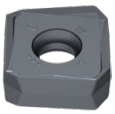
New products for machining technicians

NEW

MaxiMill 271-12

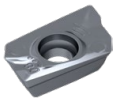


23+24

New system size for more economy

NEW

MaxiMill 211-20



56–58

Indexable insert product extension

NEW

CTCM245

New high-performance grade for machining high-alloy steels

Table of contents

CERATIZIT \ Performance

Premium quality tools for high performance.

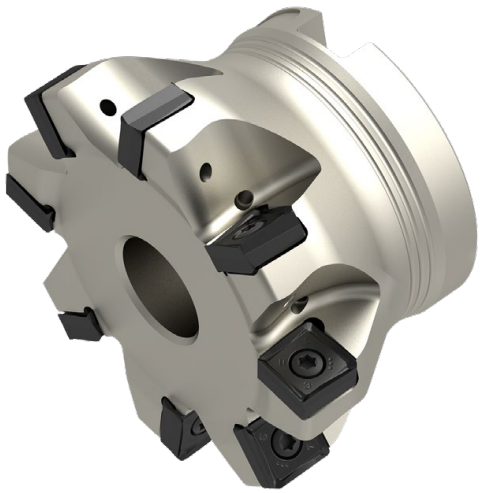
The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation


central internal coolant


lateral internal coolant

Cutting edge angle



ZNF = Number of flutes

● = **Main Application**

○ = Extended application

Application symbols


Face milling


Angled ramping


Circular drill milling


plunge milling


Slot milling


Shoulder milling


Slot milling (45°)


Chamfer milling


Free form milling

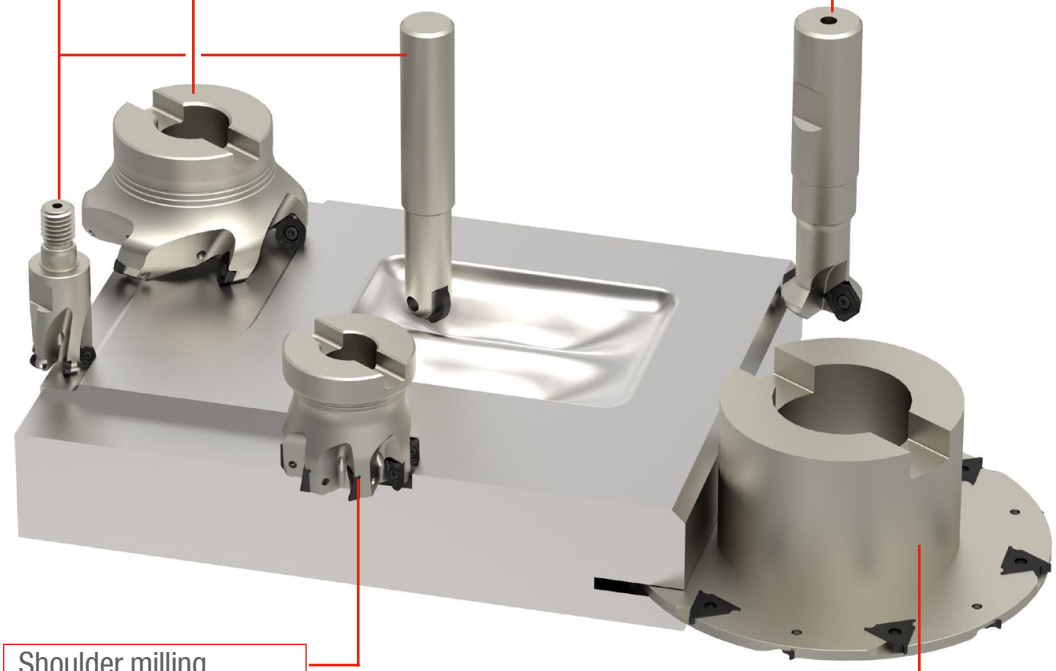
Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

Toolfinder – Application Selection Guide

Form milling
→ System Selection:
8+9

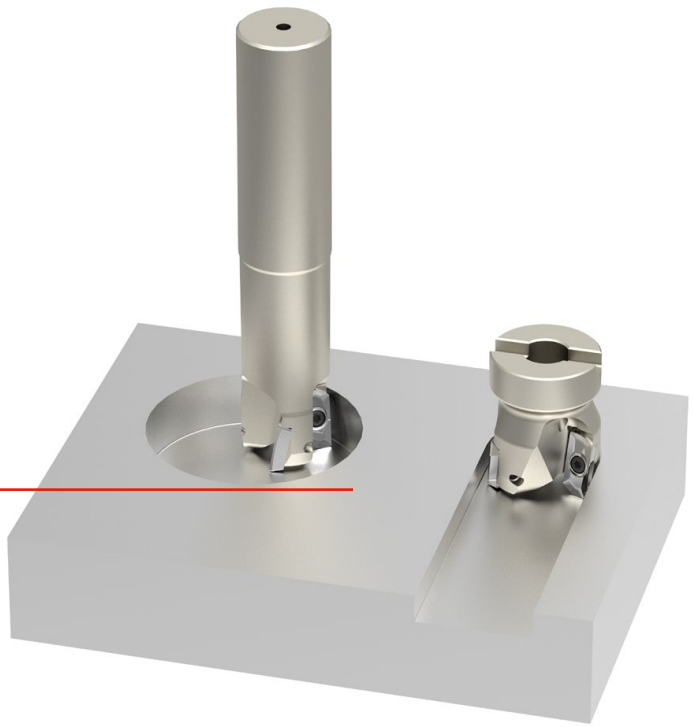
Face milling
→ System Selection:
4+5

Chamfer/Angle milling cutters
→ System Selection:
10



Shoulder milling
→ System Selection:
6+7

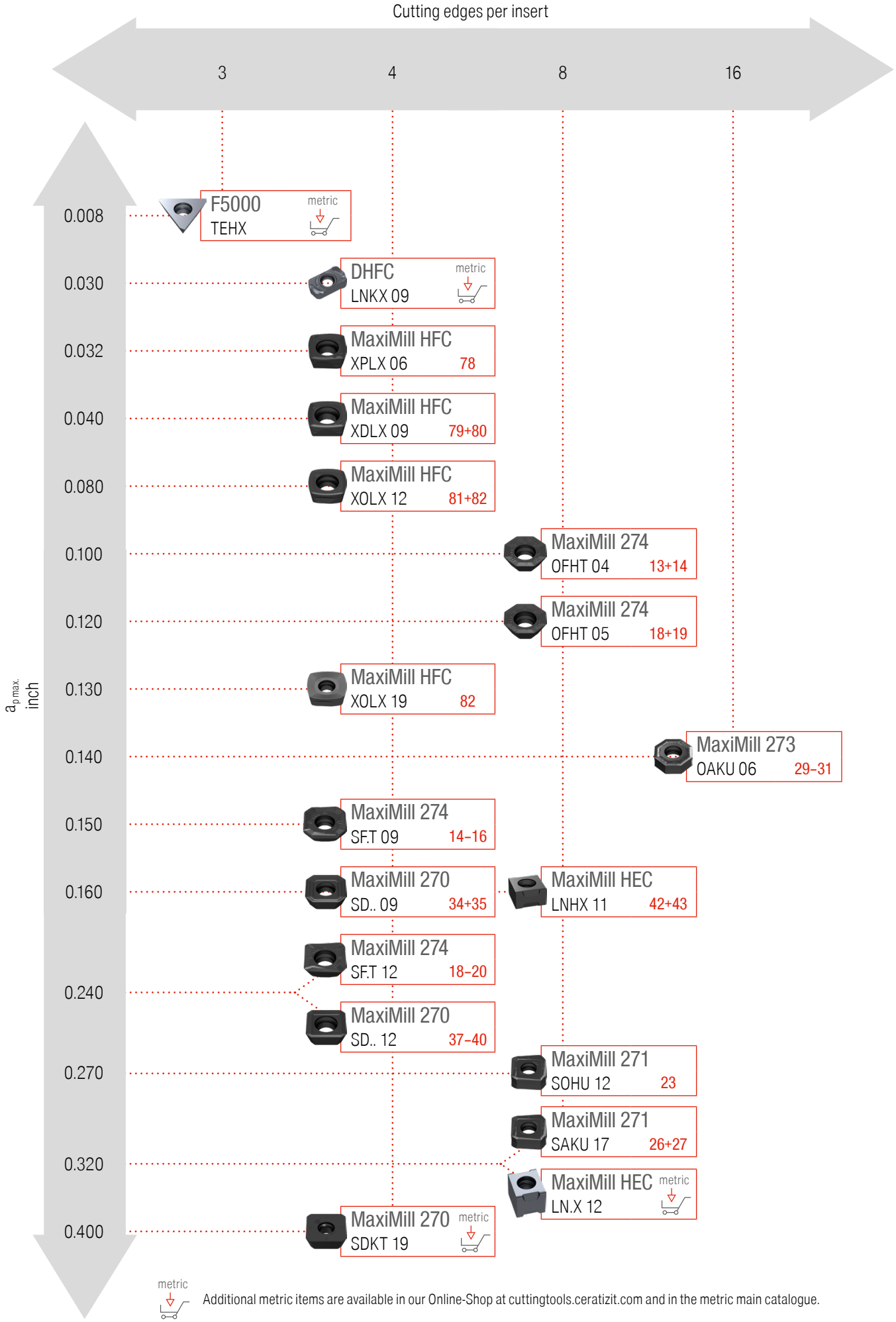
Slot milling and saws
metric



High Speed Cutting (HSC) /
High Performance Cutting (HPC)
→ System Selection:
6+7

7

Toolfinder – Face Milling Cutters



metric Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalogue.

