
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29-025 - Metric



- For insert selection and cutting data recommendations, see page(s) 674-675
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1010.0-025.2.090E	02495669	Cylindrical	5,0	10,0	2	2,5	10,0	100,0	30,0	90,0	130,0	25,0	15,0	18,0	75000	0,2	RDHW0501

Spare Parts, included in delivery

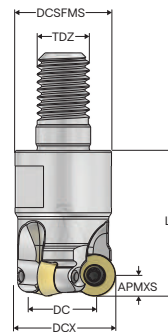
For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T06PX50	C02035-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.29-025 – Metric



- For insert selection and cutting data recommendations, see page(s) 674–675
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-0612.RE-025.3A	02642920	Combimaster	7,0	12,0	3	2,5	11,0	M6	18,0	31,5	13,9	19,0	22,0	65000	0,1	RDHW0501
R217.29-0812.RE-025.3A	02495672	Combimaster	7,0	12,0	3	2,5	13,5	M8	20,0	37,75	13,9	19,0	22,0	65000	0,1	RDHW0501
R217.29-0815.RE-025.4A	02495675	Combimaster	10,0	15,0	4	2,5	13,5	M8	20,0	37,75	8,4	25,0	28,0	60000	0,1	RDHW0501
R217.29-1020.RE-025.5A	02643352	Combimaster	15,0	20,0	5	2,5	18,0	M10	23,0	41,75	5,0	35,0	38,0	50000	0,1	RDHW0501

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T06PX50	C02035-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29-025 – Insert selection – mm/Inch

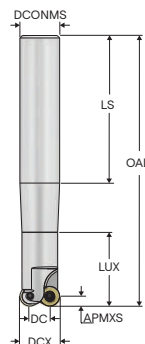
R217.29-025 – Insert selection – mm/Inch							
Square shoulder and slot milling cutters	SMG		a _p		f _z		
			100%	70%	30%	10%	
P1	RDHW0501M0-MD01 F40M	1,0	0,095	0,095	0,11	0,18	
		0,040	0.0038	0.0038	0.0044	0.0070	
P2	RDHW0501M0-MD01 F40M	1,0	0,095	0,095	0,11	0,18	
		0,040	0.0038	0.0038	0.0044	0.0070	
P3	RDHW0501M0-MD01 F40M	1,0	0,090	0,090	0,11	0,17	
		0,040	0.0036	0.0036	0.0044	0.0065	
P4	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,17	
		0,040	0.0036	0.0036	0.0040	0.0065	
P5	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
P6	RDHW0501M0-MD01 MP3000	1,0	0,085	0,085	0,10	0,16	
		0,040	0.0034	0.0034	0.0040	0.0065	
P7	RDHW0501M0-MD01 MP3000	1,0	0,085	0,085	0,10	0,16	
		0,040	0.0034	0.0034	0.0040	0.0065	
P8	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,11	0,17	
		0,040	0.0036	0.0036	0.0044	0.0065	
P11	RDHW0501M0-MD01 MP3000	1,0	0,085	0,085	0,10	0,16	
		0,040	0.0034	0.0034	0.0040	0.0065	
P12	RDHW0501M0-MD01 MP3000	0,80	0,065	0,065	0,075	0,12	
		0,032	0.0026	0.0026	0.0030	0.0048	
M1	RDHW0501M0-MD01 F40M	1,0	0,095	0,095	0,11	0,18	
		0,040	0.0038	0.0038	0.0044	0.0070	
M2	RDHW0501M0-MD01 F40M	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
M3	RDHW0501M0-MD01 F40M	0,80	0,080	0,080	0,090	0,14	
		0,032	0.0032	0.0032	0.0036	0.0055	
M4	RDHW0501M0-MD01 F40M	0,60	0,080	0,080	0,090	0,14	
		0,024	0.0032	0.0032	0.0036	0.0055	
M5	RDHW0501M0-MD01 F40M	0,60	0,080	0,080	0,090	0,14	
		0,024	0.0032	0.0032	0.0036	0.0055	
K1	RDHW0501M0-MD01 MP3000	1,0	0,095	0,095	0,11	0,18	
		0,040	0.0038	0.0038	0.0044	0.0070	
K2	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
K3	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
K4	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
K5	RDHW0501M0-MD01 MP3000	1,0	0,080	0,080	0,090	0,15	
		0,040	0.0032	0.0032	0.0036	0.0060	
K6	RDHW0501M0-MD01 MP3000	1,0	0,090	0,090	0,10	0,16	
		0,040	0.0036	0.0036	0.0040	0.0065	
K7	RDHW0501M0-MD01 MP3000	1,0	0,080	0,080	0,090	0,15	
		0,040	0.0032	0.0032	0.0036	0.0060	
N1	RDHW0501M0-MD01 F40M	1,0	0,12	0,12	0,14	0,22	
		0,040	0.0048	0.0048	0.0055	0.0085	
N2	RDHW0501M0-MD01 F40M	1,0	0,12	0,12	0,14	0,22	
		0,040	0.0048	0.0048	0.0055	0.0085	
N3	RDHW0501M0-MD01 F40M	1,0	0,12	0,12	0,14	0,22	
		0,040	0.0048	0.0048	0.0055	0.0085	
N11	RDHW0501M0-MD01 F40M	1,0	0,12	0,12	0,14	0,22	
		0,040	0.0048	0.0048	0.0055	0.0085	
S1	RDHW0501M0-MD01 F40M	0,60	0,080	0,080	0,090	0,14	
		0,024	0.0032	0.0032	0.0036	0.0055	
S2	RDHW0501M0-MD01 F40M	0,60	0,080	0,080	0,090	0,14	
		0,024	0.0032	0.0032	0.0036	0.0055	
S3	RDHW0501M0-MD01 F40M	0,60	0,075	0,075	0,085	0,13	
		0,024	0.0030	0.0030	0.0034	0.0050	
S11	RDHW0501M0-MD01 F40M	0,70	0,085	0,085	0,095	0,15	
		0,028	0.0034	0.0034	0.0038	0.0060	
S12	RDHW0501M0-MD01 F40M	0,70	0,085	0,085	0,095	0,15	
		0,028	0.0034	0.0034	0.0038	0.0060	
S13	RDHW0501M0-MD01 F40M	0,60	0,080	0,080	0,090	0,14	
		0,024	0.0032	0.0032	0.0036	0.0055	
H5	RDHW0501M0-MD01 MP3000	0,80	0,065	0,065	0,075	0,12	
		0,032	0.0026	0.0026	0.0030	0.0048	
H8	RDHW0501M0-MD01 MP3000	0,70	0,055	0,055	0,065	0,10	
		0,028	0.0022	0.0022	0.0026	0.0040	
H11	RDHW0501M0-MD01 MP3000	0,80	0,065	0,065	0,075	0,12	
		0,032	0.0026	0.0026	0.0030	0.0048	
H12	RDHW0501M0-MD01 F40M	0,70	0,055	0,055	0,065	0,10	
		0,028	0.0022	0.0022	0.0026	0.0040	
H21	RDHW0501M0-MD01 MP3000	0,70	0,055	0,055	0,065	0,10	
		0,028	0.0022	0.0022	0.0026	0.0040	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217.29-025 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP3000				F40M				
	100%	70%	30%	10%	100%	70%	30%	10%	
P1	390	440	490	550	340	370	410	445	Square shoulder and slot milling cutters
	1275	1450	1600	1800	1125	1225	1350	1450	
P2	380	430	475	530	335	360	400	435	Helical milling cutters
	1250	1400	1550	1750	1100	1175	1300	1425	
P3	325	370	410	455	290	315	345	375	Face milling cutters
	1075	1225	1350	1500	950	1025	1125	1225	
P4	285	325	360	400	255	280	315	345	Face milling cutters
	940	1075	1175	1300	840	920	1025	1125	
P5	275	310	345	385	245	265	290	315	Face milling cutters
	900	1025	1125	1275	800	870	950	1025	
P6	310	350	385	425	275	300	325	355	Face milling cutters
	1025	1150	1275	1400	900	980	1075	1175	
P7	290	330	365	405	260	280	310	335	Face milling cutters
	950	1075	1200	1325	850	920	1025	1100	
P8	275	310	345	385	240	265	290	315	Face milling cutters
	900	1025	1125	1275	790	870	950	1025	
P11	285	320	355	390	250	275	300	325	Face milling cutters
	940	1050	1175	1275	820	900	980	1075	
P12	160	185	195	215	155	165	180	195	Disc milling cutters
	520	610	640	710	510	540	590	640	
M1	260	300	355	410	225	260	305	355	Disc milling cutters
	850	980	1175	1350	740	850	1000	1175	
M2	215	250	290	335	185	215	250	290	Disc milling cutters
	710	820	950	1100	610	710	820	950	
M3	170	195	230	265	145	165	200	230	Disc milling cutters
	560	640	750	870	475	540	660	750	
M4	130	150	175	205	110	125	150	175	Disc milling cutters
	425	490	570	670	360	410	490	570	
M5	105	125	145	170	95	105	125	145	Disc milling cutters
	345	410	475	560	310	345	410	475	
K1	275	320	375	435	220	255	300	350	High feed milling cutters
	900	1050	1225	1425	720	840	980	1150	
K2	245	280	330	385	195	225	265	305	High feed milling cutters
	800	920	1075	1275	640	740	870	1000	
K3	205	240	280	325	165	190	225	260	High feed milling cutters
	670	790	920	1075	540	620	740	850	
K4	195	225	265	310	160	180	215	245	Copy milling cutters
	640	740	870	1025	520	590	710	800	
K5	120	135	160	190	95	110	130	150	Copy milling cutters
	395	445	520	620	310	360	425	490	
K6	175	200	235	270	140	160	190	220	Copy milling cutters
	570	660	770	890	460	520	620	720	
K7	150	175	205	240	120	140	165	195	Copy milling cutters
	490	570	670	790	395	460	540	640	
N1	2075	2400	2850	3300	1675	1925	2275	2650	Plunge milling cutters
	6800	7875	9350	10825	5500	6325	7475	8700	
N2	840	970	1150	1325	670	780	920	1075	Plunge milling cutters
	2750	3175	3775	4350	2200	2550	3025	3525	
N3	560	650	760	890	450	520	610	710	Plunge milling cutters
	1825	2125	2500	2925	1475	1700	2000	2325	
N11	640	740	870	1025	510	590	700	810	Plunge milling cutters
	2100	2425	2850	3375	1675	1925	2300	2650	
S1	60	70	80	95	50	60	70	80	Chamfer milling cutters
	195	230	260	310	165	195	230	260	
S2	48	55	65	75	42	48	55	65	Chamfer milling cutters
	155	180	215	245	140	155	180	215	
S3	42	48	55	65	36	42	49	60	Chamfer milling cutters
	140	155	180	215	120	140	160	195	
S11	85	100	115	135	75	85	100	115	Chamfer milling cutters
	280	330	375	445	245	280	330	375	
S12	60	70	80	95	50	60	70	80	Spot facing cutters
	195	230	260	310	165	195	230	260	
S13	34	39	46	55	29	33	39	46	Spot facing cutters
	110	130	150	180	95	110	130	150	
H5	50	60	70	80	44	50	60	70	Spot facing cutters
	165	195	230	260	145	165	195	230	
H8	55	60	70	85	46	50	60	70	Spot facing cutters
	180	195	230	280	150	165	195	230	
H11	65	75	90	105	55	65	75	90	Inserts
	215	245	295	345	180	215	245	295	
H12	100	115	140	160	80	95	110	130	Inserts
	330	375	460	520	260	310	360	425	

R217.29-03 – Metric



- For insert selection and cutting data recommendations, see page(s) 679–680
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1612.0-03.2.050	02427364	Cylindrical	6,0	12,0	2	3,0	16,0	60,0	20,0	50,0	110,0	25,0	18,0	22,0	32000	0,2	RD..06T1
R217.29-1212.0-03.2.070E	02427368	Cylindrical	6,0	12,0	2	3,0	12,0	80,0	50,0	70,0	130,0	25,0	18,0	22,0	32000	0,2	RD..06T1
R217.29-2016.0-03.3.070	02427371	Cylindrical	10,0	16,0	3	3,0	20,0	60,0	30,0	70,0	130,0	15,62	26,0	30,0	28800	0,3	RD..06T1
R217.29-1616.0-03.3.100E	02427379	Cylindrical	10,0	16,0	3	3,0	16,0	140,0	50,0	100,0	160,0	15,62	26,0	30,0	28800	0,5	RD..06T1
R217.29-1620.0-03.4.100E	02427381	Cylindrical	14,0	20,0	4	3,0	16,0	140,0	100,0	100,0	160,0	9,84	34,0	38,0	25600	0,5	RD..06T1

Spare Parts, included in delivery

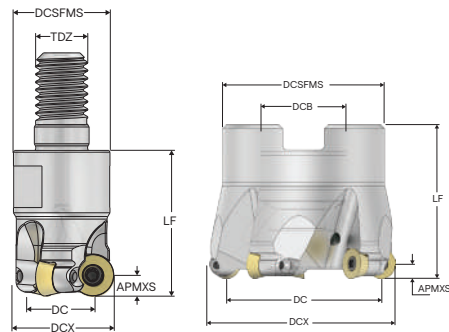
For cutter	Insert key	Insert screw
		
R217.29- ø12-16	1/4HEX-T07PX50	C02204-T07P
R217.29- ø20-32	1/4HEX-T07PX50	C02245-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.29-03 – Metric

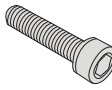


- For insert selection and cutting data recommendations, see page(s) 679–680
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29-0816.RE-03.3	02435540	Combimaster	10,0	16,0	3	3,0	–	13,5	M8	–	23,0	40,75	15,62	26,0	30,0	28800	0,1	RD..06T1
R217.29-1020.RE-03.4A	02427383	Combimaster	14,0	20,0	4	3,0	–	18,5	M10	–	28,0	46,75	9,84	34,0	38,0	25600	0,1	RD..06T1
R217.29-1225.RE-03.5A	02427386	Combimaster	19,0	25,0	5	3,0	–	23,0	M12	–	28,0	49,75	6,76	44,0	48,0	23200	0,2	RD..06T1
R217.29-1632.RE-03.6A	02427388	Combimaster	26,0	32,0	6	3,0	–	30,0	M16	–	28,0	50,75	4,7	58,0	62,0	20000	0,2	RD..06T1
R217.29-1635.RE-03.7A	02427389	Combimaster	29,0	35,0	7	3,0	–	30,0	M16	–	28,0	50,75	4,16	64,0	68,0	19200	0,2	RD..06T1
R220.29-0040-03.8A	02427391	Arbor	34,0	40,0	8	3,0	16,0	35,0	–	16,0	35,0	–	3,49	74,0	78,0	17600	0,3	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29- ø16	–	1/4HEX-T07PX50	C02204-T07P
R217.29- ø20-32	–	1/4HEX-T07PX50	C02245-T07P
R220.29-0040	220.17-689	1/4HEX-T07PX50	C02245-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

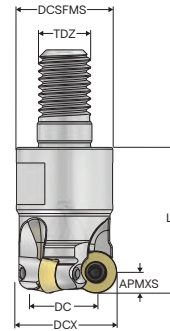
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29-03 - Inch



- For insert selection and cutting data recommendations, see page(s) 679-680
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R217.29-0.75-10RE-03.4A	00096942	Combimaster	0.514	0.750	4	0.118	0.728	M10	1.100	1.838	9,84	1.264	1.421	25600	0.220	RD..06T1
R217.29-1.00-12RE-03.5A	00096943	Combimaster	0.764	1.000	5	0.118	0.906	M12	1.100	1.956	6,76	1.764	1.921	23200	0.220	RD..06T1
R217.29-1.25-16RE-03.6A	00096944	Combimaster	1.014	1.250	6	0.118	1.181	M16	1.100	1.996	4,7	2.264	2.421	20000	0.440	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-00.750	1/4HEX-T07PX50	C02204-T07P
R217.29-01.00-01.25	1/4HEX-T07PX50	C02245-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.29-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.29-03 – Insert selection – mm/Inch

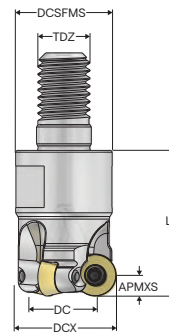
SMG		a_p	f_z				
			100%	70%	30%	10%	
P1	RDHT06T1M0-E02 F40M	1,2 0,048	0,065 0,0026	0,065 0,0026	0,075 0,0030	0,12 0,0048	Square shoulder and slot milling cutters
P2	RDHT06T1M0-E02 F40M	1,2 0,048	0,065 0,0026	0,065 0,0026	0,075 0,0030	0,12 0,0048	
P3	RDHT06T1M0-E02 F40M	1,2 0,048	0,060 0,0024	0,060 0,0024	0,070 0,0028	0,11 0,0044	
P4	RDHW06T1M0-MD02 F40M	1,2 0,048	0,090 0,0036	0,090 0,0036	0,11 0,0044	0,17 0,0065	Helical milling cutters
P5	RDHW06T1M0-MD02 F40M	1,2 0,048	0,090 0,0036	0,090 0,0036	0,10 0,0040	0,17 0,0065	
P6	RDHW06T1M0-MD02 MP3000	1,2 0,048	0,085 0,0034	0,085 0,0034	0,10 0,0040	0,16 0,0065	
P7	RDHW06T1M0-MD02 MP3000	1,2 0,048	0,085 0,0034	0,085 0,0034	0,10 0,0040	0,16 0,0065	Face milling cutters
P8	RDHW06T1M0-MD02 MP3000	1,2 0,048	0,090 0,0036	0,090 0,0036	0,11 0,0044	0,17 0,0065	
P11	RDHW06T1M0-MD02 MP3000	1,2 0,048	0,085 0,0034	0,085 0,0034	0,10 0,0040	0,16 0,0065	
P12	RDHW06T1M0-MD02 MP3000	0,95 0,038	0,065 0,0026	0,065 0,0026	0,080 0,0032	0,12 0,0048	Disc milling cutters
M1	RDHT06T1M0-E02 F40M	1,2 0,048	0,065 0,0026	0,065 0,0026	0,075 0,0030	0,12 0,0048	
M2	RDHT06T1M0-E02 F40M	1,2 0,048	0,060 0,0024	0,060 0,0024	0,070 0,0028	0,11 0,0044	
M3	RDHT06T1M0-E02 F40M	0,95 0,038	0,050 0,0020	0,050 0,0020	0,060 0,0024	0,095 0,0040	High feed milling cutters
M4	RDHT06T1M0-E02 F40M	0,70 0,028	0,055 0,0022	0,055 0,0022	0,060 0,0024	0,10 0,0040	
M5	RDHT06T1M0-E02 F40M	0,70 0,028	0,055 0,0022	0,055 0,0022	0,060 0,0024	0,10 0,0040	
K1	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,095 0,0038	0,095 0,0038	0,11 0,0044	0,18 0,0070	Copy milling cutters
K2	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,090 0,0036	0,090 0,0036	0,10 0,0040	0,17 0,0065	
K3	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,090 0,0036	0,090 0,0036	0,10 0,0040	0,17 0,0065	
K4	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,090 0,0036	0,090 0,0036	0,10 0,0040	0,17 0,0065	Plunge milling cutters
K5	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	
K6	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,090 0,0036	0,090 0,0036	0,10 0,0040	0,17 0,0065	
K7	RDHW06T1M0-MD02 MK2050	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	Chamfer milling cutters
N1	RDHT06T1M0-E02 H25	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,16 0,0060	
N2	RDHT06T1M0-E02 H25	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,16 0,0060	
N3	RDHT06T1M0-E02 H25	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,16 0,0060	Spot facing cutters
N11	RDHT06T1M0-E02 H25	1,2 0,048	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,16 0,0060	
S1	RDHW06T1M0-MD02 F40M	0,70 0,028	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	
S2	RDHW06T1M0-MD02 F40M	0,70 0,028	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	Inserts
S3	RDHW06T1M0-MD02 F40M	0,70 0,028	0,075 0,0030	0,075 0,0030	0,085 0,0034	0,14 0,0055	
S11	RDHW06T1M0-MD02 F40M	0,85 0,034	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	
S12	RDHW06T1M0-MD02 F40M	0,85 0,034	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	Spot facing cutters
S13	RDHW06T1M0-MD02 F40M	0,70 0,028	0,080 0,0032	0,080 0,0032	0,095 0,0038	0,15 0,0060	
H5	RDHW06T1M0-MD02 F15M	0,95 0,038	0,065 0,0026	0,065 0,0026	0,080 0,0032	0,12 0,0048	
H8	RDHW06T1M0-MD02 F15M	0,85 0,034	0,055 0,0022	0,055 0,0022	0,065 0,0026	0,10 0,0040	Spot facing cutters
H11	RDHW06T1M0-MD02 F15M	0,95 0,038	0,065 0,0026	0,065 0,0026	0,080 0,0032	0,12 0,0048	
H12	RDHW06T1M0-MD02 F40M	0,85 0,034	0,055 0,0022	0,055 0,0022	0,065 0,0026	0,10 0,0040	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R217/220.29-03 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M				MK2050				F30M				MP3000				F40M				H25			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	330 1075	380 1250	445 1450	530 1750	360 1175	410 1350	485 1600	570 1875	290 950	330 1075	390 1275	460 1500	375 1225	425 1400	470 1550	530 1750	330 1075	355 1175	395 1300	435 1425	—	—	—	—
	P2	325 1075	370 1225	435 1425	510 1675	350 1150	400 1300	470 1550	560 1825	285 940	320 1050	380 1250	450 1475	365 1200	415 1350	460 1500	510 1675	320 1050	345 1125	385 1275	420 1375	—	—	—	—
Helical milling cutters	P3	280 920	320 1050	380 1250	440 1450	305 1000	345 1125	410 1350	480 1575	245 800	280 920	330 1075	385 1275	315 1025	355 1175	395 1300	440 1450	280 920	300 980	330 1075	360 1175	—	—	—	—
	P4	250 820	280 920	335 1100	395 1300	270 890	305 1000	360 1175	425 1400	215 710	245 800	290 950	345 1125	280 920	315 1025	345 1125	385 1275	245 800	270 890	300 980	335 1100	—	—	—	—
	P5	240 790	270 890	320 1050	375 1225	260 850	295 970	350 1150	405 1325	210 690	240 790	280 920	330 1075	265 870	300 980	330 1075	370 1225	235 770	255 840	280 920	305 1000	—	—	—	—
	P6	270 890	305 1000	360 1175	420 1375	290 950	330 1075	390 1275	455 1500	235 770	265 870	315 1025	370 1225	300 980	335 1100	370 1225	415 1350	265 870	285 940	315 1025	345 1125	—	—	—	—
Face milling cutters	P7	255 840	290 950	340 1125	400 1300	275 900	310 1025	370 1225	430 1400	220 720	250 820	300 980	350 1150	280 920	315 1025	350 1150	390 1275	250 820	270 890	295 970	325 1075	—	—	—	—
	P8	235 770	270 890	320 1050	370 1225	255 840	290 950	345 1125	400 1300	205 670	235 770	280 920	325 1075	265 870	300 980	330 1075	370 1225	235 770	255 840	280 920	305 1000	—	—	—	—
	P11	245 800	280 920	330 1075	385 1275	265 870	305 1000	360 1175	420 1375	215 710	245 800	290 950	340 1125	275 900	310 1025	340 1125	380 1250	245 800	260 850	290 950	315 1025	—	—	—	—
	P12	—	—	—	—	165 540	190 620	220 720	260 850	135 445	155 510	180 590	210 690	155 510	175 570	190 620	210 690	150 490	160 520	170 560	185 610	—	—	—	—
Disc milling cutters	M1	—	—	—	—	—	—	—	—	230 750	260 850	305 1000	360 1175	250 820	285 940	340 1125	400 1300	215 710	245 800	295 970	345 1125	—	—	—	—
	M2	—	—	—	—	—	—	—	—	190 620	215 710	255 840	295 970	210 690	235 770	280 920	325 1075	180 590	205 670	240 790	280 920	—	—	—	—
	M3	—	—	—	—	—	—	—	—	150 490	170 560	200 660	230 750	165 540	185 610	220 720	255 840	140 460	160 520	190 620	220 720	—	—	—	—
	M4	—	—	—	—	—	—	—	—	115 375	130 425	150 490	180 590	125 410	140 460	170 560	195 640	110 360	120 395	145 475	170 560	—	—	—	—
High feed milling cutters	M5	—	—	—	—	—	—	—	—	95 310	105 345	125 410	150 490	105 345	125 395	140 460	165 540	90 295	100 330	120 395	140 460	—	—	—	—
	K1	255 840	290 950	345 1125	405 1325	380 1250	430 1400	510 1675	600 1975	225 740	255 840	300 980	355 1175	265 870	305 1000	360 1175	425 1400	215 710	245 800	290 950	340 1125	—	—	—	—
	K2	225 740	260 850	305 1000	355 1175	335 1100	380 1250	450 1475	530 1750	200 660	225 740	265 870	310 1025	235 770	270 890	320 1050	370 1225	190 620	215 710	255 840	295 970	—	—	—	—
Copy milling cutters	K3	190 620	220 720	260 850	300 980	285 940	320 1050	380 1250	445 1450	170 560	190 620	225 740	265 870	200 660	230 750	270 890	315 1025	160 520	180 590	215 710	250 820	—	—	—	—
	K4	185 610	210 690	245 800	290 950	270 890	310 1025	365 1200	425 1400	160 520	185 610	215 710	250 820	190 620	215 710	255 840	300 980	155 510	175 570	205 670	240 790	—	—	—	—
	K5	110 360	125 410	150 490	175 570	165 540	185 610	220 720	255 840	95 310	110 360	130 425	150 490	115 375	130 425	155 510	180 590	90 295	105 345	125 410	145 475	—	—	—	—
	K6	160 520	185 610	215 710	255 840	240 790	270 890	320 1050	375 1225	140 460	160 520	190 620	220 720	170 560	190 620	225 740	265 870	135 445	155 510	180 590	210 690	—	—	—	—
Plunge milling cutters	K7	140 460	160 520	190 620	225 740	210 690	235 770	280 920	330 1075	125 410	140 540	165 540	195 640	145 475	165 540	195 640	230 750	120 395	135 445	160 520	185 610	—	—	—	—
	N1	—	—	—	—	—	—	—	—	1700 5575	1925 6325	2275 7475	2675 8775	2025 6650	2300 7550	2725 8950	3200 10500	1625 5325	1825 6000	2175 7125	2550 8375	1875 6150	2150 7050	2525 8275	2975 9750
	N2	—	—	—	—	—	—	—	—	680 2225	780 2550	920 3025	1075 3525	810 2650	930 3050	1100 3600	1300 4275	650 2125	740 2425	880 2875	1025 3375	760 2500	870 2850	1025 3375	1200 3925
	N3	—	—	—	—	—	—	—	—	455 1500	520 1700	620 2025	720 2350	540 1775	620 2025	730 2400	860 2825	435 1425	495 1625	590 1925	690 2275	510 1675	580 1900	680 2225	800 2625
Chamfer milling cutters	N11	—	—	—	—	—	—	—	—	520 1700	700 1925	830 2300	920 2725	710 2025	840 2325	980 2750	1100 3225	495 1625	560 1825	670 2200	790 2600	580 1900	660 2175	780 2550	910 2975
	S1	—	—	—	—	—	—	—	—	55 180	60 195	70 230	85 280	60 195	65 215	80 260	90 295	50 165	55 180	65 215	80 260	—	—	—	—
	S2	—	—	—	—	—	—	—	—	43 140	48 155	55 180	65 215	47 155	55 180	65 215	75 245	41 135	46 150	55 180	65 215	—	—	—	—
	S3	—	—	—	—	—	—	—	—	37 120	42 140	50 165	60 195	41 135	46 150	55 180	65 215	35 115	40 130	47 155	55 180	—	—	—	—
Spot facing cutters	S11	—	—	—	—	—	—	—	—	75 245	85 280	100 330	115 375	80 260	95 310	110 360	130 425	70 230	80 260	95 310	110 360	—	—	—	—
	S12	—	—	—	—	—	—	—	—	43 140	49 160	60 195	70 230	55 180	65 215	75 245	90 295	49 160	55 180	65 215	75 245	—	—	—	—
	S13	—	—	—	—	—	—	—	—	25 80	28 90	33 110	39 130	33 110	37 120	44 145	50 165	28 90	32 105	38 125	44 145	—	—	—	—
	H5	50 165	60 195	70 230	80 260	—	—	—	—	45 150	50 165	60 195	70 230	50 165	55 180	65 215	80 260	43 140	49 160	55 180	65 215	—	—	—	—
Inserts	H8	55 180	60 195	70 230	80 260	—	—	—	—	46 150	55 180	60 195	70 230	50 165	60 195	70 230	80 260	44 145	50 165	60 195	70 230	—	—	—	—
	H11	65 215	75 245	85 280	100 330	—	—	—	—	55 180	65 215	75 245	90 295	65 215	75 230	85 280	100 330	70 230	85 180	100 195	110 230	—	—	—	—
	H12	95 310	110 360	125 410	150 490	105 345	115 375	135 445	160 520	85 280	95 310	110 360	130 425	100 330	110 360	130 425	155 510	80 260	90 295	105 345	125 410	—	—	—	—

R217.29-035 – Metric



- For insert selection and cutting data recommendations, see page(s) [XXX]–[XXX]
- For complete insert programme, see page(s) [XXX]
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-0816.RE-035.3A	02643410	Combimaster	9,0	16,0	3	3,5	13,5	M8	20,0	37,75	17,8	25,0	30,0	48000	0,1	RDHW0702
R217.29-1020.RE-035.4A	02495678	Combimaster	13,0	20,0	4	3,5	18,5	M10	23,0	41,75	10,4	33,0	38,0	44000	0,1	RDHW0702
R217.29-1225.RE-035.5A	02643411	Combimaster	18,0	25,0	5	3,5	23,0	M12	28,0	49,75	6,9	43,0	48,0	35000	0,2	RDHW0702

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T07PX50	C02545-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page [XXX]

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29-035 – Insert selection – mm/Inch

R217.29-035 – Insert selection – mm/Inch							
	SMG		a _p	f _z			
				100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	RDHW0702M0-MD03 F40M	1,4 0.055	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,25 0.010
	P2	RDHW0702M0-MD03 F40M	1,4 0.055	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
Helical milling cutters	P3	RDHW0702M0-MD03 F40M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,15 0.0060	0,24 0.0095
	P4	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,24 0.0095
	P5	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	P6	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	P7	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	P8	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,15 0.0060	0,24 0.0095
Face milling cutters	P11	RDHW0702M0-MD03 MP3000	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	P12	RDHW0702M0-MD03 MP3000	1,1 0.044	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
	M1	RDHW0702M0-MD03 F40M	1,4 0.055	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
Disc milling cutters	M2	RDHW0702M0-MD03 F40M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	M3	RDHW0702M0-MD03 F40M	1,1 0.044	0,10 0.0040	0,10 0.0040	0,13 0.0050	0,20 0.0080
	M4	RDHW0702M0-MD03 F40M	0,85 0.034	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
	M5	RDHW0702M0-MD03 F40M	0,85 0.034	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
	K1	RDHW0702M0T-MD04 F15M	1,4 0.055	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
High feed milling cutters	K2	RDHW0702M0T-MD04 F15M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	K3	RDHW0702M0T-MD04 F15M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	K4	RDHW0702M0T-MD04 F15M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	K5	RDHW0702M0T-MD04 F15M	1,4 0.055	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
	K6	RDHW0702M0T-MD04 F15M	1,4 0.055	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	K7	RDHW0702M0T-MD04 F15M	1,4 0.055	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
Copy milling cutters	S1	RDHW0702M0-MD03 F40M	0,85 0.034	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
	S2	RDHW0702M0-MD03 F40M	0,85 0.034	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
	S3	RDHW0702M0-MD03 F40M	0,85 0.034	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
Plunge milling cutters	S11	RDHW0702M0-MD03 F40M	1,0 0.040	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
	S12	RDHW0702M0-MD03 F40M	1,0 0.040	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
	S13	RDHW0702M0-MD03 F40M	0,85 0.034	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
	H5	RDHW0702M0T-MD04 F15M	1,1 0.044	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
	H8	RDHW0702M0T-MD04 F15M	1,0 0.040	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,14 0.0055
	H11	RDHW0702M0T-MD04 F15M	1,1 0.044	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
Chamfer milling cutters	H12	RDHW0702M0T-MD04 F15M	1,0 0.040	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,14 0.0055

SMG = Seco material group

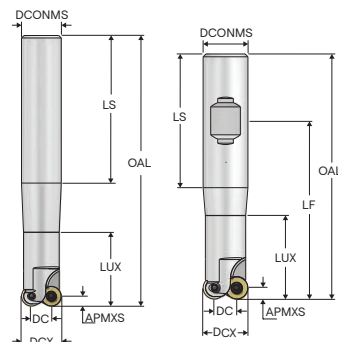
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217.29-035 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F15M				MP3000				F40M				
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	
P1	325	380	450	520	380	440	495	560	325	360	400	435	Square shoulder and slot milling cutters
	1075	1250	1475	1700	1250	1450	1625	1825	1075	1175	1300	1425	
P2	315	370	440	510	370	430	485	540	315	350	390	425	Helical milling cutters
	1025	1225	1450	1675	1225	1400	1600	1775	1025	1150	1275	1400	
P3	275	325	385	445	320	370	415	470	275	305	340	370	Face milling cutters
	900	1075	1275	1450	1050	1225	1350	1550	900	1000	1125	1225	
P4	240	285	340	390	285	330	370	410	245	275	310	340	Face milling cutters
	790	940	1125	1275	940	1075	1225	1350	800	900	1025	1125	
P5	230	275	320	375	270	315	350	395	230	255	285	310	Face milling cutters
	750	900	1050	1225	890	1025	1150	1300	750	840	940	1025	
P6	265	315	360	425	305	355	395	440	265	295	320	350	Face milling cutters
	870	1025	1175	1400	1000	1175	1300	1450	870	970	1050	1150	
P7	250	295	340	400	290	335	370	415	250	275	300	330	Face milling cutters
	820	970	1125	1300	950	1100	1225	1350	820	900	980	1075	
P8	230	275	320	375	270	315	350	395	230	255	285	310	Face milling cutters
	750	900	1050	1225	890	1025	1150	1300	750	840	940	1025	
P11	240	285	330	390	280	325	360	405	245	270	295	320	Face milling cutters
	790	940	1075	1275	920	1075	1175	1325	800	890	970	1050	
P12	—	—	—	—	165	190	210	230	150	165	180	195	Disc milling cutters
	—	—	—	—	540	620	690	750	490	540	590	640	
M1	—	—	—	—	245	290	340	395	210	250	295	340	Disc milling cutters
	—	—	—	—	800	950	1125	1300	690	820	970	1125	
M2	—	—	—	—	200	240	280	330	175	205	240	285	Disc milling cutters
	—	—	—	—	660	790	920	1075	570	670	790	940	
M3	—	—	—	—	165	190	220	260	140	165	190	225	Disc milling cutters
	—	—	—	—	540	620	720	850	460	540	620	740	
M4	—	—	—	—	125	145	170	200	110	125	145	170	Disc milling cutters
	—	—	—	—	410	475	560	660	360	410	475	560	
M5	—	—	—	—	105	120	140	165	90	105	125	145	Disc milling cutters
	—	—	—	—	345	395	460	540	295	345	410	475	
K1	250	295	350	405	260	305	360	420	210	245	290	335	High feed milling cutters
	820	970	1150	1325	850	1000	1175	1375	690	800	950	1100	
K2	220	260	305	360	230	270	320	370	185	215	255	300	High feed milling cutters
	720	850	1000	1175	750	890	1050	1225	610	710	840	980	
K3	185	220	260	305	195	230	270	315	155	185	215	250	High feed milling cutters
	610	720	850	1000	640	750	890	1025	510	610	710	820	
K4	175	210	245	290	185	220	260	300	150	175	205	240	Copy milling cutters
	570	690	800	950	610	720	850	980	490	570	670	790	
K5	110	130	150	175	115	135	155	180	90	110	125	145	Copy milling cutters
	360	425	490	570	375	445	510	590	295	360	410	475	
K6	155	185	220	255	165	195	225	265	130	155	180	210	Copy milling cutters
	510	610	720	840	540	640	740	870	425	510	590	690	
K7	140	165	190	225	145	175	200	230	115	140	160	185	Copy milling cutters
	460	540	620	740	475	570	660	750	375	460	520	610	
S1	—	—	—	—	60	70	80	95	50	60	70	80	Plunge milling cutters
	—	—	—	—	195	230	260	310	165	195	230	260	
S2	—	—	—	—	47	55	65	75	40	47	55	65	Plunge milling cutters
	—	—	—	—	155	180	215	245	130	155	180	215	
S3	—	—	—	—	41	48	55	65	35	41	48	55	Plunge milling cutters
	—	—	—	—	135	155	180	215	115	135	155	180	
S11	—	—	—	—	80	95	115	130	70	85	95	115	Plunge milling cutters
	—	—	—	—	260	310	375	425	230	280	310	375	
S12	—	—	—	—	55	65	80	90	49	55	65	80	Chamfer milling cutters
	—	—	—	—	180	215	260	295	160	180	215	260	
S13	—	—	—	—	33	38	45	50	28	33	39	45	Chamfer milling cutters
	—	—	—	—	110	125	150	165	90	110	130	150	
H5	50	60	70	80	49	60	70	80	42	49	60	65	Spot facing cutters
	165	195	230	260	160	195	230	260	140	160	195	215	
H8	55	60	75	85	50	60	70	80	44	50	60	70	Spot facing cutters
	180	195	245	280	165	195	230	260	145	165	195	230	
H11	65	75	90	105	65	75	85	100	55	65	75	85	Spot facing cutters
	215	245	295	345	215	245	280	330	180	215	245	280	
H12	95	110	130	150	100	115	135	155	80	95	110	125	Spot facing cutters
	310	360	425	490	330	375	445	510	260	310	360	410	

R217.29-04 – Metric



- For insert selection and cutting data recommendations, see page(s) 686–688
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCONMS mm	LF mm	LS mm	LUX mm	LPR mm	OAL mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R217.29-1616.3-04.2.040	00040302	Weldon	8,0	16,0	2	4,0	16,0	64,0	48,0	38,0	40,0	88,0	25,0	24,0	30,0	36200	0,2	RD..0803
R217.29-1616.0-04.2.050	00040299	Cylindrical	8,0	16,0	2	4,0	16,0	–	60,0	50,0	50,0	110,0	25,0	24,0	30,0	36200	0,2	RD..0803
R217.29-1616.0-04.2.100E	00040300	Cylindrical	8,0	16,0	2	4,0	16,0	–	95,0	100,0	100,0	160,0	25,0	24,0	30,0	36200	0,5	RD..0803

Spare Parts, included in delivery

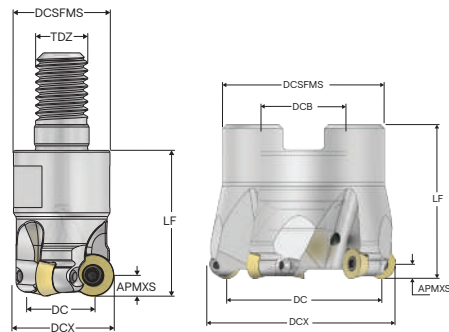
For cutter	Insert key	Insert screw
		
R217.69-..Ø16	1/4HEX-T08PX50	C02505-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.29-04 – Metric

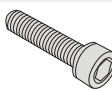


- For insert selection and cutting data recommendations, see page(s) 686–688
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29-0816.RE-04.2	00047266	Combimaster	8,0	16,0	2	4,0	–	13,5	M8	–	23,0	40,75	25,0	24,0	30,0	36200	0,1	RD..0803
R217.29-1020.RE-04.2A	00040294	Combimaster	12,0	20,0	2	4,0	–	18,5	M10	–	28,0	46,75	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1020.RE-04.3A	00040062	Combimaster	12,0	20,0	3	4,0	–	18,5	M10	–	28,0	46,75	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1225.RE-04.3A	02410817	Combimaster	17,0	25,0	3	4,0	–	23,0	M12	–	30,0	51,75	10,01	42,0	48,0	29000	0,2	RD..0803
R217.29-1225.RE-04.4A	00040297	Combimaster	17,0	25,0	4	4,0	–	23,0	M12	–	30,0	51,75	10,01	42,0	48,0	29000	0,1	RD..0803
R217.29-1632.RE-04.5A	02410823	Combimaster	24,0	32,0	5	4,0	–	30,0	M16	–	40,0	62,75	6,51	56,0	62,0	26100	0,2	RD..0803
R217.29-1640.RE-04.6A	00040303	Combimaster	32,0	40,0	6	4,0	–	30,0	M16	–	40,0	62,75	4,66	72,0	78,0	23300	0,3	RD..0803
R220.29-0050-04.5A	02410828	Arbor	42,0	50,0	5	4,0	22,0	42,0	–	22,0	40,0	–	3,44	92,0	98,0	17300	0,3	RD..0803
R220.29-0050-04.7A	02410829	Arbor	42,0	50,0	7	4,0	22,0	42,0	–	22,0	40,0	–	3,44	92,0	98,0	17300	0,4	RD..0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29-..Ø20-40	–	1/4HEX-T08PX50	C02506-T08P
R217.69-..Ø16	–	1/4HEX-T08PX50	C02505-T08P
R220.29-..0050	220.17-692	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.29-04 – Insert selection – mm/Inch

	SMG		a_p	f_z			
				100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
	P2	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
	P3	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,28 0.011
Helical milling cutters	P4	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
	P5	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
	P6	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
Face milling cutters	P7	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
	P8	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,28 0.011
	P11	RDKW0803M0T-MD05 MP2501	1,6 0.065	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
Disc milling cutters	P12	RDKW0803M0T-MD05 MP2501	1,3 0.050	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
	M1	RDHT0803M0-E03 MP3501	1,6 0.065	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,17 0.0065
	M2	RDHT0803M0-E03 MP3501	1,6 0.065	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
High feed milling cutters	M3	RDHT0803M0-E03 MP3501	1,3 0.050	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,13 0.0050
	M4	RDHT0803M0-E03 MP3501	0,95 0.038	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
	M5	RDHT0803M0-E03 MP3501	0,95 0.038	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
Copy milling cutters	K1	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
	K2	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
	K3	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
Plunge milling cutters	K4	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
	K5	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
	K6	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
Chamfer milling cutters	K7	RDKW0803M0T-MD05 MK2050	1,6 0.065	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
	N1	RDHT0803M0-E03 H25	1,6 0.065	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	N2	RDHT0803M0-E03 H25	1,6 0.065	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
Spot facing cutters	N3	RDHT0803M0-E03 H25	1,6 0.065	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	N11	RDHT0803M0-E03 H25	1,6 0.065	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
	S1	RDHW0803M0-MD03 F40M	0,95 0.038	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
Inserts	S2	RDHW0803M0-MD03 F40M	0,95 0.038	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
	S3	RDHW0803M0-MD03 F40M	0,95 0.038	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065
	S11	RDHW0803M0-MD03 MS2050	1,1 0.044	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
Spot facing cutters	S12	RDHW0803M0-MD03 MS2050	1,1 0.044	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
	S13	RDHW0803M0-MD03 MS2050	0,95 0.038	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
	H5	RDKW0803M0T-MD05 MH1051	1,3 0.050	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
Spot facing cutters	H8	RDKW0803M0T-MD05 MH1051	1,1 0.044	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
	H11	RDKW0803M0T-MD05 F15M	1,3 0.050	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
	H12	RDKW0803M0T-MD05 F15M	1,1 0.044	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

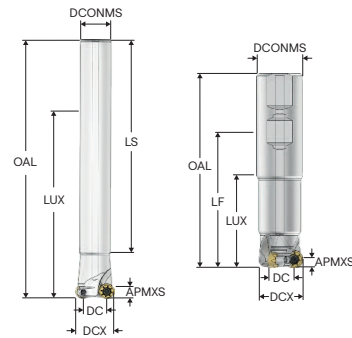
R217/220.29-04 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051				F15M				MK2050				F25M				F30M				MP3000				Square shoulder and slot milling cutters
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	
P1	—	—	—	—	300	340	410	485	325	370	440	520	275	310	375	440	275	310	375	440	370	415	475	540	Helical milling cutters
	—	—	—	—	980	1125	1350	1600	1075	1225	1450	1700	900	1025	1225	1450	900	1025	1225	1450	1225	1350	1550	1775	
P2	—	—	—	—	295	330	400	470	320	360	430	510	270	305	365	430	270	305	365	430	360	405	465	530	Helical milling cutters
	—	—	—	—	970	1075	1300	1550	1050	1175	1400	1675	890	1000	1200	1400	890	1000	1200	1400	1175	1325	1525	1750	
P3	—	—	—	—	255	290	345	405	280	315	375	440	235	265	320	370	235	265	320	375	315	350	400	450	Helical milling cutters
	—	—	—	—	840	950	1125	1325	920	1025	1225	1450	770	870	1050	1225	770	870	1050	1225	1025	1150	1300	1475	
P4	—	—	—	—	225	255	305	355	245	275	330	385	205	235	280	325	205	235	280	330	275	310	350	400	Helical milling cutters
	—	—	—	—	740	840	1000	1175	800	900	1075	1275	670	770	920	1075	670	770	920	1075	900	1025	1150	1300	
P5	500	560	670	780	215	245	290	345	235	265	315	375	195	225	265	320	200	225	265	315	265	295	335	380	Face milling cutters
	1650	1825	2200	2550	710	800	950	1125	770	870	1025	1225	640	740	870	1050	660	740	870	1025	870	970	1100	1250	
P6	570	640	750	870	245	275	325	390	265	300	355	420	225	255	300	355	220	250	300	355	295	330	375	425	Face milling cutters
	1875	2100	2450	2850	800	900	1075	1275	870	980	1175	1375	740	840	980	1175	720	820	980	1175	970	1075	1225	1400	
P7	540	600	710	830	230	260	310	365	250	285	335	400	215	240	285	335	210	235	285	335	280	315	355	400	Face milling cutters
	1775	1975	2325	2725	750	850	1025	1200	820	940	1100	1300	710	790	940	1100	690	770	940	1100	920	1025	1175	1300	
P8	500	560	670	770	215	245	290	340	235	265	315	370	195	225	265	310	200	225	265	315	265	295	335	380	Face milling cutters
	1650	1825	2200	2525	710	800	950	1125	770	870	1025	1225	640	740	870	1025	660	740	870	1025	870	970	1100	1250	
P11	520	580	690	800	225	255	300	355	245	275	325	385	205	235	275	325	205	230	275	325	270	305	345	390	Face milling cutters
	1700	1900	2275	2625	740	840	980	1175	800	900	1075	1275	670	770	900	1075	670	750	900	1075	890	1000	1125	1275	
P12	330	370	430	490	—	—	—	—	155	175	210	245	130	150	175	205	130	145	175	205	165	185	200	225	Face milling cutters
	1075	1225	1400	1600	—	—	—	—	510	570	690	800	425	490	570	670	425	475	570	670	540	610	660	740	
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	215	245	295	345	240	270	325	380	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	710	800	970	1125	790	890	1075	1250	
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	180	200	240	280	195	220	265	310	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	590	660	790	920	640	720	870	1025	
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	160	190	225	160	180	210	250	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	475	520	620	740	520	590	690	820	
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	120	145	170	120	135	165	190	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	360	395	475	560	395	445	540	620	
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	100	125	145	100	115	135	160	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	330	410	475	330	375	445	520	
K1	680	760	920	1075	230	260	315	370	345	385	465	550	215	240	290	340	215	240	290	340	255	285	345	405	High feed milling cutters
	2225	2500	3025	3525	750	850	1025	1225	1125	1275	1525	1800	710	790	950	1125	710	790	950	1125	840	940	1125	1325	
K2	600	670	810	940	205	230	275	330	300	340	410	485	185	210	255	300	190	210	255	295	225	255	300	355	High feed milling cutters
	1975	2200	2650	3075	670	750	900	1075	980	1125	1350	1600	610	690	840	980	620	690	840	970	740	840	980	1175	
K3	510	570	680	800	175	195	235	280	255	290	345	410	160	180	215	255	160	180	215	250	190	215	255	300	High feed milling cutters
	1675	1875	2225	2625	570	640	770	920	840	950	1125	1350	520	590	710	840	520	590	710	820	620	710	840	980	
K4	490	540	650	760	165	185	225	265	245	275	330	390	150	170	205	245	150	170	205	240	180	205	245	285	Copy milling cutters
	1600	1775	2125	2500	540	610	740	870	800	900	1075	1275	490	560	670	800	490	560	670	790	590	670	800	940	
K5	300	335	400	455	100	115	135	160	150	170	200	235	95	105	125	145	95	105	125	145	110	125	150	175	Copy milling cutters
	980	1100	1300	1500	330	375	445	520	490	560	660	770	310	345	410	475	310	345	410	475	360	410	490	570	
K6	430	480	570	670	145	165	195	235	215	240	290	345	135	150	180	215	135	150	180	210	160	180	215	250	Copy milling cutters
	1400	1575	1875	2200	475	540	640	770	710	790	950	1125	445	490	590	710	445	490	590	690	520	590	710	820	
K7	385	430	510	580	130	145	175	205	190	215	260	300	120	135	160	190	120	135	160	185	145	160	190	225	Copy milling cutters
	1275	1400	1675	1900	425	475	570	670	620	710	850	980	395	445	520	620	395	445	520	610	475	520	620	740	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1600	1825	2150	2525	1925	2150	2550	3000	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5250	6000	7050	8275	6325	7050	8375	9850	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	650	730	870	1025	770	870	1025	1225	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2125	2400	2850	3375	2525	2850	3375	4025	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	435	490	580	680	520	580	690	810	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1425	1600	1900	2225	1700	1900	2275	2650	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	495	560	660	780	590	670	790	930	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1625	1825	2175	2550	1925	2200	2600	3050	
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	55	70	80	55	65	75	90	Chamfer milling cutters
	—	—	—	—	—	—	—	—																	

R217/220.29-04 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MS2050				F40M				H25				MS2500				MP3501			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	—	—	—	—	305	325	370	410	—	—	—	—	440	480	540	600	495	540	590	640
		—	—	—	—	1000	1075	1225	1350	—	—	—	—	1450	1575	1775	1975	1625	1775	1925	2100
Helical milling cutters	P2	—	—	—	—	295	315	360	400	—	—	—	—	425	465	530	590	485	530	570	630
	P3	—	—	—	—	970	1025	1175	1300	—	—	—	—	1400	1525	1750	1925	1600	1750	1875	2075
		—	—	—	—	260	275	315	345	—	—	—	—	370	405	455	500	415	455	490	540
	P4	—	—	—	—	850	900	1025	1125	—	—	—	—	1225	1325	1500	1650	1350	1500	1600	1775
		—	—	—	—	230	250	285	320	—	—	—	—	325	355	400	445	365	400	430	470
Face milling cutters	P5	—	—	—	—	750	820	940	1050	—	—	—	—	1075	1175	1300	1450	1200	1300	1400	1550
	P6	—	—	—	—	215	230	265	295	—	—	—	—	310	340	380	425	350	380	410	445
		—	—	—	—	710	750	870	970	—	—	—	—	1025	1125	1250	1400	1150	1250	1350	1450
	P7	—	—	—	—	245	265	295	330	—	—	—	—	350	385	430	475	390	430	465	500
		—	—	—	—	800	870	970	1075	—	—	—	—	1150	1275	1400	1550	1275	1400	1525	1650
Disc milling cutters	P8	—	—	—	—	235	250	280	310	—	—	—	—	330	365	405	450	370	405	435	475
	P11	—	—	—	—	770	820	920	1025	—	—	—	—	1075	1200	1325	1475	1225	1325	1425	1550
		—	—	—	—	215	230	265	290	—	—	—	—	310	340	380	425	350	380	410	450
	P12	—	—	—	—	710	750	870	950	—	—	—	—	1025	1125	1250	1400	1150	1250	1350	1475
		—	—	—	—	225	245	270	305	—	—	—	—	325	355	395	440	360	395	425	460
High feed milling cutters	M1	—	—	—	—	740	800	890	1000	—	—	—	—	1075	1175	1300	1450	1175	1300	1400	1500
	M2	—	—	—	—	140	155	170	185	—	—	—	—	195	215	235	255	210	225	240	260
		—	—	—	—	460	510	560	610	—	—	—	—	640	710	770	840	690	740	790	850
	M3	—	—	—	—	195	220	265	315	—	—	—	—	250	285	340	405	280	315	370	435
		—	—	—	—	640	720	870	1025	—	—	—	—	820	940	1125	1325	920	1025	1225	1425
Copy milling cutters	M4	—	—	—	—	160	180	220	260	—	—	—	—	205	235	280	335	230	260	305	360
	M5	—	—	—	—	520	590	720	850	—	—	—	—	670	770	920	1100	750	850	1000	1175
		—	—	—	—	130	145	175	205	—	—	—	—	165	185	225	260	180	205	240	285
	K1	—	—	—	—	425	475	570	670	—	—	—	—	540	610	740	850	590	670	790	940
		—	—	—	—	100	115	135	155	—	—	—	—	130	145	170	200	140	155	185	215
Plunge milling cutters	K2	—	—	—	—	330	375	445	510	—	—	—	—	425	475	560	660	460	510	610	710
	K3	—	—	—	—	85	95	110	130	—	—	—	—	105	120	140	165	115	130	155	180
		—	—	—	—	280	310	360	425	—	—	—	—	345	395	460	540	375	425	510	590
	K4	—	—	—	—	195	220	260	310	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	640	720	850	1025	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	K5	—	—	—	—	170	190	230	275	—	—	—	—	—	—	—	—	—	—	—	—
	K6	—	—	—	—	560	620	750	900	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	145	165	195	230	—	—	—	—	—	—	—	—	—	—	—	—
	K7	—	—	—	—	475	540	640	750	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	140	155	185	220	—	—	—	—	—	—	—	—	—	—	—	—
Inserts	N1	—	—	—	—	460	510	610	720	—	—	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	85	95	115	135	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	280	310	375	445	—	—	—	—	—	—	—	—	—	—	—	—
	N3	—	—	—	—	120	135	165	195	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	395	445	540	640	—	—	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	110	120	145	165	—	—	—	—	—	—	—	—	—	—	—	—
	S2	—	—	—	—	360	395	475	560	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	—	1450	1625	1975	2300	1775	2025	2400	2825	—	—	—	—	—	—	—	—
	S3	—	—	—	—	4750	5325	6475	7550	5825	6650	7875	9275	—	—	—	—	—	—	—	—
		—	—	—	—	590	660	800	920	720	810	970	1150	—	—	—	—	—	—	—	—
Spot facing cutters	N11	—	—	—	—	1925	2175	2625	3025	2350	2650	3175	3775	—	—	—	—	—	—	—	—
	S11	—	—	—	—	390	440	530	620	480	540	650	760	—	—	—	—	—	—	—	—
		—	—	—	—	1275	1450	1750	2025	1575	1775	2125	2500	—	—	—	—	—	—	—	—
	S12	—	—	—	—	445	500	610	700	550	620	740	870	—	—	—	—	—	—	—	—
		—	—	—	—	1450	1650	2000	2300	1800	2025	2425	2850	—	—	—	—	—	—	—	—
Spot facing cutters	S13	55	60	70	85	47	55	60	75	—	—	—	—	65	70	85	100	65	75	85	100
	S2	180	195	230	280	155	180	195	245	—	—	—	—	215	230	280	330	215	245	280	330
		43	48	60	65	38	42	50	60	—	—	—	—	50	55	65	80	50	60	70	80
	S3	140	155	195	215	125	140	165	195	—	—	—	—	165	180	215	260	165	195	230	260
		38	42	50	60	33	37	44	50	—	—	—	—	44	50	60	70	45	50	60	70
Spot facing cutters	S11	125	140	165	195	110	120	145	165	—	—	—	—	145	165	195	230	150	165	195	230
	S12	75	85	100	120	65	75	90	105	—	—	—	—	90	100	120	140	90	105	120	145
		245	280	330	395	215	245	295	345	—	—	—	—	295	330	395	460	295	345	395	475
	S13	50	60	70	85	45	50	60	70	—	—	—	—	60	70	80	95	65	70	85	100
		165	195	230	280	150	165	195	230	—	—	—	—	195	230	260	310	215	230	280	330
Inserts	H5	30	34	40	47	26	30	35	41	—	—	—	—	35	40	47	55	36	41	48	55
	H8	100	110	130	155	85	100	115	135	—	—	—	—	115	130	155	180	120	135	155	180
		—	—	—	—	39	45	55	60	—	—	—	—	—	—	—	—	55	65	75	90
	H11	—	—	—	—	130	150	180	195	—	—	—	—	—	—	—	—	180	215	245	295
		—	—	—	—	42	47	55	65	—	—	—	—	—	—	—	—	60	65	80	90

R217.29I-05 – Metric



- For insert selection and cutting data recommendations, see page(s) 693–695
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-2520.3-05.2.070A	03278800	Weldon	10,0	20,0	2	5,0	25,0	94,0	55,5	70,0	70,0	125,5	25,0	30,0	38,0	27400	0,4	RD..10T3
R217.29I-2525.3-05.3.050A	03278801	Weldon	15,0	25,0	3	5,0	25,0	74,0	55,5	50,0	50,0	105,5	14,4	40,0	48,0	24400	0,4	RD..10T3
R217.29I-3232.3-05.4.060A	03278802	Weldon	22,0	32,0	4	5,0	32,0	84,0	59,5	60,0	60,0	119,5	8,7	54,0	62,0	21600	0,7	RD..10T3
R217.29I-2016.0-05.1.100A	03278796	Cylindrical	5,9	16,0	1	5,0	20,0	–	90,0	60,0	100,0	150,0	6,9	21,8	30,0	29900	0,4	RD..10T3
R217.29I-1620.0-05.2.112E	03278795	Cylindrical	10,0	20,0	2	5,0	16,0	–	140,0	112,0	112,0	160,0	25,0	30,0	38,0	27400	0,5	RD..10T3
R217.29I-2025.0-05.2.120A	03278797	Cylindrical	15,0	25,0	2	5,0	20,0	–	140,0	120,0	120,0	170,0	14,5	40,0	48,0	24400	0,4	RD..10T3
R217.29I-2525.0-05.3.124A	03278798	Cylindrical	15,0	25,0	3	5,0	25,0	–	130,0	50,1	124,0	180,0	13,8	40,0	48,0	24400	0,7	RD..10T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29I-2016-2520	1/4HEX-T09PX50	C03006-T09P
R217.29I-2025-3232	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

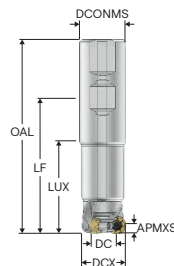
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29I-05 – inch



- For insert selection and cutting data recommendations, see page(s) 693–695
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-3-05.3A	03278812	Weldon	0.608	1.000	3	0.197	1.000	4.139	2.280	3.000	3.000	5.280	13,8	1.610	1.921	24400	1.100	RD..10T3

Spare Parts, included in delivery

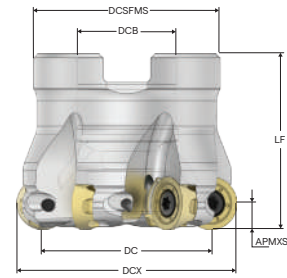
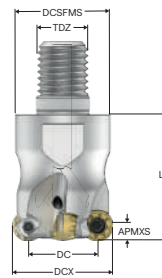
For cutter	Insert key	Insert screw
		
R217.29I-..	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217/220.29I-05 – Metric

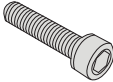


- For insert selection and cutting data recommendations, see page(s) 693–695
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1020.RE-05.2A	03278781	Combimaster	10,0	20,0	2	5,0	–	18,5	M10	–	28,0	46,75	25,0	30,0	38,0	27400	0,1	RD..10T3
R217.29I-1225.RE-05.3A	03278782	Combimaster	15,0	25,0	3	5,0	–	23,0	M12	–	30,0	51,75	13,8	40,0	48,0	24400	0,2	RD..10T3
R217.29I-1232.RE-05.4A	03278783	Combimaster	22,0	32,0	4	5,0	–	23,0	M12	–	30,0	51,75	8,0	54,0	62,0	21600	0,2	RD..10T3
R217.29I-1632.RE-05.4A	03278784	Combimaster	22,0	32,0	4	5,0	–	30,0	M16	–	40,0	62,75	8,8	54,0	62,0	21600	0,3	RD..10T3
R217.29I-1632.RE-05.5A	03278785	Combimaster	22,2	32,0	5	5,0	–	30,0	M16	–	40,0	62,75	4,1	54,4	62,0	21600	0,3	RD..10T3
R217.29I-1635.RE-05.5A	03278786	Combimaster	25,1	35,0	5	5,0	–	30,0	M16	–	40,0	62,75	7,5	60,2	68,0	15600	0,3	RD..10T3
R217.29I-1640.RE-05.4A	03278787	Combimaster	30,0	40,0	4	5,0	–	30,0	M16	–	40,0	62,75	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-1640.RE-05.5A	03278788	Combimaster	30,0	40,0	5	5,0	–	30,0	M16	–	40,0	62,75	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-2040.RE-05.6A	03278791	Combimaster	30,2	40,0	6	5,0	–	36,5	M20	–	40,0	67,0	5,9	70,4	78,0	19300	0,4	RD..10T3
R217.29I-1642.RE-05.5A	03278789	Combimaster	32,0	42,0	5	5,0	–	30,0	M16	–	40,0	62,75	5,6	74,0	82,0	18800	0,3	RD..10T3
R217.29I-1642.RE-05.6A	03278790	Combimaster	32,0	42,0	6	5,0	–	30,0	M16	–	40,0	62,75	6,0	74,0	82,0	18800	0,3	RD..10T3
R220.29I-0040-05.5A	03278803	Arbor	30,0	40,0	5	5,0	16,0	33,0	–	16,0	40,0	–	7,3	70,0	78,0	19300	0,3	RD..10T3
R220.29I-0050-05.4A	03278804	Arbor	40,0	50,0	4	5,0	22,0	41,0	–	22,0	40,0	–	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0050-05.6A	03278805	Arbor	40,0	50,0	6	5,0	22,0	41,0	–	22,0	40,0	–	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0052-05.7A	03278806	Arbor	42,1	52,0	7	5,0	22,0	41,0	–	22,0	40,0	–	4,3	94,2	102,0	17000	0,4	RD..10T3
R220.29I-0063-05.6A	03278807	Arbor	53,0	63,0	6	5,0	22,0	49,0	–	22,0	40,0	–	3,1	116,0	124,0	15800	0,6	RD..10T3
R220.29I-0063-05.8A	03278808	Arbor	53,0	63,0	8	5,0	22,0	49,0	–	22,0	40,0	–	3,9	116,0	124,0	15800	0,6	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-1020	–	1/4HEX-T09PX50	C03006-T09P
R217.29I-1225-2042	–	1/4HEX-T09PX50	C03007-T09P
R220.29I-0040	220.17-689	1/4HEX-T09PX50	C03007-T09P
R220.29I-0050-0063	220.17-692	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

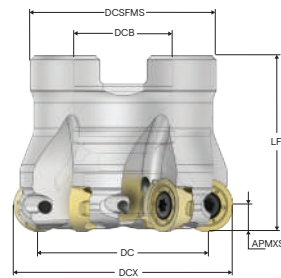
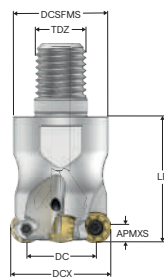
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.29I-05 – inch

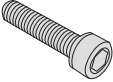


- For insert selection and cutting data recommendations, see page(s) 693–695
- For complete insert programme, see page(s) 886
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch		lbs	
R217.29I-1.00-12RE-05.3A	03278809	Combimaster	0.608	1.000	3	0.197	–	0.906	M12	–	1.181	2.037	13,3	1.610	1.921	24400	0.440	RD..10T3
R217.29I-1.25-16RE-05.4A	03278810	Combimaster	0.856	1.250	4	0.197	–	1.181	M16	–	1.575	2.470	8,9	2.106	2.421	21600	0.440	RD..10T3
R217.29I-1.50-16RE-05.5A	03278811	Combimaster	1.106	1.500	5	0.197	–	1.181	M16	–	1.575	2.470	6,0	2.606	2.921	19300	0.660	RD..10T3
R220.29I-01.50-05.5A	03278813	Arbor	1.106	1.500	5	0.197	0.500	1.339	–	0.500	1.500	–	6,5	2.606	2.921	14000	0.660	RD..10T3
R220.29I-02.00-05.6A	03278814	Arbor	1.606	2.000	6	0.197	0.750	1.614	–	0.750	1.500	–	4,2	3.606	3.921	12500	0.880	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-..	–	1/4HEX-T09PX50	C03007-T09P
R220.29I-01.50	UC6S1/4UNFX1	1/4HEX-T09PX50	C03007-T09P
R220.29I-02.00	UC6S3/8UNFX1	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217/220.29I-05 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDKT10T3M0T-6-M05 MP2501	2,0 0,080	0,16 0,0065	0,16 0,0065	0,18 0,0070	0,28 0,011
P2	RDKT10T3M0T-6-M05 MP2501	2,0 0,080	0,16 0,0065	0,16 0,0065	0,18 0,0070	0,30 0,012
P3	RDKT10T3M0T-6-M05 MP2501	2,0 0,080	0,15 0,0060	0,15 0,0060	0,17 0,0065	0,28 0,011
P4	RDKT10T3M0T-8-M07 MP2501	2,0 0,080	0,20 0,0080	0,20 0,0080	0,24 0,0095	0,38 0,015
P5	RDKT10T3M0T-8-M07 MP2501	2,0 0,080	0,20 0,0080	0,20 0,0080	0,24 0,0095	0,38 0,014
P6	RDKT10T3M0T-8-M07 MP2501	2,0 0,080	0,20 0,0080	0,20 0,0080	0,24 0,0095	0,36 0,014
P7	RDKW10T3M0T-8-MD06 MP1501	2,0 0,080	0,17 0,0065	0,17 0,0065	0,20 0,0080	0,32 0,013
P8	RDKW10T3M0T-8-MD06 MP1501	2,0 0,080	0,18 0,0070	0,18 0,0070	0,20 0,0080	0,32 0,013
P11	RDKW10T3M0T-8-MD06 MP1501	2,0 0,080	0,17 0,0065	0,17 0,0065	0,20 0,0080	0,32 0,013
P12	RDKW10T3M0T-8-MD06 MP1501	1,6 0,065	0,13 0,0050	0,13 0,0050	0,15 0,0060	0,24 0,0095
M1	RDHT10T3M0T-8-M11 MS2050	2,0 0,080	0,36 0,014	0,36 0,014	0,40 0,016	0,65 0,026
M2	RDHT10T3M0T-8-M11 MS2050	2,0 0,080	0,32 0,013	0,32 0,013	0,36 0,014	0,60 0,024
M3	RDHT10T3M0T-8-M11 MS2050	1,6 0,065	0,28 0,011	0,28 0,011	0,32 0,013	0,50 0,020
M4	RDHT10T3M0T-8-M11 MS2050	1,2 0,048	0,30 0,012	0,30 0,012	0,34 0,013	0,50 0,020
M5	RDHT10T3M0T-8-M11 MS2050	1,2 0,048	0,30 0,012	0,30 0,012	0,34 0,013	0,50 0,020
K1	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,19 0,0075	0,19 0,0075	0,22 0,0085	0,34 0,013
K2	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,18 0,0070	0,18 0,0070	0,20 0,0080	0,32 0,013
K3	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,18 0,0070	0,18 0,0070	0,20 0,0080	0,32 0,013
K4	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,18 0,0070	0,18 0,0070	0,20 0,0080	0,32 0,013
K5	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,16 0,0065	0,16 0,0065	0,18 0,0070	0,28 0,011
K6	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,18 0,0070	0,18 0,0070	0,20 0,0080	0,32 0,013
K7	RDKW10T3M0T-8-MD06 MK2050	2,0 0,080	0,16 0,0065	0,16 0,0065	0,18 0,0070	0,28 0,011
N1	RDHT10T3M0-8-E04 H25	2,0 0,080	0,16 0,0065	0,16 0,0065	0,19 0,0075	0,30 0,012
N2	RDHT10T3M0-8-E04 H25	2,0 0,080	0,16 0,0065	0,16 0,0065	0,19 0,0075	0,30 0,012
N3	RDHT10T3M0-8-E04 H25	2,0 0,080	0,16 0,0065	0,16 0,0065	0,19 0,0075	0,30 0,012
N11	RDHT10T3M0-8-E04 H25	2,0 0,080	0,16 0,0065	0,16 0,0065	0,19 0,0075	0,30 0,012
S1	RDKT10T3M0T-8-M07 MS2500	1,2 0,048	0,19 0,0075	0,19 0,0075	0,22 0,0085	0,34 0,013
S2	RDKT10T3M0T-8-M07 MS2500	1,2 0,048	0,19 0,0075	0,19 0,0075	0,22 0,0085	0,34 0,013
S3	RDKT10T3M0T-6-M05 MS2500	1,2 0,048	0,12 0,0048	0,12 0,0048	0,14 0,0055	0,22 0,0085
S11	RDHT10T3M0T-8-M11 MS2050	1,4 0,055	0,30 0,012	0,30 0,012	0,36 0,014	0,55 0,022
S12	RDHT10T3M0T-8-M11 MS2050	1,4 0,055	0,30 0,012	0,30 0,012	0,36 0,014	0,55 0,022
S13	RDHT10T3M0T-8-M11 MS2050	1,2 0,048	0,30 0,012	0,30 0,012	0,34 0,013	0,50 0,020
H5	RDKW10T3M0T-8-MD06 MH1051	1,6 0,065	0,13 0,0050	0,13 0,0050	0,15 0,0060	0,24 0,0095
H8	RDKW10T3M0T-8-MD06 MH1051	1,4 0,055	0,11 0,0044	0,11 0,0044	0,12 0,0048	0,19 0,0075
H11	RDHW10T3M0T-8-MD06 MH1000	1,6 0,065	0,13 0,0050	0,13 0,0050	0,15 0,0060	0,24 0,0095
H12	RDHW10T3M0T-8-MD06 MH1000	1,4 0,055	0,11 0,0044	0,11 0,0044	0,12 0,0048	0,19 0,0075

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

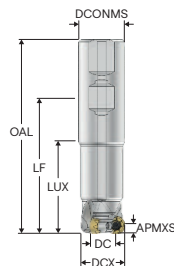
R217/220.29I-05 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051				F15M				MK2050				F25M				MP3000				MS2050				F40M				MP2051			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	290	325	395	460	310	355	425	500	265	300	360	425	345	385	455	520	345	385	445	510	335	365	415	460	475	520	580	630
	—	—	—	—	950	1075	1300	1500	1025	1175	1400	1650	870	980	1175	1400	1125	1275	1500	1700	1125	1275	1450	1675	1100	1200	1350	1500	1550	1700	1900	2075
P2	—	—	—	—	280	320	380	450	305	345	410	485	255	290	350	410	335	375	440	510	335	375	435	495	330	355	405	445	460	510	570	610
	—	—	—	—	920	1050	1250	1475	1000	1125	1350	1600	840	950	1150	1350	1100	1225	1450	1675	1100	1225	1425	1625	1075	1175	1325	1450	1500	1675	1875	2000
P3	—	—	—	—	245	280	330	390	265	300	360	425	225	255	305	360	290	325	380	440	295	325	375	430	285	310	350	390	400	440	485	520
	—	—	—	—	800	920	1075	1275	870	980	1175	1400	740	840	1000	1175	950	1075	1250	1450	970	1075	1225	1400	940	1025	1150	1275	1300	1450	1600	1700
P4	—	—	—	—	215	245	295	345	235	265	320	370	195	225	270	315	255	285	340	385	260	285	335	380	255	280	320	360	355	390	425	455
	—	—	—	—	710	800	970	1125	770	870	1050	1225	640	740	890	1025	840	940	1125	1275	850	940	1100	1250	840	920	1050	1175	1175	1275	1400	1500
P5	480	540	640	750	210	235	280	330	225	255	305	360	190	215	260	305	250	280	325	370	245	275	320	360	240	260	295	325	340	370	410	435
	1575	1775	2100	2450	690	770	920	1075	740	840	1000	1175	620	710	850	1000	820	920	1075	1225	800	900	1050	1175	790	850	970	1075	1125	1225	1350	1425
P6	540	600	720	840	235	265	315	370	255	290	340	405	215	245	290	340	280	310	365	415	280	310	360	405	275	295	330	370	385	420	460	490
	1775	1975	2350	2750	770	870	1025	1225	840	950	1125	1325	710	800	950	1125	920	1025	1200	1350	920	1025	1175	1325	900	970	1075	1225	1275	1375	1500	1600
P7	510	570	680	790	220	250	300	350	240	270	325	380	200	230	275	320	265	295	340	395	265	295	340	385	260	280	315	345	360	395	430	465
	1675	1875	2225	2600	720	820	980	1150	790	890	1075	1250	660	750	900	1050	870	970	1125	1300	870	970	1125	1275	850	920	1025	1125	1175	1300	1400	1525
P8	470	530	630	740	205	235	280	330	220	255	300	355	190	215	255	300	245	275	320	370	245	275	315	360	240	260	290	325	340	370	410	435
	1550	1750	2075	2425	670	770	920	1075	720	840	980	1175	620	710	840	980	800	900	1050	1225	800	900	1025	1175	790	850	950	1075	1125	1225	1350	1425
P11	495	550	660	770	215	245	290	340	230	265	315	370	195	225	265	310	255	285	335	380	260	285	330	375	250	270	305	335	310	390	470	580
	1625	1800	2175	2525	710	800	950	1125	750	870	1025	1225	640	740	870	1025	840	940	1100	1250	850	940	1075	1225	820	890	1000	1100	1025	1275	1550	1900
P12	320	360	420	485	—	—	—	—	150	170	200	235	125	145	170	200	160	180	205	230	160	180	205	230	160	170	190	205	175	220	250	305
	1050	1175	1375	1600	—	—	—	—	490	560	660	770	410	475	560	660	520	590	670	750	520	590	670	750	520	560	620	670	570	720	820	1000
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	220	250	295	350	240	275	330	385	220	250	300	350	365	450	560	690
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	180	205	245	290	200	225	270	320	180	205	245	290	295	365	445	550
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	590	670	800	950	660	740	890	1050	590	670	800	950	970	1200	1450	1800
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	165	195	230	160	180	215	255	145	165	195	230	225	280	325	395
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	475	540	640	750	520	590	710	840	475	540	640	750	740	920	1075	1300
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	125	150	175	125	140	165	195	110	125	150	175	165	205	235	280
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	360	410	490	570	410	460	540	640	360	410	490	570	540	670	770	920
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	105	125	145	100	115	135	160	95	105	125	145	135	170	200	235
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	345	410	475	330	375	445	520	310	345	410	475	445	560	660	770
K1	640	720	870	1025	220	250	300	355	325	370	445	530	205	230	275	325	230	265	315	370	—	—	—	—	215	245	295	345	—	—	—	—
	2100	2350	2850	3375	720	820	980	1175	1075	1225	1450	1750	670	750	900	1075	750	870	1025	1225	—	—	—	—	710	800	970	1125	—	—	—	—
K2	580	650	770	900	200	225	265	315	290	330	395	465	180	205	245	290	205	235	280	325	—	—	—	—	190	215	260	305	—	—	—	—
	1900	2125	2525	2950	660	740	870	1025	950	1075	1300	1525	590	670	800	950	670	770	920	1075	—	—	—	—	620	710	850	1000	—	—	—	—
K3	490	550	650	760	165	190	225	265	245	280	335	390	155	175	205	245	175	200	235	275	—	—	—	—	160	185	220	260	—	—	—	—
	1600	1800	2125	2500	540	620	740	870	800	920	1100	1275	510	570	670	800	570	660	770	900	—	—	—	—	520	610	720	850	—	—	—	—
K4	465	520	620	730	160	180	215	255	235	270	320	375	145	165	200	235	165	190	225	265	—	—	—	—	155	175	210	245	—	—	—	—
	1525	1700	2025	2400	520	590	710	840	770	890	1050	1225	475	540	660	770	540	620	740	870	—	—	—	—	510	570	690	800	—	—	—	—
K5	285	320	385	440	95	110	130	155	140	160	195	225	90	100	120	140	100	115	135	160	—	—	—	—	95	105	130	150	—	—	—	—
	940	1050	1275	1450	310	360	425	510	460	520	640	740	295	330	395	460	330	375	445	520	—	—	—	—	310	345	425	490	—	—	—	—
K6	410	460	550	640	140	160	190	225	205	235	280	330	130	145	175	205	145															

R217/220.291-05 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP2050				H25				MP1501				MP2501				MS2500				MP3501				MM4500				
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	
P1	360	410	495	580	—	—	—	—	450	490	550	610	465	510	580	650	485	540	600	670	460	500	570	620	285	320	355	400	Square shoulder and slot milling cutters
	1175	1350	1625	1900	—	—	—	—	1475	1600	1800	2000	1525	1675	1900	2125	1600	1775	1975	2200	1500	1650	1875	2025	940	1050	1175	1300	
P2	355	400	480	560	—	—	—	—	435	475	540	600	455	495	560	620	475	520	590	650	450	490	550	610	275	310	345	390	Helical milling cutters
	1175	1300	1575	1825	—	—	—	—	1425	1550	1775	1975	1500	1625	1825	2025	1550	1700	1925	2125	1475	1600	1800	2000	900	1025	1125	1275	
P3	310	350	415	495	—	—	—	—	380	415	465	520	390	425	485	540	410	455	510	560	390	425	475	520	240	270	300	330	Helical milling cutters
	1025	1150	1350	1625	—	—	—	—	1250	1350	1525	1700	1275	1400	1600	1775	1350	1500	1675	1825	1275	1400	1550	1700	790	890	980	1075	
P4	270	310	370	435	—	—	—	—	335	365	410	455	350	380	430	480	365	400	450	495	345	375	420	460	225	255	285	315	Helical milling cutters
	890	1025	1225	1425	—	—	—	—	1100	1200	1350	1500	1150	1250	1400	1575	1200	1300	1475	1625	1125	1225	1375	1500	740	840	940	1025	
P5	260	295	355	415	—	—	—	—	320	350	395	435	335	365	415	460	345	380	425	475	325	360	400	440	200	225	250	280	Helical milling cutters
	850	970	1175	1350	—	—	—	—	1050	1150	1300	1425	1100	1200	1350	1500	1125	1250	1400	1550	1075	1175	1300	1450	660	740	820	920	
P6	295	335	395	465	—	—	—	—	360	395	440	490	375	410	465	520	390	430	480	530	370	405	450	495	225	255	280	315	Helical milling cutters
	970	1100	1300	1525	—	—	—	—	1175	1300	1450	1600	1225	1350	1525	1700	1275	1400	1575	1750	1225	1325	1475	1625	740	840	920	1025	
P7	280	315	375	440	—	—	—	—	340	370	415	460	355	385	440	485	370	405	455	500	350	380	425	470	215	240	265	295	Face milling cutters
	920	1025	1225	1450	—	—	—	—	1125	1225	1350	1500	1175	1275	1450	1600	1225	1350	1500	1650	1150	1250	1400	1550	710	790	870	970	
P8	260	295	350	415	—	—	—	—	320	350	390	435	325	360	410	455	345	380	425	475	325	360	400	440	200	225	250	280	Face milling cutters
	850	970	1150	1350	—	—	—	—	1050	1150	1275	1425	1075	1175	1350	1500	1125	1250	1400	1550	1075	1175	1300	1450	660	740	820	920	
P11	270	310	365	430	—	—	—	—	330	360	405	450	345	375	430	475	360	395	440	490	340	370	410	455	205	230	255	285	Face milling cutters
	890	1025	1200	1400	—	—	—	—	1075	1175	1325	1475	1125	1225	1400	1550	1175	1300	1450	1600	1125	1225	1350	1500	670	750	840	940	
P12	170	195	235	270	—	—	—	—	205	220	245	270	215	235	260	285	215	240	260	285	205	225	245	265	120	135	145	160	Face milling cutters
	560	640	770	890	—	—	—	—	670	720	800	890	710	770	850	940	710	790	850	940	670	740	800	870	395	445	475	520	
M1	255	290	345	405	—	—	—	—	—	—	—	—	230	265	310	365	280	320	385	450	240	275	330	385	190	215	260	305	Disc milling cutters
	840	950	1125	1325	—	—	—	—	—	—	—	—	750	870	1025	1200	920	1050	1275	1475	790	900	1035	1275	620	710	850	1000	
M2	205	235	285	335	—	—	—	—	—	—	—	—	190	220	265	305	230	260	315	370	200	225	270	320	155	175	210	250	Disc milling cutters
	670	770	940	1100	—	—	—	—	—	—	—	—	620	720	870	1000	750	850	1025	1225	660	740	890	1050	510	570	690	820	
M3	165	190	225	265	—	—	—	—	—	—	—	—	155	175	210	245	185	210	250	295	160	180	215	255	125	140	170	200	Disc milling cutters
	540	620	740	870	—	—	—	—	—	—	—	—	510	570	690	800	610	690	820	970	520	590	710	840	410	460	560	660	
M4	130	145	170	205	—	—	—	—	—	—	—	—	120	135	160	190	145	160	190	225	125	140	165	195	95	110	130	155	Disc milling cutters
	425	475	560	670	—	—	—	—	—	—	—	—	395	445	520	620	475	520	620	740	410	460	540	640	310	360	425	510	
M5	105	120	145	170	—	—	—	—	—	—	—	—	100	110	135	155	120	135	160	190	100	115	135	160	80	90	110	125	Disc milling cutters
	345	395	475	560	—	—	—	—	—	—	—	—	330	360	445	510	395	445	520	620	330	375	445	520	260	295	360	410	
K1	—	—	—	—	—	—	—	—	440	480	540	600	455	500	560	630	310	355	425	495	450	495	560	610	—	—	—	—	High feed milling cutters
	—	—	—	—	—	—	—	—	1450	1575	1775	1975	1500	1650	1825	2075	1175	1400	1625	1775	1400	1625	1775	2000	—	—	—	—	
K2	—	—	—	—	—	—	—	—	390	425	475	530	405	440	500	560	275	310	375	440	395	435	485	530	—	—	—	—	High feed milling cutters
	—	—	—	—	—	—	—	—	1275	1400	1550	1750	1325	1450	1650	1825	900	1025	1225	1450	1300	1425	1600	1750	—	—	—	—	
K3	—	—	—	—	—	—	—	—	330	360	400	445	340	375	425	470	230	265	315	370	335	365	410	450	—	—	—	—	Copy milling cutters
	—	—	—	—	—	—	—	—	1075	1175	1300	1450	1125	1225	1400	1550	750	870	1025	1225	1100	1200	1350	1475	—	—	—	—	
K4	—	—	—	—	—	—	—	—	315	345	385	425	325	355	405	450	220	250	300	355	320	350	390	430	—	—	—	—	Copy milling cutters
	—	—	—	—	—	—	—	—	1025	1125	1275	1400	1075	1175	1325	1475	720	820	980	1175	1050	1150	1275	1400	—	—	—	—	
K5	—	—	—	—	—	—	—	—	190	205	230	255	200	215	245	270	135	155	185	215	195	210	235	255	—	—	—	—	Copy milling cutters
	—	—	—	—	—	—	—	—	620	670	750	840	660	710	800	890	445	510	610	710	640	690	770	840	—	—	—	—	
K6	—	—	—	—	—	—	—	—	275	300	340	375	285	315	360	395	195	220	265	310	280	310	345	380	—	—	—	—	Copy milling cutters
	—	—	—	—	—	—	—	—	900	980	1125	1225	940	1025	1175	1300	640	720	870	1025	920	1025	1125	1250	—	—	—	—	
K7	—	—	—	—	—	—	—	—	240	265	295	325	255	275	310	345	175	200	235	275	240	270	300	330	—	—	—	—	Copy milling cutters
	—	—	—	—	—	—	—	—	790	870	970	1075	840	900	1025	1125	570	660	770	900	800	890	980	1075	—				

R217.29I-06 – Metric



- For insert selection and cutting data recommendations, see page(s) 702-704
- For complete insert programme, see page(s) 889
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCONMS mm	LF mm	LS mm	LUX mm	LPR mm	OAL mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R217.29I-2525.3-06.2.050A	02949613	Weldon	13,0	25,0	2	6,0	25,0	74,0	46,0	21,6	50,5	106,0	13,0	38,0	48,0	17700	0,4	RP..1204
R217.29I-3232.3-06.3.060A	02949614	Weldon	20,0	32,0	3	6,0	32,0	84,0	60,0	26,6	60,5	120,0	7,0	52,0	62,0	15600	0,7	RP..1204
R217.29I-3240.3-06-055.4A	03024047	Weldon	28,0	40,0	4	6,0	32,0	79,0	60,0	55,0	55,0	115,0	8,0	68,0	78,0	14000	0,7	RP..1204
R217.29I-3240.3-06.4.075A	02949615	Weldon	28,0	40,0	4	6,0	32,0	99,0	60,0	72,0	75,5	135,0	8,0	68,0	78,0	14000	0,8	RP..1204

Center coolant hole possibility by removing centre screw

Spare Parts, included in delivery

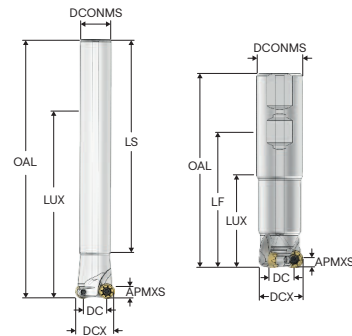
For cutter	Centre screw	Insert key	Insert screw	Key	Screw
					
R217.29I-.. Ø25	-	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-.. Ø32-40	-	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-.. Ø32-40-4A	SH3040	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217.29I-06 – inch



—For insert selection and cutting data recommendations, see page(s) 702-704
—For complete insert programme, see page(s) 889
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-3F-06.2A	02949640	Weldon	0.528	1.000	2	0.236	1.000	4.639	3.280	2.500	2.500	5.780	12,0	1.528	1.921	17700	1.100	RP..1204
R217.29I-01.00-0-06.2A	02949638	Cylindrical	0.528	1.000	2	0.236	1.000	—	4.008	2.480	4.295	6.500	12,0	1.528	1.921	17700	1.540	RP..1204

Center coolant hole possibility by removing centre screw

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key	Screw
				
R217.29I-..	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-01.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

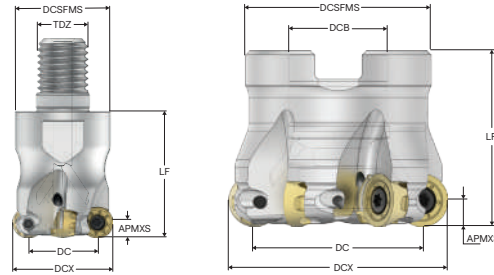
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