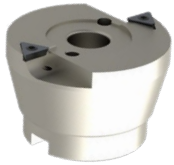
Overview – Face Milling Cutters

System	Inserts	Cutting edges per insert	$a_{p\,max.}$ inch	Ø-range inch		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Page No.
MaxiMill 274	**OFH.** 04.. / 05.. | **SF.T** 09.. / 12..	8 | 4	0.100 – 0.240"	Ø 1.000–1.250"	Ø 1.500–6.000"	●	●	●	●	●		○	12–20
MaxiMill 271	**SOHU** 1204.. | **SAKU** 1706..	8	0.270 – 0.330"	Ø 1.250–1.500"	Ø 1.500–10.000"	●	●	●		●			21–27
MaxiMill 273	**OAKU** 0605..	16	0.137"	Ø 1.500–1.500"	Ø 2.000–10.000"	●	●	●		●			28–31
MaxiMill 270	**SD..** 0903.. / 1204.. / 19..	4	0.160 – 0.400"	Ø 0.500–1.500"	Ø 2.000–6.000"	●	●	●	●	●		○	32–40
MaxiMill HEC	**LNHX** 1106..	8	0.160 – 0.320"		Ø 2.000–8.000"	●		●			○		41–43
MaxiMill HFC	**X..X** 06.. / 09.. / 12.. / 19..	4	0.032 – 0.129"	Ø 0.625–1.250"	Ø 0.625–1.500" / Ø 1.500–5.000"	●	●	●		●			76–82

Additional diameters are available upon request.

metric

Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

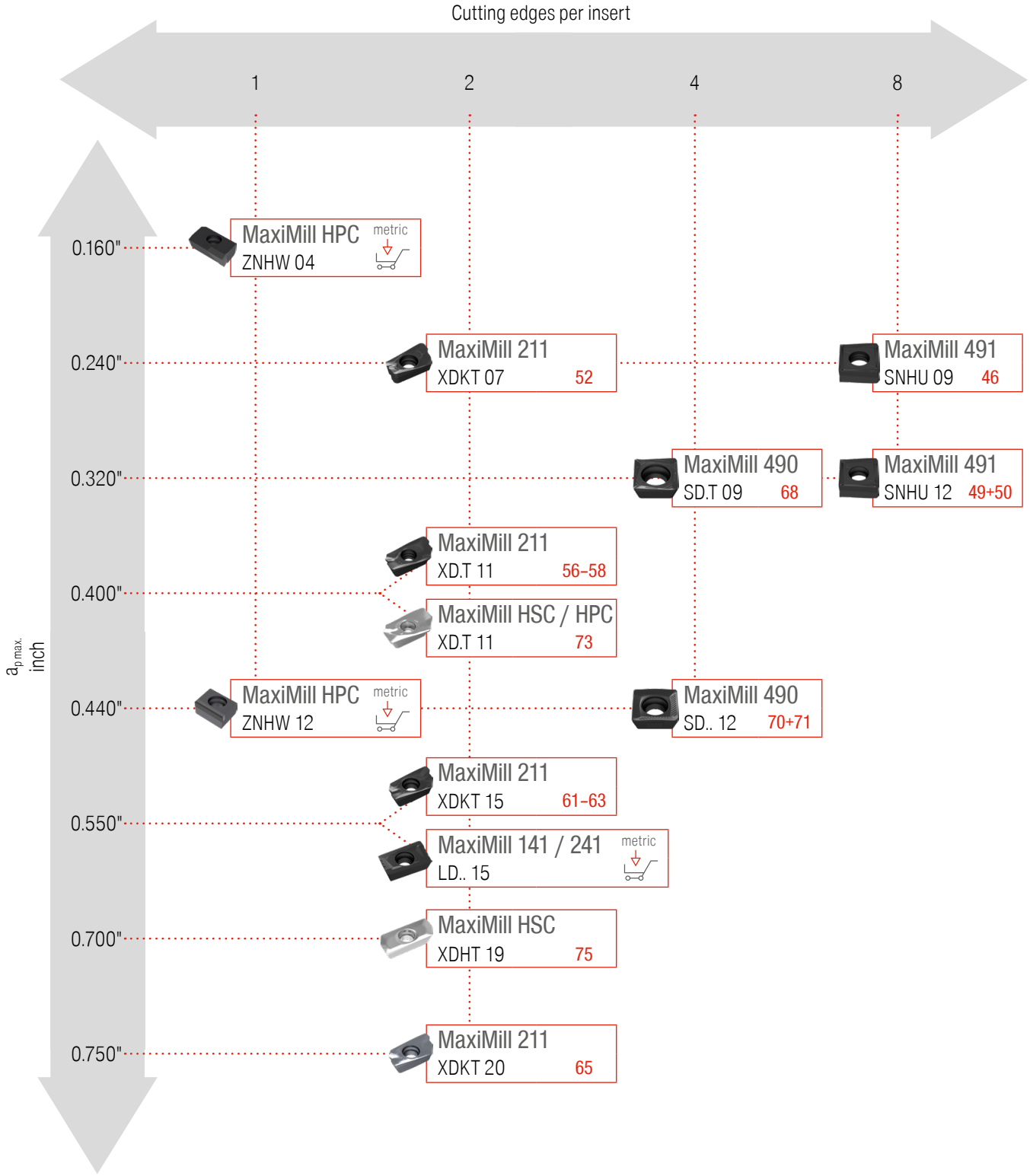


F 5000

DHFC

7

Toolfinder – shoulder milling



metric

Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalogue.

Overview – Shoulder Milling Cutters

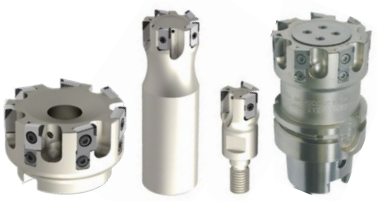
System	Inserts	Cutting edges per insert	$a_{p\,max.}$ inch	Ø-range inch			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Page No.
MaxiMill 491	**SNHU** 09T3.. / 1204..	8	0.240 – 0.320"		Ø 1.000–1.250"	Ø 1.500–6.000"	●	●	●	●	●		○	44–50
MaxiMill 211	**XD.T** 0703.. / 11T3.. / 1505.. / 2007..	2	0.240 – 0.750"	Ø 0.625–1.250"	Ø 0.375–1.500"	Ø 1.500–6.000"	●	●	●	●	●	○		51–65
MaxiMill 211KN	**XD.T** 11T3.. / 1505.. / 2007..	2	1.00 – 3.00"		Ø 1.000–1.500"	Ø 2.000–3.000"	●	●	●	●	●			55+60
MaxiMill 490	**SD..** 09T3.. / 1205..	4	0.320 – 0.430"	Ø 1.000–1.250"	Ø 1.000–1.250"	Ø 1.500–6.000"	●	●	●	●	●			66–71
MaxiMill HSC	**XD..** 11T3.. / 1904..	2	0.400 – 0.700"		Ø 0.625–1.500"	Ø 1.500–6.000"			○	●			○	72–75

Additional diameters are available upon request.

metric

Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

MaxiMill 209 / 210



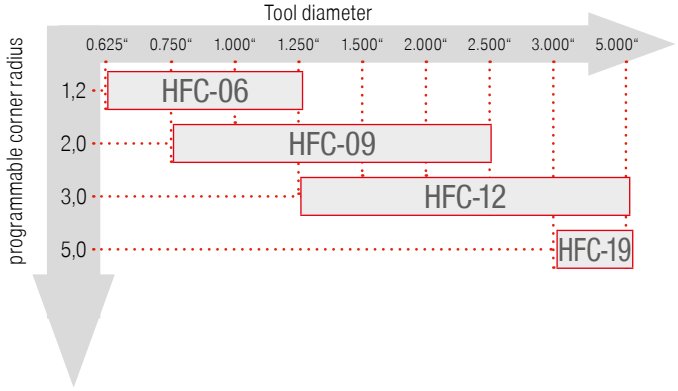
MaxiMill HPC

7

Toolfinder – form milling

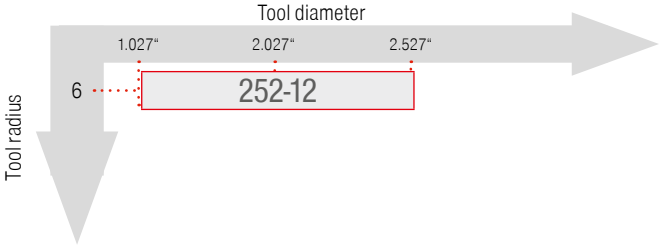
MaxiMill HFC

→ Page 76–82



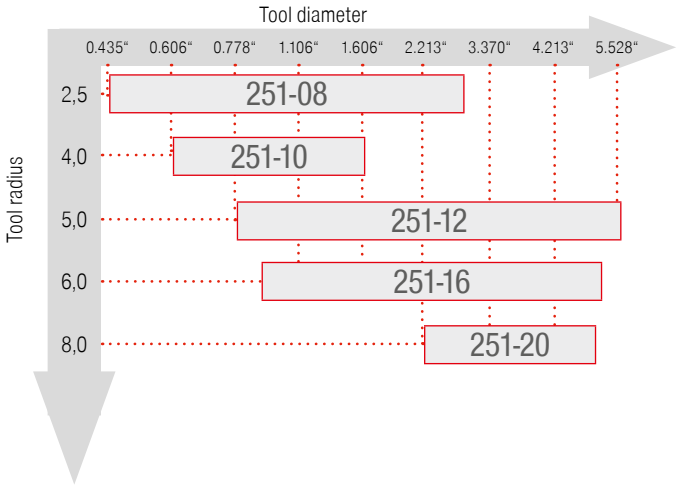
MaxiMill 252

→ Page 91+92

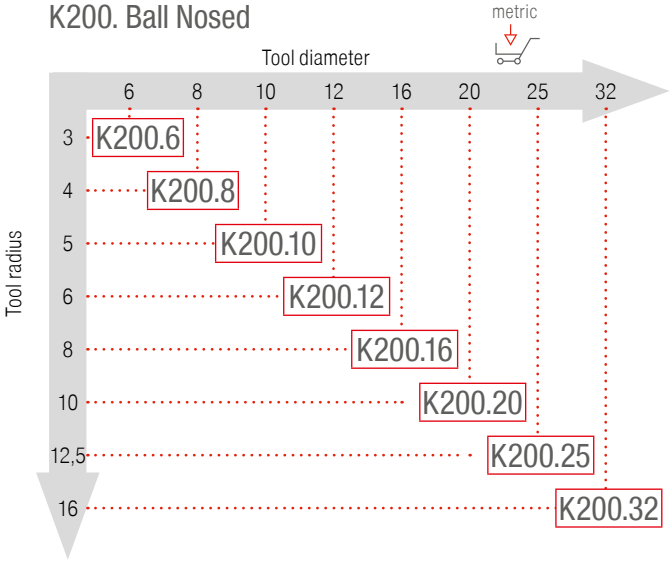


MaxiMill 251 RS

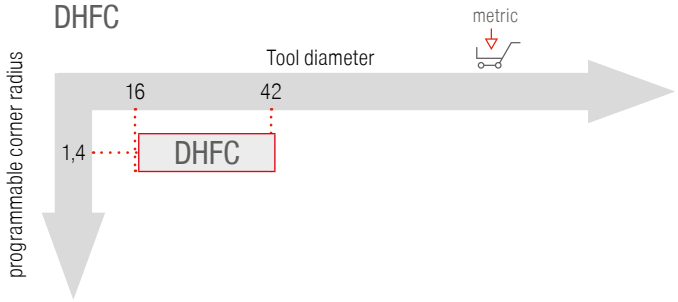
→ Page 83–90



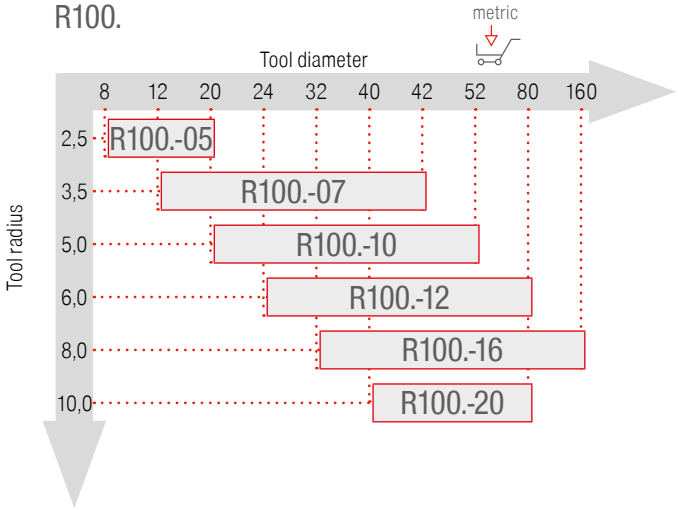
K200. Ball Nosed



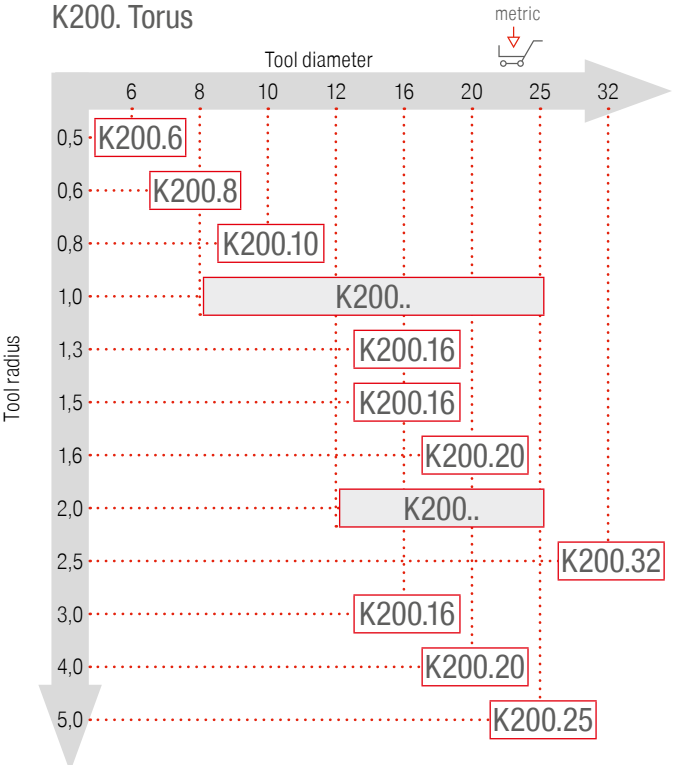
DHFC



R100.



K200. Torus



Application range

Tool diameter

metric

Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

Overview – form milling

System	Inserts	Cutting edges per insert	$a_{p\,max.}$ inch	Ø-range inch			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Page No.
MaxiMill HFC	**X.LX** 06.. / 09.. / 12.. / 19..	4	0.032–0.130"	Ø 0.625–1.250"	Ø 0.625–1.500"	Ø 1.500–5.000"	●	●	●		●			76–82
MaxiMill 251 RS	**R..X** 05.. / 08.. / 10.. / 12.. / 16.. / 20..	8	0.100–0.400"	Ø 0.606–1.106"	Ø 0.435–1.106"	Ø 1.185–5.213"	●	●	●	●	●	●	○	83–90
MaxiMill 252	**RNHU** 10.. / 12..	8	0.120"			Ø 1.027–2.527"	●	●	○		●			91+92

Additional diameters are available upon request.

R100.

DHFC

K200. Ball Nosed

metric

Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

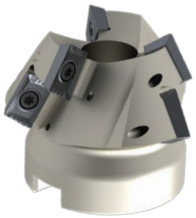
K200. Torus

7

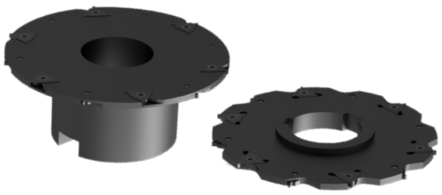
Overview – Chamfer / Angle Milling Cutters

System	Inserts	Cutting edges per insert	$a_{p\,max.}$ inch	Ø-range inch	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Page No.
MaxiMill 272	**SD..** 0903..	4	0.160"	Ø 0.500"	●	●	○	●	●			33–35
Insert countersink 90°	**TOHX** 090204 / 140305	2		Ø 0.748–1.457"	●	●	●	●	●	○	●	95+96

Additional diameters are available upon request.



MaxiMill 242



TX

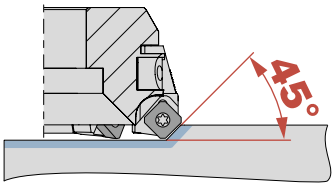
metric

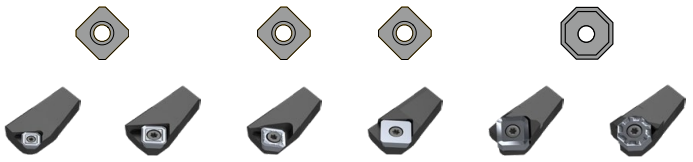
Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalogue.

Overview – Combi Milling Cutters

System	Cutting edges per insert	a_p max. mm	Ø-range inch	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Page No.
MaxiMill 260	2–16	0.032 – 1.30"	Ø 3.000–10.000	●	●	●	●	●	●		93

Cartridge no. 041 | 031 | 029 | 032 | 058 | 057

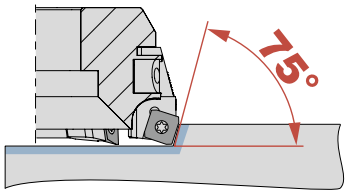




SD.. 0903.. | **SD..** 1204.. **XD..** 1204.. | **SE..** 1204.. | **SD..** 1504.. | **SA..** 1706.. | **OA..** 0605.. **XA..** 0605..

94

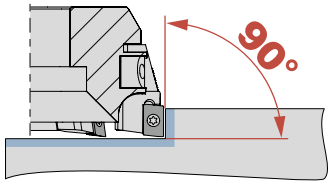
Cartridge no. 018

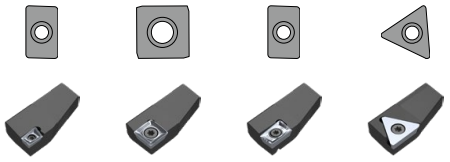


SP.. 1204..

94

Cartridge no. 042 | 039 | 051 | 025

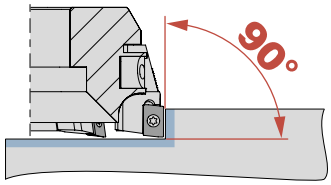




AP.. 1003.. | **SD..** 1205.. | **LD..** 1504.. | **TP..** 2204..

94

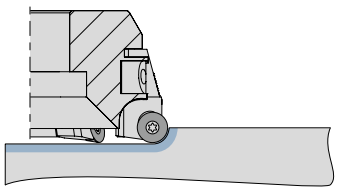
Cartridge no. 055 | 054 | 056

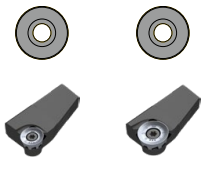


SD.. 09T3 | **XD..** 11T3 | **XD..** 1505

94

Cartridge no. 052 | 053



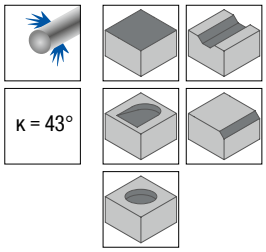


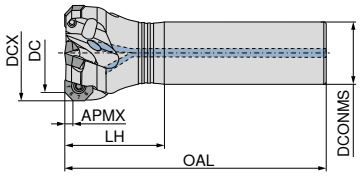
RP.X 1204.. | **RP.X** 1604..