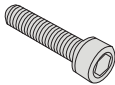
R217/220.29I-06 – Metric



—For insert selection and cutting data recommendations, see page(s) 702-704
 —For complete insert programme, see page(s) 889
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1225.RE-06.2A	02949605	Combimaster	13,0	25,0	2	6,0	—	23,0	M12	—	35,0	56,75	13,0	38,0	48,0	17700	0,2	RP..1204
R217.29I-1632.RE-06.3A	02949607	Combimaster	20,0	32,0	3	6,0	—	30,0	M16	—	40,0	62,75	7,0	52,0	62,0	15600	0,2	RP..1204
R217.29I-1635.RE-06.3A	02949608	Combimaster	23,0	35,0	3	6,0	—	30,0	M16	—	40,0	62,75	10,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1635.RE-06.4A	02949609	Combimaster	23,0	35,0	4	6,0	—	30,0	M16	—	40,0	62,75	6,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1640.RE-06.4A	02949611	Combimaster	28,0	40,0	4	6,0	—	30,0	M16	—	40,0	62,75	8,0	68,0	78,0	14000	0,3	RP..1204
R217.29I-2040.RE-06.4A	02928079	Combimaster	28,0	40,0	4	6,0	—	36,5	M20	—	45,0	72,0	8,0	68,0	78,0	14000	0,4	RP..1204
R217.29I-1642.RE-06.5A	02949612	Combimaster	30,0	42,0	5	6,0	—	30,0	M16	—	40,0	62,75	4,0	72,0	82,0	13600	0,3	RP..1204
R217.29I-2042.RE-06.5A	02991174	Combimaster	30,0	42,0	5	6,0	—	36,5	M20	—	45,0	72,0	4,2	72,0	82,0	13600	0,4	RP..1204
R220.29I-0040-06.4A	02949616	Arbor	28,0	40,0	4	6,0	16,0	35,0	—	16,0	40,0	—	8,0	68,0	78,0	14000	0,3	RP..1204
R220.29I-0044-06.4A	03002205	Arbor	32,0	44,0	4	6,0	16,0	35,0	—	16,0	40,0	—	7,9	76,0	86,0	13300	0,3	RP..1204
R220.29I-0050-06.4A	02949617	Arbor	38,0	50,0	4	6,0	22,0	42,0	—	22,0	40,0	—	5,5	88,0	98,0	12500	0,3	RP..1204
R220.29I-0050-06.5A	02949618	Arbor	38,0	50,0	5	6,0	22,0	42,0	—	22,0	40,0	—	5,5	88,0	98,0	12500	0,4	RP..1204
R220.29I-0050-06.6A	03203202	Arbor	38,0	50,0	6	6,0	22,0	42,0	—	22,0	40,0	—	5,0	88,0	98,0	12500	0,4	RP..1204
R220.29I-0052-06.4A	02949619	Arbor	40,0	52,0	4	6,0	22,0	42,0	—	22,0	40,0	—	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0052-06.5A	02949620	Arbor	40,0	52,0	5	6,0	22,0	42,0	—	22,0	40,0	—	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0063-06.5A	02949621	Arbor	51,0	63,0	5	6,0	22,0	47,0	—	22,0	40,0	—	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0063-06.6A	02949622	Arbor	51,0	63,0	6	6,0	22,0	47,0	—	22,0	40,0	—	4,0	114,0	124,0	11200	0,6	RP..1204
R220.29I-0063-06.7A	02949623	Arbor	51,0	63,0	7	6,0	22,0	47,0	—	22,0	40,0	—	3,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0066-06.6A	02949624	Arbor	54,0	66,0	6	6,0	27,0	50,0	—	27,0	50,0	—	3,5	120,0	130,0	10900	0,7	RP..1204
R220.29I-0080-06.6A	02949625	Arbor	68,0	80,0	6	6,0	27,0	62,0	—	27,0	50,0	—	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.7A	02949626	Arbor	68,0	80,0	7	6,0	27,0	62,0	—	27,0	50,0	—	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.8A	02949627	Arbor	68,0	80,0	8	6,0	27,0	62,0	—	27,0	50,0	—	2,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0084-06.6A	02969096	Arbor	72,0	84,0	6	6,0	32,0	77,0	—	32,0	50,0	—	2,5	156,0	166,0	9500	1,4	RP..1204
R220.29I-0092-06.7A	02949628	Arbor	80,0	92,0	7	6,0	32,0	77,0	—	32,0	50,0	—	2,5	172,0	182,0	9200	1,5	RP..1204
R220.29I-0100-06.9A	02949629	Arbor	88,0	100,0	9	6,0	32,0	77,0	—	32,0	50,0	—	2,0	188,0	198,0	8800	1,6	RP..1204
R220.29I-0112-06.7A	02949630	Arbor	100,0	112,0	7	6,0	32,0	77,0	—	32,0	63,0	—	1,5	212,0	222,0	8400	1,9	RP..1204
R220.29I-0125-06.11A	02949631	Arbor	113,0	125,0	11	6,0	40,0	90,0	—	40,0	63,0	—	1,5	238,0	248,0	8000	3,3	RP..1204
R220.29I-0137-06.8A	02949632	Arbor	125,0	137,0	8	6,0	40,0	90,0	—	40,0	63,0	—	1,5	262,0	272,0	7600	4,0	RP..1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R217.29I-25/35-4A/42	–	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-32/35-3A/40	–	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø125-137	MC6S20X50	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø40-44	220.17-689	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø50-52	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø50-6A	220.17-692	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø63	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø66-80	MC6S12X35	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø84-112	950E1645	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-... Ø84-112	950E1645	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

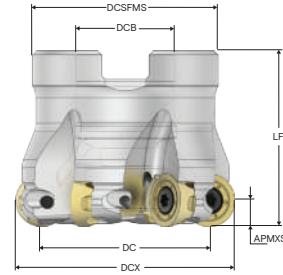
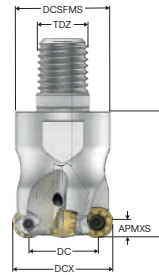
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

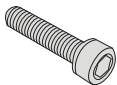
R217/220.29I-06 – Inch



—For insert selection and cutting data recommendations, see page(s) 702-704
 —For complete insert programme, see page(s) 889
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-12RE-06.2A	02949633	Combimaster	0.528	1.000	2	0.236	—	0.906	M12	—	1.378	2.234	12,0	1.528	1.921	17700	0.440	RP..1204
R217.29I-01.25-12RE-06.3A	02949635	Combimaster	0.778	1.250	3	0.236	—	0.906	M12	—	1.575	2.431	7,0	2.028	2.421	15600	0.440	RP..1204
R217.29I-01.25-16RE-06.3A	02949634	Combimaster	0.778	1.250	3	0.236	—	1.181	M16	—	1.575	2.470	7,0	2.028	2.421	15600	0.660	RP..1204
R217.29I-01.50-16RE-06.3A	02949636	Combimaster	1.028	1.500	3	0.236	—	1.181	M16	—	1.575	2.470	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-16RE-06.4A	02949637	Combimaster	1.028	1.500	4	0.236	—	1.181	M16	—	1.575	2.470	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-20RE-06.4A	03002402	Combimaster	1.028	1.500	4	0.236	—	1.437	M20	—	1.575	2.638	8,5	2.528	2.921	14000	0.660	RP..1204
R220.29I-02.00-06.4A	02949642	Arbor	1.528	2.000	4	0.236	0.750	1.654	—	0.750	1.500	—	6,5	3.528	3.921	12500	0.660	RP..1204
R220.29I-02.00-06.5A	02949643	Arbor	1.528	2.000	5	0.236	0.750	1.654	—	0.750	1.500	—	6,5	3.528	3.921	12500	0.880	RP..1204
R220.29I-02.00-06.6A	03279243	Arbor	1.535	2.000	6	0.236	0.750	1.654	—	0.750	1.500	—	5,0	3.535	3.921	12500	0.660	RP..1204
R220.29I-02.50-06.6A	02949644	Arbor	2.028	2.500	6	0.236	0.750	1.850	—	0.750	1.500	—	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-02.50-06.7A	02949645	Arbor	2.028	2.500	7	0.236	0.750	1.850	—	0.750	1.500	—	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-03.00-06.6A	02949647	Arbor	2.528	3.000	6	0.236	1.000	2.441	—	1.000	2.000	—	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-03.00-06.7A	02949648	Arbor	2.528	3.000	7	0.236	1.000	2.441	—	1.000	2.000	—	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-04.00-06.7A	02949649	Arbor	3.528	4.000	7	0.236	1.500	3.543	—	1.500	2.000	—	2,0	7.528	7.921	8800	4.410	RP..1204
R220.29I-06.00-06.8	02949652	Arbor	5.528	6.000	8	0.236	2.000	4.331	—	2.000	2.000	—	1,2	11.528	11.921	7600	6.830	RP..1204

Spare Parts, included in delivery

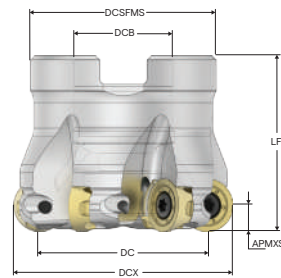
For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R217.29I-01.00	—	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-01.25-01.50	—	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-06A	UC6S3/8UNFX1	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-06.00	—	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.29I-01.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.29I-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R220.29B-06 – For blade machining – Metric

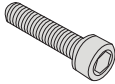


- For insert selection and cutting data recommendations, see page(s) 702-704
- For complete insert programme, see page(s) 889
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCB mm	DCSFMS mm	DCONMS mm	LF mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R220.29B-0040-06.4A	03007485	Arbor	28,0	40,0	4	6,0	16,0	35,0	16,0	40,0	5,0	68,0	78,0	14000	0,2	RP..1204
R220.29B-0050-06.5A	03007486	Arbor	38,0	50,0	5	6,0	22,0	42,0	22,0	40,0	5,0	88,0	98,0	12500	0,3	RP..1204
R220.29B-0052-06.5A	03007487	Arbor	38,0	52,0	5	6,0	22,0	42,0	22,0	40,0	5,0	90,0	102,0	12300	0,3	RP..1204
R220.29B-0063-06.6A	03074236	Arbor	51,0	63,0	6	6,0	22,0	47,0	22,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29B-0063-06.7A	03074237	Arbor	51,0	63,0	7	6,0	22,0	47,0	22,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R220.29-0040	220.17-689	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29-0050-0063	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.29-06 – Insert selection – mm/Inch

R217/220.29-06 – Insert selection – mm/Inch							
Square shoulder and slot milling cutters	SMG		a _p	f _z			
			100%	70%	30%	10%	
	P1	RPHT1204M0T-6-M08 MP2501	2,5 0.10	0,25 0.010	0,25 0.010	0,28 0.011	0,46 0.018
	P2	RPHT1204M0T-6-M08 MP2501	2,5 0.10	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
	P3	RPHT1204M0T-6-M08 MP2501	2,5 0.10	0,24 0.0095	0,24 0.0095	0,28 0.011	0,44 0.017
	P4	RPKT1204M0T-6-M15 MP2501	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	P5	RPKT1204M0T-6-M15 MP2501	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	P6	RPKT1204M0T-6-M15 MP2501	2,5 0.10	0,42 0.017	0,42 0.017	0,50 0.020	0,80 0.032
	P7	RPKT1204M0T-6-M15 MP2501	2,5 0.10	0,42 0.017	0,42 0.017	0,50 0.020	0,80 0.032
	P8	RPHT1204M0T-6-M13 MS2500	2,5 0.10	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
	P11	RPHT1204M0T-6-M13 MS2500	2,5 0.10	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
	P12	RPHT1204M0T-4-M13 MS2500	1,9 0.075	0,28 0.011	0,28 0.011	0,34 0.013	0,55 0.022
	M1	RPHT1204M0T-6-ME07 MS2050	2,5 0.10	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
	M2	RPHT1204M0T-6-ME07 MS2050	2,5 0.10	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
	M3	RPHT1204M0T-6-ME07 MS2050	1,9 0.075	0,18 0.0070	0,18 0.0070	0,22 0.0085	0,34 0.013
	M4	RPHT1204M0T-6-M08 MP3501	1,4 0.055	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,38 0.015
	M5	RPHT1204M0T-6-M08 MP3501	1,4 0.055	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,38 0.015
	K1	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,48 0.019	0,48 0.019	0,55 0.022	0,90 0.036
	K2	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	K3	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	K4	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	K5	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
	K6	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
	K7	RPKT1204M0T-6-M15 MK2050	2,5 0.10	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
	N1	RPHT1204M0-6-E05 H25	2,5 0.10	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
	N2	RPHT1204M0-6-E05 H25	2,5 0.10	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
	N3	RPHT1204M0-6-E05 H25	2,5 0.10	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
	N11	RPHT1204M0-6-E05 H25	2,5 0.10	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
	S1	RPHT1204M0T-6-M13 MS2500	1,4 0.055	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
	S2	RPHT1204M0T-6-M13 MS2500	1,4 0.055	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
	S3	RPHT1204M0T-6-M13 MS2500	1,4 0.055	0,32 0.013	0,32 0.013	0,36 0.014	0,60 0.024
	S11	RPHT1204M0T-6-M13 MS2050	1,7 0.065	0,36 0.014	0,36 0.014	0,40 0.016	0,65 0.026
	S12	RPHT1204M0T-6-M13 MS2050	1,7 0.065	0,36 0.014	0,36 0.014	0,40 0.016	0,65 0.026
	S13	RPHT1204M0T-6-M13 MS2050	1,4 0.055	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
	H5	RPKW1204M0T-6-MD10 MH1051	1,9 0.075	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
	H8	RPKW1204M0T-6-MD10 MH1051	1,7 0.065	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
	H11	RPKW1204M0T-6-MD10 MH1051	1,9 0.075	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
	H12	RPHT1204M0T-6-M13 MP3501	1,7 0.065	0,24 0.0095	0,24 0.0095	0,26 0.010	0,42 0.017

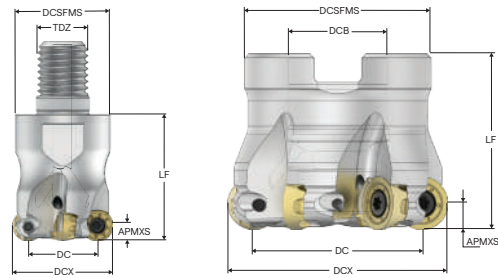
SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R217/220.29-06 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MH1051				MK2050				MP3000				MS2050				F40M				MP2051				MP2050				Square should and slot mill cutters
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	
P1	—	—	—	—	275	315	380	440	360	410	470	540	255	290	345	400	315	345	395	440	290	335	445	540	280	325	390	455	Helical milling cutters
	—	—	—	—	900	1025	1250	1450	1175	1350	1550	1775	840	950	1125	1300	1025	1125	1300	1450	950	1100	1450	1775	920	1075	1275	1500	
P2	—	—	—	—	265	300	360	430	350	395	455	520	250	280	340	390	310	335	385	430	280	325	430	520	275	315	380	445	Helical milling cutters
	—	—	—	—	870	980	1175	1400	1150	1300	1500	1700	820	920	1125	1275	1025	1100	1275	1400	920	1075	1400	1700	900	1025	1250	1450	
P3	—	—	—	—	230	265	315	375	305	345	395	450	220	245	295	345	275	295	340	375	255	290	385	470	240	275	330	395	Helical milling cutters
	—	—	—	—	750	870	1025	1225	1000	1125	1300	1475	720	800	970	1125	900	970	1125	1225	840	950	1275	1550	790	900	1075	1300	
P4	—	—	—	—	205	235	285	330	265	300	350	395	195	215	260	305	240	270	310	350	225	255	340	410	210	240	290	345	Helical milling cutters
	—	—	—	—	670	770	940	1075	870	980	1150	1300	640	710	850	1000	790	890	1025	1150	740	840	1125	1350	690	790	950	1125	
P5	390	440	540	640	200	225	270	320	260	290	335	380	185	205	255	290	230	250	285	315	215	245	330	395	200	230	285	330	Face milling cutters
	1275	1450	1775	2100	660	740	890	1050	850	950	1100	1250	610	670	840	950	750	820	940	1025	710	800	1075	1300	660	750	940	1075	
P6	435	495	610	720	220	255	305	355	290	330	375	425	210	240	285	325	255	280	320	355	250	285	375	440	230	265	315	370	Face milling cutters
	1425	1625	2000	2350	720	840	1000	1175	950	1075	1225	1400	690	790	940	1075	840	920	1050	1175	820	940	1225	1450	750	870	1025	1225	
P7	410	465	580	680	210	240	290	335	275	310	355	405	200	225	270	310	245	265	300	335	235	270	350	415	215	250	300	350	Face milling cutters
	1350	1525	1900	2225	690	790	950	1100	900	1025	1175	1325	660	740	890	1025	800	870	980	1100	770	890	1150	1350	710	820	980	1150	
P8	375	425	530	630	195	220	265	315	255	290	330	380	185	205	250	290	230	250	285	315	215	245	320	395	200	230	280	330	Face milling cutters
	1225	1400	1750	2075	640	720	870	1025	840	950	1075	1250	610	670	820	950	750	820	940	1025	710	800	1050	1300	660	750	920	1075	
P11	400	455	560	660	205	235	280	330	265	300	345	390	195	220	260	300	235	255	295	325	215	265	375	490	210	240	290	340	Face milling cutters
	1300	1500	1825	2175	670	770	920	1075	870	980	1125	1275	640	720	850	980	770	840	970	1075	710	870	1225	1600	690	790	950	1125	
P12	280	315	380	445	135	150	185	215	165	185	205	230	130	145	175	195	155	165	190	205	160	200	265	335	140	160	190	220	Face milling cutters
	920	1025	1250	1450	445	490	610	710	540	610	670	750	425	475	570	640	510	540	620	670	520	660	870	1100	460	520	620	720	
M1	—	—	—	—	—	—	—	—	225	260	310	365	190	215	260	305	210	240	285	335	230	285	415	540	195	225	270	320	Disc milling cutters
	—	—	—	—	—	—	—	—	740	850	1025	1200	620	710	850	1000	690	790	940	1100	750	940	1350	1775	640	740	890	1050	
M2	—	—	—	—	—	—	—	—	190	220	260	305	155	175	215	250	170	200	235	275	195	240	360	465	160	185	225	265	Disc milling cutters
	—	—	—	—	—	—	—	—	620	720	850	1000	510	570	710	820	560	660	770	900	640	790	1175	1525	520	610	740	870	
M3	—	—	—	—	—	—	—	—	150	175	205	240	125	145	175	205	140	160	190	220	180	220	300	395	130	150	180	215	Disc milling cutters
	—	—	—	—	—	—	—	—	490	570	670	790	410	475	570	670	460	520	620	720	590	720	980	1300	425	490	590	710	
M4	—	—	—	—	—	—	—	—	115	135	155	185	100	110	135	160	105	120	145	175	145	175	240	310	105	120	140	165	Disc milling cutters
	—	—	—	—	—	—	—	—	375	445	510	610	330	360	445	520	345	395	475	570	475	570	790	1025	345	395	460	540	
M5	—	—	—	—	—	—	—	—	95	110	130	155	80	95	115	135	90	100	120	145	120	150	200	260	85	100	120	140	High feed milling cutters
	—	—	—	—	—	—	—	—	310	360	425	510	260	310	375	445	295	330	395	475	395	490	660	850	280	330	395	460	
K1	510	570	720	860	285	325	390	465	240	275	330	385	—	—	—	—	205	235	280	330	—	—	—	—	—	—	—	—	High feed milling cutters
	1675	1875	2350	2825	940	1075	1275	1525	790	900	1075	1275	—	—	—	—	670	770	920	1075	—	—	—	—	—	—	—	—	
K2	470	530	660	770	255	295	350	410	215	250	295	345	—	—	—	—	180	210	250	290	—	—	—	—	—	—	—	—	High feed milling cutters
	1550	1750	2175	2525	840	970	1150	1350	710	820	970	1125	—	—	—	—	590	690	820	950	—	—	—	—	—	—	—	—	
K3	400	450	560	650	215	250	295	350	180	210	250	295	—	—	—	—	155	175	210	245	—	—	—	—	—	—	—	—	Copy milling cutters
	1300	1475	1825	2125	710	820	970	1150	590	690	820	970	—	—	—	—	510	570	690	800	—	—	—	—	—	—	—	—	
K4	380	430	530	630	205	235	285	330	175	200	235	280	—	—	—	—	145	170	200	235	—	—	—	—	—	—	—	—	Copy milling cutters
	1250	1400	1750	2075	670	770	940	1075	570	660	770	920	—	—	—	—	475	560	660	770	—	—	—	—	—	—	—	—	
K5	235	265	330	385	125	145	175	205	105	120	145	170	—	—	—	—	90	105	125	145	—	—	—	—	—	—	—	—	Copy milling cutters
	770	870	1075	1275	410	475	570	670	345	395	475	560	—	—	—	—	295	345	410	475	—	—	—	—	—	—	—	—	
K6	335	380	470	550	180	210	250	295	155	175	210	245	—	—	—	—	130	150	175	205	—	—	—	—	—	—	—	—	Copy milling cutters
	1100	1250	1550	1800	590	690	820	970	510	570	690	800	—	—	—	—	425	490	570	670	—	—	—	—	—	—	—	—	
K7	300	340	425	495	160	185	225	260	135	155	185	215	—	—	—	—	115	130	155	185	—	—	—	—	—	—	—	—	Copy milling cutters
	980	1125	1400	1625	520	610	740	850	445	510	610	710	—	—	—	—	375	425	510	610	—	—	—	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	1800	2075	2475	2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	5																				

R217/220.29-06 – Cutting data v _C = (m/min)/(sf/min)																									
Cutters	SMG	H25				MP1501				MP2501				MS2500				MP3501				MM4500			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	—	—	—	—	390	430	500	570	380	420	495	560	385	425	500	570	360	395	465	530	265	300	350	400
		—	—	—	—	1275	1400	1650	1875	1250	1375	1625	1825	1275	1400	1650	1875	1175	1300	1525	1750	870	980	1150	1300
Helical milling cutters	P2	—	—	—	—	380	420	490	550	370	405	480	540	375	415	490	560	350	385	450	510	260	290	340	385
	P3	—	—	—	—	1250	1375	1600	1800	1225	1325	1575	1775	1225	1350	1600	1825	1150	1275	1475	1675	850	950	1125	1275
	P4	—	—	—	—	330	365	430	485	325	355	420	475	330	365	430	490	305	335	395	450	225	255	295	335
	P5	—	—	—	—	1075	1200	1400	1600	1075	1175	1375	1550	1075	1200	1400	1600	1000	1100	1300	1475	740	840	970	1100
	P6	—	—	—	—	295	320	380	430	285	315	370	420	290	320	375	430	270	295	350	400	215	240	280	320
Face milling cutters	P7	—	—	—	—	970	1050	1250	1400	940	1025	1225	1375	950	1050	1225	1400	890	970	1150	1300	710	790	920	1050
	P8	—	—	—	—	285	315	365	410	275	305	360	400	275	305	365	410	260	285	340	380	195	215	250	280
	P11	—	—	—	—	940	1025	1200	1350	900	1000	1175	1300	900	1000	1200	1350	850	940	1125	1250	640	710	820	920
	P12	—	—	—	—	320	350	410	460	310	340	400	450	315	350	410	460	295	325	380	425	215	245	280	315
	P12	—	—	—	—	1050	1150	1350	1500	1025	1125	1300	1475	1025	1150	1350	1500	970	1075	1250	1400	710	800	920	1025
Disc milling cutters	M1	—	—	—	—	300	330	390	435	295	325	380	425	300	330	385	435	280	305	360	400	205	230	265	300
	M2	—	—	—	—	980	1075	1275	1425	970	1075	1250	1400	980	1075	1275	1425	920	1000	1175	1300	670	750	870	980
	M3	—	—	—	—	280	310	360	410	270	300	355	400	275	305	360	410	260	285	335	380	190	215	245	280
	M4	—	—	—	—	920	1025	1175	1350	890	980	1175	1300	900	1000	1175	1350	850	940	1100	1250	620	710	800	920
	M5	—	—	—	—	290	320	375	420	285	315	370	415	290	320	375	425	270	300	350	390	200	225	255	290
High feed milling cutters	K1	—	—	—	—	950	1050	1225	1375	940	1025	1225	1350	950	1050	1225	1400	890	980	1150	1275	660	740	840	950
	K2	—	—	—	—	195	210	245	275	190	205	245	270	190	210	245	270	180	200	230	250	120	140	155	170
	K3	—	—	—	—	640	690	800	900	620	670	800	890	620	690	800	890	590	660	750	820	395	460	510	560
	M1	—	—	—	—	—	—	—	—	190	220	265	310	220	250	300	355	190	215	260	305	170	195	230	270
	M2	—	—	—	—	—	—	—	—	620	720	870	1025	720	820	980	1175	620	710	850	1000	560	640	750	890
Copy milling cutters	K4	—	—	—	—	—	—	—	—	160	180	220	255	180	205	250	295	155	175	215	250	140	160	195	225
	K5	—	—	—	—	—	—	—	—	520	590	720	840	590	670	820	970	510	570	710	820	460	520	640	740
	K6	—	—	—	—	—	—	—	—	130	145	180	210	145	170	200	240	125	145	175	205	115	130	155	185
	K7	—	—	—	—	—	—	—	—	425	475	590	690	475	560	660	790	410	475	570	670	375	425	510	610
	K8	—	—	—	—	—	—	—	—	100	115	140	165	115	130	155	185	100	110	135	160	85	100	120	140
Plunge milling cutters	N1	—	—	—	—	—	—	—	—	330	375	460	540	375	425	510	610	330	360	445	520	280	330	395	460
	N2	—	—	—	—	—	—	—	—	85	95	115	135	95	110	130	155	85	95	115	135	70	80	100	115
	N3	—	—	—	—	—	—	—	—	280	310	375	445	310	360	425	510	280	310	375	445	230	260	330	375
	N4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	385	420	495	560	375	410	485	550	240	275	335	390	355	390	455	520	—	—	—	—
	S2	—	—	—	—	1275	1375	1625	1825	1225	1350	1600	1800	790	900	1100	1275	1175	1275	1500	1700	—	—	—	—
	S3	—	—	—	—	345	380	445	495	335	370	435	485	215	245	300	350	310	345	410	460	—	—	—	—
	S4	—	—	—	—	1125	1250	1450	1625	1100	1225	1425	1600	710	800	980	1150	1025	1125	1350	1500	—	—	—	—
	S5	—	—	—	—	290	320	375	420	285	310	365	410	180	205	250	295	265	290	345	390	—	—	—	—
Spot facing cutters	F1	—	—	—	—	950	1050	1225	1375	940	1025	1200	1350	590	670	820	970	870	950	1125	1275	—	—	—	—
	F2	—	—	—	—	275	305	355	400	270	300	350	390	170	195	240	280	250	275	330	370	—	—	—	—
	F3	—	—	—	—	900	1000	1175	1300	890	980	1150	1275	560	640	790	920	820	900	1075	1225	—	—	—	—
	F4	—	—	—	—	170	190	220	250	165	185	215	245	105	120	145	170	155	170	200	225	—	—	—	—
	F5	—	—	—	—	560	620	720	820	540	610	710	800	345	395	475	560	510	560	660	740	—	—	—	—
Inserts	I1	—	—	—	—	245	270	315	355	240	260	310	345	150	175	210	250	220	245	290	325	—	—	—	—
	I2	—	—	—	—	800	890	1025	1175	790	850	1025	1125	490	570	690	820	720	800	950	1075	—	—	—	—
	I3	—	—	—	—	220	240	280	320	215	235	275	315	135	155	185	220	200	220	255	290	—	—	—	—
	I4	—	—	—	—	720	790	920	1050	710	770	900	1025	445	510	610	720	660	720	840	950	—	—	—	—
	I5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Square shoulder and slot milling cutters	S6	1575	1800	2150	2525	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S7	5175	5900	7050	8275	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S8	640	730	870	1025	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S9	2100	2400	2850	3375	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S10	425	490	580	680	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	C1	1400	1600	1900	2225	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	C2	485	560	660	780	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	C3	1600	1825	2175	2550	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	C4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	C5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	F6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Square shoulder and slot milling cutters	S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S14	—	—	—	—	—																			

R217/220.29I-08 – Metric



—For insert selection and cutting data recommendations, see page(s) 708-710
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1632.RE-08.2A	03278975	Combimaster	15,9	32,0	2	8,0	—	30,0	M16	—	40,0	62,75	17,8	47,8	62,0	12200	0,3	RP..1605
R217.29I-1640.RE-08.3A	03278976	Combimaster	24,2	40,0	3	8,0	—	30,0	M16	—	40,0	62,75	2,4	64,4	78,0	10900	0,3	RP..1605
R217.29I-2040.RE-08.3A	03278977	Combimaster	24,2	40,0	3	8,0	—	36,5	M20	—	40,0	67,0	2,4	64,4	78,0	10900	0,3	RP..1605
R220.29I-0050-08.4A	03278978	Arbor	34,2	50,0	4	8,0	22,0	41,0	—	22,0	50,0	—	4,8	84,4	98,0	9700	0,4	RP..1605
R220.29I-0052-08.4A	03278979	Arbor	36,2	52,0	4	8,0	22,0	41,0	—	22,0	50,0	—	5,7	88,4	102,0	9600	0,4	RP..1605
R220.29I-0063-08.4A	03278980	Arbor	47,1	63,0	4	8,0	22,0	49,0	—	22,0	50,0	—	7,5	110,2	124,0	8700	0,6	RP..1605
R220.29I-0063-08.5A	03278981	Arbor	47,1	63,0	5	8,0	22,0	49,0	—	22,0	50,0	—	7,1	110,2	124,0	8700	0,7	RP..1605
R220.29I-0063-08.6A	03278982	Arbor	47,1	63,0	6	8,0	22,0	49,0	—	22,0	50,0	—	7,1	110,2	124,0	8700	0,6	RP..1605
R220.29I-0066-08.6A	03278984	Arbor	50,0	66,0	6	8,0	27,0	61,0	—	27,0	50,0	—	6,7	116,0	130,0	8400	0,8	RP..1605
R220.29I-0066-08.5A	03278983	Arbor	50,1	66,0	5	8,0	27,0	61,0	—	27,0	50,0	—	6,9	116,2	130,0	8400	0,8	RP..1605
R220.29I-0080-08.5A	03278985	Arbor	64,1	80,0	5	8,0	27,0	61,0	—	27,0	50,0	—	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0080-08.7A	03278986	Arbor	64,1	80,0	7	8,0	27,0	61,0	—	27,0	50,0	—	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0084-08.5A	03278987	Arbor	68,1	84,0	5	8,0	32,0	79,0	—	32,0	50,0	—	4,6	152,2	166,0	7500	1,4	RP..1605
R220.29I-0100-08.6MA	03278992	Arbor	84,1	100,0	6	8,0	32,0	79,0	—	32,0	50,0	—	3,8	184,2	198,0	6800	1,7	RP..1605
R220.29I-0100-08.8A	03278988	Arbor	84,1	100,0	8	8,0	32,0	79,0	—	32,0	50,0	—	3,7	184,2	198,0	6800	1,7	RP..1605
R220.29I-0125-08.6MA	03278991	Arbor	109,1	125,0	6	8,0	40,0	90,0	—	40,0	63,0	—	2,8	234,2	248,0	6100	3,1	RP..1605
R220.29I-0125-08.10A	03278989	Arbor	109,1	125,0	10	8,0	40,0	90,0	—	40,0	63,0	—	2,8	234,2	248,0	6100	3,2	RP..1605
R220.29I-8160-08.7MA	03278993	Arbor	143,1	160,0	7	8,0	40,0	90,0	—	40,0	63,0	—	2,2	302,2	318,0	5400	4,2	RP..1605
R220.29I-8160-08.10A	03278990	Arbor	144,1	160,0	10	8,0	40,0	90,0	—	40,0	63,0	—	2,1	304,2	318,0	5400	4,2	RP..1605

For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

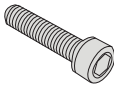
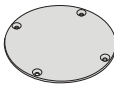
Plunge milling
cutters

Chamfer milling
cutters

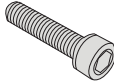
Spot facing
cutters

Inserts

Spare Parts, included in delivery

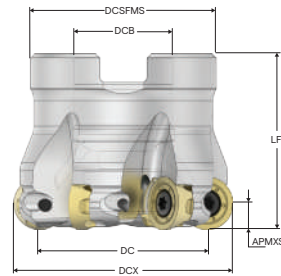
Square shoulder and slot milling cutters	For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Key	Lid	Lid screw	Shim key	Shim screw	Stop screw
											
Helical milling cutters	R217.29I-1632-2040	–	1/4HEX-T20PX50	C05010-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0050-0052	220.17-692M	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0063	MC6S10X40	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0066-0080	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0084	950E1645	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0100	950E1645	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
Face milling cutters	R220.29I-0100MA	950E1645	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	–	–	1/4HEX-H5.0X50	CA5010	SX2035-T05P
	R220.29I-0125	MC6S20X50	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
	R220.29I-0125MA	MC6S20X50	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	–	–	1/4HEX-H5.0X50	CA5010	SX2035-T05P
	R220.29I-8160	–	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	SC160-53	MF6S4X10	–	–	SX2035-T05P
	R220.29I-8160MA	–	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	SC160-53	MF6S4X10	1/4HEX-H5.0X50	CA5010	SX2035-T05P

Accessories

Disc milling cutters	For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
High feed milling cutters	R217/220.29I-1632-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
	R220.29I-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

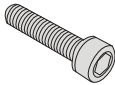
R220.29I-08 – Inch



- For insert selection and cutting data recommendations, see page(s) 708-710
- For complete insert programme, see page(s) 891
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.00-08.4A	03278994	Arbor	1.379	2.000	4	0.315	0.750	1.614	0.750	2.000	2,7	3.388	3.921	9600	0.880	RP..1605
R220.29I-02.50-08.5A	03278995	Arbor	1.876	2.500	5	0.315	0.750	1.811	0.750	2.000	7,0	4.382	4.921	8700	1.540	RP..1605
R220.29I-03.00-08.6A	03278996	Arbor	2.376	3.000	6	0.315	1.000	2.402	1.000	2.000	5,3	5.381	5.921	7700	2.200	RP..1605
R220.29I-04.00-08.7A	03278997	Arbor	3.375	4.000	7	0.315	1.500	3.504	1.500	2.500	3,6	7.380	7.921	6800	5.510	RP..1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Stop screw
					
R220.29I-02.00-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.29I-08 – Insert selection – Metric/ Inch

	SMG		a_p	f_z			
				100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	RPKT1605M0T-8-M12 MP2501	3,0 0.12	0,38 0.015	0,38 0.015	0,46 0.018	0,75 0.030
	P2	RPKT1605M0T-8-M12 MP2501	3,0 0.12	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
Helical milling cutters	P3	RPKT1605M0T-8-M12 MP2501	3,0 0.12	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028
	P4	RPKT1605M0T-8-M12 MP2501	3,0 0.12	0,36 0.014	0,36 0.014	0,44 0.017	0,70 0.028
	P5	RPKT1605M0T-8-M12 MP2501	3,0 0.12	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
	P6	RPKT1605M0T-8-M18 MS2500	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	P7	RPKT1605M0T-6-M18 MS2500	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	P8	RPKT1605M0T-6-M18 MS2500	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,1 0.044
Face milling cutters	P11	RPKT1605M0T-6-M18 MS2500	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	P12	RPKT1605M0T-6-M18 MS2500	2,5 0.10	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
	M1	RPHT1605M0T-8-M12 MS2050	3,0 0.12	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
	M2	RPHT1605M0T-8-M12 MS2050	3,0 0.12	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
Disc milling cutters	M3	RPHT1605M0T-8-M12 MS2050	2,5 0.10	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	M4	RPKT1605M0T-8-M12 MP3501	1,9 0.075	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	M5	RPKT1605M0T-8-M12 MP3501	1,9 0.075	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	K1	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,60 0.024	0,60 0.024	0,70 0.028	1,2 0.048
	K2	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
High feed milling cutters	K3	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	K4	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	K5	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,60 0.024	0,95 0.038
	K6	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
	K7	RPKT1605M0T-8-M18 MK2050	3,0 0.12	0,48 0.019	0,48 0.019	0,60 0.024	0,95 0.038
Copy milling cutters	N1	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
	N2	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
	N3	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
	N11	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
Plunge milling cutters	S1	RPKT1605M0T-8-M12 MS2500	1,9 0.075	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	S2	RPKT1605M0T-8-M12 MS2500	1,9 0.075	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	S3	RPKT1605M0T-8-M12 MS2500	1,9 0.075	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
	S11	RPHT1605M0T-8-M12 MS2050	2,5 0.10	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	S12	RPHT1605M0T-8-M12 MS2050	2,5 0.10	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
Chamfer milling cutters	S13	RPHT1605M0T-8-M12 MS2050	1,9 0.075	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
	H5	RPKW1605M0T-8-MD20 F15M	2,5 0.10	0,44 0.017	0,44 0.017	0,55 0.022	0,85 0.034
	H8	RPKW1605M0T-8-MD20 F15M	2,5 0.10	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
	H11	RPKW1605M0T-8-MD20 F15M	2,5 0.10	0,44 0.017	0,44 0.017	0,55 0.022	0,85 0.034
Spot facing cutters	H12	RPKW1605M0T-8-MD20 F15M	2,5 0.10	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed millin cutters

Copy milling cutters

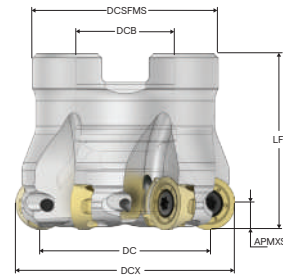
Plunge milling cutters

Chamfer millin
cuttersSpot facing cuttersInserts

R217/220.29I-08 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP1501				MP2501				MS2500				MP3501				MM4500			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	365 1200	405 1325	480 1575	550 1800	350 1150	395 1300	465 1525	530 1750	335 1100	380 1250	450 1475	520 1700	310 1025	345 1125	410 1350	475 1550	240 790	275 900	325 1075	370 1225
	P2	355 1175	395 1300	465 1525	530 1750	340 1125	385 1275	455 1500	520 1700	325 1075	370 1225	440 1450	500 1650	300 980	340 1125	400 1300	460 1500	230 750	260 850	310 1025	360 1175
Helical milling cutters	P3	315 1025	355 1175	415 1350	470 1550	305 1000	340 1125	405 1325	455 1500	290 950	330 1075	390 1275	445 1450	270 890	305 1000	360 1175	405 1325	200 660	230 750	275 900	315 1025
	P4	280 920	310 1025	365 1200	410 1350	270 890	300 980	355 1175	400 1300	255 840	290 950	345 1125	390 1275	240 790	265 870	315 1025	355 1175	195 640	220 720	265 870	300 980
Face milling cutters	P5	265 870	295 970	350 1150	395 1300	255 840	290 950	340 1125	385 1275	245 800	275 900	330 1075	375 1225	225 740	255 840	300 980	340 1125	170 560	195 640	230 750	265 870
	P6	295 970	335 1100	390 1275	450 1475	290 950	325 1075	380 1250	440 1450	275 900	310 1025	370 1225	425 1400	255 840	285 940	340 1125	390 1275	195 640	220 720	260 850	300 980
Disc milling cutters	P7	280 920	315 1025	370 1225	425 1400	270 890	305 1000	360 1175	415 1350	260 850	295 970	345 1125	405 1325	240 790	270 890	320 1050	370 1225	180 590	210 690	245 800	280 920
	P8	265 870	295 970	350 1150	395 1300	255 840	290 950	340 1125	385 1275	245 800	275 900	330 1075	375 1225	225 740	255 840	300 980	340 1125	170 560	190 620	230 750	265 870
High feed milling cutters	P11	275 900	305 1000	360 1175	415 1350	265 870	295 970	350 1150	405 1325	255 840	285 940	335 1100	390 1275	235 770	260 850	310 1025	360 1175	175 570	200 660	240 790	275 900
	P12	185 610	210 690	240 790	270 890	185 610	205 670	235 770	265 870	175 570	195 640	230 750	260 850	165 540	180 590	210 690	240 790	115 375	135 445	155 510	175 570
Copy milling cutters	M1	—	—	—	—	180 590	210 690	255 840	300 980	195 640	230 750	275 900	325 1075	170 560	195 640	235 770	280 920	150 490	175 570	210 690	250 820
	M2	—	—	—	—	150 490	175 570	210 690	245 800	165 540	190 620	230 750	265 870	140 460	165 540	195 640	230 750	125 410	145 475	175 570	205 670
Plunge milling cutters	M3	—	—	—	—	125 410	145 475	175 570	205 670	135 445	155 510	190 620	220 720	115 375	135 445	165 540	190 620	100 330	120 395	145 475	165 540
	M4	—	—	—	—	95 310	110 360	135 445	160 520	105 345	120 395	145 475	175 570	90 295	105 345	125 410	150 490	80 260	90 295	110 360	130 425
Spot facing cutters	M5	—	—	—	—	80 260	95 310	115 375	135 445	85 280	100 330	120 395	145 475	75 245	85 280	105 345	125 410	65 215	75 245	90 295	110 360
	K1	355 1175	400 1300	470 1550	540 1775	345 1125	385 1275	455 1500	520 1700	215 710	255 840	305 1000	360 1175	305 1000	340 1125	405 1325	465 1525	—	—	—	—
Chamfer milling cutters	K2	320 1050	360 1175	420 1375	475 1550	310 1025	350 1150	410 1350	465 1525	195 640	225 740	270 890	315 1025	275 900	310 1025	365 1200	410 1350	—	—	—	—
	K3	270 890	305 1000	355 1175	400 1300	265 870	295 970	345 1125	390 1275	165 540	190 620	230 750	270 890	235 770	260 850	310 1025	350 1150	—	—	—	—
Spot facing cutters	K4	260 850	290 950	340 1125	385 1275	250 820	280 920	330 1075	375 1225	155 510	180 590	220 720	255 840	220 720	250 820	295 970	335 1100	—	—	—	—
	K5	160 520	180 590	210 690	240 790	160 520	175 570	205 670	235 770	95 310	115 375	135 445	160 520	140 460	155 510	185 610	205 670	—	—	—	—
Plunge milling cutters	K6	230 750	255 840	300 980	340 1125	220 720	250 820	290 950	330 1075	140 460	160 520	195 640	225 740	195 640	220 720	260 850	295 970	—	—	—	—
	K7	210 690	235 770	270 890	305 1000	200 660	225 740	265 870	300 980	125 410	145 475	175 570	205 670	180 590	200 660	235 770	265 870	—	—	—	—
Spot facing cutters	N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	S1	—	—	—	—	—	—	—	—	50 165	60 195	70 230	85 280	42 140	48 155	60 195	70 230	24 80	28 90	34 110	40 130
	S2	—	—	—	—	—	—	—	—	41 135	48 155	60 195	70 230	34 110	39 130	47 155	55 180	20 65	23 75	27 90	32 105
Spot facing cutters	S3	—	—	—	—	—	—	—	—	36 120	42 140	50 165	60 195	30 100	35 115	42 140	48 155	17 55	20 65	24 80	28 90
	S11	—	—	—	—	—	—	—	—	70 230	80 260	100 330	115 375	60 195	70 230	80 260	95 310	34 110	39 130	47 155	55 180
Spot facing cutters	S12	—	—	—	—	—	—	—	—	49 160	55 180	70 230	80 260	40 130	47 155	55 180	65 215	31 100	36 120	44 145	50 165
	S13	—	—	—	—	—	—	—	—	29 95	33 110	40 130	48 155	24 80	27 90	33 110	39 130	18 60	21 70	25 80	30 100
Spot facing cutters	H5	48 155	55 180	70 230	80 260	—	—	—	—	42 140	49 160	60 195	70 230	37 120	43 140	50 165	60 195	—	—	—	—
	H8	55 180	60 195	70 230	85 280	—	—	—	—	46 150	55 180	65 215	75 245	41 135	47 155	55 180	65 215	—	—	—	—
Inserts	H11	60 195	70 230	85 280	100 330	—	—	—	—	55 180	65 215	75 245	90 295	48 155	55 180	65 215	80 260	—	—	—	—
	H12	95 310	110 360	130 425	155 510	—	—	—	—	90 295	105 345	125 410	150 490	75 245	85 280	100 330	120 395	—	—	—	—

R220.29I-38 – Inch

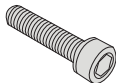


—For insert selection and cutting data recommendations, see page(s) 712-713
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.50-38-04A	10005910	Arbor	1.756	2.500	4	0.374	0.750	1.789	0.750	2.000	10,39	4.256	4.921	5800	1.320	RP..1906
R220.29I-03.00-38-06A	10005911	Arbor	2.256	3.000	6	0.374	1.000	2.289	1.000	2.000	7,69	5.256	5.921	5100	1.980	RP..1906
R220.29I-04.00-38-05A	10005912	Arbor	3.256	4.000	5	0.374	1.500	3.539	1.500	2.500	5,06	7.256	7.921	4500	5.070	RP..1906
R220.29I-04.00-38-06A	10005913	Arbor	3.256	4.000	6	0.374	1.500	3.539	1.500	2.500	5,06	7.256	7.921	4500	5.070	RP..1906
R220.29I-05.00-38-07A	10005914	Arbor	4.256	5.000	7	0.374	1.500	3.539	1.500	2.500	3,76	9.256	9.921	4000	6.830	RP..1906
R220.29I-05.00-38-09A	10005915	Arbor	4.256	5.000	9	0.374	1.500	3.539	1.500	2.500	3,76	9.256	9.921	4000	6.610	RP..1906

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Coolant screw	Insert key	Insert screw	Key
					
R220.29I-02.50	UC6S3/8UNFX11/2	SX2035-T05P	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50
R220.29I-03.00	UC6S1/2UNFX1-1/2	SX2035-T05P	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50
R220.29I-04.00-05.00	UC6S3/4UNFX1-1/4	SX2035-T05P	1/4HEX-T20PX90	C05013-T20P	1/4HEX-T05PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.29I-025 – Insert selection – Metric/ Inch

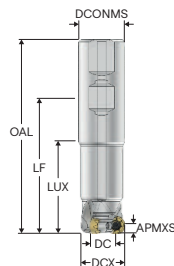
SMG		a_p	f_z			
			100%	30%	10%	5%
P1	RPHT190600T-6-M13 T350M	4,0	0,60	0,60	0,90	1,3
		0.16	0.024	0.024	0.036	0.050
P2	RPHT190600T-6-M13 T350M	4,0	0,60	0,60	0,90	1,3
		0.16	0.024	0.024	0.036	0.050
P3	RPHT190600T-6-M13 T350M	4,0	0,55	0,60	0,85	1,2
		0.16	0.022	0.024	0.034	0.048
P4	RPHT190600T-6-M13 MS2500	4,0	0,55	0,60	0,85	1,2
		0.16	0.022	0.024	0.034	0.048
P5	RPHT190600T-6-M13 MS2500	4,0	0,55	0,55	0,85	1,2
		0.16	0.022	0.022	0.034	0.048
P6	RPHT190600T-6-M13 MS2500	4,0	0,55	0,55	0,80	1,2
		0.16	0.022	0.022	0.032	0.048
P7	RPHT190600T-6-M13 MS2500	4,0	0,55	0,55	0,80	1,2
		0.16	0.022	0.022	0.032	0.048
P8	RPHT190600T-6-M13 MS2500	4,0	0,55	0,60	0,85	1,2
		0.16	0.022	0.024	0.034	0.048
P11	RPHT190600T-6-M13 MS2500	4,0	0,55	0,55	0,80	1,2
		0.16	0.022	0.022	0.032	0.048
P12	RPHT190600T-6-M13 MS2500	3,0	0,42	0,40	0,55	0,80
		0.12	0.017	0.016	0.022	0.032
M1	RPHT190600T-6-M13 F40M	4,0	0,60	0,60	0,90	1,3
		0.16	0.024	0.024	0.036	0.050
M2	RPHT190600T-6-M13 F40M	4,0	0,55	0,55	0,85	1,2
		0.16	0.022	0.022	0.034	0.048
M3	RPHT190600T-6-M13 F40M	3,0	0,50	0,48	0,65	0,95
		0.12	0.020	0.019	0.026	0.038
M4	RPHT190600T-6-M13 F40M	2,5	0,48	0,50	0,60	0,80
		0.10	0.019	0.020	0.024	0.032
M5	RPHT190600T-6-M13 F40M	2,5	0,48	0,50	0,60	0,80
		0.10	0.019	0.020	0.024	0.032
S1	RPHT190600T-6-M13 MS2500	2,5	0,48	0,50	0,60	0,80
		0.10	0.019	0.020	0.024	0.032
S2	RPHT190600T-6-M13 MS2500	2,5	0,48	0,50	0,60	0,80
		0.10	0.019	0.020	0.024	0.032
S3	RPHT190600T-6-M13 MS2500	2,5	0,44	0,46	0,55	0,75
		0.10	0.017	0.018	0.022	0.030
S11	RPHT190600T-6-M13 MS2050	2,5	0,55	0,50	0,65	0,95
		0.10	0.022	0.020	0.026	0.038
S12	RPHT190600T-6-M13 MS2050	2,5	0,55	0,50	0,65	0,95
		0.10	0.022	0.020	0.026	0.038
S13	RPHT190600T-6-M13 MS2050	2,5	0,48	0,50	0,60	0,80
		0.10	0.019	0.020	0.024	0.032

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.29I-025 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	T350M				F40M				MS2050				MS2500				Square shoulder and slot milling cutters
	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%	
P1	215	305	355	370	190	265	310	320	205	290	340	355	270	380	445	465	
	710	1000	1175	1225	620	870	1025	1050	670	950	1125	1175	890	1250	1450	1525	
P2	210	295	345	360	185	260	300	315	200	285	330	345	265	370	435	450	Helical milling cutters
	690	970	1125	1175	610	850	980	1025	660	940	1075	1125	870	1225	1425	1475	
P3	185	255	305	320	160	220	265	275	180	245	290	305	235	320	380	400	Helical milling cutters
	610	840	1000	1050	520	720	870	900	590	800	950	1000	770	1050	1250	1300	
P4	165	225	270	280	145	195	235	245	155	215	255	270	205	280	335	350	Helical milling cutters
	540	740	890	920	475	640	770	800	510	710	840	890	670	920	1100	1150	
P5	155	220	255	265	135	190	220	230	150	210	245	255	195	275	320	335	Helical milling cutters
	510	720	840	870	445	620	720	750	490	690	800	840	640	900	1050	1100	
P6	175	250	290	300	155	215	255	260	170	235	280	285	220	310	365	375	Face milling cutters
	570	820	950	980	510	710	840	850	560	770	920	940	720	1025	1200	1225	
P7	165	235	275	285	145	205	240	245	160	225	265	270	210	295	345	355	Face milling cutters
	540	770	900	940	475	670	790	800	520	740	870	890	690	970	1125	1175	
P8	155	215	255	265	135	185	220	230	150	205	245	255	195	270	320	335	Face milling cutters
	510	710	840	870	445	610	720	750	490	670	800	840	640	890	1050	1100	
P11	160	225	270	275	140	200	235	240	155	215	255	265	200	285	335	345	Face milling cutters
	520	740	890	900	460	660	770	790	510	710	840	870	660	940	1100	1125	
P12	110	150	175	185	95	130	155	160	105	145	170	175	135	190	220	230	Disc milling cutters
	360	490	570	610	310	425	510	520	345	475	560	570	445	620	720	750	
M1	160	230	265	280	145	210	245	250	160	230	265	275	190	265	310	325	Disc milling cutters
	520	750	870	920	475	690	800	820	520	750	870	900	620	870	1025	1075	
M2	135	190	220	230	120	175	200	210	135	190	220	230	155	220	255	270	Disc milling cutters
	445	620	720	750	395	570	660	690	445	620	720	750	510	720	840	890	
M3	110	155	180	190	100	140	165	170	110	155	180	190	130	180	210	220	Disc milling cutters
	360	510	590	620	330	460	540	560	360	510	590	620	425	590	690	720	
M4	150	210	245	260	80	110	125	135	85	120	140	150	100	140	165	175	High feed milling cutters
	490	690	800	850	260	360	410	445	280	395	460	490	330	460	540	570	
M5	150	210	245	260	65	90	105	115	70	100	115	125	85	115	135	145	High feed milling cutters
	490	690	800	850	215	295	345	375	230	330	375	410	280	375	445	475	
S1	41	55	65	70	37	50	60	65	41	55	65	70	49	70	80	85	High feed milling cutters
	135	180	215	230	120	165	195	215	135	180	215	230	160	230	260	280	
S2	33	45	55	55	30	41	48	50	33	45	55	55	40	55	65	70	High feed milling cutters
	110	150	180	180	100	135	155	165	110	150	180	180	130	180	215	230	
S3	29	40	47	49	26	36	42	45	29	40	47	49	35	48	55	60	High feed milling cutters
	95	130	155	160	85	120	140	150	95	130	155	160	115	155	180	195	
S11	55	80	90	95	50	70	85	85	55	80	90	95	70	95	110	115	Copy milling cutters
	180	260	295	310	165	230	280	280	180	260	295	310	230	310	360	375	
S12	39	55	65	65	35	49	60	60	39	55	65	65	47	65	80	80	Copy milling cutters
	130	180	215	215	115	160	195	195	130	180	215	215	155	215	260	260	
S13	23	31	37	39	21	29	33	36	23	31	37	39	28	38	45	48	Copy milling cutters
	75	100	120	130	70	95	110	120	75	100	120	130	90	125	150	155	
																	Plunge milling cutters
																	Chamfer milling cutters
																	Spot facing cutters
																	Inserts

R217.29I-10 – Metric



- For insert selection and cutting data recommendations, see page(s) 719–721
- For complete insert programme, see page(s) 891
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCONMS mm	LF mm	LS mm	LUX mm	LPR mm	OAL mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R217.29I-3250.3-10.3.080A	10295636	Weldon	30,0	50,0	3	10,0	32,0	104,0	86,5	78,5	78,5	139,5	9,57	80,0	98,0	7800	0,9	RP..2006

Spare Parts, included in delivery

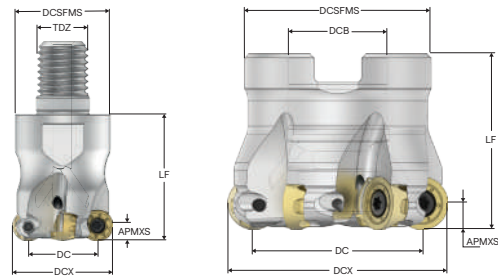
For cutter	Insert key	Insert screw
		
	1/4HEX-T20PX50	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Key	Stop screw	Torque key
					
	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R220.29I-10 – Metric



- For insert selection and cutting data recommendations, see page(s) 719–721
- For complete insert programme, see page(s) 891
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DHUB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.29I-1640.RE-10-2A	10254927	Combimaster	20,0	40,0	2	10,0	10,0	–	30,0	M16	–	40,0	15,57	60,0	78,0	8800	0,2	RP..2006
R217.29I-2050.RE-10-3A	10254928	Combimaster	30,0	50,0	3	10,0	10,0	–	36,5	M20	–	45,0	9,57	80,0	98,0	7800	0,4	RP..2006
R220.29I-0063-10-4A	10254929	Arbor	43,0	63,0	4	10,0	10,0	50,0	49,0	–	22,0	50,0	5,65	106,0	124,0	7000	0,6	RP..2006
R220.29I-0063-10-5A	10254930	Arbor	43,0	63,0	5	10,0	10,0	50,0	49,0	–	22,0	50,0	5,65	106,0	124,0	7000	0,6	RP..2006
R220.29I-0066-10-5A	10254931	Arbor	46,0	66,0	5	10,0	10,0	62,0	61,0	–	27,0	50,0	7,6	112,0	130,0	6800	0,7	RP..2006
R220.29I-0080-10-5A	10254932	Arbor	60,0	80,0	5	10,0	10,0	62,0	61,0	–	27,0	50,0	5,55	140,0	158,0	6200	0,9	RP..2006
R220.29I-0080-10-6A	10254933	Arbor	60,0	80,0	6	10,0	10,0	62,0	61,0	–	27,0	50,0	5,55	140,0	158,0	6200	0,9	RP..2006
R220.29I-0100-10-5MA	10254934	Arbor	80,0	100,0	5	10,0	10,0	80,0	79,0	–	32,0	50,0	4,0	180,0	198,0	5500	1,6	RP..2006
R220.29I-0100-10-7A	10254935	Arbor	80,0	100,0	7	10,0	10,0	80,0	79,0	–	32,0	50,0	4,0	180,0	198,0	5500	1,6	RP..2006
R220.29I-0125-10-6MA	10254936	Arbor	105,0	125,0	6	10,0	10,0	91,0	90,0	–	40,0	63,0	2,97	230,0	248,0	4900	2,9	RP..2006
R220.29I-0125-10-8A	10254937	Arbor	105,0	125,0	8	10,0	10,0	91,0	90,0	–	40,0	63,0	2,97	230,0	248,0	4900	2,9	RP..2006
R220.29I-8160-10-7MA	10254938	Arbor	140,0	160,0	7	10,0	10,0	120,0	90,0	–	40,0	63,0	2,18	300,0	318,0	4400	4,3	RP..2006
R220.29I-8200-10-9MA	10254939	Arbor	180,0	200,0	9	10,0	10,0	160,0	130,0	–	60,0	63,0	1,67	380,0	398,0	3900	5,5	RP..2006
R220.29I-8250-10-10MA	10254942	Arbor	230,0	250,0	10	10,0	10,0	210,0	130,0	–	60,0	63,0	1,29	480,0	498,0	3500	4,4	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

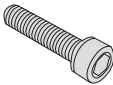
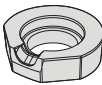
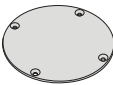
Plunge milling
cutters

Chamfer milling
cutters

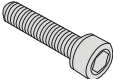
Spot facing
cutters

Inserts

Spare Parts, included in delivery

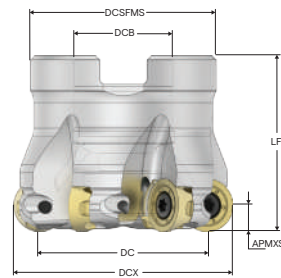
Square shoulder and slot milling cutters	For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Lid	Lid screw	Shim key	Shim screw
									
Helical milling cutters	R217.29I	–	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
	R220.29I-0100	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–	–	–	–
	R220.29I-0100MA	MLC6S16X35	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	–	–	1/4HEX-H5.0X50	CA5010
	R220.29I-0125	MLC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–	–	–	–
	R220.29I-0125MA	MLC6S20X40	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	–	–	1/4HEX-H5.0X50	CA5010
	R220.29I-063	MC6S10X40	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
Face milling cutters	R220.29I-066	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
	R220.29I-080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
	R220.29I-8160	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC160-53	MF6S4X10	1/4HEX-H5.0X50	CA5010
	R220.29I-8200	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC-200-90	MF6S4X10	1/4HEX-H5.0X50	CA5010
	R220.29I-8250	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC-250-90	MF6S4X10	1/4HEX-H5.0X50	CA5010

Accessories

Disc milling cutters	For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Key	Stop screw	Torque key
							
High feed milling cutters	R217.29I	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
	R220.29I-063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
	R220.29I-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
	R220.29I-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R220.29I-10 – Inch

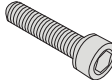


- For insert selection and cutting data recommendations, see page(s) 719–721
- For complete insert programme, see page(s) 891
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DHUB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.50-10-4A	10254940	Arbor	1.713	2.500	4	0.394	0.750	1.829	1.789	0.750	2.000	5,8	4.213	4.921	7000	1.320	RP..2006
R220.29I-03.00-10-5A	10254941	Arbor	2.213	3.000	5	0.394	1.000	2.329	2.289	1.000	2.000	5,99	5.213	5.921	6300	1.760	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.29I-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Key	Stop screw	Torque key
					
R220.29I-02.50	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-03.00	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

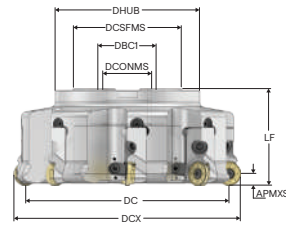
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R220.29I-10-CA – Metric



- For insert selection and cutting data recommendations, see page(s) 719–721
- For complete insert programme, see page(s) 891
- For ISO attribute explanation, see page 16

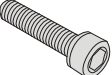
Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCB mm	DHUB mm	DCSFMS mm	DCONMS mm	LF mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R220.29I-0153-10-6CA	10254943	Arbor	133,0	153,0	6	10,0	40,0	91,0	90,0	40,0	80,0	1,83	286,0	304,0	4500	6,9	RP..2006
R220.29I-8188-10-8CA	10254944	Arbor	168,0	188,0	8	10,0	40,0	120,0	90,0	40,0	80,0	1,43	356,0	374,0	4000	8,2	RP..2006
R220.29I-8228-10-10CA	10254945	Arbor	208,0	228,0	10	10,0	60,0	164,0	130,0	60,0	80,0	1,15	436,0	454,0	3700	13,5	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Basic body	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Setting key	Wedge clamp	Wedge key	Wedge screw
													
R220.29I-0153	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	—	—	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P
R220.29I-8188	AU1114T-T15P	—	B-R220.21/29I-8188-8CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P
R220.29I-8228	AU1114T-T15P	—	B-R220.21/29I-8228-10CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Key	Stop screw	Torque key
						
R220.29I-0153	1/4HEX-T-HANDLE-5.0-14.0NM	—	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8188	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8228	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R217/220.29-10 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	
P1	RPKT2006M0T-8-ME12 MP2501	4,0 0.16	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028	Square shoulder and slot milling cutters
P2	RPKT2006M0T-8-ME12 MP2501	4,0 0.16	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028	
P3	RPKT2006M0T-8-ME12 MP2501	4,0 0.16	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028	Helical milling cutters
P4	RPKT2006M0T-8-M15 MP2501	4,0 0.16	0,44 0.017	0,44 0.017	0,50 0.020	0,85 0.034	
P5	RPKT2006M0T-8-M15 MP2501	4,0 0.16	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032	Face milling cutters
P6	RPKT2006M0T-8-M20 MP1501	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	
P7	RPKT2006M0T-8-M20 MP1501	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	Disc milling cutters
P8	RPKT2006M0T-8-M20 MP2501	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	
P11	RPKT2006M0T-8-ME12 MP3501	4,0 0.16	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026	High feed milling cutters
P12	RPKT2006M0T-8-M20 MP1501	3,0 0.12	0,46 0.018	0,46 0.018	0,55 0.022	0,85 0.034	
M1	RPHT2006M0T-8-M13 MS2050	4,0 0.16	0,42 0.017	0,42 0.017	0,48 0.019	0,80 0.032	Copy milling cutters
M2	RPHT2006M0T-8-M13 MS2050	4,0 0.16	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028	
M3	RPHT2006M0T-8-M13 MS2050	3,0 0.12	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026	Plunge milling cutters
M4	RPKT2006M0T-8-ME12 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022	
M5	RPKT2006M0T-8-ME12 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022	Chamfer milling cutters
K1	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,65 0.026	0,65 0.026	0,75 0.030	1,2 0.048	
K2	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	Spot facing cutters
K3	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	
K4	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	Inserts
K5	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,55 0.022	0,55 0.022	0,60 0.024	1,0 0.040	
K6	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044	Spot facing cutters
K7	RPKT2006M0T-8-M20 MK2050	4,0 0.16	0,55 0.022	0,55 0.022	0,60 0.024	1,0 0.040	
S1	RPKT2006M0T-8-ME12 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022	Spot facing cutters
S2	RPKT2006M0T-8-ME12 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022	
S3	RPKT2006M0T-8-ME12 MP3501	2,5 0.10	0,28 0.011	0,28 0.011	0,34 0.013	0,50 0.020	Spot facing cutters
S11	RPKT2006M0T-8-ME12 MS2050	3,0 0.12	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024	
S12	RPKT2006M0T-8-ME12 MS2050	3,0 0.12	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024	Spot facing cutters
S13	RPKT2006M0T-8-ME12 MS2050	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022	
H5	RPKW2006M0T-8-MD22 MP1501	3,0 0.12	0,50 0.020	0,50 0.020	0,60 0.024	0,90 0.036	Spot facing cutters
H8	RPKW2006M0T-8-MD22 MP1501	3,0 0.12	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028	
H11	RPKW2006M0T-8-MD22 MP1501	3,0 0.12	0,50 0.020	0,50 0.020	0,60 0.024	0,90 0.036	Spot facing cutters
H12	RPKW2006M0T-8-MD22 MP1501	3,0 0.12	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R217/220.29-10 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M				MK2050				MP3000				MS2050				F40M				MP2051				MP2050			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	195 640	220 720	275 900	320 1050	240 790	275 900	340 1125	400 1300	285 940	320 1050	400 1300	465 1525	260 850	290 950	345 1125	400 1300	260 850	280 920	335 1100	370 1225	315 1025	360 1175	480 1575	570 1875	285 940	325 1075	385 1275	455 1500
	P2	190 620	215 710	260 850	310 1025	235 770	270 890	330 1075	385 1275	275 900	315 1025	385 1275	445 1450	245 800	275 900	335 1100	390 1275	250 820	275 900	325 1075	360 1175	305 1000	350 1150	470 1550	550 1800	270 890	310 1025	375 1225	440 1450
Helical milling cutters	P3	165 540	190 620	230 750	270 890	205 670	235 770	285 940	340 1125	245 800	275 900	335 1100	395 1300	215 710	245 800	295 970	345 1125	220 720	240 790	285 940	320 1050	275 900	315 1025	415 1350	495 1625	235 770	270 890	330 1075	390 1275
	P4	145 475	170 560	200 660	240 790	180 590	210 690	255 840	300 980	215 710	245 800	300 980	350 1150	195 640	220 720	260 850	325 980	215 660	235 720	265 870	305 1000	240 790	275 900	365 1200	435 1425	210 690	245 800	290 950	345 1125
	P5	140 460	160 520	200 660	230 750	175 570	200 660	245 800	285 940	205 670	235 770	285 940	330 1075	185 610	210 690	250 820	290 950	190 620	210 690	240 790	270 890	240 790	275 900	350 1150	415 1350	200 660	230 750	280 920	330 1075
	P6	155 510	180 590	220 720	260 850	200 660	230 750	275 900	325 1075	240 790	270 890	320 1050	380 1250	210 690	235 770	285 940	325 1075	215 710	235 770	265 890	305 1000	240 790	275 890	390 1275	470 1550	225 740	260 850	315 1025	370 1225
Face milling cutters	P7	150 490	170 560	210 690	245 800	190 620	215 710	260 840	310 1025	225 740	255 800	305 1000	355 1175	195 640	220 720	265 870	305 1000	200 660	220 720	255 840	285 940	255 840	290 950	370 1225	440 1450	215 710	245 800	300 980	345 1125
	P8	140 460	160 520	195 640	230 750	175 570	200 660	245 790	285 940	205 670	235 770	280 920	330 1075	180 590	205 670	250 820	290 950	185 610	205 670	235 790	265 890	230 750	265 870	350 1150	415 1350	200 660	230 750	275 900	330 1075
	P11	145 475	165 540	205 670	240 790	185 610	210 690	255 840	300 980	220 720	245 800	295 970	345 1125	190 620	215 710	260 850	295 970	195 640	215 710	250 820	280 920	230 750	290 950	400 1300	520 1700	210 690	240 790	290 950	335 1100
	P12	—	—	—	—	120 395	140 460	165 540	200 660	145 475	165 540	195 640	220 720	130 425	145 475	175 570	200 660	130 425	140 460	165 540	185 610	165 540	205 670	275 900	355 1175	135 445	155 510	190 620	225 740
Disc milling cutters	M1	—	—	—	—	—	—	—	—	190 620	220 720	265 870	305 1000	185 610	215 710	260 850	300 970	180 590	205 670	250 820	290 950	250 820	310 1025	450 1475	580 1900	195 640	225 740	270 890	315 1025
	M2	—	—	—	—	—	—	—	—	155 510	180 590	215 710	255 840	155 510	175 570	215 710	250 820	150 490	170 560	205 670	240 790	220 720	275 900	375 1225	495 1625	160 520	185 610	225 740	260 850
	M3	—	—	—	—	—	—	—	—	130 425	145 475	175 570	205 670	125 410	145 475	175 570	205 670	120 395	140 460	165 540	195 620	190 620	235 750	320 1050	415 1350	135 445	155 490	180 590	215 710
	M4	—	—	—	—	—	—	—	—	100 330	115 375	135 445	160 520	100 330	110 360	135 445	160 520	95 310	110 360	130 425	150 490	155 510	190 620	255 840	325 1075	100 330	115 375	140 460	165 540
	M5	—	—	—	—	—	—	—	—	80 260	95 310	115 375	135 445	80 260	95 310	110 360	130 425	80 260	90 295	110 360	125 425	130 425	160 520	210 710	270 890	85 280	95 310	115 375	140 460
High feed milling cutters	K1	150 490	170 560	205 670	245 800	250 820	290 950	355 1175	420 1375	200 660	230 750	280 920	325 1075	—	—	—	—	175 570	200 660	245 800	285 940	—	—	—	—	—	—	—	—
	K2	135 445	150 490	190 620	220 740	225 840	255 840	320 1050	370 1225	175 570	205 670	245 800	290 950	—	—	—	—	155 510	180 590	215 710	255 840	—	—	—	—	—	—	—	—
	K3	115 375	130 425	160 520	185 610	190 620	220 720	270 890	310 1025	150 490	170 560	210 690	245 800	—	—	—	—	135 445	155 510	180 590	215 710	—	—	—	—	—	—	—	—
	K4	105 345	125 410	150 490	180 590	180 590	210 690	255 840	300 980	145 475	165 540	200 660	235 770	—	—	—	—	125 410	145 475	175 570	205 670	—	—	—	—	—	—	—	—
	K5	70 230	80 260	95 310	110 360	115 375	130 425	160 520	185 610	90 295	100 330	120 395	140 460	—	—	—	—	75 245	90 295	105 345	125 410	—	—	—	—	—	—	—	—
	K6	95 310	110 360	135 445	155 510	160 520	185 610	225 740	260 850	125 410	145 475	175 570	205 670	—	—	—	—	110 360	130 425	155 510	180 590	—	—	—	—	—	—	—	—
	K7	85 280	100 330	120 395	140 460	145 475	170 560	200 660	235 770	115 375	130 425	155 510	180 590	—	—	—	—	100 330	115 375	135 445	160 520	—	—	—	—	—	—	—	—
Plunge milling cutters	S1	—	—	—	—	—	—	—	—	46 150	55 180	65 215	75 245	46 150	50 165	65 215	75 245	44 145	50 165	60 195	70 230	55 180	60 195	75 245	85 280	50 165	55 180	70 230	80 260
	S2	—	—	—	—	—	—	—	—	37 120	42 140	50 165	60 195	37 120	42 140	50 165	60 195	35 115	40 130	49 160	55 180	43 140	49 160	55 180	60 200	40 130	46 150	55 180	65 215
	S3	—	—	—	—	—	—	—	—	33 110	37 120	45 150	55 180	32 105	37 120	44 145	55 180	31 100	35 115	43 140	50 165	38 125	43 140	50 165	60 195	35 115	40 130	48 155	60 195
	S11	—	—	—	—	—	—	—	—	65 215	75 245	90 295	105 345	65 215	75 245	85 280	105 345	60 195	70 230	85 280	100 330	75 245	85 280	100 330	120 395	70 230	80 260	95 310	115 375
	S12	—	—	—	—	—	—	—	—	45 150	50 165	60 195	75 245	44 145	50 165	60 195	70 230	42 140	48 155	60 195	70 230	50 165	60 195	70 230	80 260	49 160	55 180	65 215	80 260
Chamfer milling cutters	S13	—	—	—	—	—	—	—	—	26 85	30 100	36 120	42 140	26 85	29 95	35 115	42 140	25 80	28 90	34 110	40 130	30 100	34 110	41 135	48 155	28 90	32 105	39 130	46 150
	H5	32 105	37 120	45 150	55 180	41 135	47 155	55 180	70 230	40 130	46 150	55 180	65 215	—	—	—	—	37 120	42 140	50 165	60 195	—	—	—	—	—	—	—	—
	H8	35 115	40 130	49 160	55 180	45 150	50 165	60 195	75 245	42 140	49 160	55 180	65 215	—	—	—	—	40 130	46 150	55 180	65 215	—	—	—	—	—	—	—	—
Spot facing cutters	H11	41 135	47 155	55 180	70 230	55 180	60 195	75 245	85 280	50 165	60 195	70 230	80 260	—	—	—	—	47 155	55 180	65 215	75 245	110 360	135 445	180 590	230 750	50 165	60 195	75 245	85 280
	H12	65 215	70 230	85 280	100 330	80 260	90 295	105 345	125 410	80 260	95 310	110 360	130 425	—	—	—	—	70 230	80 260	100 330	115 375	110 360	140 460	175 570	215 710	90 295	100 330	120 395	140 460

R217/220.29-10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MP1501				MP2501				MS2500				MP3501				T25M				MM4500				Square shoulder and slot mill cutters
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	
P1	340	375	455	520	375	410	490	560	315	345	430	490	375	415	490	550	250	285	350	405	230	255	305	355	Square shoulder and slot mill cutters
	1125	1225	1500	1700	1225	1350	1600	1825	1025	1125	1400	1600	1225	1350	1600	1800	820	940	1150	1325	750	840	1000	1175	
P2	330	365	445	500	365	400	475	540	305	335	415	475	365	405	480	530	245	280	340	395	220	245	300	345	Helical milling cutters
	1075	1200	1450	1650	1200	1300	1550	1775	1000	1100	1350	1550	1200	1325	1575	1750	800	920	1125	1300	720	800	980	1125	
P3	295	325	380	445	320	350	415	475	270	300	360	420	320	355	420	475	215	245	295	350	190	215	260	305	Helical milling cutters
	970	1075	1250	1450	1050	1150	1350	1550	890	980	1175	1375	1050	1175	1375	1550	710	800	970	1150	620	710	850	1000	
P4	260	285	350	390	285	315	375	415	240	265	325	370	285	310	370	415	190	215	260	305	185	210	250	290	Helical milling cutters
	850	940	1150	1275	940	1025	1225	1350	790	870	1075	1225	940	1025	1225	1350	620	710	850	1000	610	690	820	950	
P5	245	275	330	370	275	300	355	405	230	255	310	350	275	305	350	395	180	210	250	295	165	185	225	255	Helical milling cutters
	800	900	1075	1225	900	980	1175	1325	750	840	1025	1150	900	1000	1150	1300	590	690	820	970	540	610	740	840	
P6	290	320	375	425	305	335	400	455	265	295	350	405	310	340	395	445	205	235	280	330	185	205	250	285	Helical milling cutters
	950	1050	1225	1400	1000	1100	1300	1500	870	970	1150	1325	1025	1125	1300	1450	670	770	920	1075	610	670	820	940	
P7	270	300	350	405	290	320	375	430	250	280	330	380	295	320	375	420	195	220	265	310	175	195	235	270	Face milling cutters
	890	980	1150	1325	950	1050	1225	1400	820	920	1075	1250	970	1050	1225	1375	640	720	870	1025	570	640	770	890	
P8	245	275	320	370	270	295	350	400	230	255	300	350	270	300	350	395	180	205	250	295	160	180	220	255	Face milling cutters
	800	900	1050	1225	890	970	1150	1300	750	840	980	1150	890	980	1150	1300	590	670	820	970	520	590	720	840	
P11	265	290	340	390	280	310	365	420	245	270	320	370	285	315	360	410	190	215	255	300	170	190	230	265	Face milling cutters
	870	950	1125	1275	920	1025	1200	1375	800	890	1050	1225	940	1025	1175	1350	620	710	840	980	560	620	750	870	
P12	175	195	225	260	190	210	240	270	165	180	215	245	185	205	235	265	120	140	170	200	115	125	150	170	Face milling cutters
	570	640	740	850	620	690	790	890	540	590	710	800	610	670	770	870	395	460	560	660	375	410	490	560	
M1	—	—	—	—	190	215	265	305	185	210	260	305	195	225	275	320	195	225	275	320	145	165	200	235	Disc milling cutters
	—	—	—	—	620	710	870	1000	610	690	850	1000	640	740	900	1050	640	740	900	1050	475	540	660	770	
M2	—	—	—	—	155	180	220	260	155	175	220	255	165	190	225	265	165	190	225	265	120	140	170	195	Disc milling cutters
	—	—	—	—	510	590	720	850	510	570	720	840	540	620	740	870	540	620	740	870	395	460	560	640	
M3	—	—	—	—	130	145	180	210	125	145	180	210	135	150	180	215	135	150	180	215	100	115	135	160	Disc milling cutters
	—	—	—	—	425	475	590	690	410	475	590	690	445	490	590	710	445	490	590	710	330	375	445	520	
M4	—	—	—	—	100	115	140	160	100	115	140	160	105	120	145	165	105	120	145	165	75	85	105	125	Disc milling cutters
	—	—	—	—	330	375	460	520	330	375	460	520	345	395	475	540	345	395	475	540	245	280	345	410	
M5	—	—	—	—	85	95	115	135	85	95	115	135	85	100	120	140	85	100	120	140	65	75	90	105	Disc milling cutters
	—	—	—	—	280	310	375	445	280	310	375	445	280	330	395	460	280	330	395	460	215	245	295	345	
K1	335	370	450	510	365	405	480	540	205	235	290	340	370	410	480	540	195	220	270	315	—	—	—	—	High feed milling cutters
	1100	1225	1475	1675	1200	1325	1575	1775	670	770	950	1125	1225	1350	1575	1775	640	720	890	1025	—	—	—	—	
K2	300	330	400	450	330	365	430	495	185	210	260	300	335	370	425	480	175	200	235	280	—	—	—	—	High feed milling cutters
	980	1075	1300	1475	1075	1200	1400	1625	610	690	850	980	1100	1225	1400	1575	570	660	770	920	—	—	—	—	
K3	255	280	340	380	280	305	365	415	155	175	220	255	285	310	360	405	145	170	200	235	—	—	—	—	High feed milling cutters
	840	920	1125	1250	920	1000	1200	1350	510	570	720	840	940	1025	1175	1325	475	560	660	770	—	—	—	—	
K4	240	265	325	365	265	295	350	400	150	170	210	240	270	295	345	390	140	160	190	225	—	—	—	—	Copy milling cutters
	790	870	1075	1200	870	970	1150	1300	490	560	690	790	890	970	1125	1275	460	520	620	740	—	—	—	—	
K5	155	170	200	225	165	180	215	245	95	105	130	150	165	180	210	240	85	95	120	140	—	—	—	—	Copy milling cutters
	510	560	660	740	540	590	710	800	310	345	425	490	540	590	690	790	280	310	395	460	—	—	—	—	
K6	215	235	285	320	235	260	305	350	130	150	185	215	240	260	305	340	125	140	170	200	—	—	—	—	Copy milling cutters
	710	770	940	1050	770	850	1000	1150	425	490	610	710	790	850	1000	1125	410	460	560	660	—	—	—	—	
K7	200	220	255	290	210	230	275	310	120	135	165	190	210	230	270	305	110	125	150	180	—	—	—	—	Copy milling cutters
	660	720	840	950	690	750	900	1025	395	445	540	620	690	750	890	1000	360	410	490	590	—	—	—	—	
S1	—	—	—	—	—	—	—	—	49	55	70	80	48	55	65	80	—	—	—	—	23	27	32	38	Plunge milling cutters
	—	—	—	—	—	—	—	—	160	180	230	260	155	180	215	260	—	—	—	—	75	90	105	125	
S2	—	—	—	—	—	—	—	—	40	45	55	65	39	44	55	65	—	—	—	—	19	21	26	31	Plunge milling cutters
	—	—	—	—	—	—	—	—	130	150	180	215	130	145	180	215	—	—	—	—	60	70	85	100	
S3	—	—	—	—	—	—	—	—	35	39	48	55	34	39	47	55	—	—	—	—	17	19	23	27	Plunge milling cutters
	—	—	—	—	—	—	—	—	115	130	155	180	110	130	155	180	—	—	—	—	55	60	75	90	
S11	—	—	—	—	—	—	—	—	65	75	95	110	65	75	95	110	—	—	—	—	33	38	45	55	Plunge milling cutters
	—	—	—	—	—	—	—	—	215	245	310	360	215	245	310	360	—	—	—	—	110	125	150	180	
S12	—	—	—	—	—	—	—	—	46	55	65	75	46	55	65	75	—	—	—	—	30	35	41	49	Chamfer milling cutters
	—	—	—	—	—	—	—																		

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

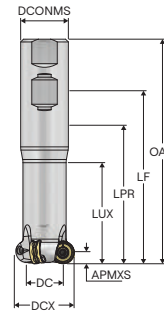


R217/220.28 Round insert cutters

Our range of double-sided round inserts in size 12 and cutters, R217/220.28, is ideal for light copy milling applications, face milling, slot milling and side milling in all workpiece materials.

- Cutter range 32-100 mm (1.25 - 4 inch)
- Max depth of cut 6 mm (.236 inch)
- Recommended slotting depth of cut 3 mm (.118 inch)
- Up to 16 cutting edges

R217/220.28-06 – Inch



- For insert selection and cutting data recommendations, see page(s) 725, 726-727
- For complete insert programme, see page(s) 887
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.28-01.25-3-06-3A	03092089	Weldon	0.780	1.250	3	0.236	1.000	3.642	2.280	2.578	2.504	4.783	0,4	2.030	2.421	15600	1.100	RNMU1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.28-..	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

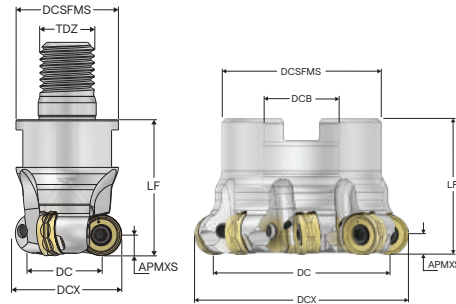
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

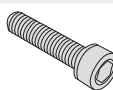
R220.28-06 – Metric



—For insert selection and cutting data recommendations, see page(s) 725, 726–727
 —For complete insert programme, see page(s) 887
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCB mm	DCSFMS mm	TDZ	DCONMS mm	LF mm	OAL mm	RMPX°	Cmin mm	Cmax mm	RPMX	Weight kg	Insert
R217.28-1632.RE-06.3A	03092078	Combimaster	20,1	32,0	3	6,0	–	30,0	M16	–	40,0	62,75	0,4	52,1	62,0	15600	0,3	RNMU1204
R220.28-0040-06.4A	03092080	Arbor	28,0	40,0	4	6,0	16,0	35,0	–	16,0	40,0	–	0,54	68,0	78,0	14000	0,3	RNMU1204
R220.28-0050-06.5A	03092081	Arbor	38,0	50,0	5	6,0	22,0	42,0	–	22,0	40,0	–	0,62	88,0	98,0	12500	0,3	RNMU1204
R220.28-0050-06.6A	03092082	Arbor	38,0	50,0	6	6,0	22,0	42,0	–	22,0	40,0	–	0,62	88,0	98,0	12500	0,4	RNMU1204
R220.28-0052-06.5A	03092083	Arbor	40,0	52,0	5	6,0	22,0	47,0	–	22,0	40,0	–	0,6	92,0	102,0	12300	0,4	RNMU1204
R220.28-0063-06.6A	03092084	Arbor	51,0	63,0	6	6,0	22,0	47,0	–	22,0	40,0	–	0,47	114,0	124,0	11200	0,5	RNMU1204
R220.28-0063-06.8A	03092086	Arbor	51,0	63,0	8	6,0	22,0	47,0	–	22,0	40,0	–	0,47	114,0	124,0	10000	0,5	RNMU1204
R220.28-0066-06.7A	03092087	Arbor	54,0	66,0	7	6,0	27,0	62,0	–	27,0	50,0	–	0,45	120,0	130,0	10900	0,9	RNMU1204
R220.28-0080-06.8A	03092088	Arbor	67,9	80,0	8	6,0	27,0	62,0	–	27,0	50,0	–	0,53	147,9	158,0	10000	1,1	RNMU1204

Spare Parts, included in delivery

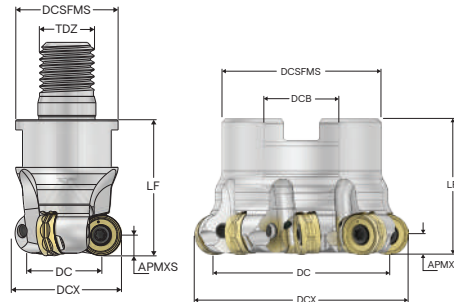
For cutter	Arbor screw	Insert key	Insert screw
			
R217.28-..	–	1/4HEX-T15PX50	C04009-T15P
R220.28-0040-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.28-0066	MC6S12X40	1/4HEX-T15PX50	C04009-T15P
R220.28-0080	MC6S12X40	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

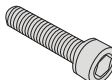
R220.28-06 – inch



- For insert selection and cutting data recommendations, see page(s) 725, 726-727
- For complete insert programme, see page(s) 887
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.28-02.00-06-5A	03092092	Arbor	1.528	2.000	5	0.236	0.750	1.654	0.750	1.500	0,61	3.528	3.921	12500	0.660	RNMU1204
R220.28-02.00-06-6A	03092093	Arbor	1.528	2.000	6	0.236	0.750	1.654	0.750	1.500	0,61	3.528	3.921	12500	0.660	RNMU1204
R220.28-02.50-06-7A	03092094	Arbor	2.028	2.500	7	0.236	0.750	1.850	0.750	1.500	0,47	4.528	4.921	11200	1.100	RNMU1204
R220.28-04.00-06-12A	03137204	Arbor	3.528	4.000	12	0.236	1.500	3.543	1.500	2.000	0,11	7.528	7.921	8800	3.970	RNMU1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.28-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P
R220.28-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.28 – Insert selection – mm/Inch

R217/220.28 – Insert selection – mm/Inch							
Square shoulder and slot milling cutters	SMG		a _p		f _z		
			100%	70%	30%	10%	
Helical milling cutters	P1	RNMU1204M0-ME10 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
	P2	RNMU1204M0-ME10 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
	P3	RNMU1204M0-ME10 MP3501	2,5 0.10	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
	P4	RNMU1204M0T-M10 MP2501	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	P5	RNMU1204M0T-M10 MP2501	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	P6	RNMU1204M0T-M10 MP2501	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	P7	RNMU1204M0T-M10 MP2501	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
Face milling cutters	P8	RNMU1204M0T-M10 MP2050	2,5 0.10	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
	P11	RNMU1204M0T-M10 MP2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	P12	RNMU1204M0T-M10 MS2500	1,9 0.075	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
	M1	RNMU1204M0-ME10 MS2050	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
Disc milling cutters	M2	RNMU1204M0-ME10 MS2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	M3	RNMU1204M0-ME10 MS2050	1,9 0.075	0,26 0.010	0,26 0.010	0,30 0.012	0,46 0.018
	M4	RNMU1204M0T-M10 MP3501	1,4 0.055	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
	M5	RNMU1204M0T-M10 MP3501	1,4 0.055	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
	K1	RNMU1204M0T-M10 MK2050	2,5 0.10	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
High feed milling cutters	K2	RNMU1204M0T-M10 MK2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	K3	RNMU1204M0T-M10 MK2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	K4	RNMU1204M0T-M10 MK2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
	K5	RNMU1204M0T-M10 MK2050	2,5 0.10	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
	K6	RNMU1204M0T-M10 MK2050	2,5 0.10	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
Copy milling cutters	K7	RNMU1204M0T-M10 MK2050	2,5 0.10	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
	N1	RNMU1204M0-ME10 F40M	2,5 0.10	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
	N2	RNMU1204M0-ME10 F40M	2,5 0.10	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
	N3	RNMU1204M0-ME10 F40M	2,5 0.10	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
Plunge milling cutters	N11	RNMU1204M0-ME10 F40M	2,5 0.10	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
	S1	RNMU1204M0T-M10 MS2500	1,4 0.055	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
	S2	RNMU1204M0T-M10 MS2500	1,4 0.055	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
	S3	RNMU1204M0T-M10 MS2500	1,4 0.055	0,25 0.010	0,25 0.010	0,28 0.011	0,44 0.017
Chamfer milling cutters	S11	RNMU1204M0-ME10 MS2050	1,7 0.065	0,28 0.011	0,28 0.011	0,32 0.013	0,48 0.019
	S12	RNMU1204M0-ME10 MS2050	1,7 0.065	0,28 0.011	0,28 0.011	0,32 0.013	0,48 0.019
	S13	RNMU1204M0-ME10 MS2050	1,4 0.055	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
	H5	RNMU1204M0T-M10 MP3501	1,9 0.075	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
Facing cutters	H8	RNMU1204M0T-M10 MP3501	1,7 0.065	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
	H11	RNMU1204M0T-M10 MP3501	1,9 0.075	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
	H12	RNMU1204M0T-M10 MP3501	1,7 0.065	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R217/220.28 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK2050				MS2050				F40M				MP2051				Square shoulder and slot milling cutters
	100%285	70%325	30%390	10%460	100%265	70%295	30%350	10%405	100%255	70%275	30%320	10%360	100%335	70%375	30%470	10%560	
P1	940	1075	1275	1500	870	970	1150	1325	840	900	1050	1175	1100	1225	1550	1825	Helical milling cutters
P1	275	310	380	445	255	280	340	395	245	260	310	350	310	350	460	540	
P2	900	1025	1250	1450	840	920	1125	1300	800	850	1025	1150	1025	1150	1500	1775	Face milling cutters
P2	240	270	330	390	225	245	300	345	215	230	275	305	280	315	405	470	
P3	790	890	1075	1275	740	800	980	1125	710	750	900	1000	920	1025	1325	1550	Face milling cutters
P3	215	245	290	345	200	225	265	305	200	215	255	290	255	285	355	415	
P4	710	800	950	1125	660	740	870	1000	660	710	840	950	840	940	1175	1350	Face milling cutters
P4	205	235	280	330	190	215	250	295	185	200	230	260	245	275	340	400	
P5	670	770	920	1075	620	710	820	970	610	660	750	850	800	900	1125	1300	Face milling cutters
P5	230	260	315	370	215	240	285	330	210	225	260	295	275	310	380	450	
P6	750	850	1025	1225	710	790	940	1075	690	740	850	970	900	1025	1250	1475	Face milling cutters
P6	220	245	295	350	205	225	265	310	195	210	245	280	260	290	360	425	
P7	720	800	970	1150	670	740	870	1025	640	690	800	920	850	950	1175	1400	Face milling cutters
P7	200	230	280	325	190	210	250	290	180	195	230	260	235	265	340	395	
P8	660	750	920	1075	620	690	820	950	590	640	750	850	770	870	1125	1300	Face milling cutters
P8	210	240	285	340	200	220	260	300	190	205	240	270	235	290	390	510	
P11	690	790	940	1125	660	720	850	980	620	670	790	890	770	950	1275	1675	Face milling cutters
P11	140	155	190	220	130	145	170	195	130	135	160	175	165	200	260	325	
P12	460	510	620	720	425	475	560	640	425	445	520	570	540	660	850	1075	Face milling cutters
P12	—	—	—	—	185	210	260	305	170	190	235	275	255	310	445	580	
M1	—	—	—	—	610	690	850	1000	560	620	770	900	840	1025	1450	1900	Disc milling cutters
M1	—	—	—	—	155	180	215	250	145	160	195	230	225	275	370	485	
M2	—	—	—	—	510	590	710	820	475	520	640	750	740	900	1225	1600	Disc milling cutters
M2	—	—	—	—	125	145	170	205	115	130	155	185	190	230	305	395	
M3	—	—	—	—	410	475	560	670	375	425	510	610	620	750	1000	1300	Disc milling cutters
M3	—	—	—	—	100	110	135	160	90	100	120	145	150	185	235	300	
M4	—	—	—	—	330	360	445	520	295	330	395	475	490	610	770	980	Disc milling cutters
M4	—	—	—	—	80	95	110	130	75	85	100	120	125	150	200	250	
M5	—	—	—	—	260	310	360	425	245	280	330	395	410	490	660	820	Disc milling cutters
M5	295	335	410	480	—	—	—	—	165	190	230	270	—	—	—	—	
K1	970	1100	1350	1575	—	—	—	—	540	620	750	890	—	—	—	—	High feed milling cutters
K1	265	300	360	430	—	—	—	—	150	170	205	240	—	—	—	—	
K2	870	980	1175	1400	—	—	—	—	490	560	670	790	—	—	—	—	High feed milling cutters
K2	225	255	305	365	—	—	—	—	125	145	170	205	—	—	—	—	
K3	740	840	1000	1200	—	—	—	—	410	475	560	670	—	—	—	—	High feed milling cutters
K3	215	245	290	345	—	—	—	—	120	140	165	195	—	—	—	—	
K4	710	800	950	1125	—	—	—	—	395	460	540	640	—	—	—	—	High feed milling cutters
K4	130	150	180	210	—	—	—	—	75	85	100	120	—	—	—	—	
K5	425	490	590	690	—	—	—	—	245	280	330	395	—	—	—	—	High feed milling cutters
K5	190	215	255	305	—	—	—	—	105	120	145	170	—	—	—	—	
K6	620	710	840	1000	—	—	—	—	345	395	475	560	—	—	—	—	High feed milling cutters
K6	170	190	230	270	—	—	—	—	95	110	130	155	—	—	—	—	
K7	560	620	750	890	—	—	—	—	310	360	425	510	—	—	—	—	High feed milling cutters
K7	—	—	—	—	—	—	—	—	1225	1400	1700	2025	—	—	—	—	
N1	—	—	—	—	—	—	—	—	4025	4600	5575	6650	—	—	—	—	Plunge milling cutters
N1	—	—	—	—	—	—	—	—	500	560	690	820	—	—	—	—	
N2	—	—	—	—	—	—	—	—	1650	1825	2275	2700	—	—	—	—	Plunge milling cutters
N2	—	—	—	—	—	—	—	—	335	375	460	540	—	—	—	—	
N3	—	—	—	—	—	—	—	—	1100	1225	1500	1775	—	—	—	—	Plunge milling cutters
N3	—	—	—	—	—	—	—	—	380	430	520	620	—	—	—	—	
N11	—	—	—	—	—	—	—	—	1250	1400	1700	2025	—	—	—	—	Plunge milling cutters
N11	—	—	—	—	46	50	65	75	42	47	55	65	50	55	70	80	
S1	—	—	—	—	150	165	215	245	140	155	180	215	165	180	230	260	Chamfer milling cutters
S1	—	—	—	—	37	42	50	60	34	38	46	55	41	46	55	65	
S2	—	—	—	—	120	140	165	195	110	125	150	180	135	150	180	215	Chamfer milling cutters
S2	—	—	—	—	33	37	45	50	30	34	41	47	36	40	49	55	
S3	—	—	—	—	110	120	150	165	100	110	135	155	120	130	160	180	Chamfer milling cutters
S3	—	—	—	—	65	70	85	105	60	65	80	95	70	80	95	115	
S11	—	—	—	—	215	230	280	345	195	215	260	310	230	260	310	375	Chamfer milling cutters
S11	—	—	—	—	44	50	60	70	40	45	55	65	48	55	65	80	
S12	—	—	—	—	145	165	195	230	130	150	180	215	155	180	215	260	Spot facing cutters
S12	—	—	—	—	26	29	35	41	24	27	32	38	28	32	39	45	
S13	—	—	—	—	85	95	115	135	80	90	105	125	90	105	130	150	Spot facing cutters
S13	47	55	65	75	—	—	—	—	35	40	48	55	—	—	—	—	
H5	155	180	215	245	—	—	—	—	115	130	155	180	—	—	—	—	Spot facing cutters
H5	50	55	70	80	—	—	—	—	38	43	50	60	—	—	—	—	
H8	165	180	230	260	—	—	—	—	125	140	165	195	—	—	—	—	Spot facing cutters
H8	60	70	80	95	—	—	—	—	45	50	60	70	105	130	170	210	
H11	195	230	260	310	—	—	—	—	150	165	195	230	345	425	560	690	Inserts
H11	90	100	120	140	—	—	—	—	70	75	90	105	100	125	155	190	
	295	330	395	460	—	—	—	—	230	245	295	345	330	410	510	620	Inserts

R217/220.28 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MP2050				MP2501				MS2500				MP3501			
		100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
Square shoulder and slot milling cutters	P1	285 940	325 1075	390 1275	455 1500	415 1350	450 1475	520 1700	580 1900	395 1300	430 1400	500 1650	570 1875	370 1225	400 1300	465 1525	530 1750
	P2	275 900	310 1025	380 1250	445 1450	395 1300	430 1400	500 1650	570 1875	375 1225	410 1350	485 1600	550 1800	350 1150	385 1275	455 1500	510 1675
Helical milling cutters	P3	240 790	270 890	330 1075	390 1275	345 1125	375 1225	440 1450	495 1625	330 1075	360 1175	425 1400	480 1575	310 1025	335 1100	395 1300	445 1450
	P4	215 710	245 800	290 950	340 1125	310 1025	340 1125	390 1275	435 1425	295 970	325 1075	375 1225	425 1400	280 920	305 1000	350 1150	390 1275
Face milling cutters	P5	205 670	235 770	280 920	330 1075	295 970	325 1075	370 1225	420 1375	285 940	310 1025	360 1175	410 1350	265 870	290 950	335 1100	380 1250
	P6	230 750	260 850	310 1025	370 1225	335 1100	365 1200	415 1350	470 1550	320 1050	350 1150	400 1300	460 1500	300 980	325 1075	375 1225	425 1400
Disc milling cutters	P7	220 720	245 800	295 970	350 1150	315 1025	340 1125	395 1300	445 1450	300 980	330 1075	380 1250	430 1400	280 920	305 1000	355 1175	400 1300
	P8	200 660	230 750	280 920	325 1075	290 950	315 1025	370 1225	415 1350	280 920	305 1000	360 1175	405 1325	260 850	285 940	335 1100	375 1225
High feed milling cutters	P11	210 690	240 790	285 940	340 1125	305 1000	330 1075	380 1250	430 1400	290 950	320 1050	370 1225	420 1375	275 900	300 980	345 1125	390 1275
	P12	140 460	155 510	190 620	220 720	195 640	215 710	245 800	270 890	190 620	205 670	235 770	260 850	180 590	195 640	220 720	245 800
Copy milling cutters	M1	195 640	220 720	270 890	320 1050	200 660	225 740	275 900	325 1075	220 720	245 800	300 980	355 1175	185 610	210 690	260 850	305 1000
	M2	165 540	185 610	225 740	265 870	170 560	190 620	230 750	270 890	185 610	205 670	245 800	295 970	155 510	180 590	215 710	250 820
Plunge milling cutters	M3	135 445	150 490	180 590	215 710	135 445	155 510	185 610	220 720	150 490	165 540	200 660	235 770	125 410	145 475	170 560	205 670
	M4	105 345	115 375	140 460	165 540	105 345	120 395	145 475	170 560	115 375	130 425	155 510	185 610	100 330	110 360	135 445	160 520
Spot facing cutters	M5	85 280	95 310	115 375	140 460	90 295	100 330	120 395	140 460	95 310	110 360	130 425	155 510	80 260	95 310	110 360	130 425
	K1	—	—	—	—	400 1300	435 1425	510 1675	570 1875	240 790	270 890	330 1075	390 1275	355 1175	385 1275	455 1500	520 1700
Chamfer milling cutters	K2	—	—	—	—	360 1175	390 1275	450 1475	510 1675	215 710	245 800	295 970	350 1150	320 1050	350 1150	405 1325	455 1500
	K3	—	—	—	—	305 1000	330 1075	380 1250	430 1400	185 610	210 690	250 820	295 970	270 890	295 970	340 1125	385 1275
Spot facing cutters	K4	—	—	—	—	290 950	315 1025	365 1200	410 1350	175 570	200 660	235 770	280 920	260 850	285 940	325 1075	370 1225
	K5	—	—	—	—	180 590	195 640	220 720	250 820	105 345	120 395	145 475	170 560	160 520	175 570	200 660	225 740
Spot facing cutters	K6	—	—	—	—	255 840	280 920	320 1050	360 1175	155 510	175 570	210 690	250 820	230 750	250 820	285 940	325 1075
	K7	—	—	—	—	230 750	250 820	285 940	320 1050	140 460	155 510	185 610	220 720	205 670	225 740	255 840	285 940
Spot facing cutters	N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spot facing cutters	S1	50 165	55 180	70 230	80 260	—	—	—	—	55 180	65 215	75 245	90 295	46 150	50 165	65 215	75 245
	S2	41 135	46 150	55 180	65 215	—	—	—	—	45 150	50 165	60 195	70 230	37 120	42 140	50 165	60 195
Spot facing cutters	S3	36 120	40 130	49 160	55 180	—	—	—	—	40 130	45 150	55 180	65 215	33 110	37 120	45 150	50 165
	S11	70 230	80 260	95 310	115 375	—	—	—	—	80 260	90 295	105 345	125 410	65 215	70 230	85 280	105 345
Spot facing cutters	S12	48 155	55 180	65 215	80 260	—	—	—	—	55 180	60 195	75 245	85 280	44 145	50 165	60 195	70 230
	S13	28 90	32 105	39 130	45 150	—	—	—	—	32 105	36 120	43 140	50 165	26 85	29 95	35 115	41 135
Spot facing cutters	H5	—	—	—	—	—	—	—	—	46 150	50 165	60 195	75 245	41 135	46 150	55 180	65 215
	H8	—	—	—	—	—	—	—	—	49 160	55 180	65 215	75 245	43 140	49 160	60 195	70 230
Inserts	H11	55 180	60 195	70 230	85 280	—	—	—	—	60 195	65 215	80 260	95 310	50 165	60 195	70 230	80 260
	H12	90 295	100 330	120 395	140 460	—	—	—	—	95 310	110 360	130 425	155 510	80 260	90 295	105 345	120 395



R218.20/19/24 Ballnose

We offer a variety of highly productive ballnose cutters for all materials and applications, ranging from general purpose to segment-oriented tools. The ballnose cutter is designed to deliver higher performance and better reliability in copy milling applications.

- Ballnose K=1, 3-cutting edge, cutter range 16–40 mm (0.75 - 1 inch)
- Ballnose K=2, 2-cutting edge, cutter range 12–50 mm (0.5 - 2 inch)
- Tapered Ballnose, 2-cutting edge, cutter range 16 mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

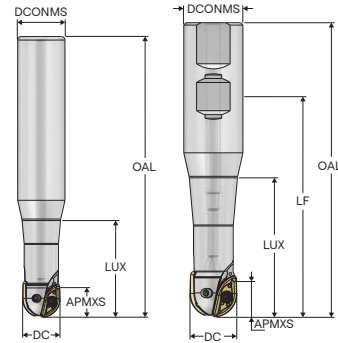
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.20 – Metric



—For insert selection and cutting data recommendations, see page(s) 738-759
 —For complete insert programme, see page(s) 908, 930
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SPM.
			mm		mm	mm	mm	mm	mm	mm			kg		
R218.20-2520.3-18.070A	00031654	Weldon	20,0	2	18,0	25,0	93,94	56,0	54,0	70,0	126,0	45,0	20200	0,4	-100(2) —
R218.20-2525.3-22.060A	00038464	Weldon	25,0	2	22,0	25,0	83,96	60,0	56,0	60,0	116,0	45,0	16900	0,4	-125(2) —
R218.20-2525.3-22.080A	00031897	Weldon	25,0	2	22,0	25,0	103,96	60,0	75,5	80,0	136,0	45,0	16900	0,5	-125(2) —
R218.20-3230.3-45.100A	00032046	Weldon	30,0	2	44,0	32,0	123,93	70,0	71,0	100,0	160,0	45,0	12500	0,8	-150(2) SPMT10(2)
R218.20-3232.3-28.070A	00032245	Weldon	32,0	2	28,0	32,0	93,92	60,0	68,0	70,0	130,0	45,0	10900	0,7	-160(2) —
R218.20-3232.3-28.100A	00030731	Weldon	32,0	2	28,0	32,0	123,92	70,0	89,0	100,0	160,0	45,0	10900	0,9	-160(2) —
R218.20-3232.3-54.100A	00030733	Weldon	32,0	2	54,0	32,0	123,92	70,0	89,0	100,0	160,0	45,0	10900	0,8	-160(2) SPMT10(3)
R218.20-1612.0-10.112A	02627903	Cylindrical	12,0	2	10,0	16,0	—	120,0	25,0	112,0	160,0	45,0	30000	0,3	-060(2) —
R218.20-2016.0-14.070A	02722506	Cylindrical	16,0	2	14,0	20,0	—	70,0	36,0	70,0	120,0	45,0	28500	0,3	-080(2) —
R218.20-1616.0-14.105E	00031596	Cylindrical	16,0	2	14,0	16,0	—	115,0	49,0	117,0	165,0	45,0	28500	0,5	-080(2) —
R218.20-2520.0-18.120A	00031701	Cylindrical	20,0	2	18,0	25,0	—	104,0	54,0	120,0	176,0	45,0	20200	0,6	-100(2) —
R218.20-3225.0-22.160A	00031940	Cylindrical	25,0	2	22,0	32,0	—	130,0	68,0	160,0	220,0	45,0	16900	1,1	-125(2) —
R218.20-3230.0-26.160A	00032027	Cylindrical	30,0	2	27,0	32,0	—	130,0	73,0	160,0	220,0	45,0	12500	1,1	-150(2) —
R218.20-3232.0-28.160A	00030730	Cylindrical	32,0	2	28,0	32,0	—	130,0	90,0	160,0	220,0	45,0	10900	1,2	-160(2) —

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph
			
R218.20.. Ø16	1/4HEX-T08PX50	C02506-T08P	-
R218.20.. Ø20	1/4HEX-T09PX50	C03007-T09P	-
R218.20.. Ø25-30	1/4HEX-T15PX50	C04009-T15P	-
R218.20.. Ø30-100A	1/4HEX-T15PX50	C04009-T15P	C03508-T15P
R218.20.. Ø32	1/4HEX-T15PX50	C04011-T15P	-
R218.20.. Ø32-100A	1/4HEX-T15PX50	C04011-T15P	C03508-T15P
R218.20-1612	1/4HEX-T06PX50	C01805-T06P	-

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R218.20.. Ø16	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	-	T00-08P12	-
R218.20.. Ø20	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	-	T00-09P20	-
R218.20.. Ø25-32	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	-	T00-15P35	-
R218.20.. Ø30-32-100A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	3.0NM	T00-15P35	T00-15P30
R218.20-1612	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	-	T00-06P05	-

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

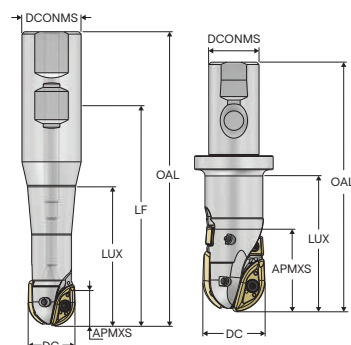
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.20 – Metric



- For insert selection and cutting data recommendations, see page(s) 738-759
- For complete insert programme, see page(s) 892, 930
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SCET
			mm		mm	mm	mm	mm	mm	mm	mm			kg		
R218.20-5050.3-70.150	00032677	Weldon	50,0	2	70,0	—	50,0	184,87	80,0	149,0	149,87	229,87	45,0	3700	2,7	-250(2) SC..12 (3)
R218.20-3240.3S-60.100	00032440	Seco-Weldon	40,0	2	60,0	50,0	32,0	—	59,5	89,0	99,9	159,4	45,0	7200	1,1	-200(2) SC..12 (3)
R218.20-3250.3S-70.100	00032627	Seco-Weldon	50,0	2	70,0	50,0	32,0	—	59,5	91,0	99,87	159,37	45,0	3700	1,3	-250(2) SC..12 (3)

Spare Parts, included in delivery

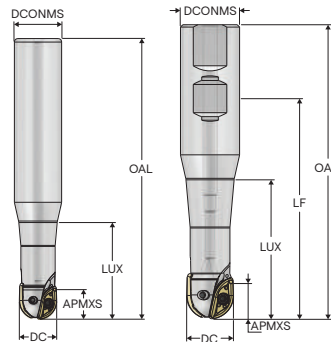
For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20.. Ø40	1/4HEX-T20PX50	C05013-T20P	C45011-T20P	—
R218.20.. Ø50	1/4HEX-T25PX50	C06018-T25P	C45011-T20P	1/4HEX-T20PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20.. Ø40	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R218.20.. Ø50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20 – inch



- For insert selection and cutting data recommendations, see page(s) 738-759
- For complete insert programme, see page(s) 908, 930
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R218.20-0.500.3-11-060A	02687514	Weldon	0.500	2	0.433	0.750	3.313	2.362	0.827	2.362	4.331	45,0	30000	0.440	218.20-0.250
R218.20-0.625.3-14-050A	02740373	Weldon	0.625	2	0.551	0.625	2.919	2.299	1.500	1.969	3.874	45,0	28500	0.440	218.20-080
R218.20-0.750.3-17-070A	00040022	Weldon	0.750	2	0.669	1.000	3.895	2.280	2.000	2.831	5.035	45,0	20200	0.880	218.20-0.375
R218.20-01.00.3-22-070A	00040024	Weldon	1.000	2	0.866	1.000	3.896	2.362	2.000	2.756	5.039	45,0	16900	1.100	218.20-125
R218.20-01.25.3-28-100A	00040025	Weldon	1.250	2	1.102	1.250	5.073	2.673	3.500	3.937	6.213	45,0	10900	1.540	218.20-160
R218.20-01.50.3-34-100A	00040027	Weldon	1.500	2	1.339	1.500	5.435	3.083	3.500	3.870	6.626	45,0	7200	2.650	218.20-0.750
R218.20-0.500.0-11-111A	02687512	Cylindrical	0.500	2	0.433	0.625	—	4.724	1.142	4.408	6.298	45,0	30000	0.660	218.20-0.250
R218.20-0.625.0-14-070A	02740370	Cylindrical	0.625	2	0.551	0.750	—	2.819	1.398	2.756	4.785	45,0	28500	0.660	218.20-080
R218.20-0.750.0-17-120A	00040031	Cylindrical	0.750	2	0.669	1.000	—	4.248	2.087	4.797	7.002	45,0	20200	1.320	218.20-0.375
R218.20-01.00.0-22-160A	00040032	Cylindrical	1.000	2	0.866	1.250	—	4.996	2.795	6.215	8.577	45,0	16900	2.200	218.20-125

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	1/4HEX-T06PX50	C02052-T06P
R218.20-0.625	1/4HEX-T08PX50	C02506-T08P
R218.20-0.750	1/4HEX-T09PX50	C03006-T09P
R218.20-01.00	1/4HEX-T15PX50	C04009-T15P
R218.20-01.25	1/4HEX-T15PX50	C04011-T15P
R218.20-01.50	1/4HEX-T20PX50	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0.625	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R218.20-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

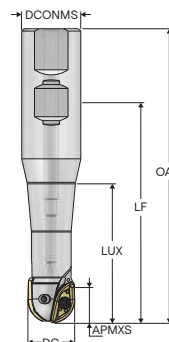
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.20 – inch



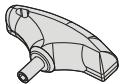
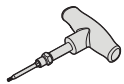
- For insert selection and cutting data recommendations, see page(s) 738-759
- For complete insert programme, see page(s) 892, 930
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SCET
			inch		inch	inch	inch	inch	inch	inch	inch			lbs		
R218.20-02.00.3-70-120A	02740375	Weldon	2.000	2	2.756	2.000	6.124	3.243	4.705	4.818	7.967	45,0	3700	5.730	-250.R (2)	SC..12 (3)

Spare Parts, included in delivery

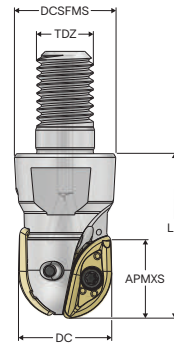
For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20-02.00	1/4HEX-T25PX50	C06018-T25P	C45011-T20P	1/4HEX-T20PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-02.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20 – Metric



—For insert selection and cutting data recommendations, see page(s) 738-759
—For complete insert programme, see page(s) 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm		mm	mm			kg	
R218.20-0612.RE-10A	02731891	Combimaster	12,0	2	10,0	11,0	M6	20,0	33,5	45,0	30000	0,1	218.20-060
R218.20-0812.RE-10A	02627909	Combimaster	12,0	2	10,0	13,5	M8	23,0	40,75	45,0	30000	0,1	218.20-060
R218.20-0816.RE-14A	02742691	Combimaster	16,0	2	14,0	13,5	M8	23,0	40,75	45,0	28500	0,1	218.20-080
R218.20-1016.RE-14A	00031585	Combimaster	16,0	2	14,0	18,0	M10	28,0	46,75	45,0	28500	0,1	218.20-080
R218.20-1020.RE-18A	00039896	Combimaster	20,0	2	18,0	18,0	M10	28,0	46,75	45,0	20200	0,1	218.20-100
R218.20-1220.RE-18A	00031619	Combimaster	20,0	2	18,0	21,5	M12	35,0	56,75	45,0	20200	0,1	218.20-100
R218.20-1225.RE-22A	00031777	Combimaster	25,0	2	22,0	21,5	M12	35,0	56,75	45,0	16900	0,2	218.20-125
R218.20-1630.RE-26A	00032025	Combimaster	30,0	2	27,0	28,5	M16	40,0	62,75	45,0	12500	0,2	218.20-150
R218.20-1632.RE-28A	00030728	Combimaster	32,0	2	28,0	28,5	M16	40,0	62,75	45,0	10900	0,2	218.20-160
R218.20-1640.RE-35A	00032409	Combimaster	40,0	2	35,0	34,0	M16	50,0	72,75	45,0	7200	0,3	218.20-200
R218.20-2040.RE-35A	02928081	Combimaster	40,0	2	35,0	36,5	M20	55,0	82,0	45,0	7200	0,4	218.20-200
R218.20-2050.RE-44A	02928082	Combimaster	50,0	2	44,0	36,5	M20	65,0	92,0	45,0	5000	0,5	218.20-250

For Combimaster Shanks, see Machining Navigator Tooling System

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0612-0812	1/4HEX-T06PX50	C01805-T06P
R218.20-0816-1016	1/4HEX-T08PX50	C02506-T08P
R218.20-1020-1220	1/4HEX-T09PX50	C03007-T09P
R218.20-1225-1630	1/4HEX-T15PX50	C04009-T15P
R218.20-1632	1/4HEX-T15PX50	C04011-T15P
R218.20-1640-2040	1/4HEX-T20PX50	C05013-T20P
R218.20-2050	1/4HEX-T25PX50	C06018-T25P

Helical milling
cutters

Face milling
cutters

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0612-0812	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0816-1016	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R218.20-1020-1220	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-1225-1632	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-1640-2040	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R218.20-2050	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

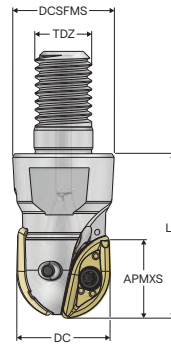
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.20 – inch



- For insert selection and cutting data recommendations, see page(s) 738-759
- For complete insert programme, see page(s) 930
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch		inch	inch			lbs	
R218.20-0.500-06RE-11A	02687515	Combimaster	0.500	2	0.433	0.433	M6	0.787	1.319	45,0	30000	0.220	218.20-0.250
R218.20-0.500-08RE-11A	02687516	Combimaster	0.500	2	0.433	0.531	M8	0.906	1.604	45,0	28500	0.220	218.20-0.250
R218.20-0.750-10RE-17A	02428548	Combimaster	0.750	2	0.669	0.728	M10	1.102	1.841	45,0	20200	0.220	218.20-0.375
R218.20-01.00-12RE-22A	00040018	Combimaster	1.000	2	0.866	0.846	M12	1.378	2.234	45,0	16900	0.440	218.20-125
R218.20-01.25-16RE-28A	00040019	Combimaster	1.250	2	1.102	1.122	M16	1.575	2.470	45,0	10900	0.220	218.20-160
R218.20-01.50-16RE-34A	00040020	Combimaster	1.500	2	1.339	1.339	M16	1.969	2.864	45,0	7200	0.660	218.20-0.750
R218.20-02.00-20RE-44A	02928066	Combimaster	2.000	2	1.732	1.437	M20	2.559	3.622	45,0	5000	1.100	218.20-250

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	1/4HEX-T06PX50	C02052-T06P
R218.20-0.750	1/4HEX-T09PX50	C03006-T09P
R218.20-01.00	1/4HEX-T15PX50	C04009-T15P
R218.20-01.25	1/4HEX-T15PX50	C04011-T15P
R218.20-01.50	1/4HEX-T20PX50	C05013-T20P
R218.20-02.00	1/4HEX-T25PX50	C06018-T25P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-01.50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R218.20-02.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.20-0.250 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-0.250ER-M03 F40M	7,0 0,28	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
	P2	218.20-0.250ER-M03 F40M	7,0 0,28	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
Helical milling cutters	P3	218.20-0.250ER-M03 F40M	7,0 0,28	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
	P4	218.20-0.250ER-M03 F40M	7,0 0,28	0,042 0.0017	0,042 0.0017	0,046 0.0017	0,070 0.0028	0,095 0.0038
Face milling cutters	P5	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
	P6	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
Disc milling cutters	P7	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
	P8	218.20-0.250ER-M03 F40M	7,0 0,28	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
High feed milling cutters	P11	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
	P12	218.20-0.250ER-M03 F40M	5,0 0,20	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
Copy milling cutters	M1	218.20-0.250ER-ME03 F40M	7,0 0,28	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
	M2	218.20-0.250ER-ME03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
Plunge milling cutters	M3	218.20-0.250ER-ME03 F40M	5,0 0,20	0,034 0.0013	0,034 0.0013	0,036 0.0014	0,055 0.0022	0,075 0.0030
	M4	218.20-0.250ER-ME03 F40M	4,0 0,16	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Chamfer milling cutters	M5	218.20-0.250ER-ME03 F40M	4,0 0,16	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
	K1	218.20-0.250ER-M03 F40M	7,0 0,28	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
Spot facing cutters	K2	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
	K3	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
Inserts	K4	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
	K5	218.20-0.250ER-M03 F40M	7,0 0,28	0,036 0.0014	0,036 0.0014	0,040 0.0016	0,060 0.0024	0,085 0.0034
Chamfer milling cutters	K6	218.20-0.250ER-M03 F40M	7,0 0,28	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
	K7	218.20-0.250ER-M03 F40M	7,0 0,28	0,036 0.0014	0,036 0.0014	0,040 0.0016	0,060 0.0024	0,085 0.0034
Spot facing cutters	N1	218.20-0.250ER-ME03 F40M	7,0 0,28	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
	N2	218.20-0.250ER-ME03 F40M	7,0 0,28	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
Chamfer milling cutters	N3	218.20-0.250ER-ME03 F40M	7,0 0,28	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
	N11	218.20-0.250ER-ME03 F40M	7,0 0,28	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
Spot facing cutters	S1	218.20-0.250ER-ME03 F40M	4,0 0,16	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
	S2	218.20-0.250ER-ME03 F40M	4,0 0,16	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Chamfer milling cutters	S3	218.20-0.250ER-ME03 F40M	4,0 0,16	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,060 0.0024
	S11	218.20-0.250ER-ME03 F40M	4,5 0,18	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
Spot facing cutters	S12	218.20-0.250ER-ME03 F40M	4,5 0,18	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
	S13	218.20-0.250ER-ME03 F40M	4,0 0,16	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Spot facing cutters	H5	218.20-0.250ER-M03 F40M	5,0 0,20	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
	H8	218.20-0.250ER-M03 F40M	4,5 0,18	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020
Spot facing cutters	H11	218.20-0.250ER-M03 F40M	5,0 0,20	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
	H12	218.20-0.250ER-M03 F40M	4,5 0,18	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R218.20-0.250 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M					
	100%	70%	30%	10%	5%	
P1	335	355	390	420	440	Square shoulder and slot milling cutters
	1100	1175	1275	1375	1450	
P2	325	345	380	410	430	Helical milling cutters
	1075	1125	1250	1350	1400	
P3	280	300	325	355	370	Face milling cutters
	920	980	1075	1175	1225	
P4	250	265	295	325	345	Face milling cutters
	820	870	970	1075	1125	
P5	240	250	275	295	310	Face milling cutters
	790	820	900	970	1025	
P6	265	280	305	335	350	Face milling cutters
	870	920	1000	1100	1150	
P7	250	265	290	315	330	Face milling cutters
	820	870	950	1025	1075	
P8	235	250	275	295	310	Face milling cutters
	770	820	900	970	1025	
P11	245	260	280	305	320	Face milling cutters
	800	850	920	1000	1050	
P12	155	165	170	175	185	Disc milling cutters
	510	540	560	570	610	
M1	225	245	295	345	375	Disc milling cutters
	740	800	970	1125	1225	
M2	185	205	240	280	305	Disc milling cutters
	610	670	790	920	1000	
M3	155	170	195	220	240	Disc milling cutters
	510	560	640	720	790	
M4	125	130	150	165	180	Disc milling cutters
	410	425	490	540	590	
M5	105	110	125	140	150	Disc milling cutters
	345	360	410	460	490	
K1	220	245	290	335	370	High feed milling cutters
	720	800	950	1100	1225	
K2	195	215	255	300	320	High feed milling cutters
	640	710	840	980	1050	
K3	165	180	215	250	270	High feed milling cutters
	540	590	710	820	890	
K4	160	175	205	240	260	Copy milling cutters
	520	570	670	790	850	
K5	95	105	125	145	155	Copy milling cutters
	310	345	410	475	510	
K6	140	150	180	210	230	Copy milling cutters
	460	490	590	690	750	
K7	120	135	160	185	200	Copy milling cutters
	395	445	520	610	660	
N1	1700	1850	2200	2575	2800	Plunge milling cutters
	5575	6075	7225	8450	9175	
N2	680	740	890	1025	1125	Plunge milling cutters
	2225	2425	2925	3375	3700	
N3	455	495	590	690	750	Plunge milling cutters
	1500	1625	1925	2275	2450	
N11	520	570	680	790	860	Plunge milling cutters
	1700	1875	2225	2600	2825	
S1	60	60	70	80	85	Chamfer milling cutters
	195	195	230	260	280	
S2	46	49	55	65	70	Chamfer milling cutters
	150	160	180	215	230	
S3	40	43	48	55	60	Chamfer milling cutters
	130	140	155	180	195	
S11	80	85	100	110	120	Chamfer milling cutters
	260	280	330	360	395	
S12	55	60	70	75	85	Spot facing cutters
	180	195	230	245	280	
S13	32	34	39	44	48	Spot facing cutters
	105	110	130	145	155	
H5	47	50	60	65	70	Spot facing cutters
	155	165	195	215	230	
H8	49	50	60	70	75	Spot facing cutters
	160	165	195	230	245	
H11	60	65	75	85	90	Inserts
	195	215	245	280	295	
H12	90	95	105	120	130	Inserts
	295	310	345	395	425	

R218.20-0.375 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-0.375ER-M05 F40M	10,0 0.40	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
	P2	218.20-0.375ER-M05 F40M	10,0 0.40	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
Helical milling cutters	P3	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065
	P4	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0048	0,16 0.0065
	P5	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	P6	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
	P7	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
	P8	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065
Face milling cutters	P11	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
	P12	218.20-0.375ER-M05 F40M	8,0 0.32	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
	M1	218.20-0.375ER-ME05 MS2050	10,0 0.40	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
Disc milling cutters	M2	218.20-0.375ER-ME05 MS2050	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	M3	218.20-0.375ER-ME05 MS2050	8,0 0.32	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
	M4	218.20-0.375ER-ME05 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	M5	218.20-0.375ER-ME05 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	K1	218.20-0.375ER-M05 F40M	10,0 0.40	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
High feed milling cutters	K2	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K3	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K4	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K5	218.20-0.375ER-M05 F40M	10,0 0.40	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
	K6	218.20-0.375ER-M05 F40M	10,0 0.40	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K7	218.20-0.375ER-M05 F40M	10,0 0.40	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
Copy milling cutters	N1	218.20-0.375ER-ME05 F40M	10,0 0.40	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	N2	218.20-0.375ER-ME05 F40M	10,0 0.40	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	N3	218.20-0.375ER-ME05 F40M	10,0 0.40	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	N11	218.20-0.375ER-ME05 F40M	10,0 0.40	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
Plunge milling cutters	S1	218.20-0.375ER-ME05 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	S2	218.20-0.375ER-ME05 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	S3	218.20-0.375ER-ME05 F40M	6,0 0.24	0,050 0.0020	0,050 0.0020	0,050 0.0020	0,075 0.0030	0,10 0.0040
	S11	218.20-0.375ER-ME05 MS2050	7,0 0.28	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
Chamfer milling cutters	S12	218.20-0.375ER-ME05 MS2050	7,0 0.28	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
	S13	218.20-0.375ER-ME05 MS2050	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	H5	218.20-0.375ER-M05 F40M	8,0 0.32	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
	H8	218.20-0.375ER-M05 F40M	7,0 0.28	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,080 0.0032
Spot facing cutters	H11	218.20-0.375ER-M05 F40M	8,0 0.32	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
	H12	218.20-0.375ER-M05 F40M	7,0 0.28	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,080 0.0032

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R218.20-0.375 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F25M					MS2050					F40M					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	280	305	370	435	475	335	355	415	470	500	310	320	365	405	425	Square shoulder and slot milling cutters
	920	1000	1225	1425	1550	1100	1175	1350	1550	1650	1025	1050	1200	1325	1400	
P2	275	300	360	425	460	325	345	400	455	485	300	315	355	390	410	Helical milling cutters
	900	980	1175	1400	1500	1075	1125	1300	1500	1600	980	1025	1175	1275	1350	
P3	240	260	315	365	400	285	305	350	390	420	260	275	310	335	355	Helical milling cutters
	790	850	1025	1200	1300	940	1000	1150	1275	1375	850	900	1025	1100	1175	
P4	210	230	275	320	355	250	265	305	345	370	230	245	280	310	330	Helical milling cutters
	690	750	900	1050	1175	820	870	1000	1125	1225	750	800	920	1025	1075	
P5	200	220	265	310	335	240	255	295	335	355	220	230	260	285	300	Helical milling cutters
	660	720	870	1025	1100	790	840	970	1100	1175	720	750	850	940	980	
P6	225	245	295	350	385	270	285	330	375	400	245	260	290	320	340	Face milling cutters
	740	800	970	1150	1275	890	940	1075	1225	1300	800	850	950	1050	1125	
P7	215	230	280	330	360	255	270	310	355	375	235	245	275	305	320	Face milling cutters
	710	750	920	1075	1175	840	890	1025	1175	1225	770	800	900	1000	1050	
P8	200	220	265	305	335	240	255	295	330	355	220	230	260	285	300	Face milling cutters
	660	720	870	1000	1100	790	840	970	1075	1175	720	750	850	940	980	
P11	205	225	270	320	350	245	260	300	340	365	225	235	265	295	310	Face milling cutters
	670	740	890	1050	1150	800	850	980	1125	1200	740	770	870	970	1025	
P12	140	150	170	200	220	160	170	185	205	220	150	155	160	175	185	Face milling cutters
	460	490	560	660	720	520	560	610	670	720	490	510	520	570	610	
M1	—	—	—	—	—	235	255	305	360	395	200	220	265	310	335	Disc milling cutters
	—	—	—	—	—	770	840	1000	1175	1300	660	720	870	1025	1100	
M2	—	—	—	—	—	190	210	250	295	320	165	180	215	255	275	Disc milling cutters
	—	—	—	—	—	620	690	820	970	1050	540	590	710	840	900	
M3	—	—	—	—	—	165	175	200	235	255	140	150	170	200	220	Disc milling cutters
	—	—	—	—	—	540	570	660	770	840	460	490	560	660	720	
M4	—	—	—	—	—	130	135	160	180	195	110	115	135	155	170	Disc milling cutters
	—	—	—	—	—	425	445	520	590	640	360	375	445	510	560	
M5	—	—	—	—	—	110	115	130	150	165	95	95	115	130	140	Disc milling cutters
	—	—	—	—	—	360	375	425	490	540	310	310	375	425	460	
K1	220	235	285	335	365	—	—	—	—	—	200	215	260	305	330	High feed milling cutters
	720	770	940	1100	1200	—	—	—	—	—	660	710	850	1000	1075	
K2	190	210	250	295	320	—	—	—	—	—	175	190	225	270	290	High feed milling cutters
	620	690	820	970	1050	—	—	—	—	—	570	620	740	890	950	
K3	160	175	210	250	270	—	—	—	—	—	145	160	190	230	245	High feed milling cutters
	520	570	690	820	890	—	—	—	—	—	475	520	620	750	800	
K4	155	170	200	240	260	—	—	—	—	—	140	155	185	215	235	Copy milling cutters
	510	560	660	790	850	—	—	—	—	—	460	510	610	710	770	
K5	95	105	125	145	155	—	—	—	—	—	85	95	110	130	145	Copy milling cutters
	310	345	410	475	510	—	—	—	—	—	280	310	360	425	475	
K6	135	150	180	210	230	—	—	—	—	—	125	135	160	190	205	Copy milling cutters
	445	490	590	690	750	—	—	—	—	—	410	445	520	620	670	
K7	120	130	160	185	200	—	—	—	—	—	110	120	145	170	185	Copy milling cutters
	395	425	520	610	660	—	—	—	—	—	360	395	475	560	610	
N1	—	—	—	—	—	—	—	—	—	—	1500	1600	1950	2275	2500	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	4925	5250	6400	7475	8200	
N2	—	—	—	—	—	—	—	—	—	—	600	650	790	920	1000	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	1975	2125	2600	3025	3275	
N3	—	—	—	—	—	—	—	—	—	—	400	435	530	610	670	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	1300	1425	1750	2000	2200	
N11	—	—	—	—	—	—	—	—	—	—	460	495	600	700	770	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	1500	1625	1975	2300	2525	
S1	—	—	—	—	—	60	65	75	85	90	50	55	65	70	80	Chamfer milling cutters
	—	—	—	—	—	195	215	245	280	295	165	180	215	230	260	
S2	—	—	—	—	—	49	50	60	65	75	42	44	50	60	65	Chamfer milling cutters
	—	—	—	—	—	160	165	195	215	245	140	145	165	195	215	
S3	—	—	—	—	—	43	44	50	60	65	37	38	44	50	55	Chamfer milling cutters
	—	—	—	—	—	140	145	165	195	215	120	125	145	165	180	
S11	—	—	—	—	—	85	90	105	120	130	70	75	90	100	110	Chamfer milling cutters
	—	—	—	—	—	280	295	345	395	425	230	245	295	330	360	
S12	—	—	—	—	—	60	60	70	80	90	50	55	60	70	75	Spot facing cutters
	—	—	—	—	—	195	195	230	260	295	165	180	195	230	245	
S13	—	—	—	—	—	34	36	41	47	50	29	31	35	40	44	Spot facing cutters
	—	—	—	—	—	110	120	135	155	165	95	100	115	130	145	
H5	—	—	—	—	—	—	—	—	—	—	42	45	50	60	65	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	140	150	165	195	215	
H8	—	—	—	—	—	—	—	—	—	—	45	47	55	65	70	Spot facing cutters
	—	—	—	—	—	—	—	—	—	—	150	155	180	215	230	
H11	—	—	—	—	—	—	—	—	—	—	55	60	65	75	85	Inserts
	—	—	—	—	—	—	—	—	—	—	180	195	215	245	280	
H12	—	—	—	—	—	—	—	—	—	—	80	85	100	115	125	Inserts
	—	—	—	—	—	—	—	—	—	—	260	280	330	375	410	

R218.20-0.750 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-0.750ER-ME10 F40M	20,0 0.80	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,24 0.0095	0,34 0.013
	P2	218.20-0.750ER-ME10 F40M	20,0 0.80	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
Helical milling cutters	P3	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
	P4	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	P5	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	P6	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
	P7	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
	P8	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
Face milling cutters	P11	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
	P12	218.20-0.750ER-ME10 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	M1	218.20-0.750ER-ME10 F40M	20,0 0.80	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
	M2	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
Disc milling cutters	M3	218.20-0.750ER-ME10 F40M	16,0 0.65	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,18 0.0070	0,25 0.010
	M4	218.20-0.750ER-ME10 F40M	12,0 0.48	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
	M5	218.20-0.750ER-ME10 F40M	12,0 0.48	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
	K1	218.20-0.750ER-ME10 F40M	20,0 0.80	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
	K2	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
High feed milling cutters	K3	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	K4	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	K5	218.20-0.750ER-ME10 F40M	20,0 0.80	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
	K6	218.20-0.750ER-ME10 F40M	20,0 0.80	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	K7	218.20-0.750ER-ME10 F40M	20,0 0.80	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
	N1	218.20-0.750ER-ME10 F40M	20,0 0.80	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
Copy milling cutters	N2	218.20-0.750ER-ME10 F40M	20,0 0.80	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
	N3	218.20-0.750ER-ME10 F40M	20,0 0.80	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
	N11	218.20-0.750ER-ME10 F40M	20,0 0.80	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
Plunge milling cutters	S1	218.20-0.750ER-ME10 F40M	12,0 0.48	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
	S2	218.20-0.750ER-ME10 F40M	12,0 0.48	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
	S3	218.20-0.750ER-ME10 F40M	12,0 0.48	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,15 0.0060	0,20 0.0080
	S11	218.20-0.750ER-ME10 F40M	14,0 0.55	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,18 0.0070	0,25 0.010
	S12	218.20-0.750ER-ME10 F40M	14,0 0.55	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,18 0.0070	0,25 0.010
Chamfer milling cutters	S13	218.20-0.750ER-ME10 F40M	12,0 0.48	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
	H5	218.20-0.750ER-ME10 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	H8	218.20-0.750ER-ME10 F40M	14,0 0.55	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065
	H11	218.20-0.750ER-ME10 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
Spot facing cutters	H12	218.20-0.750ER-ME10 F40M	14,0 0.55	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R218.20-0.750 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	265	275	320	365	380	220	235	280	320	340	Square shoulder and slot milling cutters
	870	900	1050	1200	1250	720	770	920	1050	1125	
P2	260	265	315	350	370	215	230	270	310	335	Helical milling cutters
	850	870	1025	1150	1225	710	750	890	1025	1100	
P3	225	235	275	305	325	190	200	235	265	290	Face milling cutters
	740	770	900	1000	1075	620	660	770	870	950	
P4	200	210	250	285	305	180	190	225	255	275	Disc milling cutters
	660	690	820	940	1000	590	620	740	840	900	
P5	190	195	230	260	275	160	170	200	225	240	High feed milling cutters
	620	640	750	850	900	520	560	660	740	790	
P6	215	220	260	295	310	180	190	220	255	275	Copy milling cutters
	710	720	850	970	1025	590	620	720	840	900	
P7	200	210	245	275	295	170	180	210	240	255	Plunge milling cutters
	660	690	800	900	970	560	590	690	790	840	
P8	190	195	230	255	275	160	170	200	225	240	Chamfer milling cutters
	620	640	750	840	900	520	560	660	740	790	
P11	195	205	235	270	285	165	175	205	235	250	Spot facing cutters
	640	670	770	890	940	540	570	670	770	820	
P12	135	140	155	170	180	105	110	125	135	145	Inserts
	445	460	510	560	590	345	360	410	445	475	
M1	175	190	230	270	295	140	155	185	220	240	
	570	620	750	890	970	460	510	610	720	790	
M2	145	155	190	225	245	115	125	155	185	195	
	475	510	620	740	800	375	410	510	610	640	
M3	125	130	155	180	195	100	105	125	145	160	
	410	425	510	590	640	330	345	410	475	520	
M4	100	105	120	140	150	80	85	100	115	125	
	330	345	395	460	490	260	280	330	375	410	
M5	85	85	100	115	125	65	70	80	95	100	
	280	280	330	375	410	215	230	260	310	330	
K1	170	185	225	265	290	—	—	—	—	—	
	560	610	740	870	950	—	—	—	—	—	
K2	150	165	200	240	255	—	—	—	—	—	
	490	540	660	790	840	—	—	—	—	—	
K3	130	140	170	200	215	—	—	—	—	—	
	425	460	560	660	710	—	—	—	—	—	
K4	120	130	160	190	205	—	—	—	—	—	
	395	425	520	620	670	—	—	—	—	—	
K5	75	80	100	115	125	—	—	—	—	—	
	245	260	330	375	410	—	—	—	—	—	
K6	110	115	140	170	180	—	—	—	—	—	
	360	375	460	560	590	—	—	—	—	—	
K7	95	105	125	150	165	—	—	—	—	—	
	310	345	410	490	540	—	—	—	—	—	
N1	1275	1375	1675	1975	2150	—	—	—	—	—	
	4175	4500	5500	6475	7050	—	—	—	—	—	
N2	510	550	680	800	870	—	—	—	—	—	
	1675	1800	2225	2625	2850	—	—	—	—	—	
N3	345	370	455	530	580	—	—	—	—	—	
	1125	1225	1500	1750	1900	—	—	—	—	—	
N11	390	420	520	610	660	—	—	—	—	—	
	1275	1375	1700	2000	2175	—	—	—	—	—	
S1	46	49	55	65	70	25	26	30	34	38	
	150	160	180	215	230	80	85	100	110	125	
S2	37	39	45	50	55	20	21	24	28	30	
	120	130	150	165	180	65	70	80	90	100	
S3	33	34	40	45	50	18	18	21	24	27	
	110	110	130	150	165	60	60	70	80	90	
S11	65	65	80	90	100	34	35	42	48	55	
	215	215	260	295	330	110	115	140	155	180	
S12	44	46	55	65	70	31	33	39	45	49	
	145	150	180	215	230	100	110	130	150	160	
S13	26	28	32	36	40	19	20	23	26	28	
	85	90	105	120	130	60	65	75	85	90	
H5	38	40	47	55	60	—	—	—	—	—	
	125	130	155	180	195	—	—	—	—	—	
H8	41	43	50	60	65	—	—	—	—	—	
	135	140	165	195	215	—	—	—	—	—	
H11	48	50	60	70	75	—	—	—	—	—	
	155	165	195	230	245	—	—	—	—	—	
H12	75	75	90	105	115	—	—	—	—	—	
	245	245	295	345	375	—	—	—	—	—	

R218.20-060 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-060ER-ME03 F40M	6,0 0.24	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
	P2	218.20-060ER-ME03 F40M	6,0 0.24	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
Helical milling cutters	P3	218.20-060ER-ME03 F40M	6,0 0.24	0,044 0.0017	0,044 0.0017	0,046 0.0018	0,070 0.0028	0,10 0.0040
	P4	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
Face milling cutters	P5	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
	P6	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
Disc milling cutters	P7	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
	P8	218.20-060ER-ME03 F40M	6,0 0.24	0,044 0.0017	0,044 0.0017	0,046 0.0018	0,070 0.0028	0,10 0.0040
High feed milling cutters	P11	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
	P12	218.20-060ER-ME03 F40M	5,0 0.20	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
Copy milling cutters	M1	218.20-060ER-ME03 MS2050	6,0 0.24	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
	M2	218.20-060ER-ME03 MS2050	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
Plunge milling cutters	M3	218.20-060ER-ME03 MS2050	5,0 0.20	0,034 0.0013	0,034 0.0013	0,036 0.0014	0,055 0.0022	0,075 0.0030
	M4	218.20-060ER-ME03 F40M	3,5 0.14	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Chamfer milling cutters	M5	218.20-060ER-ME03 F40M	3,5 0.14	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
	K1	218.20-060ER-ME03 F40M	6,0 0.24	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
Spot facing cutters	K2	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
	K3	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
Inserts	K4	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
	K5	218.20-060ER-ME03 F40M	6,0 0.24	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,085 0.0034
Inserts	K6	218.20-060ER-ME03 F40M	6,0 0.24	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
	K7	218.20-060ER-ME03 F40M	6,0 0.24	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,085 0.0034
Inserts	N1	218.20-060ER-ME03 F40M	6,0 0.24	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
	N2	218.20-060ER-ME03 F40M	6,0 0.24	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
Inserts	N3	218.20-060ER-ME03 F40M	6,0 0.24	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
	N11	218.20-060ER-ME03 F40M	6,0 0.24	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
Inserts	S1	218.20-060ER-ME03 F40M	3,5 0.14	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
	S2	218.20-060ER-ME03 F40M	3,5 0.14	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Inserts	S3	218.20-060ER-ME03 F40M	3,5 0.14	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,060 0.0024
	S11	218.20-060ER-ME03 MS2050	4,0 0.16	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
Inserts	S12	218.20-060ER-ME03 MS2050	4,0 0.16	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
	S13	218.20-060ER-ME03 MS2050	3,5 0.14	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
Inserts	H5	218.20-060ER-ME03 F40M	5,0 0.20	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
	H8	218.20-060ER-ME03 F40M	4,0 0.16	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020
Inserts	H11	218.20-060ER-ME03 F40M	5,0 0.20	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
	H12	218.20-060ER-ME03 F40M	4,0 0.16	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R218.20-060 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050					F40M					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	365	390	440	490	520	355	375	410	445	470	Square shoulder and slot milling cutters
	1200	1275	1450	1600	1700	1175	1225	1350	1450	1550	
P2	355	380	425	480	510	345	365	400	435	455	Helical milling cutters
	1175	1250	1400	1575	1675	1125	1200	1300	1425	1500	
P3	305	330	370	410	440	300	315	345	375	395	Face milling cutters
	1000	1075	1225	1350	1450	980	1025	1125	1225	1300	
P4	270	290	325	360	385	265	280	310	345	365	Disc milling cutters
	890	950	1075	1175	1275	870	920	1025	1125	1200	
P5	260	275	310	345	370	250	265	290	315	330	High feed milling cutters
	850	900	1025	1125	1225	820	870	950	1025	1075	
P6	290	310	350	390	415	280	300	325	355	370	Copy milling cutters
	950	1025	1150	1275	1350	920	980	1075	1175	1225	
P7	275	295	330	365	390	265	280	305	335	350	Plunge milling cutters
	900	970	1075	1200	1275	870	920	1000	1100	1150	
P8	255	275	310	345	370	250	265	290	315	330	Chamfer milling cutters
	840	900	1025	1125	1225	820	870	950	1025	1075	
P11	265	285	320	355	380	260	275	300	325	340	Spot facing cutters
	870	940	1050	1175	1250	850	900	980	1075	1125	
P12	165	175	185	205	220	160	170	175	185	195	Inserts
	540	570	610	670	720	520	560	570	610	640	
M1	265	285	340	400	440	240	260	310	365	400	
	870	940	1125	1300	1450	790	850	1025	1200	1300	
M2	215	235	280	325	355	195	215	255	295	325	
	710	770	920	1075	1175	640	710	840	970	1075	
M3	175	190	220	255	280	160	175	200	235	255	
	570	620	720	840	920	520	570	660	770	840	
M4	140	150	170	195	215	130	135	155	175	195	
	460	490	560	640	710	425	445	510	570	640	
M5	120	125	145	165	180	110	110	130	150	160	
	395	410	475	540	590	360	360	425	490	520	
K1	—	—	—	—	—	235	255	305	355	390	
	—	—	—	—	—	770	840	1000	1175	1275	
K2	—	—	—	—	—	205	225	270	310	340	
	—	—	—	—	—	670	740	890	1025	1125	
K3	—	—	—	—	—	175	190	225	265	290	
	—	—	—	—	—	570	620	740	870	950	
K4	—	—	—	—	—	165	180	215	250	275	
	—	—	—	—	—	540	590	710	820	900	
K5	—	—	—	—	—	100	110	130	155	165	
	—	—	—	—	—	330	360	425	510	540	
K6	—	—	—	—	—	145	160	190	220	245	
	—	—	—	—	—	475	520	620	720	800	
K7	—	—	—	—	—	130	140	165	195	215	
	—	—	—	—	—	425	460	540	640	710	
N1	—	—	—	—	—	1775	1925	2325	2725	2975	
	—	—	—	—	—	5825	6325	7625	8950	9750	
N2	—	—	—	—	—	720	780	940	1100	1200	
	—	—	—	—	—	2350	2550	3075	3600	3925	
N3	—	—	—	—	—	475	520	630	730	800	
	—	—	—	—	—	1550	1700	2075	2400	2625	
N11	—	—	—	—	—	550	590	720	840	920	
	—	—	—	—	—	1800	1925	2350	2750	3025	
S1	65	70	80	90	100	60	65	75	85	90	
	215	230	260	295	330	195	215	245	280	295	
S2	55	55	65	75	80	49	50	60	65	75	
	180	180	215	245	260	160	165	195	215	245	
S3	46	48	55	65	70	42	44	50	60	65	
	150	155	180	215	230	140	145	165	195	215	
S11	95	95	115	130	140	85	90	105	120	130	
	310	310	375	425	460	280	295	345	395	425	
S12	65	65	80	90	100	60	60	70	80	90	
	215	215	260	295	330	195	195	230	260	295	
S13	37	39	45	50	55	34	35	41	47	50	
	120	130	150	165	180	110	115	135	155	165	
H5	—	—	—	—	—	48	50	60	70	75	
	—	—	—	—	—	155	165	195	230	245	
H8	—	—	—	—	—	50	55	65	70	80	
	—	—	—	—	—	165	180	215	230	260	
H11	—	—	—	—	—	60	65	75	90	95	
	—	—	—	—	—	195	215	245	295	310	
H12	—	—	—	—	—	90	100	115	130	140	
	—	—	—	—	—	295	330	375	425	460	

R218.20-080 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-080ER-M04 F40M	8,0 0.32	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	P2	218.20-080ER-M04 F40M	8,0 0.32	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,18 0.0065	0,25 0.0095
Helical milling cutters	P3	218.20-080ER-M04 F40M	8,0 0.32	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	P4	218.20-080ER-M04 F40M	8,0 0.32	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	P5	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P6	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P7	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P8	218.20-080ER-M04 F40M	8,0 0.32	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
Face milling cutters	P11	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P12	218.20-080ER-M04 F40M	7,0 0.28	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	M1	218.20-080ER-ME04 MS2050	8,0 0.32	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
	M2	218.20-080ER-ME04 MS2050	8,0 0.32	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
Disc milling cutters	M3	218.20-080ER-ME04 MS2050	7,0 0.28	0,046 0.0018	0,046 0.0018	0,048 0.0019	0,075 0.0030	0,10 0.0040
	M4	218.20-080ER-ME04 MP3501	5,0 0.20	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
	M5	218.20-080ER-ME04 MP3501	5,0 0.20	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
	K1	218.20-080ER-M04 F40M	8,0 0.32	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,18 0.0065	0,25 0.0095
	K2	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
High feed milling cutters	K3	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K4	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K5	218.20-080ER-M04 F40M	8,0 0.32	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
	K6	218.20-080ER-M04 F40M	8,0 0.32	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K7	218.20-080ER-M04 F40M	8,0 0.32	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
	N1	218.20-080ER-ME04 F40M	8,0 0.32	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
Copy milling cutters	N2	218.20-080ER-ME04 F40M	8,0 0.32	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	N3	218.20-080ER-ME04 F40M	8,0 0.32	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	N11	218.20-080ER-ME04 F40M	8,0 0.32	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	S1	218.20-080ER-ME04 MP3501	5,0 0.20	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
Plunge milling cutters	S2	218.20-080ER-ME04 MP3501	5,0 0.20	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
	S3	218.20-080ER-ME04 MP3501	5,0 0.20	0,040 0.0016	0,040 0.0016	0,040 0.0016	0,060 0.0024	0,085 0.0034
	S11	218.20-080ER-ME04 MS2050	6,0 0.24	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
	S12	218.20-080ER-ME04 MS2050	6,0 0.24	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
	S13	218.20-080ER-ME04 MS2050	5,0 0.20	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
Chamfer milling cutters	H5	218.20-080ER-M04 F40M	7,0 0.28	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H8	218.20-080ER-M04 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
	H11	218.20-080ER-M04 F40M	7,0 0.28	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H12	218.20-080ER-M04 F40M	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R218.20-080 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F25M					MS2050					F40M					MP3501					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	265 870	285 940	345 1125	405 1325	440 1450	335 1100	360 1175	410 1350	460 1500	490 1600	290 950	300 980	345 1125	380 1250	400 1300	420 1375	450 1475	490 1600	530 1750	560 1825	240 790	260 850	295 970	330 1075	355 1175	Square shoulder and slot milling cutters
P2	250 820	270 890	335 1100	390 1275	425 1400	330 1075	350 1150	400 1300	450 1475	480 1575	275 900	285 940	335 1100	370 1225	390 1275	410 1350	435 1425	475 1550	520 1700	550 1800	235 770	255 840	285 940	325 1075	345 1125	
P3	220 720	240 790	290 950	340 1125	370 1225	280 920	300 980	345 1125	385 1275	415 1350	245 800	255 840	290 950	320 1050	335 1100	350 1150	375 1225	410 1350	445 1450	470 1550	200 660	220 720	245 800	280 920	300 980	Helical milling cutters
P4	195 640	210 690	255 840	305 1000	330 1075	250 820	270 890	305 1000	340 1125	365 1200	215 710	225 740	260 850	300 980	320 1050	310 1025	330 1075	360 1175	390 1275	415 1350	195 640	210 690	235 770	265 870	280 920	
P5	190 620	205 670	245 800	290 950	315 1025	240 790	255 840	290 950	325 1075	350 1150	205 670	215 710	245 800	270 890	285 940	295 970	315 1025	345 1125	375 1225	395 1300	170 560	185 610	205 670	230 750	250 820	Face milling cutters
P6	210 690	230 750	280 920	325 1075	355 1175	270 890	285 940	325 1075	365 1200	390 1275	235 770	240 790	275 900	305 1000	325 1075	335 1075	355 1175	385 1275	420 1375	440 1450	190 620	205 670	230 750	260 850	280 920	
P7	200 660	215 710	260 850	305 1000	335 1100	255 840	270 890	310 1025	345 1125	370 1225	220 720	230 750	260 850	290 950	305 1000	315 1025	335 1100	365 1200	395 1300	415 1350	180 590	195 640	220 720	245 800	265 870	Face milling cutters
P8	185 610	200 660	240 790	285 940	310 1025	235 770	255 840	290 950	325 1075	350 1150	205 670	210 690	240 790	270 890	285 940	295 970	315 1025	345 1125	375 1225	395 1300	170 560	185 610	205 670	235 770	250 820	
P11	195 640	210 690	255 840	300 980	325 1075	245 800	265 870	300 980	335 1100	360 1175	215 710	220 720	255 840	280 920	295 970	305 1000	325 1075	355 1175	385 1275	405 1325	175 570	190 620	215 710	240 790	255 840	Face milling cutters
P12	125 410	135 445	160 520	190 620	205 670	155 510	165 540	180 590	200 660	210 690	140 460	145 475	160 520	175 570	180 590	180 590	190 620	200 660	215 710	225 740	105 345	115 375	120 395	135 445	140 460	
M1	—	—	—	—	—	240 790	260 850	310 1025	365 1200	395 1300	185 610	200 660	245 800	285 940	310 1025	240 790	260 850	310 1025	365 1200	395 1300	160 520	170 560	210 690	245 800	270 890	Disc milling cutters
M2	—	—	—	—	—	195 640	210 690	255 840	300 980	325 1075	155 510	165 540	200 660	235 770	260 850	195 640	210 690	255 840	300 980	325 1075	135 445	145 475	175 570	205 670	225 740	
M3	—	—	—	—	—	160 520	170 560	200 660	235 770	255 840	125 410	135 445	160 520	190 620	205 670	160 520	170 560	200 660	235 770	255 840	110 360	120 395	140 460	160 520	175 570	Disc milling cutters
M4	—	—	—	—	—	130 425	135 445	155 510	180 590	195 640	105 360	110 375	125 410	145 475	160 520	130 425	135 445	155 510	180 590	195 640	90 295	95 310	110 360	125 410	135 445	
M5	—	—	—	—	—	110 360	115 375	130 425	150 490	165 540	85 280	90 295	105 345	120 395	135 445	135 445	145 475	160 520	180 590	195 640	75 245	80 260	90 295	105 345	115 375	High feed milling cutters
K1	200 660	215 710	265 870	310 1025	335 1100	—	—	—	—	—	180 590	195 640	240 790	280 920	305 1000	415 1350	440 1450	480 1575	530 1750	550 1800	—	—	—	—	—	
K2	180 590	195 640	235 770	275 900	300 980	—	—	—	—	—	165 540	175 570	215 710	250 820	275 900	360 1175	385 1275	415 1350	450 1475	480 1575	—	—	—	—	—	High feed milling cutters
K3	150 490	165 540	200 660	230 750	255 840	—	—	—	—	—	140 460	150 490	180 590	210 690	230 750	305 1000	325 1075	350 1150	380 1250	405 1325	—	—	—	—	—	
K4	145 475	155 510	190 620	220 720	240 790	—	—	—	—	—	130 425	140 460	170 560	200 660	220 720	290 950	310 1025	335 1100	365 1200	385 1275	—	—	—	—	—	Copy milling cutters
K5	90 295	95 310	115 375	135 445	145 475	—	—	—	—	—	80 260	85 280	105 345	125 410	135 445	170 560	185 610	200 660	215 710	225 740	—	—	—	—	—	
K6	130 425	140 460	165 540	195 640	215 710	—	—	—	—	—	115 375	125 410	150 490	180 590	195 640	255 840	270 890	295 970	320 1050	340 1125	—	—	—	—	—	Copy milling cutters
K7	115 375	120 395	145 475	175 570	190 620	—	—	—	—	—	105 345	110 360	135 445	160 520	170 560	220 720	235 770	255 840	275 900	290 950	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	1350 4425	1450 4750	1775 5825	2125 6975	2300 7550	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
N2	—	—	—	—	—	—	—	—	—	—	550 1800	590 1925	720 2350	860 2825	920 3025	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	365 1200	395 1300	480 1575	570 1875	620 2025	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
N11	—	—	—	—	—	—	—	—	—	—	415 1350	450 1475	550 1800	650 2125	700 2300	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	60 195	65 215	75 245	85 280	90 295	48 155	50 165	60 195	70 230	75 245	60 195	65 215	75 245	85 280	90 295	27 90	29 95	33 110	38 125	42 140	Chamfer milling cutters
S2	—	—	—	—	—	49 160	50 165	60 195	65 215	75 245	39 130	41 135	47 155	55 180	60 195	49 160	50 165	60 195	65 215	75 245	22 70	23 75	27 90	31 100	34 110	
S3	—	—	—	—	—	42 140	44 145	50 165	60 195	65 215	34 110	36 120	41 135	48 155	50 165	42 140	44 145	50 165	60 215	65 215	19 60	20 65	23 75	27 90	30 100	Chamfer milling cutters
S11	—	—	—	—	—	85 280	90 295	100 330	120 395	130 425	65 215	70 230	80 260	95 310	105 345	85 280	90 295	100 330	120 395	130 425	38 125	40 130	46 150	55 180	60 195	
S12	—	—	—	—	—	60 195	60 195	70 230	85 280	90 295	46 155	49 160	55 180	65 215	70 230	60 195	60 195	70 230	85 280	90 295	35 115	37 120	42 140	50 165	55 180	Spot facing cutters
S13	—	—	—	—	—	34 110	36 120	41 135	47 155	50 165	27 90	28 90	33 110	38 125	42 140	34 110	36 120	41 135	47 155	50 165	21 70	21 70	25 80	29 95	31 100	
H5	—	—	—	—	—	—	—	—	—	—	38 125	41 135	49 160	55 180	60 195	—	—	—	—	—	—	—	—	—	—	Spot facing cutters
H8	—	—	—	—	—	—	—	—	—	—	42 140	44 145	50 165	60 195	65 215	—	—	—	—	—	—	—	—	—	—	
H11	—	—	—	—	—	—	—	—	—	—	49 160	55 180	60 195	75 245	80 260	—	—	—	—	—	—	—	—	—	—	Inserts
H12	—	—	—	—	—	—	—	—	—	—	75 245	80 260	90 295	110 360	120 395	—	—	—	—	—	—	—	—	—	—	

R218.20-100 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-100ER-M05 F40M	11,0 0.44	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	P2	218.20-100ER-M05 F40M	11,0 0.44	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
Helical milling cutters	P3	218.20-100ER-M05 F40M	11,0 0.44	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	P4	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,16 0.0065	0,22 0.0085
	P5	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P6	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P7	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P8	218.20-100ER-M05 F40M	11,0 0.44	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
Face milling cutters	P11	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P12	218.20-100ER-M05 F40M	9,0 0.36	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	M1	218.20-100ER-ME05 MS2050	11,0 0.44	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
	M2	218.20-100ER-ME05 MS2050	11,0 0.44	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
Disc milling cutters	M3	218.20-100ER-ME05 MS2050	9,0 0.36	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
	M4	218.20-100ER-ME05 F40M	6,0 0.24	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	M5	218.20-100ER-ME05 F40M	6,0 0.24	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K1	218.20-100ER-M05 F40M	11,0 0.44	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	K2	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
High feed milling cutters	K3	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K4	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K5	218.20-100ER-M05 F40M	11,0 0.44	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
	K6	218.20-100ER-M05 F40M	11,0 0.44	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K7	218.20-100ER-M05 F40M	11,0 0.44	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
	N1	218.20-100ER-ME05 F40M	11,0 0.44	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
Copy milling cutters	N2	218.20-100ER-ME05 F40M	11,0 0.44	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
	N3	218.20-100ER-ME05 F40M	11,0 0.44	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
	N11	218.20-100ER-ME05 F40M	11,0 0.44	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
Plunge milling cutters	S1	218.20-100ER-ME05 F40M	6,0 0.24	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	S2	218.20-100ER-ME05 F40M	6,0 0.24	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	S3	218.20-100ER-ME05 F40M	6,0 0.24	0,070 0.0028	0,070 0.0028	0,070 0.0028	0,11 0.0044	0,15 0.0060
	S11	218.20-100ER-ME05 MS2050	8,0 0.32	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
	S12	218.20-100ER-ME05 MS2050	8,0 0.32	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
Chamfer milling cutters	S13	218.20-100ER-ME05 MS2050	6,0 0.24	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
	H5	218.20-100ER-M05 F40M	9,0 0.36	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H8	218.20-100ER-M05 F40M	8,0 0.32	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
	H11	218.20-100ER-M05 F40M	9,0 0.36	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
Spot facing cutters	H12	218.20-100ER-M05 F40M	8,0 0.32	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	260	280	340	400	430	310	335	385	440	465	285	295	340	375	395	240	260	290	330	350
	850	920	1125	1300	1400	1025	1100	1275	1450	1525	940	970	1125	1225	1300	790	850	950	1075	1150
P2	255	275	330	390	420	305	325	375	425	455	275	290	330	365	385	230	250	285	320	340
	840	900	1075	1275	1375	1000	1075	1225	1400	1500	900	950	1075	1200	1275	750	820	940	1050	1125
P3	215	235	285	340	370	265	280	325	365	390	240	250	285	320	335	200	215	245	275	290
	710	770	940	1125	1225	870	920	1075	1200	1275	790	820	940	1050	1100	660	710	800	900	950
P4	195	210	250	300	325	235	250	285	325	345	215	225	255	295	310	190	205	230	260	280
	640	690	820	980	1075	770	820	940	1075	1125	710	740	840	970	1025	620	670	750	850	920
P5	185	200	245	285	310	220	235	275	310	330	205	210	245	265	280	170	185	205	230	245
	610	660	800	940	1025	720	770	900	1025	1075	670	690	800	870	920	560	610	670	750	800
P6	205	225	275	320	350	250	270	305	350	370	225	235	270	300	315	190	205	230	260	275
	670	740	900	1050	1150	820	890	1000	1150	1225	740	770	890	980	1025	620	670	750	850	900
P7	195	215	260	300	330	240	255	290	330	350	215	225	255	285	300	180	195	215	245	260
	640	710	850	980	1075	790	840	950	1075	1150	710	740	840	940	980	590	640	710	800	850
P8	185	200	240	285	310	220	235	275	310	330	200	210	240	265	280	165	180	205	230	245
	610	660	790	940	1025	720	770	900	1025	1075	660	690	790	870	920	540	590	670	750	800
P11	190	205	250	295	320	230	245	280	320	340	210	215	250	275	290	175	190	210	235	255
	620	670	820	970	1050	750	800	920	1050	1125	690	710	820	900	950	570	620	690	770	840
P12	130	140	165	185	205	150	160	175	195	205	140	145	160	170	180	105	115	120	130	140
	425	460	540	610	670	490	520	570	640	670	460	475	520	560	590	345	375	395	425	460
M1	—	—	—	—	—	220	240	285	340	365	185	200	240	285	310	160	175	210	245	265
	—	—	—	—	—	720	790	940	1125	1200	610	660	790	940	1025	520	570	690	800	870
M2	—	—	—	—	—	180	195	235	280	300	150	165	200	235	255	130</				

R218.20-125 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-125ER-M07 F40M	13,0 0.50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	P2	218.20-125ER-M07 F40M	13,0 0.50	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
Helical milling cutters	P3	218.20-125ER-M07 F40M	13,0 0.50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	P4	218.20-125ER-M07 F40M	13,0 0.50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	P5	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P6	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P7	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P8	218.20-125ER-M07 F40M	13,0 0.50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
Face milling cutters	P11	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	P12	218.20-125ER-M07 F40M	11,0 0.44	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	M1	218.20-125ER-ME07 MS2050	13,0 0.50	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
Disc milling cutters	M2	218.20-125ER-ME07 MS2050	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	M3	218.20-125ER-ME07 MS2050	11,0 0.44	0,080 0.0032	0,080 0.0032	0,085 0.0034	0,13 0.0050	0,18 0.0070
	M4	218.20-125ER-ME07 F40M	8,0 0.32	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	M5	218.20-125ER-ME07 F40M	8,0 0.32	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	K1	218.20-125ER-M07 F40M	13,0 0.50	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
High feed milling cutters	K2	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K3	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K4	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K5	218.20-125ER-M07 F40M	13,0 0.50	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
	K6	218.20-125ER-M07 F40M	13,0 0.50	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	K7	218.20-125ER-M07 F40M	13,0 0.50	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
Copy milling cutters	N1	218.20-125ER-ME07 F40M	13,0 0.50	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
	N2	218.20-125ER-ME07 F40M	13,0 0.50	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
	N3	218.20-125ER-ME07 F40M	13,0 0.50	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
Plunge milling cutters	N11	218.20-125ER-ME07 F40M	13,0 0.50	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
	S1	218.20-125ER-ME07 F40M	8,0 0.32	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	S2	218.20-125ER-ME07 F40M	8,0 0.32	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	S3	218.20-125ER-ME07 F40M	8,0 0.32	0,070 0.0028	0,070 0.0028	0,070 0.0028	0,11 0.0044	0,14 0.0060
Chamfer milling cutters	S11	218.20-125ER-ME07 MS2050	9,0 0.36	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070
	S12	218.20-125ER-ME07 MS2050	9,0 0.36	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070
	S13	218.20-125ER-ME07 MS2050	8,0 0.32	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
	H5	218.20-125ER-M07 F40M	11,0 0.44	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H8	218.20-125ER-M07 F40M	9,0 0.36	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
Spot facing cutters	H11	218.20-125ER-M07 F40M	11,0 0.44	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H12	218.20-125ER-M07 F40M	9,0 0.36	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R218.20-125 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F25M					MS2050					F40M					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	260 850	285 940	340 1125	400 1300	435 1425	315 1025	335 1100	395 1300	450 1475	480 1575	285 940	300 980	340 1125	380 1250	400 1300	255 840	280 920	315 1025	355 1175	380 1250	Square shoulder and slot milling cutters
P2	250 820	270 890	330 1075	390 1275	425 1400	300 980	320 1050	380 1250	435 1425	465 1525	275 900	285 940	330 1075	370 1225	385 1275	250 820	270 890	305 1000	345 1125	370 1225	
P3	220 720	235 770	285 940	340 1125	370 1225	265 870	280 920	330 1075	380 1250	405 1325	240 790	250 820	285 940	320 1050	340 1125	215 710	235 770	265 870	295 970	315 1025	Helical milling cutters
P4	195 640	210 690	250 820	300 980	325 1075	235 770	250 820	290 950	335 1100	360 1175	215 710	225 740	260 850	295 970	315 1025	205 670	225 740	250 820	280 920	300 980	
P5	185 610	200 660	245 800	285 940	315 1025	225 740	240 790	280 920	320 1050	340 1125	205 670	215 710	245 800	270 890	285 940	180 590	195 640	220 720	250 820	265 870	Face milling cutters
P6	210 690	225 740	275 900	320 1050	350 1150	255 840	270 890	315 1025	360 1175	385 1275	230 750	240 790	275 900	300 980	320 1050	205 670	220 720	250 820	280 920	300 980	
P7	200 660	215 710	260 850	305 1000	330 1075	240 790	255 840	300 980	335 1100	360 1175	215 710	225 740	260 850	285 940	300 980	190 620	210 690	235 770	265 870	280 920	Disc milling cutters
P8	185 610	200 660	240 790	285 940	315 1025	225 740	235 770	275 900	320 1050	340 1125	200 660	210 690	240 790	270 890	285 940	180 590	195 640	220 720	250 820	265 870	
P11	190 620	210 690	250 820	295 970	320 1050	230 750	245 800	290 950	330 1075	350 1150	210 690	220 720	250 820	275 900	295 970	185 610	205 670	225 740	255 840	275 900	High feed milling cutters
P12	130 425	140 460	165 540	185 610	205 670	155 510	165 540	185 610	200 660	215 710	140 460	145 475	160 520	170 560	180 590	110 360	120 395	130 425	140 460	150 490	
M1	—	—	—	—	—	215 710	235 770	285 940	340 1125	370 1225	185 610	195 640	245 800	285 940	310 1025	170 560	185 610	225 740	265 870	290 950	Copy milling cutters
M2	—	—	—	—	—	180 590	195 640	235 770	275 900	305 1000	155 510	165 540	200 660	235 770	255 840	140 460	155 510	185 610	215 710	235 770	
M3	—	—	—	—	—	150 490	160 520	190 620	220 720	245 800	125 410	135 445	160 520	185 610	205 670	120 395	125 410	150 490	175 570	190 620	Plunge milling cutters
M4	—	—	—	—	—	120 395	130 425	150 490	170 560	185 610	105 345	110 360	125 410	145 475	155 510	95 310	100 330	115 375	135 445	145 475	
M5	—	—	—	—	—	100 330	105 345	125 410	140 460	155 510	85 280	90 295	105 345	120 395	130 425	80 260	85 280	100 330	110 360	120 395	Chamfer milling cutters
K1	195 640	215 710	265 870	310 1025	335 1100	—	—	—	—	—	180 590	195 640	240 790	280 920	305 1000	—	—	—	—	—	
K2	175 570	190 620	230 750	270 890	295 970	—	—	—	—	—	160 520	175 570	210 690	245 800	270 890	—	—	—	—	—	Spot facing cutters
K3	150 490	160 520	195 640	230 750	250 820	—	—	—	—	—	135 445	145 475	180 590	210 690	230 750	—	—	—	—	—	
K4	145 475	155 510	190 620	220 720	240 790	—	—	—	—	—	130 425	140 460	170 560	200 660	220 720	—	—	—	—	—	Inserts
K5	85 280	95 310	115 375	135 445	145 475	—	—	—	—	—	80 260	85 280	105 345	120 395	130 425	—	—	—	—	—	
K6	125 410	135 445	165 540	195 640	210 690	—	—	—	—	—	115 375	125 410	150 490	175 570	190 620	—	—	—	—	—	Square shoulder and slot milling cutters
K7	110 360	120 395	145 475	170 560	185 610	—	—	—	—	—	100 330	110 360	130 425	155 510	170 560	—	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	1375 4500	1475 4850	1750 5750	2100 6900	2300 7550	—	—	—	—	—	Helical milling cutters
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Face milling cutters
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	55 180	60 195	70 230	80 260	85 280	48 155	50 165	60 195	65 215	75 245	29 95	31 100	36 120	41 135	45 150	Disc milling cutters
S2	—	—	—	—	—	46 150	48 155	55 180	65 215	70 230	39 130	41 135	47 155	55 180	60 195	24 80	25 80	29 95	33 110	36 120	
S3	—	—	—	—	—	40 130	42 140	49 160	55 180	60 195	34 110	36 120	41 135	47 155	50 165	21 70	22 70	25 80	29 95	31 100	Copy milling cutters
S11	—	—	—	—	—	80 260	85 280	95 310	110 360	125 410	65 215	70 230	80 260	95 310	105 345	40 130	43 140	50 165	55 180	65 215	
S12	—	—	—	—	—	55 180	55 180	65 215	75 245	85 280	46 150	48 155	55 180	65 215	70 230	37 120	39 130	46 150	55 180	60 195	Spot facing cutters
S13	—	—	—	—	—	32 105	34 110	39 130	45 150	49 160	27 90	28 90	33 110	38 125	41 135	22 70	23 75	27 90	31 100	34 110	
H5	—	—	—	—	—	—	—	—	—	—	39 130	42 140	49 160	55 180	60 195	—	—	—	—	—	Helical milling cutters
H8	—	—	—	—	—	—	—	—	—	—	42 140	44 145	50 165	60 195	65 215	—	—	—	—	—	
H11	—	—	—	—	—	—	—	—	—	—	50 165	55 180	65 215	70 230	80 260	—	—	—	—	—	Square shoulder and slot milling cutters
H12	—	—	—	—	—	—	—	—	—	—	75 245	80 260	90 295	105 345	115 375	—	—	—	—	—	

R218.20-150 – Insert selection – mm/Inch

R218.20-150 – Insert selection – mm/Inch									
Square shoulder and slot milling cutters	SMG			a _p	f _z				
					100%	70%	30%	10%	5%
Helical milling cutters	P1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,34 0.013
	P2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,24 0.0095	0,34 0.013
	P3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	P4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,32 0.013
	P5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
Face milling cutters	P7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	P11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 0.85	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,15 0.0060	0,20 0.0080
Disc milling cutters	M1	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 1.0	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	M2	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 1.0	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,15 0.0060	0,22 0.0085
	M3	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	21,0 0.85	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
	M4	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	M5	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
High feed milling cutters	K1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,24 0.0095	0,34 0.013
	K2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
Copy milling cutters	K6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
	N1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,44 0.017
	N2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,44 0.017
Plunge milling cutters	N3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,44 0.017
	N11	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,44 0.017
	S1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	S2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 0.65	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
Chamfer milling cutters	S3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 0.65	0,090 0.0036	0,090 0.0036	0,095 0.0038	0,15 0.0060	0,20 0.0080
	S11	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 0.70	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,13 0.0050	0,17 0.0065
	S12	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 0.70	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,13 0.0050	0,17 0.0065
	S13	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	16,0 0.65	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
	H5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 0.85	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,15 0.0060	0,20 0.0080
Facing cutters	H8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 0.70	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065
	H11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 0.85	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,15 0.0060	0,20 0.0080
	H12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 0.70	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