94

7

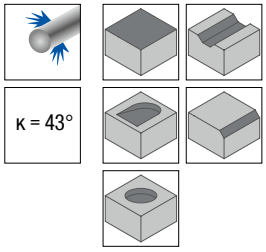
MaxiMill – End milling cutter C 274-04/-09

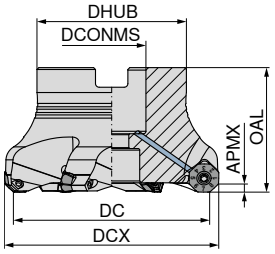




Designation	DC inch	DCX inch	ZNF	OAL inch	LH inch	DCONMS inch	torque moment Nm	Insert	B 58 743 ...	A 58 743 ...
C274.100.R.04-09-A075-125-EF	1.000	1.228	4	3.350	1.250	0.750	1,2	OF.. 0403 / SF.. 0903		10004
C274.100.R.04-09-B075-125-EF	1.000	1.228	4	3.350	1.250	0.750	1,2	OF.. 0403 / SF.. 0903	30004	
C274.125.R.05-09-A100-150-EF	1.250	1.479	5	3.900	1.500	1.000	1,2	OF.. 0403 / SF.. 0903		12505
C274.125.R.05-09-B100-150-EF	1.250	1.479	5	3.900	1.500	1.000	1,2	OF.. 0403 / SF.. 0903	32505	

MaxiMill – Shell mill A 274-04/-09





Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	torque moment Nm	Insert	58 744 ...
A274.150.R.05-09-A050-175-EF	1.500	1.740	5	0.098	1.420	1.420	0.500	1,2	OF.. 0403 / SF.. 0903	15005
A274.200.R.07-09-A075-175-EF	2.000	2.230	7	0.098	1.750	1.750	0.750	1,2	OF.. 0403 / SF.. 0903	20007
A274.300.R.09-09-A100-200-EF	3.000	3.230	9	0.098	2.250	2.250	1.000	1,2	OF.. 0403 / SF.. 0903	30009
A274.400.R.11-09-B125-200-EF	4.000	4.230	11	0.098	2.750	2.750	1.250	1,2	OF.. 0403 / SF.. 0903	40011

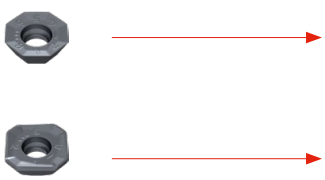

Screwdriver


Molykote


Clamping screw

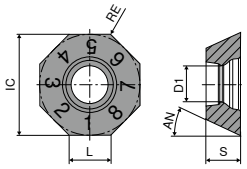
Spare parts DC	Screwdriver 80 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...
1.500	039	303	133
2.000	039	303	133
3.000	039	303	133
4.000	039	303	133

Two insert types – ONE Cutter

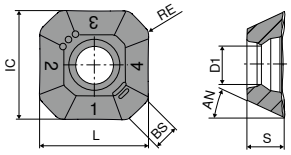


OFHT / OFHW / SFHT / SFKT

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
OFH. 0403..	0.375	0.132	0.155	-	0.125	25
SF.T 0903..	0.386	0.132	0.354	0.089	0.138	25



OF..

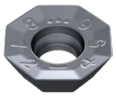


SF.T

OFHT

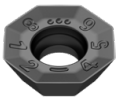
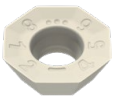
		-F50 CTCP220	-F50 CTPP225	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		OFHT	OFHT	OFHT	OFHT	OFHT	OFHT
		51 002 ...	**51 002 ...**	**51 002 ...**	**51 003 ...**	**51 002 ...**	**51 003 ...**
ISO	RE inch						
040305SN	0.020	**255**	**055**	**005**	**005**	**105**	**105**
P		●	●	●	●	●	●
M						○	○
K				○	○	○	○
N							
S							
H							
O							

OFHT / OFHW

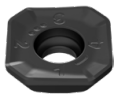
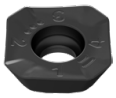
		-F50 CTPM225	-F50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245	CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		OFHT	OFHT	OFHT	OFHT	OFHT	OFHW
		51 002 ...	**51 002 ...**	**51 002 ...**	**51 003 ...**	**51 002 ...**	**51 105 ...**
ISO	RE inch						
040302EN	0.008						**452**
040305SN	0.020	**205**	**305**	**405**	**405**	**455**	
P		●	●	○	○	●	●
M		●	●	●	●	●	●
K							
N							
S							
H							
O							

7

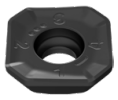
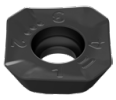
OFHT / OFHW

		NEW	NEW					
		-F50 CTCM245	CTCM245	-M50 CTCK215	-F10 CTWN215	-F50 CTC5240	CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		OFHT	OFHW	OFHT	OFHT	OFHT	OFHW	OFHT
		51 002 ...	51 105 ...	51 003 ...	50 459 ...	51 002 ...	50 457 ...	51 002 ...
ISO	RE inch							
040302EN	0.008		90201				504	
040305FN	0.020				505			
040305SN	0.020	90501		505		15500		555
P		●	●					
M		●	●					
K				●	○			
N					●			
S		○	○			●	●	●
H								
O					○			

SFHT / SFKT

		-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SFHT	SFKT	SFHT	SFKT
		51 012 ...	51 013 ...	51 012 ...	51 013 ...
ISO	RE inch				
0903AFSR	0.039	270	270	070	070
P		●	●	●	●
M					
K					
N					
S					
H					
O					

SFHT / SFKT

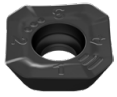
		-F50 CTCP230 DRAGONSKIN	-M50 CTCP230 DRAGONSKIN	-F50 CTPP235 DRAGONSKIN	-M50 CTPP235 DRAGONSKIN
					
		SFHT	SFKT	SFHT	SFKT
		51 012 ...	51 013 ...	51 012 ...	51 013 ...
ISO	RE inch				
0903AFSR	0.039	020	020	120	120
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

SFHT / SFKT

		NEW						
		-F50 CTPM225 DRAGONSKIN	-M50 CTPM225 DRAGONSKIN	-F50 CTCM235 DRAGONSKIN	-F50 CTPM240 DRAGONSKIN	-M50 CTPM240 DRAGONSKIN	-F50 CTPM245 DRAGONSKIN	-F50 CTCM245 DRAGONSKIN
								
		SFHT	SFKT	SFHT	SFHT	SFKT	SFHT	SFHT
		51 012 ...	51 013 ...	51 012 ...	51 012 ...	51 013 ...	51 012 ...	51 012 ...
ISO	RE inch							
0903AFSR	0.039	220	220	320	420	42000	470	92001
P		●	●	●	○	○	●	●
M		●	●	●	●	●	●	●
K								
N								
S								○
H								
O								

7

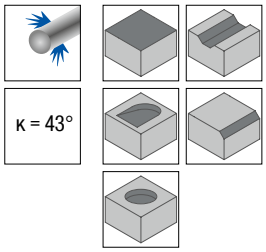
SFKT / SFHT

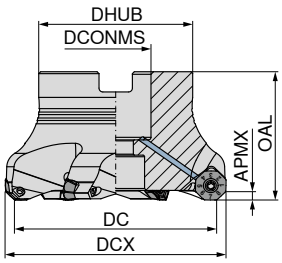
	-R50 CTCK215	-R50 CTPK220	-F10 CTWN215	-F40 CTC5240
	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN
				
	SFKT	SFKT	SFHT	SFHT
	51 065 ...	51 065 ...	50 514 ...	50 514 ...
ISO RE inch				
0903AFFR 0.039			505	
0903AFSR 0.039	520	620		504
P				
M				
K	●	●	○	
N			●	
S				●
H				
O			○	

Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 101
Starting Parameter	→ 102	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

MaxiMill – Shell mill A 274-05/-12





58 772 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	torque moment Nm	Insert	
A274.200.R.04-12-A075-175-EF	2.000	2.320	4	0.126	1.750	1.750	0.750	3,2	OFHT 0504 / SFKT 1204	**20004**
A274.250.R.05-12-A100-200-EF	2.500	2.820	5	0.126	2.190	2.190	1.000	3,2	OFHT 0504 / SFKT 1204	**25005**
A274.300.R.06-12-A100-200-EF	3.000	3.320	6	0.126	2.190	2.190	1.000	3,2	OFHT 0504 / SFKT 1204	**30006**
A274.400.R.07-12-A125-200-EF	4.000	4.320	7	0.126	2.750	2.750	1.250	3,2	OFHT 0504 / SFKT 1204	**40007**
A274.500.R.08-12-B150-200-EF	5.000	5.320	8	0.126	3.810	3.810	1.500	3,2	OFHT 0504 / SFKT 1204	**50008**
A274.600.R.10-12-B200-200-EF	6.000	6.320	10	0.126	4.880	4.880	2.000	3,2	OFHT 0504 / SFKT 1204	**60010**


Screwdriver

80 950 ...


Molykote

70 950 ...


Clamping screw

70 950 ...

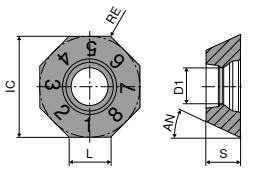
Spare parts DC			
2.000 - 6.000	**120**	**303**	**340**

Two insert types – ONE Cutter

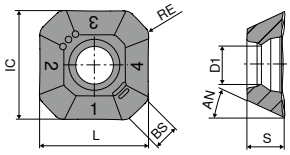
7

OFHT / SFHT / SFKT

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
OFHT 0504..	0.500	0.189	0.177	-	0.187	25
SF.T 1204..	0.500	0.189	0.500	0.056	0.187	25



OF..



SF.T

OFHT

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		OFHT	OFHT	OFHT	OFHT
		51 002 ...	**51 003 ...**	**51 002 ...**	**51 003 ...**
ISO	RE inch				
050410SN	0.039	**010**	**01000**	**110**	**11000**
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

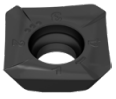
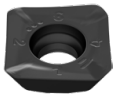
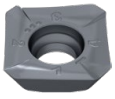
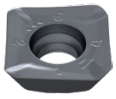
OFHT

		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		OFHT	OFHT	OFHT	OFHT	OFHT	OFHT
		51 002 ...	**51 003 ...**	**51 002 ...**	**51 002 ...**	**51 003 ...**	**51 002 ...**
ISO	RE inch						
050410SN	0.039	**210**	**210**	**310**	**410**	**41000**	**460**
P		●	●	●	○	○	●
M		●	●	●	●	●	●
K							
N							
S							
H							
O							

OFHT

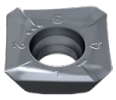
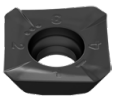
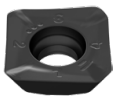
		NEW		
		-F50 CTCM245	-F10 CTWN215	-F50 CTC5240
		DRAGONSKIN		DRAGONSKIN
				
		OFHT	OFHT	OFHT
		51 002 ...	51 122 ...	51 002 ...
ISO	RE inch			
050410FN	0.039		36000	
050410SN	0.039	91001		16000
P		●		
M		●		
K			○	
N			●	
S		○		●
H				
O			○	

SFHT / SFKT

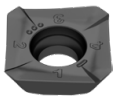
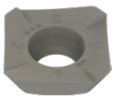
		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SFHT	SFKT	SFHT	SFKT
		51 012 ...	51 013 ...	51 012 ...	51 013 ...
ISO	RE inch				
1204AFSR	0.039	02500	025	12500	125
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