R218.20-150 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050					F40M					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	305	320	375	430	460	250	255	300	340	360	220	235	280	320	340	Square shoulder and slot milling cutters
	1000	1050	1225	1400	1500	820	840	980	1125	1175	720	770	920	1050	1125	
P2	290	305	365	420	445	240	250	295	330	350	215	230	270	310	330	Helical milling cutters
	950	1000	1200	1375	1450	790	820	970	1075	1150	710	750	890	1025	1075	
P3	255	270	315	365	390	210	220	255	285	305	190	200	235	265	285	Helical milling cutters
	840	890	1025	1200	1275	690	720	840	940	1000	620	660	770	870	940	
P4	225	235	280	320	345	190	200	235	265	285	180	190	225	255	275	Helical milling cutters
	740	770	920	1050	1125	620	660	770	870	940	590	620	740	840	900	
P5	215	230	270	305	325	180	185	215	245	255	160	170	195	225	240	Helical milling cutters
	710	750	890	1000	1075	590	610	710	800	840	520	560	640	740	790	
P6	240	260	305	345	365	200	205	245	275	285	175	190	220	255	270	Face milling cutters
	790	850	1000	1125	1200	660	670	800	900	940	570	620	720	840	890	
P7	230	245	285	325	345	190	195	230	260	270	165	180	210	240	255	Face milling cutters
	750	800	940	1075	1125	620	640	750	850	890	540	590	690	790	840	
P8	215	225	265	305	325	180	185	215	240	255	160	170	195	225	240	Face milling cutters
	710	740	870	1000	1075	590	610	710	790	840	520	560	640	740	790	
P11	220	235	280	315	335	185	190	220	250	265	160	175	205	230	250	Face milling cutters
	720	770	920	1025	1100	610	620	720	820	870	520	570	670	750	820	
P12	145	155	175	195	205	130	130	145	160	170	105	110	125	135	145	Disc milling cutters
	475	510	570	640	670	425	425	475	520	560	345	360	410	445	475	
M1	205	225	275	325	350	165	175	215	255	280	140	150	185	220	240	Disc milling cutters
	670	740	900	1075	1150	540	570	710	840	920	460	490	610	720	790	
M2	175	185	225	265	290	135	145	175	210	230	115	125	155	185	195	Disc milling cutters
	570	610	740	870	950	445	475	570	690	750	375	410	510	610	640	
M3	145	155	180	210	235	115	125	145	170	185	100	105	125	145	160	Disc milling cutters
	475	510	590	690	770	375	410	475	560	610	330	345	410	475	520	
M4	115	125	140	165	180	95	100	115	130	140	80	85	100	110	120	Disc milling cutters
	375	410	460	540	590	310	330	375	425	460	260	280	330	360	395	
M5	100	105	120	135	150	80	85	95	110	120	70	70	85	95	100	Disc milling cutters
	330	345	395	445	490	260	280	310	360	395	230	230	280	310	330	
K1	—	—	—	—	—	160	175	210	250	275	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	520	570	690	820	900	—	—	—	—	—	
K2	—	—	—	—	—	140	155	185	225	240	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	460	510	610	740	790	—	—	—	—	—	
K3	—	—	—	—	—	120	130	160	190	205	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	395	425	520	620	670	—	—	—	—	—	
K4	—	—	—	—	—	115	125	150	180	195	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	375	410	490	590	640	—	—	—	—	—	
K5	—	—	—	—	—	70	75	95	110	120	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	230	245	310	360	395	—	—	—	—	—	
K6	—	—	—	—	—	100	110	135	160	170	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	330	360	445	520	560	—	—	—	—	—	
K7	—	—	—	—	—	90	100	120	140	155	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	295	330	395	460	510	—	—	—	—	—	
N1	—	—	—	—	—	1200	1275	1575	1850	2025	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	3925	4175	5175	6075	6650	—	—	—	—	—	
N2	—	—	—	—	—	480	520	640	750	820	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1575	1700	2100	2450	2700	—	—	—	—	—	
N3	—	—	—	—	—	320	345	425	500	540	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1050	1125	1400	1650	1775	—	—	—	—	—	
N11	—	—	—	—	—	365	395	485	570	620	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1200	1300	1600	1875	2025	—	—	—	—	—	
S1	55	55	65	75	85	44	46	55	60	65	25	26	30	34	37	Chamfer milling cutters
	180	180	215	245	280	145	150	180	195	215	80	85	100	110	120	
S2	44	46	55	60	65	36	37	43	49	55	20	21	24	28	30	Chamfer milling cutters
	145	150	180	195	215	120	120	140	160	180	65	70	80	90	100	
S3	38	40	47	55	60	31	32	38	43	47	18	18	21	24	26	Chamfer milling cutters
	125	130	155	180	195	100	105	125	140	155	60	60	70	80	85	
S11	75	80	90	105	120	60	60	75	85	95	34	35	41	48	55	Chamfer milling cutters
	245	260	295	345	395	195	195	245	280	310	110	115	135	155	180	
S12	55	55	65	75	80	41	43	50	60	65	31	33	38	45	49	Spot facing cutters
	180	180	215	245	260	135	140	165	195	215	100	110	125	150	160	
S13	31	32	37	43	47	25	26	30	34	37	19	20	23	26	28	Spot facing cutters
	100	105	120	140	155	80	85	100	110	120	60	65	75	85	90	
H5	—	—	—	—	—	35	38	44	50	55	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	115	125	145	165	180	—	—	—	—	—	
H8	—	—	—	—	—	39	40	47	55	60	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	130	130	155	180	195	—	—	—	—	—	
H11	—	—	—	—	—	45	48	55	65	70	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	150	155	180	215	230	—	—	—	—	—	
H12	—	—	—	—	—	70	70	85	95	105	—	—	—	—	—	Inserts
	—	—	—	—	—	230	230	280	310	345	—	—	—	—	—	

R218.20-160 – Insert selection – mm/Inch

	SMG			a_p	f_z				
					100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
	P2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,24 0.0095	0,34 0.013
Helical milling cutters	P3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
	P4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
Face milling cutters	P11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	P12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,090 0.0036	0,090 0.0036	0,095 0.0038	0,15 0.0060	0,20 0.0080
Disc milling cutters	M1	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 1.3	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075	0,26 0.010
	M2	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 1.3	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
	M3	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	26,0 1.0	0,085 0.0034	0,085 0.0034	0,090 0.0036	0,14 0.0055	0,19 0.0075
	M4	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 0.75	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	M5	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 0.75	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
High feed milling cutters	K1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,24 0.0095	0,34 0.013
	K2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
	K6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	K7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
Copy milling cutters	N1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	N2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	N3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
Plunge milling cutters	N11	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 1.3	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	S1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 0.75	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	S2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 0.75	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
	S3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 0.75	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,15 0.0055	0,20 0.0080
Chamfer milling cutters	S11	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 0.90	0,085 0.0034	0,085 0.0034	0,090 0.0036	0,14 0.0055	0,20 0.0080
	S12	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 0.90	0,085 0.0034	0,085 0.0034	0,090 0.0036	0,14 0.0055	0,20 0.0080
	S13	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	19,0 0.75	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
	H5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,090 0.0036	0,090 0.0036	0,095 0.0038	0,15 0.0060	0,20 0.0080
Spot facing cutters	H8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 0.90	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
	H11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 1.0	0,090 0.0036	0,090 0.0036	0,095 0.0038	0,15 0.0060	0,20 0.0080
	H12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 0.90	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

feed milling cutters

High speed milling cutters

ge milling
utters

Plunging cutters

acing
ers

Spot f
cutt

R218.20-200 – Insert selection – mm/Inch

	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,20	0,20	0,22	0,34
				1,4	0,0080	0,0080	0,0085	0,013
	P2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,20	0,20	0,22	0,34
				1,4	0,0080	0,0080	0,0085	0,013
Helical milling cutters	P3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,19	0,19	0,20	0,32
				1,4	0,0075	0,0075	0,0080	0,013
	P4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,19	0,19	0,20	0,32
				1,4	0,0075	0,0075	0,0080	0,013
	P5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	P6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	P7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	P8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,19	0,19	0,20	0,32
				1,4	0,0075	0,0075	0,0080	0,013
	P11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	P12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0	0,13	0,13	0,14	0,22
				1,1	0,0050	0,0050	0,0055	0,0085
	M1	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0	0,14	0,14	0,16	0,24
				1,4	0,0055	0,0055	0,0065	0,0095
	M2	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0	0,13	0,13	0,14	0,22
				1,4	0,0050	0,0050	0,0055	0,0085
	M3	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	29,0	0,11	0,11	0,12	0,18
				1,1	0,0044	0,0044	0,0048	0,0070
	M4	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0	0,13	0,13	0,14	0,22
				0,85	0,0050	0,0050	0,0055	0,0085
	M5	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0	0,13	0,13	0,14	0,22
				0,85	0,0050	0,0050	0,0055	0,0085
	K1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,20	0,20	0,22	0,34
				1,4	0,0080	0,0080	0,0085	0,013
	K2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	K3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	K4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	K5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,16	0,16	0,18	0,28
				1,4	0,0065	0,0065	0,0070	0,011
	K6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,18	0,18	0,20	0,30
				1,4	0,0070	0,0070	0,0080	0,012
	K7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0	0,16	0,16	0,18	0,28
				1,4	0,0065	0,0065	0,0070	0,011
	N1	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0	0,26	0,26	0,28	0,44
				1,4	0,010	0,010	0,011	0,017
	N2	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0	0,26	0,26	0,28	0,44
				1,4	0,010	0,010	0,011	0,017
	N3	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0	0,26	0,26	0,28	0,44
				1,4	0,010	0,010	0,011	0,017
	N11	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0	0,26	0,26	0,28	0,44
				1,4	0,010	0,010	0,011	0,017
	S1	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0	0,13	0,13	0,14	0,22
				0,85	0,0050	0,0050	0,0055	0,0085
	S2	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0	0,13	0,13	0,14	0,22
				0,85	0,0050	0,0050	0,0055	0,0085
	S3	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0	0,12	0,12	0,13	0,20
				0,85	0,0048	0,0048	0,0050	0,0080
	S11	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0	0,11	0,11	0,12	0,18
				1,0	0,0044	0,0044	0,0048	0,0070
	S12	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0	0,11	0,11	0,12	0,18
				1,0	0,0044	0,0044	0,0048	0,0070
	S13	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	22,0	0,095	0,095	0,10	0,16
				0,85	0,0038	0,0038	0,0040	0,0065
	H5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0	0,13	0,13	0,14	0,22
				1,1	0,0050	0,0050	0,0055	0,0085
	H8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0	0,095	0,095	0,11	0,16
				1,0	0,0038	0,0038	0,0044	0,0065
	H11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0	0,13	0,13	0,14	0,22
				1,1	0,0050	0,0050	0,0055	0,0085
	H12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0	0,095	0,095	0,11	0,16
				1,0	0,0038	0,0038	0,0044	0,0065

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

R218.20-200 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050					F40M					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	275	290	345	400	430	225	230	275	310	325	220	230	280	320	345	Square shoulder and slot milling cutters
	900	950	1125	1300	1400	740	750	900	1025	1075	720	750	920	1050	1125	
P2	265	280	340	390	420	210	215	265	300	315	205	215	270	315	335	Helical milling cutters
	870	920	1125	1275	1375	690	710	870	980	1025	670	710	890	1025	1100	
P3	235	245	295	335	365	190	195	230	265	275	185	195	235	275	290	Face milling cutters
	770	800	970	1100	1200	620	640	750	870	900	610	640	770	900	950	
P4	205	215	260	305	320	170	175	210	245	265	175	185	220	260	280	Face milling cutters
	670	710	850	1000	1050	560	570	690	800	870	570	610	720	850	920	
P5	195	210	250	290	305	160	165	200	220	235	155	165	200	230	245	Face milling cutters
	640	690	820	950	1000	520	540	660	720	770	510	540	660	750	800	
P6	220	235	280	325	350	180	185	225	250	265	175	185	225	255	280	Face milling cutters
	720	770	920	1075	1150	590	610	740	820	870	570	610	740	840	920	
P7	210	220	265	305	330	170	175	210	235	250	165	175	210	245	260	Face milling cutters
	690	720	870	1000	1075	560	570	690	770	820	540	570	690	800	850	
P8	195	210	250	285	305	160	165	195	220	235	155	165	195	230	245	Face milling cutters
	640	690	820	940	1000	520	540	640	720	770	510	540	640	750	800	
P11	200	215	255	295	320	165	170	205	230	245	160	170	205	235	255	Face milling cutters
	660	710	840	970	1050	540	560	670	750	800	520	560	670	770	840	
P12	140	145	165	190	200	115	120	135	150	160	110	115	130	145	155	Face milling cutters
	460	475	540	620	660	375	395	445	490	520	360	375	425	475	510	
M1	190	205	255	300	325	150	160	200	235	255	135	145	180	215	235	Disc milling cutters
	620	670	840	980	1075	490	520	660	770	840	445	475	590	710	770	
M2	160	170	210	250	265	125	135	165	195	210	115	125	150	175	195	Disc milling cutters
	520	560	690	820	870	410	445	540	640	690	375	410	490	570	640	
M3	135	145	170	200	215	105	115	135	155	170	95	105	120	145	155	Disc milling cutters
	445	475	560	660	710	345	375	445	510	560	310	345	395	475	510	
M4	110	115	135	150	165	85	90	105	120	135	80	80	95	110	120	Disc milling cutters
	360	375	445	490	540	280	295	345	395	445	260	260	310	360	395	
M5	90	95	110	125	140	70	75	90	100	110	65	70	80	95	100	Disc milling cutters
	295	310	360	410	460	230	245	295	330	360	215	230	260	310	330	
K1	—	—	—	—	—	145	155	195	230	250	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	475	510	640	750	820	—	—	—	—	—	
K2	—	—	—	—	—	130	140	175	205	220	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	425	460	570	670	720	—	—	—	—	—	
K3	—	—	—	—	—	110	120	145	170	190	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	360	395	475	560	620	—	—	—	—	—	
K4	—	—	—	—	—	105	115	140	165	180	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	345	375	460	540	590	—	—	—	—	—	
K5	—	—	—	—	—	65	70	85	100	110	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	215	230	280	330	360	—	—	—	—	—	
K6	—	—	—	—	—	95	100	125	145	160	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	310	330	410	475	520	—	—	—	—	—	
K7	—	—	—	—	—	85	90	110	130	140	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	280	295	360	425	460	—	—	—	—	—	
N1	—	—	—	—	—	1100	1175	1450	1700	1850	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	3600	3850	4750	5575	6075	—	—	—	—	—	
N2	—	—	—	—	—	440	470	580	690	750	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1450	1550	1900	2275	2450	—	—	—	—	—	
N3	—	—	—	—	—	295	315	385	455	500	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	970	1025	1275	1500	1650	—	—	—	—	—	
N11	—	—	—	—	—	335	360	445	520	570	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1100	1175	1450	1700	1875	—	—	—	—	—	
S1	50	55	60	70	80	40	42	49	55	60	24	25	30	34	37	Chamfer milling cutters
	165	180	195	230	260	130	140	160	180	195	80	80	100	110	120	
S2	41	43	50	55	65	32	33	40	46	50	20	20	24	27	30	Chamfer milling cutters
	135	140	165	180	215	105	110	130	150	165	65	65	80	90	100	
S3	36	38	44	50	55	28	30	35	40	44	17	18	21	24	26	Chamfer milling cutters
	120	125	145	165	180	90	100	115	130	145	55	60	70	80	85	
S11	70	75	85	100	110	55	60	70	80	85	33	35	41	48	50	Chamfer milling cutters
	230	245	280	330	360	180	195	230	260	280	110	115	135	155	165	
S12	48	50	60	70	75	38	40	47	55	60	31	32	38	44	47	Spot facing cutters
	155	165	195	230	245	125	130	155	180	195	100	105	125	145	155	
S13	29	30	35	40	44	23	23	28	32	35	18	19	22	26	28	Spot facing cutters
	95	100	115	130	145	75	75	90	105	115	60	60	70	85	90	
H5	—	—	—	—	—	32	34	41	48	50	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	105	110	135	155	165	—	—	—	—	—	
H8	—	—	—	—	—	35	37	44	50	55	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	115	120	145	165	180	—	—	—	—	—	
H11	—	—	—	—	—	41	44	50	60	65	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	135	145	165	195	215	—	—	—	—	—	
H12	—	—	—	—	—	65	65	80	90	100	—	—	—	—	—	Inserts
	—	—	—	—	—	215	215	260	295	330	—	—	—	—	—	

R218.20-250 – Insert selection – mm/Inch

	SMG			a_p	f_z				
					100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,46 0.018
	P2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,46 0.019
Helical milling cutters	P3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
	P4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
	P5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	P6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	P7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	P8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
Face milling cutters	P11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	P12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	M1	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 1.7	0,17 0.0065	0,17 0.0065	0,19 0.0075	0,28 0.011	0,40 0.016
Disc milling cutters	M2	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 1.7	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,26 0.010	0,36 0.014
	M3	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	34,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	M4	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 1.0	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,19 0.0075	0,26 0.010
	M5	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 1.0	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,19 0.0075	0,26 0.010
	K1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,46 0.019
High feed milling cutters	K2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	K3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	K4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	K5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011	0,38 0.015
	K6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,30 0.012	0,42 0.017
	K7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 1.7	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011	0,38 0.015
Copy milling cutters	N1	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 1.7	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	N2	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 1.7	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	N3	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 1.7	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
Plunge milling cutters	N11	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 1.7	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	S1	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 1.0	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,19 0.0075	0,26 0.010
	S2	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 1.0	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,19 0.0075	0,26 0.010
Chamfer milling cutters	S3	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 1.0	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,18 0.0070	0,24 0.0095
	S11	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 1.1	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	S12	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 1.1	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	S13	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	25,0 1.0	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,19 0.0075	0,26 0.010
	H5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
Spot facing cutters	H8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 1.1	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	H11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 1.3	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	H12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 1.1	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085

SMG = Seco material group

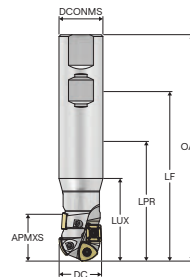
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

R218.20-250 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050					F40M					MM4500					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	230	245	300	350	370	195	205	245	275	295	205	220	265	305	325	Square shoulder and slot milling cutters
	750	800	980	1150	1225	640	670	800	900	970	670	720	870	1000	1075	
P2	225	240	290	340	360	190	200	235	270	285	200	215	255	295	315	Helical milling cutters
	740	790	950	1125	1175	620	660	770	890	940	660	710	840	970	1025	
P3	200	210	255	295	315	170	175	210	235	250	175	185	220	255	275	Helical milling cutters
	660	690	840	970	1025	560	570	690	770	820	570	610	720	840	900	
P4	175	185	225	265	280	150	160	195	220	235	165	180	215	245	260	Helical milling cutters
	570	610	740	870	920	490	520	640	720	770	540	590	710	800	850	
P5	165	180	215	250	270	145	150	180	205	215	145	155	190	215	230	Helical milling cutters
	540	590	710	820	890	475	490	590	670	710	475	510	620	710	750	
P6	185	200	245	280	300	165	170	200	230	240	165	175	210	245	260	Face milling cutters
	610	660	800	920	980	540	560	660	750	790	540	570	690	800	850	
P7	175	190	230	265	285	155	160	190	215	225	155	165	200	230	245	Face milling cutters
	570	620	750	870	940	510	520	620	710	740	510	540	660	750	800	
P8	165	180	215	245	265	140	145	180	200	210	145	155	185	215	230	Face milling cutters
	540	590	710	800	870	460	475	590	660	690	475	510	610	710	750	
P11	170	185	225	260	275	150	155	185	210	220	150	160	195	225	240	Face milling cutters
	560	610	740	850	900	490	510	610	690	720	490	520	640	740	790	
P12	115	125	145	165	175	100	105	120	140	145	95	105	120	135	145	Face milling cutters
	375	410	475	540	570	330	345	395	460	475	310	345	395	445	475	
M1	165	180	220	260	280	135	145	180	210	230	130	140	170	205	220	Disc milling cutters
	540	590	720	850	920	445	475	590	690	750	425	460	560	670	720	
M2	135	150	180	215	235	110	120	150	175	190	105	115	140	170	185	Disc milling cutters
	445	490	590	710	770	360	395	490	570	620	345	375	460	560	610	
M3	110	120	145	170	185	90	100	120	140	155	90	95	115	135	145	Disc milling cutters
	360	395	475	560	610	295	330	395	460	510	295	310	375	445	475	
M4	95	100	115	135	145	75	80	95	110	120	75	80	90	105	115	Disc milling cutters
	310	330	375	445	475	245	260	310	360	395	245	260	295	345	375	
M5	75	85	95	110	120	65	70	80	90	100	60	65	75	90	95	Disc milling cutters
	245	280	310	360	395	215	230	260	295	330	195	215	245	295	310	
K1	—	—	—	—	—	135	145	175	210	225	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	445	475	570	690	740	—	—	—	—	—	
K2	—	—	—	—	—	120	130	155	185	200	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	395	425	510	610	660	—	—	—	—	—	
K3	—	—	—	—	—	100	110	135	160	170	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	330	360	445	520	560	—	—	—	—	—	
K4	—	—	—	—	—	95	105	125	150	165	—	—	—	—	—	High feed milling cutters
	—	—	—	—	—	310	345	410	490	540	—	—	—	—	—	
K5	—	—	—	—	—	60	65	80	90	100	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	195	215	260	295	330	—	—	—	—	—	
K6	—	—	—	—	—	85	90	110	135	145	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	280	295	360	445	475	—	—	—	—	—	
K7	—	—	—	—	—	75	80	100	115	130	—	—	—	—	—	Copy milling cutters
	—	—	—	—	—	245	260	330	375	425	—	—	—	—	—	
N1	—	—	—	—	—	970	1050	1300	1525	1675	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	3175	3450	4275	5000	5500	—	—	—	—	—	
N2	—	—	—	—	—	390	425	520	620	670	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1275	1400	1700	2025	2200	—	—	—	—	—	
N3	—	—	—	—	—	260	280	350	410	450	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	850	920	1150	1350	1475	—	—	—	—	—	
N11	—	—	—	—	—	295	320	400	470	510	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	970	1050	1300	1550	1675	—	—	—	—	—	
S1	43	47	55	65	70	36	38	44	50	55	22	24	28	32	35	Chamfer milling cutters
	140	155	180	215	230	120	125	145	165	180	70	80	90	105	115	
S2	35	38	43	50	55	29	31	36	41	45	18	19	22	26	28	Chamfer milling cutters
	115	125	140	165	180	95	100	120	135	150	60	60	70	85	90	
S3	31	32	38	44	48	25	27	31	36	39	16	17	19	23	25	Chamfer milling cutters
	100	105	125	145	155	80	90	100	120	130	50	55	60	75	80	
S11	60	65	75	85	95	48	50	60	70	80	30	32	38	44	48	Chamfer milling cutters
	195	215	245	280	310	155	165	195	230	260	100	105	125	145	155	
S12	40	43	50	60	65	33	36	42	50	55	28	30	35	41	45	Spot facing cutters
	130	140	165	195	215	110	120	140	165	180	90	100	115	135	150	
S13	24	26	30	35	38	20	22	25	29	31	17	18	21	24	26	Spot facing cutters
	80	85	100	115	125	65	70	80	95	100	55	60	70	80	85	
H5	—	—	—	—	—	28	31	37	44	48	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	90	100	120	145	155	—	—	—	—	—	
H8	—	—	—	—	—	31	34	40	46	50	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	100	110	130	150	165	—	—	—	—	—	
H11	—	—	—	—	—	36	39	47	55	60	—	—	—	—	—	Spot facing cutters
	—	—	—	—	—	120	130	155	180	195	—	—	—	—	—	
H12	—	—	—	—	—	55	60	70	85	90	—	—	—	—	—	Inserts
	—	—	—	—	—	180	195	230	280	295	—	—	—	—	—	

R218.19 – Metric



- For insert selection and cutting data recommendations, see page(s) 763-775
- For complete insert programme, see page(s) 908, 929
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RPMX	Weight	218.20	SPMT
			mm		mm	mm	mm	mm	mm	mm	mm		kg		
R218.19-2016.3-17.050A	75069117	Weldon	16,0	1	17,5	20,0	75,0	60,0	31,0	50,0	100,0	41600	0,3	-080(2)	-0602(2)
R218.19-2520.3-21.069A	75069118	Weldon	20,0	1	21,6	25,0	93,0	82,5	31,0	69,0	125,0	26200	0,4	-100(2)	-0703(2)
R218.19-2525.3-26.074HA	75069119	Weldon	25,0	1	26,6	25,0	98,0	82,5	46,0	74,0	130,0	21700	0,5	-125(2)	-0903(2)
R218.19-3232.3-30.070HA	75069120	Weldon	32,0	1	31,2	32,0	94,0	82,5	46,0	70,0	130,0	14800	0,7	-160(2)	–

Spare Parts, included in delivery

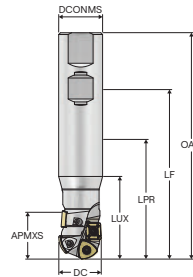
For cutter	Insert key	Insert screw
		
R218.19-2016	1/4HEX-T07PX50	C02205-T07P
R218.19-2520	1/4HEX-T07PX50	C02506-T07P
R218.19-2525	1/4HEX-T09PX50	C03006-T09P
R218.19-3232	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-2016	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-2520	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-2525	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.19-3232	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R218.19 – inch



- For insert selection and cutting data recommendations, see page(s) 763–775
- For complete insert programme, see page(s) 908, 929
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RPMX	Weight	218.20	SPMX
			inch		inch	inch	inch	inch	inch	inch	inch		lbs		
R218.19-00.75-3-21M	00087573	Weldon	0.750	1	0.835	0.750	3.015	2.583	1.425	2.047	4.031	26200	0.660	100 (2)	0703 (2)
R218.19-01.00-3-26H	00087575	Weldon	1.000	1	1.063	1.000	3.889	2.835	2.173	2.835	5.031	21700	1.100	125 (2)	0903 (2)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-00.75	1/4HEX-T07PX50	C02506-T07P
R218.19-01.00	1/4HEX-T09PX50	C03006-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-01.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

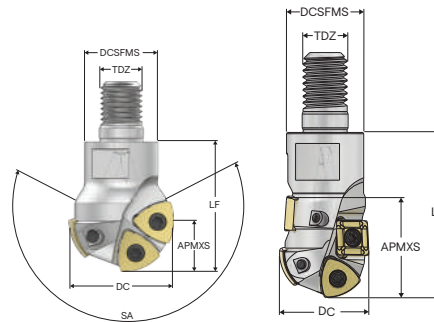
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R218.19 – Metric



—For insert selection and cutting data recommendations, see page(s) 763-775
 —For complete insert programme, see page(s) 908, 929
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RPMX	Weight	218.19	SPMX	SPMT
			mm		mm	mm		mm	mm		kg			
R218.19-0816.RE-12A	02644033	Combimaster	16,0	1	12,0	13,5	M8	23,0	40,75	41600	0,1	-080(2)	-0602	—
R218.19-1020.RE-16A	02644034	Combimaster	20,0	1	16,0	18,0	M10	28,0	46,75	26200	0,1	-100(2)	-0703	—
R218.19-1220.RE-21A	75077649	Combimaster	20,0	1	21,6	21,0	M12	45,0	66,75	26200	0,2	-100(2)	-0703(2)	—
R218.19-1225.RE-14HFA	75094633	Combimaster	25,0	1	12,5	21,0	M12	40,0	61,75	21700	0,2	-125(3)	—	—
R218.19-1225.RE-26HA	75094632	Combimaster	25,0	1	26,6	21,0	M12	45,0	66,75	21700	0,2	-125(2)	-0903(2)	—
R218.19-1632.RE-18HFA	75094580	Combimaster	32,0	1	16,0	28,0	M16	40,0	62,75	14800	0,2	-160(3)	—	—
R218.19-1632.RE-36HA	75077650	Combimaster	32,0	1	38,6	28,0	M16	55,0	77,75	14800	0,3	-160(2)	—	-1004(3)
R218.19-1640.RE-25HFA	00089918	Combimaster	40,0	1	20,0	28,0	M16	50,0	72,75	10400	0,3	-200(3)	—	—

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-0816	1/4HEX-T07PX50	C02205-T07P
R218.19-1020	1/4HEX-T07PX50	C02506-T07P
R218.19-1220	1/4HEX-T07PX50	C02506-T07P
R218.19-1225	1/4HEX-T09PX50	C03006-T09P
R218.19-1632	1/4HEX-T15PX50	C03508-T15P
R218.19-1640	1/4HEX-T20PX50	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-0816-1220	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-1225	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.19-1632	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R218.19-1640	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R218.19-080 – Insert selection – mm/Inch

SMG			a_p	f_z					
				100%	70%	30%	10%	5%	
P1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,15	0,15	0,16	0,25	0,36	Square shoulder and slot milling cutters
			0.44	0.0060	0.0060	0.0065	0.010	0.014	
P2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,15	0,15	0,17	0,26	0,36	Helical milling cutters
			0.44	0.0060	0.0060	0.0065	0.010	0.014	
P3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,16	0,24	0,34	Helical milling cutters
			0.44	0.0055	0.0055	0.0065	0.0095	0.013	
P4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	Helical milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
P5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	Helical milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
P6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,32	Helical milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
P7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,32	Helical milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
P8	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,16	0,24	0,34	Face milling cutters
			0.44	0.0055	0.0055	0.0065	0.0095	0.013	
P11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,32	Face milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
P12	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0	0,095	0,095	0,10	0,16	0,22	Face milling cutters
			0.36	0.0038	0.0038	0.0040	0.0065	0.0085	
M1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,15	0,15	0,17	0,26	0,36	Disc milling cutters
			0.44	0.0060	0.0060	0.0065	0.010	0.014	
M2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	Disc milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
M3	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0	0,11	0,11	0,12	0,19	0,26	Disc milling cutters
			0.36	0.0044	0.0044	0.0048	0.0075	0.010	
M4	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,11	0,11	0,11	0,17	0,24	Disc milling cutters
			0.24	0.0044	0.0044	0.0044	0.0065	0.0095	
M5	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,11	0,11	0,11	0,17	0,24	Disc milling cutters
			0.24	0.0044	0.0044	0.0044	0.0065	0.0095	
K1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,15	0,15	0,17	0,26	0,36	High feed milling cutters
			0.44	0.0060	0.0060	0.0065	0.010	0.014	
K2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	High feed milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
K3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	High feed milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
K4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	High feed milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
K5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,12	0,12	0,14	0,22	0,30	High feed milling cutters
			0.44	0.0048	0.0048	0.0055	0.0085	0.012	
K6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,14	0,14	0,15	0,24	0,34	Copy milling cutters
			0.44	0.0055	0.0055	0.0060	0.0095	0.013	
K7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,12	0,12	0,14	0,22	0,30	Copy milling cutters
			0.44	0.0048	0.0048	0.0055	0.0085	0.012	
N1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,19	0,19	0,22	0,34	0,48	Copy milling cutters
			0.44	0.0075	0.0075	0.0085	0.013	0.019	
N2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,19	0,19	0,22	0,34	0,48	Copy milling cutters
			0.44	0.0075	0.0075	0.0085	0.013	0.019	
N3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,19	0,19	0,22	0,34	0,48	Copy milling cutters
			0.44	0.0075	0.0075	0.0085	0.013	0.019	
N11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0	0,19	0,19	0,22	0,34	0,48	Plunge milling cutters
			0.44	0.0075	0.0075	0.0085	0.013	0.019	
S1	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,11	0,11	0,11	0,17	0,24	Plunge milling cutters
			0.24	0.0044	0.0044	0.0044	0.0065	0.0095	
S2	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,11	0,11	0,11	0,17	0,24	Plunge milling cutters
			0.24	0.0044	0.0044	0.0044	0.0065	0.0095	
S3	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,10	0,10	0,10	0,16	0,22	Plunge milling cutters
			0.24	0.0040	0.0040	0.0040	0.0065	0.0085	
S11	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0	0,12	0,12	0,12	0,19	0,26	Chamfer milling cutters
			0.32	0.0048	0.0048	0.0048	0.0075	0.010	
S12	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0	0,12	0,12	0,12	0,19	0,26	Chamfer milling cutters
			0.32	0.0048	0.0048	0.0048	0.0075	0.010	
S13	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,11	0,11	0,11	0,17	0,24	Chamfer milling cutters
			0.24	0.0044	0.0044	0.0044	0.0065	0.0095	
H5	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0	0,090	0,090	0,095	0,14	0,20	Spot facing cutters
			0.28	0.0036	0.0036	0.0038	0.0055	0.0080	
H8	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,070	0,070	0,075	0,11	0,15	Spot facing cutters
			0.24	0.0028	0.0028	0.0030	0.0044	0.0060	
H11	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0	0,090	0,090	0,095	0,14	0,20	Spot facing cutters
			0.28	0.0036	0.0036	0.0038	0.0055	0.0080	
H12	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0	0,070	0,070	0,075	0,11	0,15	Spot facing cutters
			0.24	0.0028	0.0028	0.0030	0.0044	0.0060	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %
 All cutting data are start values

R218.19-080 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F15M					F30M					F40M					MP2501					MS2500				
		100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	235 770	260 850	315 1025	370 1225	400 1300	220 720	240 790	290 950	340 1125	370 1225	245 800	255 840	305 1000	340 1125	355 1175	390 1275	410 1350	480 1575	540 1775	560 1825	350 1150	375 1225	440 1450	495 1625	520 1700
	P2	230 750	250 820	300 980	360 1175	390 1275	210 690	230 750	280 920	330 1075	360 1175	240 790	250 820	290 950	325 1075	345 1125	380 1250	400 1300	460 1500	520 1700	550 1800	345 1125	365 1200	420 1375	480 1575	510 1675
Helical milling cutters	P3	200 660	220 720	265 870	315 1025	340 1125	185 610	205 670	245 800	290 950	310 1025	210 690	220 720	255 840	285 940	300 980	330 1075	350 1150	400 1300	455 1500	475 1550	300 980	320 1050	365 1200	415 1350	440 1450
	P4	180 590	195 640	235 770	275 900	300 980	165 540	180 590	220 720	255 840	275 900	190 620	200 660	235 770	265 870	285 940	290 950	310 1025	355 1175	400 1300	420 1375	265 870	280 920	325 1075	365 1200	390 1275
	P5	170 560	185 610	225 740	265 870	285 940	155 510	170 560	210 690	245 800	265 870	175 570	185 610	215 710	240 790	255 840	280 920	295 970	340 1125	380 1250	400 1300	250 820	270 890	310 1025	350 1150	370 1225
	P6	190 620	210 690	255 840	295 970	325 1075	175 570	190 620	235 770	275 900	300 980	200 660	205 670	245 800	270 890	290 950	310 1025	330 1075	385 1275	425 1400	455 1500	285 940	300 980	350 1150	395 1300	420 1375
Face milling cutters	P7	180 590	195 640	240 790	280 920	305 1000	165 540	180 590	220 720	260 850	285 940	190 620	195 640	230 750	255 840	270 890	295 970	310 1025	360 1175	405 1325	430 1400	265 870	285 940	330 1075	370 1225	395 1300
	P8	170 560	185 610	220 720	265 870	285 940	155 510	170 560	205 670	245 800	265 870	175 570	185 610	215 710	240 790	255 840	280 920	295 970	335 1100	380 1250	400 1300	250 820	270 890	310 1025	350 1150	370 1225
	P11	175 570	190 620	230 750	270 890	300 980	160 520	175 570	215 710	250 820	275 900	180 620	190 620	225 740	250 820	265 870	285 940	305 1000	350 1150	390 1275	415 1350	260 850	275 900	320 1050	360 1175	385 1275
	P12	—	—	—	—	—	110 360	120 395	140 460	165 540	175 570	125 410	130 425	145 475	165 540	170 560	190 620	200 660	220 720	245 800	255 840	170 560	180 590	205 670	225 740	235 770
Disc milling cutters	M1	—	—	—	—	—	170 560	185 610	225 740	265 870	290 950	165 540	180 590	215 710	255 840	275 900	190 620	210 690	250 820	300 980	325 1075	200 660	215 710	260 850	310 1025	335 1100
	M2	—	—	—	—	—	140 460	155 510	185 610	220 720	235 770	135 445	145 475	180 590	210 690	225 740	160 520	175 570	210 690	245 800	265 870	165 540	180 590	215 710	255 840	275 900
	M3	—	—	—	—	—	120 395	130 425	155 510	180 590	190 620	115 375	125 410	145 475	170 560	185 610	135 445	145 475	170 560	200 660	215 710	140 460	150 490	175 570	210 690	220 720
	M4	—	—	—	—	—	100 330	105 345	120 395	140 460	150 490	95 310	100 330	115 375	135 445	140 460	115 375	120 395	135 445	155 510	170 560	115 375	120 395	140 460	160 520	175 570
High feed milling cutters	M5	—	—	—	—	—	85 280	90 295	100 330	115 375	125 410	80 260	85 280	95 310	110 360	120 395	95 310	100 330	110 360	120 425	130 460	95 310	100 330	115 375	135 445	145 475
	K1	185 610	200 660	240 790	285 940	310 1025	170 560	185 610	220 720	260 850	285 940	160 520	175 570	210 690	250 820	270 890	380 1250	405 1325	465 1525	520 1700	550 1800	—	—	—	—	—
	K2	160 520	175 570	215 710	250 820	270 890	150 490	160 520	200 660	230 750	250 820	140 460	155 510	190 620	220 720	235 770	335 1100	355 1175	410 1350	460 1500	485 1600	—	—	—	—	—
	K3	135 445	150 490	180 590	210 690	230 750	125 410	135 445	165 540	195 640	210 690	120 395	130 425	160 520	185 610	200 660	285 940	300 1025	350 1150	390 1275	410 1350	—	—	—	—	—
Copy milling cutters	K4	130 425	140 460	175 570	205 670	220 720	120 395	130 425	160 520	185 610	200 660	115 375	125 410	150 490	180 590	190 620	270 890	285 940	335 1100	370 1225	390 1275	—	—	—	—	—
	K5	80 260	90 295	105 345	125 410	135 445	75 245	80 260	95 310	115 375	125 410	70 230	75 245	90 295	110 360	120 395	165 540	175 570	200 660	225 740	240 790	—	—	—	—	—
	K6	115 375	125 410	150 490	180 590	190 620	105 345	115 375	140 460	165 540	175 570	100 330	110 360	135 445	155 510	170 560	240 790	255 840	295 970	325 1075	345 1125	—	—	—	—	—
	K7	105 345	115 375	135 445	160 520	170 560	95 310	105 345	125 410	145 475	160 520	90 295	100 330	120 395	140 460	150 490	215 710	225 840	255 840	285 940	305 1000	—	—	—	—	—
Plunge milling cutters	N1	—	—	—	—	—	1250 4100	1350 4425	1625 5325	1925 6325	2075 6800	1175 3850	1300 4275	1550 5075	1825 6000	1975 6475	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	—	500 1650	550 1800	660 2175	780 2550	840 2750	520 1575	620 1700	740 2025	800 2425	800 2625	—	—	—	—	—	—	—	—	—	—
	N3	—	—	—	—	—	335 1100	365 1200	435 1425	520 1700	560 1825	320 1050	345 1125	415 1350	495 1625	530 1750	—	—	—	—	—	—	—	—	—	—
	N11	—	—	—	—	—	385 1275	415 1350	500 1650	590 1925	640 2100	365 1200	395 1300	475 1550	560 1825	610 2000	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	—	—	—	—	—	—	45 150	47 155	55 180	60 195	65 215	—	—	—	—	—	55 180	60 195	70 230	80 260	85 280
	S2	—	—	—	—	—	—	—	—	—	—	36 120	38 125	43 140	50 165	55 180	—	—	—	—	—	46 150	48 155	55 180	65 215	70 230
	S3	—	—	—	—	—	—	—	—	—	—	32 105	33 110	38 125	44 145	47 155	—	—	—	—	—	40 130	42 140	48 155	55 180	60 195
	S11	—	—	—	—	—	—	—	—	—	—	60 195	65 215	75 245	85 280	95 310	—	—	—	—	—	75 245	80 260	95 310	110 360	120 395
Spot facing cutters	S12	—	—	—	—	—	—	—	—	—	—	40 130	44 145	50 165	60 215	65 215	—	—	—	—	—	50 165	55 180	65 215	75 245	85 280
	S13	—	—	—	—	—	—	—	—	—	—	25 80	26 85	30 100	35 115	37 120	—	—	—	—	—	32 105	34 110	38 125	44 145	47 155
	H5	43 140	46 150	55 180	65 215	70 230	40 130	42 140	50 165	60 195	65 215	38 125	40 130	49 160	60 215	65 215	—	—	—	—	—	—	—	—	—	—
	H8	47 155	50 165	60 195	70 230	75 245	43 140	46 150	55 180	65 215	70 230	41 135	44 145	55 180	60 215	65 215	—	—	—	—	—	—	—	—	—	—
Inserts	H11	55 180	60 195	70 230	85 280	90 295	50 165	55 180	65 215	80 260	85 280	48 155	50 165	60 195	75 245	80 260	—	—	—	—	—	—	—	—	—	—
	H12	85 280	90 295	105 345	125 410	135 445	80 260	85 280	100 330	115 375	125 410	75 245	80 260	95 310	110 360	120 395	—	—	—	—	—	100 330	105 345	130 425	150 490	165 540

R218.19-100 – Insert selection – mm/Inch

SMG			a_p	f_z					
				100%	70%	30%	10%	5%	
P1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,20	0,20	0,22	0,36	0,50	Square shoulder and slot milling cutters
			0.75	0.0080	0.0080	0.0085	0.014	0.020	
P2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,22	0,22	0,24	0,36	0,50	Helical milling cutters
			0.75	0.0085	0.0085	0.0095	0.014	0.020	
P3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,20	0,20	0,22	0,34	0,48	Helical milling cutters
			0.75	0.0080	0.0080	0.0085	0.013	0.019	
P4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,20	0,20	0,22	0,34	0,48	Helical milling cutters
			0.75	0.0080	0.0080	0.0085	0.013	0.019	
P5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	Helical milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
P6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,20	0,32	0,46	Helical milling cutters
			0.75	0.0075	0.0075	0.0080	0.013	0.018	
P7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,20	0,32	0,46	Helical milling cutters
			0.75	0.0075	0.0075	0.0080	0.013	0.018	
P8	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,20	0,20	0,22	0,34	0,48	Face milling cutters
			0.75	0.0080	0.0080	0.0085	0.013	0.019	
P11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,20	0,32	0,46	Face milling cutters
			0.75	0.0075	0.0075	0.0080	0.013	0.018	
P12	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0	0,13	0,13	0,14	0,22	0,32	Face milling cutters
			0.65	0.0050	0.0050	0.0055	0.0085	0.013	
M1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,22	0,22	0,24	0,36	0,50	Disc milling cutters
			0.75	0.0085	0.0085	0.0095	0.014	0.020	
M2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	Disc milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
M3	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0	0,16	0,16	0,17	0,26	0,38	Disc milling cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.015	
M4	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,14	0,14	0,15	0,24	0,32	Disc milling cutters
			0.48	0.0055	0.0055	0.0060	0.0095	0.013	
M5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,14	0,14	0,15	0,24	0,32	Disc milling cutters
			0.48	0.0055	0.0055	0.0060	0.0095	0.013	
K1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,22	0,22	0,24	0,36	0,50	High feed milling cutters
			0.75	0.0085	0.0085	0.0095	0.014	0.020	
K2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	High feed milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
K3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	High feed milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
K4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	High feed milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
K5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,17	0,17	0,19	0,30	0,42	High feed milling cutters
			0.75	0.0065	0.0065	0.0075	0.012	0.017	
K6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,19	0,19	0,22	0,32	0,46	High feed milling cutters
			0.75	0.0075	0.0075	0.0085	0.013	0.018	
K7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,17	0,17	0,19	0,30	0,42	Copy milling cutters
			0.75	0.0065	0.0065	0.0075	0.012	0.017	
N1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,28	0,28	0,30	0,46	0,65	Copy milling cutters
			0.75	0.011	0.011	0.012	0.018	0.026	
N2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,28	0,28	0,30	0,46	0,65	Copy milling cutters
			0.75	0.011	0.011	0.012	0.018	0.026	
N3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,28	0,28	0,30	0,46	0,65	Copy milling cutters
			0.75	0.011	0.011	0.012	0.018	0.026	
N11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0	0,28	0,28	0,30	0,46	0,65	Plunge milling cutters
			0.75	0.011	0.011	0.012	0.018	0.026	
S1	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,14	0,14	0,15	0,24	0,32	Plunge milling cutters
			0.48	0.0055	0.0055	0.0060	0.0095	0.013	
S2	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,14	0,14	0,15	0,24	0,32	Plunge milling cutters
			0.48	0.0055	0.0055	0.0060	0.0095	0.013	
S3	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,13	0,13	0,14	0,22	0,30	Plunge milling cutters
			0.48	0.0050	0.0050	0.0055	0.0085	0.012	
S11	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0	0,16	0,16	0,17	0,26	0,38	Chamfer milling cutters
			0.55	0.0065	0.0065	0.0065	0.010	0.015	
S12	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0	0,16	0,16	0,17	0,26	0,38	Chamfer milling cutters
			0.55	0.0065	0.0065	0.0065	0.010	0.015	
S13	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,14	0,14	0,15	0,24	0,32	Chamfer milling cutters
			0.48	0.0055	0.0055	0.0060	0.0095	0.013	
H5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,12	0,12	0,13	0,20	0,28	Spot facing cutters
			0.48	0.0048	0.0048	0.0050	0.0080	0.011	
H8	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0	0,090	0,090	0,10	0,15	0,20	Spot facing cutters
			0.44	0.0036	0.0036	0.0040	0.0060	0.0080	
H11	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0	0,12	0,12	0,13	0,20	0,28	Spot facing cutters
			0.48	0.0048	0.0048	0.0050	0.0080	0.011	
H12	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0	0,090	0,090	0,10	0,15	0,20	Spot facing cutters
			0.44	0.0036	0.0036	0.0040	0.0060	0.0080	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %
 All cutting data are start values

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R218.19-100 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050					F40M					MP2501					MS2500					MP3501					Square shoulder and slot milling cutters
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	220	235	285	335	360	210	220	260	300	320	345	360	430	495	520	330	345	415	480	510	305	320	385	440	470	
	720	770	940	1100	1175	690	720	850	980	1050	1125	1175	1400	1625	1700	1075	1125	1350	1575	1675	1000	1050	1275	1450	1550	
P2	215	230	280	330	355	205	215	255	295	310	335	350	420	480	510	320	335	405	465	495	300	315	375	430	455	Helical milling cutters
	710	750	920	1075	1175	670	710	840	970	1025	1100	1150	1375	1575	1675	1050	1100	1325	1525	1625	980	1025	1225	1400	1500	
P3	190	205	245	290	305	185	190	225	255	265	300	315	370	420	440	285	300	355	405	425	265	280	330	375	390	Helical milling cutters
	620	670	800	950	1000	610	620	740	840	870	980	1025	1225	1375	1450	940	980	1175	1325	1400	870	920	1075	1225	1275	
P4	170	180	220	255	270	165	175	210	240	255	260	275	325	370	390	250	265	315	360	380	235	245	290	330	350	Helical milling cutters
	560	590	720	840	890	540	570	690	790	840	850	900	1075	1225	1275	820	870	1025	1175	1250	770	800	950	1075	1150	
P5	160	170	210	240	260	155	160	190	215	225	250	265	310	350	370	240	250	300	340	360	225	235	280	315	335	Helical milling cutters
	520	560	690	790	850	510	520	620	710	740	820	870	1025	1150	1225	790	820	980	1125	1175	740	770	920	1025	1100	
P6	185	195	235	275	295	175	185	215	245	260	285	300	350	400	420	275	290	335	390	410	255	270	310	360	380	Face milling cutters
	610	640	770	900	970	570	610	710	800	850	940	980	1150	1300	1375	900	950	1100	1275	1350	840	890	1025	1175	1250	
P7	175	185	220	260	275	165	175	200	235	245	270	285	330	380	400	255	270	315	365	385	240	255	295	340	355	Face milling cutters
	570	610	720	850	900	540	570	660	770	800	890	940	1075	1250	1300	840	890	1025	1200	1275	790	840	970	1125	1175	
P8	160	170	210	240	255	155	160	190	215	225	250	265	310	350	370	240	250	300	340	360	225	235	280	315	330	Face milling cutters
	520	560	690	790	840	510	520	620	710	740	820	870	1025	1150	1225	790	820	980	1125	1175	740	770	920	1025	1075	
P11	170	180	215	255	270	160	170	195	225	235	260	275	320	370	385	250	265	310	355	375	235	245	285	330	345	Face milling cutters
	560	590	710	840	890	520	560	640	740	770	850	900	1050	1225	1275	820	870	1025	1175	1225	770	800	940	1075	1125	
P12	115	120	145	165	175	110	115	135	150	155	175	180	210	235	245	165	175	200	225	240	155	165	185	210	220	Disc milling cutters
	375	395	475	540	570	360	375	445	490	510	570	590	690	770	800	540	570	660	740	790	510	540	610	690	720	
M1	160	175	210	255	275	145	160	195	230	250	170	185	230	270	295	185	200	245	295	320	160	175	210	255	275	Disc milling cutters
	520	570	690	840	900	475	520	640	750	820	560	610	750	890	970	610	660	800	970	1050	520	570	690	840	900	
M2	135	145	175	210	225	120	130	160	190	205	140	155	190	225	240	155	170	205	240	260	135	145	175	210	225	Disc milling cutters
	445	475	570	690	740	395	425	520	620	670	460	510	620	740	790	510	560	670	790	850	445	475	570	690	740	
M3	110	120	145	170	180	100	110	130	155	165	120	130	155	185	195	130	140	170	200	210	110	120	145	170	180	Disc milling cutters
	360	395	475	560	590	330	360	425	510	540	395	425	510	610	640	425	460	560	660	690	360	395	475	560	590	
M4	90	100	115	130	145	85	90	105	120	130	100	105	125	140	155	110	115	135	155	165	90	100	115	130	145	Disc milling cutters
	295	330	375	425	475	280	295	345	395	425	330	345	410	460	510	360	375	445	510	540	295	330	375	425	475	
M5	75	80	95	110	120	70	75	90	100	110	85	90	105	120	130	90	95	115	130	140	75	80	95	110	120	High feed milling cutters
	245	260	310	360	395	230	245	295	330	360	280	295	345	395	425	295	310	375	425	460	245	260	310	360	395	
K1	—	—	—	—	—	145	155	190	225	245	340	355	420	485	510	205	225	275	325	355	300	315	380	435	460	High feed milling cutters
	—	—	—	—	—	475	510	620	740	800	1125	1175	1375	1600	1675	670	740	900	1075	1175	980	1025	1250	1425	1500	
K2	—	—	—	—	—	125	140	170	200	215	305	320	375	425	450	185	200	245	285	310	270	285	335	380	405	High feed milling cutters
	—	—	—	—	—	410	460	560	660	710	1000	1050	1225	1400	1475	610	660	800	940	1025	890	940	1100	1250	1325	
K3	—	—	—	—	—	110	115	145	170	180	255	270	315	360	380	155	170	205	245	260	230	240	285	325	340	Copy milling cutters
	—	—	—	—	—	360	375	475	560	590	840	890	1025	1175	1250	510	560	670	800	850	750	790	940	1075	1125	
K4	—	—	—	—	—	105	110	135	160	175	245	255	305	345	365	150	160	195	230	250	220	230	270	310	325	Copy milling cutters
	—	—	—	—	—	345	360	445	520	570	800	840	1000	1125	1200	490	520	640	750	820	720	750	890	1025	1075	
K5	—	—	—	—	—	65	70	85	100	105	150	160	185	210	225	90	100	120	145	155	135	140	170	190	200	Copy milling cutters
	—	—	—	—	—	215	230	280	330	345	490	520	610	690	740	295	330	395	475	510	445	460	560	620	660	
K6	—	—	—	—	—	90	100	120	140	155	215	225	265	305	320	130	140	175	205	220	195	200	240	270	285	Copy milling cutters
	—	—	—	—	—	295	330	395	460	510	710	740	870	1000	1050	425	460	570	670	720	640	660	790	890	940	
K7	—	—	—	—	—	80	90	110	125	140	190	205	240	270	285	115	125	155	185	200	170	180	215	245	255	Copy milling cutters
	—	—	—	—	—	260	295	360	410	460	620	670	790	890	940	375	410	510	610	660	560	590	710	800	840	
N1	—	—	—	—	—	1050	1125	1400	1650	1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	3450	3700	4600	5425	5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	420	455	570	660	730	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	1375	1500	1875	2175	2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	280	305	375	445	485	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	920	1000	1225	1450	1600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

R218.19-125 – Insert selection – mm/Inch

	SMG			a_p	f_z				
					100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,25 0.010	0,38 0.015	0,55 0.022
	P2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,25 0.010	0,38 0.015	0,55 0.022
Helical milling cutters	P3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	P4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	P5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
	P6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,50 0.019
	P7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,50 0.019
	P8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
Face milling cutters	P11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,50 0.019
	P12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 0,75	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,24 0.0095	0,34 0.013
	M1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,25 0.010	0,38 0.015	0,55 0.022
	M2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
Disc milling cutters	M3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 0,75	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,28 0.011	0,40 0.016
	M4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,36 0.014
	M5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,36 0.014
	K1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,22 0.0085	0,22 0.0085	0,25 0.010	0,38 0.015	0,55 0.022
	K2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
High feed milling cutters	K3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
	K4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
	K5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
	K6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,36 0.014	0,50 0.020
	K7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
Copy milling cutters	N1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,30 0.012	0,30 0.012	0,32 0.013	0,50 0.020	0,70 0.028
	N2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,30 0.012	0,30 0.012	0,32 0.013	0,50 0.020	0,70 0.028
	N3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,30 0.012	0,30 0.012	0,32 0.013	0,50 0.020	0,70 0.028
	N11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 0,95	0,30 0.012	0,30 0.012	0,32 0.013	0,50 0.020	0,70 0.028
Plunge milling cutters	S1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,36 0.014
	S2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,36 0.014
	S3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
	S11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 0,65	0,17 0.0065	0,17 0.0065	0,19 0.0075	0,28 0.011	0,40 0.016
	S12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 0,65	0,17 0.0065	0,17 0.0065	0,19 0.0075	0,28 0.011	0,40 0.016
Chamfer milling cutters	S13	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 0,55	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,36 0.014
	H5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 0,60	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
	H8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 0,50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
	H11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 0,60	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,30 0.012
Spot facing cutters	H12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 0,50	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p /DC = %

All cutting data are start values

Square shoulder and slot milling cutters

Helical milling cutters

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R218.19-160 – Insert selection – mm/Inch

SMG			a_p	f_z					
				100%	70%	30%	10%	5%	
P1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,25	0,38	0,55	Square shoulder and slot milling cutters
			1.1	0.0085	0.0085	0.010	0.015	0.022	
P2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,24	0,24	0,26	0,40	0,55	Helical milling cutters
			1.1	0.0095	0.0095	0.010	0.016	0.022	
P3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,38	0,50	Helical milling cutters
			1.1	0.0085	0.0085	0.0095	0.015	0.020	
P4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
P5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
P6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
P7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
P8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,38	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.015	0.020	
P11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Face milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
P12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0	0,15	0,15	0,16	0,25	0,34	Disc milling cutters
			0.85	0.0060	0.0060	0.0065	0.010	0.013	
M1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,24	0,24	0,26	0,40	0,55	Disc milling cutters
			1.1	0.0095	0.0095	0.010	0.016	0.022	
M2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Disc milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
M3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0	0,17	0,17	0,19	0,30	0,40	Disc milling cutters
			0.85	0.0065	0.0065	0.0075	0.012	0.016	
M4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,16	0,16	0,17	0,26	0,36	Disc milling cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.014	
M5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,16	0,16	0,17	0,26	0,36	Disc milling cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.014	
K1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,24	0,24	0,26	0,40	0,55	High feed milling cutters
			1.1	0.0095	0.0095	0.010	0.016	0.022	
K2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	High feed milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
K3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	High feed milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
K4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	High feed milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
K5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,19	0,19	0,20	0,32	0,46	Copy milling cutters
			1.1	0.0075	0.0075	0.0080	0.013	0.018	
K6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,22	0,22	0,24	0,36	0,50	Copy milling cutters
			1.1	0.0085	0.0085	0.0095	0.014	0.020	
K7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,19	0,19	0,20	0,32	0,46	Copy milling cutters
			1.1	0.0075	0.0075	0.0080	0.013	0.018	
N1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,30	0,30	0,32	0,50	0,70	Copy milling cutters
			1.1	0.012	0.012	0.013	0.020	0.028	
N2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,30	0,30	0,32	0,50	0,70	Copy milling cutters
			1.1	0.012	0.012	0.013	0.020	0.028	
N3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,30	0,30	0,32	0,50	0,70	Copy milling cutters
			1.1	0.012	0.012	0.013	0.020	0.028	
N11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0	0,30	0,30	0,32	0,50	0,70	Plunge milling cutters
			1.1	0.012	0.012	0.013	0.020	0.028	
S1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,16	0,16	0,17	0,26	0,36	Plunge milling cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.014	
S2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,16	0,16	0,17	0,26	0,36	Plunge milling cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.014	
S3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,15	0,15	0,16	0,24	0,34	Plunge milling cutters
			0.65	0.0060	0.0060	0.0065	0.0095	0.013	
S11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0	0,17	0,17	0,19	0,30	0,40	Chamfer milling cutters
			0.80	0.0065	0.0065	0.0075	0.012	0.016	
S12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0	0,17	0,17	0,19	0,30	0,40	Chamfer milling cutters
			0.80	0.0065	0.0065	0.0075	0.012	0.016	
S13	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0	0,16	0,16	0,17	0,26	0,36	Spot facing cutters
			0.65	0.0065	0.0065	0.0065	0.010	0.014	
H5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0	0,13	0,13	0,14	0,22	0,30	Spot facing cutters
			0.70	0.0050	0.0050	0.0055	0.0085	0.012	
H8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0	0,10	0,10	0,11	0,17	0,24	Spot facing cutters
			0.60	0.0040	0.0040	0.0044	0.0065	0.0095	
H11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0	0,13	0,13	0,14	0,22	0,30	Spot facing cutters
			0.70	0.0050	0.0050	0.0055	0.0085	0.012	
H12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0	0,10	0,10	0,11	0,17	0,24	Spot facing cutters
			0.60	0.0040	0.0040	0.0044	0.0065	0.0095	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %

All cutting data are start values

R218.19-160 – Cutting data $v_c = (m/min)/(sf/min)$

R218.19-160 – Cutting data v _c = (m/min)/(sf/min)																																				
	SMG	MH1000				F15M				MK2050				F25M				F30M				MP3000				MS2050										
		70%	30%	10%	5%	70%	30%	10%	5%	70%	30%	10%	5%	70%	30%	10%	5%	70%	30%	10%	5%	70%	30%	10%	5%	70%	30%	10%	5%							
Square shoulder and slot milling cutters	P1	—	—	—	—	175	190	240	280	305	190	205	255	300	330	195	215	260	310	330	190	205	245	295	315	235	245	310	370	395	210	225	270	320	340	
		—	—	—	—	570	620	790	920	1000	620	670	840	980	1075	640	710	850	1025	1075	620	670	800	970	1025	770	800	1025	1225	1300	690	740	890	1050	1125	
Helical milling cutters	P2	—	—	—	—	170	185	225	270	295	185	200	245	295	320	185	200	250	295	320	180	195	240	280	305	215	230	300	355	385	200	210	265	305	330	
	P3	—	—	—	—	560	610	740	890	970	610	660	800	970	1050	610	660	820	970	1050	590	640	790	920	1000	710	750	980	1175	1275	660	690	870	1000	1075	
	P4	—	—	—	—	150	165	200	240	255	165	175	215	260	275	165	180	220	260	285	155	170	210	245	270	195	205	265	310	345	175	190	230	270	295	
	P5	—	—	—	—	490	540	660	790	840	540	570	710	850	900	540	590	720	850	940	510	560	690	800	890	640	670	870	1025	1125	570	620	750	890	970	
Face milling cutters	P6	155	165	205	245	265	125	135	170	200	220	135	150	185	220	235	140	150	185	220	240	130	145	175	210	230	165	175	220	270	290	150	160	195	230	245
	P7	510	540	670	800	870	410	445	560	660	720	445	490	610	720	770	460	490	610	720	790	425	475	570	690	750	540	570	720	890	950	490	520	640	750	800
	P8	175	190	230	280	295	145	160	190	230	245	160	170	210	250	265	155	170	215	250	270	150	160	205	235	255	185	195	260	300	325	165	175	225	260	275
	P11	570	620	750	920	970	475	520	620	750	800	520	560	690	820	870	510	560	710	820	890	490	520	670	770	840	610	640	850	980	1075	540	570	740	850	900
Disc milling cutters	P12	165	180	220	260	280	140	150	180	215	230	150	160	195	235	250	145	160	200	235	255	140	150	190	225	240	175	185	245	285	305	155	165	215	245	260
	P11	540	590	720	850	920	460	490	590	710	750	490	520	640	770	820	475	520	660	770	840	460	490	620	740	790	570	610	800	940	1000	510	540	710	800	850
	P12	155	165	200	245	260	125	135	165	200	215	135	150	180	220	230	140	150	185	215	240	130	145	175	205	230	165	175	220	260	290	150	160	195	225	245
	P12	510	540	660	800	850	410	445	540	660	710	445	490	590	720	750	460	490	610	710	790	425	475	570	670	750	540	570	720	850	950	490	520	640	740	800
High feed milling cutters	M1	160	175	210	255	270	135	145	175	210	225	145	155	190	230	245	145	155	195	225	245	135	150	185	215	235	170	180	240	275	300	155	160	205	235	255
	M2	520	570	690	840	890	445	475	570	690	740	475	510	620	750	800	475	510	640	740	800	445	490	610	710	770	560	590	790	900	980	510	520	670	770	840
	M3	110	115	140	170	185	—	—	—	—	—	95	105	125	150	165	100	105	125	150	160	95	100	120	145	155	125	135	160	190	200	110	115	135	160	170
	M4	360	375	460	560	610	—	—	—	—	—	310	345	410	490	540	330	345	410	490	520	310	330	395	475	510	410	445	520	620	660	360	375	445	520	560
Copy milling cutters	M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	K1	165	175	215	260	285	135	145	180	215	235	200	215	265	315	345	150	160	200	235	255	140	155	190	225	245	170	180	225	265	290	—	—	—	—	
	K2	540	570	710	850	940	445	475	590	710	770	660	710	870	1025	1125	490	520	660	770	840	460	510	620	740	800	560	590	740	870	950	—	—	—	—	
	K3	145	155	195	230	250	120	130	160	190	205	180	190	240	285	305	130	145	175	210	225	125	135	165	200	215	150	160	200	240	260	—	—	—	—	
Plunge milling cutters	K4	475	510	640	750	820	395	425	520	620	670	590	620	790	940	1000	425	475	570	690	740	410	445	540	660	710	490	520	660	790	850	—	—	—	—	
	K5	125	135	165	195	210	100	110	135	160	175	150	165	200	240	260	110	120	150	175	190	105	115	140	170	185	125	135	170	200	220	—	—	—	—	
	K6	410	445	540	640	690	330	360	445	520	570	490	540	660	790	850	360	395	490	570	620	345	375	460	560	610	410	445	560	660	720	—	—	—	—	
	K7	115	125	160	185	200	95	105	130	155	165	145	155	195	230	245	105	115	140	170	185	100	110	135	160	175	120	130	160	190	210	—	—	—	—	
Chamfer milling cutters	N1	375	410	520	610	660	310	345	425	510	540	475	510	640	750	800	345	375	460	560	610	330	360	445	520	570	395	425	520	620	690	—	—	—	—	
	N2	75	80	100	115	125	60	65	80	95	105	90	95	120	140	155	65	70	90	105	115	65	70	85	100	110	75	80	100	120	130	—	—	—	—	
	N3	245	260	330	375	410	195	215	260	310	345	295	310	395	460	510	215	230	295	345	375	215	230	280	330	360	245	260	330	395	425	—	—	—	—	
	N11	105	110	140	165	180	85	95	115	135	150	125	135	170	200	220	95	100	125	150	160	95	120	140	155	105	115	140	170	185	—	—	—	—		
Spot facing cutters	S1	345	360	460	540	590	280	310	375	445	490	410	445	560	660	720	310	330	410	490	520	295	310	395	460	510	345	375	460	560	610	—	—	—	—	
	S2	95	100	125	150	160	80	85	105	125	135	115	125	155	180	200	85	90	115	135	145	80	90	110	125	140	95	105	130	150	165	—	—	—	—	
	S3	310	330	410	490	520	260	280	345	410	445	375	410	510	590	660	280	295	375	445	475	260	295	360	410	460	310	345	425	490	540	—	—	—	—	
	S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Inserts	S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	H5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	H8	38	42	50	60	65	32	35	42	49	55	—	—	—	—	—	34	37	45	55	55	32	35	4												

R218.19-160 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M					MP2050					MP1501					MP2501					MS2500					MP3501					MM4500					
		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%	
P1	200	210	245	285	295	230	250	305	365	390	305	315	390	440	470	295	305	380	430	460	280	295	365	415	445	295	310	365	420	440	185	200	240	285	300	Square shoulder and slot milling cutters
	660	690	800	940	970	750	820	1000	1200	1275	1000	1025	1275	1450	1550	970	1000	1250	1400	1500	920	970	1200	1350	1450	970	1025	1200	1375	1450	610	660	790	940	980	
P2	190	195	240	270	285	220	240	295	350	380	295	310	370	430	460	285	295	360	415	445	270	285	345	405	435	275	290	355	405	430	175	185	235	270	295	Helical milling cutters
	620	640	790	890	940	720	790	970	1150	1250	970	1025	1225	1400	1500	940	970	1175	1350	1450	890	940	1125	1325	1425	900	950	1175	1325	1400	570	610	770	890	970	
P3	170	175	210	235	255	195	210	260	305	335	260	275	325	380	395	250	265	315	370	385	240	255	305	360	375	245	260	310	355	380	155	165	205	240	260	Face milling cutters
	560	570	690	770	840	640	690	850	1000	1100	850	900	1075	1250	1300	820	870	1025	1225	1275	790	840	1000	1175	1225	800	850	1025	1175	1250	510	540	670	790	850	
P4	155	160	195	230	245	170	185	230	270	295	230	240	295	335	355	220	230	285	325	345	215	225	275	320	340	215	225	275	315	335	150	160	195	230	245	Disc milling cutters
	510	520	640	750	800	560	610	750	890	970	750	790	970	1100	1175	720	750	940	1075	1125	710	740	900	1050	1125	710	740	900	1025	1100	490	520	640	750	800	
P5	140	145	175	205	215	165	175	220	260	280	220	230	280	320	340	210	220	275	315	330	205	210	265	305	325	210	215	260	300	320	130	140	170	205	220	High feed milling cutters
	460	475	570	670	710	540	570	720	850	920	720	750	920	1050	1125	690	720	900	1025	1075	670	690	870	1000	1075	690	710	850	980	1050	425	460	560	670	720	
P6	160	165	205	230	240	185	200	250	290	315	255	265	315	365	385	245	255	305	355	370	235	245	295	345	365	235	245	295	345	365	150	155	200	230	245	Copy milling cutters
	520	540	670	750	790	610	660	820	950	1025	840	870	1025	1200	1275	800	840	1000	1175	1225	770	800	970	1125	1200	770	800	980	1125	1175	490	510	660	750	800	
P7	150	155	195	215	230	175	190	235	275	300	240	250	300	345	360	230	240	290	335	350	220	230	280	325	345	220	230	285	320	340	140	145	190	215	230	Plunge milling cutters
	490	510	640	710	750	620	670	820	950	1025	840	870	1025	1200	1275	800	840	1000	1175	1225	770	800	970	1125	1200	770	800	980	1125	1175	490	510	660	750	800	
P8	140	145	175	200	215	165	175	220	260	280	220	230	280	320	340	210	220	275	315	330	205	210	265	305	325	210	215	260	295	320	130	140	170	200	220	Chamfer milling cutters
	460	475	570	660	710	540	570	720	840	920	720	750	900	1050	1100	690	720	870	1025	1075	670	690	840	1000	1025	690	710	850	970	1050	425	460	560	660	720	
P11	145	150	190	210	220	170	180	230	270	290	230	245	290	335	350	225	235	280	325	340	215	225	270	315	335	215	225	275	310	330	135	145	185	210	225	Spot facing cutters
	475	490	620	690	720	560	590	750	890	950	750	800	950	1100	1150	740	770	920	1075	1125	710	740	890	1025	1100	710	740	900	1025	1075	445	475	610	690	740	
P12	105	110	125	140	150	115	125	150	180	190	160	165	195	220	235	155	160	190	215	230	145	155	185	210	225	150	155	180	205	215	95	100	120	135	145	Inserts
	345	360	410	460	490	375	410	490	590	620	520	540	640	720	770	510	520	620	710	750	475	510	610	690	740	490	510	590	670	710	310	330	395	445	475	
M1	135	150	185	215	235	155	170	215	250	270	—	—	—	—	—	150	165	200	240	260	165	180	215	260	285	150	165	205	240	260	120	130	160	185	205	Face milling cutters
	445	490	610	710	770	510	560	710	820	890	—	—	—	—	—	490	540	660	790	850	540	590	710	850	940	490	540	670	790	850	395	425	520	610	670	
M2	115	125	150	180	195	130	140	175	210	225	—	—	—	—	—	125	135	170	200	215	135	145	185	215	235	125	135	165	200	215	100	105	130	155	170	Disc milling cutters
	375	410	490	590	640	425	460	570	690	740	—	—	—	—	—	410	445	560	660	710	445	475	610	710	770	410	445	540	660	710	330	345	425	510	560	
M3	95	105	125	150	160	110	120	145	170	185	—	—	—	—	—	105	115	140	165	175	115	125	155	175	195	105	115	135	165	175	80	90	105	130	135	High feed milling cutters
	310	345	410	490	520	360	395	475	560	610	—	—	—	—	—	345	375	460	540	570	375	410	490	570	640	345	375	445	540	570	260	295	345	425	445	
M4	75	80	100	115	125	85	95	115	130	145	—	—	—	—	—	85	90	110	130	140	90	100	120	140	150	85	90	110	125	140	65	70	85	100	110	Copy milling cutters
	245	260	330	375	410	280	310	375	425	475	—	—	—	—	—	280	295	360	425	460	295	330	395	460	490	280	295	360	410	460	215	230	280	330	360	
M5	65	70	80	95	105	75	80	95	110	120	—	—	—	—	—	70	75	90	105	115	75	85	100	115	125	70	75	90	105	115	55	60	70	85	90	Plunge milling cutters
	215	230	260	310	345	245	260	310	360	395	—	—	—	—	—	230	245	295	345	375	245	280	330	375	410	230	245	295	345	375	180	195	230	280	295	
K1	135	145	180	215	230	—	—	—	—	—	300	310	375	435	465	285	300	360	420	450	180	195	240	285	315	280	290	360	405	435	—	—	—	—	—	Chamfer milling cutters
	445	475	590	710	750	—	—	—	—	—	980	1025	1225	1425	1525	940	980	1175	1375	1475	590	640	790	940	1025	920	950	1175	1325	1425	—	—	—	—	—	
K2	120	130	160	190	205	—	—	—	—	—	265	275	340	390	410	255	265	330	380	400	160	175	215	255	275	250	260	315	365	385	—	—	—	—	—	Copy milling cutters
	395	425	520	620	670	—	—	—	—	—	870	900	1125	1275	1350	840	870	1075	1250	1300	520	570	710	840	900	820	850	1025	1200	1275	—	—	—	—	—	
K3	100	110	135	160	175	—																														

R218.19-200 – Insert selection – mm/Inch

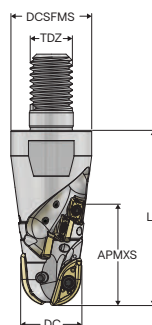
	SMG		a_p	f_z				
				100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	218.19-200T-05-M10 F40M	18,0 0.70	0,28 0.011	0,28 0.011	0,30 0.012	0,44 0.017	0,60 0.024
	P2	218.19-200T-05-M10 F40M	18,0 0.70	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
Helical milling cutters	P3	218.19-200T-05-M10 F40M	18,0 0.70	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
	P4	218.19-200T-05-M10 F40M	18,0 0.70	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
	P5	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	P6	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	P7	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
Face milling cutters	P8	218.19-200T-05-M10 F40M	18,0 0.70	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
	P11	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	P12	218.19-200T-05-M10 F40M	14,0 0.55	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,28 0.011	0,38 0.015
	M1	218.19-200T-05-M10 F40M	18,0 0.70	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
	M2	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
Disc milling cutters	M3	218.19-200T-05-M10 F40M	14,0 0.55	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
	M4	218.19-200T-05-M10 F40M	11,0 0.44	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
	M5	218.19-200T-05-M10 F40M	11,0 0.44	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
	K1	218.19-200T-05-M10 F40M	18,0 0.70	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
	K2	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
High feed milling cutters	K3	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	K4	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	K5	218.19-200T-05-M10 F40M	18,0 0.70	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
	K6	218.19-200T-05-M10 F40M	18,0 0.70	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
	K7	218.19-200T-05-M10 F40M	18,0 0.70	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
Copy milling cutters	N1	218.19-200T-05-M10 F40M	18,0 0.70	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
	N2	218.19-200T-05-M10 F40M	18,0 0.70	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
	N3	218.19-200T-05-M10 F40M	18,0 0.70	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
	N11	218.19-200T-05-M10 F40M	18,0 0.70	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
Plunge milling cutters	S1	218.19-200T-05-M10 F40M	11,0 0.44	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
	S2	218.19-200T-05-M10 F40M	11,0 0.44	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
	S3	218.19-200T-05-M10 F40M	11,0 0.44	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,28 0.011	0,38 0.015
	S11	218.19-200T-05-M10 F40M	13,0 0.50	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
	S12	218.19-200T-05-M10 F40M	13,0 0.50	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
Chamfer milling cutters	S13	218.19-200T-05-M10 F40M	11,0 0.44	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
	H5	218.19-200T-05-M10 F40M	11,0 0.44	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,25 0.010	0,34 0.013
	H8	218.19-200T-05-M10 F40M	10,0 0.40	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,19 0.0075	0,26 0.010
	H11	218.19-200T-05-M10 F40M	11,0 0.44	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,25 0.010	0,34 0.013
Spot facing cutters	H12	218.19-200T-05-M10 F40M	10,0 0.40	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,19 0.0075	0,26 0.010

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %
 All cutting data are start values

R218.19-200 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F25M					F40M					
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	
P1	215	230	285	340	375	225	225	275	315	340	Square shoulder and slot milling cutters
	710	750	940	1125	1225	740	740	900	1025	1125	
P2	210	225	275	330	360	215	220	265	305	320	Helical milling cutters
	690	740	900	1075	1175	710	720	870	1000	1050	
P3	185	200	245	290	315	195	195	235	270	285	Face milling cutters
	610	660	800	950	1025	640	640	770	890	940	
P4	165	175	215	255	280	175	180	220	255	270	Face milling cutters
	540	570	710	840	920	570	590	720	840	890	
P5	160	170	210	250	270	165	165	205	230	245	Face milling cutters
	520	560	690	820	890	540	540	670	750	800	
P6	180	190	235	280	305	185	190	230	260	275	Face milling cutters
	590	620	770	920	1000	610	620	750	850	900	
P7	170	180	220	260	290	175	175	215	245	260	Face milling cutters
	560	590	720	850	950	570	570	710	800	850	
P8	155	165	205	245	265	160	165	200	225	240	Face milling cutters
	510	540	670	800	870	520	540	660	740	790	
P11	165	175	215	255	280	170	170	210	240	255	Face milling cutters
	540	570	710	840	920	560	560	690	790	840	
P12	115	115	140	170	185	120	120	140	160	170	Face milling cutters
	375	375	460	560	610	395	395	460	520	560	
M1	—	—	—	—	—	155	165	205	240	260	Disc milling cutters
	—	—	—	—	—	510	540	670	790	850	
M2	—	—	—	—	—	130	140	170	205	225	Disc milling cutters
	—	—	—	—	—	425	460	560	670	740	
M3	—	—	—	—	—	110	115	140	165	180	Disc milling cutters
	—	—	—	—	—	360	375	460	540	590	
M4	—	—	—	—	—	90	90	110	130	140	Disc milling cutters
	—	—	—	—	—	295	295	360	425	460	
M5	—	—	—	—	—	75	75	95	110	115	Disc milling cutters
	—	—	—	—	—	245	245	310	360	375	
K1	170	180	220	260	285	150	160	200	235	260	High feed milling cutters
	560	590	720	850	940	490	520	660	770	850	
K2	150	160	200	235	260	135	145	180	215	235	High feed milling cutters
	490	520	660	770	850	445	475	590	710	770	
K3	125	135	170	200	220	115	125	155	180	200	High feed milling cutters
	410	445	560	660	720	375	410	510	590	660	
K4	120	130	160	190	210	110	115	145	175	190	Copy milling cutters
	395	425	520	620	690	360	375	475	570	620	
K5	75	80	100	115	130	70	75	90	105	115	Copy milling cutters
	245	260	330	375	425	230	245	295	345	375	
K6	105	115	140	165	185	95	105	130	150	165	Copy milling cutters
	345	375	460	540	610	310	345	425	490	540	
K7	95	100	125	150	165	85	95	115	135	150	Copy milling cutters
	310	330	410	490	540	280	310	375	445	490	
N1	—	—	—	—	—	1100	1175	1450	1775	1925	Plunge milling cutters
	—	—	—	—	—	3600	3850	4750	5825	6325	
N2	—	—	—	—	—	450	475	590	720	770	Plunge milling cutters
	—	—	—	—	—	1475	1550	1925	2350	2525	
N3	—	—	—	—	—	300	315	395	475	520	Plunge milling cutters
	—	—	—	—	—	980	1025	1300	1550	1700	
N11	—	—	—	—	—	340	360	450	550	590	Plunge milling cutters
	—	—	—	—	—	1125	1175	1475	1800	1925	
S1	—	—	—	—	—	42	43	50	60	65	Chamfer milling cutters
	—	—	—	—	—	140	140	165	195	215	
S2	—	—	—	—	—	34	35	42	49	55	Chamfer milling cutters
	—	—	—	—	—	110	115	140	160	180	
S3	—	—	—	—	—	30	30	37	43	47	Chamfer milling cutters
	—	—	—	—	—	100	100	120	140	155	
S11	—	—	—	—	—	55	60	70	85	90	Chamfer milling cutters
	—	—	—	—	—	180	195	230	280	295	
S12	—	—	—	—	—	39	40	49	60	65	Spot facing cutters
	—	—	—	—	—	130	130	160	195	215	
S13	—	—	—	—	—	24	24	29	34	37	Spot facing cutters
	—	—	—	—	—	80	80	95	110	120	
H5	41	42	50	60	65	37	38	46	55	60	Spot facing cutters
	135	140	165	195	215	120	125	150	180	195	
H8	43	44	55	65	70	39	40	49	60	65	Spot facing cutters
	140	145	180	215	230	130	130	160	195	215	
H11	50	55	65	75	85	47	48	60	70	75	Inserts
	165	180	215	245	280	155	155	195	230	245	
H12	80	80	95	115	125	70	70	90	105	115	Inserts
	260	260	310	375	410	230	230	295	345	375	

R218.24 – Metric



—For insert selection and cutting data recommendations, see page(s) 777-778
 —For complete insert programme, see page(s) 917-918, 919, 930
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	DCSFMS mm	TDZ	LF mm	OAL mm	RPMX	Weight kg	218.20	XO.X
R218.24-12R080.RE-028-06.2A	02735924	Combimaster	15,92	2	28,0	23,0	M12	50,0	71,75	18000	0,2	R080 (2)	06 (8)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.24-080	1/4HEX-T08PX50	C02506-T08P	C01804-T06P	1/4HEX-T06PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.24-080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-08P12

Torque and fixed keys, see page 944

R218.24-080 – Insert selection – mm/Inch

SMG			f _z					
			100%	70%	30%	10%	5%	
P1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095	Square shoulder and slot milling cutters
P2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,18 0.0070	0,25 0.010	
P3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,17 0.0065	0,24 0.0095	Helical milling cutters
P4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085	
P5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	Face milling cutters
P6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	
P7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	Disc milling cutters
P8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,17 0.0065	0,24 0.0095	
P11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	High feed milling cutters
P12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060	
M1	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040	0,14 0.0055	Copy milling cutters
M2	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,050 0.0020	0,050 0.0020	0,060 0.0024	0,090 0.0036	0,13 0.0050	
M3	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,075 0.0030	0,10 0.0040	Plunge milling cutters
M4	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,11 0.0044	0,16 0.0065	
M5	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,11 0.0044	0,16 0.0065	Chamfer milling cutters
K1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,18 0.0070	0,25 0.010	
K2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	Spot facing cutters
K3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	
K4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	Inserts
K5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055	0,20 0.0080	
K6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065	0,22 0.0085	Square shoulder and slot milling cutters
K7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055	0,20 0.0080	
N1	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013	Helical milling cutters
N2	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013	
N3	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013	Face milling cutters
N11	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013	
S1	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,11 0.0044	0,16 0.0065	Disc milling cutters
S2	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,11 0.0044	0,16 0.0065	
S3	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,11 0.0044	0,15 0.0060	Copy milling cutters
S11	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 0.0017	0,042 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040	
S12	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 0.0017	0,042 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040	Spot facing cutters
S13	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,038 0.0015	0,038 0.0015	0,042 0.0017	0,065 0.0026	0,090 0.0036	
H5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060	Helical milling cutters
H8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 0.0019	0,048 0.0019	0,055 0.0022	0,085 0.0034	0,12 0.0048	
H11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060	Square shoulder and slot milling cutters
H12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 0.0019	0,048 0.0019	0,055 0.0022	0,085 0.0034	0,12 0.0048	

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_p/DC = %
All cutting data are start values

R218.24-080 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	F25M					MS2050					F40M					MP3501					MM4500				
		100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
Square shoulder and slot milling cutters	P1	235 770	260 850	315 1025	370 1225	395 1300	305 1000	335 1100	380 1250	430 1400	450 1475	255 840	270 890	315 1025	350 1150	365 1200	390 1275	425 1400	460 1500	510 1675	530 1750	220 720	245 800	280 920	315 1025	330 1075
	P2	230 750	255 840	305 1000	360 1175	385 1275	300 980	330 1075	370 1225	420 1375	440 1450	250 820	265 870	305 1000	335 1100	350 1150	380 1250	410 1350	450 1475	495 1625	510 1675	215 710	240 790	270 890	305 1000	325 1075
Helical milling cutters	P3	200 660	220 720	265 870	310 1025	330 1075	255 840	280 920	320 1050	360 1175	380 1250	215 710	230 750	265 870	295 970	305 1000	325 1075	355 1175	385 1275	425 1400	440 1450	185 610	205 670	235 770	265 870	280 920
	P4	175 570	195 640	240 790	280 920	300 980	225 740	250 820	285 940	320 1050	335 1100	190 620	210 690	245 800	275 900	290 950	285 940	310 1025	340 1125	375 1225	390 1275	175 570	195 640	220 720	250 820	265 870
	P5	170 560	190 620	225 740	265 870	285 940	220 720	240 790	270 890	305 1000	320 1050	185 610	195 640	225 740	250 820	260 850	275 900	300 980	325 1075	355 1175	370 1225	155 510	175 570	195 640	220 720	235 770
	P6	190 620	215 710	255 840	300 980	320 1050	245 800	270 890	305 1000	345 1125	360 1175	210 690	220 720	255 840	280 920	295 970	310 1025	335 1100	365 1200	400 1350	415 1350	175 570	195 640	220 720	250 820	260 850
Face milling cutters	P7	180 590	200 660	240 790	280 920	300 980	230 750	255 840	285 940	325 1075	340 1125	195 640	210 690	240 790	265 900	275 950	290 950	315 1025	345 1125	375 1225	395 1300	165 540	185 610	210 690	235 770	245 800
	P8	165 540	185 610	220 720	260 850	280 920	215 710	235 770	270 890	305 1000	320 1050	180 590	195 640	220 720	245 800	255 840	275 900	300 980	325 1075	355 1175	370 1225	155 510	175 570	195 640	220 720	235 770
	P11	175 570	195 640	235 770	275 900	295 970	225 800	245 890	280 940	315 1025	330 1075	190 620	205 700	230 750	255 840	270 890	285 940	310 1025	335 1100	365 1200	380 1250	160 520	180 590	200 660	230 750	240 790
	P12	110 360	125 410	150 490	175 570	185 610	135 445	150 490	170 560	190 620	195 640	120 395	130 425	145 475	160 520	165 540	165 540	180 590	190 620	205 670	215 710	95 310	105 345	115 375	130 425	135 445
Disc milling cutters	M1	—	—	—	—	—	215 710	245 800	285 940	335 1100	360 1175	165 540	185 610	225 740	260 850	280 920	215 710	245 800	285 940	335 1100	360 1175	145 475	160 520	195 640	225 750	240 790
	M2	—	—	—	—	—	180 590	200 660	235 770	275 900	295 970	140 460	155 510	185 610	215 710	235 770	180 590	200 660	235 770	275 900	295 970	120 395	135 445	160 520	190 620	200 660
	M3	—	—	—	—	—	140 460	155 510	185 610	215 710	235 770	110 360	125 410	150 490	175 570	185 610	140 460	155 510	185 610	215 710	235 770	95 310	105 345	130 425	150 490	160 520
	M4	—	—	—	—	—	110 360	120 395	140 460	165 540	180 590	85 280	95 310	115 375	135 445	140 460	110 360	120 395	140 460	165 540	180 590	75 245	85 280	100 330	115 375	125 410
High feed milling cutters	M5	—	—	—	—	—	90 295	100 330	120 395	140 460	150 490	70 230	80 260	95 310	110 360	120 395	90 295	100 330	120 395	140 460	150 490	60 195	70 230	80 260	95 310	100 330
	K1	180 590	200 660	245 800	285 940	305 1000	—	—	—	—	—	165 540	185 610	220 720	260 850	275 900	385 1275	415 1350	455 1500	500 1650	520 1700	—	—	—	—	—
	K2	160 520	180 590	215 710	250 820	270 890	—	—	—	—	—	145 475	165 540	195 640	230 750	245 800	330 1075	360 1175	395 1300	430 1400	450 1475	—	—	—	—	—
	K3	135 445	150 490	185 610	215 710	230 750	—	—	—	—	—	125 410	140 460	165 540	195 640	210 690	280 920	305 1000	335 1100	365 1200	380 1250	—	—	—	—	—
Copy milling cutters	K4	130 425	145 475	175 570	205 670	220 720	—	—	—	—	—	120 395	130 425	160 520	185 610	200 660	270 890	290 950	320 1050	345 1125	360 1175	—	—	—	—	—
	K5	80 260	90 295	105 345	125 410	135 445	—	—	—	—	—	70 230	80 260	95 310	115 375	120 395	160 520	175 570	190 620	205 670	215 710	—	—	—	—	—
	K6	115 375	130 425	155 510	180 590	190 620	—	—	—	—	—	105 345	115 375	140 460	165 540	175 570	235 770	260 850	280 920	305 1000	320 1050	—	—	—	—	—
	K7	100 330	115 375	135 445	160 520	170 560	—	—	—	—	—	90 295	105 345	125 410	145 475	155 510	205 670	225 740	240 790	260 850	270 890	—	—	—	—	—
Plunge milling cutters	N1	—	—	—	—	—	—	—	—	—	—	1225 4025	1350 4425	1650 5425	1950 6400	2050 6725	—	—	—	—	—	—	—	—	—	—
	N2	—	—	—	—	—	—	—	—	—	—	490 1600	550 1800	670 2200	780 2550	830 2725	—	—	—	—	—	—	—	—	—	—
	N3	—	—	—	—	—	—	—	—	—	—	325 1075	365 1200	445 1450	520 1700	550 1800	—	—	—	—	—	—	—	—	—	—
	N11	—	—	—	—	—	—	—	—	—	—	375 1225	415 1350	510 1675	600 1975	630 2075	—	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	—	—	—	—	—	50 165	55 180	65 215	80 260	85 280	40 130	45 150	55 180	65 215	65 215	50 165	55 180	65 215	80 260	85 280	23 75	25 80	30 100	35 115	38 125
	S2	—	—	—	—	—	40 130	45 150	55 180	60 195	65 215	32 105	36 120	43 140	55 180	60 210	40 130	45 150	55 180	60 195	65 215	18 60	20 65	24 80	29 95	30 100
	S3	—	—	—	—	—	35 115	39 130	47 155	55 180	60 195	28 90	32 105	38 125	44 145	47 155	35 115	40 130	47 155	55 180	60 195	16 50	18 60	21 70	25 80	27 90
	S11	—	—	—	—	—	70 230	80 260	95 310	110 360	120 395	55 180	60 195	75 245	90 295	95 310	70 230	80 260	95 310	110 360	120 395	32 105	35 115	42 140	50 165	55 180
Spot facing cutters	S12	—	—	—	—	—	49 160	55 180	65 215	75 245	80 260	39 130	43 140	50 165	60 215	65 215	49 160	55 215	65 215	75 245	80 260	29 95	33 110	39 130	46 150	49 160
	S13	—	—	—	—	—	28 90	31 100	37 120	44 145	47 155	23 75	25 80	30 100	35 115	37 120	28 90	31 100	37 120	44 145	47 155	17 55	19 60	23 75	27 90	28 90
	H5	—	—	—	—	—	—	—	—	—	—	33 110	38 125	45 150	55 180	55 180	—	—	—	—	—	—	—	—	—	—
	H8	—	—	—	—	—	—	—	—	—	—	36 120	40 130	47 155	55 180	60 195	—	—	—	—	—	—	—	—	—	—
Inserts	H11	—	—	—	—	—	—	—	—	—	—	43 140	48 155	55 180	65 215	70 230	—	—	—	—	—	—	—	—	—	—
	H12	—	—	—	—	—	—	—	—	—	—	65 215	70 230	85 280	100 330	105 345	—	—	—	—	—	—	—	—	—	—



R217/220.97

Aluminium routers high productivity cutters are designed to provide optimal performance in slotting, square shoulder milling and pocketing operations in aluminum. These tools are specifically optimized to achieve high speed and high metal removal rates in aluminum.