7

SFHT / SFKT

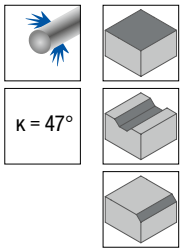
		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		SFHT	SFKT	SFHT	SFKT	SFHT	SFKT
		51 012 ...	51 013 ...	51 012 ...	51 013 ...	51 012 ...	51 013 ...
ISO	RE inch						
1204AFSR	0.039	225	225	325	325	42500	425
P		●	●	●	●	○	○
M		●	●	●	●	●	●
K							
N							
S							
H							
O							

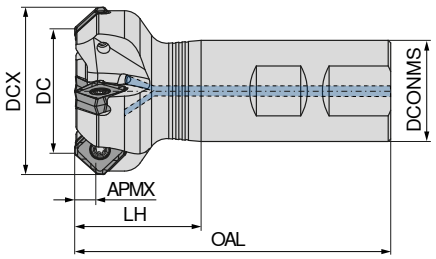
SFHT

			NEW			
		-F50 CTPM245	-F50 CTCM245	-F10 CTWN215	-F40 CTC5240	
		DRAGONSKIN	DRAGONSKIN		DRAGONSKIN	
						
		SFHT	SFHT	SFHT	SFHT	
		51 012 ...	51 012 ...	51 123 ...	50 514 ...	
ISO	RE inch					
1204AFER	0.039					50900
1204AFFR	0.039				37000	
1204AFSR	0.039	47500	92501			
P		●	●			
M		●	●			
K				○		
N				●		
S			○			●
H						
O				○		

Milling guide

MaxiMill – End milling cutter C 271-12





NEW

B

58 786 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS $_{h6}$ inch	Insert	
C271.0125.R.03-12-B-150-EF	1.250	1.763	3	0.267	4.000	1.500	1.250	SOHU 1204.. / XOHU 1204..	**01203**
C271.0150.R.04-12-B125-150-EF	1.500	2.013	4	0.267	4.000	1.500	1.250	SOHU 1204.. / XOHU 1204..	**01504**

Screwdriver

80 950 ...

Molykote

70 950 ...

Clamping screw

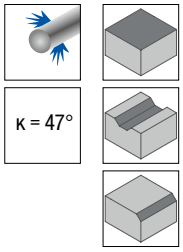
70 950 ...

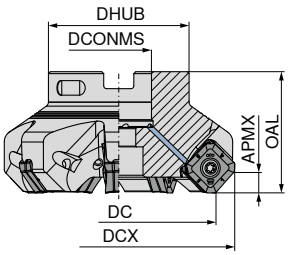
Spare parts DC			
1.250 - 1.500	**128**	**303**	**859**

7

MaxiMill – A 271-12 Face mill

▲ 8 cutting edges per insert



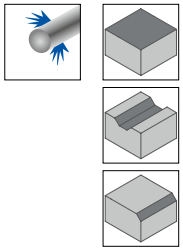


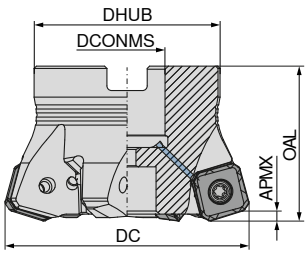
NEW NEW

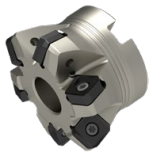
58 787 ... 58 787 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS inch	RPMX 1/min.	torque moment Nm	Insert			
A271.150.R.04-12-A050-175-EF	1.500	2.013	4	0.267	1.750	1.421	0.500	18500	3,2	SOHU 1204.. / XOHU 1204..			15004
A271.200.R.05-12-A075-175-EF	2.000	2.512	5	0.267	1.750	1.750	0.750	15100	3,2	SOHU 1204.. / XOHU 1204..			20005
A271.250.R.07-12-A100-200-EF	2.500	3.011	7	0.267	2.000	2.250	1.000	13000	3,2	SOHU 1204.. / XOHU 1204..			25007
A271.300.R.06-12-A100-200-EF	3.000	3.511	6	0.267	2.000	2.250	1.000	11600	3,2	SOHU 1204.. / XOHU 1204..	30006		
A271.300.R.08-12-A100-200-EF	3.000	3.511	8	0.267	2.000	2.250	1.000	9800	3,2	SOHU 1204.. / XOHU 1204..			30008
A271.400.R.07-12-A125-200-EF	4.000	4.510	7	0.267	2.000	2.750	1.250	9800	3,2	SOHU 1204.. / XOHU 1204..	40007		
A271.400.R.10-12-A125-200-EF	4.000	4.510	10	0.267	2.000	2.750	1.250	9800	3,2	SOHU 1204.. / XOHU 1204..			40010
A271.500.R.08-12-B150-200-EF	5.000	5.509	8	0.267	2.000	3.750	1.500	8700	3,2	SOHU 1204.. / XOHU 1204..	50008		
A271.500.R.12-12-B150-200-EF	5.000	5.509	12	0.267	2.000	3.750	1.500	8700	3,2	SOHU 1204.. / XOHU 1204..			50012
A271.600.R.09-12-B150-200-EF	6.000	6.509	9	0.267	2.000	3.750	1.500	7800	3,2	SOHU 1204.. / XOHU 1204..	60009		
A271.600.R.14-12-B150-200-EF	6.000	6.509	14	0.267	2.000	3.750	1.500	7800	3,2	SOHU 1204.. / XOHU 1204..			60014
A271.800.R.11-12-C250-250-EF	8.000	8.509	11	0.267	2.500	5.200	2.500	6700	3,2	SOHU 1204.. / XOHU 1204..	80011		
A271.800.R.11-12-C250-250-EF	8.000	8.509	17	0.267	2.500	5.200	2.500	6700	3,2	SOHU 1204.. / XOHU 1204..			80017
A271.1000.R.13-12-C250-250-EF	10.000	10.509	13	0.267	2.500	5.200	2.500	6000	3,2	SOHU 1204.. / XOHU 1204..	10013		
A271.1000.R.21-12-C250-250-EF	10.000	10.509	21	0.267	2.500	5.200	2.500	6000	3,2	SOHU 1204.. / XOHU 1204..			10021

MaxiMill – A 271-12 HFC Face mill







NEW

58 787 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS inch	RPMX 1/min.	torque moment Nm	Insert	
A271.200.R.04-12-A075-175-HFC-EF	2.000	2.513	4	0.102	1.750	1.750	0.750	15100	3,2	SOHU 1204..	20004
A271.250.R.06-12-A100-200-HFC-EF	2.500	3.013	6	0.102	2.000	2.250	1.000	13000	3,2	SOHU 1204..	25006
A271.300.R.07-12-A100-200-HFC-EF	3.000	3.513	7	0.102	2.000	2.250	1.000	11600	3,2	SOHU 1204..	30007


Screwdriver


Molykote


Clamping screw

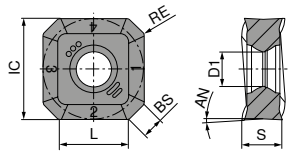
80 950 ... 70 950 ... 70 950 ...

Spare parts

DC			
1.500 - 10.000	128	303	859

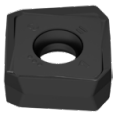
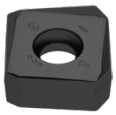
SOHU

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
SOHU 1204..	0.526	0.173	0.346	0.067	0.197	7.4

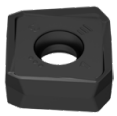
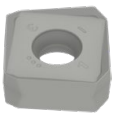


SOHU

SOHU

		NEW	NEW	NEW	NEW	NEW	NEW
		-M50 CTCP230	-M50 CTPP235	-M50 CTCM235	-M50 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		SOHU	SOHU	SOHU	SOHU	SOHU	SOHU
		51 138 ...	51 138 ...	51 138 ...	51 138 ...	51 140 ...	51 140 ...
ISO	RE inch						
1204ABSR	0.031	02000	12000	32000	42000	47000	92001
P		●	●	●	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

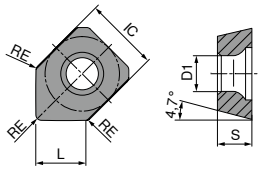
SOHU

		NEW	NEW	NEW	NEW
		-R50 CTCK215	-R50 CTPK220	-F40 CTC5240	-F50 CTC5240
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SOHU	SOHU	SOHU	SOHU
		51 139 ...	51 139 ...	51 148 ...	51 140 ...
ISO	RE inch				
1204ABSR	0.031	52000	62000	12001	17000
P					
M					
K		●	●		
N					
S				●	●
H					
O					

7

XOHU

Designation	IC inch	D1 inch	L inch	BS inch	S inch
XOHU 1204..	0.526	0.173	0.346	0.072	0.197



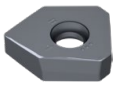
XOHU

XOHU

NEW

-M50
CTPP235

DRAGONSKIN


XOHU

51 141 ...

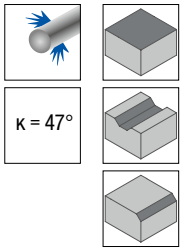
ISO	RE inch	
1204ABSR	0.031	**12000**
P		●
M		○
K		○
N		
S		
H		
O		

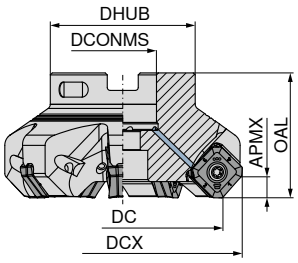
Milling guide

Cutting data standard values	→ 97–100	Starting Parameter	→ 105
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – A 271-17 Face mill

▲ 8 cutting edges per insert





58 767 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DCONMS inch	DHUB inch	torque moment Nm	Insert	
A271.200.R.04-17-A075-175-EF	2.000	2.660	4	0.330	1.750	0.750	1.750	5	SAKU 1706	**20004**
A271.250.R.06-17-A100-200-EF	2.500	3.160	6	0.330	2.250	1.000	2.250	5	SAKU 1706	**25006**
A271.300.R.07-17-A100-200-EF	3.000	3.660	7	0.330	2.250	1.000	2.250	5	SAKU 1706	**30007**
A271.400.R.08-17-B125-200-EF	4.000	4.660	8	0.330	2.750	1.250	2.750	5	SAKU 1706	**40008**
A271.500.R.10-17-B150-200-EF	5.000	5.660	10	0.330	3.750	1.500	3.750	5	SAKU 1706	**50010**
A271-600.R.11-17-B200-250-EF	5.000	6.660	11	0.334	2.500	2.000	3.750	5	SAKU 1706	**60011**
A271.650.R.12-17-C250-250-EF	6.500	7.160	12	0.330	5.120	2.500	5.120	5	SAKU 1706	**65012**

Screwdriver

80 950 ...

Molykote

70 950 ...

Clamping screw

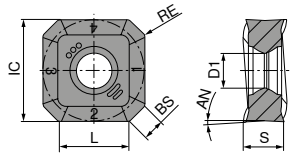
70 950 ...

Spare parts DC			
2.000 - 6.500	**106**	**303**	**302**

7

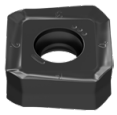
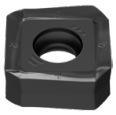
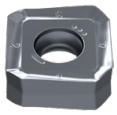
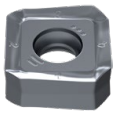
SAKU

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
SAKU 1706..	0.669	0.228	0.467	0.146	0.250	3

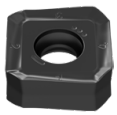
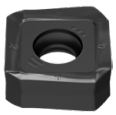
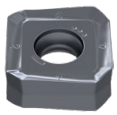


SAKU

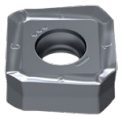
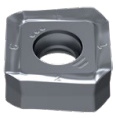
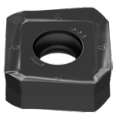
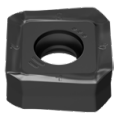
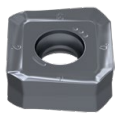
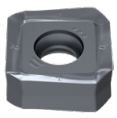
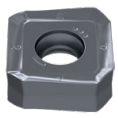
SAKU

		-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SAKU	SAKU	SAKU	SAKU
		51 004 ...	51 005 ...	51 004 ...	51 005 ...
ISO	RE inch				
1706ABSR	0.031	270	270	070	070
P		●	●	●	●
M					
K					
N					
S					
H					
O					

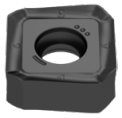
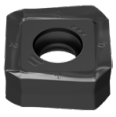
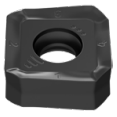
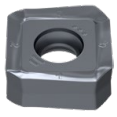
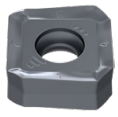
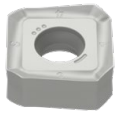
SAKU

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SAKU	SAKU	SAKU	SAKU
		51 004 ...	51 005 ...	51 004 ...	51 005 ...
ISO	RE inch				
1706ABSR	0.031	020	020	120	120
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

SAKU

	-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	SAKU	SAKU	SAKU	SAKU	SAKU	SAKU	SAKU
	51 004 ...	51 005 ...	51 004 ...	51 005 ...	51 004 ...	51 005 ...	51 004 ...
ISO / RE inch							
1706ABSR 0.031	220	220	320	320	420	420	470
P	●	●	●	●	○	○	●
M	●	●	●	●	●	●	●
K							
N							
S							
H							
O							

SAKU

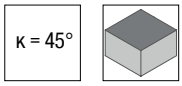
	NEW						
	-F50 CTCM245	-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-R50 CTPK220	-F50 CTC5240	-F50 CTCS245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	SAKU	SAKU	SAKU	SAKU	SAKU	SAKU	SAKU
	51 004 ...	51 005 ...	51 058 ...	51 005 ...	51 058 ...	50 306 ...	51 004 ...
ISO / RE inch							
1706ABSR 0.031	92001	520	520	620	620	520	570
Steel	●	○	○	○	○		
Stainless steel	●						
Cast iron		●	●	●	●		
Non ferrous metals							
Heat resistant alloys	●					●	●
Hardened materials							

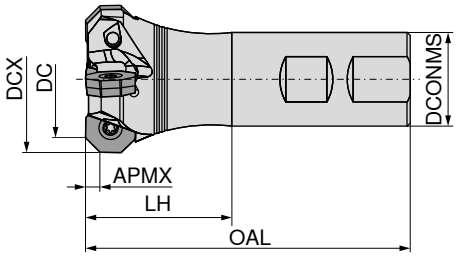
Milling guide

7

MaxiMill – End milling cutter C 273

▲ 16 cutting edges per insert





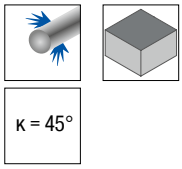
B

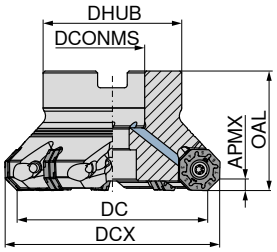
58 762 ...

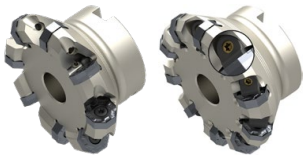
Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS h6 inch	LH inch	OAL inch	torque moment Nm	Insert	
C273.150.R.04-06-B125-125-EF	1.500	1.911	4	0.138	1.250	1.250	3.600	5	OAKU / XAHT 0605	15004
C273.200.R.05-06-B150-125-EF	2.000	2.421	5	0.138	1.500	1.250	4.500	5	OAKU / XAHT 0605	20005

MaxiMill – Shell mill A 273

▲ 16 cutting edges per insert







58 741 ... 58 741 ...

Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	torque moment Nm	Insert		
A273.200.R.05-06-A075-175-EF	2.000	5	0.138	1.750	0.750	1.750	5	OAKU / XAHT 0605	20005	
A273.250.R.07-06-A100-200-EF	2.500	7	0.138	2.250	1.000	2.250	5	OAKU / XAHT 0605	25007	
A273.300.R.08-06-A100-200-EF	3.000	8	0.138	2.250	1.000	2.250	5	OAKU / XAHT 0605	30008	
A273.400.R.10-06-B125-200-EF - IC	4.000	10	0.138	2.750	1.250	2.750	5	OAKU / XAHT 0605	40010	
A273.500.R.12-06-B150-200-EF	5.000	12	0.138	3.750	1.500	3.750	5	OAKU / XAHT 0605	50012	
A273.600.R.13-06-B150-250-EF	6.000	13	0.138	3.750	1.500	3.750	5	OAKU / XAHT 0605	60013	
A273.800.R.25-06-C250-250-EF	8.000	25	0.138	6.500	2.500	6.500	5	OAKU / XAHT 0605		80025
A273.1000.R.31-06-C250-250-EF	10.000	31	0.138	6.500	2.500	6.500	5	OAKU / XAHT 0605		10031

Clamping wedge screw

70 950 ...

Clamping wedge Face mill

70 950 ...

Screwdriver

80 950 ...

Molykote

70 950 ...

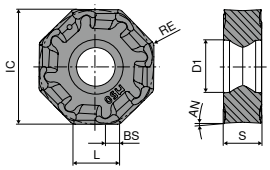
Clamping screw

70 950 ...

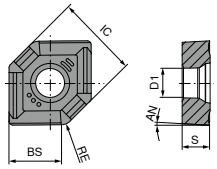
Spare parts DC									
1.500 - 6.000					106		303		302
8.000 - 10.000	844		845		105		303		

OAKU / XAHT

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
OAKU 0605..	0.673	0.228	0.236	0.079	0.223	3
XAHT 0605..	0.672	0.236	-	0.470	0.219	3

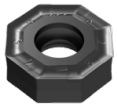
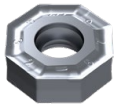


OAKU

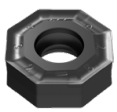
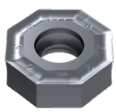


XAHT

OAKU

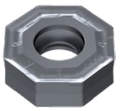
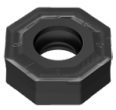
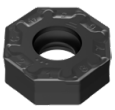
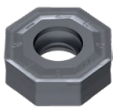
		-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		OAKU	OAKU	OAKU	OAKU
		51 000 ...	51 001 ...	51 000 ...	51 001 ...
ISO	RE inch				
060508SR	0.031	**258**	**258**	**058**	**058**
P		●	●	●	●
M					
K					
N					
S					
H					
O					

OAKU

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		OAKU	OAKU	OAKU	OAKU
		51 000 ...	51 001 ...	51 000 ...	51 001 ...
ISO	RE inch				
060508SL	0.031				**10900**
060508SR	0.031	**008**	**008**	**108**	**108**
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

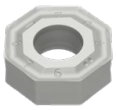
7

OAKU

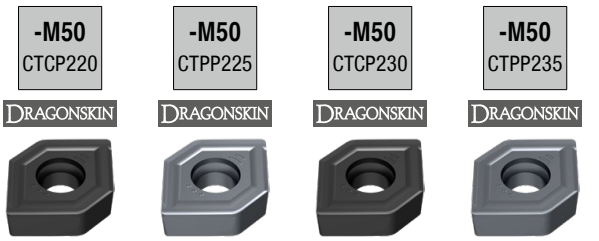
		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		OAKU	OAKU	OAKU	OAKU	OAKU	OAKU	OAKU
		51 000 ...	51 001 ...	51 000 ...	51 001 ...	51 000 ...	51 001 ...	51 104 ...
ISO	RE inch							
060508ER	0.031							458
060508SR	0.031	208	208	308	308	408	408	
P		●	●	●	●	○	○	●
M		●	●	●	●	●	●	●
K								
N								
S								
H								
O								

OAKU

NEW

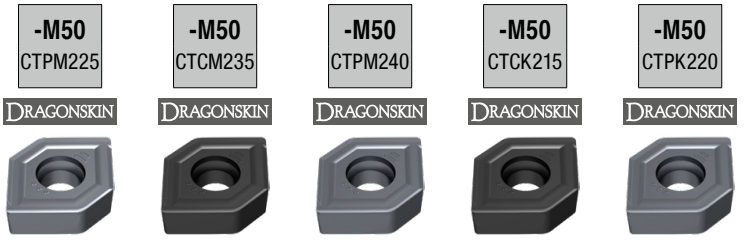
		-F40 CTCM245	-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-R50 CTPK220	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		OAKU	OAKU	OAKU	OAKU	OAKU	OAKU	OAKU
		51 104 ...	51 001 ...	51 027 ...	51 001 ...	51 027 ...	50 446 ...	51 104 ...
ISO	RE inch							
060508ER	0.031	90801					550	50801
060508SL	0.031		50900		60900			
060508SR	0.031		508	508	608	608		
P		●						
M		●						
K			●	●	●	●		
N								
S		○					●	●
H								
O								