- Cutter range 16-100mm (0.625 - 4 inch)
- Available in cylindrical, combimaster or for arbor mounting

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

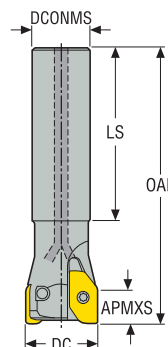
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.97-X08 – Metric



—For insert selection and cutting data recommendations, see page(s) 792
 —For complete insert programme, see page(s) 926
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-1616.0-X08.2A	03245364	Cylindrical	16,0	2	8,0	16,0	67,0	32,49	52,0	100,0	11,0	26,4	30,0	40000	0,2	XPX0803
R217.97-2020.0-X08.2A	03245365	Cylindrical	20,0	2	8,0	20,0	79,0		70,0	120,0	7,2	34,4	38,0	40000	0,3	XPX0803
R217.97-2525.0-X08.3A	03245366	Cylindrical	25,0	3	8,0	25,0	99,0		94,0	150,0	5,0	44,4	48,0	40000	0,6	XPX0803

Spare Parts, included in delivery

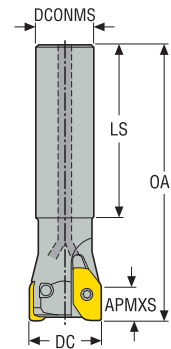
For cutter	Insert key	Insert screw
		
R217.97-1616-2020	1/4HEX-T07PX50	C02505-T07P
R217.97-2525	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X08 – inch



—For insert selection and cutting data recommendations, see page(s) 792
 —For complete insert programme, see page(s) 926
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-0.62-0-X08.2A	03245370	Cylindrical	0.625	2	0.315	0.625	2.638	1.279	2.165	3.937	11,2	1.028	1.171	40000	0.440	XPX0803
R217.97-0.75-0-X08.2A	03245371	Cylindrical	0.750	2	0.315	0.750	3.110	1.594	2.756	4.724	7,8	1.280	1.421	40000	0.660	XPX0803
R217.97-1.00-0-X08.3A	03245372	Cylindrical	1.000	3	0.315	1.000	3.898	1.988	3.701	5.906	4,9	1.780	1.921	40000	1.320	XPX0803

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	1/4HEX-T07PX50	C02505-T07P
R217.97-1.00	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

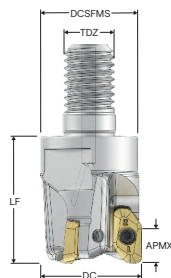
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.97-X08 – Metric



—For insert selection and cutting data recommendations, see page(s) 792
 —For complete insert programme, see page(s) 926
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm		mm	mm		mm	mm		kg	
R217.97-0816.RE-X08.2A	03245589	Combimaster	16,0	2	8,0	13,5	M8	23,0	—	11,0	26,4	30,0	40000	0,1	XPX0803
R217.97-1020.RE-X08.2A	03245362	Combimaster	20,0	2	8,0	18,5	M10	28,0	120,0	7,2	34,4	38,0	40000	0,1	XPX0803
R217.97-1020.RE-X08.3A	03308725	Combimaster	20,0	3	8,0	18,5	M10	28,0	120,0	7,2	34,4	38,0	40000	0,1	XPX0803
R217.97-1225.RE-X08.3A	03245363	Combimaster	25,0	3	8,0	23,0	M12	30,0	150,0	5,0	44,4	48,0	40000	0,2	XPX0803
R217.97-1225.RE-X08.4A	03308726	Combimaster	25,0	4	8,0	23,0	M12	30,0	150,0	5,0	44,4	48,0	40000	0,2	XPX0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

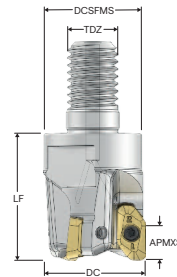
For cutter	Insert key	Insert screw
		
R217.97-0816-1020	1/4HEX-T07PX50	C02505-T07P
R217.97-1225	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X08 – inch



- For insert selection and cutting data recommendations, see page(s) 792
- For complete insert programme, see page(s) 926
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch		inch	inch		inch	inch		lbs	
R217.97-0.62-08RE-X08.2A	03245367	Combimaster	0.625	2	0.315	0.531	M8	0.906	—	11,2	1.028	1.171	40000	0.220	XPkX0803
R217.97-0.75-10RE-X08.2A	03245368	Combimaster	0.750	2	0.315	0.728	M10	1.102	4.724	7,8	1.280	1.421	40000	0.220	XPkX0803
R217.97-1.00-12RE-X08.3A	03245369	Combimaster	1.000	3	0.315	0.906	M12	1.181	5.906	4,9	1.780	1.921	40000	0.220	XPkX0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	1/4HEX-T07PX50	C02505-T07P
R217.97-1.00	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

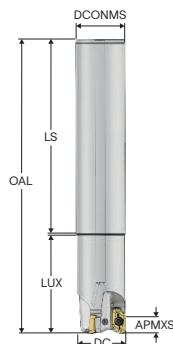
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.97-X12 – Metric



—For insert selection and cutting data recommendations, see page(s) 793
 —For complete insert programme, see page(s) 926
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2525.0-X12.2A	02450300	Cylindrical	25,0	2	12,0	25,0	95,0	54,5	94,0	150,0	10,0	40,0	49,0	40000	0,6	XPX12T3
R217.97-3232.0-X12.2A	02450301	Cylindrical	32,0	2	12,0	32,0	85,0	64,5	90,0	150,0	8,0	54,0	63,0	40000	0,9	XPX12T3
R217.97-3232.0-X12.3A	02450302	Cylindrical	32,0	3	12,0	32,0	85,0	64,5	90,0	150,0	8,0	54,0	63,0	40000	0,9	XPX12T3

Spare Parts, included in delivery

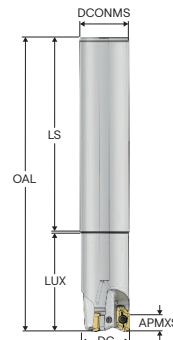
For cutter	Insert key	Insert screw
		
R217.97-...Ø25	1/4HEX-T10PX50	C03508-T10P
R217.97-...Ø32	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217.97-X12 – inch



- For insert selection and cutting data recommendations, see page(s) 793
- For complete insert programme, see page(s) 926
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.00-0-12.2A	02450377	Cylindrical	1.000	2	0.472	1.000	3.799	2.165	3.795	6.000	10,0	1.606	1.961	40000	1.320	XPkX12T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-01.00	1/4HEX-T10PX50	C03508-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

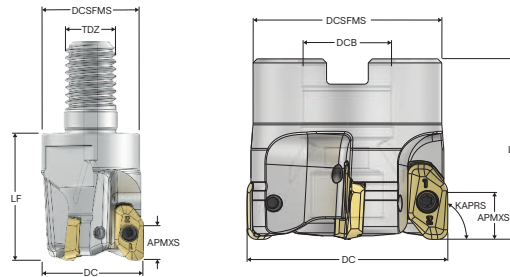
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.97-X12 – Metric

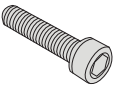


—For insert selection and cutting data recommendations, see page(s) 793
 —For complete insert programme, see page(s) 926
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.97-1225.RE-X12.2A	02449582	Combimaster	25,0	2	12,0	—	23,0	M12	—	30,0	10,0	40,0	49,0	40000	0,1	XPX12T3
R217.97-1632.RE-X12.2A	02450297	Combimaster	32,0	2	12,0	—	30,0	M16	—	40,0	8,0	54,0	63,0	40000	0,3	XPX12T3
R217.97-1632.RE-X12.3A	02450299	Combimaster	32,0	3	12,0	—	30,0	M16	—	40,0	8,0	54,0	63,0	40000	0,2	XPX12T3
R217.97-1640.RE-X12.3A	02486599	Combimaster	40,0	3	12,0	—	30,0	M16	—	40,0	6,0	70,0	79,0	35000	0,3	XPX12T3
R217.97-2040.RE-X12.3A	02928076	Combimaster	40,0	3	12,0	—	36,5	M20	—	40,0	6,0	70,0	79,0	35000	0,4	XPX12T3
R220.97-0050-X12.4A	02450306	Arbor	50,0	4	12,0	22,0	47,0	—	22,0	45,0	5,0	90,0	99,0	30000	0,4	XPX12T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

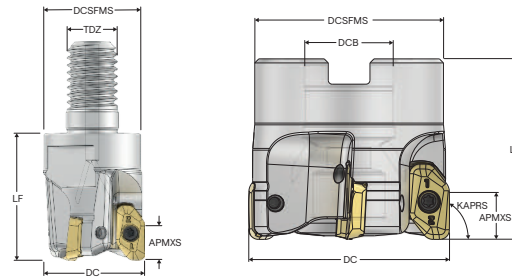
For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-... Ø25	—	1/4HEX-T10PX50	C03508-T10P
R217.97-... Ø32-40	—	1/4HEX-T10PX50	C03509-T10P
R220.97-0050	220.17-692	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.97-X12 – inch

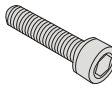


- For insert selection and cutting data recommendations, see page(s) 793
- For complete insert programme, see page(s) 926
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.97-1.00-12RE-12.2A	02450374	Combimaster	1.000	2	0.472	–	0.906	M12	–	1.181	10,0	1.606	1.961	40000	0.440	XPX12T3
R217.97-1.25-16RE-12.3A	02450376	Combimaster	1.250	3	0.472	–	1.181	M16	–	1.575	8,0	2.106	2.461	40000	0.440	XPX12T3
R217.97-01.50-20RE-12.3A	02928061	Combimaster	1.500	3	0.472	–	1.437	M20	–	1.575	6,0	2.606	2.961	35000	0.880	XPX12T3
R217.97-1.50-16RE-12.3A	02520346	Combimaster	1.500	3	0.472	–	1.181	M16	–	1.575	6,0	2.606	2.961	35000	0.660	XPX12T3
R220.97-02.00-12.3A	02534482	Arbor	2.000	3	0.472	0.750	1.850	–	0.750	1.772	5,0	3.606	3.961	30000	0.880	XPX12T3
R220.97-02.00-12.4A	02450395	Arbor	2.000	4	0.472	0.750	1.850	–	0.750	1.772	5,0	3.606	3.961	30000	1.100	XPX12T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-01.00	–	1/4HEX-T10PX50	C03508-T10P
R217.97-01.25-01.50	–	1/4HEX-T10PX50	C03509-T10P
R220.97-..	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
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High feed milling
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Copy milling
cutters

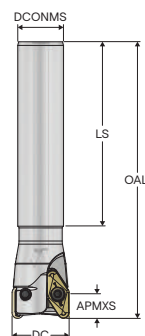
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.97-V22 – Metric



—For insert selection and cutting data recommendations, see page(s) 794
 —For complete insert programme, see page(s) 911
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2532.0-V22.2A	00035425	Cylindrical	32,0	2	14,0	25,0	75,0	64,0	64,0	120,0	15,0	56,0	62,0	40000	0,5	VPGX2206
R217.97-3240.0-V22.2A	00035427	Cylindrical	40,0	2	14,0	32,0	105,0	90,0	90,0	150,0	10,0	72,0	78,0	35000	0,9	VPGX2206

Spare Parts, included in delivery

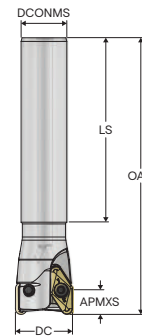
For cutter	Insert key	Insert screw
		
R217.97-..	1/4HEX-T20PX50	C05010-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217.97-V22 - inch



- For insert selection and cutting data recommendations, see page(s) 794
- For complete insert programme, see page(s) 911
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.25-0-V22.2A	00054103	Cylindrical	1.250	2	0.551	1.000	4.000	3.795	3.795	6.000	10,0	2.185	2.421	40000	1.320	VPGX2206
R217.97-01.50-0-V22.2A	00054181	Cylindrical	1.500	2	0.551	1.250	4.000	3.638	3.638	6.000	10,0	2.685	2.921	35000	1.980	VPGX2206

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-..	1/4HEX-T20PX50	C05010-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

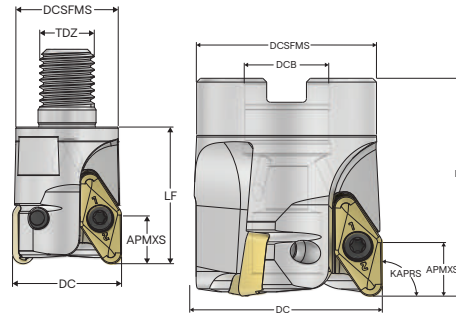
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.97-V22 – Metric

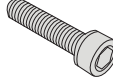


—For insert selection and cutting data recommendations, see page(s) 794
 —For complete insert programme, see page(s) 911
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.97-1632.RE-V22.2A	00035424	Combimaster	32,0	2	14,0	—	30,0	M16	—	40,0	15,0	56,0	62,0	40000	0,2	VPGX2206
R217.97-1640.RE-V22.2A	00035426	Combimaster	40,0	2	14,0	—	30,0	M16	—	40,0	10,0	72,0	78,0	35000	0,3	VPGX2206
R217.97-2040.RE-V22.2A	02928075	Combimaster	40,0	2	14,0	—	36,5	M20	—	45,0	10,0	72,0	78,0	35000	0,4	VPGX2206
R220.97-0050-V22.2A	00035392	Arbor	50,0	2	14,0	22,0	47,0	—	22,0	57,0	8,0	92,0	98,0	30000	0,6	VPGX2206
R220.97-0050-V22.3A	00035393	Arbor	50,0	3	14,0	22,0	47,0	—	22,0	57,0	8,0	92,0	98,0	30000	0,5	VPGX2206
R220.97-0063-V22.3A	00035394	Arbor	63,0	3	14,0	27,0	50,0	—	—	57,0	6,0	116,0	125,0	27000	0,7	VPGX2206
R220.97-0063-V22.4A	00035395	Arbor	63,0	4	14,0	27,0	50,0	—	—	57,0	6,0	116,0	125,0	27000	0,7	VPGX2206
R220.97-0080-V22.4A	00035396	Arbor	80,0	4	14,0	32,0	60,0	—	32,0	57,0	5,0	152,0	158,0	25000	1,1	VPGX2206
R220.97-0100-V22.5A	00035397	Arbor	100,0	5	14,0	32,0	77,0	—	32,0	57,0	4,0	192,0	198,0	22000	1,9	VPGX2206

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

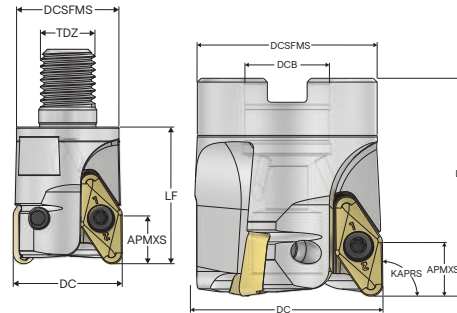
For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-1632-1640	—	1/4HEX-T20PX50	C05010-T20P
R217.97-2040	—	1/4HEX-T20PX50	C05010-T20P
R220.97-0050	MC6S10X40	1/4HEX-T20PX50	C05010-T20P
R220.97-0063	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.97-0080	MC6S16X40	1/4HEX-T20PX50	C05013-T20P
R220.97-0100	MC6S16X40	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.97-V22 – inch

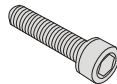


- For insert selection and cutting data recommendations, see page(s) 794
- For complete insert programme, see page(s) 911
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.97-1.25-16REV22.2A	00054077	Combimaster	1.250	2	0.551	–	1.181	M16	–	1.600	10,0	2.185	2.421	40000	0.660	VPGX2206
R217.97-1.50-16REV22.2A	00054146	Combimaster	1.500	2	0.551	–	1.181	M16	–	1.600	10,0	2.685	2.921	35000	0.660	VPGX2206
R220.97-02.00-V22.2A	00054269	Arbor	2.000	2	0.551	0.750	1.850	–	0.750	2.250	8,0	3.685	3.921	30000	1.320	VPGX2206
R220.97-02.00-V22.3A	00054587	Arbor	2.000	3	0.551	0.750	1.850	–	0.750	2.250	8,0	3.685	3.921	30000	1.320	VPGX2206
R220.97-02.50-V22.4A	00055249	Arbor	2.500	4	0.551	1.000	2.047	–	1.000	2.250	6,0	4.685	4.921	27000	1.760	VPGX2206
R220.97-03.00-V22.4A	00050756	Arbor	3.000	4	0.551	1.000	2.441	–	1.000	2.250	5,0	5.685	5.921	25000	2.430	VPGX2206
R220.97-04.00-V22.5A	00050828	Arbor	4.000	5	0.551	1.500	3.543	–	–	2.250	4,0	7.685	7.921	22000	4.850	VPGX2206

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-..	–	1/4HEX-T20PX50	C05010-T20P
R220.97-02.00	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05010-T20P
R220.97-02.50-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P
R220.97-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Square shoulder
and slot milling
cutters

R217.97-X08 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPkx080304PDER-E06 H25	4,0	0,18	0,18	0,20	0,32	0,44
		0.16	0.0070	0.0070	0.0080	0.013	0.017
N2	XPkx080304PDER-E06 H25	4,0	0,18	0,18	0,20	0,32	0,44
		0.16	0.0070	0.0070	0.0080	0.013	0.017
N3	XPkx080304PDER-E06 H25	4,0	0,18	0,18	0,20	0,32	0,44
		0.16	0.0070	0.0070	0.0080	0.013	0.017
N11	XPkx080304PDER-E06 H25	4,0	0,18	0,18	0,20	0,32	0,44
		0.16	0.0070	0.0070	0.0080	0.013	0.017

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

R217.97-X08 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25				
	100%	70%	30%	10%	5%
N1	2025	2200	2675	3175	3400
	6650	7225	8775	10425	11150
N2	510	560	680	800	860
	1675	1825	2225	2625	2825
N3	340	370	450	540	570
	1125	1225	1475	1775	1875
N11	390	425	510	610	650
	1275	1400	1675	2000	2125

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.97-X12 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPKX12T304PDER-E08 H25	6,0	0,20	0,20	0,22	0,34	0,48
		0,24	0.0080	0.0080	0.0085	0.013	0.019
N2	XPKX12T304PDER-E08 H25	6,0	0,20	0,20	0,22	0,34	0,48
		0,24	0.0080	0.0080	0.0085	0.013	0.019
N3	XPKX12T304PDER-E08 H25	6,0	0,20	0,20	0,22	0,34	0,48
		0,24	0.0080	0.0080	0.0085	0.013	0.019
N11	XPKX12T304PDER-E08 H25	6,0	0,20	0,20	0,22	0,34	0,48
		0,24	0.0080	0.0080	0.0085	0.013	0.019

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

R217/220.97-X12 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25				
	100%	70%	30%	10%	5%
N1	1900	2075	2525	3000	3225
	6225	6800	8275	9850	10575
N2	480	520	640	760	820
	1575	1700	2100	2500	2700
N3	320	350	425	500	540
	1050	1150	1400	1650	1775
N11	365	400	485	580	620
	1200	1300	1600	1900	2025

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.97-V22 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	VPGX220605ER-E10 H25	7,0	0,22	0,22	0,24	0,36	0,50
		0.28	0.0085	0.0085	0.0095	0.014	0.020
N2	VPGX220605ER-E10 H25	7,0	0,22	0,22	0,24	0,36	0,50
		0.28	0.0085	0.0085	0.0095	0.014	0.020
N3	VPGX220605ER-E10 H25	7,0	0,22	0,22	0,24	0,36	0,50
		0.28	0.0085	0.0085	0.0095	0.014	0.020
N11	VPGX220605ER-E10 H25	7,0	0,22	0,22	0,24	0,36	0,50
		0.28	0.0085	0.0085	0.0095	0.014	0.020

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.97-V22 – Cutting data v_c = (m/min)/(sf/min)

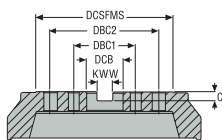
SMG	H15					H25				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
N1	1925	2075	2550	3050	3300	1925	2075	2550	3050	3300
	6325	6800	8375	10000	10825	6325	6800	8375	10000	10825
N2	485	530	650	770	840	485	530	650	770	840
	1600	1750	2125	2525	2750	1600	1750	2125	2525	2750
N3	325	350	430	510	560	325	350	430	510	560
	1075	1150	1400	1675	1825	1075	1150	1400	1675	1825
N11	370	400	490	590	640	370	400	490	590	640
	1225	1300	1600	1925	2100	1225	1300	1600	1925	2100

Code keys metric and inch

R	217	79	18	20	0	10	A
1	2	3	4	5	6	7	8

R	217	79	01.50	3	08	3	A
1	2	3	4	5	6	7	8

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	5. (Not for inch designation)	6.
Shank diameter (connecting thread diameter for Combimaster)	Cutter diameter	Shank type RE = Combimaster 0. = Cylindrical 3. = Weldon
7.	8.	
Insert size	A = With through coolant supply	



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	1.181 - 1.378			0.258	0.165
0.750	1.378 - 1.850	–	–	0.321	0.193
1.000	1.803 - 2.441	–	–	0.382	0.224
1.250	2.250 - 3.031	–	–	0.508	0.287
1.500	2.750 - 3.543	–	–	0.630	0.382
2.000	4.331	–	–	0.756	0.445
2.500	5.118 - 6.299 (8.858)	4.000	(7.000)	1.000	0.551

For a more exact DCSFMS and DCB measurement, see each product table.

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

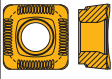
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

Selection – Metric

	Insert	a _p max	Material suitability							
			P	M	K	N	S	H		
Square shoulder and slot milling cutters	XO06 	3,0	■	■	■	■	■	□	■	■
	XO10 	6,0	■	■	■	■	■	□	■	■
Helical milling cutters	XO12 	7,0	■	■	■	■	■	□	■	■
Face milling cutters	SCET 	11,0 20,0 30,0 40,0	■	■	■	■	■	□	-	■
Disc milling cutters	XNEX08..L 	7,0	■	■	■	■	■	□	■	■

High feed milling cutters	1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Copy milling cutters	Alternative choice	▣	Strong stable machine with rigid connection		Ramping ability	
	Possible choice	□	Not recommended	-	Plunging ability	

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth												See page
			12	16	20	25	32	40	50	63	80	100	125	160	
XO.X06	2		2	3											806
			3	4											
XO.X10	2				2										809
						3	4	5							
XO.X12	2						2	3	4						816
						2	3	4		5					
SCET12	4						2	3	4	5	6	7	8		823
												4			
													4		
														4	
XNEX08	6							3	4	5	6	7			801
									5	6	7	9			

x	x indicates number of teeth (first choice)		Troubleshooter for unstable fixturing and/or unstable conditions
x	x indicates number of teeth		Basic choice

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

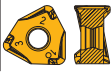
Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

Selection – Inch

	Insert	a_p max	Material suitability							
			P	M	K	N	S	H		
Square shoulder and slot milling cutters	XO10 	0.236	■	■	■	■	■	□	■	■
	XO12 	0.276	■	■	■	■	■	□	■	■
	SCET 	0.433	■	■	■	■	■	□	-	■
	XNEX08..L 	0.276	■	■	■	■	■	□	■	■

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	▣	Strong stable machine with rigid connection		Ramping ability	
Possible choice	□	Not recommended	-	Plunging ability	

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth								See page
			0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
XO.X10	2		2								809
											
XO.X12	2										816
				2							
SCET12	4				2	3	4	5	6	7	823
											
											
											
XNEX08	6					3	4	6	7	9	801
											

x	x indicates number of teeth (first choice)		Troubleshooter for unstable fixturing and/or unstable conditions
x	x indicates number of teeth		Basic choice

Square shoulder and slot milling cutters

Helical milling cutters

Face milling cutters

Disc milling cutters

High feed milling cutters

Copy milling cutters

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

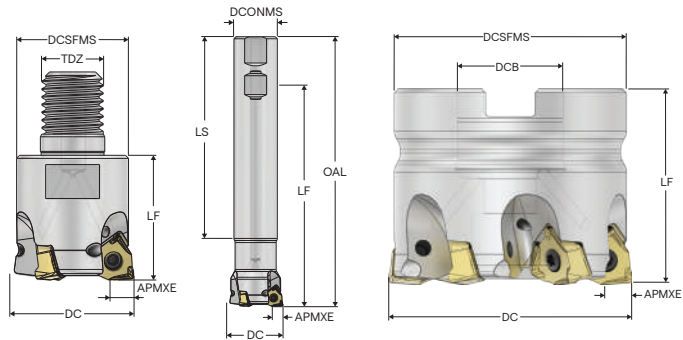


Square 6 Plunge mill

The Plunge Square 6 cutters are equipped with double sided inserts, means 6 cutting edges.

- Cutter range: 40-100 mm (1.5 - 3 inch)
- Max radial depth of cut 7 mm (.275 inch)
- Insert corner radii range 0.8-1.6 mm (.031 - .063 inch)

R217/220.79-08 – Metric



- For insert selection and cutting data recommendations, see page(s) 803-804
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm	mm	mm		kg	
R217.79-3240.3-08-3A	03058304	Weldon	40,0	3	7,0	—	—	—	32,0	164,0	140,0	140,0	200,0	11800	1,3	XNEX08..L
R217.79-2040.RE-08-3A	03058302	Combimaster	40,0	3	7,0	—	36,5	M20	—	40,0	—	—	—	11800	0,3	XNEX08..L
R220.79-0050-08-4A	03058315	Arbor	50,0	4	7,0	22,0	48,0	—	—	40,0	—	—	—	10600	0,3	XNEX08..L
R220.79-0050-08-5A	03058316	Arbor	50,0	5	7,0	22,0	48,0	—	—	40,0	—	—	—	10600	0,3	XNEX08..L
R220.79-0063-08-6A	03058318	Arbor	63,0	6	7,0	27,0	60,0	—	—	50,0	—	—	—	9400	0,7	XNEX08..L
R220.79-0080-08-7A	03058320	Arbor	80,0	7	7,0	27,0	62,0	—	—	50,0	—	—	—	8400	1,1	XNEX08..L

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
220.79-Ø50	220.17-696	1/4HEX-T15PX50	C04011-T15P
220.79-Ø63	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R217.79-.. Ø40	—	1/4HEX-T15PX50	C04011-T15P
R220.79- Ø80	—	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	—	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

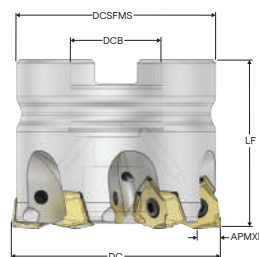
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

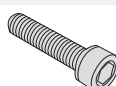
R220.79-08 – Inch



- For insert selection and cutting data recommendations, see page(s) 803–804
- For complete insert programme, see page(s) 912
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXE inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.79-02.50-08-6A	03058349	Arbor	2.500	6	0.276	1.000	2.250	1.969	9400	1.980	XNEX08..L

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-02.50-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.79-08 – Insert selection – mm/Inch

SMG		f_z	a_{so}				
			100%	70%	50%	30%	
P1	XNEX080608TL-M13 F40M	0,18 0.0070	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Square shoulder and slot milling cutters
P2	XNEX080608TL-M13 F40M	0,19 0.0075	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P3	XNEX080608TL-M13 MP2501	0,18 0.0070	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Helical milling cutters
P4	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P5	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Face milling cutters
P6	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P7	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Disc milling cutters
P8	XNEX080608TL-M13 MP2501	0,18 0.0070	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P11	XNEX080608TL-M13 MP3501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	High feed milling cutters
P12	XNEX080608TL-M13 MP2501	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
M1	XNEX080608TL-M13 F40M	0,19 0.0075	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Copy milling cutters
M2	XNEX080608TL-M13 F40M	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
M3	XNEX080608TL-M13 F40M	0,14 0.0055	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	Plunge milling cutters
M4	XNEX080608TL-M13 MP3501	0,12 0.0048	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
M5	XNEX080608TL-M13 MP3501	0,12 0.0048	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	Chamfer milling cutters
K1	XNEX080608TL-M13 MP2501	0,19 0.0075	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K2	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Spot facing cutters
K3	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K4	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Inserts
K5	XNEX080608TL-M13 MP2501	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K6	XNEX080608TL-M13 MP2501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K7	XNEX080608TL-M13 MP2501	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
S1	XNEX080608TL-M13 MP3501	0,12 0.0048	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S2	XNEX080608TL-M13 MP3501	0,12 0.0048	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S3	XNEX080608TL-M13 MP3501	0,11 0.0044	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S11	XNEX080608TL-M13 MS2050	0,14 0.0055	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
S12	XNEX080608TL-M13 MS2050	0,14 0.0055	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
S13	XNEX080608TL-M13 MS2050	0,12 0.0048	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
H5	XNEX080608TL-M13 MP3501	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
H8	XNEX080608TL-M13 MP3501	0,090 0.0036	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
H11	XNEX080608TL-M13 MP3501	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
H12	XNEX080608TL-M13 MP3501	0,090 0.0036	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R217/220.79-08 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MS2050				F40M				MP2501				MP3501			
		100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
Square shoulder and slot milling cutters	P1	190 620	210 690	225 740	240 790	180 590	195 640	205 670	215 710	305 1000	330 1075	345 1125	365 1200	270 890	290 950	305 1000	320 1050
	P2	180 590	200 660	210 690	225 740	170 560	185 610	190 620	200 660	290 950	315 1025	330 1075	345 1125	255 840	275 900	290 950	305 1000
Helical milling cutters	P3	160 520	175 570	185 610	200 660	150 490	165 540	170 560	180 590	255 840	275 900	290 950	305 1000	225 740	245 800	255 840	270 890
	P4	145 475	160 520	170 560	180 590	145 475	155 510	165 540	175 570	230 750	250 820	260 850	275 900	205 670	220 720	230 750	245 800
Face milling cutters	P5	140 460	155 510	160 520	170 560	130 425	140 460	145 475	155 510	220 720	240 790	250 820	265 870	195 640	210 690	220 720	235 770
	P6	155 510	170 560	180 590	195 640	145 475	160 520	165 540	175 570	245 800	270 890	280 920	295 970	220 720	235 770	250 820	260 850
Face milling cutters	P7	145 475	160 520	170 560	180 590	140 460	150 490	155 510	165 540	235 770	255 840	265 870	280 920	205 670	225 740	235 770	245 800
	P8	135 445	150 490	155 510	170 560	125 410	135 445	145 475	150 490	215 710	235 770	245 800	255 840	190 620	205 670	215 710	225 740
Face milling cutters	P11	145 475	160 520	165 540	175 570	135 445	145 475	150 490	160 520	225 740	245 800	255 840	270 890	200 660	215 710	225 740	240 790
	P12	100 330	110 360	120 395	125 410	100 330	105 345	110 360	115 375	160 520	175 570	180 590	190 620	140 460	155 510	160 520	170 560
Disc milling cutters	M1	145 475	160 520	170 560	185 610	130 425	145 475	155 510	165 540	155 510	175 570	185 610	195 640	145 475	160 520	170 560	185 610
	M2	120 395	135 445	145 475	155 510	110 360	125 410	130 425	140 460	130 425	145 475	155 510	165 540	120 395	135 445	145 475	155 510
Disc milling cutters	M3	100 330	110 360	115 375	125 410	90 295	100 330	105 345	115 375	105 345	120 395	125 410	135 445	100 330	110 360	115 375	125 410
	M4	80 260	90 295	95 310	100 330	70 230	80 260	85 280	90 295	85 280	95 310	100 330	105 345	80 260	90 295	95 310	100 330
High feed milling cutters	M5	65 215	75 245	75 245	85 280	60 195	65 215	70 230	75 245	70 230	80 260	85 280	90 295	65 215	75 245	75 245	85 280
	K1	—	—	—	—	130 425	145 475	155 510	165 540	290 950	315 1025	330 1075	350 1150	255 840	280 920	290 950	310 1025
High feed milling cutters	K2	—	—	—	—	115 375	130 425	135 445	145 475	265 870	290 950	300 980	320 1050	235 770	255 840	265 870	280 920
	K3	—	—	—	—	100 330	110 360	115 375	125 410	225 740	245 800	255 840	270 890	200 660	215 710	225 740	240 790
Copy milling cutters	K4	—	—	—	—	95 310	105 345	110 360	120 395	215 710	235 770	245 800	255 840	190 620	205 670	215 710	225 740
	K5	—	—	—	—	60 195	65 215	70 230	75 245	135 445	145 475	155 510	160 520	120 395	130 425	135 445	145 475
Copy milling cutters	K6	—	—	—	—	85 280	90 295	100 330	105 345	190 620	205 670	215 710	225 740	165 540	180 590	190 620	200 660
	K7	—	—	—	—	75 245	85 280	90 295	95 310	175 570	190 620	195 640	205 670	155 510	165 540	175 570	185 610
Plunge milling cutters	S1	37 120	41 135	43 140	47 155	33 110	37 120	39 130	42 140	—	—	—	—	37 120	41 135	43 140	47 155
	S2	29 95	33 110	35 115	38 125	27 90	30 100	32 105	34 110	—	—	—	—	29 95	33 110	35 115	38 125
Plunge milling cutters	S3	26 85	29 95	31 100	33 110	24 80	26 85	28 90	30 100	—	—	—	—	26 85	29 95	31 100	33 110
	S11	50 165	55 180	60 195	65 215	46 150	50 165	55 180	60 195	—	—	—	—	50 165	55 180	60 195	65 215
Chamfer milling cutters	S12	35 115	39 130	41 135	44 145	32 105	35 115	37 120	40 130	—	—	—	—	35 115	39 130	41 135	44 145
	S13	21 70	23 75	24 80	26 85	19 60	21 70	22 70	24 80	—	—	—	—	21 70	23 75	24 80	26 85
Chamfer milling cutters	H5	—	—	—	—	29 95	32 105	34 110	36 120	—	—	—	—	33 110	37 120	39 130	42 140
	H8	—	—	—	—	30 100	34 110	36 120	39 130	—	—	—	—	35 115	39 130	41 135	44 145
Spot facing cutters	H11	—	—	—	—	36 120	41 135	43 140	46 150	—	—	—	—	42 140	47 155	49 160	55 180
	H12	—	—	—	—	55 180	60 195	65 215	70 230	—	—	—	—	65 215	70 230	75 245	80 260



Turbo Plunge mill

Turbo Plunge mills can be used for both up-copying and down-copying in an axial feed direction, such as in deep cavities for mold tools. All cutters in this family incorporate internal coolant to optimize chip evacuation.

- Insert size 06, cutter range 12-16 mm
- Insert size 10, cutter range 20-32 mm (0.75 - 1 inch)
- Insert size 12, cutter range 25-63 mm (1 inch)

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

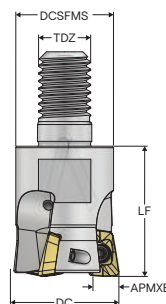
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.79-06 - Metric



—For insert selection and cutting data recommendations, see page(s) 807-808
 —For complete insert programme, see page(s) 917
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXE mm	DCSFMS mm	TDZ	LF mm	RPMX	Weight kg	Insert
R217.79-0612.RE-06.3AN	02705857	Combimaster	12,0	3	3,0	11,0	M6	18,0	32000	0,1	XO..06
R217.79-0816.RE-06.3AN	02705859	Combimaster	16,0	3	3,0	13,5	M8	20,0	28000	0,1	XO..06

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T06PX50	C01804-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

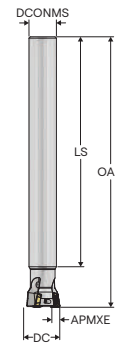
R217.79-06 – Insert selection – mm/Inch

SMG		f_z	a_{so}				
			100%	70%	50%	30%	
P1	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Square shoulder and slot milling cutters
P2	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
P3	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Helical milling cutters
P4	XOMX060204R-M05 F40M	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
P5	XOMX060204R-M05 F40M	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Face milling cutters
P6	XOMX060204R-M05 F40M	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
P7	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Disc milling cutters
P8	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
P11	XOMX060204R-M05 MP3000	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	High feed milling cutters
P12	XOMX060204R-M05 MP3000	0,044 0.0017	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080	
M1	XOMX060204R-M05 F40M	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Copy milling cutters
M2	XOMX060204R-M05 F40M	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
M3	XOMX060204R-M05 F40M	0,050 0.0020	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080	Plunge milling cutters
M4	XOMX060204R-M05 F40M	0,046 0.0018	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	
M5	XOMX060204R-M05 F40M	0,046 0.0018	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	Chamfer milling cutters
K1	XOMX060204R-M05 MP3000	0,070 0.0028	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
K2	XOMX060204R-M05 MP3000	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Spot facing cutters
K3	XOMX060204R-M05 MP3000	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
K4	XOMX060204R-M05 MP3000	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	Inserts
K5	XOMX060204R-M05 MP3000	0,060 0.0024	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
K6	XOMX060204R-M05 MP3000	0,065 0.0026	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
K7	XOMX060204R-M05 MP3000	0,060 0.0024	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
N1	XOEX060204FR-E03 H15	0,075 0.0030	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
N2	XOEX060204FR-E03 H15	0,075 0.0030	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
N3	XOEX060204FR-E03 H15	0,075 0.0030	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
N11	XOEX060204FR-E03 H15	0,075 0.0030	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10	
S1	XOMX060204R-M05 F40M	0,046 0.0018	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	
S2	XOMX060204R-M05 F40M	0,046 0.0018	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	
S3	XOMX060204R-M05 F40M	0,042 0.0017	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	
S11	XOMX060204R-M05 MS2050	0,050 0.0020	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065	
S12	XOMX060204R-M05 MS2050	0,050 0.0020	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065	
S13	XOMX060204R-M05 MS2050	0,046 0.0018	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055	
H5	XOMX060204R-M05 MP3000	0,044 0.0017	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080	
H8	XOMX060204R-M05 MP3000	0,034 0.0013	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065	
H11	XOMX060204R-M05 MP3000	0,044 0.0017	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080	
H12	XOMX060204R-M05 MP3000	0,034 0.0013	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065	

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

808

R217.79-10 – Metric



—For insert selection and cutting data recommendations, see page(s) 813–815
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXE mm	DCONMS mm	LUX mm	LPR mm	OAL mm	RPMX	Weight kg	Insert
R217.79-1820.0-10-2A	02842051	Cylindrical	20,0	2	6,0	18,0	112,0	112,0	160,0	29000	0,3	XO.X10T3
R217.79-2025.0-10-3A	02842052	Cylindrical	25,0	3	6,0	20,0	150,0	150,0	200,0	26000	0,4	XO.X10T3
R217.79-2532.0-10-4A	02842053	Cylindrical	32,0	4	6,0	25,0	190,0	190,0	250,0	22900	0,9	XO.X10T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

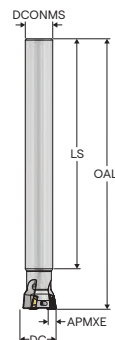
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.79-10 – inch



—For insert selection and cutting data recommendations, see page(s) 813–815
 —For complete insert programme, see page(s) 918, 919
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R217.79-00.75-0-10-2A	02844106	Cylindrical	0.750	2	0.236	0.625	4.724	4.724	6.299	29000	0.440	XO.X10T3
R217.79-01.00-0-10-3A	02844107	Cylindrical	1.000	3	0.236	0.750	5.906	5.906	7.874	15000	1.100	XO.X10T3

Spare Parts, included in delivery

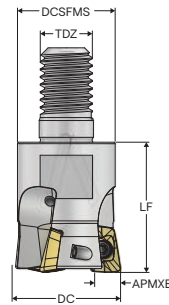
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – Metric



- For insert selection and cutting data recommendations, see page(s) 813–815
- For complete insert programme, see page(s) 918, 919
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm	mm		mm		kg	
R217.79-1020.RE-10-2A	02842054	Combimaster	20,0	2	6,0	18,0	M10	28,0	29000	0,1	XO.X10T3
R217.79-1225.RE-10-3A	02842056	Combimaster	25,0	3	6,0	22,5	M12	30,0	26000	0,1	XO.X10T3
R217.79-1632.RE-10-4A	02842057	Combimaster	32,0	4	6,0	29,0	M16	40,0	22900	0,2	XO.X10T3
R217.79-1640.RE-10-5A	02842058	Combimaster	40,0	5	6,0	30,0	M16	40,0	15000	0,3	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

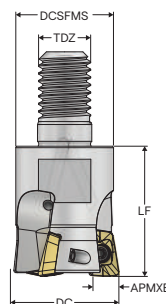
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.79-10 – inch



—For insert selection and cutting data recommendations, see page(s) 813–815
 —For complete insert programme, see page(s) 918, 919
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			inch		inch	inch		inch		lbs	
R217.79-1.00-12RE-10.3A	02844109	Combimaster	1.000	3	0.236	0.886	M12	1.181	15000	0.220	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – Insert selection – Metric/ Inch

SMG		f_z	a_{so}				
			100%	70%	50%	30%	
P1	XOMX10T308TR-ME07 F40M	0,10 0.0040	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Square shoulder and slot milling cutters
P2	XOMX10T308TR-ME07 F40M	0,10 0.0040	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
P3	XOMX10T308TR-ME07 MP2501	0,095 0.0038	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Helical milling cutters
P4	XOMX10T308TR-ME07 MP2501	0,095 0.0038	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
P5	XOMX10T308TR-M09 MP2501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Face milling cutters
P6	XOMX10T308TR-M09 MP2501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
P7	XOMX10T308TR-M09 MP2501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Disc milling cutters
P8	XOMX10T308TR-M09 MP2501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
P11	XOMX10T308TR-M09 MP3501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	High feed milling cutters
P12	XOMX10T308TR-M09 MS2500	0,080 0.0032	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
M1	XOEX10T308R-M06 F40M	0,085 0.0034	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Copy milling cutters
M2	XOEX10T308R-M06 F40M	0,080 0.0032	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
M3	XOEX10T308R-M06 F40M	0,060 0.0024	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	Plunge milling cutters
M4	XOEX10T308R-M06 MS2050	0,055 0.0022	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	
M5	XOEX10T308R-M06 MS2050	0,055 0.0022	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	Chamfer milling cutters
K1	XOMX10T308TR-M09 MK1501	0,13 0.0050	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
K2	XOMX10T308TR-M09 MK1501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Spot facing cutters
K3	XOMX10T308TR-M09 MK1501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
K4	XOMX10T308TR-M09 MK1501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	Inserts
K5	XOMX10T308TR-M09 MK1501	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
K6	XOMX10T308TR-M09 MK1501	0,12 0.0048	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
K7	XOMX10T308TR-M09 MK2050	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
N1	XOEX10T308FR-E05 H15	0,090 0.0036	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
N2	XOEX10T308FR-E05 H15	0,090 0.0036	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
N3	XOEX10T308FR-E05 H15	0,090 0.0036	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
N11	XOEX10T308FR-E05 H15	0,090 0.0036	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20	
S1	XOEX10T308R-M06 F40M	0,055 0.0022	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	
S2	XOEX10T308R-M06 F40M	0,055 0.0022	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	
S3	XOEX10T308R-M06 F40M	0,050 0.0020	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	
S11	XOEX10T308R-M06 MS2050	0,060 0.0024	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S12	XOEX10T308R-M06 MS2050	0,060 0.0024	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S13	XOEX10T308R-M06 MS2050	0,055 0.0022	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12	
H5	XOMX10T308TR-M09 MH1051	0,080 0.0032	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
H8	XOMX10T308TR-M09 MH1051	0,060 0.0024	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
H11	XOMX10T308TR-M09 MP1501	0,080 0.0032	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
H12	XOMX10T308TR-M09 MP1501	0,060 0.0024	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	

SMG = Seco material group

 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

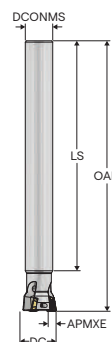
All cutting data are start values

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R217.79-10 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501				MP1501				MP2501				MS2500				MP3501				MM4500				
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	
P1	—	—	—	—	350	380	395	415	340	370	385	405	325	355	370	390	300	330	340	360	190	210	220	235	Square shoulder and slot milling cutters
	—	—	—	—	1150	1250	1300	1350	1125	1225	1275	1325	1075	1175	1225	1275	980	1075	1125	1175	620	690	720	770	
P2	—	—	—	—	340	370	385	405	330	360	375	390	315	345	360	380	295	320	335	350	185	205	215	225	Helical milling cutters
	—	—	—	—	1125	1225	1275	1325	1075	1175	1225	1275	1025	1125	1175	1250	970	1050	1100	1150	610	670	710	740	
P3	—	—	—	—	300	325	340	355	295	320	330	350	280	305	320	335	260	285	295	310	165	180	190	200	Helical milling cutters
	—	—	—	—	980	1075	1125	1175	970	1050	1075	1150	920	1000	1050	1100	850	940	970	1025	540	590	620	660	
P4	—	—	—	—	265	285	300	315	260	280	290	305	245	270	280	295	230	250	260	270	155	175	180	190	Helical milling cutters
	—	—	—	—	870	940	980	1025	850	920	950	1000	800	890	920	970	750	820	850	890	510	570	590	620	
P5	—	—	—	—	255	275	285	300	245	265	280	290	235	255	270	280	220	240	250	260	140	155	160	170	Helical milling cutters
	—	—	—	—	840	900	940	980	800	870	920	950	770	840	890	920	720	790	820	850	460	510	520	560	
P6	—	—	—	—	285	310	320	335	275	300	315	330	265	290	300	315	245	265	280	290	155	170	180	190	Face milling cutters
	—	—	—	—	940	1025	1050	1100	900	980	1025	1075	870	950	980	1025	800	870	920	950	510	560	590	620	
P7	—	—	—	—	270	290	305	315	260	285	295	310	250	270	285	300	235	250	265	275	145	160	170	180	Face milling cutters
	—	—	—	—	890	950	1000	1025	850	940	970	1025	820	890	940	980	770	820	870	900	475	520	560	590	
P8	—	—	—	—	255	275	285	300	245	265	280	290	235	255	270	280	220	240	250	260	140	155	160	170	Face milling cutters
	—	—	—	—	840	900	940	980	800	870	920	950	770	840	890	920	720	790	820	850	460	510	520	560	
P11	—	—	—	—	260	280	295	310	255	275	285	300	245	265	275	290	225	245	255	270	145	155	165	175	Face milling cutters
	—	—	—	—	850	920	970	1025	840	900	940	980	800	870	900	950	740	800	840	890	475	510	540	570	
P12	—	—	—	—	175	190	195	205	170	185	195	205	165	180	185	195	155	165	175	180	100	105	115	120	Face milling cutters
	—	—	—	—	570	620	640	670	560	610	640	670	540	590	610	640	510	540	570	590	330	345	375	395	
M1	—	—	—	—	—	—	—	—	170	190	200	215	185	205	220	230	160	175	190	200	125	140	145	155	Disc milling cutters
	—	—	—	—	—	—	—	—	560	620	660	710	610	670	720	750	520	570	620	660	410	460	475	510	
M2	—	—	—	—	—	—	—	—	140	160	165	175	155	170	180	190	130	145	155	165	105	115	120	130	Disc milling cutters
	—	—	—	—	—	—	—	—	460	520	540	570	510	560	590	620	425	475	510	540	345	375	395	425	
M3	—	—	—	—	—	—	—	—	115	130	135	145	125	140	150	160	110	120	125	135	85	95	100	105	Disc milling cutters
	—	—	—	—	—	—	—	—	375	425	445	475	410	460	490	520	360	395	410	445	280	310	330	345	
M4	—	—	—	—	—	—	—	—	90	105	110	115	100	110	120	125	85	95	100	110	65	75	80	85	Disc milling cutters
	—	—	—	—	—	—	—	—	295	345	360	375	330	360	395	410	280	310	330	360	215	245	260	280	
M5	—	—	—	—	—	—	—	—	75	85	90	95	85	95	100	105	70	80	85	90	55	65	65	70	High feed milling cutters
	—	—	—	—	—	—	—	—	245	280	295	310	280	310	330	345	230	260	280	295	180	215	215	230	
K1	305	385	435	500	345	370	390	405	335	360	380	395	205	230	240	255	295	320	335	350	—	—	—	—	High feed milling cutters
	1000	1275	1425	1650	1125	1225	1275	1325	1100	1175	1250	1300	670	750	790	840	970	1050	1100	1150	—	—	—	—	
K2	270	340	385	435	305	330	345	360	300	325	335	355	180	205	215	230	265	290	300	315	—	—	—	—	High feed milling cutters
	890	1125	1275	1425	1000	1075	1125	1175	980	1075	1100	1175	590	670	710	750	870	950	980	1025	—	—	—	—	
K3	205	240	260	285	260	280	295	305	255	275	285	300	155	170	180	195	225	245	255	265	—	—	—	—	High feed milling cutters
	670	790	850	940	850	920	970	1000	840	900	940	980	510	560	590	640	740	800	840	870	—	—	—	—	
K4	195	230	250	270	245	270	280	295	240	260	270	285	145	165	175	185	215	230	245	255	—	—	—	—	Copy milling cutters
	640	750	820	890	800	890	920	970	790	850	890	940	475	540	570	610	710	750	800	840	—	—	—	—	
K5	120	140	150	165	150	165	170	180	150	160	165	175	90	100	105	110	130	145	150	155	—	—	—	—	Copy milling cutters
	395	460	490	540	490	540	560	590	490	520	540	570	295	330	345	360	425	475	490	510	—	—	—	—	
K6	175	205	220	240	220	235	245	260	215	230	240	250	130	145	155	160	190	205	215	225	—	—	—	—	Copy milling cutters
	570	670	720	790	720	770	800	850	710	750	790	820	425	475	510	520	620	670	710	740	—	—	—	—	
K7	155	180	195	210	195	210	220	230	190	205	215	225	115	130	135	145	170	185	190	200	—	—	—	—	Copy milling cutters
	510	590	640	690	640	690	720	750	620	670	710	740	375	425	445	475	560	610	620	660	—	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	—	—	—	49	55	60	60	40	45	47	50	21	23	24	26	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	160	180	195	195	130	150	155	165	70	75	80	85	
S2	—	—	—	—	—	—	—	—	—	—	—	—	39	44	46	50	32	36	38	41	17	18	20	21	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	130	145	150	165	105	120	125	135	55	60	65	70	

R217.79-XO12 – Metric



—For insert selection and cutting data recommendations, see page(s) 819–821
 —For complete insert programme, see page(s) 920, 921
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R217.79-2025.0-XO12-2AN	02732332	Cylindrical	25,0	2	7,0	20,0	150,0	150,0	200,0	20800	0,4	XO..1204
R217.79-2532.0-XO12-3AN	02732333	Cylindrical	32,0	3	7,0	25,0	194,0	194,0	250,0	18400	0,9	XO..1204

Spare Parts, included in delivery

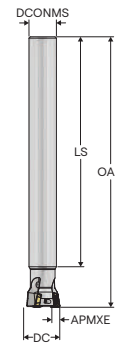
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T10PX50	C03507-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217.79-XO12 – inch



- For insert selection and cutting data recommendations, see page(s) 819–821
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.79-1.00.3-XO.2A	00097192	Weldon	1.000	2	0.276	0.750	6.858	5.906	5.906	7.874	20800	1.100	XO..1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T10PX50	C03507-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

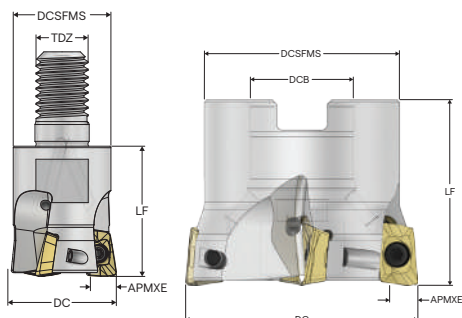
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.79-XO12 – Metric

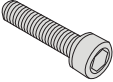


- For insert selection and cutting data recommendations, see page(s) 819–821
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm	mm	mm		mm		kg	
R217.79-1225.RE-XO12-2AN	02732338	Combimaster	25,0	2	7,0	–	23,0	M12	30,0	20800	0,1	XO..1204
R217.79-1632.RE-XO12-3AN	02732344	Combimaster	32,0	3	7,0	–	30,0	M16	40,0	18400	0,2	XO..1204
R220.79-0040-XO12-4AN	02732351	Arbor	40,0	4	7,0	16,0	35,0	–	40,0	16400	0,3	XO..1204
R220.79-0050-XO12-4AN	02732353	Arbor	50,0	4	7,0	22,0	42,0	–	40,0	14800	0,4	XO..1204
R220.79-0063-XO12-5AN	02732354	Arbor	63,0	5	7,0	22,0	47,0	–	40,0	13200	0,6	XO..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-..	–	1/4HEX-T10PX50	C03507-T10P
R220.79-0040	MC6S8X30	1/4HEX-T10PX50	C03509-T10P
R220.79-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.79-XO12 – Insert selection – mm/Inch

SMG		f_z	a_{so}				
			100%	70%	50%	30%	
P1	XOMX120408TR-ME08 F40M	0,11 0.0044	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Square shoulder and slot milling cutters
P2	XOMX120408TR-ME08 F40M	0,11 0.0044	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P3	XOMX120408TR-M12 MP2501	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Helical milling cutters
P4	XOMX120408TR-M12 MP2501	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P5	XOMX120408TR-M12 MP2501	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Face milling cutters
P6	XOMX120408TR-M12 MP2501	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P7	XOMX120408TR-M12 MP2501	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Disc milling cutters
P8	XOMX120408TR-M12 MP2501	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
P11	XOMX120408TR-M12 MP3501	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	High feed milling cutters
P12	XOEX120408R-M07 MS2500	0,080 0.0032	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
M1	XOEX120408R-M07 F40M	0,13 0.0050	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Copy milling cutters
M2	XOEX120408R-M07 F40M	0,12 0.0048	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
M3	XOEX120408R-M07 F40M	0,095 0.0038	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	Plunge milling cutters
M4	XOEX120408R-M07 MS2050	0,080 0.0032	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
M5	XOEX120408R-M07 MS2050	0,080 0.0032	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	Chamfer milling cutters
K1	XOMX120408TR-M12 MK1501	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K2	XOMX120408TR-M12 MK1501	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Spot facing cutters
K3	XOMX120408TR-M12 MK2050	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K4	XOMX120408TR-M12 MK2050	0,16 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	Inserts
K5	XOMX120408TR-MD13 MK2050	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K6	XOMX120408TR-MD13 MK2050	0,17 0.0065	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
K7	XOMX120408TR-MD13 MK2050	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
N1	XOEX120408FR-E06 H15	0,13 0.0050	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
N2	XOEX120408FR-E06 H15	0,13 0.0050	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
N3	XOEX120408FR-E06 H15	0,13 0.0050	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
N11	XOEX120408FR-E06 H15	0,13 0.0050	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24	
S1	XOEX120408R-M07 MP3501	0,080 0.0032	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S2	XOEX120408R-M07 MP3501	0,080 0.0032	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S3	XOEX120408R-M07 MP3501	0,075 0.0030	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
S11	XOEX120408R-M07 MS2050	0,095 0.0038	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
S12	XOEX120408R-M07 MS2050	0,095 0.0038	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
S13	XOEX120408R-M07 MS2050	0,080 0.0032	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14	
H5	XOMX120408TR-MD13 MH1051	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
H8	XOMX120408TR-MD13 MH1051	0,090 0.0036	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	
H11	XOMX120408TR-MD13 MP1501	0,11 0.0044	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18	
H12	XOMX120408TR-MD13 MP1501	0,090 0.0036	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

R217/220.79-XO12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	H15				MK1501				MP1501				MP2501				MS2500				MP3501				MM4500					
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%		
P1	—	—	—	—	—	—	—	—	310	335	355	370	300	325	340	360	345	375	390	415	320	345	360	380	200	220	235	250	Square shoulder and slot milling cutters	
	—	—	—	—	—	—	—	—	1025	1100	1175	1225	980	1075	1125	1175	1125	1225	1275	1350	1050	1125	1175	1250	660	720	770	820		
P2	—	—	—	—	—	—	—	—	300	330	345	360	290	315	330	350	335	365	380	400	310	335	350	370	195	215	225	240	Helical milling cutters	
	—	—	—	—	—	—	—	—	980	1075	1125	1175	950	1025	1075	1150	1100	1200	1250	1300	1025	1100	1150	1225	640	710	740	790		
P3	—	—	—	—	—	—	—	—	265	290	305	320	260	280	295	310	295	325	340	355	275	300	315	330	175	190	200	215	Helical milling cutters	
	—	—	—	—	—	—	—	—	870	950	1000	1050	850	920	970	1025	970	1075	1125	1175	900	980	1025	1075	570	620	660	710		
P4	—	—	—	—	—	—	—	—	235	255	265	280	225	245	260	270	260	285	300	315	245	265	275	290	165	185	195	205	Helical milling cutters	
	—	—	—	—	—	—	—	—	770	840	870	920	740	800	850	890	850	940	980	1025	800	870	900	950	540	610	640	670		
P5	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	250	270	285	300	230	250	265	275	145	160	170	180	Helical milling cutters	
	—	—	—	—	—	—	—	—	740	800	840	890	710	770	800	850	820	890	940	980	750	820	870	900	475	520	560	590		
P6	—	—	—	—	—	—	—	—	260	280	295	310	250	270	285	300	280	305	320	335	260	285	295	310	165	180	190	205	Helical milling cutters	
	—	—	—	—	—	—	—	—	850	920	970	1025	820	890	940	980	920	1000	1050	1100	850	940	970	1025	540	590	620	670		
P7	—	—	—	—	—	—	—	—	245	265	275	290	235	255	270	280	265	290	300	315	245	265	280	295	155	170	180	190	Face milling cutters	
	—	—	—	—	—	—	—	—	800	870	900	950	770	840	890	920	870	950	980	1025	800	870	920	970	510	560	590	620		
P8	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	250	270	285	300	230	250	265	275	145	160	170	180	Face milling cutters	
	—	—	—	—	—	—	—	—	740	800	840	890	710	770	800	850	820	890	940	980	750	820	870	900	475	520	560	590		
P11	—	—	—	—	—	—	—	—	235	255	270	285	230	250	260	275	255	280	295	310	240	260	270	285	150	165	175	185	Face milling cutters	
	—	—	—	—	—	—	—	—	770	840	890	940	750	820	850	900	840	920	970	1025	790	850	890	940	490	540	570	610		
P12	—	—	—	—	—	—	—	—	155	170	180	185	155	165	175	185	175	190	195	210	165	175	185	195	105	115	120	125	Face milling cutters	
	—	—	—	—	—	—	—	—	510	560	590	610	510	540	570	610	570	620	640	690	540	570	610	640	345	375	395	410		
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	155	175	185	195	195	220	230	245	170	190	200	210	130	150	155	165	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	510	570	610	640	640	720	750	800	560	620	660	690	425	490	510	540	
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	130	140	150	160	165	180	190	205	140	155	165	175	110	120	130	140	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	425	460	490	520	540	590	620	670	460	510	540	570	360	395	425	460	
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	105	120	125	135	135	150	160	170	115	130	135	145	90	100	105	115	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	345	395	410	445	445	490	520	560	375	425	445	475	295	330	345	375	
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	85	95	100	105	105	120	125	135	90	100	105	115	70	80	85	90	Disc milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	280	310	330	345	345	395	410	445	295	330	345	375	230	260	280	295	
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	90	90	100	105	110	75	85	90	95	60	65	70	75	High feed milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	230	245	260	295	295	330	345	360	245	280	295	310	195	215	230	245	
K1	—	—	—	—	285	365	415	480	305	330	345	365	295	320	335	355	215	240	255	275	315	340	355	375	—	—	—	—	High feed milling cutters	
	—	—	—	—	940	1200	1350	1575	1000	1075	1125	1200	970	1050	1100	1175	710	790	840	900	1025	1125	1175	1225	—	—	—	—		
K2	—	—	—	—	255	325	370	425	270	295	310	325	260	285	300	315	195	215	225	245	280	305	320	335	—	—	—	—	High feed milling cutters	
	—	—	—	—	840	1075	1225	1400	890	970	1025	1075	850	940	980	1025	640	710	740	800	920	1000	1050	1100	—	—	—	—		
K3	—	—	—	—	190	225	240	265	230	250	260	275	220	240	250	265	165	180	190	205	240	260	270	285	—	—	—	—	Copy milling cutters	
	—	—	—	—	620	740	790	870	750	820	850	900	720	790	820	870	540	590	620	670	790	850	890	940	—	—	—	—		
K4	—	—	—	—	180	210	230	255	220	240	250	260	210	230	240	255	155	175	185	195	225	245	255	270	—	—	—	—	Copy milling cutters	
	—	—	—	—	590	690	750	840	720	790	820	850	690	750	790	840	510	570	610	640	740	800	840	890	—	—	—	—		
K5	—	—	—	—	110	130	140	155	135	150	155	165	135	145	150	160	95	105	110	120	140	150	160	165	—	—	—	—	Copy milling cutters	
	—	—	—	—	360	425	460	510	445	490	510	540	445	475	490	520	310	345	360	395	460	490	520	540	—	—	—	—		
K6	—	—	—	—	160	185	205	225	195	210	220	230	185	205	210	225	135	155	160	175	200	215	225	240	—	—	—	—	Copy milling cutters	
	—	—	—	—	520	610	670	740	640	690	720	750	610	670	690	740	445	510	520	570	660	710	740	790	—	—	—	—		
K7	—	—	—	—	145	170	180	200	175	190	200	210	170	185	195	205	120	135	145	155	180	195	200	210	—	—	—	—	Plunge milling cutters	
	—	—	—	—	475	560	590	660	570	620	660	690	560	610	640	670	395	445	475	510	590	640	660	690	—	—	—	—		
N1	1200	1325	1400	1500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters	
	3925	4350	4600	4925	—																									

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

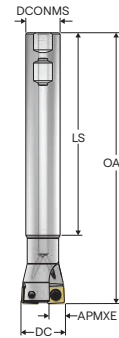


R217/220.79-12

The R217/220.79 for SCET12 inserts are strong and robust plunge mill.

- Cutter range 32-160 mm (1.25 - 6 inch)
- Max radial depth of cut: 11 mm (.433 inch)
- Insert corner radii range 1.2-3.1 mm (.047 - .122 inch)

R217.79-SC..12 – Metric



- For insert selection and cutting data recommendations, see page(s) 828–829
- For complete insert programme, see page(s) 892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.79-2532.3-12A	00097786	Weldon	32,0	2	11,0	25,0	168,0	144,0	144,0	200,0	12100	0,7	SC..1206
R217.79-3240.3-12A	00097787	Weldon	40,0	3	11,0	32,0	164,0	140,0	140,0	200,0	10800	1,2	SC..1206

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T20PX50	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

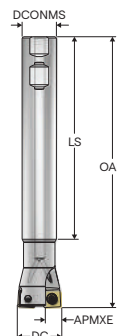
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217.79-SC.12 – inch



—For insert selection and cutting data recommendations, see page(s) 828–829
 —For complete insert programme, see page(s) 892
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.79-01.25-3-12A	00057587	Weldon	1.250	2	0.433	1.000	7.874	5.669	5.669	7.874	12100	1.760	SC..1206
R217.79-01.50-3-12A	00057588	Weldon	1.500	3	0.433	1.250	6.756	5.512	5.512	7.874	10800	2.430	SC..1206

Spare Parts, included in delivery

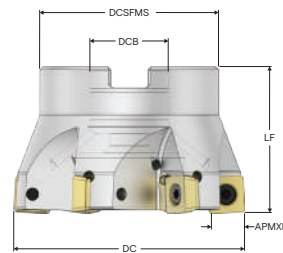
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T20PX50	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

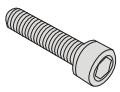
R220.79-SC.12 – Metric



- For insert selection and cutting data recommendations, see page(s) 828–829
- For complete insert programme, see page(s) 892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXE mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.79-0050-12A	00030330	Arbor	50,0	4	11,0	22,0	42,0	40,0	9700	0,2	SC..1206
R220.79-0063-12A	00030331	Arbor	63,0	5	11,0	22,0	47,0	40,0	8600	0,5	SC..1206
R220.79-0080-12A	00030332	Arbor	80,0	6	11,0	27,0	62,0	50,0	7600	0,9	SC..1206
R220.79-0100-12A	00030335	Arbor	100,0	7	11,0	32,0	77,0	50,0	7000	1,6	SC..1206
R220.79-0125-12	00069980	Arbor	125,0	8	11,0	40,0	90,0	63,0	6300	3,0	SC..1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-0050-0063	220.17-692	1/4HEX-T20PX50	C45011-T20P
R220.79-0080	–	1/4HEX-T20PX50	C45011-T20P
R220.79-0100-0125	–	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

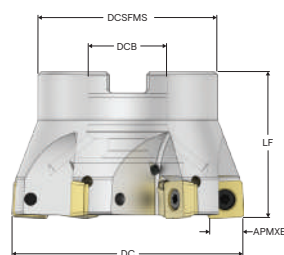
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

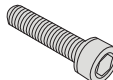
R220.79-SC..12 – inch



- For insert selection and cutting data recommendations, see page(s) 828–829
- For complete insert programme, see page(s) 892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXE inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.79-02.00-12A	00039776	Arbor	2.000	4	0.433	0.750	1.850	1.500	9700	0.880	SC..1206
R220.79-02.50-12A	00039777	Arbor	2.500	5	0.433	0.750	1.850	1.500	8600	1.320	SC..1206
R220.79-03.00-12A	00039778	Arbor	3.000	6	0.433	1.000	2.441	2.000	7600	2.650	SC..1206

Spare Parts, included in delivery

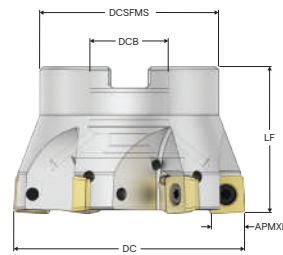
For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C45011-T20P
R220.79-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.79-SC..12 – Metric



- For insert selection and cutting data recommendations, see page(s) 828–829
- For complete insert programme, see page(s) 892
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXE mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.79-0100-20	00045683	Arbor	100,0	4	20,0	32,0	77,0	50,0	7000	1,3	SC..1206
R220.79-0125-30	00091797	Arbor	125,0	4	30,0	40,0	90,0	63,0	6300	2,8	SC..1206
R220.79-8160-40	00094578	Arbor	160,0	4	40,0	40,0	90,0	64,0	5600	4,1	SC..1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
R220.79-0100	–	1/4HEX-T20PX90	C45011-T20P
R220.79-0125	MC6S20X40	1/4HEX-T20PX90	C45011-T20P
R220.79-8160	–	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
R220.79-0100-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-0100-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.79-12 – Insert selection – mm/Inch

	SMG		f_z	a_{so}			
				100%	70%	50%	30%
Square shoulder and slot milling cutters	P1	SCET120612T-M14 MP3501	0,20 0.0080	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P2	SCET120612T-M14 MP3501	0,20 0.0080	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
Helical milling cutters	P3	SCET120612T-M14 MP2501	0,19 0.0075	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P4	SCET120612T-M14 MP2501	0,19 0.0075	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P5	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P6	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P7	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P8	SCET120612T-M14 MP2501	0,19 0.0075	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
Face milling cutters	P11	SCET120612T-M14 MP3501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	P12	SCET120612T-M14 MP2501	0,12 0.0048	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
	M1	SCET120612T-M14 MS2050	0,20 0.0080	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	M2	SCET120612T-M14 MS2050	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
Disc milling cutters	M3	SCET120612T-M14 MS2050	0,15 0.0060	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
	M4	SCET120612T-M14 MP3501	0,13 0.0050	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
	M5	SCET120612T-M14 MP3501	0,13 0.0050	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
	K1	SCET120612T-M14 MK1501	0,20 0.0080	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	K2	SCET120612T-M14 MK1501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
High feed milling cutters	K3	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	K4	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	K5	SCET120612T-M14 MP2501	0,16 0.0065	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	K6	SCET120612T-M14 MP2501	0,18 0.0070	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	K7	SCET120612T-M14 MP2501	0,16 0.0065	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	N1	SCET120612T-M14 F40M	0,25 0.010	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
Copy milling cutters	N2	SCET120612T-M14 F40M	0,25 0.010	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	N3	SCET120612T-M14 F40M	0,25 0.010	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	N11	SCET120612T-M14 F40M	0,25 0.010	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
	S1	SCET120612T-M14 MP3501	0,13 0.0050	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
Plunge milling cutters	S2	SCET120612T-M14 MP3501	0,13 0.0050	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
	S3	SCET120612T-M14 MP3501	0,12 0.0048	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
	S11	SCET120612T-M14 MS2050	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
	S12	SCET120612T-M14 MS2050	0,15 0.0060	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
Chamfer milling cutters	S13	SCET120612T-M14 MS2050	0,13 0.0050	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
	H5	SCET120612T-M14 MP3501	0,12 0.0048	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
	H8	SCET120612T-M14 MP3501	0,095 0.0038	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
	H11	SCET120612T-M14 MP3501	0,12 0.0048	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
Spot facing cutters	H12	SCET120612T-M14 MP3501	0,095 0.0038	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24

SMG = Seco material group
 f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
 All cutting data are start values

R217/220.79-12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MS2050				F40M				HX				MK1501				MP2501				MP3501				T25M				Square should and slot mill cutters
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	
P1	185	205	215	230	170	185	195	205	135	150	155	170	—	—	—	—	290	315	330	350	255	280	290	310	185	205	215	230	Helical milling cutters
	610	670	710	750	560	610	640	670	445	490	510	560	—	—	—	—	950	1025	1075	1150	840	920	950	1025	610	670	710	750	
P2	180	200	210	225	165	180	190	200	130	145	155	165	—	—	—	—	285	310	325	340	250	270	285	300	180	200	210	225	Helical milling cutters
	590	660	690	740	540	590	620	660	425	475	510	540	—	—	—	—	940	1025	1075	1125	820	890	940	980	590	660	690	740	
P3	160	175	185	195	150	160	165	175	115	125	135	145	—	—	—	—	250	275	285	300	220	240	250	265	155	175	185	195	Helical milling cutters
	520	570	610	640	490	520	540	570	375	410	445	475	—	—	—	—	820	900	940	980	720	790	820	870	510	570	610	640	
P4	140	155	160	175	135	150	160	165	100	110	120	125	—	—	—	—	220	240	250	265	195	210	220	235	140	155	160	175	Helical milling cutters
	460	510	520	570	445	490	520	540	330	360	395	410	—	—	—	—	720	790	820	870	640	690	720	770	460	510	520	570	
P5	135	150	160	170	130	140	145	150	95	110	115	125	—	—	—	—	215	235	245	260	190	205	215	230	135	150	160	170	Helical milling cutters
	445	490	520	560	425	460	475	490	310	360	375	410	—	—	—	—	710	770	800	850	620	670	710	750	445	490	520	560	
P6	155	170	180	190	145	155	160	170	110	120	130	140	—	—	—	—	245	265	275	290	215	230	245	255	150	170	175	190	Face milling cutters
	510	560	590	620	475	510	520	560	360	395	425	460	—	—	—	—	800	870	900	950	710	750	800	840	490	560	570	620	
P7	145	160	170	180	135	145	155	160	105	115	120	130	—	—	—	—	230	250	260	275	200	220	230	240	140	160	165	180	Face milling cutters
	475	520	560	590	445	475	510	520	345	375	395	425	—	—	—	—	750	820	850	900	660	720	750	790	460	520	540	590	
P8	135	145	155	165	125	135	140	145	95	105	115	120	—	—	—	—	210	230	240	255	185	200	210	220	130	145	155	165	Face milling cutters
	445	475	510	540	410	445	460	475	310	345	375	395	—	—	—	—	690	750	790	840	610	660	690	720	425	475	510	540	
P11	140	155	165	175	130	140	150	155	100	110	120	125	—	—	—	—	220	240	255	265	195	215	225	235	140	155	160	175	Face milling cutters
	460	510	540	570	425	460	490	510	330	360	395	410	—	—	—	—	720	790	840	870	640	710	740	770	460	510	520	570	
P12	100	110	115	125	95	105	105	110	70	75	80	85	—	—	—	—	155	170	180	185	140	150	160	165	95	105	110	120	Disc milling cutters
	330	360	375	410	310	345	345	360	230	245	260	280	—	—	—	—	510	560	590	610	460	490	520	540	310	345	360	395	
M1	145	160	170	180	130	145	155	165	—	—	—	—	—	—	—	—	155	170	180	195	145	160	170	180	145	160	170	180	Disc milling cutters
	475	520	560	590	425	475	510	540	—	—	—	—	—	—	—	—	510	560	590	640	475	520	560	590	475	520	560	590	
M2	120	135	140	150	110	120	130	140	—	—	—	—	—	—	—	—	130	145	150	165	120	135	140	150	120	135	140	150	Disc milling cutters
	395	445	460	490	360	395	425	460	—	—	—	—	—	—	—	—	425	475	490	540	395	445	460	490	395	445	460	490	
M3	100	110	115	125	90	100	105	115	—	—	—	—	—	—	—	—	105	120	125	135	100	110	115	125	100	110	115	125	Disc milling cutters
	330	360	375	410	295	330	345	375	—	—	—	—	—	—	—	—	345	395	410	445	330	360	375	410	330	360	375	410	
M4	80	85	90	100	70	80	85	90	—	—	—	—	—	—	—	—	85	95	100	105	80	85	90	100	80	85	90	100	High feed milling cutters
	260	280	295	330	230	260	280	295	—	—	—	—	—	—	—	—	280	310	330	345	260	280	295	330	260	280	295	330	
M5	65	70	75	80	60	65	70	75	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	80	65	70	75	80	High feed milling cutters
	215	230	245	260	195	215	230	245	—	—	—	—	—	—	—	—	230	245	260	295	215	230	245	260	215	230	245	260	
K1	—	—	—	—	130	145	150	160	120	135	145	155	290	370	420	490	285	310	325	345	250	275	285	300	140	160	165	180	High feed milling cutters
	—	—	—	—	425	475	490	520	395	445	475	510	950	1225	1375	1600	940	1025	1075	1125	820	900	940	980	460	520	540	590	
K2	—	—	—	—	115	130	135	145	110	120	130	140	260	330	375	435	260	285	295	315	230	250	260	275	125	140	150	160	High feed milling cutters
	—	—	—	—	375	425	445	475	360	395	425	460	850	1075	1225	1425	850	940	970	1025	750	820	850	900	410	460	490	520	
K3	—	—	—	—	100	110	115	125	—	—	—	—	190	225	245	270	220	240	250	265	195	210	220	235	110	120	125	135	High feed milling cutters
	—	—	—	—	330	360	375	410	—	—	—	—	620	740	800	890	720	790	820	870	640	690	720	770	360	395	410	445	
K4	—	—	—	—	95	105	110	120	—	—	—	—	180	215	230	255	210	230	240	255	185	200	210	225	105	115	120	130	Copy milling cutters
	—	—	—	—	310	345	360	395	—	—	—	—	590	710	750	840	690	750	790	840	610	660	690	740	345	375	395	425	
K5	—	—	—	—	60	65	70	75	—	—	—	—	110	130	145	160	135	145	150	160	115	125	135	140	65	70	75	80	Copy milling cutters
	—	—	—	—	195	215	230	245	—	—	—	—	360	425	475	520	445	475	490	520	375	410	445	460	215	230	245	260	
K6	—	—	—	—	80	90	95	105	—	—	—	—	160	190	205	225	185	200	210	225	165	180	185	195	90	100	105	115	Copy milling cutters
	—	—	—	—	260	295	310	345	—	—	—	—	520	620	670	740	610	660	690	740	540	590	610	640	295	330	345	375	
K7	—	—	—	—	75	80	85	95	—	—	—	—	145	170	185	200	170	185	195	205	150	165	170	180	80	90	95	105	Copy milling cutters
	—	—	—	—	245	260	280	310	—	—	—	—	475	560	610	660	560	610	640	670	490	540	560	590	260	295	310	345	
N1	—	—	—	—	940	1050	1100	1175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	3075	3450	3600	3850	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—																											



Chamfer Mills

Turbo 12, R217/220.49-XO12 Chamfer mills, for XOMX12 inserts with 2 cutting edges and is available in many different grades for most common workpiece materials

- Chamfer angle 30°, 45°, 60° and 75°
- Max. depth of cut 31 mm (1.22 inch) with the 75° milling cutter
- Front chamfering
- Available in combimaster, Seco-Capto or for arbor mounting

R215/220.49 Chamfer mills for SPMX06/09/12 insert types, 4-cutting edges, single sided positive inserts.