XAHT



ISO	RE inch	51 014 ...	51 014 ...	51 014 ...	51 014 ...
060525SR	0.098	275	075	025	125
P		●	●	●	●
M					○
K				○	○
N					
S					
H					
O					

XAHT

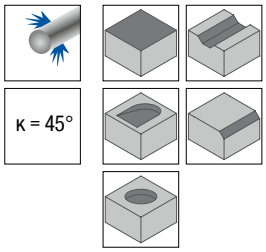


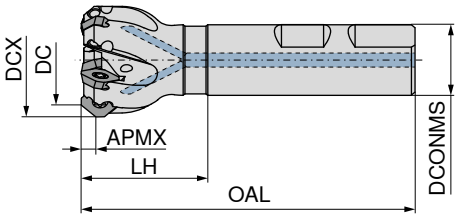
ISO	RE inch	51 014 ...	51 014 ...	51 014 ...	51 014 ...	51 014 ...
060525SL	0.098				52600	
060525SR	0.098	225	325	425	525	625
P		●	●	○		
M		●	●	●		
K					●	●
N						
S						
H						
O						

Milling guide

7

MaxiMill – End milling cutter 45° C 270-09



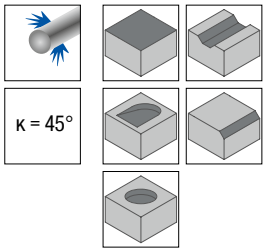


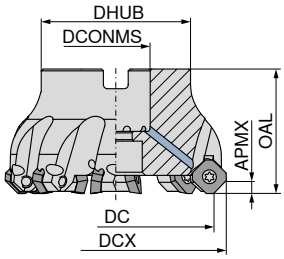
B

58 666 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	torque moment Nm	Insert	
C270.0500.R.01-09-B0625-125-EF	0.500	0.830	1	0.157	3.250	1.250	0.625	1,2	SD.. 0903..	05001
C270.0500.R.01-09-B075-125-EF	0.500	0.830	1	0.157	3.250	1.250	0.750	1,2	SD.. 0903..	05101
C270.0750.R.03-09-B075-150-EF	0.750	1.080	3	0.157	3.500	1.500	0.750	1,8	SD.. 0903..	07503
C270.0750.R.03-09-B100-150-EF	0.750	1.080	3	0.157	3.500	1.500	1.000	1,8	SD.. 0903..	07603
C270.100.R.04-09-B075-150-EF	1.000	1.330	4	0.157	3.500	1.500	0.750	1,8	SD.. 0903..	10004
C270.100.R.04-09-B100-150-EF	1.000	1.330	4	0.157	3.500	1.500	1.000	1,8	SD.. 0903..	10104
C270.125.R.05-09-B075-175-EF	1.250	1.580	5	0.157	3.750	1.750	0.750	1,8	SD.. 0903..	12505
C270.125.R.05-09-B100-175-EF	1.250	1.580	5	0.157	3.750	1.750	1.000	1,8	SD.. 0903..	12605
C270.150.R.05-09-B075-200-EF	1.500	1.830	5	0.157	4.000	2.000	0.750	1,8	SD.. 0903..	15005
C270.150.R.05-09-B100-200-EF	1.500	1.830	5	0.157	4.000	2.000	1.000	1,8	SD.. 0903..	15105

MaxiMill – Shell mill 45° A 270-09





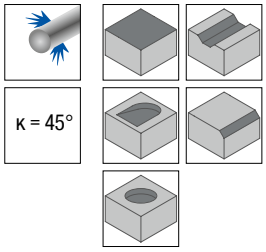
right

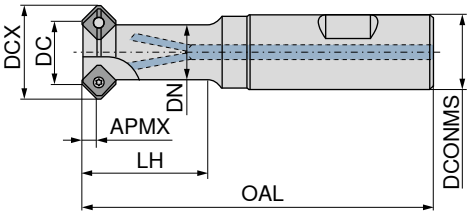
58 705 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	torque moment Nm	Insert	
A270.200.R.06-09-A075-175-EF	2.000	2.330	6	0.157	1.750	1.750	0.750	1,8	SD.. 0903..	20006
A270.250.R.08-09-A100-200-EF	2.500	2.830	8	0.157	2.250	2.250	1.000	1,8	SD.. 0903..	25008
A270.300.R.10-09-A100-200-EF	3.000	3.330	10	0.157	2.250	2.250	1.000	1,8	SD.. 0903..	30010

MaxiMill – Chamfer milling cutter C 272-09

▲ Usable on front and rear cutting edges





Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	torque moment Nm	Insert	58 669 ...
C272.0500.R.01-09-B-100-EF	0.500	0.830	1	0.157	3.250	1.000	0.625	1,2	SD.. 0903..	**05001**


Screwdriver
80 950 ...


Molykote
70 950 ...

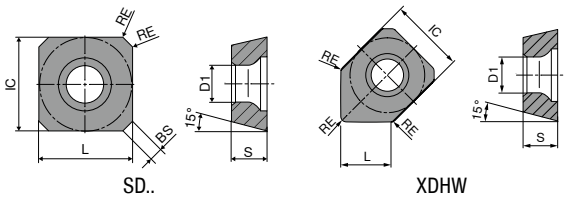

Clamping screw
70 950 ...

Spare parts DC			
0.500	**102**	**303**	**365**

7

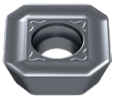
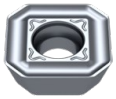
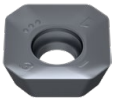
SDHW / SDNT / SDHT / XDHW

Designation	IC inch	D1 inch	L inch	BS inch	S inch
SD.. 0903..	0.375	0.134	0.375	0.066	0.125
XDHW 0903..	0.375	0.134	0.217	0.066	0.125

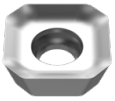
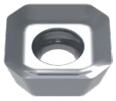


SDHW / SDNT / SDHT

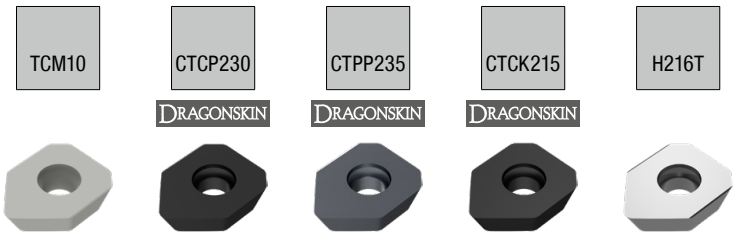
NEW

	TCM10	-29 CTCP230	-29 CTPP235	-33 CTPM240	-33P CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	CERMET SDHW	SDNT	SDNT	SDHT	SDHT	SDHT	SDHT
	50 428 ...	51 011 ...	51 011 ...	51 028 ...	51 086 ...	51 109 ...	51 109 ...
ISO RE inch							
0903AESN 0.039	898	020	120	420	420	470	92001
P	●	●	●	○	○	●	●
M			○	●	●	●	●
K	○	○	○				
N							
S							○
H							
O							

SDNT / SDHT

	-31 CTCK215	-27P H216T	-27P AMZ	-M31 CTC5240	-F50 CTCS245
	DRAGONSKIN			DRAGONSKIN	DRAGONSKIN
					
	SDNT	SDHT	SDHT	SDHT	SDHT
	51 029 ...	50 426 ...	50 426 ...	50 421 ...	51 109 ...
ISO RE inch					
0903AEFN 0.039		548	848		
0903AESN 0.039	520			509	57100
P					
M					
K	●	○	○		
N		●	●		
S				●	●
H					
O		○	○		

XDHW



ISO	RE inch	CERMET XDHW 50 449 ...	XDHW 51 015 ...	XDHW 51 015 ...	XDHW 51 015 ...	XDHW 50 449 ...
		898	020	120	520	548
0903AEEN	0.039					
0903AEFN	0.039					
0903AESN	0.039					
P		●	●	●		
M				○		
K		○	○	○	●	○
N						●
S						
H						
O						○

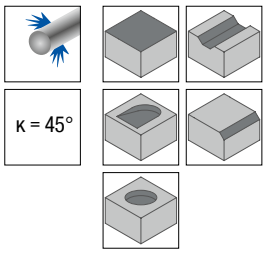
Milling guide

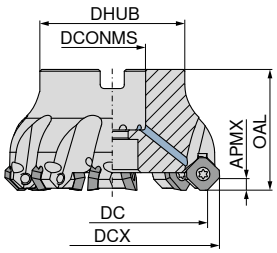
Cutting data standard values	→ 97–100	Machining strategy	→ 107
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

7

MaxiMill – Shell mill 45° A 270-12

- ▲ 50 705 ... Normal pitch for a broad spectrum of use on aluminum alloys, non-ferrous metals, up to soft steel materials
- ▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials





Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS H6 inch	OAL inch	DHUB inch	torque moment Nm	Insert	58 705 ...
A270.200.R.04-12-A075-175-EF	2.000	2.550	4	0.236	0.750	1.750	1.750	5	SD.. 1204..	20104
A270.250.R.05-12-A100-200-EF	2.500	3.050	5	0.236	1.000	2.250	2.250	5	SD.. 1204..	25105
A270.300.R.06-12-A100-200-EF	3.000	3.550	6	0.236	1.000	2.250	2.250	5	SD.. 1204..	30106
A270.400.R.06-12-B125-200-EF	4.000	4.550	6	0.236	1.250	2.750	2.750	5	SD.. 1204..	40106
A270.500.R.07-12-B150-200-EF	5.000	5.550	7	0.236	1.500	3.750	3.750	5	SD.. 1204..	50107
A270.600.R.08-12-B150-200-EF	6.000	6.660	8	0.236	1.500	3.750	3.750	5	SD.. 1204..	60108


Screwdriver

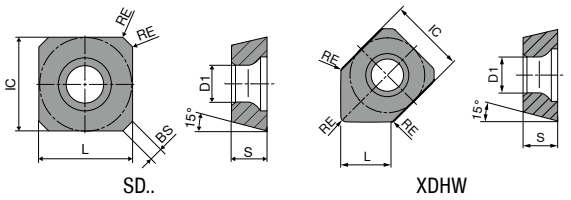

Molykote


Clamping screw

Spare parts DC	80 950 ...	70 950 ...	70 950 ...
2.000 - 6.000	106	303	01200

SDHT / SDHW / SDMT / XDHW

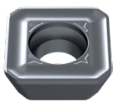
Designation	IC inch	D1 inch	L inch	BS inch	S inch
SD.. 1204..	0.500	0.217	0.500	0.069	0.187
XDHW 1204..	0.500	0.217	0.295	0.069	0.187