- Chamfer angle 45° and 60°
- Front and back chamfering
- Available in Weldon and Arbor mounting

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

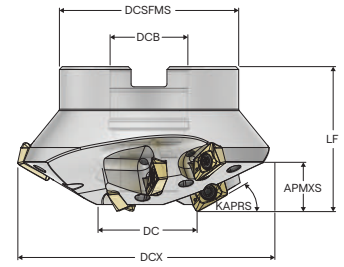
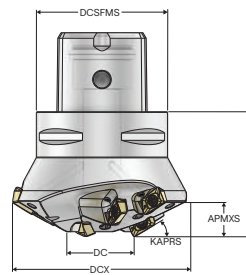
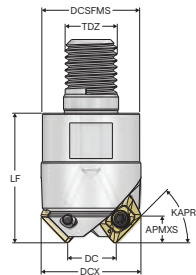
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.49-XO12 – Metric

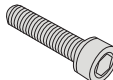
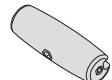


- For insert selection and cutting data recommendations, see page(s) 833–835
- For complete insert programme, see page(s) 920, 921
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RPMX	Weight	Insert
				mm	mm		mm	mm	mm		mm	mm	mm		kg	
C6-R217.49-032-15-XO12-30.3A	02669613	Seco-Capto	30,0 °	32,0	88,8	3	15,9	–	63,0	–	63,0	60,0	98,0	10900	1,6	XO.X1204
C6-R217.49-032-22-XO12-45.3A	02669615	Seco-Capto	45,0 °	32,0	76,4	3	22,5	–	63,0	–	63,0	60,0	98,0	11800	1,4	XO.X1204
C6-R217.49-032-28-XO12-60.3A	02669616	Seco-Capto	60,0 °	32,0	64,0	3	28,0	–	63,0	–	63,0	60,0	98,0	12900	1,3	XO.X1204
C5-R217.49-032-42-XO12-75.3A	02669617	Seco-Capto	75,0 °	32,0	54,1	3	42,5	–	50,0	–	50,0	70,0	100,0	14100	0,8	XO.X1204
R217.49-1616.RE-XO12-45.2A	02669571	Combimaster	45,0 °	16,0	30,8	2	8,0	–	30,0	M16	–	40,0	–	18600	0,3	XO.X1204
R217.49-1216.RE-XO12-60.2A	02669572	Combimaster	60,0 °	16,0	27,0	2	9,0	–	23,0	M12	–	30,0	–	20100	0,2	XO.X1204
R217.49-1620.RE-XO12-30.3A	02669573	Combimaster	30,0 °	20,0	39,8	3	5,5	–	30,0	M16	–	40,0	–	16400	0,3	XO.X1204
R217.49-1620.RE-XO12-45.3A	02669574	Combimaster	45,0 °	20,0	34,8	3	7,7	–	30,0	M16	–	40,0	–	17400	0,3	XO.X1204
R217.49-1620.RE-XO12-60.3A	02669575	Combimaster	60,0 °	20,0	30,5	3	9,0	–	30,0	M16	–	40,0	–	18400	0,3	XO.X1204
R217.49-1220.RE-XO12-75.2A	02669576	Combimaster	75,0 °	20,0	25,4	2	11,0	–	23,0	M12	–	30,0	–	20500	0,2	XO.X1204
R220.49-0035-15-XO12-30.3A	02669634	Arbor	30,0 °	35,0	91,9	3	15,9	27,0	62,0	–	27,0	50,0	–	10700	1,1	XO.X1204
R220.49-0035-22-XO12-45.3A	02669637	Arbor	45,0 °	35,0	79,4	3	22,5	27,0	62,0	–	27,0	50,0	–	11600	0,9	XO.X1204
R220.49-0035-28-XO12-60.3A	02669638	Arbor	60,0 °	35,0	67,0	3	28,0	27,0	62,0	–	27,0	50,0	–	12600	0,7	XO.X1204
R220.49-0035-31-XO12-75.3A	02669639	Arbor	75,0 °	35,0	51,5	3	31,0	22,0	47,0	–	22,0	50,0	–	14400	0,4	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
Cx-R217.49 Ø 32 30/45/60/75°	–	H4B-T10P	C03509-T10P	DOUBLE-T
R217.49 Ø 16 45/60°	–	H4B-T10P	C03507-T10P	DOUBLE-T
R217.49 Ø 20 30/45°	–	H4B-T10P	C03509-T10P	DOUBLE-T
R217.49 Ø 20 60/75°	–	H4B-T10P	C03507-T10P	DOUBLE-T
R220.49-... 30/45/60°	MC6S12X35	H4B-T10P	C03509-T10P	DOUBLE-T
R220.49-...75°	MC6S10X40	H4B-T10P	C03509-T10P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

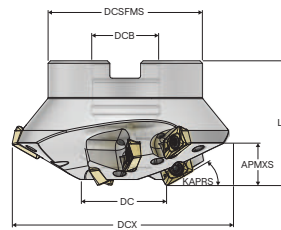
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.49-XO12 - inch

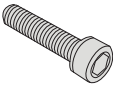
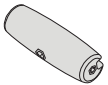


—For insert selection and cutting data recommendations, see page(s) 833–835
 —For complete insert programme, see page(s) 920, 921
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
				inch	inch		inch	inch	inch	inch	inch		lbs	
R220.49-01.38-15-XO12-30.3A	02670045	Arbor	30,0 °	1.378	3.618	3	0.626	1.000	2.441	1.000	1.969	14400	2.430	XO.X1204
R220.49-01.38-22-XO12-45.3A	02670048	Arbor	45,0 °	1.378	3.126	3	0.886	1.000	2.441	1.000	1.969	14400	1.980	XO.X1204
R220.49-01.38-28-XO12-60.3A	02670049	Arbor	60,0 °	1.378	2.638	3	1.110	1.000	2.441	1.000	1.969	14400	1.320	XO.X1204
R220.49-01.38-31-XO12-75.3A	02670051	Arbor	75,0 °	1.378	2.028	3	1.244	0.750	1.850	0.750	1.969	14400	1.100	XO.X1204

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R220.49-... 30/45/60°	UC6S1/2UNFX1-1/2	H4B-T10P	C03509-T10P	DOUBLE-T
R220.49-...75°	UC6S3/8UNFX11/2	H4B-T10P	C03509-T10P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.49-XO12 – Insert selection – mm/Inch

SMG		f_z			
		50%	30%	10%	
P1	XOMX120408TR-ME08 F40M	0,17 0.0065	0,20 0.0080	0,32 0.013	Square shoulder and slot milling cutters
P2	XOMX120408TR-ME08 F40M	0,17 0.0065	0,20 0.0080	0,32 0.013	
P3	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,46 0.018	
P4	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,46 0.018	Helical milling cutters
P5	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,44 0.017	
P6	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,44 0.017	
P7	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,44 0.017	Face milling cutters
P8	XOMX120408TR-M12 MP2501	0,24 0.0095	0,28 0.011	0,46 0.018	
P11	XOMX120408TR-M12 MP3501	0,24 0.0095	0,28 0.011	0,44 0.017	
P12	XOEX120408R-M07 MS2500	0,12 0.0048	0,14 0.0055	0,22 0.0085	Disc milling cutters
M1	XOEX120408R-M07 F40M	0,19 0.0075	0,22 0.0085	0,36 0.014	
M2	XOEX120408R-M07 F40M	0,18 0.0070	0,20 0.0080	0,34 0.013	
M3	XOEX120408R-M07 F40M	0,14 0.0055	0,16 0.0065	0,26 0.010	High feed milling cutters
M4	XOEX120408R-M07 MS2050	0,12 0.0048	0,14 0.0055	0,22 0.0085	
M5	XOEX120408R-M07 MS2050	0,12 0.0048	0,14 0.0055	0,22 0.0085	
K1	XOMX120408TR-M12 MK1501	0,26 0.010	0,30 0.012	0,48 0.019	Copy milling cutters
K2	XOMX120408TR-M12 MK1501	0,24 0.0095	0,28 0.011	0,44 0.017	
K3	XOMX120408TR-M12 MK2050	0,24 0.0095	0,28 0.011	0,44 0.017	
K4	XOMX120408TR-M12 MK2050	0,24 0.0095	0,28 0.011	0,44 0.017	Plunge milling cutters
K5	XOMX120408TR-M12 MK2050	0,22 0.0085	0,25 0.010	0,40 0.016	
K6	XOMX120408TR-M12 MK2050	0,24 0.0095	0,28 0.011	0,44 0.017	
K7	XOMX120408TR-M12 MK2050	0,22 0.0085	0,25 0.010	0,40 0.016	Chamfer milling cutters
N1	XOEX120408FR-E06 H15	0,19 0.0075	0,22 0.0085	0,36 0.014	
N2	XOEX120408FR-E06 H15	0,19 0.0075	0,22 0.0085	0,36 0.014	
N3	XOEX120408FR-E06 H15	0,19 0.0075	0,22 0.0085	0,36 0.014	Spot facing cutters
N11	XOEX120408FR-E06 H15	0,19 0.0075	0,22 0.0085	0,36 0.014	
S1	XOEX120408R-M07 F40M	0,12 0.0048	0,14 0.0055	0,22 0.0085	
S2	XOEX120408R-M07 F40M	0,12 0.0048	0,14 0.0055	0,22 0.0085	Inserts
S3	XOEX120408R-M07 F40M	0,11 0.0044	0,13 0.0050	0,20 0.0080	
S11	XOEX120408R-M07 MS2050	0,14 0.0055	0,16 0.0065	0,25 0.010	
S12	XOEX120408R-M07 MS2050	0,14 0.0055	0,16 0.0065	0,25 0.010	
S13	XOEX120408R-M07 MS2050	0,12 0.0048	0,14 0.0055	0,22 0.0085	
H5	XOMX120408TR-M12 MP3000	0,16 0.0065	0,18 0.0070	0,30 0.012	
H8	XOMX120408TR-M12 MP3000	0,12 0.0048	0,14 0.0055	0,22 0.0085	
H11	XOMX120408TR-MD13 MP1501	0,17 0.0065	0,20 0.0080	0,32 0.013	
H12	XOMX120408TR-M12 MP1501	0,12 0.0048	0,14 0.0055	0,22 0.0085	
H21	XOMX120408TR-M12 MP1501	0,12 0.0048	0,14 0.0055	0,22 0.0085	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

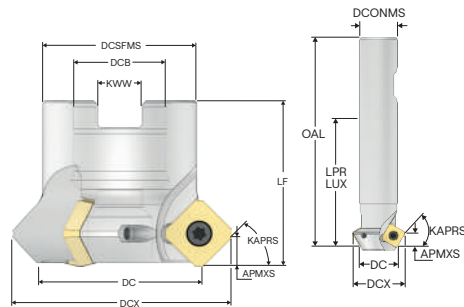
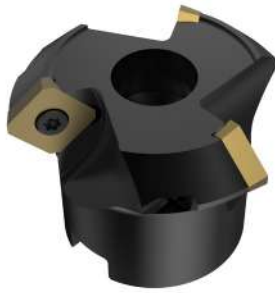
R217/220.49-XO12 – Cutting data $v_c = (m/min)/(sf/min)$

	SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
		50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
Square shoulder and slot milling cutters	P1	—	—	—	315	355	430	395	440	520	340	375	440	315	345	395	500	540	630	370	415	495	—	—	—
		—	—	—	1025	1175	1400	1300	1450	1700	1125	1225	1450	1025	1125	1300	1650	1775	2075	1225	1350	1625	—	—	—
Helical milling cutters	P2	—	—	—	310	345	410	375	430	500	325	365	425	300	335	375	470	530	620	355	400	480	—	—	—
	P3	—	—	—	1025	1125	1350	1225	1400	1650	1075	1200	1400	980	1100	1225	1550	1750	2025	1175	1300	1575	—	—	—
	P4	—	—	—	270	305	360	330	370	440	285	315	370	265	285	330	420	465	530	310	345	415	—	—	—
	P5	—	—	—	890	1000	1175	1075	1225	1450	940	1025	1225	870	940	1075	1375	1525	1750	1025	1125	1350	—	—	—
	P6	—	—	—	235	265	320	290	330	395	250	280	330	245	270	315	370	410	470	275	310	375	—	—	—
Face milling cutters	P7	—	—	—	770	870	1050	950	1075	1300	820	920	1075	800	890	1025	1225	1350	1550	900	1025	1225	—	—	—
	P8	420	490	590	230	255	305	285	315	380	245	270	315	230	245	285	355	390	450	270	295	360	—	—	—
	P11	1375	1600	1925	750	840	1000	940	1025	1250	800	890	1025	750	800	940	1175	1275	1475	890	970	1175	—	—	—
	P12	475	550	670	260	285	345	320	355	425	275	300	355	255	275	320	400	435	500	300	335	400	—	—	—
	P12	1550	1800	2200	850	940	1125	1050	1175	1400	900	980	1175	840	900	1050	1300	1425	1650	980	1100	1300	—	—	—
Disc milling cutters	M1	445	520	630	245	270	325	305	335	400	260	285	335	240	260	300	380	410	475	285	315	380	—	—	—
	M2	1450	1700	2075	800	890	1075	1000	1100	1300	850	940	1100	790	850	980	1250	1350	1550	940	1025	1250	—	—	—
	M3	410	465	580	225	255	300	280	310	370	240	265	310	220	240	275	350	390	450	260	290	350	—	—	—
	M4	1350	1525	1900	740	840	980	920	1025	1225	790	870	1025	720	790	900	1150	1275	1475	850	950	1150	—	—	—
	M5	435	500	610	240	260	315	295	325	390	255	275	325	235	255	290	390	450	590	275	305	370	—	—	—
High feed milling cutters	K1	1425	1650	2000	790	850	1025	970	1075	1275	840	900	1075	770	840	950	1275	1475	1925	900	1000	1225	—	—	—
	K2	310	345	425	155	170	210	190	210	250	160	180	210	150	165	190	235	270	345	175	195	240	—	—	—
	K3	1025	1125	1400	510	560	690	620	690	820	520	590	690	490	540	620	770	890	1125	570	640	790	—	—	—
	K4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	K5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Copy milling cutters	K6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	K7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	K8	550	650	780	330	375	440	270	305	365	—	—	—	215	245	290	—	—	—	—	—	—	—	—	—
	K9	1800	2125	2550	1075	1225	1450	890	1000	1200	—	—	—	710	800	950	—	—	—	—	—	—	—	—	—
	K10	510	590	720	300	330	395	245	270	325	—	—	—	195	215	260	—	—	—	—	—	—	—	—	—
Plunge milling cutters	N1	1675	1925	2350	980	1075	1300	800	890	1075	—	—	—	640	710	850	—	—	—	—	—	—	—	—	—
	N2	430	500	610	255	280	335	205	230	275	—	—	—	165	185	220	—	—	—	—	—	—	—	—	—
	N3	1400	1650	2000	840	920	1100	670	750	900	—	—	—	540	610	720	—	—	—	—	—	—	—	—	—
	N4	410	475	580	240	265	320	200	220	265	—	—	—	160	175	210	—	—	—	—	—	—	—	—	—
	N5	1350	1550	1900	790	870	1050	660	720	870	—	—	—	520	570	690	—	—	—	—	—	—	—	—	—
Chamfer milling cutters	S1	260	300	355	145	165	200	120	135	160	—	—	—	95	105	130	—	—	—	—	—	—	—	—	—
	S2	850	980	1175	475	540	660	395	445	520	—	—	—	310	345	425	—	—	—	—	—	—	—	—	—
	S3	365	420	510	210	235	285	175	195	235	—	—	—	140	155	185	—	—	—	—	—	—	—	—	—
	S11	1200	1375	1675	690	770	940	570	640	770	—	—	—	460	510	610	—	—	—	—	—	—	—	—	—
	S12	335	385	455	185	210	255	155	170	205	—	—	—	125	135	165	—	—	—	—	—	—	—	—	—
Spot facing cutters	S13	1100	1275	1500	610	690	840	510	560	670	—	—	—	410	445	540	—	—	—	—	—	—	—	—	—
	S14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	S17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Inserts	H5	160	180	220	55	60	70	55	60	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H8	520	590	720	180	195	230	180	195	230	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H11	175	200	240	55	60	75	55	60	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H12	570	660	790	180	195	245	180	195	245	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	H21	200	225	275	65	75	90	65	75	90	—	—	—	—	—	—	155	175	225	65	75	90	—	—	—
Inserts	H22	660	740	900	215	245	295	215	245	295	—	—	—	—	—	—	510	570	740	215	245	295	—	—	—
	H23	200	230	275	95	110	130	105	120	145	—	—	—	—	—	—	135	150	190	110	125	150	—	—	—
	H24	660	750	900	310	360	425	345	395	475	—	—	—	—	—	—	445	490	620	360	410	490	—	—	—
	H25	175	200	240	55	60	75	—	—	—	—	—	—	—	—	—	115	115	125	55	60	75	—	—	—
	H26	570	660	790	180	195	245	—	—	—	—	—	—	—	—	—	375	375	410	180	195	245	—	—	—

R217/220.49-XO12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500			Square should and slot mill cutters
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
P1	—	—	—	440	485	560	430	475	550	490	530	610	385	425	490	300	325	385	Helical milling cutters
	—	—	—	1450	1600	1825	1400	1550	1800	1600	1750	2000	1275	1400	1600	980	1075	1275	
P2	—	—	—	430	470	540	420	465	530	465	520	590	375	415	470	285	320	370	Helical milling cutters
	—	—	—	1400	1550	1775	1375	1525	1750	1525	1700	1925	1225	1350	1550	940	1050	1225	
P3	—	—	—	375	410	470	365	405	460	410	445	510	330	360	410	250	275	320	Helical milling cutters
	—	—	—	1225	1350	1550	1200	1325	1500	1350	1450	1675	1075	1175	1350	820	900	1050	
P4	—	—	—	330	365	420	325	355	410	360	400	460	290	320	370	240	265	310	Helical milling cutters
	—	—	—	1075	1200	1375	1075	1175	1350	1175	1300	1500	950	1050	1225	790	870	1025	
P5	—	—	—	320	345	400	315	340	395	350	380	440	280	305	355	215	235	275	Helical milling cutters
	—	—	—	1050	1125	1300	1025	1125	1300	1150	1250	1450	920	1000	1175	710	770	900	
P6	—	—	—	360	390	450	355	380	440	395	425	495	315	340	395	240	260	305	Helical milling cutters
	—	—	—	1175	1275	1475	1175	1250	1450	1300	1400	1625	1025	1125	1300	790	850	1000	
P7	—	—	—	340	365	425	335	360	415	370	405	465	300	320	375	225	245	290	Face milling cutters
	—	—	—	1125	1200	1400	1100	1175	1350	1225	1325	1525	980	1050	1225	740	800	950	
P8	—	—	—	315	345	395	310	340	385	345	375	430	275	305	345	210	230	270	Face milling cutters
	—	—	—	1025	1125	1300	1025	1125	1275	1125	1225	1400	900	1000	1125	690	750	890	
P11	—	—	—	330	355	415	325	350	405	360	390	455	290	315	365	220	240	280	Face milling cutters
	—	—	—	1075	1175	1350	1075	1150	1325	1175	1275	1500	950	1025	1200	720	790	920	
P12	—	—	—	210	230	265	210	225	260	225	245	280	185	200	235	135	145	170	Face milling cutters
	—	—	—	690	750	870	690	740	850	740	800	920	610	660	770	445	475	560	
M1	—	—	—	—	—	—	225	255	300	280	320	380	210	235	280	190	215	255	Disc milling cutters
	—	—	—	—	—	—	740	840	980	920	1050	1250	690	770	920	620	710	840	
M2	—	—	—	—	—	—	190	210	250	240	265	320	175	195	235	160	180	215	Disc milling cutters
	—	—	—	—	—	—	620	690	820	790	870	1050	570	640	770	520	590	710	
M3	—	—	—	—	—	—	150	170	205	185	210	255	140	155	190	125	140	170	Disc milling cutters
	—	—	—	—	—	—	490	560	670	610	690	840	460	510	620	410	460	560	
M4	—	—	—	—	—	—	115	130	160	145	160	195	105	120	150	95	110	130	Disc milling cutters
	—	—	—	—	—	—	375	425	520	475	520	640	345	395	490	310	360	425	
M5	—	—	—	—	—	—	95	105	135	120	135	165	90	100	125	80	90	110	Disc milling cutters
	—	—	—	—	—	—	310	345	445	395	445	540	295	330	410	260	295	360	
K1	500	610	860	430	475	540	420	465	530	310	355	420	375	420	475	—	—	—	High feed milling cutters
	1650	2000	2825	1400	1550	1775	1375	1525	1750	1025	1175	1375	1225	1375	1550	—	—	—	
K2	445	530	760	390	420	485	380	410	475	280	310	375	340	370	425	—	—	—	High feed milling cutters
	1450	1750	2500	1275	1375	1600	1250	1350	1550	920	1025	1225	1125	1225	1400	—	—	—	
K3	300	340	435	330	355	410	320	350	405	240	265	320	290	310	360	—	—	—	High feed milling cutters
	980	1125	1425	1075	1175	1350	1050	1150	1325	790	870	1050	950	1025	1175	—	—	—	
K4	285	325	415	315	340	390	305	330	385	230	250	305	275	295	345	—	—	—	Copy milling cutters
	940	1075	1350	1025	1125	1275	1000	1075	1275	750	820	1000	900	970	1125	—	—	—	
K5	175	200	255	190	205	240	185	205	235	140	155	185	165	185	215	—	—	—	Copy milling cutters
	570	660	840	620	670	790	610	670	770	460	510	610	540	610	710	—	—	—	
K6	250	285	365	275	300	345	270	295	340	200	220	270	240	260	305	—	—	—	Copy milling cutters
	820	940	1200	900	980	1125	890	970	1125	660	720	890	790	850	1000	—	—	—	
K7	220	255	330	245	265	310	240	260	305	180	195	240	215	235	275	—	—	—	Copy milling cutters
	720	840	1075	800	870	1025	790	850	1000	590	640	790	710	770	900	—	—	—	
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Plunge milling cutters
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
S1	—	—	—	—	—	—	—	—	—	70	80	95	49	55	70	30	33	40	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	230	260	310	160	180	230	100	110	130	
S2	—	—	—	—	—	—	—	—	—	55	65	75	40	45	55	24	27	32	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	180	215	245	130	150	180	80	90	105	
S3	—	—	—	—	—	—	—	—	—	50	55	70	35	40	49	21	23	29	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	165	180	230	115	130	160	70	75	95	
S11	—	—	—	—	—	—	—	—	—	100	110	135	70	80	95	42	47	55	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	330	360	445	230	260	310	140	155	180	
S12	—	—	—	—	—	—	—	—	—	70	75	95	49	55	65	38	43	55	Chamfer milling cutters
	—	—	—	—	—	—	—	—	—	230	245	310	160	180	215	125	140	180	
S13	—	—	—	—	—	—	—	—	—	40	44	55	28	31	39	22	25	30	Spot facing cutters
	—	—	—	—	—	—	—	—	—	130	145	180	90	100	130	70	80	100	
H5	—	—	—	60	65	80	—	—	—	—	—	—	45	50	60	—	—	—	Spot facing cutters
	—	—	—	195	215	260	—	—	—	—	—	—	150	165	195	—	—	—	
H8	—	—	—	60	70	85	—	—	—	—	—	—	48	55	65	—	—	—	Spot facing cutters
	—	—	—	195	230	280	—	—	—	—	—	—	155	180	215	—	—	—	
H11	—	—	—	75	80	100	—	—	—	—	—	—	55	65	80	—	—	—	Spot facing cutters
	—	—	—	245	260	330	—	—	—	—	—	—	180	215	260	—	—	—	
H12	—	—	—	110	125	150	—	—	—	—	—	—	85	95	115	—	—	—	Inserts
	—	—	—	360	410	490	—	—	—	—	—	—	280	310	375	—	—	—	
H21	—	—	—	60	70	85	—	—	—	—	—</								

R215.39/49 - R220.49 - Metric



—For insert selection and cutting data recommendations, see page(s) 838-839
 —For complete insert programme, see page(s) 910
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
				mm	mm		mm	mm	mm	mm	mm	mm	mm	mm		kg	
R215.49-1609.3-06	75002621	Weldon	45,0 °	9,0	16,0	1	4,0	—	—	16,0	—	32,0	32,0	80,0	55600	0,2	SPMX0602
R215.49-2016.3-09	75002622	Weldon	45,0 °	16,0	26,0	2	5,0	—	—	20,0	—	60,0	60,0	110,0	27200	0,3	SPMX0903
R215.39-2020.3-09	75002620	Weldon	60,0 °	20,0	27,0	2	6,5	—	—	20,0	—	60,0	60,0	110,0	24300	0,3	SPMX0903
R215.49-3225.3-12	75002623	Weldon	45,0 °	25,0	39,0	2	7,0	—	—	32,0	—	70,0	70,0	130,0	16900	0,7	SPMX12T3
R220.49-0040-12	75012896	Arbor	45,0 °	40,0	54,0	3	7,0	22,0	37,0	22,0	40,0	—	—	—	13400	0,3	SPMX12T3

Spare Parts, included in delivery

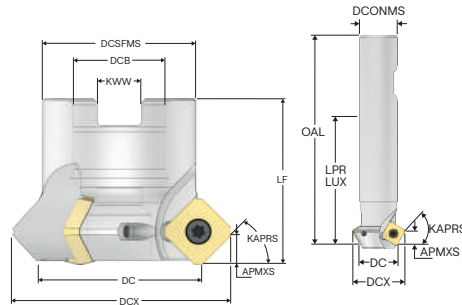
For cutter	Arbor screw	Insert key	Insert screw
			
R215.39-09	—	1/4HEX-T09PX50	C03007-T09P
R215.49-06	—	1/4HEX-T07PX50	C02205-T07P
R215.49-09	—	1/4HEX-T09PX50	C03007-T09P
R215.49-12	—	1/4HEX-T15PX50	C03510-T15P
R220.49-12	220.17-691	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R215.39-09	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215.49-06	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R215.49-09	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R215.39/49 - R220.49 - inch



—For insert selection and cutting data recommendations, see page(s) 838–839
—For complete insert programme, see page(s) 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
				inch	inch		inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R215.49-00.375-3	00070083	Weldon	45,0 °	0.392	0.647	1	0.157	—	—	0.625	—	1.240	1.240	3.150	55600	0.220	SPMX0602
R215.49-00.625-3	00072168	Weldon	45,0 °	0.625	1.039	2	0.236	—	—	0.750	—	2.362	2.362	4.331	27200	0.660	SPMX0903
R215.39-00.750-3	00070080	Weldon	60,0 °	0.750	1.043	2	0.236	—	—	0.750	—	2.362	2.362	4.331	24300	0.660	SPMX0903
R215.49-01.00-3	00070081	Weldon	45,0 °	1.000	1.551	2	0.276	—	—	1.000	—	2.913	2.913	5.118	16900	1.320	SPMX12T3
R220.49-01.50	00070079	Arbor	45,0 °	1.500	2.047	3	0.276	0.750	1.575	0.750	1.575	—	—	—	13400	0.660	SPMX12T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R215.39-00.750	—	1/4HEX-T09PX50	C03007-T09P
R215.49-00.375	—	1/4HEX-T07PX50	C02205-T07P
R215.49-00.625	—	1/4HEX-T09PX50	C03007-T09P
R215.49-01.00	—	1/4HEX-T15PX50	C03510-T15P
R220.49-01.50	220.17-695	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R215.49-00.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R215.49-00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215.49-01.00-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R217/220.49-SPMX06/09/12 – Insert selection – mm/Inch

	SMG		a_p	f_z		
				50%	30%	10%
Square shoulder and slot milling cutters	P1	SPMX 06/09/12-75 F40M	4,0 0.16	0,28 0.011	0,32 0.013	0,50 0.020
	P2	SPMX 06/09/12-75 F40M	4,0 0.16	0,30 0.012	0,32 0.013	0,50 0.020
Helical milling cutters	P3	SPMX 06/09/12-75 F40M	4,0 0.16	0,28 0.011	0,30 0.012	0,48 0.019
	P4	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,48 0.019
Face milling cutters	P5	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	P6	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
Disc milling cutters	P7	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	P8	SPMX 06/09/12-75 F40M	4,0 0.16	0,28 0.011	0,30 0.012	0,48 0.019
High feed milling cutters	P11	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	P12	SPMX 06/09/12-75 F40M	3,5 0.14	0,18 0.0070	0,20 0.0080	0,32 0.013
Copy milling cutters	M1	SPMX 06/09/12-75 F40M	4,0 0.16	0,30 0.012	0,32 0.013	0,50 0.020
	M2	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
Plunge milling cutters	M3	SPMX 06/09/12-75 F40M	3,5 0.14	0,22 0.0085	0,24 0.0095	0,38 0.015
	M4	SPMX 06/09/12-75 F40M	2,5 0.10	0,20 0.0080	0,22 0.0085	0,32 0.013
Chamfer milling cutters	M5	SPMX 06/09/12-75 F40M	2,5 0.10	0,20 0.0080	0,22 0.0085	0,32 0.013
	K1	SPMX 06/09/12-75 F40M	4,0 0.16	0,30 0.012	0,32 0.013	0,50 0.020
Spot facing cutters	K2	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	K3	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
Inserts	K4	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	K5	SPMX 06/09/12-75 F40M	4,0 0.16	0,24 0.0095	0,26 0.010	0,42 0.017
Chamfer SPMX cutters	K6	SPMX 06/09/12-75 F40M	4,0 0.16	0,26 0.010	0,30 0.012	0,46 0.018
	K7	SPMX 06/09/12-75 F40M	4,0 0.16	0,24 0.0095	0,26 0.010	0,42 0.017
Chamfer SPMX cutters	N1	SPMX 06/09/12-75 F40M	4,0 0.16	0,36 0.014	0,42 0.017	0,65 0.026
	N2	SPMX 06/09/12-75 F40M	4,0 0.16	0,36 0.014	0,42 0.017	0,65 0.026
Chamfer SPMX cutters	N3	SPMX 06/09/12-75 F40M	4,0 0.16	0,36 0.014	0,42 0.017	0,65 0.026
	N11	SPMX 06/09/12-75 F40M	4,0 0.16	0,36 0.014	0,42 0.017	0,65 0.026
Chamfer SPMX cutters	S1	SPMX 06/09/12-75 F40M	2,5 0.10	0,20 0.0080	0,22 0.0085	0,32 0.013
	S2	SPMX 06/09/12-75 F40M	2,5 0.10	0,20 0.0080	0,22 0.0085	0,32 0.013
Chamfer SPMX cutters	S3	SPMX 06/09/12-75 F40M	2,5 0.10	0,19 0.0075	0,20 0.0080	0,30 0.012
	S11	SPMX 06/09/12-75 F40M	3,0 0.12	0,22 0.0085	0,25 0.010	0,38 0.015
Chamfer SPMX cutters	S12	SPMX 06/09/12-75 F40M	3,0 0.12	0,22 0.0085	0,25 0.010	0,38 0.015
	S13	SPMX 06/09/12-75 F40M	2,5 0.10	0,20 0.0080	0,22 0.0085	0,32 0.013

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

R217/220.49-SPMX06/09/12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			
	50%	30%	10%	
P1	275	300	355	Square shoulder and slot milling cutters
	900	980	1175	
P2	265	290	345	Helical milling cutters
	870	950	1125	
P3	230	255	300	Face milling cutters
	750	840	980	
P4	205	225	265	Disc milling cutters
	670	740	870	
P5	195	220	260	High feed milling cutters
	640	720	850	
P6	220	250	290	Copy milling cutters
	720	820	950	
P7	210	235	275	Plunge milling cutters
	690	770	900	
P8	195	215	255	Chamfer milling cutters
	640	710	840	
P11	200	225	265	Spot facing cutters
	660	740	870	
P12	135	145	175	Inserts
	445	475	570	
M1	215	235	280	
	710	770	920	
M2	175	200	230	
	570	660	750	
M3	145	155	190	
	475	510	620	
M4	110	120	145	
	360	395	475	
M5	90	100	120	
	295	330	395	
K1	210	230	275	
	690	750	900	
K2	185	210	245	
	610	690	800	
K3	160	175	205	
	520	570	670	
K4	150	170	200	
	490	560	660	
K5	90	105	120	
	295	345	395	
K6	135	150	175	
	445	490	570	
K7	120	130	155	
	395	425	510	
N1	1525	1700	2000	
	5000	5575	6550	
N2	620	690	810	
	2025	2275	2650	
N3	410	460	540	
	1350	1500	1775	
N11	470	520	620	
	1550	1700	2025	
S1	50	55	70	
	165	180	230	
S2	41	46	55	
	135	150	180	
S3	36	40	48	
	120	130	155	
S11	70	80	95	
	230	260	310	
S12	50	55	65	
	165	180	215	
S13	29	32	38	
	95	105	125	

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

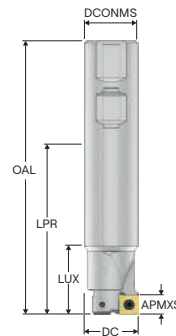


R417.19 Spot Facing

Seco spot facing mills are cutters for milling spot faces of blind and countersunk holes. Key benefits include smooth cutting, reduced spindle bearing wear via a highly balanced tool and high security through a center-lock clamping system, all engineered in an economical solution.

- Strong SPMX inserts, available in many different grades for most workpiece materials
- Inserts with 4 cutting edges
- Cutter range metric, Ø 18–42mm (Imperial Ø 0.625–1.620 inch)

R417.19-SPMX – Metric



- For insert selection and cutting data recommendations, see page(s) 843-845
- For complete insert programme, see page(s) 910
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LUX	LPR	OAL	RMPX°	RPMX	Weight	Center insert	Peripheral insert
			mm		mm	mm	mm	mm	mm	mm			kg		
R417.19-2018.3-06A	00070768	Weldon	18,0	1	5,0	9,0	20,0	20,0	60,0	110,0	45,0	39200	0,2	0602AP (1)	060204 (1)
R417.19-2020.3-07A	00012939	Weldon	20,0	1	7,0	10,0	20,0	28,0	70,0	120,0	45,0	26200	0,3	0703AP (1)	070304 (1)
R417.19-2022.3-07A	02201611	Weldon	22,0	1	7,0	11,0	20,0	70,0	70,0	120,0	45,0	25000	0,3	0703AP (1)	070304 (1)
R417.19-2524.3-07A	02201606	Weldon	24,0	1	7,0	12,0	25,0	31,0	74,0	130,0	45,0	24000	0,5	0703AP (1)	070304 (1)
R417.19-2526.3-09A	00070772	Weldon	26,0	1	8,0	13,0	25,0	74,0	74,0	130,0	45,0	21200	0,5	0903AP (1)	090304 (1)
R417.19-2530.3-09A	02201604	Weldon	30,0	1	8,0	15,0	25,0	74,0	74,0	130,0	45,0	19800	0,5	0903AP (1)	090304 (1)
R417.19-3232.3-09A	02201607	Weldon	32,0	1	8,0	16,0	32,0	38,0	70,0	130,0	45,0	19200	0,8	0903AP (1)	090304 (1)
R417.19-3236.3-12A	02201608	Weldon	36,0	1	11,0	18,0	32,0	70,0	70,0	130,0	45,0	12600	0,7	12T3AP (1)	12T308 (1)
R417.19-3238.3-12A	02448870	Weldon	38,0	1	11,0	19,0	32,0	70,0	70,0	130,0	45,0	12300	0,7	12T3AP (1)	12T308 (1)
R417.19-3242.3-12A	02448871	Weldon	42,0	1	11,0	21,0	32,0	70,0	70,0	130,0	45,0	12000	0,7	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-06A	1/4HEX-T07PX50	C02205-T07P
R417.19-07A	1/4HEX-T07PX50	C02506-T07P
R417.19-09A	1/4HEX-T09PX50	C03007-T09P
R417.19-12A	1/4HEX-T15PX50	C03510-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R417.19-06A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-07A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-09A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R417.19-12A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

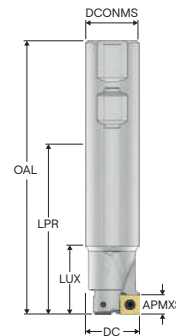
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R417.19-SPMX – inch



—For insert selection and cutting data recommendations, see page(s) 843–845
 —For complete insert programme, see page(s) 910
 —For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Center insert	Peripheral insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs		
R417.19-00.62-3	75072193	Weldon	0.625	1	0.197	0.276	0.750	1.732	0.787	1.732	3.740	45,0	49100	0.440	0602AP (1)	060204 (1)
R417.19-00.750-3	75072183	Weldon	0.750	1	0.197	0.276	0.750	2.323	1.181	2.323	4.331	45,0	32500	0.660	0602AP (1)	060204 (1)
R417.19-00.81-3	75054856	Weldon	0.812	1	0.276	0.276	0.750	2.717	2.717	2.717	4.724	45,0	26200	0.660	0703AP (1)	070304 (1)
R417.19-01.00-3	75072173	Weldon	1.000	1	0.315	0.472	1.000	2.874	1.575	2.874	5.118	45,0	22500	1.100	0903AP (1)	090304 (1)
R417.19-01.18-3	75054857	Weldon	1.181	1	0.315	0.472	1.000	2.874	2.874	2.874	5.118	45,0	21200	1.320	0903AP (1)	090304 (1)
R417.19-01.37-3	75054858	Weldon	1.375	1	0.433	0.472	1.250	2.874	2.874	2.874	5.118	45,0	12600	1.760	12T3AP (1)	12T308 (1)
R417.19-01.62-3	75054859	Weldon	1.620	1	0.433	0.472	1.250	2.874	2.874	2.874	5.118	45,0	12000	1.980	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-00.625-00.750	1/4HEX-T07PX50	C02205-T07P
R417.19-00.812	1/4HEX-T07PX50	C02506-T07P
R417.19-01.00-01.18	1/4HEX-T09PX50	C03007-T09P
R417.19-01.37-01.62	1/4HEX-T15PX50	C03510-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R417.19-00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-00.812	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-01.00-01.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R417.19-01.37-01.62	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R417.19-SPMX06/07 – Insert selection – mm/Inch

SMG		f_z			
		100%	30%	10%	
P1	SPMX 06/07-75 F40M	0,080 0.0032	0,085 0.0034	0,13 0.0050	Square shoulder and slot milling cutters
P2	SPMX 06/07-75 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050	
P3	SPMX 06/07-75 F40M	0,075 0.0030	0,085 0.0034	0,13 0.0050	Helical milling cutters
P4	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
P5	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
P6	SPMX 06/07-75 F40M	0,070 0.0028	0,080 0.0032	0,12 0.0048	
P7	SPMX 06/07-75 F40M	0,070 0.0028	0,080 0.0032	0,12 0.0048	Face milling cutters
P8	SPMX 06/07-75 F40M	0,075 0.0030	0,085 0.0034	0,13 0.0050	
P11	SPMX 06/07-75 F40M	0,070 0.0028	0,080 0.0032	0,12 0.0048	
P12	SPMX 06/07-75 F40M	0,050 0.0020	0,055 0.0022	0,085 0.0034	
M1	SPMX 06/07-75 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050	Disc milling cutters
M2	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
M3	SPMX 06/07-75 F40M	0,060 0.0024	0,065 0.0026	0,10 0.0040	
M4	SPMX 06/07-75 F40M	0,050 0.0020	0,055 0.0022	0,085 0.0034	
M5	SPMX 06/07-75 F40M	0,050 0.0020	0,055 0.0022	0,085 0.0034	High feed milling cutters
K1	SPMX 06/07-75 F40M	0,080 0.0032	0,090 0.0036	0,13 0.0050	
K2	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
K3	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
K4	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	Copy milling cutters
K5	SPMX 06/07-75 F40M	0,065 0.0026	0,070 0.0028	0,11 0.0044	
K6	SPMX 06/07-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048	
K7	SPMX 06/07-75 F40M	0,065 0.0026	0,070 0.0028	0,11 0.0044	

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %

All cutting data are start values

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R417.19-SPMX09/12 – Insert selection – mm/Inch

	SMG		f_z		
			100%	30%	10%
Square shoulder and slot milling cutters	P1	SPMX 09/12-75 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
	P2	SPMX 09/12-75 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
Helical milling cutters	P3	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P4	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P5	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P6	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P7	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
Face milling cutters	P8	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,19 0.0075
	P11	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	P12	SPMX 09/12-75 F40M	0,075 0.0030	0,080 0.0032	0,12 0.0048
	M1	SPMX 09/12-75 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
Disc milling cutters	M2	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	M3	SPMX 09/12-75 F40M	0,085 0.0034	0,095 0.0038	0,15 0.0060
	M4	SPMX 09/12-75 F40M	0,075 0.0030	0,085 0.0034	0,13 0.0050
	M5	SPMX 09/12-75 F40M	0,075 0.0030	0,085 0.0034	0,13 0.0050
	K1	SPMX 09/12-75 F40M	0,12 0.0048	0,13 0.0050	0,20 0.0080
High feed milling cutters	K2	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K3	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K4	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
	K5	SPMX 09/12-75 F40M	0,10 0.0040	0,11 0.0044	0,16 0.0065
	K6	SPMX 09/12-75 F40M	0,11 0.0044	0,12 0.0048	0,18 0.0070
Copy milling cutters	K7	SPMX 09/12-75 F40M	0,10 0.0040	0,11 0.0044	0,16 0.0065

SMG = Seco material group

f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e /DC = %

All cutting data are start values

Plunge milling cutters

Chamfer milling cutters

Spot facing cutters

Inserts

R417.19-SPMX06/07/09/12 – Cutting data $v_c = (m/min)/(sf/min)$

SMG	F40M			
	100%	30%	10%	
P1	195	225	240	Square shoulder and slot milling cutters
	640	740	790	
P2	195	220	240	Helical milling cutters
	640	720	790	
P3	180	205	225	Face milling cutters
	590	670	740	
P4	170	195	215	Face milling cutters
	560	640	710	
P5	165	190	210	Face milling cutters
	540	620	690	
P6	175	205	220	Face milling cutters
	570	670	720	
P7	170	195	215	Face milling cutters
	560	640	710	
P8	165	190	205	Face milling cutters
	540	620	670	
P11	165	195	210	Face milling cutters
	540	640	690	
P12	120	150	165	Disc milling cutters
	395	490	540	
M1	170	200	215	Disc milling cutters
	560	660	710	
M2	150	180	200	Disc milling cutters
	490	590	660	
M3	130	160	175	Disc milling cutters
	425	520	570	
M4	105	135	150	High feed milling cutters
	345	445	490	
M5	90	115	130	High feed milling cutters
	295	375	425	
K1	170	200	215	Copy milling cutters
	560	660	710	
K2	160	185	205	Copy milling cutters
	520	610	670	
K3	140	170	185	Copy milling cutters
	460	560	610	
K4	135	165	180	Copy milling cutters
	445	540	590	
K5	90	115	130	Copy milling cutters
	295	375	425	
K6	125	150	170	Copy milling cutters
	410	490	560	
K7	110	140	155	Copy milling cutters
	360	460	510	
				Plunge milling cutters
				Chamfer milling cutters
				Spot facing cutters
				Inserts

Introduction

Polycrystalline Cubic Boron Nitride (PCBN) is a material which is sintered at extremely high pressure and high temperature into a wear-resistant material with properties close to those of diamond. Due to the hot hardness, oxidation resistance and fracture toughness of the material, inserts made of PCBN have excellent edge strength and long tool life when machining hard ferrous materials and pearlitic grey cast iron.

Secomax™ PCBN inserts are suitable for machining:

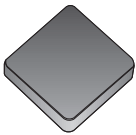
- Hardened steel (including hard-facing alloys)
- Pearlitic grey cast iron
- Chilled and white cast iron
- Manganese steel
- Cemented carbide
- Powder Metallurgy (PM) alloys

For more information including a comprehensive guide to understanding and applying PCBN successfully, please ask your sales representative for the Secomax™ PCBN, Technical Guide (available in English).

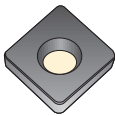
Selection of insert type



- Solid insert
 - According to the geometry, two sides can be used.
 - Grades: CBN200, CBN300, CBN300P, CBN500, CBN600
-

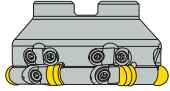


- CBN layer sintered on to carbide. One side is usable.
- Grades: CBN200



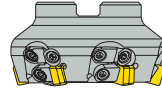
Cutters for PCBN inserts

Face milling cutter type R217/220.70



- Cutter especially developed for CBN inserts, 2 insert sizes.
- Maximum cutting depth 3 mm DC = 20-63 mm and maximum cutting depth 4,5 mm DC = 63-200 mm (DC = 125-200 mm fitted with wiper insert).
- Inserts for finishing: RNGN060300E (E = honed) RNGN/RNMN090300E
- Inserts for roughing: RNGN/RNMN060300S (S = chamfered and honed) RNGN/RNMN090300S
- Wiper insert: [SNEX120312ZZ](#)
- The relation between cutting depth and number of usable cutting edges (per side).

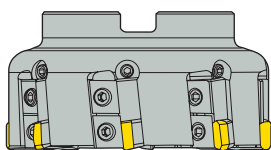
Face milling cutter type 220.74



- Cutter especially developed for CBN inserts, maximum cutting depth 8,0 mm D = 63-200 mm. (D = 125-200 mm fitted with wiper insert).
- Inserts for finishing: [SNEN0903ENE-M06](#) (E = honed) [SNMN090308E](#) [SNMN090312E](#)
- Inserts for roughing: [SNEN0903ENS-M08](#) (S = chamfered and honed) [SNMN090308S](#) [SNMN090312S](#) [SNMN090316S](#)
- Wiper insert: [SNEX120312ZZ](#)

D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RN.. 090300	D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RNMN 090300
0,1	.004	20	24	1,2	.048	5	7
0,15	.006	16	20	1,5	.060	5	6
0,2	.008	14	17	1,8	.072	4	5
0,25	.010	12	15	2,0	.080	4	5
0,3	.012	11	14	2,5	.100	3	4
0,4	.016	10	12	3,0	.120	3	4
0,5	.020	8	10	3,5	.140	–	4
0,8	.032	7	8	4,0	.160	–	3
1,0	.040	6	7	4,5	.200	–	–

Square shoulder and slot milling cutter type R220.68



- Insert with corner chamfer for finishing operations: [TNGN1604PNE](#)
- Insert with corner chamfer for roughing operations: [TNGN1604PNS](#)
- Insert with corner radius for roughing operations: [TNGN1604PRS](#)

Inserts for standard milling cutters

Face milling cutters



- For roughing
- SEEX09T3AFTN-D09-LF
- SEEX1204AFTN-D16-LF
- R220.53

Face milling cutters



- For roughing
- ONEW05
- Octomill R217/220.48

Face milling cutters



- For roughing
- SEEN1203AFTN-D16
- R220.13

Face milling cutters



- For finishing
- SEEX1203AETN-MD13-LF
- R220.30

Wiper insert for high quality surface finish



- SEEX1204ZZTN-D16-LF

Disc milling cutter



- RDHW0803M0S-01030-LF
- R335.25/R335.18

High feed milling cutter



- 218.19-100T-MD08-LF

Copy milling cutter



- RDHW0803M0S-01030-LF
- R217/220.29

Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 935

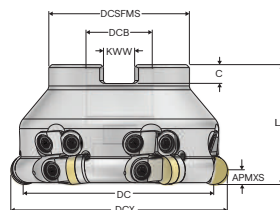
PCBN, Finishing $a_p < 0,5$ mm/Inch

SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1900 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	110 — 350 —	0,050 — 0,20 —	— —	— —	— —	— —
H5	200 — 320 —	0,050 — 0,20 —	— —	— —	— —	— —
H7	200 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
H8	170 — 250 —	0,050 — 0,20 —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	— —	— —	— —	— —	— —	— —
HF2	— —	— —	— —	— —	— —	— —

PCBN, Roughing $a_p 0,5-3,0$ mm/Inch

SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	— —	— —	— —	— —	— —	— —
H5	— —	— —	— —	— —	— —	— —
H7	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	150 — 240 —	0,050 — 0,20 —	— —	— —	150 — 250 —	0,050 — 0,20 —
HF2	120 — 300 —	0,050 — 0,20 —	— —	— —	120 — 300 —	0,050 — 0,20 —

220.70-06/09 – Metric



–For insert selection and cutting data recommendations, see page(s) 849

–For complete insert programme, see page(s) 857

–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	ZEFP	APMXS mm	DCX mm	DCB mm	DCSFMS mm	LF mm	RPMX	Weight kg	Insert
R220.70-0063-09-6	00023749	Arbor	63,0	6	4,5	72,5	22,0	47,0	40,0	10200	0,8	RN..09
R220.70-0080-09-6	00023750	Arbor	80,0	6	4,5	589,5	27,0	62,0	50,0	9100	1,4	RN..09
R220.70-0100-09-8	00023751	Arbor	100,0	8	4,5	109,5	32,0	77,0	50,0	8100	2,0	RN..09
R220.70-8160-09-10	00023753	Arbor	160,0	10	4,5	169,5	40,0	90,0	63,0	6400	5,7	RN..09/SNEX12

Spare Parts, included in delivery

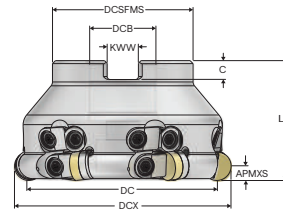
For cutter	Anvil	Anvil screw	Arbor screw	Gauge screw	Insert key	Insert shim	Insert wedge	Setting gauge	Setting wedge	Shim screw	Wedge	Wedge screw
												
R220.70-0063	–	–	220.17-692	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0080	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0100	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-8160	268-621	F94009-T09P	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	CW0608S	AS6011F	AS6011	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
						
R220.70-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.70-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.70-06/09 – inch



- For insert selection and cutting data recommendations, see page(s) 849
- For complete insert programme, see page(s) 857
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.70-03.00-09-6	00059852	Arbor	3.150	6	0.177	3.520	1.000	2.441	2.382	15900	3.530	RN..09

Spare Parts, included in delivery

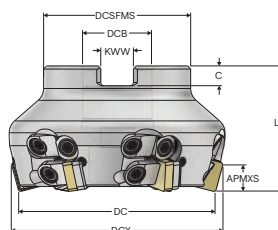
For cutter	Gauge screw	Insert key	Insert shim	Setting gauge	Shim screw	Wedge	Wedge screw
							
R220.70-03.00	LD6019-T15P	1/4HEX-T15PX50	117.10-620	AS6011F	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Shim key	Torque key
					
R220.70-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.74-09 – Metric



–For insert selection and cutting data recommendations, see page(s) 849

–For complete insert programme, see page(s) 859–858

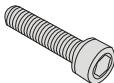
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
*Wiper insert			mm		mm	mm	mm	mm	mm		kg	
R220.74-0063-09-6	00023743	Arbor	63,0	6	8,0	65,3	22,0	47,0	40,0	10200	0,8	SN..09..
R220.74-0080-09-6	00023744	Arbor	80,0	6	8,0	82,3	27,0	62,0	50,0	9100	1,4	SN..09..
R220.74-0100-09-8	00023745	Arbor	100,0	8	8,0	102,3	32,0	77,0	50,0	8100	2,1	SN..09..
R220.74-8160-09-10	00023747	Arbor	160,0	10	8,0	162,3	40,0	90,0	63,0	6400	6,2	SN..09/SNEX12*
R220.74-8200-09-12	00023748	Arbor	200,0	12	8,0	202,3	60,0	130,0	63,0	5700	9,0	SN..09/SNEX12*

Spare Parts, included in delivery

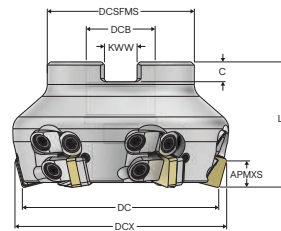
For cutter	Anvil	Anvil screw	Arbor screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
										
R220.74-0063	–	–	220.17-692	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0080	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0100	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8160	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8200	268-621	F94009-T09P	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
							
R220.74-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-8200	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.74-09 – inch



- For insert selection and cutting data recommendations, see page(s) 849
- For complete insert programme, see page(s) 859–858
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	ZEFP	APMXS inch	DCX inch	DCB inch	DCSFMS inch	LF inch	RPMX	Weight lbs	Insert
R220.74-04.00-09-8	00059859	Arbor	4.028	8	0.315	4.028	1.500	3.543	2.374	8100	5.290	SN..09
R220.74-05.00-09-8	00059860	Arbor	5.008	8	0.315	5.012	1.500	3.543	2.374	7200	8.600	SN..09 / SNEX12*
R220.74-06.00-09-10	00059861	Arbor	6.299	10	0.315	6.390	2.000	4.331	2.374	6400	13.670	SN..09 / SNEX12*

Spare Parts, included in delivery

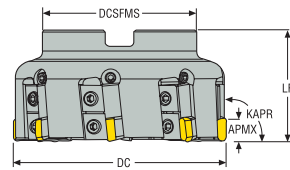
For cutter	Anvil	Anvil screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
									
R220.74-04.00	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-05.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-06.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
							
R220.74-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	58215080	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

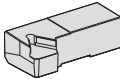
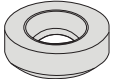
R220.68-T11C/T16C – Metric



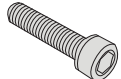
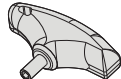
- For insert selection and cutting data recommendations, see page(s) 849
- For complete insert programme, see page(s) 860
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R220.68-0063-T11C-4	02600204	Arbor	63,0	4	5,0	22,0	47,0	22,0	63,0	20600	1,1	TNGN1103..
R220.68-0063-T16C-4	00063814	Arbor	63,0	4	14,0	22,0	47,0	22,0	63,0	12000	1,1	TNGN1604..
R220.68-0080-T11C-5	02600206	Arbor	80,0	5	5,0	27,0	62,0	27,0	63,0	16700	1,7	TNGN1103..
R220.68-0080-T16C-5	00063812	Arbor	80,0	5	14,0	27,0	62,0	27,0	63,0	9600	1,9	TNGN1604..
R220.68-0100-T11C-6	02600207	Arbor	100,0	6	5,0	32,0	77,0	32,0	63,0	13400	2,7	TNGN1103..
R220.68-0125-T11C-8	02600208	Arbor	125,0	8	5,0	40,0	90,0	40,0	63,0	10400	3,4	TNGN1103..
R220.68-0125-T16C-8	00063815	Arbor	125,0	8	14,0	40,0	90,0	40,0	63,0	6100	3,4	TNGN1604..
R220.68-8160-T11C-10	02600209	Arbor	160,0	10	5,0	40,0	90,0	40,0	63,0	8400	5,6	TNGN1103..
R220.68-8160-T16C-10	00063813	Arbor	160,0	10	14,0	40,0	90,0	40,0	63,0	4800	5,9	TNGN1604..

Spare Parts, included in delivery

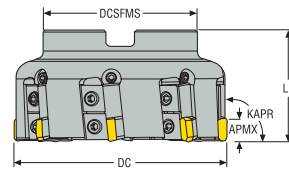
For cutter	Adjustment unit	Arbor screw	Cassette	Circlip	Insert wedge	Ring	Setting key	Wedge clamp	Wedge key	Wedge screw
										
R220.68-0063-T11C	AU1114T-T15P	220.17-696	TN11PR	SGH22SMS1582	L257.9-120-T11	220.13-113	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0063-T16C	AU1114T-T15P	220.17-696	TN16PR	SGH22SMS1582	L257.9-120-T16	220.13-113	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0080-T11C	AU1114T-T15P	MC6S12X40	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0080-T16C	AU1114T-T15P	MC6S12X40	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0100-T11C	AU1114T-T15P	MC6S16X35	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0125-T11C	AU1114T-T15P	–	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0125-T16C	AU1114T-T15P	–	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-8160-T11C	AU1114T-T15P	–	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-8160-T16C	AU1114T-T15P	–	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.68-0063-0125-T11C	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-0063-0125-T16C	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-8160-T11C	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-8160-T16C	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

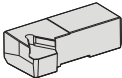
R220.68-T11C – Inch



- For insert selection and cutting data recommendations, see page(s) 849
- For complete insert programme, see page(s) 860
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R220.68-02.50-T11C-4	02611344	Arbor	2.500	4	0.197	0.750	1.850	0.750	2.480	20600	2.430	TN..11
R220.68-03.00-T11C-5	02611345	Arbor	3.000	5	0.197	1.000	2.441	1.000	2.480	9600	3.970	TN..11
R220.68-04.00-T11C-6	02611346	Arbor	4.000	6	0.197	1.500	3.031	1.500	2.480	7600	5.730	TN..11
R220.68-05.00-T11C-8	02611347	Arbor	5.000	8	0.197	1.500	3.543	1.500	2.480	6100	7.500	TN..11
R220.68-06.00-T11C-10	02611348	Arbor	6.000	10	0.197	2.000	4.331	2.000	2.480	4800	12.350	TN..11

Spare Parts, included in delivery

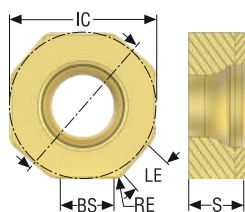
For cutter	Adjustment unit	Arbor screw	Cassette	Circlip	Insert wedge	Ring	Setting key	Wedge clamp	Wedge key	Wedge screw
										
R220.68-02.50	AU1114T-T15P	220.17-695	TN11PR	SGH19SMS1582	L257.9-120-T11	220.13-114	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-03.00	AU1114T-T15P	UC6S1/2UNFX1-1/4	TN11PR	—	L257.9-120-T11	—	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-04.00	AU1114T-T15P	UF6S3/4UNFX2	TN11PR	—	L257.9-120-T11	—	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-05.00	AU1114T-T15P	UF6S3/4UNFX2	TN11PR	—	L257.9-120-T11	—	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-06.00	AU1114T-T15P	—	TN11PR	—	L257.9-120-T11	—	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.68-02.50-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	—	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	6.0NM	T00T-25P60

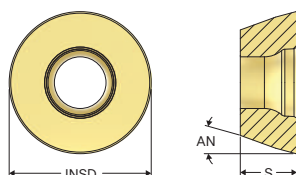
Torque and fixed keys, see page 944

ONEW05



Designation	RE	BS	LE	IC	S	GAN	Grades					
							CBN					
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
ONEW050410ANSN-02020-LF	1,0 0.039	0,3 0.012	3,6 0.142	12,0 0.472	4,427 0.174	0,0 °	■					

RDHW

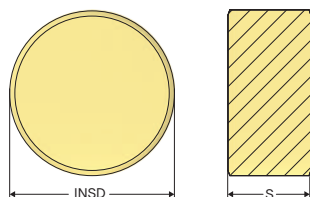


RDHW-LF



Designation	INSD	S	AN°	Grades					
				CBN					
	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RDHW0803M0S-01030-LF	8,0 0.315	3,18 0.125	15,0	■					
RDHW10T3M0S-01030-8-LF	10,0 0.394	3,97 0.156	15,0	■					

RN.N-LF06/09/12



RNGN



RNGN-LF

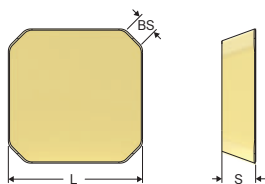


RNMN



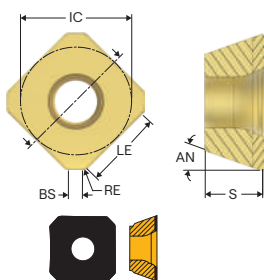
Designation	INSD	S	Grades					
			CBN					
	mm Inch	mm Inch	CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RNGN060300S-02020-LF	6,35 0.250	3,18 0.125	■					
RNGN090300S-02020-LF	9,52 0.375	3,18 0.125	■					
RNGN120400S-02020-LF	12,7 0.500	4,76 0.187	■					
RNGN060300S	6,35 0.250	3,18 0.125	■					
RNGN090300S	9,52 0.375	3,18 0.125	■					
RNMN060300S	6,35 0.250	3,18 0.125		■	■			
RNMN060300S-02020P	6,35 0.250	3,18 0.125						■
RNMN090300E	9,52 0.375	3,18 0.125		■		■		
RNMN090300S	9,52 0.375	3,18 0.125		■	■			
RNMN090300S-02020	9,52 0.375	3,18 0.125				■	■	
RNMN090300S-02020P	9,52 0.375	3,18 0.125						■

SEE.12



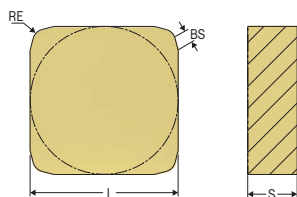
Designation	RE	BS	L	S	GAN	Grades					
						CBN					
	mm Inch	mm Inch	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEN1203AFTN-D16	1,0 0.039	1,5 0.059	12,7 0.500	3,18 0.125	0,0 °		■				

SEEX



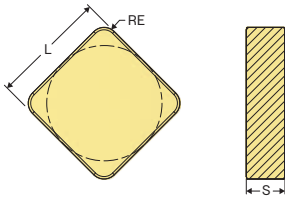
Designation	RE	BS	LE	IC	S	AN°	Grades					
							CBN					
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEX09T3AFTN-D09-LF	0,5 0.020	1,25 0.049	2,86 0.113	9,52 0.375	3,97 0.156	20,0	■					
SEEX1203AETN-MD13-LF	1,0 0.039	8,0 0.315	2,2 0.087	12,7 0.500	3,18 0.125	20,0	■					
SEEX1204AFTN-D16-LF	1,1 0.043	1,6 0.063	3,81 0.150	12,7 0.500	4,76 0.187	20,0	■					
SEEX1204ZZTN-D16-LF	1,0 0.039	7,53 0.296	3,81 0.150	12,7 0.500	4,76 0.187	20,0	■					

SNEN



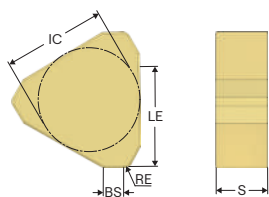
Designation	RE	BS	L	S	GAN	Grades					
						CBN					
	mm Inch	mm Inch	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SNEN0903ENE-M06	0,8 0.031	0,9 0.035	9,52 0.375	3,18 0.125	0,0 °	■					
SNEN0903ENS-M08	0,8 0.031	0,9 0.035	9,52 0.375	3,18 0.125	0,0 °	■					

SN..06/09/SNEX12



Designation	RE	L	S	GAN	Grades					
					CBN					
					CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
	mm Inch	mm Inch	mm Inch							
SNMN060308E	0,8 0.031	6,35 0.250	3,18 0.125	0,0 °				■		
SNMN060308S	0,8 0.031	6,35 0.250	3,18 0.125	0,0 °		■				
SNMN090308E	0,8 0.031	9,525 0.375	3,18 0.125	0,0 °		■				
SNMN090308S	0,8 0.031	9,525 0.375	3,18 0.125	0,0 °		■				
SNMN090312S	1,2 0.047	9,525 0.375	3,18 0.125	0,0 °		■	■			
SNMN090312S-02020P	1,2 0.047	9,525 0.375	3,18 0.125							■
SNMN090316S	1,6 0.063	9,525 0.375	3,18 0.125	0,0 °		■				
SNGN090308E	0,8 0.031	9,525 0.375	3,18 0.125	0,0 °	■					
SNGN090308S	0,8 0.031	9,525 0.375	3,18 0.125	0,0 °	■					
SNGN090312S	1,2 0.047	9,525 0.375	3,18 0.125	0,0 °	■					
SNGN090316S	1,6 0.063	9,525 0.375	3,18 0.125	0,0 °	■					
SNEX120312ZZ	1,2 0.047	12,7 0.500	3,18 0.125	0,0 °	■					

TNGN

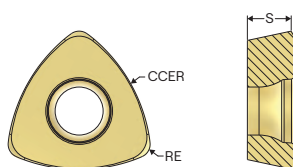


TNGN



Designation	Grades										
	RE	BS	LE	IC	S	CBN					
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
TNGN1103PNE	0,8 0.031	1,0 0.039	3,3 0.130	6,35 0.250	3,18 0.125	■					
TNGN1103PNS	0,8 0.031	1,0 0.039	3,3 0.130	6,35 0.250	3,18 0.125	■					
TNGN1103PRS	1,2 0.047	1,0 0.039	3,3 0.130	6,35 0.250	3,18 0.125	■					
TNGN1604PNE	0,8 0.031	1,9 0.075	4,95 0.195	9,52 0.375	4,76 0.187	■					
TNGN1604PNS	0,8 0.031	1,9 0.075	4,95 0.195	9,52 0.375	4,76 0.187	■					
TNGN1604PRS	1,2 0.047	1,3 0.051	4,95 0.195	9,52 0.375	4,76 0.187	■					

218.19



Designation	Grades									
	RE	CCER	S	GAN	CBN					
	mm Inch	mm Inch	mm Inch		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
218.19-100T-MD08-LF	0,8 0.031	10,0 0.394	2,81 0.111	0,0 °	■					

Introduction

Application areas

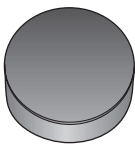
Secomax ceramics include a range of products developed to meet the manufacturing industries ever increasing demands on productivity and product performance.

The inserts are die-pressed and sintered by a HIP process using very fine and pure raw materials with fine microstructure to reach excellent material properties. All surfaces are then ground ensuring a product with superior dimensions and tolerances.

This comes together in a product with outstanding features:

- high thermal shock resistance
- optimised fracture toughness
- excellent wear resistance
- high product quality

CS300



Format:
Solid.

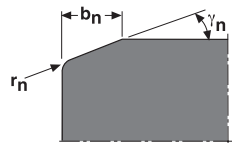
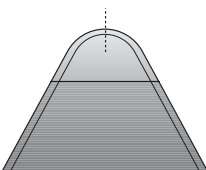
Composition:
Sialon (Si, Al, O, N) ceramic grade.

Coating:
No coating.

Chamfer size and angle

CS300	=	0,10 mm x 20°
S	=	Chamfered and honed
T	=	Chamfered, no honing
E	=	Honed

Chamfer size and angle

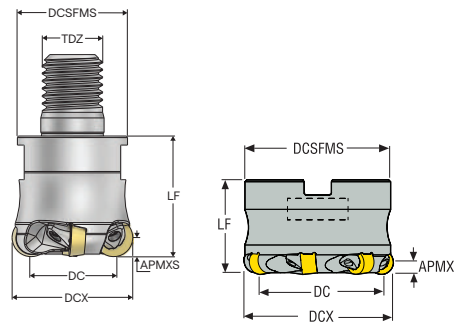


b_n = Chamfer width
 γ_n = Chamfer angle
 r_n = Hone radius

Ceramic, Roughing a_p 0,5 – 3,0 mm/Inch

SMG	CS300	
	v_c	f_z
S1	600 — 1000	0,050 — 0,15
	2000 — 3200	0.00197 — 0.00590
S2	600 — 1000	0,050 — 0,15
	2000 — 3200	0.00197 — 0.00590
S3	600 — 1000	0,050 — 0,15
	2000 — 3200	0.00197 — 0.00590
S11	—	—
S12	—	—
S13	—	—

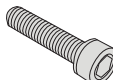
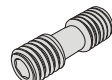
R217/220.26 - Metric



- For insert selection and cutting data recommendations, see page(s) 861, 862
- For complete insert programme, see page(s) 865
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC mm	DCX mm	ZEFP	APMXS mm	DCB mm	TDZ	DCSFMS mm	LF mm	OAL mm	RMPX°	RPMX	Weight kg	Insert
R217.26-1632.RE-RN1204.3A	03115686	Combimaster	19,265	32,0	3	6,0	—	M16	30,0	35,0	57,75	0,0	19100	0,2	RN1204
R217.26-1632.RE-RP1204.3A	03204228	Combimaster	19,439	32,0	3	6,0	—	M16	30,0	35,0	57,75	5,0	20800	0,2	RP1204
R217.26-2040.RE-RN1204.4A	03115687	Combimaster	27,338	40,0	4	6,0	—	M20	36,5	40,0	67,0	0,0	17100	0,4	RN1204
R217.26-2040.RE-RP1204.4A	03115679	Combimaster	27,423	40,0	4	6,0	—	M20	36,5	40,0	67,0	3,2	18600	0,4	RP1204
R220.26-0050-RN1204.6A	03115702	Arbor	37,329	50,0	6	6,0	22,0	—	47,0	45,0	—	—	16700	0,5	RN1204
R220.26-0050-RN1207.5A	03115710	Arbor	37,329	50,0	5	6,0	22,0	—	47,0	45,0	—	—	11900	0,5	RN1207
R220.26-0050-RP1204.6A	03133188	Arbor	37,409	50,0	6	6,0	22,0	—	47,0	45,0	—	2,3	16700	0,5	RP1204
R220.26-0063-RN1207.6A	03115711	Arbor	50,323	63,0	6	6,0	27,0	—	60,0	50,0	—	—	10600	0,8	RN1207
R220.26-0063-RN1207.7A	03115712	Arbor	50,323	63,0	7	6,0	27,0	—	60,0	50,0	—	—	10600	0,9	RN1207
R220.26-0080-RN1207.7A	03115713	Arbor	67,261	80,0	7	6,0	32,0	—	77,0	50,0	—	—	9400	1,6	RN1207
R220.26-0080-RN1207.8A	03115714	Arbor	67,261	80,0	8	6,0	32,0	—	77,0	50,0	—	—	9400	1,4	RN1207
R220.26-0100-RN1207.8A	03115715	Arbor	87,279	100,0	8	6,0	40,0	—	90,0	63,0	—	—	8400	2,8	RN1207
R220.26-0125-RN1207.9	03115716	Arbor	112,278	125,0	9	6,0	40,0	—	90,0	63,0	—	—	7500	3,6	RN1207

Spare Parts, included in delivery

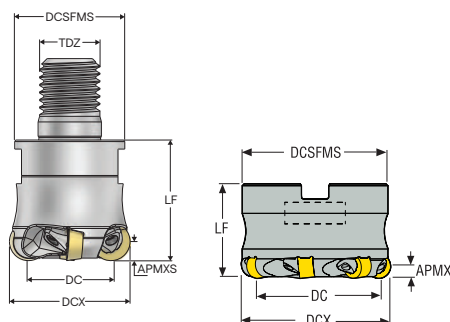
For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217.26-..	—	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0050	220.17-692	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0063	MC6S12X40	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0080	950E1645	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0100-0125	MC6S20X50	1/4HEX-H2.5X50	CW0508	LD5015C

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	H00-2535

Torque and fixed keys, see page 944

R217/220.26 - inch



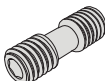
—For insert selection and cutting data recommendations, see page(s) 861, 862

—For complete insert programme, see page(s) 865

—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	DCX inch	ZEFP	APMXS inch	DCB inch	TDZ	DCSFMS inch	LF inch	OAL inch	RMPX°	RPMX	Weight lbs	Insert
R217.26-01.50-20RE-RN1207.3A	10008700	Arbor	1.001	1.500	3	0.236	—	M20	1.437	1.575	2.638	0,0	12500	0.880	RN1207
R220.26-02.00-RN1207.5A	03115723	Arbor	1.501	2.000	5	0.236	0.750	—	1.750	2.000	—	—	11900	1.320	RN1207
R220.26-02.50-RN1207.6A	03115724	Arbor	2.001	2.500	6	0.236	1.000	—	2.250	2.000	—	—	10600	1.980	RN1207
R220.26-03.00-RN1207.7A	03115725	Arbor	2.499	3.000	7	0.236	1.250	—	2.750	2.000	—	—	9400	2.870	RN1207

Spare Parts, included in delivery

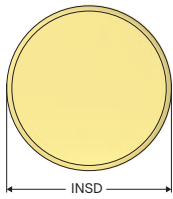
For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217.26-..	—	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-02.00	UC6S3/8UNFX1-3/4	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-02.50	UC6S1/2UNFX1-1/2	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-03.00	—	1/4HEX-H2.5X50	CW0508	LD5015C

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	H00-2535

Torque and fixed keys, see page 944

RNGN12



RNGN



RPGN



Designation	INSD		S		Grades
	mm	Inch	mm	Inch	CBN
RNGN120400T-01020	12,7	0.500	4,76	0.187	■
RNGN120700T-01020	12,7	0.500	7,94	0.313	■
RPGN120400T-01020	12,7	0.500	4,76	0.187	■

Introduction

Polycrystalline Diamond (PCD) is produced by sintering together carefully selected particles of diamond under conditions of high temperature and high pressure. PCD cutting tools combine the hardness, abrasion resistance and thermal conductivity of diamond with the toughness of tungsten carbide.

Secomax™ PCD inserts are suitable for machining non-ferrous metals and alloys, e.g.:

- Aluminium
- Copper
- Brass
- Bronze
- Cemented carbide

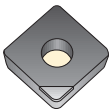
It can also be used for other materials, e.g.:

- Composites (MMC, ...)
- Reinforced plastics
- Graphite
- Tungsten carbide
- Ceramics
- Titanium alloys

Selection of insert types



- Sintered layer -LF
- PCD sintered on carbide.
- All cutting edges on one side are usable.
- Grades: PCD20, PCD30M



- Brazed tip -L1 and L2
- PCD brazed on to standard carbide inserts.
- Grades: PCD05, PCD20, PCD30

Inserts for standard milling cutters

Face milling cutters

- SEHN12
- R220.13
- R220.30



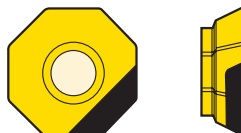
Face milling cutters

- SEEX12
- R220.53



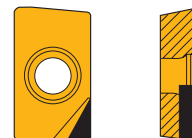
Face milling cutters

- OFEX05
- R220.43



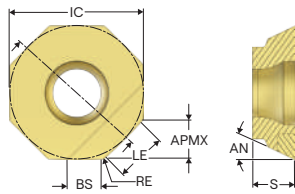
Square shoulder milling cutters

- XOEX06/10/12/16
- 217/220.69



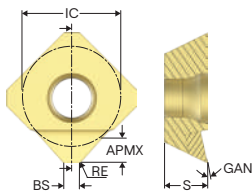
Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 935

OFEX



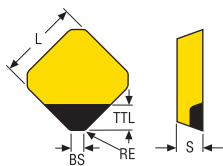
Designation	RE	APMX	BS	LE	IC	S	AN°	Grades			
								PCD			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		PCD05	PCD20	PCD30	PCD30M
OFEX05T305FN-M05	0,5 0.020	3,0 0.118	2,4 0.094	3,5 0.138	12,79 0.504	3,97 0.156	26,0		■		

SEEX



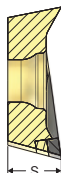
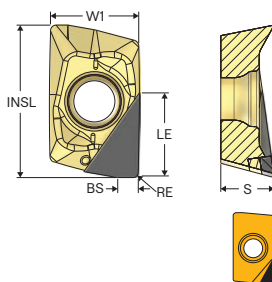
Designation	RE	APMX	BS	LE	IC	S	GAN	Grades			
								PCD			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		PCD05	PCD20	PCD30	PCD30M
SEEX09T3AFFN-L1	0,4 0.016	2,8 0.110	1,5 0.059	1,95 0.077	9,525 0.375	3,97 0.156	12,0 °	■	■		

SEHN



Designation	RE	BS	L	TTL	S	GAN	Grades			
							PCD			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		PCD05	PCD20	PCD30	PCD30M
SEHN1203AFFN-E08	1,0 0.039	1,6 0.063	12,7 0.500	— 0.500	3,18 0.125	0,0 °		■		

XOEX



Designation	RE	BS	LE	INSL	W1	S	GAN	Grades			
								PCD			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		PCD05	PCD20	PCD30	PCD30M
XOEX060204FR	0,4 0.016	1,1 0.043	2,5 0.098	6,94 0.273	4,09 0.161	2,45 0.096	8,0 °	■			
XOEX10T304F	0,4 0.016	1,08 0.043	4,0 0.157	11,08 0.436	6,87 0.270	3,77 0.148	15,0 °	■	■		
XOEX120404FR	0,4 0.016	1,11 0.044	4,0 0.157	13,88 0.546	8,18 0.322	5,03 0.198	15,0 °		■	■	
XOEX120404FR-L2	0,4 0.016	1,95 0.077	4,5 0.177	13,7 0.539	8,18 0.322	4,95 0.195	14,0 °	■			
XOEX160508F	0,8 0.031	1,3 0.051	15,7 0.618	18,3 0.720	10,2 0.402	5,8 0.228	15,65 °	■	■		■



Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

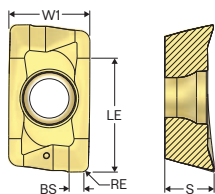
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

ABEX26

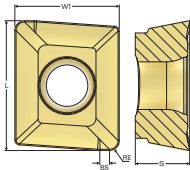


M15

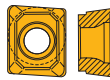


Designation	RE	BS	LE	W1	S	GAN	Grades															Uncoated	
							PVD					CVD										H15	H25
							MH1051	F15M	MIK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																		
ABEX2606ZFFR-M15	1,6 0.063	2,0 0.079	24,4 0.961	14,0 0.551	6,35 0.250	17,0 °							■			■	■	■		■			

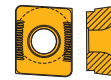
AC..15



M10/M11/M14/MD15



ME10



Grades																								
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD							Uncoated		
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ACET150612TR-ME10	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	22,0 °						■	■											
ACET150612TL-M11	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	14,0 °							■											
ACET150612TR-M11	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	14,0 °							■			■	■	■		■	■			
ACET150631TR-M11	3,1 0.122	–	14,8 0.583	12,7 0.500	6,35 0.250	14,0 °							■											
ACET150612TL-M14	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■											
ACET150612TR-M14	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■			■				■				
ACET150630TR-M14	3,0 0.118	–	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °														■				
ACET150631TR-M14	3,1 0.122	–	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■											
ACET150660TL-M14	6,0 0.236	–	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■											
ACET150660TR-M14	6,0 0.236	–	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■							■				
ACET150612TR-MD15	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °					■						■			■				
ACET150630TR-MD15	3,0 0.118	–	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °											■							
ACMT150612TR-M14	1,2 0.047	0,13 0.005	14,8 0.583	12,7 0.500	6,35 0.250	15,0 °							■					■						

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

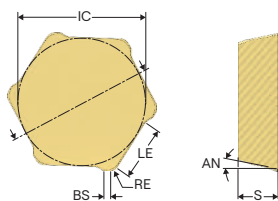
Plunge milling
cutters

Chamfer milling
cutters

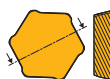
Spot facing
cutters

Inserts

HPMN12

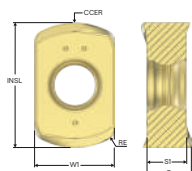


D25



Designation	Grades																							
	RE	BS	LE	IC	S	AN°	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
HPMN1206ZETR-D25	1,7 0.067	0,8 0.031	9,0 0.354	21,458 0.845	6,35 0.250	11,0											■	■						

LOH.06



D07



M07



MD07

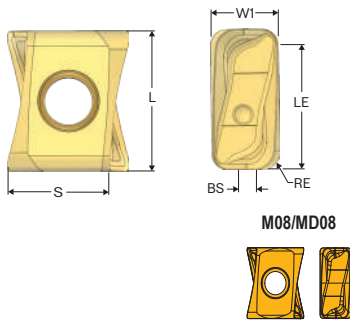


ME06



Designation	RE	CCER	INSL	W1	S	S1	GAN	Grades															Uncoated							
								PVD								CVD														
								mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15
LOHT060310TR-M07	1,0 0.039	5,5 0.217	10,0 0.394	6,35 0.250	3,57 0.141	3,17 0.125	20,0 °					■	■	■	■	■			■	■	■									
LOHT060310TR-MD07	1,0 0.039	5,5 0.217	10,0 0.394	6,35 0.250	3,57 0.141	3,17 0.125	7,0 °			■		■					■	■												
LOHT060310TR-ME06	1,0 0.039	5,5 0.217	10,0 0.394	6,35 0.250	3,57 0.141	3,17 0.125	27,0 °						■	■					■	■		■								
LOHW060310TR-D07	1,0 0.039	5,5 0.217	10,0 0.394	6,35 0.250	3,45 0.136	3,17 0.125	0,0 °	■				■					■													

LOEX08/12



M08/MD08

M09/M12/MD13

Designation	Grades																								
	RE	BS	LE	L	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LOEX080404TR-M08	0,4 0.016	1,29 0.051	8,3 0.327	9,3 0.366	4,4 0.173	6,67 0.263	33,3 °			■		■		■				■	■						
LOEX080408TR-M08	0,8 0.031	0,92 0.036	8,3 0.327	9,3 0.366	4,4 0.173	6,6 0.260	34,0 °			■		■	■	■	■	■		■	■		■				
LOEX080412TR-M08	1,2 0.047	0,52 0.020	8,3 0.327	9,3 0.366	4,4 0.173	6,52 0.257	33,3 °			■				■					■						
LOEX080416TR-M08	1,6 0.063	0,13 0.005	8,3 0.327	9,3 0.366	4,4 0.173	6,45 0.254	33,3 °					■	■	■		■									
LOEX080404TR-MD08	0,4 0.016	1,29 0.051	8,3 0.327	9,3 0.366	4,4 0.173	6,67 0.263	29,0 °			■									■						
LOEX080408TR-MD08	0,8 0.031	0,92 0.036	8,3 0.327	9,3 0.366	4,4 0.173	6,6 0.260	29,5 °			■				■			■	■	■		■				
LOEX080416TR-MD08	1,6 0.063	0,13 0.005	8,3 0.327	9,3 0.366	4,4 0.173	6,45 0.254	29,5 °							■					■						
LOEX120704R-T4-M09	0,4 0.016	2,83 0.111	12,0 0.472	14,2 0.559	7,5 0.295	10,33 0.407	36,0 °							■											
LOEX120708R-T4-M09	0,8 0.031	2,47 0.097	12,0 0.472	14,2 0.559	7,5 0.295	10,26 0.404	36,0 °					■	■	■	■	■			■	■					
LOEX120716R-T4-M09	1,6 0.063	1,74 0.069	12,0 0.472	14,2 0.559	7,5 0.295	10,12 0.398	36,0 °					■	■	■		■									
LOEX120724R-T4-M09	2,4 0.094	1,01 0.040	12,0 0.472	14,2 0.559	7,5 0.295	9,98 0.393	36,0 °						■												
LOEX120731R-T4-M09	3,1 0.122	0,37 0.015	12,0 0.472	14,2 0.559	7,5 0.295	9,88 0.389	36,0 °					■	■	■		■									
LOEX120740R-T4-M09	4,0 0.157	0,14 0.006	12,0 0.472	14,2 0.559	7,5 0.295	9,74 0.383	36,0 °						■	■											
LOEX120750R-T2-M09	5,0 0.197	1,06 0.042	12,0 0.472	14,2 0.559	7,5 0.295	9,52 0.375	36,0 °							■											
LOEX120763R-T2-M09	6,3 0.248	0,43 0.017	12,0 0.472	14,2 0.559	7,5 0.295	9,28 0.365	36,0 °						■	■											
LOEX120708TR-T4-M12	0,8 0.031	2,47 0.097	12,0 0.472	14,2 0.559	7,5 0.295	10,26 0.404	35,0 °			■		■	■	■	■	■			■	■	■		■		H25
LOEX120712TR-T4-M12	1,2 0.047	2,1 0.083	12,0 0.472	14,2 0.559	7,5 0.295	10,19 0.401	35,0 °							■							■				
LOEX120716TR-T4-M12	1,6 0.063	1,74 0.069	12,0 0.472	14,2 0.559	7,5 0.295	10,12 0.398	35,0 °			■				■											
LOEX120720TR-T4-M12	2,0 0.079	1,37 0.054	12,0 0.472	14,2 0.559	7,5 0.295	10,04 0.395	35,0 °					■	■	■		■			■						
LOEX120724TR-T4-M12	2,4 0.094	1,01 0.040	12,0 0.472	14,2 0.559	7,5 0.295	9,98 0.393	35,0 °						■	■					■						
LOEX120731TR-T4-M12	3,1 0.122	0,37 0.015	12,0 0.472	14,2 0.559	7,5 0.295	9,88 0.389	35,0 °					■	■	■		■			■						
LOEX120708TR-T4-MD13	0,8 0.031	2,47 0.097	12,0 0.472	14,2 0.559	7,5 0.295	10,26 0.404	30,0 °			■				■			■	■	■						
LOEX120712TR-T4-MD13	1,2 0.047	2,1 0.083	12,0 0.472	14,2 0.559	7,5 0.295	10,19 0.401	30,0 °			■									■						
LOEX120716TR-T4-MD13	1,6 0.063	1,74 0.069	12,0 0.472	14,2 0.559	7,5 0.295	10,12 0.398	30,0 °			■				■				■	■		■				

Note: LOEX1207xxR-2-M09 have only 2 edges

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

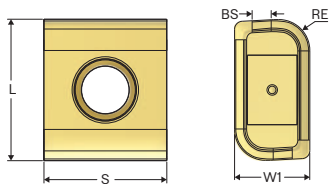
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

LNHQ14/17

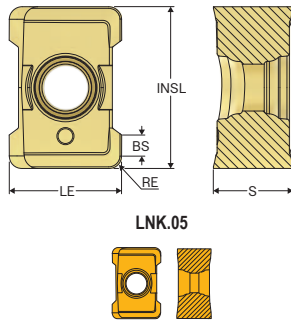


M11/M13



Designation	RE	BS	L	W1	S	GAN	Grades																Uncoated	
							PVD							CVD										
							mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500
LNHQ140708TN4-M11	0,8 0.031	2,8 0.110	14,0 0.551	7,5 0.295	11,85 0.467	16,0 °							■					■						
LNHQ140731TN4-M11	3,1 0.122	0,5 0.020	14,0 0.551	7,5 0.295	11,85 0.467	16,0 °							■					■						
LNHQ140740TN4-M11	4,0 0.157	–	14,0 0.551	7,5 0.295	11,85 0.467	16,0 °							■											
LNHQ140750TN4-M11	5,0 0.197	–	14,0 0.551	7,5 0.295	11,85 0.467	16,0 °							■											
LNHQ140760TN4-M11	6,0 0.236	–	14,0 0.551	7,5 0.295	11,85 0.467	16,0 °							■					■						

LNK.05/06



LNK.05

LNK.06

LNKW06

Designation	RE	BS	LE	INSL	S	GAN	Grades																Uncoated	
							PVD								CVD									
							mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500
LNKT050404PPN4-E05	0,4 0.016	1,3 0.051	5,0 0.197	10,0 0.394	4,7 0.185	23,0 °							■											■
LNKT050404PPTN4-M06	0,4 0.016	1,3 0.051	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °					■		■									■		
LNKT050408PPTN4-M06	0,8 0.031	1,3 0.051	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °					■		■						■					
LNKT050416PPTN4-M06	1,6 0.063	0,8 0.031	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050420PPTN4-M06	2,0 0.079	0,8 0.031	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050424PPTN2-M06	2,4 0.094	0,6 0.024	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050431PPTL1-M06	3,1 0.122	0,6 0.024	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050431PPTR1-M06	3,1 0.122	0,6 0.024	5,0 0.197	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050431PPTR1C-M06	3,1 0.122	0,6 0.024	4,96 0.195	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT050431PPTL1C-M06	3,1 0.122	0,6 0.024	4,96 0.195	10,0 0.394	4,7 0.185	15,0 °							■											
LNKT060504PPN-E05	0,4 0.016	1,6 0.063	6,0 0.236	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT060508PPN-E05	0,8 0.031	1,1 0.043	6,0 0.236	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT060504PPTN-M06	0,4 0.016	1,6 0.063	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °							■				■		■					
LNKT060508PPTN-M06	0,8 0.031	1,1 0.043	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °			■		■		■			■		■		■				
LNKT060516PPTN-M06	1,6 0.063	1,3 0.051	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °			■				■			■								
LNKT060531PPTN-M06	3,1 0.122	0,6 0.024	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °							■											
LNKT060540PPTL-M06	4,0 0.157	0,8 0.031	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °							■											
LNKT060540PPTR-M06	4,0 0.157	0,8 0.031	6,0 0.236	10,0 0.394	5,0 0.197	15,0 °							■											
LNKW060504PPN-MD08	0,4 0.016	1,6 0.063	6,0 0.236	10,0 0.394	5,0 0.197	0,0 °			■															
LNKW060508PPN-MD08	0,8 0.031	1,1 0.043	6,0 0.236	10,0 0.394	5,0 0.197	0,0 °									■		■							

LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW = 9 to 10mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

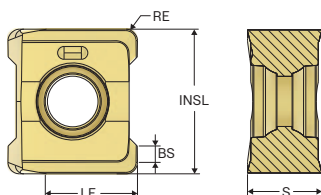
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

LNK.08



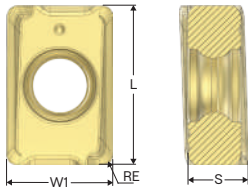
LNK.08



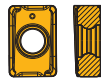
Grades																								
Designation	RE	BS	LE	INSL	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LNKT080504PPN-E05	0,4 0.016	1,6 0.063	7,5 0.295	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT080508PPN-E05	0,8 0.031	1,1 0.043	7,5 0.295	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT080520PPN-E05	2,0 0.079	0,7 0.028	6,7 0.264	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT080531PPN-E05	3,1 0.122	0,6 0.024	7,5 0.295	10,0 0.394	5,0 0.197	23,0 °																		■
LNKT080504PPTN-M06	0,4 0.016	1,6 0.063	7,5 0.295	10,0 0.394	5,0 0.197	15,0 °							■					■		■				
LNKT080508PPTN-M06	0,8 0.031	1,1 0.043	7,5 0.295	10,0 0.394	5,0 0.197	15,0 °			■		■		■			■		■		■				
LNKT080516PPTN-M06	1,6 0.063	1,3 0.051	7,2 0.283	10,0 0.394	5,0 0.197	15,0 °			■				■											
LNKT080520PPTN-M06	2,0 0.079	0,7 0.028	6,7 0.264	10,0 0.394	5,0 0.197	15,0 °			■				■			■								
LNKT080524PPTN-M06	2,4 0.094	0,5 0.020	6,7 0.264	10,0 0.394	5,0 0.197	15,0 °			■				■			■								
LNKT080531PPTN-M06	3,1 0.122	0,6 0.024	7,5 0.295	10,0 0.394	5,0 0.197	15,0 °			■				■			■								
LNKT080540PPTL-M06	4,0 0.157	0,8 0.031	7,5 0.295	10,0 0.394	5,0 0.197	15,0 °							■											
LNKT080540PPTR-M06	4,0 0.157	0,8 0.031	7,5 0.295	10,0 0.394	5,0 0.197	15,0 °							■											
LNKW080508PPN-MD08	0,8 0.031	1,1 0.043	7,5 0.295	10,0 0.394	5,0 0.197	0,0 °										■		■						

Note: When using LNK insert with corner radius RE= 2,4, 3,1 and 4,0 mm please modify the external profile of the cutter or cassette by adding a corner radius or chamfer = 2,5 mm

LN.U1104



ME07/ME08/M07/M08/M12



Designation	RE	L	W1	S	GAN	Grades															
						PVD								CVD							
						MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
	mm Inch	mm Inch	mm Inch	mm Inch																	
LNEU110408ER-M07	0,8 0.031	12,0 0.472	8,0 0.315	4,53 0.178	28,0 °						■	■	■								
LNEU110408SR-M12	0,8 0.031	12,0 0.472	8,0 0.315	4,53 0.178	22,9 °			■				■				■	■		■		
LNEU110408SR-ME07	0,8 0.031	12,0 0.472	8,0 0.315	4,32 0.170	27,5 °						■										
LNEU110408SR-ME08	0,8 0.031	12,0 0.472	8,0 0.315	4,53 0.178	28,0 °						■						■				
LNMU110408ER-M07	0,8 0.031	12,0 0.472	8,0 0.315	4,32 0.170	27,5 °						■										
LNMU110408SR-M12	0,8 0.031	12,0 0.472	8,0 0.315	4,32 0.170	22,4 °			■									■				
LNMU110408SR-ME08	0,8 0.031	12,0 0.472	8,0 0.315	4,32 0.170	27,5 °						■	■									

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

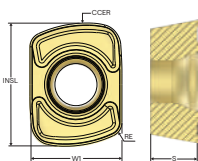
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

LPH.05/06/09



E05/E08/ME04/ME05/ME08/M05/M06/M13

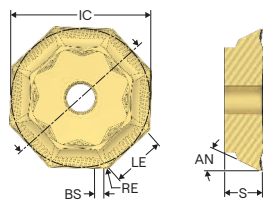


MD05/MD07/MD15/D06/D12/D15



Designation	Grades																				Uncoated			
	RE	CCER	INSL	W1	S	GAN	PVD								CVD									
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LPHT05T210TR-ME04	1,0 0.039	6,4 0.252	6,8 0.268	5,07 0.200	2,54 0.100	16,0 °						■	■							■				
LPHT060310ER-E05	1,0 0.039	8,0 0.315	8,5 0.335	6,35 0.250	3,18 0.125	16,0 °							■									■		■
LPHT060310TR-ME05	1,0 0.039	8,0 0.315	8,5 0.335	6,35 0.250	3,18 0.125	16,0 °					■	■	■									■		
LPHT060310TR-M06	1,0 0.039	8,0 0.315	8,5 0.335	6,35 0.250	3,18 0.125	11,0 °			■		■	■	■	■	■			■	■	■				
LPHT09T420R-E08	2,0 0.079	9,75 0.384	14,0 0.551	9,5 0.374	4,76 0.187	20,0 °																		■
LPHW060310TR-MD07	1,0 0.039	8,0 0.315	8,5 0.335	6,35 0.250	3,18 0.125	0,0 °												■	■					
LPHW060310TR-D06	1,0 0.039	8,0 0.315	8,5 0.335	6,35 0.250	3,18 0.125	0,0 °	■				■													
LPKT05T210TR-M05	1,0 0.039	6,4 0.252	6,8 0.268	5,07 0.200	2,54 0.100	11,0 °					■	■	■	■	■			■	■					
LPKT09T420TR-ME08	2,0 0.079	9,75 0.384	14,0 0.551	9,5 0.374	4,76 0.187	15,0 °						■	■									■		
LPKT09T420TR-M13	2,0 0.079	9,75 0.384	14,0 0.551	9,5 0.374	4,76 0.187	10,0 °					■	■	■	■	■		■	■	■	■				
LPKW05T210TR-MD05	1,0 0.039	6,4 0.252	6,8 0.268	5,07 0.200	2,54 0.100	0,0 °	■				■							■						
LPKW09T420TR-MD15	2,0 0.079	9,75 0.384	14,0 0.551	9,5 0.374	4,76 0.187	0,0 °											■	■						
LPKW09T420TR-D15	2,0 0.079	9,75 0.384	14,0 0.551	9,5 0.374	4,76 0.187	0,0 °	■		■		■													

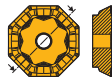
OFER/OFEN/OFMR07



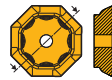
D18



E07/M10



M16



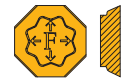
ME10/ME15



ME13/M15



ZZ.M10/M16



Grades																									
Designation	RE	BS	LE	IC	S	AN°	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
OFER070405N-E07	0,5 0.020	1,4 0.055	7,0 0.276		4,56 0.180	26,0	20,0 °		■															■	
OFER070405TN-ME10	0,5 0.020	1,4 0.055	7,1 0.280		4,56 0.180	26,0	18,0 °							■					■						
OFER070405TN-ME15	0,5 0.020	1,4 0.055	7,1 0.280		4,56 0.180	26,0	16,0 °							■					■		■				
OFER070405N-M10	0,5 0.020	1,4 0.055	7,0 0.276		4,56 0.180	26,0	0,0 °				■														
OFER070405TN-M16	0,5 0.020	1,4 0.055	7,1 0.280		4,56 0.180	26,0	0,0 °			■				■			■	■	■		■				
OFMR070405TR-ME13	0,5 0.020	1,0 0.039	5,2 0.205		4,86 0.191	26,0	15,0 °												■						
OFMR070405TR-M15	0,5 0.020	1,2 0.047	5,2 0.205		4,86 0.191	26,0	0,0 °										■		■						
OFEN070405TN-D18	0,5 0.020	2,0 0.079	7,0 0.276	17,96 0.707	4,76 0.187	26,0	0,0 °					■					■	■	■						
OFEN0704ZZR-M10	0,5 0.020	6,6 0.260	7,5 0.295		4,76 0.187	26,0	0,0 °				■														
OFEN0704ZZTR-M16	0,5 0.020	6,6 0.260	7,4 0.291		4,74 0.187	26,0	0,0 °										■				■				

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

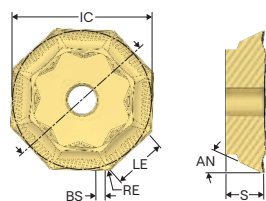
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

OF..05/07



E04/M05/M08



ME07/ME12/D09



ME10



ME13



TN-M15

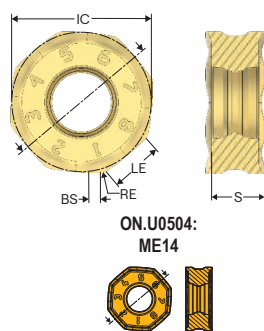


TR-M15



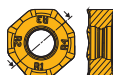
Designation	RE	BS	LE	IC	S	AN°	GAN	Grades																Uncoated	
								PVD								CVD									
								MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																				
OFEX05T305N-E04	0,5 0.020	1,5 0.059	4,9 0.193	12,7 0.500	3,77 0.148	26,0	20,0 °		■																
OFEX05T305TN-ME07	0,5 0.020	1,5 0.059	4,9 0.193	12,7 0.500	3,77 0.148	26,0	18,0 °						■				■								
OFEX05T305N-M05	0,5 0.020	1,5 0.059	4,9 0.193	12,7 0.500	3,77 0.148	26,0	0,0 °				■														
OFEX05T305TN-M08	0,5 0.020	1,5 0.059	4,9 0.193	12,7 0.500	3,77 0.148	26,0	0,0 °						■			■			■						
OFEX05T305TN-D09	0,5 0.020	1,5 0.059	4,9 0.193		3,97 0.156	26,0	0,0 °										■								
OFMT050405TR-ME12	0,5 0.020	1,5 0.059	2,6 0.102	13,18 0.519	4,76 0.187	26,0	18,0 °							■											
OFMT070405TN-ME13	0,5 0.020	1,1 0.043	7,1 0.280		4,86 0.191	26,0	18,0 °											■							
OFMT070405TN-M15	0,5 0.020	1,1 0.043	7,1 0.280		4,86 0.191	26,0	0,0 °							■				■							
OFMT070405TR-M15	0,5 0.020	1,0 0.039	5,2 0.205		4,86 0.191	26,0	0,0 °							■											
OFET070405TN-ME10	0,5 0.020	1,4 0.055	7,1 0.280		4,56 0.180	26,0	18,0 °							■											

ON.U05



ON.U0504:
ME14

ON.U0504:
ZZTN-M10



ON.U0504: ME10-11/M10-11



Designation	*	Grades																				Uncoated		
		RE	BS	LE	IC	S	GAN	PVD								CVD								
		mm	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15
ONMU050410ANTN-ME10	*	1,0 <i>0.039</i>	0,3 <i>0.012</i>	3,9 <i>0.154</i>	12,0 <i>0.472</i>	4,5 <i>0.177</i>	20,0 °						■	■		■								
ONMU050410ANTN-ME11	—	1,0 <i>0.039</i>	1,0 <i>0.039</i>	3,4 <i>0.134</i>	12,0 <i>0.472</i>	4,5 <i>0.177</i>	20,0 °						■	■		■			■					
ONMU050406ANTN-ME14	—	0,6 <i>0.024</i>	1,3 <i>0.051</i>	3,2 <i>0.126</i>	12,0 <i>0.472</i>	4,5 <i>0.177</i>	25,0 °			■			■	■		■		■	■		■			
ONMU050410ANTN-M10	*	1,0 <i>0.039</i>	0,3 <i>0.012</i>	4,1 <i>0.161</i>	12,0 <i>0.472</i>	4,5 <i>0.177</i>	20,0 °			■				■					■		■			
ONMU050410ANTN-M11	—	1,0 <i>0.039</i>	1,0 <i>0.039</i>	3,4 <i>0.134</i>	12,0 <i>0.472</i>	4,5 <i>0.177</i>	20,0 °			■		■			■		■	■	■		■			
ONEU050410ZZTN4-M10	—	1,0 <i>0.039</i>	3,2 <i>0.126</i>	3,4 <i>0.134</i>	12,0 <i>0.472</i>	4,25 <i>0.167</i>	20,0 °			■														

The marked inserts are compatible with these dedicated wiper inserts:

*ONEU050410ZZTN4-M10

**ONEU090520ZZTN4-M12

***ONEU090520ZZTN4-M14

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

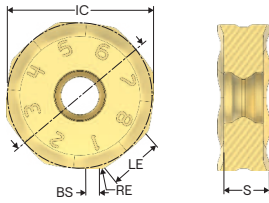
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

ON.U09



M30/M45

ONMU090510-M12

ONMU090510-ME16

ONMU090512-ME16

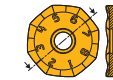
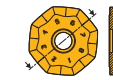
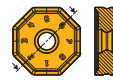
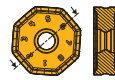
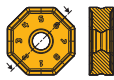
ONMU090520
ZZTN4-M12

ONMU090520
ZZTN4-M14

ONMU090520-
M14-15

ONMU090520-
MD16-17

ONMU090520-
ME12-13/M12-13



Grades																									
Designation	*	RE	BS	LE	IC	S	GAN	PVD								CVD							Uncoated		
								MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
	mm	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																			
ONMU090520ANTN-ME12	**	2,0 0.079	0,45 0.018	7,3 0.287	22,0 0.866	6,8 0.268	20,0 °							■	■		■		■				■		
ONMU090520ANTN-ME13	***	2,0 0.079	2,11 0.083	7,7 0.303	22,0 0.866	6,8 0.268	20,0 °			■				■	■		■		■	■	■				
ONMU090510ANTN-ME16	-	1,0 0.039	1,5 0.059	6,8 0.268	22,0 0.866	6,8 0.268	25,0 °			■		■		■	■		■		■	■					
ONMU090512TN-ME16	-	1,2 0.047	-	8,1 0.319	22,0 0.866	6,8 0.268	25,0 °			■				■			■		■	■	■	■			
ONMU090510ANTN-M12	-	1,0 0.039	-	8,3 0.327	22,0 0.866	6,8 0.268	20,0 °			■				■					■						
ONMU090520ANTN-M12	**	2,0 0.079	0,45 0.018	7,3 0.287	22,0 0.866	6,8 0.268	20,0 °			■				■			■		■	■	■		■		
ONMU090520ANTN-M13	***	2,0 0.079	2,11 0.083	7,7 0.303	22,0 0.866	6,8 0.268	20,0 °			■		■					■	■	■		■		■		
ONMU090520ANTN-M14	***	2,0 0.079	0,45 0.018	7,3 0.287	22,0 0.866	5,56 0.219	15,0 °			■		■		■			■	■	■		■				
ONMU090520ANTN-M15	-	2,0 0.079	2,11 0.083	7,7 0.303	22,0 0.866	5,56 0.219	15,0 °			■		■					■	■	■		■				
ONMU090512TN-M30	-	1,2 0.047	-	8,1 0.319	22,0 0.866	6,5 0.256	25,0 °										■	■	■						
ONMU090512TN-M45	-	1,2 0.047	-	8,1 0.319	22,0 0.866	6,5 0.256	25,0 °										■	■							
ONMU090520ANTN-MD16	***	2,0 0.079	0,45 0.018	7,3 0.287	22,0 0.866	5,56 0.219	0,0 °										■	■	■		■				
ONMU090520ANTN-MD17	-	2,0 0.079	2,11 0.083	7,4 0.291	22,0 0.866	5,56 0.219	0,0 °										■	■	■						
ONEU090520ZZTN4-M12	-	2,0 0.079	6,3 0.248	6,3 0.248	21,41 0.843	6,8 0.268	20,0 °			■								■	■						
ONEU090520ZZTN4-M14	-	2,0 0.079	6,3 0.248	6,3 0.248	21,41 0.843	5,56 0.219	15,0 °			■				■			■	■	■		■				

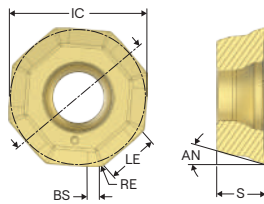
The marked inserts are compatible with these dedicated wiper inserts:

*ONEU050410ZZTN4-M10

**ONEU090520ZZTN4-M12

***ONEU090520ZZTN4-M14

OOET/OOMT/OOEW06



ME12

MHF-M16

OO.T060510.N-M..

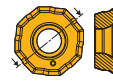
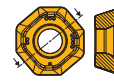
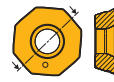
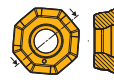
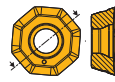
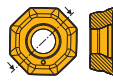
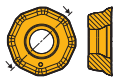
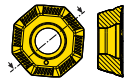
OO.T0605ZZ.R-M..

OO.T0605ZZSR-M15

OO.W0605ZZ.R

W4-M15

W8-M10



Designation	RE	BS	LE	IC	S	AN°	GAN°	Grades																		
								PVD								CVD							Uncoated			
								MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	MP1020
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																					
OOET0605ZZFR-E08	0,6 0.024	1,5 0.059	4,5 0.177	15,8 0.622	5,56 0.219	18,0	20,0 °																			■
OOMT060510SN-ME12	1,0 0.039	-	5,7 0.224	15,78 0.621	5,56 0.219	18,0	15,0 °					■				■		■								
OOET0605ZZSR-ME12	0,6 0.024	1,5 0.059	4,5 0.177	15,8 0.622	5,56 0.219	18,0	15,0 °					■	■	■	■	■		■	■	■						
OOMT060510EN-M10	1,0 0.039	-	5,7 0.224	15,78 0.621	5,56 0.219	18,0	10,0 °					■	■	■	■											
OOET0605ZZER-M10	0,6 0.024	1,5 0.059	4,5 0.177	15,8 0.622	5,56 0.219	18,0	10,0 °					■	■	■	■					■						
OOET0605ZZER-W8-M10	1,0 0.039	2,5 0.098	2,2 0.087	15,76 0.620	5,56 0.219	18,0	10,0 °					■	■	■	■					■						■
OOET0605ZZSR-W4-M15	0,9 0.035	4,9 0.193	6,0 0.236	15,85 0.624	5,96 0.235	18,0	5,0 °				■		■	■			■	■		■						
OOMT0605ZZSR-M15	0,6 0.024	1,5 0.059	4,5 0.177	15,8 0.622	5,56 0.219	18,0	10,0 °				■		■	■		■	■		■							■
OOMT0605ZZSR-MHF-M16	2,0 0.079	1,3 0.051	4,0 0.157	15,8 0.622	5,56 0.219	18,0	6,0 °					■			■		■									
OOMT060510SN-M20	1,0 0.039	-	5,7 0.224	15,78 0.621	5,56 0.219	18,0	12,0 °				■			■	■	■		■								
OOEW0605ZZSR-D20	0,6 0.024	1,5 0.059	4,5 0.177	15,8 0.622	5,56 0.219	18,0	0,0 °	■	■									■								

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

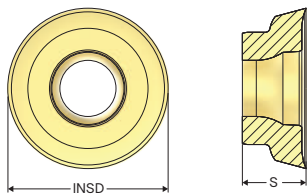
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

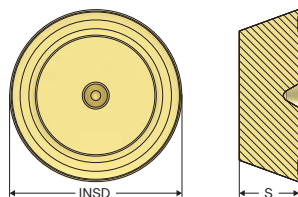
Inserts

RD..05/06/07/08/10



Grades																					
Designation	INSD	S	GAN	PVD									CVD							Uncoated	
	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	NN4500	H15	H25
RDHT06T1M0-E02	6,0 0.236	2,18 0.086	18,0 °							■											■
RDHT0803M0-E03	8,0 0.315	3,18 0.125	20,0 °							■							■				■
RDHW0501M0-MD01	5,0 0.197	1,51 0.059	0,0 °					■		■											
RDHW06T1M0-MD02	6,0 0.236	2,18 0.086	0,0 °		■	■	■	■		■											
RDHW0702M0-MD03	7,0 0.276	2,38 0.094	0,0 °					■		■											
RDHW0702M0T-MD04	7,0 0.276	2,38 0.094	0,0 °		■																
RDHW0803M0-MD03	8,0 0.315	3,18 0.125	0,0 °				■	■	■	■											
RDKW0803M0T-MD05	8,0 0.315	3,18 0.125	0,0 °	■	■	■				■					■	■					
RDHT10T3M0-8-E04	10,0 0.394	3,97 0.156	20,0 °							■											■
RDHT10T3M0T-8-M11	10,0 0.394	3,97 0.156	16,0 °						■	■	■	■									
RDHW10T3M0-8-MD04	10,0 0.394	3,97 0.156	0,0 °					■		■											
RDKT10T3M0T-6-M05	10,0 0.394	3,97 0.156	16,0 °						■	■					■	■					
RDKT10T3M0T-8-M05	10,0 0.394	3,97 0.156	16,0 °						■	■	■	■				■	■		■		
RDKT10T3M0T-8-M07	10,0 0.394	3,97 0.156	11,0 °			■				■		■			■	■	■		■		
RDKW10T3M0T-6-MD06	10,0 0.394	3,97 0.156	0,0 °		■					■						■					
RDKW10T3M0T-8-MD06	10,0 0.394	3,97 0.156	0,0 °	■	■	■		■		■				■	■	■					

REHR16

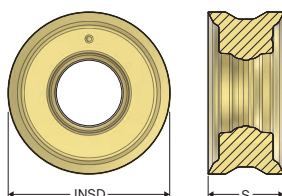


M14/MD15



Designation	INSD	S	GAN	Grades															
				PVD								CVD						Uncoated	
				MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
	mm Inch	mm Inch																	
REHR1605M0T-MD15	16,0 0.630	5,56 0.219	6,0 °											■					
																		H15	H25

RNMU12



M10



ME10



Designation	INSD	S	GAN	Grades															
				PVD								CVD						Uncoated	
				MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
	mm Inch	mm Inch																	
RNMU1204M0-ME10	12,0 0.472	4,8 0.189	27,0 °						■	■						■	■		
RNMU1204M0T-M10	12,0 0.472	4,8 0.189	20,0 °			■			■	■	■	■			■	■	■		
																		H15	H25

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

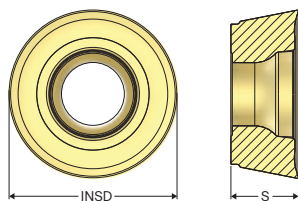
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

ROHT12

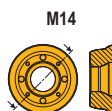
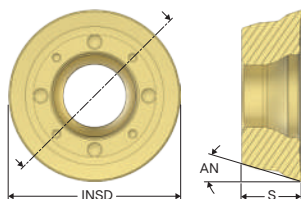


M09/M12/M14



Grades																				
Designation	INSD	S	GAN	PVD								CVD						Uncoated		
				MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15
	mm Inch	mm Inch																		
ROHT1204M0-M12	12,0 0.472	4,76 0.187	10,0 °													■				
ROHT1204M0-M14	12,0 0.472	4,76 0.187	16,0 °													■				

ROMT1605



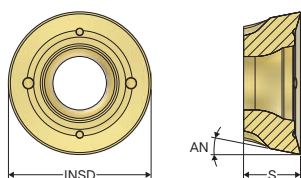
Designation	INSD	S	AN°	GAN	Grades													
					PVD								CVD					
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501
	mm Inch	mm Inch																
ROMT1605M0T-8-M14	16,0 0.630	5,56 0.219	18,0	6,0 °			■			■			■			■		

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

RP..12



Designation	INSD	S	AN°	GAN	Grades													
					PVD								CVD					
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501
	mm Inch	mm Inch																
RPHT1204M0T-4-M08	12,0 0.472	4,76 0.187	11,0	16,0 °							■						■	■
RPKT1204M0T-4-M10	12,0 0.472	4,76 0.187	11,0	11,0 °								■	■					
RPHT1204M0T-4-M13	12,0 0.472	4,76 0.187	11,0	16,0 °						■		■	■				■	
RPHT1204M0-6-E05	12,0 0.472	4,76 0.187	11,0	20,0 °						■	■		■					
RPHT1204M0T-6-ME07	12,0 0.472	4,76 0.187	11,0	20,0 °						■	■							■
RPHT1204M0T-6-M08	12,0 0.472	4,76 0.187	11,0	16,0 °						■	■		■			■	■	
RPHT1204M0T-6-M13	12,0 0.472	4,76 0.187	11,0	16,0 °						■	■		■			■	■	
RPKT1204M0T-6-M15	12,0 0.472	4,76 0.187	11,0	15,0 °			■				■				■	■	■	
RPKW1204M0T-6-MD10	12,0 0.472	4,76 0.187	11,0	0,0 °	■		■		■						■	■		

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

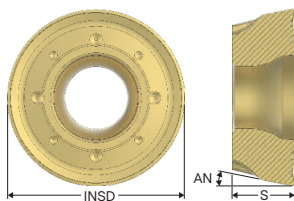
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

RP..16



6-M18

6-MD20

6-ME11

6-ME12

8-M18

8-MD20

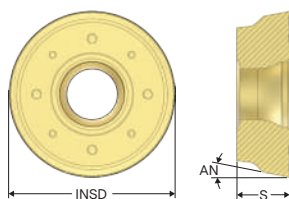
8-ME11

8-ME12



Designation	INSD mm Inch	S mm Inch	AN°	GAN	Grades																Uncoated	
					PVD								CVD								H15	H25
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
RPHT1605M0T-6-ME11	16,0 0.630	5,56 0.219	11,0	21,0 °						■	■											
RPHT1605M0T-6-M12	16,0 0.630	5,56 0.219	11,0	15,0 °							■											
RPHT1605M0T-8-ME11	16,0 0.630	5,56 0.219	11,0	21,0 °						■	■	■	■				■	■			■	
RPHT1605M0T-8-M12	16,0 0.630	5,56 0.219	11,0	15,0 °						■	■	■	■								■	
RPKT1605M0T-6-M18	16,0 0.630	5,56 0.219	11,0	15,0 °												■	■					
RPKT1605M0T-8-M12	16,0 0.630	5,56 0.219	11,0	15,0 °												■	■	■				
RPKT1605M0T-8-M18	16,0 0.630	5,56 0.219	11,0	15,0 °			■		■		■				■	■	■	■				
RPKW1605M0T-6-MD20	16,0 0.630	5,56 0.219	11,0	0,0 °			■								■	■	■					
RPKW1605M0T-8-MD20	16,0 0.630	5,56 0.219	11,0	0,0 °		■									■	■						

RP.19/20



M13/M15/M20



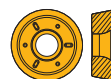
MD10/22



ME12



RPHT19-M13



Designation	Grades																			
	INSD	S	AN°	GAN	PVD								CVD						Uncoated	
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
	mm Inch	mm Inch																		
RPHT190600T-6-M13	19,05 0.750	6,39 0.252	11,0	16,0 °						■	■					■				
RPHT2006M0T-8-M13	20,0 0.787	6,35 0.250	11,0	16,0 °						■		■						■		
RPKT2006M0T-6-ME12	20,0 0.787	6,35 0.250	11,0	20,0 °						■	■							■		
RPKT2006M0T-8-ME12	20,0 0.787	6,35 0.250	11,0	20,0 °						■	■		■			■		■	■	
RPKT2006M0T-6-M15	20,0 0.787	6,35 0.250	11,0	15,0 °											■					
RPKT2006M0T-8-M15	20,0 0.787	6,35 0.250	11,0	15,0 °							■				■		■			
RPKT2006M0T-6-M20	20,0 0.787	6,35 0.250	11,0	15,0 °										■	■					
RPKT2006M0T-8-M20	20,0 0.787	6,35 0.250	11,0	15,0 °			■				■			■	■	■	■			
RPKW2006M0-8-MD10	20,0 0.787	6,35 0.250	11,0	0,0 °					■		■									
RPKW2006M0T-6-MD22	20,0 0.787	6,35 0.250	11,0	0,0 °										■						
RPKW2006M0T-8-MD22	20,0 0.787	6,35 0.250	11,0	0,0 °		■								■		■				

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

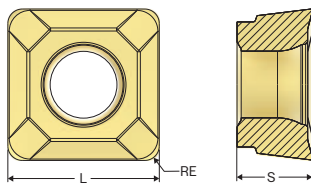
Plunge milling
cutters

Chamfer milling
cutters

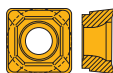
Spot facing
cutters

Inserts

SC..12



M10/M11/M14/MD15/MD16

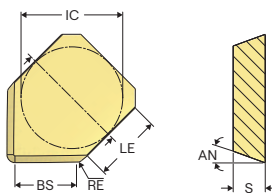


ME10



Designation	RE	L	S	GAN	Grades																Uncoated	
																					H15	H25
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
	mm Inch	mm Inch	mm Inch																			
SCET120612R-M10	1,2 0.047	12,673 0.499	6,35 0.250	20,0 °						■												
SCET120612T-ME10	1,2 0.047	12,7 0.500	6,35 0.250	22,0 °						■	■											
SCET120612T-M11	1,2 0.047	12,7 0.500	6,35 0.250	14,0 °							■			■	■	■		■				
SCET120612T-M14	1,2 0.047	12,7 0.500	6,35 0.250	15,0 °						■	■			■		■		■				
SCET120612T-MD15	1,2 0.047	12,7 0.500	6,35 0.250	15,0 °					■						■			■				
SCET120630T-M14	3,0 0.118	12,7 0.500	6,35 0.250	15,0 °			■		■	■	■					■	■	■				
SCET120630T-MD16	3,0 0.118	12,7 0.500	6,35 0.250	15,0 °							■				■	■	■	■				
SCEX120660T-M14	6,0 0.236	12,7 0.500	6,35 0.250	15,0 °																		
SCMT120612T-M14	1,2 0.047	12,7 0.500	6,35 0.250	15,0 °							■							■				

SEAN12-ZZ

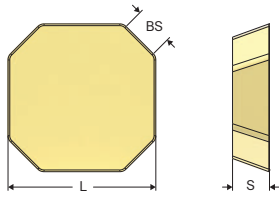


M15-18/MD15

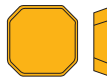


Designation	Grades																		Uncoated					
	RE	BS	LE	IC	S	AN°	PVD							CVD										
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEAN1203ZZTN-M15	1,0 0.039	7,3 0.287	9,3 0.366	12,7 0.500	3,18 0.125	20,0										■								

SEAN12

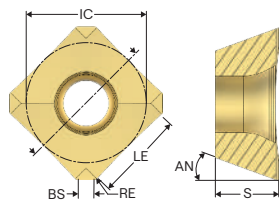


E12-E15/M14-M19

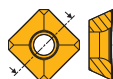


Grades																					
Designation	BS	L	S	GAN	PVD								CVD						Uncoated		
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15
SEAN1203AFN-E12	1,5 0.059	12,7 0.500	3,18 0.125	0,0 °		■															
SEAN1203AFTN-M14	1,5 0.059	12,7 0.500	3,18 0.125	0,0 °															■		
SEAN1303AFTN-M14	3,5 0.138	12,44 0.490	3,36 0.132	0,0 °														■			
SEAN1303AFTN-M15	3,5 0.138	13,44 0.529	3,36 0.132	0,0 °									■								
SEAN1604AFTN-M19	4,1 0.161	16,8 0.661	4,79 0.189	0,0 °									■								

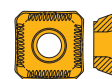
SE.X09



E04/M05/M08/D09



ME06-07



Designation	RE	BS	LE	IC	S	AN°	Grades																Uncoated	
							PVD								CVD									
							mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500
SEEX09T3AFN-E04	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0		■															■	
SEEX09T3AFN-M05	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0					■	■	■		■									
SEEX09T3AFTN-M08	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0			■		■		■			■	■	■		■				
SEEX09T3AFTN-ME07	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0							■					■		■	■			
SEEX09T3AFTN-D09	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0											■							
SEMX09T3AFTN-M08	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0							■					■						
SEMX09T3AFTN-ME06	0,3 0.012	1,5 0.059	7,1 0.280	9,525 0.375	3,97 0.156	20,0												■						

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

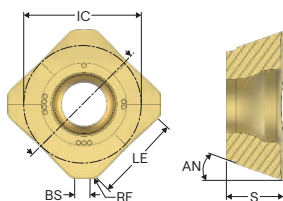
Plunge milling
cutters

Chamfer milling
cutters

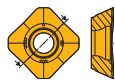
Spot facing
cutters

Inserts

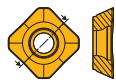
SE.X12/15



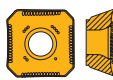
E08/M10/M14/M15/MD18/MD19



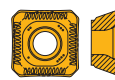
E10/M12/M17/M18/MD20



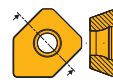
ME11-12



ME15

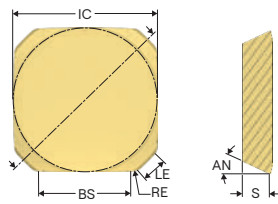


ZZTN-M14-17



Designation	Grades																				Uncoated			
	RE	BS	LE	IC	S	AN°	PVD								CVD									
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MN4500	H15	H25
SEEX1204AFN-E08	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0		■					■											■
SEEX1204AFTN-ME11	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0							■					■		■				
SEEX1204AFN-M10	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0					■	■	■	■	■					■		■		
SEEX1204AFTN-M14	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0				■			■			■	■	■		■				
SEEX1204ZZTN-M14	1,12 0.044	7,4 0.291	8,7 0.343	12,7 0.500	4,76 0.187	20,0					■			■		■	■	■		■				
SEEX1204AFTN-MD18	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0	■										■			■				
SEMX1204AFTN-ME12	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0						■	■		■			■		■				
SEMX1204AFTN-M15	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0				■			■			■	■	■		■		■		
SEMX1204AFTN-MD19	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0					■					■	■			■				
SEEX1505AFN-E10	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0																		■
SEEX1505AFN-M12	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0						■	■	■	■					■				
SEEX1505AFTN-M17	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0												■		■				
SEEX1505ZZTN-M17	1,5 0.059	9,4 0.370	10,3 0.406	15,875 0.625	5,56 0.219	20,0												■		■				
SEMX1505AFTN-ME15	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0														■				
SEMX1505AFTN-M18	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0				■			■			■	■	■		■				
SEMX1505AFTN-MD20	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0					■						■	■		■				

SE..12/15



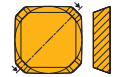
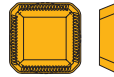
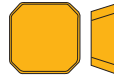
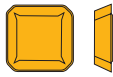
E07

E10-15/M13-18/MD14-20/D16

ME10/ME12/ME13/ME16

SEEX1203AFTN-M13/MD14

SEKR1303



														Grades											
Designation	RE	BS	LE	IC	S	AN°	PVD								CVD						Uncoated				
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	
SEKR1203AFN-E07	1,0 0.039	1,5 0.059	8,8 0.346	12,7 0.500	3,18 0.125	20,0															■				
SEKR1203AFTN-ME10	1,0 0.039	1,5 0.059	8,8 0.346	12,7 0.500	3,18 0.125	20,0							■								■	■			
SEKR1203AFTN-ME13	1,0 0.039	1,5 0.059	8,8 0.346	12,7 0.500	3,18 0.125	20,0							■					■			■	■			
SEKR1303AFTN-ME13	0,8 0.031	3,46 0.136	7,0 0.276	13,44 0.529	3,36 0.132	20,0							■												
SEKR1504AFTN-ME16	1,0 0.039	1,5 0.059	11,6 0.457	15,875 0.625	4,76 0.187	20,0																■			
SEKR1604AFTN-ME16	1,0 0.039	4,1 0.161	— —	16,8 0.661	4,79 0.189	20,0																■			
SEEX1203AFTN-M13	1,0 0.039	8,0 0.315	2,2 0.087	12,77 0.503	3,18 0.125	20,0															■				
SEEX1203AFTN-MD14	1,0 0.039	8,0 0.315	2,2 0.087	12,77 0.503	3,18 0.125	20,0	■	■								■							■		
SEKN1203AFN-E12	2,0 0.079	1,6 0.063	8,8 0.346	12,7 0.500	3,18 0.125	20,0																			
SEKN1203AFTN-M14	1,0 0.039	1,5 0.059	8,8 0.346	12,7 0.500	3,18 0.125	20,0							■			■	■	■		■	■				
SEKN1203AFTN-D16	2,0 0.079	1,6 0.063	8,8 0.346	12,7 0.500	3,18 0.125	20,0											■								
SEKN1204AFTN-M18	1,0 0.039	1,5 0.059	8,8 0.346	12,7 0.500	4,76 0.187	20,0															■				
SEKN1504AFTN-M18	1,0 0.039	1,5 0.059	11,6 0.457	15,87 0.625	4,76 0.187	20,0							■			■		■							
SEKN1504AFTN-MD20	2,0 0.079	1,9 0.075	11,6 0.457	15,87 0.625	4,76 0.187	20,0											■								

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

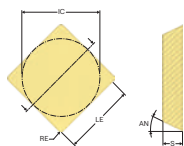
Plunge milling
cutters

Chamfer milling
cutters

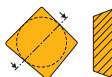
Spot facing
cutters

Inserts

SENN

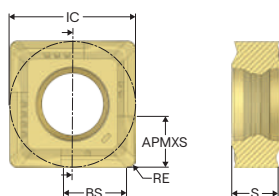


E10/M12

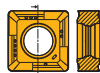


Designation	RE	LE	IC	S	AN°	Grades																Uncoated	
						PVD								CVD								H15	H25
	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
SENN120308T-M12	0,8 0.031	11,1 0.437	12,7 0.500	3,18 0.125	20,0							■											

SNFX12



PZ..M08/M10



SNFX120412-M08

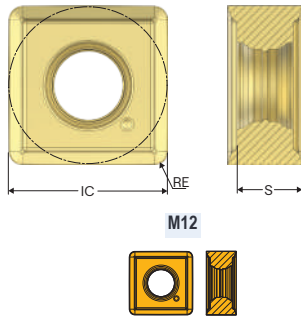


ZZ..M08/M12



Designation	RE	BS	APMXS	IC	S	Grades																Uncoated	
						PVD								CVD								H15	H25
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
SNFX120408PZSR-M10	0,8 0.031	2,5 0.098	3,0 0.181	12,7 0.118	4,61 0.500	■		■			■					■							
SNFX120408PZER-W8-M08	0,8 0.031	6,4 0.252	3,0 0.181	12,7 0.118	4,61 0.500					■	■								■			■	
SNFX120412PZEN-W4-M08	1,2 0.047	10,0 0.394	1,0 0.181	12,75 0.039	4,61 0.502	■		■								■							
SNFX120412PZEN-W8-M08	1,2 0.047	10,0 0.394	1,0 0.181	12,75 0.039	4,61 0.502	■		■								■							
SNFX120408PZSR-W8-M10	0,8 0.031	6,4 0.252	3,0 0.181	12,7 0.118	4,61 0.500	■	■	■								■	■						
SNFX1204ZZEN-W8-M08	2,0 0.079	5,44 0.214	1,0 0.181	12,7 0.039	4,61 0.500					■	■								■			■	
SNFX1204ZZSN-W8-M12	2,0 0.079	5,44 0.214	1,0 0.181	12,7 0.039	4,61 0.500	■	■	■							■	■							

SN.U13



Grades																					
Designation	RE	IC	S	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNGU130612EN-ME10	1,2 0.047	13,587 0.535	5,56 0.219						■	■	■	■			■	■					
SNGU130612TN-M14	1,2 0.047	13,6 0.535	5,56 0.219			■								■	■						
SNXU130612TN-M12	1,2 0.047	13,587 0.535	5,56 0.219			■			■	■					■	■	■				

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

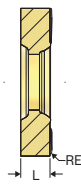
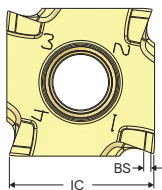
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

SNHQ11



E05/M07



														Grades									
Designation	RE	BS	L	IC	PVD										CVD						Uncoated		
	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	
SNHQ110202EL4-E05	0,2 0.008	0,5 0.020	2,3 0.091	11,0 0.433																			■
SNHQ110202ER4-E05	0,2 0.008	0,5 0.020	2,3 0.091	11,0 0.433																			■
SNHQ110202TL4-M07	0,2 0.008	0,5 0.020	2,3 0.091	11,0 0.433							■												
SNHQ110202TR4-M07	0,2 0.008	0,5 0.020	2,3 0.091	11,0 0.433							■												
SNHQ110204TL4-M07	0,4 0.016	0,3 0.012	2,3 0.091	11,0 0.433				■			■					■							
SNHQ110204TR4-M07	0,4 0.016	0,3 0.012	2,3 0.091	11,0 0.433				■			■					■							
SNHQ110208TL4-M07	0,8 0.031	0,2 0.008	2,3 0.091	11,0 0.433						■	■										■		
SNHQ110208TR4-M07	0,8 0.031	0,2 0.008	2,3 0.091	11,0 0.433						■	■										■		
SNHQ110212TL4-M07	1,2 0.047	0,2 0.008	2,3 0.091	11,0 0.433							■												
SNHQ110212TR4-M07	1,2 0.047	0,2 0.008	2,3 0.091	11,0 0.433							■												
SNHQ110216TL4-M07	1,6 0.063	0,2 0.008	2,3 0.091	11,0 0.433							■												
SNHQ110216TR4-M07	1,6 0.063	0,2 0.008	2,3 0.091	11,0 0.433							■												
SNHQ110220TL4-M07	2,0 0.079	–	2,3 0.091	11,0 0.433				■															
SNHQ110220TR4-M07	2,0 0.079	–	2,3 0.091	11,0 0.433				■															
SNHQ110302EL4-E05	0,2 0.008	0,5 0.020	2,7 0.106	11,0 0.433																			■
SNHQ110302ER4-E05	0,2 0.008	0,5 0.020	2,7 0.106	11,0 0.433																			■
SNHQ110302TL4-M07	0,2 0.008	0,5 0.020	2,7 0.106	11,0 0.433							■												
SNHQ110302TR4-M07	0,2 0.008	0,5 0.020	2,7 0.106	11,0 0.433							■												
SNHQ110304TL4-M07	0,4 0.016	0,3 0.012	2,7 0.106	11,0 0.433				■			■					■							
SNHQ110304TR4-M07	0,4 0.016	0,3 0.012	2,7 0.106	11,0 0.433				■			■					■							
SNHQ110308TL4-M07	0,8 0.031	0,2 0.008	2,7 0.106	11,0 0.433							■												
SNHQ110308TR4-M07	0,8 0.031	0,2 0.008	2,7 0.106	11,0 0.433							■												
SNHQ110312TL4-M07	1,2 0.047	0,2 0.008	2,7 0.106	11,0 0.433							■												
SNHQ110312TR4-M07	1,2 0.047	0,2 0.008	2,7 0.106	11,0 0.433							■												
SNHQ110316TL4-M07	1,6 0.063	0,2 0.008	2,7 0.106	11,0 0.433							■												
SNHQ110316TR4-M07	1,6 0.063	0,2 0.008	2,7 0.106	11,0 0.433							■												

Designation	Grades																					
	RE	BS	L	IC	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ110320TL4-M07	2,0 0.079	-	2,7 0.106	11,0 0.433				■														
SNHQ110320TR4-M07	2,0 0.079	-	2,7 0.106	11,0 0.433				■														

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

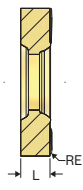
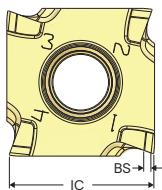
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

SNHQ1203/1204



EL/ER2-E05/M07



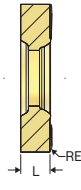
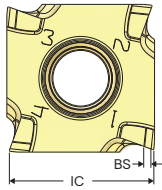
xL/xR4-E05/M07



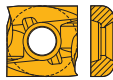
	Grades																			
	Designation	RE	BS	L	IC	PVD										CVD				
		mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M
Face milling cutters																				Uncoated
																				H15
Helical milling cutters																				H25
Disc milling cutters																				
High feed milling cutters																				
Copy milling cutters																				
Plunge milling cutters																				
Chamfer milling cutters																				
Spot facing cutters																				
Inserts																				

Designation	Grades																					Square shoulder and slot milling cutters	
	RE	BS	L	IC	PVD										CVD						Uncoated		
	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15		H25
SNHQ120408TL4-M07	0,8 0.031	0,75 0.030	4,0 0.157	12,7 0.500				■			■					■							
SNHQ120408TR4-M07	0,8 0.031	0,75 0.030	4,0 0.157	12,7 0.500				■			■					■							
SNHQ120412TL4-M07	1,2 0.047	0,4 0.016	4,0 0.157	12,7 0.500							■												
SNHQ120412TR4-M07	1,2 0.047	0,4 0.016	4,0 0.157	12,7 0.500							■												
SNHQ120416TL4-M07	1,6 0.063	0,2 0.008	4,0 0.157	12,7 0.500							■												
SNHQ120416TR4-M07	1,6 0.063	0,2 0.008	4,0 0.157	12,7 0.500							■												
SNHQ120420TL4-M07	2,0 0.079	0,2 0.008	4,0 0.157	12,7 0.500							■												
SNHQ120420TR4-M07	2,0 0.079	0,2 0.008	4,0 0.157	12,7 0.500							■												
SNHQ120424EL2-M07	2,4 0.094	-	4,0 0.157	12,7 0.500							■												
SNHQ120424ER2-M07	2,4 0.094	-	4,0 0.157	12,7 0.500							■												
SNHQ120431EL2-M07	3,1 0.122	-	4,0 0.157	12,7 0.500							■												
SNHQ120431ER2-M07	3,1 0.122	-	4,0 0.157	12,7 0.500							■												
SNHQ120435EL2-M07	3,5 0.138	-	4,0 0.157	12,7 0.500							■												
SNHQ120435ER2-M07	3,5 0.138	-	4,0 0.157	12,7 0.500							■												

SNHQ12045



EL/ER2-M07

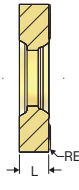
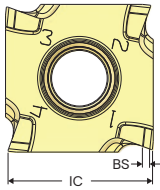


xL/xR4-E05/M07

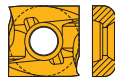


	Grades																			
	Designation	RE	BS	L	IC	PVD										CVD				
		mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M
Face milling cutters																				
Disc milling cutters	SNHQ1204504EL4-E05	0,4 0.016	0,75 0.030	4,5 0.177	12,7 0.500															
	SNHQ1204504ER4-E05	0,4 0.016	0,75 0.030	4,5 0.177	12,7 0.500															
	SNHQ1204502TL4-M07	0,2 0.008	0,75 0.030	4,5 0.177	12,7 0.500							■								
High feed milling cutters	SNHQ1204502TR4-M07	0,2 0.008	0,75 0.030	4,5 0.177	12,7 0.500							■								
	SNHQ1204504TL4-M07	0,4 0.016	0,75 0.030	4,5 0.177	12,7 0.500				■			■					■			
	SNHQ1204504TR4-M07	0,4 0.016	0,75 0.030	4,5 0.177	12,7 0.500				■			■					■			
Copy milling cutters	SNHQ1204508TL4-M07	0,8 0.031	0,75 0.030	4,5 0.177	12,7 0.500							■					■			
	SNHQ1204508TR4-M07	0,8 0.031	0,75 0.030	4,5 0.177	12,7 0.500							■					■			
	SNHQ1204512TL4-M07	1,2 0.047	0,4 0.016	4,5 0.177	12,7 0.500							■								
Plunge milling cutters	SNHQ1204512TR4-M07	1,2 0.047	0,4 0.016	4,5 0.177	12,7 0.500							■								
	SNHQ1204516TL4-M07	1,6 0.063	0,2 0.008	4,5 0.177	12,7 0.500							■								
	SNHQ1204516TR4-M07	1,6 0.063	0,2 0.008	4,5 0.177	12,7 0.500							■								
Chamfer milling cutters	SNHQ1204520TL4-M07	2,0 0.079	0,2 0.008	4,5 0.177	12,7 0.500							■								
	SNHQ1204520TR4-M07	2,0 0.079	0,2 0.008	4,5 0.177	12,7 0.500							■								
	SNHQ1204524EL2-M07	2,4 0.094	-	4,5 0.177	12,7 0.500							■								
Spot facing cutters	SNHQ1204524ER2-M07	2,4 0.094	-	4,5 0.177	12,7 0.500							■								
	SNHQ1204531EL2-M07	3,1 0.122	-	4,5 0.177	12,7 0.500							■								
	SNHQ1204531ER2-M07	3,1 0.122	-	4,5 0.177	12,7 0.500							■								
Inserts	SNHQ1204540EL2-M07	4,0 0.157	-	4,5 0.177	12,7 0.500							■								
	SNHQ1204540ER2-M07	4,0 0.157	-	4,5 0.177	12,7 0.500							■								

SNHQ1205



ER/EL2-M07



xL/xR4-E05/M07



Designation	Grades																	
	RE	BS	L	IC	PVD								CVD					
	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501
SNHQ120504EL4-E05	0,4 0.016	0,75 0.030	5,4 0.213	12,7 0.500														
SNHQ120504ER4-E05	0,4 0.016	0,75 0.030	5,4 0.213	12,7 0.500														
SNHQ120502TL4-M07	0,2 0.008	0,75 0.030	5,4 0.213	12,7 0.500							■							
SNHQ120502TR4-M07	0,2 0.008	0,75 0.030	5,4 0.213	12,7 0.500							■							
SNHQ120504TL4-M07	0,4 0.016	0,75 0.030	5,4 0.213	12,7 0.500				■			■					■		
SNHQ120504TR4-M07	0,4 0.016	0,75 0.030	5,4 0.213	12,7 0.500				■			■					■		
SNHQ120508TL4-M07	0,8 0.031	0,75 0.030	5,4 0.213	12,7 0.500				■			■					■		
SNHQ120508TR4-M07	0,8 0.031	0,75 0.030	5,4 0.213	12,7 0.500				■			■					■		
SNHQ120510TL4-M07	1,0 0.039	0,6 0.024	5,4 0.213	12,7 0.500							■							
SNHQ120510TR4-M07	1,0 0.039	0,6 0.024	5,4 0.213	12,7 0.500							■							
SNHQ120512TL4-M07	1,2 0.047	0,4 0.016	5,4 0.213	12,7 0.500							■							
SNHQ120512TR4-M07	1,2 0.047	0,4 0.016	5,4 0.213	12,7 0.500							■							
SNHQ120516TL4-M07	1,6 0.063	0,2 0.008	5,4 0.213	12,7 0.500							■							
SNHQ120516TR4-M07	1,6 0.063	0,2 0.008	5,4 0.213	12,7 0.500							■							
SNHQ120520TL4-M07	2,0 0.079	0,2 0.008	5,4 0.213	12,7 0.500							■							
SNHQ120520TR4-M07	2,0 0.079	0,2 0.008	5,4 0.213	12,7 0.500							■							
SNHQ120524EL2-M07	2,4 0.094	-	5,4 0.213	12,7 0.500							■							
SNHQ120524ER2-M07	2,4 0.094	-	5,4 0.213	12,7 0.500							■							
SNHQ120531EL2-M07	3,1 0.122	-	5,4 0.213	12,7 0.500							■							
SNHQ120531ER2-M07	3,1 0.122	-	5,4 0.213	12,7 0.500							■							
SNHQ120540EL2-M07	4,0 0.157	-	5,4 0.213	12,7 0.500							■							
SNHQ120540ER2-M07	4,0 0.157	-	5,4 0.213	12,7 0.500							■							
SNHQ120550FEL2-M07	5,0 0.197	-	5,54 0.218	12,7 0.500							■							
SNHQ120550FER2-M07	5,0 0.197	-	5,54 0.218	12,7 0.500							■							

Note: When using SNHQ insert with corner radius = 5 mm, please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

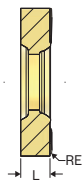
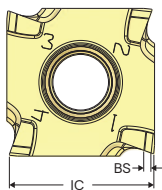
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

SNHQ1207



EL/ER2-M07



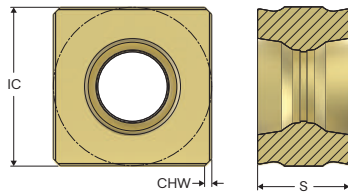
xL/xR4-E05/M07



Designation	Grades																					
	RE	BS	L	IC	PVD										CVD						Uncoated	
	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ120704EL4-E05	0,4 0.016	0,75 0.030	7,0 0.276	12,7 0.500																		■
SNHQ120704ER4-E05	0,4 0.016	0,75 0.030	7,0 0.276	12,7 0.500																		■
SNHQ120704TL4-M07	0,4 0.016	0,75 0.030	7,0 0.276	12,7 0.500							■											
SNHQ120704TR4-M07	0,4 0.016	0,75 0.030	7,0 0.276	12,7 0.500							■											
SNHQ120708TL4-M07	0,8 0.031	0,75 0.030	7,0 0.276	12,7 0.500				■			■					■						
SNHQ120708TR4-M07	0,8 0.031	0,75 0.030	7,0 0.276	12,7 0.500				■			■					■						
SNHQ120712TL4-M07	1,2 0.047	0,4 0.016	7,0 0.276	12,7 0.500							■											
SNHQ120712TR4-M07	1,2 0.047	0,4 0.016	7,0 0.276	12,7 0.500							■											
SNHQ120716TL4-M07	1,6 0.063	0,2 0.008	7,0 0.276	12,7 0.500							■											
SNHQ120716TR4-M07	1,6 0.063	0,2 0.008	7,0 0.276	12,7 0.500							■											
SNHQ120720TL4-M07	2,0 0.079	0,2 0.008	7,0 0.276	12,7 0.500							■											
SNHQ120720TR4-M07	2,0 0.079	0,2 0.008	7,0 0.276	12,7 0.500							■											
SNHQ120724EL2-M07	2,4 0.094	–	7,0 0.276	12,7 0.500							■											
SNHQ120724ER2-M07	2,4 0.094	–	7,0 0.276	12,7 0.500							■											
SNHQ120731EL2-M07	3,1 0.122	–	7,0 0.276	12,7 0.500							■											
SNHQ120731ER2-M07	3,1 0.122	–	7,0 0.276	12,7 0.500							■											
SNHQ120740EL2-M07	4,0 0.157	–	7,0 0.276	12,7 0.500							■											
SNHQ120740ER2-M07	4,0 0.157	–	7,0 0.276	12,7 0.500							■											
SNHQ120750FEL2-M07	5,0 0.197	–	7,14 0.281	12,7 0.500							■											
SNHQ120750FER2-M07	5,0 0.197	–	7,14 0.281	12,7 0.500							■											
SNHQ120760FEL2-M07	6,0 0.236	–	7,15 0.281	12,7 0.500							■											
SNHQ120760FER2-M07	6,0 0.236	–	7,15 0.281	12,7 0.500							■											

Note: When using SNHQ insert with corner radius = 5 and 6 mm, please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

SNHX11/14

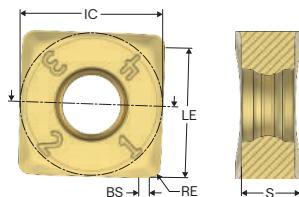


M11/M12

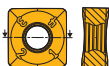


Grades																						
Designation	CHW	IC	S	KCH°	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHX1106TN8-M11	0,5 0.020	11,0 0.433	6,35 0.250	45,0						■					■		■					
SNHX1406TN8-M12	0,8 0.031	14,5 0.571	6,35 0.250	45,0						■					■							

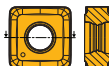
SNMU12/16



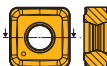
M10



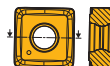
M16



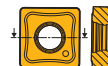
M16-1.6



M18



MD



Designation	Grades																						
	RE	BS	LE	IC	S	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNMU120408TN-M10	0,8 0.031	–	11,2 0.441	12,0 0.472	4,8 0.189			■								■	■						
SNMU120410TN-M10	1,0 0.039	1,0 0.039	9,9 0.390	12,0 0.472	4,8 0.189			■			■	■				■	■	■	■				
SNMU120412TN-M16	1,2 0.047	1,4 0.055	9,2 0.362	12,0 0.472	4,78 0.188			■							■	■	■		■				
SNMU120416TN-M16	1,6 0.063	–	10,4 0.409	12,0 0.472	4,78 0.188			■								■							
SNMU120408TN-MD13	0,8 0.031	–	11,2 0.441	12,0 0.472	4,8 0.189			■							■								
SNMU120410TN-MD13	1,0 0.039	1,0 0.039	9,8 0.386	12,0 0.472	4,8 0.189			■							■	■	■						
SNMU160612TN-M10	1,2 0.047	1,2 0.047	13,4 0.528	16,0 0.630	6,4 0.252			■								■	■						
SNMU160612TN-M18	1,2 0.047	1,6 0.063	13,0 0.512	16,0 0.630	6,38 0.251			■								■	■		■				
SNMU160610TN-MD16	1,0 0.039	–	14,9 0.587	16,0 0.630	6,4 0.252										■	■							
SNMU160612TN-MD16	1,2 0.047	1,2 0.047	13,4 0.528	16,0 0.630	6,4 0.252										■	■							

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

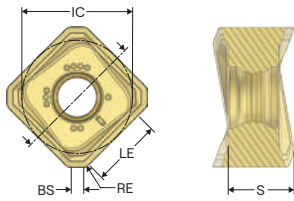
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

SN.X14/22



1407AN.R-
ME10/M10/M16



1407AZTR-
M10/M16



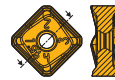
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ME10/M10/M16



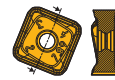
1407ZZTR-
M10/M16



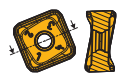
2209AN.R-ME12/M12/M18



2209ZN.R-M12/M18

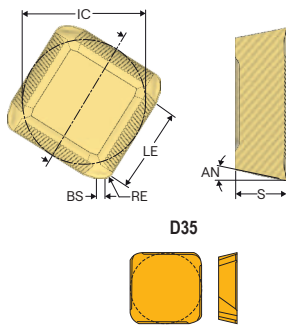


2209ZNTL-
M18



Grades																								
Designation	RE	BS	LE	IC	S	AN°	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHX1407ANR-ME10	1,0 0.039	1,5 0.059	8,4 0.331	14,0 0.551	6,59 0.259	0,0						■	■		■									■
SNMX1407ANTR-M10	1,0 0.039	1,5 0.059	8,4 0.331	14,0 0.551	6,59 0.259	0,0			■		■	■	■	■	■		■	■	■	■	■			
SNMX1407ANTR-M16	1,0 0.039	1,5 0.059	8,4 0.331	14,0 0.551	6,59 0.259	0,0			■		■					■	■	■		■				
SNEX1407AZTR-M10	1,0 0.039	5,7 0.224	8,4 0.331	13,975 0.550	6,64 0.261	0,0			■		■						■							
SNEX1407AZTR-M16	1,0 0.039	5,7 0.224	8,4 0.331	13,975 0.550	6,64 0.261	0,0			■								■							
SNMX1407ZNTR-M10	1,0 0.039	1,5 0.059	9,5 0.374	14,0 0.551	6,59 0.259	0,0			■			■	■		■		■	■	■					
SNMX1407ZNTR-M16	1,0 0.039	1,5 0.059	9,5 0.374	14,0 0.551	6,59 0.259	0,0			■							■	■	■						
SNEX1407ZZTR-M10	1,0 0.039	5,7 0.224	9,5 0.374	14,02 0.552	6,19 0.244	0,0			■		■						■							
SNEX1407ZZTR-M16	1,0 0.039	5,7 0.224	9,5 0.374	14,02 0.552	6,19 0.244	0,0			■								■							
SNMX2209ANTR-M12	2,0 0.079	1,5 0.059	14,8 0.583	22,0 0.866	8,81 0.347	0,0						■			■			■						
SNMX2209ANTR-M18	2,0 0.079	1,5 0.059	14,8 0.583	22,0 0.866	8,81 0.347	0,0			■							■	■	■		■				
SNMX2209ZNTR-M12	2,0 0.079	1,5 0.059	14,3 0.563	22,0 0.866	8,79 0.346	0,0							■		■			■						
SNMX2209ZNTR-M18	2,0 0.079	1,5 0.059	14,3 0.563	22,0 0.866	8,79 0.346	0,0			■								■	■		■				
SNMX2209ZNTL-M18	2,0 0.079	1,5 0.059	14,3 0.563	22,0 0.866	8,79 0.346	0,0											■	■						

SP.19/28



D35

ZETL-M17-MD20

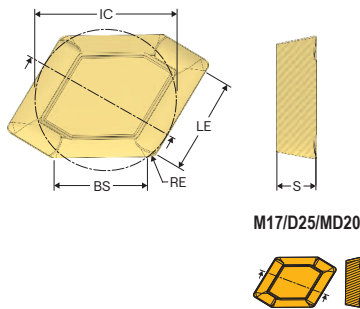


ZETR-M17-MD20-D25



Designation	RE	BS	LE	IC	S	AN°	Grades																	
							PVD								CVD								Uncoated	
							MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																			
SPER1906ZETL-M17	3,0 0.118	1,8 0.071	12,7 0.500	19,05 0.750	6,35 0.250	11,0									■									
SPER1906ZETR-M17	1,6 0.063	1,8 0.071	12,7 0.500	19,05 0.750	6,35 0.250	11,0												■						
SPEN1906ZETL-MD20	1,6 0.063	1,8 0.071	13,3 0.524	19,05 0.750	6,35 0.250	11,0											■							
SPEN1906ZETR-MD20	1,6 0.063	1,8 0.071	13,3 0.524	19,05 0.750	6,35 0.250	11,0											■		■					
SPEN1906ZETR-D25	1,6 0.063	1,8 0.071	13,3 0.524	19,05 0.750	6,35 0.250	11,0											■							
SPEN2807ZETR-D35	2,0 0.079	1,8 0.071	13,3 0.524	28,575 1.125	7,938 0.313	11,0											■							
SPMR1906ZETR-M17	1,6 0.063	1,0 0.039	12,9 0.508	19,05 0.750	6,35 0.250	11,0									■									

SPE.ZZ



M17/D25/MD20



ZZTL-M17



Designation	RE	BS	LE	IC	S	Grades																Uncoated	
						PVD								CVD									
						MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
	mm	mm	mm	mm	mm																		
	Inch	Inch	Inch	Inch	Inch																		
SPER1906ZZTL-M17	3,0	12,0	14,0	19,05	6,35									■									
	0.118	0.472	0.551	0.750	0.250																		
SPER1906ZZTR-M17	3,0	12,0	14,0	19,05	6,35									■									
	0.118	0.472	0.551	0.750	0.250																		
SPEN1906ZZTR-D25	3,0	12,0	14,0	19,05	6,35											■	■						
	0.118	0.472	0.551	0.750	0.250																		
SPEN1906ZZTR-MD20	3,0	12,0	14,0	19,05	6,35												■						
	0.118	0.472	0.551	0.750	0.250																		

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

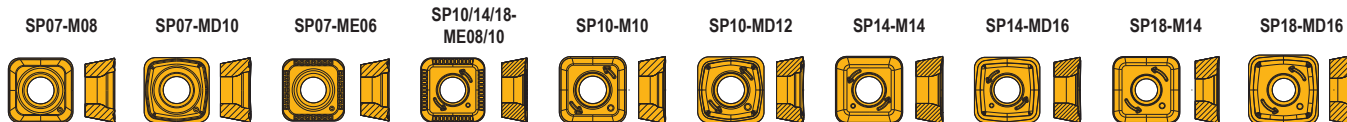
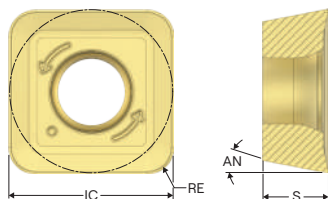
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

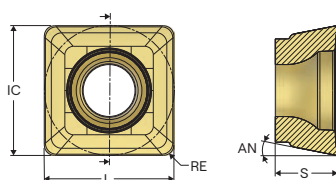
Inserts

SPKT07/10/14/18



Designation	RE	IC	S	AN°	Grades																	
					PVD								CVD								Uncoated	
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPKT070312TN-ME06	1,2 0.047	7,0 0.276	3,18 0.125	11,0						■			■			■		■				
SPKT070312TN-M08	1,2 0.047	7,0 0.276	3,18 0.125	11,0			■		■							■		■				
SPKT070312TN-MD10	1,2 0.047	7,0 0.276	3,18 0.125	11,0	■				■						■			■				
SPKT10T317TN-ME08	1,7 0.067	10,0 0.394	3,97 0.156	11,0						■		■				■		■				
SPKT10T317TN-M10	1,7 0.067	10,0 0.394	3,97 0.156	11,0	■		■			■	■	■	■		■	■	■	■		■		
SPKT10T317TN-MD12	1,7 0.067	10,0 0.394	3,97 0.156	11,0	■		■		■		■				■	■						
SPKT140523TN-ME10	2,3 0.091	14,0 0.551	5,56 0.219	11,0						■		■				■		■				
SPKT140523TN-M14	2,3 0.091	14,0 0.551	5,56 0.219	11,0	■		■			■	■	■	■		■	■	■	■		■		
SPKT1405ZPTR-M14	1,85 0.073	14,21 0.559	5,56 0.219	11,0						■						■						
SPKT140523TN-MD16	2,3 0.091	14,0 0.551	5,56 0.219	11,0	■		■		■		■				■	■	■	■				
SPKT180630TN-ME10	3,0 0.118	18,0 0.709	6,35 0.250	11,0						■						■		■				
SPKT180630TN-M14	3,0 0.118	18,0 0.709	6,35 0.250	11,0			■			■	■	■	■		■	■	■	■				
SPKT180630TN-MD16	3,0 0.118	18,0 0.709	6,35 0.250	11,0	■		■		■		■				■	■						

SPMT

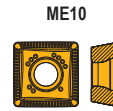
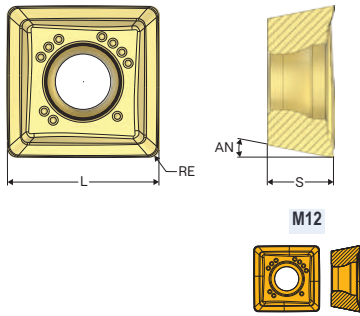


M08



Designation	RE	L	S	AN°	Grades																Uncoated	
					PVD								CVD								H15	H25
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
SPMT100408T-M08	0,8 0.031	10,0 0.394	4,76 0.187	11,0							■											

SPMT12



Designation	Grades																			Uncoated	
	RE	L	S	AN°	GAN°	PVD								CVD							
						MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2501	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
						mm Inch	mm Inch	mm Inch													
SPMT120508SR-M12	0,8 0.031	12,607 0.496	5,56 0.219	11,0	10,8 °			■			■	■		■			■				
SPMT120508SR-ME10	0,8 0.031	12,607 0.496	5,56 0.219	11,0	15,8 °						■	■	■					■			
SPMT120512SR-M12	1,2 0.047	12,607 0.496	5,56 0.219	11,0	10,8 °								■				■				
SPMT120512SR-ME10	1,2 0.047	12,607 0.496	5,56 0.219	11,0	15,8 °							■	■								

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

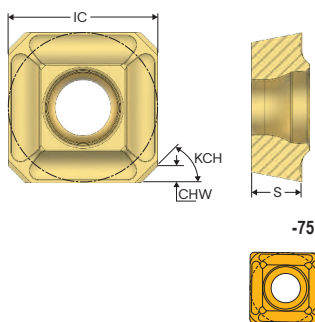
Plunge milling
cutters

Chamfer milling
cutters

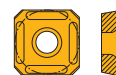
Spot facing
cutters

Inserts

SPMX

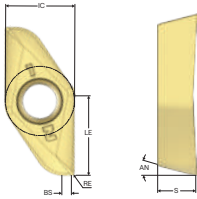


AP-75



Designation	CHW	IC	S	KCH°	Grades																Uncoated	
					PVD								CVD								H15	H25
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
SPMX0602AP-75	0,69 0.027	6,35 0.250	2,38 0.094	45,0							■											
SPMX0703AP-75	0,87 0.034	7,94 0.313	3,18 0.125	45,0							■											
SPMX0903AP-75	1,05 0.041	9,525 0.375	3,18 0.125	45,0							■							■				
SPMX12T3AP-75	1,39 0.055	12,7 0.500	3,97 0.156	45,0							■							■				
SPMX060204-75	-	6,35 0.250	2,38 0.094	-							■								■			
SPMX070304-75	-	7,94 0.313	3,18 0.125	-							■								■			
SPMX090304-75	-	9,525 0.375	3,18 0.125	-							■								■			
SPMX12T308-75	-	12,7 0.500	3,97 0.156	-							■											

VPGX



E06/E10



Grades																									
Designation	RE	BS	LE	IC	S	AN°	PVD								CVD							Uncoated			
							MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																				
VPGX220605FR-E06	0,5 0.020	1,5 0.059	14,2 0.559	12,7 0.500	6,35 0.250	11,0																		■	
VPGX220605ER-E10	0,5 0.020	1,5 0.059	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220608PDER-E10	0,8 0.031	1,1 0.043	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220616ER-E10	1,6 0.063	–	13,7 0.539	12,7 0.500	6,35 0.250	11,0																			■
VPGX220620ER-E10	2,0 0.079	–	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220624ER-E10	2,4 0.094	–	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220631EN-E10	3,1 0.122	–	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220631FN-E06	3,1 0.122	–	14,2 0.559	12,7 0.500	6,35 0.250	11,0																		■	
VPGX220640ER-E10	4,0 0.157	–	14,2 0.559	12,7 0.500	6,35 0.250	11,0																			■
VPGX220663ER-E10	6,3 0.248	–	11,8 0.465	12,7 0.500	6,35 0.250	11,0																			■

*Insert with wiper flat 1,5mm

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

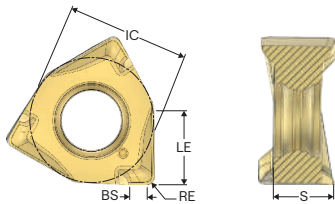
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

XNEX04/08



XNEX04..



XNEX08..



XNEX08..M13

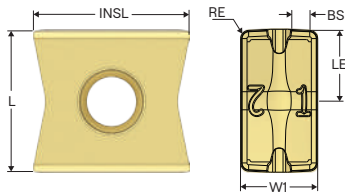


ZZR-M11



Designation	RE	BS	LE	IC	S	Grades																Uncoated	
						PVD								CVD								H15	H25
						MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																		
XNEX040304R-M06	0,4 0.016	0,8 0.031	4,0 0.157	6,7 0.264	3,31 0.130						■	■											
XNEX040308R-M06	0,8 0.031	0,4 0.016	4,0 0.157	6,7 0.264	3,31 0.130					■	■	■					■						
XNEX040304TR-M08	0,4 0.016	0,8 0.031	4,0 0.157	6,7 0.264	3,29 0.130			■		■		■			■	■	■						
XNEX040308TR-M08	0,8 0.031	0,4 0.016	4,0 0.157	6,7 0.264	3,29 0.130			■		■		■			■	■	■						
XNEX080604TR-M13	0,4 0.016	1,8 0.071	7,5 0.295	12,48 0.491	6,45 0.254					■		■							■				
XNEX080604TR-ME09	0,4 0.016	1,8 0.071	7,5 0.295	12,48 0.491	6,45 0.254					■		■					■						
XNEX080608TR-ME09	0,8 0.031	1,4 0.055	7,5 0.295	12,48 0.491	6,45 0.254			■		■		■			■	■	■		■		■		
XNEX080608R-M08	0,8 0.031	1,4 0.055	7,5 0.295	12,48 0.491	6,45 0.254					■	■	■	■	■				■	■				■
XNEX080608TR-M13	0,8 0.031	1,3 0.051	7,5 0.295	12,48 0.491	6,45 0.254			■		■		■			■	■	■		■				
XNEX080608TR-MD15	0,8 0.031	1,4 0.055	7,5 0.295	12,48 0.491	6,45 0.254	■		■		■		■			■	■	■		■				
XNEX080612TR-ME09	1,2 0.047	1,0 0.039	7,5 0.295	12,48 0.491	6,45 0.254							■					■						
XNEX080612TR-M13	1,2 0.047	0,9 0.035	7,5 0.295	12,48 0.491	6,45 0.254			■				■			■		■						
XNEX080612TR-MD15	1,2 0.047	1,0 0.039	7,5 0.295	12,48 0.491	6,45 0.254										■	■	■						
XNEX080616TR-ME09	1,6 0.063	0,6 0.024	7,5 0.295	12,48 0.491	6,45 0.254					■		■					■						
XNEX080616TR-M13	1,6 0.063	0,5 0.020	7,5 0.295	12,48 0.491	6,45 0.254			■		■		■			■	■	■		■				
XNEX080616TR-MD15	1,6 0.063	0,7 0.028	7,5 0.295	12,48 0.491	6,45 0.254			■		■		■			■	■	■		■				
XNEX080608TL-M13	0,8 0.031	1,3 0.051	7,5 0.295	12,48 0.491	6,45 0.254						■	■					■		■				
XNEX080616TL-M13	1,6 0.063	0,5 0.020	7,5 0.295	12,48 0.491	6,45 0.254												■						
XNEX080608ZZR-M11	0,8 0.031	6,0 0.236	7,5 0.295	12,48 0.491	6,45 0.254					■		■			■								

XNHQ07



TN8-M11



Grades																									
Designation	RE	INSL	BS	L	LE	W1	GAN	PVD								CVD								Uncoated	
								MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch																			
XNHQ070708TN8-M11	0,8 0.031	15,08 0.594	1,8 0.071	13,63 0.537	6,9 0.272	7,5 0.295	16,0 °			■				■					■						
XNHQ070716TN8-M11	1,6 0.063	14,85 0.585	1,0 0.039	13,63 0.537	6,9 0.272	7,5 0.295	16,0 °			■									■						
XNHQ070731TN8-M11	3,1 0.122	14,42 0.568	0,6 0.024	13,63 0.537	6,9 0.272	7,5 0.295	16,0 °			■									■						

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

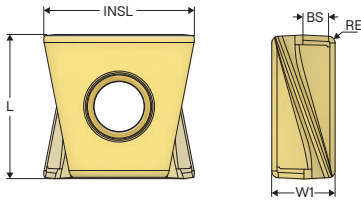
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

XNHQ09/12/14/17



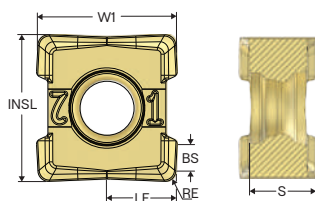
E07/E09/E10/E12/M08/M10/M11/M13



Grades																								
Designation	RE	INSL	BS	L	W1	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNHQ090504TN4-M08	0,4 0.016	11,81 0.465	2,2 0.087	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ090508TN4-M08	0,8 0.031	11,7 0.461	1,8 0.071	9,3 0.366	5,5 0.217	16,0 °			■				■					■						
XNHQ090512TN4-M08	1,2 0.047	11,58 0.456	1,4 0.055	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ090516TN4-M08	1,6 0.063	11,46 0.451	1,0 0.039	9,3 0.366	5,5 0.217	16,0 °							■					■						
XNHQ090520TN4-M08	2,0 0.079	11,4 0.449	0,6 0.024	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ090524TN4-M08	2,4 0.094	11,2 0.441	0,2 0.008	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ090531TN4-M08	3,1 0.122	11,0 0.433	–	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ090540TN4-M08	4,0 0.157	10,7 0.421	–	9,3 0.366	5,5 0.217	16,0 °							■											
XNHQ120608EN4-E09	0,8 0.031	13,34 0.525	2,3 0.091	11,7 0.461	6,5 0.256	21,0 °							■											
XNHQ120608TN4-M10	0,8 0.031	13,16 0.518	2,3 0.091	11,7 0.461	6,5 0.256	16,0 °			■				■					■						
XNHQ120612TN4-M10	1,2 0.047	13,05 0.514	1,9 0.075	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ120616TN4-M10	1,6 0.063	12,94 0.509	1,58 0.062	11,7 0.461	6,5 0.256	16,0 °							■					■						
XNHQ120620TN4-M10	2,0 0.079	12,81 0.504	1,1 0.043	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ120624TN4-M10	2,4 0.094	12,72 0.501	0,7 0.028	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ120631TN4-M10	3,1 0.122	12,53 0.493	0,15 0.006	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ120640TN4-M10	4,0 0.157	12,25 0.482	–	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ120650TN4-M10	5,0 0.197	11,87 0.467	–	11,7 0.461	6,5 0.256	16,0 °							■											
XNHQ140708EN4-E10	0,8 0.031	15,1 0.594	3,0 0.118	14,0 0.551	7,5 0.295	22,0 °							■											■
XNHQ140708TN4-M11	0,8 0.031	15,1 0.594	3,0 0.118	14,0 0.551	7,5 0.295	16,0 °			■				■					■						
XNHQ140716TN4-M11	1,6 0.063	14,8 0.583	2,2 0.087	14,0 0.551	7,5 0.295	16,0 °							■					■						
XNHQ140720TN4-M11	2,0 0.079	14,7 0.579	1,8 0.071	14,0 0.551	7,5 0.295	16,0 °							■											
XNHQ140724TN4-M11	2,4 0.094	14,6 0.575	1,4 0.055	14,0 0.551	7,5 0.295	16,0 °							■											
XNHQ140731TN4-M11	3,1 0.122	14,4 0.567	0,7 0.028	14,0 0.551	7,5 0.295	16,0 °							■					■						
XNHQ140740TN4-M11	4,0 0.157	14,2 0.559	–	14,0 0.551	7,5 0.295	16,0 °							■											
XNHQ140750TN4-M11	5,0 0.197	13,9 0.547	–	14,0 0.551	7,5 0.295	16,0 °							■											
XNHQ140760TN4-M11	6,0 0.236	13,6 0.535	–	14,0 0.551	7,5 0.295	16,0 °							■											

Designation	RE	INSL	BS	L	W1	GAN	Grades																Uncoated		Square shoulder and slot milling cutters		
							PVD								CVD												
								mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501		MP2501	MS2500
XNHQ170708EN4-E12	0,8 0.031	-	3,0 0.118	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170708TN4-M13	0,8 0.031	-	3,0 0.118	17,0 0.669	7,5 0.295	16,0 °			■					■					■								
XNHQ170716TN4-M13	1,6 0.063	-	2,2 0.087	17,0 0.669	7,5 0.295	16,0 °								■					■								
XNHQ170720TN4-M13	2,0 0.079	-	1,8 0.071	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170724TN4-M13	2,4 0.094	-	1,4 0.055	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170731TN4-M13	3,1 0.122	-	0,7 0.028	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170740TN4-M13	4,0 0.157	-	-	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170750TN4-M13	5,0 0.197	-	-	17,0 0.669	7,5 0.295	16,0 °								■													
XNHQ170760TN4-M13	6,0 0.236	-	-	17,0 0.669	7,5 0.295	16,0 °								■													

XNUX05

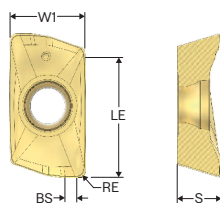


M07



Designation	Grades																							
	RE	BS	LE	W1	INSL	S	PVD									CVD						Uncoated		
	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNXU050504TN8-M07	0,4 <i>0.016</i>	2,4 <i>0.094</i>	5,0 <i>0.197</i>	10,24 <i>0.403</i>	10,97 <i>0.432</i>	5,2 <i>0.205</i>							■											
XNXU050508TN8-M07	0,8 <i>0.031</i>	2,0 <i>0.079</i>	5,0 <i>0.197</i>	10,28 <i>0.405</i>	10,94 <i>0.431</i>	5,2 <i>0.205</i>			■				■					■						
XNXU050516TN8-M07	1,6 <i>0.063</i>	1,2 <i>0.047</i>	5,0 <i>0.197</i>	10,36 <i>0.408</i>	10,87 <i>0.428</i>	5,2 <i>0.205</i>			■									■						

XO.X06



E03



M05



Designation	Grades																							
	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX060202FR-E03	0,2 0.008	1,1 0.043	6,0 0.236	4,1 0.161	2,45 0.096	30,6 °																	■	
XOEX060204FR-E03	0,4 0.016	0,9 0.035	6,0 0.236	4,1 0.161	2,45 0.096	29,2 °							■										■	
XOMX060202R-M05	0,2 0.008	1,1 0.043	5,5 0.217	4,1 0.161	2,45 0.096	20,2 °					■		■											
XOMX060204R-M05	0,4 0.016	0,91 0.036	5,5 0.217	4,1 0.161	2,45 0.096	20,2 °				■	■	■	■									■		
XOMX060208R-M05	0,8 0.031	0,51 0.020	5,5 0.217	4,1 0.161	2,45 0.096	20,2 °	■	■		■	■	■	■									■		
XOMX060216R-M05	1,6 0.063	0,64 0.025	5,5 0.217	4,1 0.161	2,45 0.096	20,2 °				■	■	■	■									■		

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

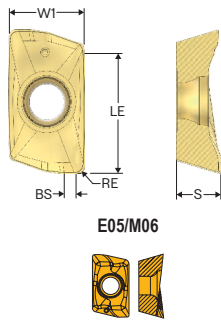
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

XO.X10



E05/M06

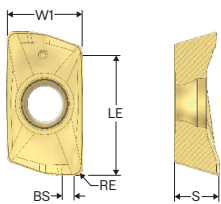
M09

ME07

Grades																								
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX10T304FR-E05	0,4 0.016	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	21,6 °							■										■	
XOEX10T308FR-E05	0,8 0.031	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	21,6 °							■										■	
XOEX10T312FR-E05	1,2 0.047	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	21,6 °																	■	
XOEX10T320FR-E05	2,0 0.079	0,6 0.024	9,7 0.382	6,9 0.272	3,8 0.150	21,6 °																	■	
XOEX10T331FR-E05	3,1 0.122	0,39 0.015	9,7 0.382	6,9 0.272	3,8 0.150	24,1 °																	■	
XOEX10T302R-M06	0,2 0.008	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	15,1 °							■											
XOEX10T304R-M06	0,4 0.016	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	15,1 °						■	■					■						
XOEX10T308R-M06	0,8 0.031	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	15,1 °						■	■	■	■			■	■	■				
XOEX10T312R-M06	1,2 0.047	1,3 0.051	9,7 0.382	6,9 0.272	3,8 0.150	15,1 °						■	■											
XOEX10T316R-M06	1,6 0.063	1,0 0.039	9,7 0.382	6,9 0.272	3,8 0.150	15,1 °						■	■											
XOEX10T320R-M06	2,0 0.079	0,6 0.024	9,7 0.382	6,9 0.272	3,8 0.150	18,8 °						■								■				
XOEX10T324R-M06	2,4 0.094	0,2 0.008	9,7 0.382	6,9 0.272	3,8 0.150	18,3 °						■												
XOEX10T331R-M06	3,1 0.122	0,4 0.016	9,7 0.382	6,9 0.272	3,8 0.150	17,3 °						■	■		■									
XOMX10T304TR-ME07	0,4 0.016	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °					■	■	■			■		■		■				
XOMX10T308TR-ME07	0,8 0.031	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °					■	■	■	■	■	■	■	■	■	■		■		
XOMX10T312TR-ME07	1,2 0.047	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °					■	■	■					■		■				
XOMX10T316TR-ME07	1,6 0.063	1,0 0.039	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °					■	■	■	■	■			■		■				
XOMX10T320TR-ME07	2,0 0.079	0,6 0.024	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °					■	■	■					■		■				
XOMX10T324TR-ME07	2,4 0.094	0,2 0.008	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °						■	■					■						
XOMX10T331TR-ME07	3,1 0.122	0,4 0.016	9,3 0.366	6,9 0.272	3,83 0.151	20,4 °						■	■	■	■			■						
XOMX10T304TR-M09	0,4 0.016	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °			■		■		■			■	■	■		■				
XOMX10T308TR-M09	0,8 0.031	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °	■		■		■		■			■	■	■	■	■		■		
XOMX10T312TR-M09	1,2 0.047	1,3 0.051	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °			■				■							■				
XOMX10T316TR-M09	1,6 0.063	1,0 0.039	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °							■							■				
XOMX10T320TR-M09	2,0 0.079	0,6 0.024	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °							■							■				
XOMX10T324TR-M09	2,4 0.094	0,2 0.008	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °							■											

Designation	Grades																							Uncoated	Square shoulder and slot milling cutters
	RE	BS	LE	W1	S	GAN	PVD						CVD												
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15		
XOMX10T331TR-M09	3,1 0.122	0,4 0.016	9,3 0.366	6,9 0.272	3,83 0.151	10,6 °							■							■					

XO.X12



D14

E06

M07

M12

MD13

ME08

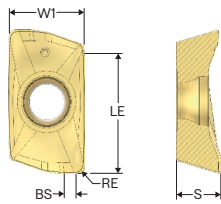
ME08-CS



Grades																								
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX120404FR-E06	0,4 0.016	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	27,4 °		■					■										■	
XOEX120408FR-E06	0,8 0.031	1,6 0.063	12,0 0.472	8,2 0.323	5,03 0.198	27,2 °	■	■					■										■	
XOEX120420FR-E06	2,0 0.079	0,6 0.024	12,0 0.472	8,2 0.323	5,03 0.198	21,2 °		■					■											
XOEX120416FR-E06	1,6 0.063	1,2 0.047	12,0 0.472	8,2 0.323	5,03 0.198	26,3 °		■					■											
XOEX120431FR-E06	3,1 0.122	—	12,0 0.472	8,2 0.323	5,03 0.198	24,8 °							■											
XOEX120402R-M07	0,2 0.008	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	20,5 °							■											
XOEX120404R-M07	0,4 0.016	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	20,5 °				■		■	■					■						
XOEX120408R-M07	0,8 0.031	1,6 0.063	12,0 0.472	8,2 0.323	5,03 0.198	20,3 °				■	■	■	■	■	■			■	■	■		■		
XOEX120416R-M07	1,6 0.063	1,2 0.047	12,0 0.472	8,2 0.323	5,03 0.198	19,1 °				■	■	■	■											
XOEX120420R-M07	2,0 0.079	0,95 0.037	12,0 0.472	8,2 0.323	5,03 0.198	18,6 °						■												
XOEX120424R-M07	2,4 0.094	0,6 0.024	12,0 0.472	8,2 0.323	5,03 0.198	18,6 °						■	■											
XOEX120431R-M07	3,1 0.122	—	12,0 0.472	8,2 0.323	5,03 0.198	15,0 °						■	■	■	■				■	■				
XOEX120440R-M07	4,0 0.157	0,725 0.029	12,0 0.472	8,2 0.323	5,03 0.198	23,7 °						■	■											
XOEX120463R-M07	6,3 0.248	—	12,0 0.472	8,2 0.323	5,03 0.198	15,3 °						■	■											
XOEX120450R-M07	5,0 0.197	—	12,0 0.472	8,2 0.323	5,03 0.198	16,8 °						■	■											
XOEX120408ZZR-M07	0,8 0.031	6,6 0.260	11,1 0.437	8,2 0.323	5,03 0.198	20,3 °				■	■		■											
XOMX120404TR-ME08	0,4 0.016	2,0 0.079	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■			■		■						
XOMX120408TR-ME08-CS	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °			■			■	■					■		■				
XOMX120408TR-ME08	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °			■			■	■	■	■	■		■		■		■		
XOMX120412TR-ME08	1,2 0.047	1,2 0.047	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120416TR-ME08	1,6 0.063	1,2 0.047	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °							■	■	■			■		■				
XOMX120420TR-ME08	2,0 0.079	1,0 0.039	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120424TR-ME08	2,4 0.094	0,92 0.036	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120431TR-ME08	3,1 0.122	0,6 0.024	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■	■	■			■		■				
XOMX120440TR-ME08	4,0 0.157	0,8 0.031	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■		■			■						
XOMX120408TR-M12	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	10,4 °			■		■		■			■	■	■		■				

921

XO.X16



E07/M09



M13



MD14



ME11



XOMX-M09

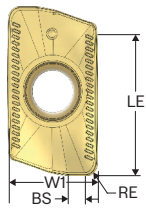


Grades																									
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated				
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	
XOEX160504FR-E07	0,4 0.016	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	23,0 °																			■
XOEX160508FR-E07	0,8 0.031	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	23,0 °																			■
XOEX160504R-M09	0,4 0.016	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °							■					■							
XOEX160508R-M09	0,8 0.031	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °					■	■	■	■	■			■							
XOEX160516R-M09	1,6 0.063	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °						■	■												
XOEX160520R-M09	2,0 0.079	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °						■	■												
XOEX160524R-M09	2,4 0.094	1,8 0.071	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °						■	■	■	■										
XOEX160531R-M09	3,1 0.122	1,6 0.063	15,3 0.602	10,2 0.402	5,9 0.232	14,0 °						■	■	■	■										
XOEX160540R-M09	4,0 0.157	1,2 0.047	15,2 0.598	10,2 0.402	5,9 0.232	14,0 °						■	■												
XOEX160550R-M09	5,0 0.197	0,3 0.012	15,0 0.591	10,2 0.402	5,59 0.220	14,0 °						■	■												
XOEX160563R-M09	6,3 0.248	0,2 0.008	14,7 0.579	10,2 0.402	5,34 0.210	14,0 °						■	■												
XOMX160504TR-ME11	0,4 0.016	2,0 0.079	15,4 0.606	10,2 0.402	5,94 0.234	19,0 °							■					■							
XOMX160508TR-ME11	0,8 0.031	2,0 0.079	15,4 0.606	10,2 0.402	5,94 0.234	19,0 °			■			■	■	■	■			■		■					
XOMX160512TR-ME11	1,2 0.047	2,0 0.079	15,4 0.606	10,2 0.402	5,94 0.234	19,0 °							■					■							
XOMX160516TR-ME11	1,6 0.063	2,0 0.079	15,4 0.606	10,2 0.402	5,94 0.234	18,0 °							■					■							
XOMX160520TR-ME11	2,0 0.079	1,9 0.075	15,4 0.606	10,2 0.402	5,94 0.234	18,0 °						■	■					■							
XOMX160524TR-ME11	2,4 0.094	1,8 0.071	15,4 0.606	10,2 0.402	5,93 0.233	18,0 °						■	■												
XOMX160531TR-ME11	3,1 0.122	1,6 0.063	15,4 0.606	10,2 0.402	5,93 0.233	19,0 °						■	■	■	■										
XOMX160540TR-ME11	4,0 0.157	1,2 0.047	15,2 0.598	10,2 0.402	5,93 0.233	19,0 °						■	■												
XOMX160550TR-ME11	5,0 0.197	0,3 0.012	15,0 0.591	10,2 0.402	5,56 0.219	18,0 °						■	■												
XOMX160563TR-ME11	6,3 0.248	0,2 0.008	14,6 0.575	10,2 0.402	5,3 0.209	18,0 °						■	■												
XOMX160508R-M09	0,8 0.031	2,0 0.079	15,4 0.606	10,2 0.402	5,9 0.232	14,0 °						■	■												
XOMX160508TR-M13	0,8 0.031	2,0 0.079	15,4 0.606	10,2 0.402	5,98 0.235	9,0 °			■		■		■			■	■	■		■					
XOMX160516TR-M13	1,6 0.063	2,0 0.079	15,4 0.606	10,2 0.402	5,98 0.235	9,0 °							■												
XOMX160531TR-M13	3,1 0.122	1,6 0.063	15,4 0.606	10,2 0.402	5,98 0.235	9,0 °							■												
XOMX160504TR-MD14	0,4 0.016	2,0 0.079	15,4 0.606	10,2 0.402	6,01 0.237	4,0 °			■																

Designation	Grades																							Square shoulder and slot milling cutters
	RE	BS	LE	W1	S	GAN	PVD								CVD							Uncoated		
	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>	mm <i>Inch</i>		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	
XOMX160508TR-MD14	0,8 <i>0.031</i>	2,0 <i>0.079</i>	15,4 <i>0.606</i>	10,2 <i>0.402</i>	6,01 <i>0.237</i>	4,0 °	■		■		■						■			■				

Square shoulder
and slot milling
cutters

XO.X18



Helical milling
cutters

D16



E10



M10



M10-CS



M14



MD15



ME13



ZZR-M10



Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

Plunge milling
cutters

Chamfer milling
cutters

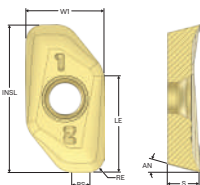
Spot facing
cutters

Inserts

Designation	Grades																							
	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX180604FR-E10	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °							■											■
XOEX180608FR-E10	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °							■											■
XOEX180616FR-E10	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	30,0 °																		■
XOEX180620FR-E10	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	30,0 °																		■
XOEX180631FR-E10	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °																		■
XOEX180608ZZR-M10	0,8 0.031	9,0 0.354	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °							■											
XOMX180604TR-ME13	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	25,0 °							■					■						
XOMX180608TR-ME13	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	25,3 °							■			■				■		■		
XOMX180616TR-ME13	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	24,7 °												■						
XOMX180620TR-ME13	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	24,7 °							■					■						
XOMX180631TR-ME13	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,38 0.251	23,6 °							■					■						
XOMX180640TR-ME13	4,0 0.157	0,8 0.031	17,0 0.669	11,2 0.441	6,38 0.251	24,0 °												■						
XOMX180604R-M10	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,0 °						■	■											
XOMX180608R-M10	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °				■		■	■	■	■			■		■		■		
XOMX180616R-M10	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	21,7 °						■	■							■		■		
XOMX180620R-M10	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	21,8 °						■	■							■				
XOMX180624R-M10	2,4 0.094	2,2 0.087	17,0 0.669	11,2 0.441	6,35 0.250	21,1 °						■	■											
XOMX180631R-M10	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,35 0.250	21,0 °						■	■							■		■		
XOMX180640R-M10	4,0 0.157	0,8 0.031	17,0 0.669	11,2 0.441	6,35 0.250	21,0 °						■	■							■				
XOMX180650R-M10	5,0 0.197	0,3 0.012	17,0 0.669	11,2 0.441	6,35 0.250	19,4 °						■	■	■	■					■				
XOMX180663R-M10	6,3 0.248	0,3 0.012	17,0 0.669	11,2 0.441	6,35 0.250	19,0 °						■	■							■				
XOMX180608R-M10-CS	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °			■			■	■					■		■				
XOMX180608TR-M14	0,8 0.031	2,38 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,5 °			■	■	■		■			■	■	■		■				
XOMX180612TR-M14	1,2 0.047	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,5 °			■		■		■			■	■	■		■				
XOMX180616TR-M14	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	15,0 °					■		■			■		■		■				
XOMX180620TR-M14	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	15,0 °							■					■		■				

Grades																									Square shoulder and slot milling cutters
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD							Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	
XOMX180624TR-M14	2,4 0.094	2,2 0.087	17,0 0.669	11,2 0.441	6,37 0.251	14,0 °							■					■		■					
XOMX180631TR-M14	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,37 0.251	14,0 °					■		■					■		■					
XOMX180608TR-MD15	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,9 °	■		■	■	■		■			■	■	■		■					
XOMX180612TR-MD15	1,2 0.047	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,0 °					■		■				■								
XOMX180616TR-MD15	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	15,3 °					■		■			■				■					
XOMX180608TR-D16	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	11,0 °				■						■	■	■		■					
XOMX180631TR-D16	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,39 0.252	9,0 °					■						■								
																						</			

XPBX08/12

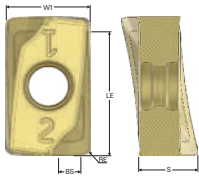


E06/E08



Designation	Grades																						Uncoated		
	RE	BS	LE	INSL	W1	S	GAN	PVD								CVD									
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XPKX080304PDER-E06	0,4 0.016	1,3 0.051	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX080308PDER-E06	0,8 0.031	1,3 0.051	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX080316PDER-E06	1,6 0.063	1,2 0.047	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX080320PDER-E06	2,0 0.079	1,3 0.051	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX080324PDER-E06	2,4 0.094	1,2 0.047	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX080331PDER-E06	3,1 0.122	0,5 0.020	8,0 0.315	13,0 0.512	7,0 0.276	3,4 0.134	11,0																		■
XPKX12T304PDER-E08	0,4 0.016	1,5 0.059	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■
XPKX12T308PDER-E08	0,8 0.031	1,5 0.059	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■
XPKX12T320PDER-E08	2,0 0.079	1,9 0.075	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■
XPKX12T324PDER-E08	2,4 0.094	1,5 0.059	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■
XPKX12T331PDER-E08	3,1 0.122	1,7 0.067	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■
XPKX12T340PDER-E08	4,0 0.157	1,1 0.043	12,1 0.476	18,8 0.740	10,0 0.394	3,97 0.156	11,0																		■

ZOMX11/16



ZOMX16



ZOMX11



Grades																								
Designation	RE	BS	LE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ZOMX110708TR-ME10	0,8 0.031	1,5 0.059	10,8 0.425	7,92 0.312	6,22 0.245	34,0 °						■	■					■		■				
ZOMX110708R-M08	0,8 0.031	1,5 0.059	10,8 0.425	7,92 0.312	6,22 0.245	29,0 °						■	■					■		■				
ZOMX110708TR-M12	0,8 0.031	1,5 0.059	10,8 0.425	7,92 0.312	6,22 0.245	24,0 °			■				■				■	■		■				
ZOMX110708TR-MD14	0,8 0.031	1,5 0.059	10,8 0.425	7,92 0.312	6,22 0.245	22,0 °			■		■						■							
ZOMX160708TR-ME10	0,8 0.031	2,0 0.079	15,5 0.610	10,76 0.424	7,38 0.291	39,1 °						■	■					■		■				
ZOMX160708TR-M12	0,8 0.031	2,0 0.079	15,5 0.610	10,76 0.424	7,38 0.291	29,0 °			■		■		■				■	■		■				
ZOMX160716TR-ME10	1,6 0.063	1,2 0.047	15,5 0.610	10,76 0.424	7,26 0.286	39,1 °						■	■					■						
ZOMX160716TR-M12	1,6 0.063	1,2 0.047	15,5 0.610	10,76 0.424	7,26 0.286	29,0 °			■				■				■	■						

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

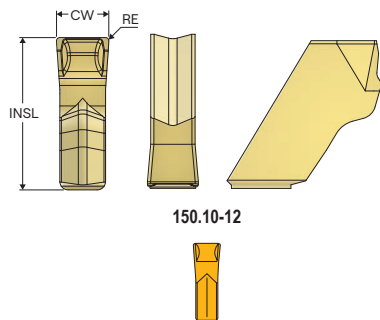
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

150.10



150.10-12



150.10-14

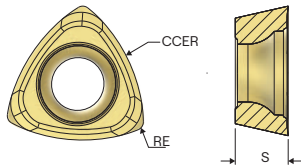


150.10-16



Designation	RE	CW	INSL	Grades																		Uncoated		
				PVD										CVD										
				mm Inch	mm Inch	mm Inch	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	CP500	CP600	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
150.10-2.5N-12	0,17 0.007	2,5 0.098	9,0 0.354										■	■						■		■		
150.10-3N-12	0,19 0.007	3,1 0.122	9,0 0.354										■	■						■		■		
150.10-2.25N-14	0,15 0.006	2,25 0.089	9,0 0.354										■	■								■		
150.10-2.5N-14	0,17 0.007	2,5 0.098	9,0 0.354										■	■						■		■		
150.10-3N-14	0,19 0.007	3,1 0.122	9,0 0.354										■	■						■		■		
150.10-2.25N-16	0,15 0.006	2,25 0.089	9,0 0.354										■	■						■		■		
150.10-2.5N-16	0,17 0.007	2,5 0.098	9,0 0.354										■	■						■		■		
150.10-3N-16	0,19 0.007	3,1 0.122	9,0 0.354										■	■						■		■		
150.10-4N-12	0,23 0.009	4,1 0.161	9,0 0.354										■	■						■		■		
150.10-4N-14	0,23 0.009	4,1 0.161	9,0 0.354										■	■						■		■		
150.10-4N-16	0,23 0.009	4,1 0.161	9,0 0.354										■	■						■		■		

218.19



E04-E07



M04-M11



MD04-MD11



ME07-ME12



Designation	Grades																	
	RE	CCER	S	GAN	PVD								CVD					
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501
218.19-160-04-E07	1,2 0.047	16,0 0.630	4,76 0.187	20,0 °														
218.19-125T-T3-ME07	0,8 0.031	12,5 0.492	3,97 0.156	20,0 °							■							
218.19-160T-04-ME08	1,2 0.047	16,0 0.630	4,76 0.187	20,0 °							■							
218.19-200T-05-ME10	0,6 0.024	20,0 0.787	5,5 0.217	20,0 °							■							
218.19-080T-M04	0,4 0.016	8,0 0.315	2,38 0.094	7,0 °				■			■					■		
218.19-100T-M06	0,8 0.031	10,0 0.394	2,78 0.109	7,0 °				■	■	■	■					■	■	■
218.19-125T-T3-M07	0,8 0.031	12,5 0.492	3,97 0.156	10,0 °				■	■	■	■					■	■	■
218.19-160T-04-M11	1,2 0.047	16,0 0.630	4,76 0.187	15,0 °											■	■	■	
218.19-160T-04-M08	1,2 0.047	16,0 0.630	4,76 0.187	10,0 °				■	■	■	■	■				■	■	■
218.19-200T-05-M10	0,6 0.024	20,0 0.787	5,5 0.217	10,0 °							■							
218.19-080T-MD04	0,4 0.016	8,0 0.315	2,38 0.094	0,0 °		■											■	
218.19-100T-MD08	0,8 0.031	10,0 0.394	2,78 0.109	0,0 °		■										■	■	
218.19-125T-T3-MD10	0,8 0.031	12,5 0.492	3,97 0.156	0,0 °		■									■	■	■	■
218.19-125T-T3-MD08	0,8 0.031	12,5 0.492	3,97 0.156	0,0 °				■	■									
218.19-160T-04-MD11	1,2 0.047	16,0 0.630	4,76 0.187	0,0 °		■	■								■	■	■	■
218.19-160T-04-MD09	1,2 0.047	16,0 0.630	4,76 0.187	0,0 °				■	■									

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

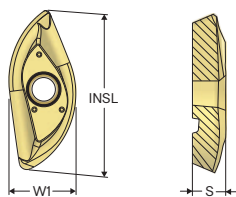
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

218.20

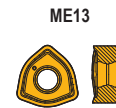
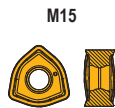
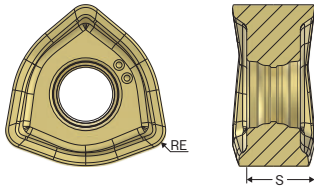


ME/M



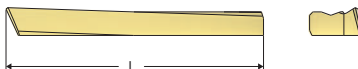
														Grades											
Designation	INSL	W1	S	GAN	PVD								CVD								Uncoated				
	mm Inch	mm Inch	mm Inch			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25		
218.20-0.250ER-ME03	12,42 0.489	5,46 0.215	2,52 0.099	11,0 °							■														
218.20-0.250ER-M03	12,42 0.489	5,46 0.215	2,52 0.099	7,0 °							■														
218.20-0.375ER-M05	18,62 0.733	8,19 0.322	3,85 0.152	3,0 °							■														
218.20-0.375ER-ME05	18,62 0.733	8,19 0.322	3,85 0.152	11,0 °						■	■														
218.20-0.750ER-M10	36,44 1.435	15,12 0.595	7,625 0.300	-2,0 °																	■				
218.20-0.750ER-ME10	36,44 1.435	15,12 0.595	7,625 0.300	6,0 °							■														
218.20-060ER-ME03	11,73 0.462	5,16 0.203	2,37 0.093	12,0 °						■	■														
218.20-080ER-ME04	15,64 0.616	6,88 0.271	3,21 0.126	5,0 °						■	■							■							
218.20-080ER-M04	15,64 0.616	6,88 0.271	3,21 0.126	1,0 °							■										■				
218.20-100ER-ME05	19,55 0.770	8,59 0.338	4,05 0.159	3,0 °						■	■										■				
218.20-100ER-M05	19,55 0.770	8,59 0.338	4,05 0.159	2,0 °							■										■				
218.20-125ER-ME07	24,48 0.964	10,74 0.423	5,05 0.199	11,0 °						■	■										■				
218.20-125ER-M07	24,48 0.964	10,74 0.423	5,05 0.199	1,0 °							■														
218.20-150ER-ME07	28,7 1.130	11,91 0.469	5,99 0.236	6,0 °						■	■														
218.20-150ER-M08	28,7 1.130	11,91 0.469	5,99 0.236	-2,0 °							■										■				
218.20-160ER-ME08	30,61 1.205	12,7 0.500	6,4 0.252	6,0 °						■	■										■				
218.20-160ER-M08	30,61 1.205	12,7 0.500	6,4 0.252	-2,0 °							■										■				
218.20-200ER-ME10	38,26 1.506	15,88 0.625	8,06 0.317	6,0 °						■	■										■				
218.20-200ER-M10	38,26 1.506	15,88 0.625	8,06 0.317	-2,0 °							■														
218.20-250ER-ME12	47,83 1.883	19,85 0.781	10,16 0.400	6,0 °						■	■										■				
218.20-250TR-M14	47,83 1.883	19,85 0.781	10,16 0.400	-2,0 °							■														

218.21



Grades																				
Designation	RE	S	GAN	PVD								CVD							Uncoated	
				MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MN4500	H15
	mm Inch	mm Inch																		
218.21-230TR-06-ME13	1,6 0.063	5,95 0.234	21,0 °						■	■						■	■		■	
218.21-230TR-06-M15	1,6 0.063	5,95 0.234	17,0 °					■	■	■	■				■	■	■			
218.21-230TR-06-MD17	1,6 0.063	6,02 0.237	7,0 °			■		■						■	■	■				

R235.15



E05



Grades																						
Designation	RE	W1	S	GAN	PVD								CVD						Uncoated			
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
R235.15-032-E05	0,4 0.016	11,15 0.439	5,0 0.197	22,0 °				■														
R235.15-050-E05	0,4 0.016	11,75 0.463	5,0 0.197	22,0 °				■														
R235.15-080-E05	0,4 0.016	11,75 0.463	5,0 0.197	22,0 °				■														

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

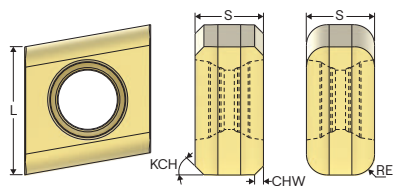
Plunge milling
cutters

Chamfer milling
cutters

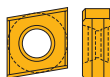
Spot facing
cutters

Inserts

335.18

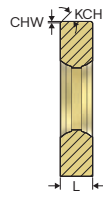
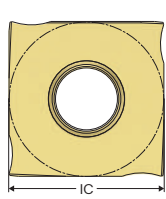


M10/M11/M12

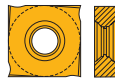


Designation	CHW	L	S	KCH°	Grades															
					PVD								CVD							
					MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500
	mm Inch	mm Inch	mm Inch																	
335.18-1005T-M10	0,5 0.020	10,0 0.394	5,4 0.213	45,0			■				■			■	■	■				
335.18-100508-M10	–	10,0 0.394	5,4 0.213	0,0														■		
335.18-1305T-M11	0,5 0.020	12,7 0.500	5,4 0.213	45,0			■				■			■	■	■				
335.18-130508-M11	–	12,7 0.500	5,4 0.213	0,0														■		
335.18-1606T-M12	0,5 0.020	16,0 0.630	6,4 0.252	45,0							■				■	■				
335.18-160608-M12	–	16,0 0.630	6,4 0.252	0,0																

335.19



M08



MD09



Designation	Grades																	
	CHW	L	IC	KCH°	PVD								CVD					
	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501
335.19-1102-M08	0,1 0.004	2,3 0.091	11,0 —	45,0							■							
335.19-1103-M08	0,1 0.004	2,7 0.106	11,0 —	45,0							■							
335.19-1203-M08	0,15 0.006	3,2 0.126	12,7 —	45,0							■							
335.19-1204-M08	0,15 0.006	4,0 0.157	12,7 —	45,0							■							
335.19-12045-M08	0,15 0.006	4,5 0.177	12,7 —	45,0							■							
335.19-1205-M08	0,15 0.006	5,4 0.213	12,7 —	45,0							■							
335.19-1207-M08	0,15 0.006	7,0 0.276	12,7 —	45,0							■							
335.19-1203T-MD09	0,1 0.004	3,2 0.126	12,7 —	20,0							■							
335.19-12045T-MD09	0,1 0.004	4,5 0.177	12,7 —	20,0							■							
335.19-1204T-MD09	0,1 0.004	4,0 0.157	12,7 —	20,0							■							
335.19-1205T-MD09	0,1 0.004	5,4 0.213	12,7 —	20,0							■				■			
335.19-1207T-MD09	0,1 0.004	7,0 0.276	12,7 —	20,0							■							

Square shoulder
and slot milling
cutters

Helical milling
cutters

Face milling
cutters

Disc milling
cutters

High feed milling
cutters

Copy milling
cutters

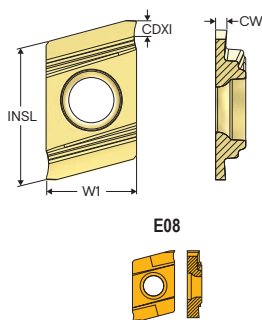
Plunge milling
cutters

Chamfer milling
cutters

Spot facing
cutters

Inserts

R335.15-13/18



E08

M12

M8

Designation	INSL	W1	CW	CDXI	GAN	Grades																Uncoated	
						PVD								CVD								H15	H25
						MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500		
	mm Inch	mm Inch	mm Inch	mm Inch																			
R335.15-13110FG-E08	13,5 0.531	9,0 0.354	1,13 0.044	1,8 0.071	15,0 °							■											
R335.15-13130FG-E08	13,5 0.531	9,0 0.354	1,33 0.052	2,0 0.079	15,0 °							■											
R335.15-13160FG-E08	13,5 0.531	9,0 0.354	1,63 0.064	2,6 0.102	15,0 °							■											
R335.15-13185FG-E08	13,5 0.531	9,0 0.354	1,88 0.074	2,6 0.102	15,0 °							■											
R335.15-13215FG-E08	13,5 0.531	9,0 0.354	2,18 0.086	3,15 0.124	15,0 °							■											
R335.15-13265FG-E08	13,5 0.531	9,0 0.354	2,68 0.106	3,15 0.124	15,0 °							■											
R335.15-13215FG-M10	13,5 0.531	9,0 0.354	2,18 0.086	3,15 0.124	0,0 °							■											
R335.15-13265FG-M10	13,5 0.531	9,0 0.354	2,68 0.106	3,15 0.124	0,0 °							■											
R335.15-18315FG-M12	18,0 0.709	9,0 0.354	3,2 0.126	3,8 0.150	0,0 °							■											
R335.15-18350FG-M12	18,0 0.709	9,0 0.354	3,55 0.140	4,1 0.161	0,0 °							■											
R335.15-18400FG-M12	18,0 0.709	9,0 0.354	4,05 0.159	4,8 0.189	0,0 °							■											
R335.15-18415FG-M12	18,0 0.709	9,0 0.354	4,2 0.165	4,8 0.189	0,0 °							■											
R335.15-18500FG-M12	18,0 0.709	9,0 0.354	5,05 0.199	5,5 0.217	0,0 °							■											
R335.15-18515FG-M12	18,0 0.709	9,0 0.354	5,2 0.205	5,5 0.217	0,0 °							■											

Tolerance (mm): CW: +0/+0.05 - CDX: +0/+0.15

Cutting data calculation

RPM	$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$	(rev/min) (inch/min)
Cutting speed	$v_c = \frac{n \cdot \pi \cdot D_c}{1000}$	(m/min) (ft/min)
Feed speed	$v_f = n \cdot \text{ZEFP} \cdot f_z$	(mm/min) (inch/min)
Feed per revolution	$f = \text{ZEFP} \cdot f_z$	(mm/rev) (inch/rev)
Material removal rate	$Q = \frac{a_e \cdot a_p \cdot v_f}{1000}$	(cm ³ /min) (inch ³ /min)
	$v_c = \frac{n \cdot \pi \cdot D_w}{1000}$	(m/min) (ft/min)
Cutting speed and RPM for copying	$D_w = 2 \cdot \sqrt{a_p (D_c + a_p)}$	(mm) (inch)
	$n = \frac{v_c \cdot 1000}{\pi \cdot D_w}$	(RPM)

Effective No. of teeth (ZEFP)

The effective No. of teeth (ZEFP) is used to calculate the feed speed (v_f) and the feed per revolution (f).

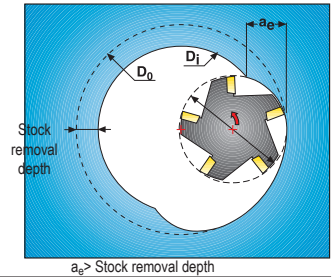
For most of the cutters the effective No. of teeth (ZEFP) is equal to the No. of teeth in the cutter (ZNP), but for some of the cutters ZEFP is less than ZNP.

Cutting data calculation

Internal circular interpolation

When using circular interpolation or helical interpolation ramping to increase the diameter of a hole in a workpiece, the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below. The width of cut value is then used for calculation of feed/tooth and feed speed.

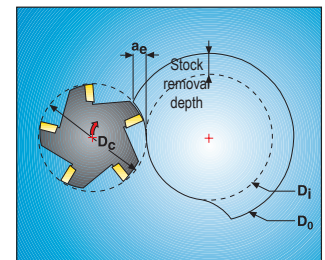
$$a_e = \frac{D_o^2 - D_i^2}{4 (D_o - D_c)}$$



External circular interpolation

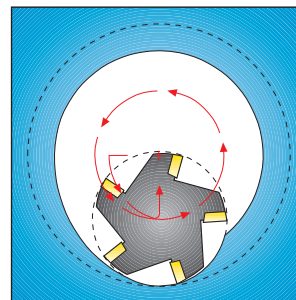
When using external circular interpolation or helical interpolation ramping to decrease the diameter of a round workpiece the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below.

$$a_e = \frac{D_o^2 - D_i^2}{4 (D_i + D_c)}$$

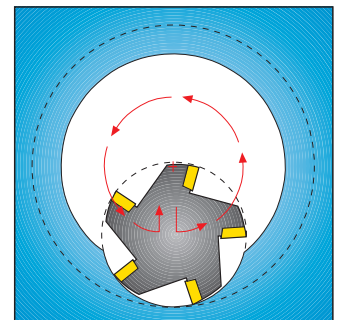


Increase the width of cut successively to full value

For circular interpolation operations it is recommended to successively increase the width of cut up to full value. When using radial infeed up to full width of cut, reduce the feed/tooth and feed speed to half.



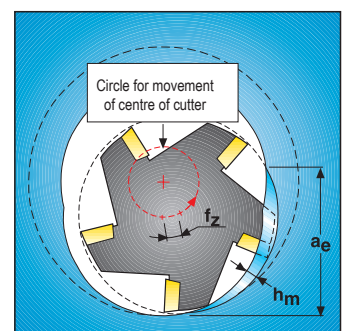
Successive increase of width of cut – recommended method.



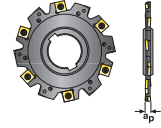
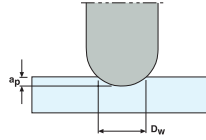
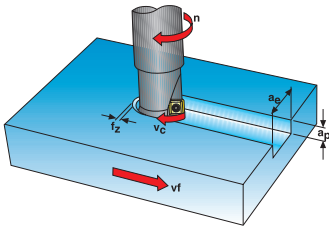
Radial infeed – Reduce feed/tooth.

Feed speed related to the centre of the cutter

When calculating feed speed and feed/tooth from average chip thickness using circular interpolation or helical interpolation ramping in an operation, the feed speed and feed/tooth are always related to the centre and not to the periphery of the cutter.



Cutting data calculation



a_e	=	Width of cut mm/radial depth of cut
a_p	=	Depth of cut mm/axial depth of cut
DC	=	Cutter diameter
f	=	Feed per revolution
f_z	=	Feed per tooth
ZEFP	=	Effective No. of teeth for calculation of feed speed or feed per rev (see below)
n	=	RPM
Q	=	Material removal rate
V_c	=	Cutting speed
v_f	=	Feed speed
v_f	=	Feed speed

Example: Disc mill 335.19
Total No. of teeth (ZNP) = 12 Effective No. of teeth (ZEFP) = 6

Explanation: 6 inserts on one side of the cutter and 6 overlapping inserts on the other side are used to get the full width (a_p), which means ZEFP = 6.

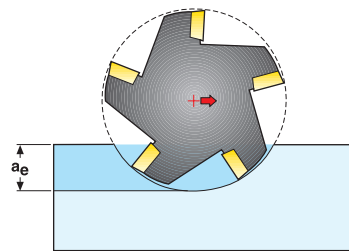
Side milling

Relative engagement of the cutter diameter ($a_e/DC=\%$)

30%
20%
10%
5%

Multiply the feed per tooth by the following factor

1.25
1.5
2.0
3.0



This table can be used for cutters with cutting edge angle = 90°

a _e /DC %	Feed Per Tooth, mm/tooth (f _z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,03	0,04	0,04	0,06	0,07	0,08	0,11	0,14	1.8
3 (0.03)				0,02	0,03	0,03	0,04	0,05	0,07	0,09	0,10	0,14	0,17	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	1.6
10 (0.10)		0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,16	0,19	0,25	0,31	1.5
15 (0.15)	0,011	0,02	0,03	0,04	0,06	0,08	0,09	0,11	0,15	0,19	0,23	0,30		1.4
20 (0.20)	0,013	0,03	0,03	0,04	0,06	0,09	0,11	0,13	0,17	0,22	0,26			1.35
30 (0.30)	0,016	0,03	0,04	0,05	0,08	0,10	0,13	0,16	0,21	0,26	0,31			1.3
40 (0.40)	0,018	0,04	0,05	0,06	0,09	0,12	0,15	0,18	0,23	0,29				1.25
50 (0.50)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.2
Slotting (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

= Feed per tooth correction example: at 20% engagement also increase speed by 1.35

When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value. It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

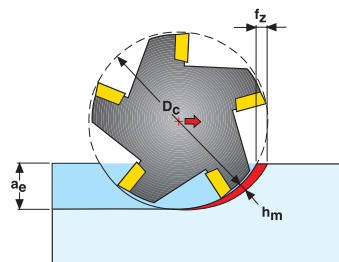
a _e /D _c %	Feed Per Tooth, in/tooth (f _z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (h _m)													
Width of cut up to and including D _c /2														
2 (0.02)					.0008	.0012	.0016	.0016	.0024	.0028	.0031	.0043	.0055	1.8
3 (0.03)				.0008	.0012	.0012	.0016	.0020	.0028	.0035	.0039	.0055	.0067	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0051	.0071	.0087	1.6
10 (0.10)		.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0063	.0075	.0098	.0122	1.5
15 (0.15)	.0004	.0008	.0012	.0016	.0024	.0031	.0035	.0043	.0059	.0075	.0091	.0118		1.4
20 (0.20)	.0005	.0012	.0012	.0016	.0024	.0035	.0043	.0051	.0067	.0087	.0102			1.35
30 (0.30)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0063	.0083	.0102	.0122			1.3
40 (0.40)	.0007	.0016	.0020	.0024	.0035	.0047	.0059	.0071	.0091	.0114				1.25
50 (0.50)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.2
Slotting (Width of cut = D _c)														
100 (1.00)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.0

= Feed per tooth correction example: at 20% engagement also increase speed by 1.35

Instead of using the table above for calculating h_m and f_z, the following formula could be used if a_e/D_c < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$



This table can be used for cutters with cutting edge angle = 45°

a _e /DC %	Feed Per Tooth, mm/tooth (f _z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
Average Chip Thickness, mm/tooth (h _m)														
Width of cut up to and including DC/2														
2 (0.02)					0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	1.8
3 (0.03)				0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.7
5 (0.05)			0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	1.6
10 (0.10)		0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,18	0,22	1.5
15 (0.15)	0,008	0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,21		1.4
20 (0.20)	0,009	0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,15	0,18			1.35
30 (0.30)	0,011	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,15	0,18	0,22			1.3
40 (0.40)	0,012	0,02	0,03	0,04	0,06	0,08	0,10	0,12	0,17	0,21				1.25
50 (0.50)	0,01	0,03	0,04	0,05	0,07	0,09	0,11	0,14	0,18	0,23				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

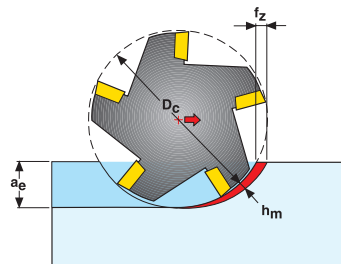
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

	Feed Per Tooth, in/tooth (f _z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (h _m)													
Width of cut up to and including D _c /2														
2 (0.02)					.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	1.8
3 (0.03)				.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.7
5 (0.05)			.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0035	.0051	.0063	1.6
10 (0.10)		.0004	.0008	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0051	.0071	.0087	1.5
15 (0.15)	.0003	.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0083		1.4
20 (0.20)	.0004	.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0059	.0071			1.35
30 (0.30)	.0004	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0059	.0071	.0087			1.3
40 (0.40)	.0005	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0067	.0083				1.25
50 (0.50)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.2
Face milling full engagement (Width of cut = D _c)														
100 (1.00)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.0

Instead of using the table above for calculating h_m and f_z, the following formula could be used if a_e/DC < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}} \cdot \sin \kappa$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}} \cdot \frac{1}{\sin \kappa}$$



This table can be used for cutters with cutting edge angle = 60°

a _e /DC %	Feed Per Tooth, mm/tooth (f _z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.8
3 (0.03)				0,01	0,02	0,03	0,04	0,04	0,06	0,07	0,09	0,12	0,15	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,15	0,19	1.6
10 (0.10)		0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,22	0,27	1.5
15 (0.15)	0,010	0,02	0,03	0,03	0,05	0,07	0,08	0,10	0,13	0,16	0,20	0,26		1.4
20 (0.20)	0,011	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,15	0,19	0,22			1.35
30 (0.30)	0,013	0,03	0,04	0,04	0,07	0,08	0,11	0,13	0,18	0,22	0,27			1.3
40 (0.40)	0,015	0,03	0,04	0,05	0,08	0,10	0,13	0,15	0,20	0,25				1.25
50 (0.50)	0,02	0,03	0,04	0,06	0,08	0,11	0,14	0,17	0,22	0,28				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

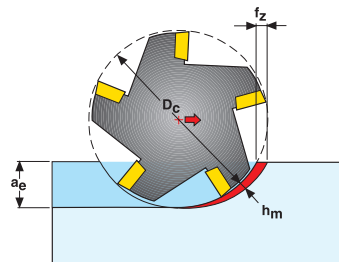
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a _e /D _c %	Feed Per Tooth, in/tooth (f _z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	1.00	
	Average Chip Thickness, in/tooth (h _m)													
Width of cut up to and including D _c /2														
2 (0.02)					.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.8
3 (0.03)				.0004	.0008	.0012	.0016	.0016	.0024	.0028	.0035	.0047	.0059	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	.0047	.0059	.0075	1.6
10 (0.10)		.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0087	.0106	1.5
15 (0.15)	.0004	.0008	.0012	.0012	.0020	.0028	.0031	.0039	.0051	.0063	.0079	.0102		1.4
20 (0.20)	.0004	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0059	.0075	.0087			1.35
30 (0.30)	.0005	.0012	.0016	.0016	.0028	.0031	.0043	.0051	.0071	.0087	.0102			1.3
40 (0.40)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0059	.0079	.0098				1.25
50 (0.50)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.2
Face milling full engagement (Width of cut = D _c)														
100 (1.00)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.0

Instead of using the table above for calculating h_m and f_z, the following formula could be used if a_e/D_c < 30%.

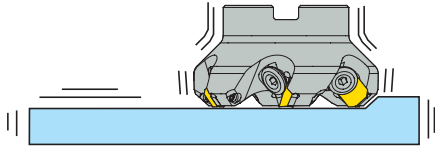
$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$

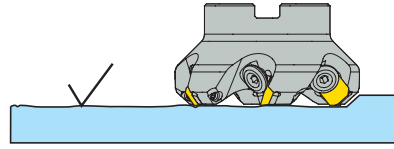


Trouble shooting carbide milling

Vibrations



- Improve the stability of cutter and workpiece.
- Change cutter positioning.
- Minimize tool overhang.
- Reduce the cutting speed.
- Increase the feed rate.
- Reduce the depth of cut.
- Select a different insert geometry, see page Insert geometry
- Use Steadyline antivibration bar



- Improve the stability of cutter and workpiece.
- Minimize tool overhang.
- Reduce the feed rate.
- Increase the cutting speed
- Use coolant.
- Use wiper inserts.
- Keep feed/rev value within wiper width
- Use Steadyline antivibration bar

Tool life problems

Rapid flank wear



- Reduce the cutting speed.
- Increase the feed rate.
- Climb milling.

Rapid notch wear



- Reduce the cutting speed.
- Increase the feed rate.
- Increase the depth of cut.
- Climb milling.
- Change cutter positioning

Chipping



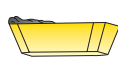
- Increase the cutting speed.
- reduce the feed rate.
- Conventional milling.
- Improve chip evacuation.
- Change cutter positioning.
- Minimize tool overhang.
- Improve stability.

Comb cracks



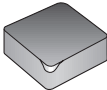
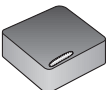
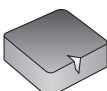
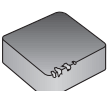
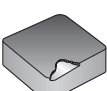
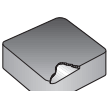
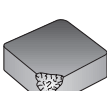
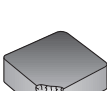
- Reduce the cutting speed.
- Reduce the feed rate.
- No coolant
- Change cutter positioning.

Built-up edge (BUE)

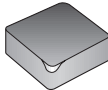
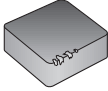


- Increase the cutting speed.
- Increase the feed rate
- No coolant.
- Climb milling.
- Change cutter positioning

Troubleshooting – PCBN

Problem		Cause	Suggested action(s)
Flank wear		Not correct edge temperature	• Increase cutting speed • Increase feed rate • Increase depth of cut • Check cutting tool centre height • Check the ferrite content
Crater wear		Not correct edge temperature	• Decrease cutting speed • Decrease feed rate • Reduce chamfer angle • Use E edge preparation • Use coated insert • Use coolant (only in continuous cut)
Notch wear		Not correct edge temperature Too high cutting forces	• Increase cutting speed • Decrease feed rate • Increase insert approach angle (preferably round inserts) • Vary the depth of cut • Use inserts with chamfered cutting edges
Edge chipping		Too high cutting forces	• Use inserts with chamfered cutting edges • Increase system rigidity • For interrupted cuts, chamfer the tool entry/exit slots and holes • Vary the cutting speed to eliminate vibrations
Edge flaking (continuous cut)		Too high cutting forces	• Increase cutting speed • Reduce feed rate • Use chamfered and honed cutting edges • Check cutting tool center height • Reduce insert approach angle
Edge flaking (interrupted cut)		Too high cutting forces	• Do not use coolant • Use chamfered and honed cutting edges • Reduce feed rate • Increase cutting speed • Check cutting tool centre height • Reduce insert approach angle
Edge breakage		Too high cutting forces	• Reduce depth of cut • Reduce cutting speed • Increase nose radius • Use chamfered and honed inserts • Check cutting tool center height
Insert breakage		Too high cutting forces	• Check insert seating • Check insert shim and insert clamp • Check cutting tool centre height

Troubleshooting – PCD

Problem		Cause	Suggested action(s)
Flank wear		Wrong grade Presence of Fe/Ni/Co	• Change to coarser PCD grade • Check material composition • Reduce cutting speed • Use coolant
Built-up edge		Not correct edge temperature Wrong grade	• Decrease or increase cutting speed • Choose a sharper insert • Change to a finer grade
Edge chipping		Poor rigidity Wrong grade Incorrect cutting data High run-out	• Minimize vibrations • Change to a tougher grade • Change cutting data • Check set-up
Poor surface finish		Wrong grade Too high cutting data Incorrect wiper position	• Change to a finer PCD grade • Reduce cutting speed and feed rate • Check wiper position
Flaking of workpiece		Too high depth of cut	• Decrease depth of cut • Add entry chamfer on component

Torque keys, insert keys and Combimaster tightening torque

The range of Torque keys with fixed torque values are available in combinations of key grip/torque value for insert locking for most of the Seco milling products. By using a Torque key you always ensure the correct tightening force when mounting the insert.

Torque keys are calibrated according to ISO 6789.

Code key: T00-15P35

T00 = Torque screw driver type for Torx Plus blade

T00T= Torque T-handle type for Torx Plus blade

15P= Torx Plus size

35 = Torque value 3,5 Nm

Please observe that blades are not interchangeable between screw driver type and T-handle type.

Torx Plus® is a registered trade mark belonging to

Camcar-Textron (USA)

Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
			
T00-06P05	T00-06P	T06P	0,5 / 4.4
T00-07P05	T00-07P	T07P	0,5 / 4.4
T00-07P09	T00-07P	T07P	0,9 / 8.0
T00-08P12	T00-08P	T08P	1,2 / 10.6
T00-08P20	T00-08P	T08P	2,0 / 17.7
T00-09P09	T00-09P	T09P	0,9 / 8.0
T00-09P12	T00-09P	T09P	1,2 / 10.6
T00-09P20	T00-09P	T09P	2,0 / 17.7
T00-10P20	T00-10P	T10P	2,0 / 17.7
T00-10P30	T00-10P	T10P	3,0 / 26.6
T00-10P35	T00-10P	T10P	3,5 / 31.0
T00-15P20	T00-15P	T15P	2,0 / 17.7
T00-15P30	T00-15P	T15P	3,0 / 26.6
T00-15P35	T00-15P	T15P	3,5 / 31.0
T00-15P40	T00-15P	T15P	4,0 / 35.4
T00-15P50	T00-15P	T15P	5,0 / 44.3
T00-20P35	T00-20P	T20P	3,5 / 31.0
T00-20P50	T00-20P	T20P	5,0 / 44.3

*Including blade

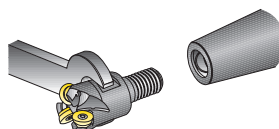
Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
			
T00T-15P50	T00T-15P	T15P	5,0 / 44.3
T00T-20P50	T00T-20P	T20P	5,0 / 44.3
T00T-20P60	T00T-20P	T20P	6,0 / 53.1
T00T-20P80	T00T-20P	T20P	8,0 / 70.8
T00T-25P50	T00T-25P	T25P	5,0 / 44.3
T00T-25P60	T00T-25P	T25P	6,0 / 53.1
T00T-25P80	T00T-25P	T25P	8,0 / 70.8

*Including blade

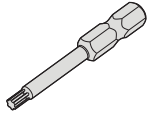
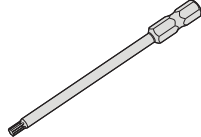
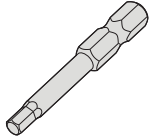
Torx Plus size	Torx Plus bit - short	Torx Plus bit - long	Key (T-handle)
			
T06P	H4B-T06P	-	DOUBLE-T
T07P	H4B-T07P	-	DOUBLE-T
T08P	H4B-T08P	-	DOUBLE-T
T09P	H4B-T09P	-	DOUBLE-T
T10P	H4B-T10P	-	DOUBLE-T
T15P	H4B-T15P	H4B-T15PL	DOUBLE-T
T20P	H6B-T20P	H6B-T20PL	DOUBLE-T
T25P	H6B-T25P	H6B-T25PL	DOUBLE-T
T30P	-	H6B-T30PL	DOUBLE-T

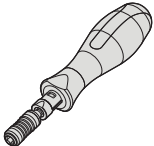
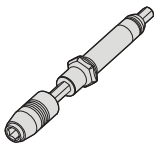
Hexagonal size	Hexagonal bit - short	Hexagonal bit - long	Key (T-handle)
			
3,0 mm	H6B-3.0	-	DOUBLE-T
5,0 mm	-	H6B-H5.0L	DOUBLE-T

Combimaster size M	Tightening torque
M6	10 Nm
M8	25 Nm
M10	40 Nm
M12	60 Nm
M16	80 Nm
M20	120 Nm



1/4" Hex Drive Bits and Adjustable Torque handles.

Size	Torx Plus bits (50 mm / 1.96 Inch)	Torx Plus bits (90 mm / 3.54 Inch)	Hexagonal bits (50 mm / 1.96 Inch)
			
Torx Plus - T05P	1/4HEX-T05Px50	-	
Torx Plus - T06P	1/4HEX-T06Px50	-	
Torx Plus - T07P	1/4HEX-T07Px50	-	
Torx Plus - T08P	1/4HEX-T08Px50	1/4HEX-T08Px90	
Torx Plus - T09P	1/4HEX-T09Px50	1/4HEX-T09Px90	
Torx Plus - T10P	1/4HEX-T10Px50	1/4HEX-T10Px90	
Torx Plus - T15P	1/4HEX-T15Px50	1/4HEX-T15Px90	
Torx Plus - T20P	1/4HEX-T20Px50	1/4HEX-T20Px90	
Torx Plus - T25P	1/4HEX-T25Px50	1/4HEX-T25Px90	
Torx Plus - T30P	1/4HEX-T30Px50	-	
Hexagonal - 2,5mm	-	-	1/4HEX-H2.5x50
Hexagonal - 3,0mm	-	-	1/4HEX-H3.0x50
Hexagonal - 4,0mm	-	-	1/4HEX-H4.0x50
Hexagonal - 5,0mm	-	-	1/4HEX-H5.0x50
Hexagonal - 6,0mm	-	-	1/4HEX-H6.0x50

Adjustable torque S-handle 0,8 - 5,0 Nm (7.1 - 44.0 in.lbs) *	Bit holder for S-HANDLE **	Adjustable torque T-handle 5,0 - 14,0 Nm (44.0 - 123.9 in.lbs) *	Bit holder for T-HANDLE ***
			
1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-BITHOLDER-S	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-BITHOLDER-T

* Including Bit holder

**The bit holder is also compatible with the fixed Torque keys.

*** The bit holder is also compatible with the fixed T-handle Torque keys.

Steels, ferritic and martensitic stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
P1	Free-cutting steels	$360 < R_m < 880$	11 SMn30 $R_m = 385 \text{ N/mm}^2$	1500	0,14
P2	Low-alloy ferritic steels, $C < 0.25\% \text{wt}$ Low-alloy weldable general structural steels	$320 < R_m < 600$	S235JRG2 $R_m = 420 \text{ N/mm}^2$	1600	0,23
P3	Ferritic & ferritic/pearlitic steels, $C < 0.25\% \text{wt}$ Weldable general structural steels Case-hardening steels	$430 < R_m < 610$	16 MnCr 5 $R_m = 550 \text{ N/mm}^2$	1800	0,14
P4	Low-alloy general structural steels, $0.25\% < C < 0.67\% \text{wt}$ Low-alloy Quench & Temper steels	$520 < R_m < 1200$	C 45E $R_m = 660 \text{ N/mm}^2$	2000	0,15
P5	Structural steels, $0.25\% < C < 0.67\% \text{wt}$ Quench & Temper steels	$550 < R_m < 1200$	42 CrMo 4 $R_m = 700 \text{ N/mm}^2$	2020	0,18
P6	Low-alloy through-hardening steels, $C > 0.67\% \text{wt}$ Low-alloy spring and bearing steels	$520 < R_m < 1200$	C 100S $R_m = 600 \text{ N/mm}^2$	2100	0,17
P7	Through-hardening steels, $C > 0.67\% \text{wt}$ Spring and bearing steels	$600 < R_m < 1200$	100 Cr 6 $R_m = 650 \text{ N/mm}^2$	2160	0,17
P8	Tool steels High Speed Steels (HSS)	$600 < R_m < 1200$	X 40 CrMoV 5 1 $R_m = 700 \text{ N/mm}^2$	2400	0,20
P11	Ferritic & martensitic stainless steels	$415 < R_m < 1200$	X 20 Cr 13 $R_m = 675 \text{ N/mm}^2$	2000	0,15
P12	Maraging and precipitation-hardening stainless steels	$500 < R_m < 1200$	X 5 CrNiCuNb 16 4 $R_m = 1100 \text{ N/mm}^2$	2100	0,17

Free-cutting, austenitic and duplex stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
M1	Free-cutting austenitic stainless steels		X 10 CrNiS 18 9	1700	0,14
M2	Low-alloy austenitic stainless steels		X 5 CrNi 18 10	1920	0,18
M3	Medium-alloy austenitic stainless steels		X 2 CrNiMo 18 14 3	2070	0,17
M4	High-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 22 5 3	2230	0,16
M5	Difficult high-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 25 7 4	2510	0,13

Cast irons

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
K1	Grey cast irons (GCI)		EN-GJL-250	930	0,32
K2	Compacted graphite irons (CGI)		EN-GJV-400	1000	0,35
K3	Malleable cast irons (MCI)		EN-GJMB-550-4	1050	0,37
K4	Nodular cast irons (SGI)		EN-GJS-500-7	1160	0,37
K5	Austempered ductile irons (ADI)		EN-GJS-1000-5	0	
K6	Austenitic lamellar cast irons		EN-GJLA-XNiCuCr15-6-2	0	
K7	Austenitic nodular cast irons		EN-GJSA-XNiMn23-4	0	

Non-ferrous metals

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
N1	Aluminium alloys, Si < 9%		AW-7075	0	
N2	Aluminium alloys, 9% < Si < 16%		AC-44200 Si = 12%	0	
N3	Aluminium alloys, Si > 16%		AlSi17Cu5	0	
N11	Copper alloys		CW614N	740	0,26

Superalloys and titanium

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
S1	Iron-based superalloys		Discalloy	0	
S2	Cobalt-based superalloys		Stellite 21	0	
S3	Nickel-based superalloys		Inconel 718	2530	0,21
S11	Titanium, low alloyed, (α)		Ti	0	
S12	Titanium, medium alloyed, ($\alpha+\beta$)		TiAl6V4	1500	0,24
S13	Titanium, high alloyed, (near β and β)		Ti10V2Fe3Al	0	

Hard materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
H3	Case-hardened steels	58 < HRC < 62	16 MnCr 5 60 HRC	2070	0,14
H5	Quenched & Tempered steels	38 < HRC < 56	42 CrMo 4 50 HRC	2320	0,18
H7	Quenched & Tempered steels Bearing steels	56 < HRC < 64	100 Cr 6 60 HRC	2480	0,17
H8	Tool steels High Speed Steels (HSS)	38 < HRC < 64	X 40 CrMoV 5 1 50 HRC	2750	0,20
H11	Martensitic stainless steels	38 < HRC < 50	X 20 Cr 13 45 HRC	2300	0,15
H12	Maraged and precipitation-hardened stainless steels	1200 < R_m < 1650	X 5 CrNiCuNb 16 4 $R_m = 1450 \text{ N/mm}^2$	2410	0,17
H21	Manganese steels	23 < HRC < 64	X 120 Mn 12 50 HRC	0	
H31	White cast irons	50 < HRC < 64	EN-GJN-HV600(XCr11) 55 HRC	0	

Other difficult materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
PM1	Low-alloy PM-materials		F-0008 Fe-0.7C	0	
PM2	Medium-alloy PM-materials		FLC-4608 Fe2Cu1.8Ni 0.5Mo0.2Mn0.8C	0	
PM3	High-alloy PM-materials Exhaust valve seat materials, etc.			0	
HF1	Hardfacing alloys Welded or plasma-deposited iron-based alloys			0	
HF2	Hardfacing alloys Welded or plasma-deposited cobalt- and nickel-based alloys			0	
CC1	Sintered tungsten carbide		G50	0	

Plastics and Composites

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
TS1	Thermosetting polymers		Urea formaldehyde (UF)	0	
TS2	Thermosetting carbon-fibre composites		T300 T700 T800 HTA-S IMA - Epoxy (M21)...	0	
TS3	Thermosetting glass-fibre composites		Epoxy - HX..(42..)/E glass (7781...)...	0	
TS4	Thermosetting aramide-fibre composites		Kevlar 49	0	
TP1	Thermoplastic polymers		Polycarbonate (PC)	0	
TP2	Thermoplastic carbon-fibre composites		PPS/PEEK - T300..	0	
TP3	Thermoplastic glass-fibre composites		PPS/PEEK - E-glass or A-glass...	0	
TP4	Thermoplastic aramide-fibre composites			0	

Graphite

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
GR1	Graphite		R 8500	0	

SMG	EN	EN-Nr	W-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
P1	11 SMn 30	1.0715	1.0715	9 SMn 28	S 250	230 M 07	CF 9 SMn 28	SUM 22	1912	G12130
	11 SMnPb 30	1.0718	1.0718	9 SMnPb 28	S 250 Pb		CF 9 SMnPb 28	SUM 22 L	1914	G12134
	10 S 20	1.0721	1.0721	10 S 20	10 F 1	210 M 15	CF 10 S 20			
			1.0722	10 SPb 20	10 PbF 2		CF 10 SPb 20			
	15 SMn 13	1.0725	1.0723	15 S 20		210 A 15		SUM 32	1922	
	35 S20	1.0726	1.0726	35 S 20	35 MF 4	212 M 36			1957	G11400
	46 S20	1.0727	1.0727	46 S 20	45 MF 4	212 M 44			1973	G11460
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
P2	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
	S235JR	1.0037	1.0037	St 37-2	E 24-2		Fe 360 B	STKM 12 C	1311	
	S235JRG2	1.0038	1.0116	St 37-3	E 24-3, E 24-4	4360-40 C	Fe 360 D FF		1312, 1313	
	S275J2G3	1.0144	1.0144	St 44-3 N	E 28-3, E 28-4	4360-43 C	Fe 430 D FF	SM 41 C	1412, 1414	
	C 10	1.0301	1.0301	C 10	34 C 10, XC 10	045 M 10	C 10	S 10 C		G10100
			1.0401	C 15	37 C 12, XC 18	080 M 15	C 15, C 16		1350	G10170
	C22	1.0402	1.0402	C 22	C 20	050 A 20	C 20, C 21		1450	G10200
	S355JR	1.0570	1.0570	St 52-3	E 36-3, E 36-4	4360-50 C	Fe 510 B	SM 50 YA	2172, 2132	
P3	C 15R	1.1141	1.1141	Ck 15	XC 15, XC 18	080 M 15	C 15, C 16	S 15 C, S 15 CK	1370	G10170
			1.1158	Ck 25	XC 25	060 A 25	C 25	S 25 C		G10250
			1.2162	21 MnCr 5	20 NC 5			SCR 420 H		
	16 Mo 3	1.5415	1.5415	15 Mo 3	15 D 3	1501-240	16 Mo 3		2912	
			1.5423	16 Mo 5		1503-245-420	16 Mo 5	SB 450 M		G45200
	14 NiCr 14	1.5752	1.5752	14 NiCr 14	12 NC 15	655 M 13		SNC 815 (H)		G33106
			1.5919	15 CrNi 6	16 NC 6	S 107	16 CrNi 4			
	18 NiCrMo 7 6	1.6587	1.6587	18 CrNiMo 7 6	18 NCD 6	820 A 16	18 NiCrMo 7			
P4	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
	16 MnCrS 5	1.7139	1.7139	16 MnCrS 5						
	20 MnCr 5	1.7147	1.7147	20 MnCr 5	20 MC 5		20 MnCr 5	SMnC 420 (H)		G51200
	20 MnCrS 5	1.7149	1.7149	20 MnCrS 5	20 MnCrS 5			SMnC 21 H		
	13 CrMo 4 5	1.7335	1.7335	13 CrMo 4 4	15 CD 3.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
			1.7337	16 CrMo 4 4	15 CD 4.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
			1.7380	10 CrMo 9 10	10 CD 9.10	1501-622 Gr. 31	12 CrMo 9 10		2218	J21890
	10 CrMo 9 10	1.7380	1.7380	10 CrMo 9 10						
P5	C35		1.0501	C 35	55 C 35	060 A 35	C 35		1550	G10350
	E 335	1.0503	1.0503	C 45	65 C 45	80 M 46	C 45	S 45 C	1650	G10430
	C40		1.0511	C 40	60 C 40	080 M 40	C 40	S 40 C		
	E 360	1.0070	1.0535	St 70-2	A 70-2		Fe 690		1655	
	C60	1.0601	1.0601	C 60	CC 55	080 A 62	C 60			G10600
			1.1157	40 Mn 4	35 M 5	150 M 36				G10390
	G 28 Mn6	1.1165	1.1165	30 Mn 5		120 M 36		SMn 1 H, SCMn 2		G13300
	C 35E	1.1181	1.1181	Ck 35	XC 38 H1	080 M 36	C 35	S 35 C	1572	G10340
P6	C 45E	1.1191	1.1191	Ck 45	XC 42	080 M 46	C 45	S 45 C	1672	G10420
	C 60E	1.1221	1.1221	Ck 60	XC 60	080 A 62	C 60	S 58 C	1665, 1678	G10640
			1.1740	C 60 W	Y3 55			SK 7		
	55 SiCr7	1.7100	1.0904	55 Si 7	55 S 7	250 A 53	55 Si 8		2085, 2090	
			1.2330	35 CrMo 4	34 CD 4	708 A 37	35 CrMo 4		2234	T51620
			1.2542	45 WCrV 7		BS 1	45 WCrV 8 KU		2710	T41901
		1.2714	1.2714	56 NiCrMoV 7		BH 224-5	56 NiCrMoV7-KU	SKT 4		T61206
			1.5121	46 MnSi 4						
P5			1.5710	36 NiCr 6	35 NC 6	640 A 35		SNC 236		
			1.5736	36 NiCr 10	35 NC 11		35 NiCr 9	SNC 631 (H)		
	36 CrNiMo 4		1.6511	36 CrNiMo 4	40 NCD 3	816 M 40	38 NiCrMo 4 (KB)			G98400
	34 CrNiMo 6	1.6582	1.6582	34 CrNiMo 6	35 NCD 6	817 M 40	35 NiCrMo 6 (KW)	SNM 447	2541	G43400
	34 Cr 4	1.7033	1.7033	34 Cr 4	32 C 4	530 A 32	34 Cr 4 (KB)	SCR 430 (H)		G51320
	41 Cr 4	1.7035	1.7035	41 Cr 4	42 C 4	530 M 40	41 Cr 4	SCR 440 (H)		G51400
	25 CrMo 4	1.7218	1.7218	25 CrMo 4	25 CD 4 S	708 M 25	25 CrMo 4 (KB)	SCM 425	2225	G41300
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
P6	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
			1.7361	32 CrMo 12	30 CD 12	722 M 24	32 CrMo 12		2240	
	50 CrV 4	1.8159	1.8159	50 CrV 4	50 CV 4	735 A 50	51 CrV 4	SUP 10	2230	H61500
	41 CrAlMo 7 10	1.8509	1.8509	41 CrAlMo 7	40 CAD 6.12	905 M 39	41 CrAlMo 7	SACM 645	2940	K24065
	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU	SK 3	1880	
			1.1645	C 105 W2	Y1 105		C 100 KU	SK 2		
P6			1.1663	C 125 W	Y2 120		C 120 KU			

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
	1213				Annealed	
	12 L 13				Annealed	
	1108				Annealed	
	11 L 08				Annealed	
					Annealed	
	1140	40			Annealed	
	1146				Annealed	
	1215				Annealed	
	12 L 14				Annealed	
		16D			Annealed	
	A573 Grade 58	18kp	11 378		Annealed	
	A573 Grade 70	St14kP	11 448		Annealed	
	1010	10			Annealed	
F.1110	1015	15			Annealed	
	1020, 1023	20	12 024		Annealed	
		17G1S	11 523		Annealed	
F.1511	1015	15			Annealed	
F.1120	1025	25			Annealed	
					Annealed	
	A204 Grade A		15 020		Annealed	
	4520				Annealed	
	3310, 9314	20X2H4A	16 420		Annealed	
	4320		16 220		Annealed	
					Annealed	
F.1516	5115	12KHN2	14 220		Annealed	
		18HG			Annealed	
	5120	20KH	14 221		Annealed	
	5120 H	20KH			Annealed	
	A182-F11, A182-F12	12KHM	15 121		Annealed	
	A387 Grade 12 Cl. 2				Annealed	
F.155	A182-F22	12KH8	15 313		Annealed	
F.1130	1035	35	12 040		Annealed	
F.5110	1045	45	12 050		Annealed	
	1040	40	12 041		Annealed	
F.1150	1055	55			Annealed	
	1060	60	12 061		Annealed	
	1039	40G			Annealed	
	1330	30G2			Annealed	
F.1135	1035	35			Annealed	
F.1140	1045	45	12 050		Annealed	
F.1150	1064	60			Annealed	
	1060	60			Annealed	
F.144	9255	55S2			Annealed	
F.1250	4135	35KHM			Annealed	
F.5241	S1	5KHV2S			Annealed	
	L6	5KHNV			Annealed	
	5045				Annealed	
	3135				Quenched & Tempered	
	3435				Annealed	
	9840				Quenched & Tempered	
F.1280	4340	38H2N2MA	16 343		Annealed	
	5132	35KH			Quenched & Tempered	
	5140	40H	14 140		Quenched & Tempered	
F.1251	4130	20KHM	15 130		Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Annealed	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
					Quenched & Tempered	
F.143	6150	50KHFA	15 260		Quenched & Tempered	
F.1740	A355 Cl. A				Annealed	
F.5103	1070	70			Annealed	
F.5117	1095				Annealed	
F.5118	W1	U10A			Annealed	
		U10			Annealed	
	W1	U13			Annealed	

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
P7	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
	90 MnCrV 8	1.2842	1.2842	100 MnCrW 4	90 MWCV 5	BO 1	95 MnVCr 5 KU	SKS 3	2140	T31501
	100 Cr 6	1.3505	1.3505	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
P8	X 210 Cr 12	1.2080	1.2080	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
			1.2343	X 38 CrMoV 5 1	Z 38 CDV 5	BD 3	X 210 Cr 13 KU	SKD 1		T30403
	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 11	X 37 CrMoV 5 1 KU	SKD 6		T20811
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
			1.2365	X 32 CrMoV 3 3	32 DCV 28	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
			1.2436	X 210 CrW 12		BH 10	30 CrMoV 12 27 KU	SKD 7		T20810
			1.2601	X 165 CrMoV 12			X 215 CrW 12 1 KU	SKD 2	2312	
			1.2713	55 NiCrMoV 6	55 NCDV 7		X 165 CrMoV 12 KU		2310	
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKT 4		T61206
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCV 09-08-04	BM 42	HS 2-9-1-8	SKH 55	2723	
	HS 18-1-2-5	1.3255	1.3255	S 18-1-2-5	Z 80 WDKCV 18-05-04-01	BT 4	HS 18-1-1-5	SKH 51		T11342
	HS 6-5-2	1.3343	1.3343	S 6-5-2	Z 85 WDCV 06-05-04-02	BM 2	HS 6-5-2	SKH 3		T12004
	HS 2-9-2	1.3348	1.3348	S 2-9-2	Z 100 DCVV 09-04-02-02		HS 2-9-2	SKH 9, SKH 51	2722	T11302
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 58	2782	T11307
								SKH 2		T12001
P11	X 6 Cr 13	1.4000	1.4000	X 6 Cr 13	Z 6 C 12	403 S 17	X 6 Cr 13	SUS 403	2301	S41008
	X 12 Cr 13	1.4006	1.4006	X 10 Cr 13	Z 10 C 13	410 S 21	X 12 Cr 13	SUS 410	2302	S41000
	X 6 Cr 17	1.4016	1.4016	X 6 Cr 17	Z 8 C 17	430 S 15	X 8 Cr 17	SUS 430	2320	S43000
	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
	X 39 Cr 13	1.4031	1.4031	X 40 Cr 13	Z 40 C 14	420 S 45	X 40 Cr 14	SUS 420	2304	S40280
	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
	X 3 CrNiMo 13 3	1.4313	1.4313	X 5 CrNi 13 4	Z 5 CN 13.4	425 C 11	X 6 CrNi 13 04	SCS 5	2385	S41500
	X 18 CrN 28	1.4749	1.4749	X 18 CrN 28	Z 18 C 25				2322	S44600
P12	X 6 NiCrTiMoV 25 15	1.4534	1.4534	X 3 CrNiMoAl 13 8 2						S13800
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
		1.4540	1.4540	X 4 CrNiCuNb 16 4	Z 4 CNUNb 16.4 M					S15500
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 17 4	1.4548	1.4542	X 5 CrNiCuNb 17 4	Z 6 CNU 17.4			SCS 24, SUS 630		S17400
	X 7 CrNiAl 17 7	1.4564	1.4564	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
M1	X 10 CrNiS 18 9	1.4305	1.4305	X 10 CrNiS 18 9	Z 10 CNF 18.09	303 S 31	X 10 CrNi 18 09	SUS 303	2346	S30300
M2	X 2 CrNi 19 11	1.4306	1.4306	X 2 CrNi 19 11	Z 2 CN 18.10	304 S 12	X 3 Cr Ni 18 11	SUS 304 L	2352	S30403
	X 5 CrNi 18 10	1.4301	1.4301	X 5 CrNi 18 10	Z 6 CN 18.09	304 S 31	X 5 CrNi 18 11	SUS 304	2333	S30400
	X 5 CrNiMo 17 12 2	1.4401	1.4401	X 5 CrNiMo 17 12 2	Z 3 CND 17.11.1	316 S 31	X 5 CrNiMo 17 12	SUS 316	2347	S31600
	X 6 CrNiNb 18 10	1.4550	1.4550	X 6 CrNiNb 18 10	Z 6 CNNb 18.10	347 S 31	X 6 CrNiNb 18 11	SUS 347	2338	S34700
	X 9 CrNi 18 8	1.4310	1.4310	X 12 CrNi 17 7	Z 12 CN 17.07	301 S 21	X 12 CrNi 17 07	SUS 301	(2331)	S30100
M3	X 12 CrNi 18 8	1.4300	1.4300	X 12 CrNi 18 8	Z 12 CN 18	302 S 25		SUS 302	2331	S30200
	X 2 CrNiMo 18 14 3	1.4435	1.4435	X 2 CrNiMo 18 14 3	Z 2 CND 17.13	316 S 12	X 2 CrNiMo 17 13 2	SCS 16, SUS 316 L	2353	S31603
	X 2 CrNiMoN 17 13 3	1.4429	1.4429	X 2 CrNiMoN 17 13 3	Z 2 CND 17.13 Az	316 S 62	X 2 CrNiMoN 17 13 3	SUS 316 LN	2375	S31653
	X 2 CrNiN 18 10	1.4311	1.4311	X 2 CrNiN 19 11	Z 2 CN 18 .10 Az	304 S 62	X 2 CrNiN 18 11	SUS 304 LN	2371	S30453
	X 3 CrNiMo 18 12 3	1.4466	1.4466	X 5 CrNi 18 15		317 S 16	X 5 CrNi 18 15	SUS 317	2366	S31700
	X 9 CrNiSiNCe 21 11 2	1.4835	1.4893	X 9 CrNiSiNCe 21 11 2		310 S 31			2368	S30815
M4	X 12 CrNi 25 21	1.4335	1.4335	X 12 CrNi 25 21	Z 12 CN 25.20	310 S 24	X 6 CrNi 26 20	SUH 310, SUS 310 S	2361	S31008
	X 2 CrNiMoN 22 5 3	1.4462	1.4462	X 2 CrNiMoN 22 5	Z 2 CND 22.05 Az	332 S 15	X 2 CrNiMoN 22 5		2377	S31803
	X 2 CrNiMoSi 19 5	1.4424	1.4417	X 2 CrNiMoSi 19 5	Z 2 CND 18.05.03				2376	S31500
	X 2 NiCrMoCu 25 20 5	1.4539	1.4539	X 2 NiCrMoCu 25 20 5	Z 2 NCDU 25 20	904 S 13			2562	N08904
	X 3 CrNiMo 27 5 2	1.4460	1.4460	X 4 CrNiMo 27 5 2	Z 3 CND 25.7 Az		X 3 CrNiMo 27 5 2	SUS 329 J 1	2370	S32900
M5	X 5 CrNiCuNb 16 4	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
	X 1 CrNiMoN 20 18 7	1.4547	1.4529	X 1 CrNiMoN 20 18 7	Z 1 CNDU 20.18.05 Az		X 1 CrNiMoN 20 18 7		2778	S31254
	X 1 CrNiMoN 25 22 8	1.4652	1.4652	X 2 CrNiMoN 25 22 7						S32654
	X 10 NiCrAlTi 32 20	1.4876	1.4876	X 10 NiCrAlTi 32 20	Z 10 NC 32.21			NCF 800		N08800
	X 2 CrNiMoN 25 7 4	1.4410	1.4410	X 2 CrNiMoN 25 7 4	Z 3 CND 25.07 Az		X 2 CrNiMoN 25 7 4		2328	S32750

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
F.520L	L2	11KHF			Annealed	
F.5220	O1	9KHVG			Annealed	
	O2	9G2F			Annealed	
F.5230	52100	SHKH15	14 109		Annealed	
F.5212	D3	KH12			Annealed	
	H11	4KH5MFS			Annealed	
F.5318	H13	4KH5MF1S			Annealed	
F.5227	A2	9KH5VF			Annealed	
	H10	3KH3M3F			Annealed	
F.5213		KH12			Annealed	
		KH12MF			Annealed	
F.520.S	L6	5KHNM			Annealed	
F.5613	M35	R6M5K5			Annealed	
	M42	R2AM9K5			Annealed	
	T4	R18K5F2			Annealed	
F.5603	M2	R6M5			Annealed	
	M7				Annealed	
	T1	R18			Annealed	
	403	08KH13			Annealed	Ferritic
F.3401	410, CA-15	12KH13, 08KH13			Annealed	Martensitic
F.3113	430	12KH17			Annealed	Ferritic
F.5261	420	20KH13	17 022		Annealed	Martensitic
F.3404	420	40KH13			Annealed	Martensitic
	440 A				Annealed	Martensitic
	440 B	95KH18			Annealed	Martensitic
	440 C	95KH18			Annealed	Martensitic
	A182 F6NM			F6NM	Annealed	Martensitic
	446	15KH28			Annealed	Ferritic
	XM-13			PH 13-8 Mo	Solution annealed	Austenitic
	XM-12			15-5 PH	H1150	Martensitic
	XM-12			15-5 PH	Solution annealed	Martensitic
	XM-12			15-5 PH	H1025	Martensitic
	SAE 630			17-4 PH	H1150	Martensitic
	630			17-4 PH	Solution annealed	Martensitic
	631	09KH17N7YU1		17-7 PH	Solution annealed	Austenitic/Ferritic
	AMS 6515			Marage 350	Solution annealed	Martensitic
	AMS 6521			Marage 300	Solution annealed	Martensitic
	AMS 6514			Marage 300, Vascomax C300	Solution annealed	Martensitic
	AMS 6512			Marage 250	Solution annealed	Martensitic
	AMS 6512			Marage 250, Vascomax C250	Solution annealed	Martensitic
F.3508	303	12KH19N9			Annealed	Austenitic
F.3504	304 L	03KH18N11			Annealed	Austenitic
F.3504	304	08KH18N10	17 240		Annealed	Austenitic
F.3534	316	08KH17H13M2T	17 346		Annealed	Austenitic
F.3524	347	08KH18N12B			Annealed	Austenitic
F.3517	301	07KH16N6			Annealed	Austenitic
	302	12KH18N9			Annealed	Austenitic
F.3533	(316 L)	03KH17N14M3	17 349		Annealed	Austenitic
	316 LN	03KH16N15M3			Annealed	Austenitic
F.3541	304 LN	03KH18N11			Annealed	Austenitic
	317	08KH17H15M3T			Annealed	Austenitic
				253 MA	Annealed	Austenitic
	310 S	12KH25N20			Annealed	Austenitic
	329 LN			SAF 2205	Annealed	Duplex
				3RE60	Annealed	Duplex
	904L				Annealed	Super austenitic
	329				Annealed	Duplex
	660			A286	Solution annealed	Austenitic
				254 SMO	Annealed	Super austenitic
				654 SMO	Annealed	Super austenitic
				Alloy 800	Annealed	Austenitic
	F 53			SAF 2507	Annealed	Super duplex

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
K1	EN-GJL-150	0.6150	0.6150	GG-15	Fl 15 D	Grade 150	G15	FC 150	01 15-00	F11601
	EN-GJL-200	0.6200	0.6200	GG-20	Fl 20 D	Grade 220	G20	FC 200	01 20-00	F12101
	EN-GJL-250	0.6250	0.6250	GG-25	Fl 25 D	Grade 260	G25	FC 250	01 25-00	F12401
	EN-GJL-350	0.6350	0.6350	GG-35	Fl 35 D	Grade 350	G35	FC 350	01 35-00	F13502
	EN-GJL-215			GG-220 HB					02 19	
K2	EN-GJV-300			GJV-300						
	EN-GJV-350			GJV-350						
	EN-GJV-400			GJV-400						
	EN-GJV-450			GJV-450						
	EN-GJV-500			GJV-500						
K3	EN-GJMB-550-4	0.8155		GTS-55-04	P 540/5	P 540/5	P 55-04	PCMP55-04	08 54-00	F24130
K4	EN-GJS-350-22	0.7033	0.7033	GGG-35.3	FGS 370-17	Grade 350/22		FCD 350-22L	07 17-15	
	EN-GJS-400-15	0.7040	0.7040	GGG-40	FGS 400-12	Grade 420/12	GS 400-12	FCD 400-18L	07 17-02	F32800
	EN-GJS-400-18	0.7043	0.7043	GGG-40.3	FGS 370-17	Grade 370/17	GSO 42/17		07 17-12	F32800
	EN-GJS-500-7	0.7050	0.7050	GGG-50	FGS 500-7	Grade 500/7	GS 500-7	FCD 500-7	07 27-02	F33800
	EN-GJS-600-3	0.7060	0.7060	GGG-60	FGS 600-3	Grade 600/3	GS 600-3	FCD 600-3	07 32-03	F34100
	EN-GJS-700-2	0.7070	0.7070	GGG-70	FGS 700-2	Grade 700/2	GS 700-2	FCD 700-2	07 37-01	F34800
K5	EN-GJS-1000-5			GJS-1000-5						ADI grade 5
	EN-GJS-1200-2			GJS-1200-2						ADI grade 2
	EN-GJS-1400-1			GJS-1400-1						ADI grade 3
	EN-GJS-800-8			GJS-800-8						ADI grade 4
										ADI grade 1
K6	EN-GJLA-XNiCr 20-2	0.6660	0.6660	GGL-NiCr 20 2	FGL Ni20 Cr2	Grade F2			05 23-00	F41002
	EN-GJLA-XNiCr 30-3	0.6676	0.6676	GGL-NiCr 30 3	FGL Ni30 Cr3	Grade F3				F41004
	EN-GJLA-XNiCuCr 15-6-2	0.6655	0.6655	GGL-NiCuCr 15 6 2	FGL Ni15 Cu6 Cr2	Grade F1				F41000
K7	EN-GJSA-XNiMn 13-7	0.7652	0.7652	GGG-NiMn 13 7	FGS Ni13 Mn7	Grade S6			07 72-00	
	EN-GJSA-XNiCr 20-2	0.7660	0.7660	GGG-NiCr 20 2	FGS Ni20 Cr2	Grade S2				F43000
	EN-GJSA-XNiMn 23-4	0.7673	0.7673	GGG-NiMn 23 4	FGS Ni23 Mn4	Grade S2M				F43010
	EN-GJSA-XNiCr 30-3	0.7676	0.7676	GGG-NiCr 30 3	FGS Ni30 Cr3	Grade S3				F43003
	EN-GJSA-XNi 35	0.7683	0.7683	GGG-Ni 35	FGS Ni35					F43006
N1	AW-1050A	Al99.5	3.0255	Al99.5	A-5/1050A	1B		(A1050)	4007	AA1050A
	AW-2011	AlCuBiPb	3.1655	AlCuBiPb	A-U5PbBi/2011	FC1		A2011	4355	AA2011
	AW-2014	AlCuSiMn	3.1255	AlCuSiMn	A-U4SG/2014	H15			4338	AA2014
	AW-5005	AlMg1	3.3315	AlMg1	A-G0.6	N41			4106	AA5005
	AW-6060	AlMgSi0.5	3.3206	AlMgSi0.5	A-GS/6060	(H9)			4103	AA6060
	AW-6063	AlMgSi0.7	3.3210	AlMgSi0.7	A-GSUC/6061	(H10)		(A6063)	4104, 4107	AA6005
	AW-3103	AlMn1	3.0515	AlMn1		N3			4054	AA3103
	AW-3003	AlMn1Cu	3.0517	AlMn1Cu	A-M1/3003			A3003		AA3003
	AW-7020	AlZn4.5Mg1	3.4335	AlZn4.5Mg1	A-Z5G/7020	H17			4425	AA7020
	AW-7075		3.4365	AlZnMgCu1.5	A-Z5GU/7075	2L95/2L96		A7075		AA7075
	AC-42000		3.2341	G-AlSi5Mg	A-S7G	LM25	3599	AC 4C	4244	
	AC-46200	AlSi8Cu3(Si)	3.2161	G-AlSi8Cu3		LM25			4251	A13800
	MG-P-63	MgAl6Zn	3.5612	G-MgAl6Zn	G-A6-Z1	MAG-E-121				M11600
	MG-P-61	MgAl8Zn	3.5812	G-MgAl8Zn	(G-A7-Z1)					
	MN65120	MgSe3Zn2Zr1	3.5103	G-MgSe3Zn2Zr1	ZRE1	MAG6-TE				M12330
N2	AC-43400	AlSi10Mg(Fe)	3.2381	G-AlSi10Mg	A-S10G	LM9			4253	A13600
	AC-44200	AlSi12	3.2382	GD-AlSi12						
	AW-6082	AlMgSi1	3.2315	AlMgSi1	A-SGM0.7/6082	H30			4212	AA6082
N3		AlSi17Cu5						ADC14		
N11	CC331G		2.0940.01	CuAl10Fe	CuAl10Fe	AB1			5710	C95200
	CC333G		2.0975.01	CuAl10Ni	CuAl10Ni5Fe5	AB2			5716	C95500
		CuNi10Fe1Mn	2.0872	CuNi10Fe1Mn	CuNi10Fe1Mn	CN102			5667	C70600
				CuNi10Zn45						
		CW408J	2.0790	CuNi18Zn19Pb	CuNi18Zn19Pb1					C76300
	CW352H		2.1176	CuPb10Sn	CuSn10Pb10	LB2			5640	C93700
	CC480K		2.1050.01	CuSn10	CuSn10	CT1			5443	C90700
			2.1087	CuSn10Zn					5458	C90500
	CW452K	CuSn6	2.1020	CuSn6	CuSn6	PB103		C5191	5428	C51900
	CW502L	CuZn15	2.0240	CuZn15	CuZn15	CZ102		C2300	5112	C23000
	CW706R	CuZn28Sn1	2.0470	CuZn28Sn1	CuZn29Sn1				5220	C44300
	CW508L	CuZn37	2.0321	CuZn37	CuZn37	CZ108			5150	C27200
	CW717R	CuZn38Sn1	2.0530	CuZn38Sn1						C46400
	CW614N	CuZn39Pb3	2.0401	CuZn39Pb3	CuZn39Pb3	CZ121			5170	C38500
	CW612N	CuZn40Pb2	2.0402	CuZn40Pb2	CuZn39Pb2	CZ120			5168	C37800
	CW622N	CuZn44Pb2	2.0410	CuZn44Pb2		CZ104			5272	C68700

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
	A48 25 B	Sc 15	422 415			Grey cast iron (GCI)
	A48 30 B	Sc 20	422 420			Grey cast iron (GCI)
	A48 35 B	Sc 25	422 425			Grey cast iron (GCI)
	A48 50 B	Sc 35				Grey cast iron (GCI)
	G 3500					Grey cast iron (GCI)
	Grade 350					Compacted graphite iron (CGI)
	Grade 400					Compacted graphite iron (CGI)
	Grade 400-15					Compacted graphite iron (CGI)
	Grade 450					Compacted graphite iron (CGI)
	Grade 500					Compacted graphite iron (CGI)
	A220 60004				Tempered	Malleable cast iron (MCI)
						Nodular cast iron (SGI)
FGE 38-17	60-40-18	Vc 42-12	422 304			Nodular cast iron (SGI)
	60-40-18	Vc 42-12				Nodular cast iron (SGI)
FGE 50-7	A536, 80-55-06	Vc 50-2	422 305			Nodular cast iron (SGI)
FGE 60-2	A476, 80-60-03	Vc 60-2	422 306			Nodular cast iron (SGI)
FGE 70-2	A536, 100-70-03	Vc 70-2				Nodular cast iron (SGI)
	1600/1300/-					Austempered ductile iron (ADI)
	1050/700/7					Austempered ductile iron (ADI)
	1200/850/4					Austempered ductile iron (ADI)
	1400/1100/1					Austempered ductile iron (ADI)
	850/550/10					Austempered ductile iron (ADI)
	A436 Type 2			Ni-Resist 2		Austenitic lamellar cast iron
	A436 Type 3			Ni-Resist 3		Austenitic lamellar cast iron
	A436 Type 1			Ni-Resist 1		Austenitic lamellar cast iron
				Nodumag		Austenitic nodular cast iron
	A436 Type D-2			Ni-Resist D-2		Austenitic nodular cast iron
	A439 Type D-2M			Ni-Resist D-2M		Austenitic nodular cast iron
	A436 Type D-3			Ni-Resist D-3		Austenitic nodular cast iron
	A439 Type D-5			Ni-Resist D-5		Austenitic nodular cast iron
	B26					
	A380					
	AZ61A					
	AZ80A					
	AMS 4442					
	B85					
	A413.2					
	B390.0					
	CA952	BrA9ZH3L				
	CA955	BrA10ZH4N4L				
	CA937					
		BrOF6.5-0.15				
		L90				
		LOMsh70-1-0.05				
		LO60-1				
		LAMsh77-2-0.05				

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
S1										
S2										
S3	NiMo30		2.4810							N10002
	NiMo16Cr15W		2.4819							N10276
	NiCr19Fe19Nb5Mo3		2.4668							N07718
			2.4669							N07750
	NiCr20TiAl		2.4631							N07080
	NiCr19Co18Mo4Ti3Al3									N07500
	NiCr20Co13Mo4Ti3Al		2.4654							N07001
S11			3.7024							R54620
S12										R56320
	TiAl6V4		3.7164							R56400
S13				TiV10Fe2Al3						
H3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
H5	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 75S	1.1248	1.1248	Ck 75	XC 75	060 A 78	C 75		1774, 1778	G10780
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880	
			1.2550	60 WCrV 7	55 WC 20		55 WCrV 8 KU			
	55 Cr 3	1.7176	1.7176	55 Cr 3	55 C 3	527 A 60	55 Cr 3	SUP 9 (A)	2253	G51550
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
H7	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
H8	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
	X 155 CrVMo 12 1		1.2379	X 155 CrVMo 12 1	Z 160 CDV 12	BD 2	X 155 CrVMo 12 1 KU	SKD 11		T30402
			1.2436	X 210 CrW 12			X 215 CrW 12 1 KU	SKD 2	2312	
			1.2601	X 165 CrMoV 12			X 165 CrMoW 12 KU		2310	
			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723	
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-	BM 42	HS 2-9-1-8	SKH 51		T11342
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001
H11	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
H12	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 7 CrNiAl 17 7	1.4568	1.4568	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
	X 8 CrNiMoAl 15 7 5	1.4574	1.4574	X 8 CrNiMoAl 15 7 5						S15700
	X 6 NiCrTiMoV 25 15	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
H21	X 120 Mn 12	1.3401	1.3401	X 120 Mn 12	Z 120 M 12	BW 10		SC MnH 1	2183	
H31	EN-GJN-HV520	0.9620	0.9620	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A			05 12-00	F45001
	EN-GJN-HV550	0.9625	0.9625	G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B			05 13-00	F45000
	EN-GJN-HV600(XCr11)	0.9630	0.9630	G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E			04 57-00	F45003

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
				Discolloy	Precipitation hardened	
				Haynes 25		
				Stellite 21		
		KHN65MV		Hastelloy C		
				Hastelloy C-276		
				IN 100		
				Inconel 718		
				Inconel X-750	Solution annealed	
				Nimonic 80A		
				René 41		
				Udimet 500		
				Waspalloy		
	AMS 4919			Ti	Commercially pure	Ti (α)
	AMS 4943			Ti 6-2-4-2	Annealed	Ti (α)
	AMS 4920, Grade 5	VT6		Ti 3Al-2.5V (grd 9)	Annealed	Ti (α + β)
	AMS 4986			Ti 6Al-4V	Annealed	Ti (α + β)
				Ti 10V-2Fe-3Al	Annealed	Ti (β)
F.1516	5115	12KH2	14 220		Case hardened	
F.5103	1070	70			Quenched & Tempered	
F.5107	1078, 1080	75			Quenched & Tempered	
F.5117	1095				Quenched & Tempered	
F.5118	W1	U10A			Quenched & Tempered	
	S1	5KHV2SF			Quenched & Tempered	
	5155				Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
F.520L	L2	11KHF			Quenched & Tempered	
F.5220	O1	9KHVG			Quenched & Tempered	
	O2	9G2F			Quenched & Tempered	
F.5230	52100	SHKH15	14 109		Quenched & Tempered	
F.5318	H13	4KH5MF1S			Quenched & Tempered	
F.5227	A2	9KH5VF			Quenched & Tempered	
F.5211	D2	KH12MF			Quenched & Tempered	
F.5213		KH12			Quenched & Tempered	
		KH12MF			Quenched & Tempered	
F.520.S	L6	5KHNM			Quenched & Tempered	
F.5613	M35	R6M5K5			Quenched & Tempered	
	M42	R2AM9K5			Quenched & Tempered	
	T1	R18			Quenched & Tempered	
F.5261	420	20KH13	17 022		Quenched & Tempered	Martensitic
	440 A				Quenched & Tempered	Martensitic
	440 B	95KH18			Quenched & Tempered	Martensitic
	440 C	95KH18			Quenched & Tempered	Martensitic
	XM-12			15-5 PH	H900	Martensitic
	SAE 630			17-4 PH	H1025	Martensitic
	SAE 630			17-4 PH	H900	Martensitic
	AMS 5528	09KH17N7YU1		17-7 PH	TH1050	Martensitic
	632			PH 15-7 Mo	TH1050	Martensitic
	660			A286	Precipitation hardened	Austenitic
	AMS 6512			Marage 250	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6515			Marage 350	Precipitation hardened	Martensitic
	A128 Grade A			Hadfield		
	A532 IB (NiCr-LC)			Ni-Hard 2		White cast iron
	A532 IA (NiCr-HC)			Ni-Hard 1		White cast iron
	A532 ID (Ni-HiCr)			Ni-Hard 4		White cast iron

Cemented carbide inserts and insert carriers

Cemented carbide inserts and cemented carbide insert carriers from Seco Tools are not included in the product range intended for the following requirements.

Nevertheless Seco Tools can make the following declaration.

These products meet all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.

Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:

Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:

Seco Tools will buy back used inserts and solid carbide tools for recycling. Inserts and solid carbide tools should be separated from other metal waste (steel, aluminium, copper etc).

All packing material is fully recyclable.

CBN and PCD inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.

This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.

Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:

Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:

Seco Tools will buy back used CBN- or PCD-tipped inserts for recycling. Inserts should be separated from other metal waste (steel, aluminium, copper etc). Solid CBN-inserts may be discarded as landfill waste.

All packing material is fully recyclable.

Black oxide insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.

This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.

Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Disposal:

Used insert carriers may be sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.

All packing material is fully recyclable.

Cermet inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.

This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.

Cermet grade C15M inserts do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is higher than specified in norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin. These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for cermet inserts. Persons with known allergic reactions to nickel are advised to wear protective gloves when handling cermet inserts.

Regrinding:

Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:

Used inserts may be recycled. Inserts should be separated from other metal waste (steel, aluminium, copper, etc) including cemented carbide inserts.

All packing material is fully recyclable.

Nickel coated insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.

This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.

Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Insert carriers do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is not higher than norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin.

These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for insert carriers.

Persons with known allergic reactions to nickel are advised to wear protective gloves when handling nickel coated insert carriers.

Disposal:

Used tools maybe sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.

All packing material is fully recyclable.

Intentionally added alloying elements

Grade	Cemented carbide											Coating						
	W	Ti	Ta	Nb	Co	Cr	Ni	Mo	C	N	Ru	Ti	Al	C	N	O	Si	Nb
CP20	■				■				■			■			■			
CP200	■				■	■			■			■	■		■			
CP300	■	■	■	■	■	■			■			■	■		■			
CP500	■				■	■			■			■	■		■			
CP600	■				■	■			■			■	■		■			
C15M	■	■	■	■	■		■	■	■	■								
CF	■		■		■		■	■	■									
CM	■		■		■		■	■	■									
DP2000	■		■	■	■				■			■	■	■	■	■		
DP2501	■	■	■	■	■				■	■		■	■	■	■	■		
DP3000	■	■	■	■	■				■	■		■	■	■	■	■		
DS2050	■				■	■			■			■	■		■			■
DS4050	■				■	■			■			■	■		■			■
F15M	■				■	■			■			■	■		■			
F25M	■	■	■	■	■				■			■	■		■			
F30M	■				■	■			■			■	■		■			
F40M	■				■	■			■			■	■		■			
HX	■		■		■				■									
H02	■		■		■	■			■									
H15	■				■	■			■									
H25	■				■	■			■									
KX	■				■	■			■									
MH1000	■				■	■			■			■	■		■			
MH1051	■				■	■			■			■	■		■		■	
MK1500	■		■		■				■			■	■	■	■	■		
MK1501	■		■		■				■			■	■	■	■	■		
MK2050	■		■		■	■			■			■	■		■		■	
MM4500	■				■	■			■			■	■	■	■	■		
MP1501	■		■	■	■				■			■	■	■	■	■		
MP2050	■				■						■	■	■		■		■	
MP2051	■				■	■			■			■	■		■		■	
MP2501	■		■	■	■				■			■	■	■	■	■		
MP3000	■				■	■			■			■	■		■			
MP3501	■		■	■	■				■			■	■	■	■	■		
MS2500	■		■	■	■				■			■	■	■	■	■		
MS2050	■				■	■			■			■	■		■			■
RX1500	■		■		■		■	■	■			■	■		■			
RX2000	■		■		■	■			■			■	■		■			
RM2020	■				■				■			■						
RM2090	■				■	■			■			■	■				■	
RN2010	■				■	■			■								■	
RS2090	■				■	■			■			■	■				■	
T350M	■		■	■	■				■			■	■	■	■	■		
T25M	■		■	■	■				■			■		■	■			
TGH1050	■				■	■			■			■	■		■		■	
TGK1500	■		■		■				■			■	■	■	■	■		
TGP25	■	■	■	■	■				■			■	■	■	■	■		
TGP35	■		■	■	■				■			■	■	■	■	■		
TGP45	■		■	■	■				■			■	■	■	■	■		
TGS2050	■				■	■			■			■	■		■		■	
TH1000	■				■	■			■			■	■		■		■	
TH1500	■				■	■			■			■	■	■	■	■		
TK0501	■				■	■			■			■	■	■	■	■		
TK1501	■		■		■	■			■			■	■	■	■	■		
TM1501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TM2000	■	■	■	■	■				■	■		■	■	■	■	■		
TM2501	■	■	■	■	■				■	■		■	■	■	■	■		

Grade	Cemented carbide											Coating						
	W	Ti	Ta	Nb	Co	Cr	Ni	Mo	C	N	Ru	Ti	Al	C	N	O	Si	Nb
TM3501	■				■				■			■	■	■	■	■		
TM4000	■	■	■	■	■				■	■		■	■	■	■	■		
TP0501	■	■	■	■	■	■			■			■	■	■	■	■		
TP1020	■	■	■	■	■				■	■								
TP1030	■	■	■	■	■				■	■		■	■		■		■	
TP1501	■	■	■	■	■				■	■		■	■	■	■	■		
TP25	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP200	■	■	■	■	■				■	■		■	■	■	■	■		
TP2501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP3501	■	■	■	■	■				■	■		■	■	■	■	■		
TP40	■		■	■	■				■			■		■	■			
TS2000	■				■	■			■			■	■		■			
TS2050	■				■	■			■			■	■		■		■	
TS2500	■		■		■				■			■	■		■			
TTP2050	■				■	■			■			■	■		■		■	
T250D	■				■	■			■			■	■		■			
T400D	■				■	■			■			■	■		■			
T100R	■		■		■	■			■			■	■		■			
T60M	■	■	■	■	■				■			■	■		■			
883	■		■		■				■									
890	■				■	■			■									

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