SDHT / SDHW / SDMT

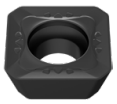
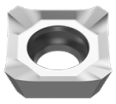
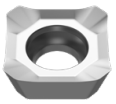
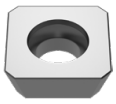
	TCM10	-R TCM10	-29R CTCP230	-R CTCP230	CTCP230
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	CERMET SDHT	**CERMET** SDHW	SDMT	SDHT	SDHW
	50 426 ...	**50 428 ...**	**51 010 ...**	**51 006 ...**	**51 008 ...**
ISO / RE inch					
1204AESN 0.008	**900**				
1204AESN 0.039		**899**	**020**	**020**	**020**
P	●	●	●	●	●
M					
K	○	○	○	○	○
N					
S					
H					
O					

SDMT / SDHT / SDHW

						NEW
	-29R CTPP235	-R CTPP235	-R CTPP235	-33 CTPM240	-F50 CTPM245	-F50 CTCM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	SDMT	SDHT	SDHW	SDHT	SDHT	SDHT
	51 010 ...	**51 006 ...**	**51 008 ...**	**51 028 ...**	**51 109 ...**	**51 109 ...**
ISO / RE inch						
1204AESN 0.039	**120**	**120**	**120**	**425**	**475**	**92501**
P	●	●	●	○	●	●
M	○	○	○	●	●	●
K	○	○	○			
N						
S						○
H						
O						

7

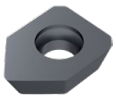
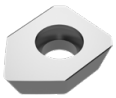
SDMT / SDHW / SDHT

	-31 CTCK215 DRAGONSKIN	-R CTCK215 DRAGONSKIN	-27 H216T	-27P H216T	H216T
					
	SDMT	SDHW	SDHT	SDHT	SDHW
	51 059 ...	51 008 ...	50 426 ...	50 426 ...	50 428 ...
ISO / RE inch					
1204AEEN 0.039	520	520			
1204AEFN 0.008			504		
1204AEFN 0.039				554	
1204AESN 0.008					600
P					
M					
K	●	●	○	○	○
N			●	●	●
S					
H					
O			○	○	○

SDHT

	-M31 CTC5240 DRAGONSKIN	-F50 CTCS245 DRAGONSKIN
		
	SDHT	SDHT
	50 421 ...	51 109 ...
ISO / RE inch		
1204AESN 0.039	512	57600
P		
M		
K		
N		
S	●	●
H		
O		

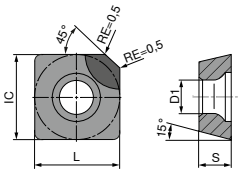
XDHW

		TCM10	CTCP230	CTPP235	CTCK215	H216T
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
						
		CERMET				
		XDHW	XDHW	XDHW	XDHW	XDHW
		50 449 ...	51 015 ...	51 015 ...	51 015 ...	50 449 ...
ISO	RE inch					
1204AEEN	0.039				525	
1204AEFN	0.039					600
1204AESN	0.039	900	025	125		
P		●	●	●		
M				○		
K		○	○	○	●	○
N						●
S						
H						
O						○

7

SDHW

Designation	IC inch	D1 inch	L inch	S inch
SDHW 1204..	0.500	0.217	0.500	0.187



SDHW

SDHW

ISO	DIAMOND SDHW 51 900 ...	CBN SDHW 51 900 ...
1204AEFN-2	**100** [1]	
1204AEFN-3	**102** [2]	
1204AETN-2		**300** [1]
P		
M		
K		●
N	●	
S		
H		○
O		

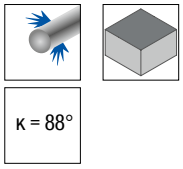
1) $a_{p\,max.}$ = 2.0 mm
2) $a_{p\,max.}$ = 3,5 mm

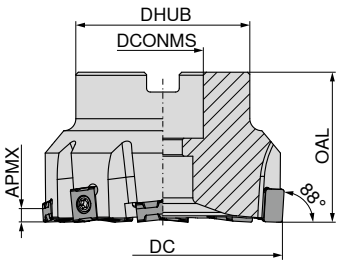
Milling guide

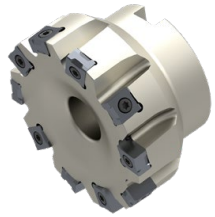
Cutting data standard values	→ 97–100	Machining strategy	→ 107
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – Shell mill HEC 11

▲ not adjustable







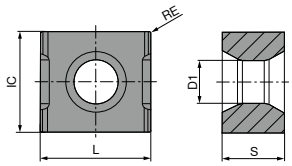
Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	torque moment Nm	58 725 ...
AHEC.200.R.06-11-A075-175-EF	2.000	6	0.157	1.750	1.750	0.750	12700	3,2	20006
AHEC.250.R.08-11-A100-175-EF	2.500	8	0.157	2.250	2.250	1.000	10100	3,2	25008
AHEC.300.R.10-11-A100-200-EF	3.000	10	0.157	2.250	2.250	1.000	8000	3,2	30010
AHEC.400.R.12-11-B150-200-EF	4.000	12	0.157	3.750	3.750	1.500	6400	3,2	40012
AHEC.500.R.16-11-B150-225-EF	5.000	16	0.157	3.750	3.750	1.500	5100	3,2	50016
AHEC.600.R.14-11-B150-250-EF	6.000	14	0.157	3.750	3.750	1.500	4000	3,2	60014
AHEC.600.R.20-11-A200-250-EF	6.000	20	0.157	2.500	4.882	2.000	4000	3,2	60020
AHEC.800.R.20-11-A250-250-EF	8.000	20	0.157	6.890	6.890	2.500	2600	3,2	80020

Spare parts DC	TORX® blade	Molykote	Clamping screw	Wedge	Torque screw-driver
	80 950 ...	70 950 ...	70 950 ...	70 950 ...	80 950 ...
2.000 - 8.000	036	303	113	199	193

7

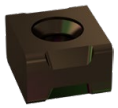
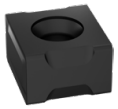
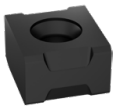
LNHX

Designation	IC inch	D1 inch	L inch	S inch
LNHX 1106..	0.394	0.168	0.433	0.250



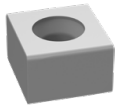
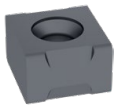
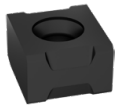
LNHX

LNHX

		CTEP210 DRAGONSKIN	CTCK215 DRAGONSKIN	-R50 CTCK215 DRAGONSKIN	-Q CTCK215 DRAGONSKIN
					
		CERMET LNHX	LNHX	LNHX	LNHX
		51 046 ...	51 046 ...	51 024 ...	51 045 ...
ISO	RE inch				
1106PNER	0.020		520	520	520 1)
1106ZZER	0.020				
1106PNER	0.031	820			
110616EN	0.063		51600		
P		●			
M					
K		●	●	●	●
N					
S					
H					
O					

1) -Q = Wiper insert

LNHX

		CTPK220	-R50 CTPK220	CTN3105	CTL3215	-Q CTL3215
		DRAGONSKIN	DRAGONSKIN			
						
		LNHX	LNHX	CERAMIC LNHX	CBN LNHX	CBN LNHX
		51 046 ...	51 024 ...	50 500 ...	51 046 ...	51 045 ...
ISO	RE inch					
110608EN	0.031		608			
1106PNER	0.020	620	620			
1106PNSR	0.020			904		
1106PNSR					87200	
1106ZZER						87000 1)
P						
M						
K		●	●	●	●	●
N						
S						
H					○	○
O						

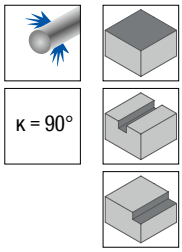
1) -Q = Wiper insert

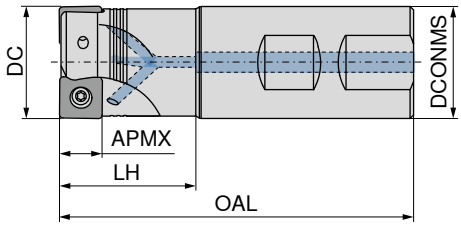
Milling guide

Cutting data standard values	→ 97–100	Assembly instructions	→ 108
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

7

MaxiMill – End milling cutter C 491-09

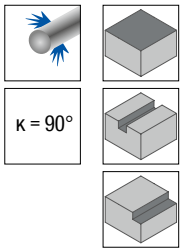


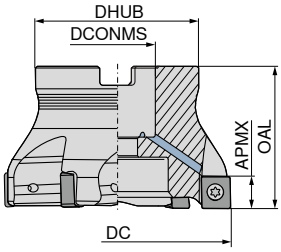


										A	B
										58 774 ...	**58 774 ...**
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS $_{h6}$ inch	RPMX 1/min.	torque moment Nm	Insert		
C491.100.R.03-09-B-125-EF	1.000	3	0.236	3.600	1.250	1.000	17125	2	SNHU 09T3		**30003**
C491.100.R.03-09-A-200-EF-800	1.000	3	0.236	8.000	2.000	1.000	17125	2	SNHU 09T3	**10003**	
C491.125.R.03-09-B-150-EF	1.250	3	0.236	4.000	1.500	1.250	13700	2	SNHU 09T3		**32503**
C491.125.R.04-09-B-150-EF	1.250	4	0.236	4.000	1.500	1.250	13700	2	SNHU 09T3		**32504**
C491.125.R.03-09-A-250-EF-1000	1.250	3	0.236	10.000	2.500	1.250	13700	2	SNHU 09T3	**12503**	
C491.125.R.04-09-A-250-EF-1000	1.250	4	0.236	10.000	2.500	1.250	13700	2	SNHU 09T3	**12504**	

	 Screwdriver	 Molykote	 Clamping screw
	80 950 ...	**70 950 ...**	**70 950 ...**
Spare parts for Article no.			
58 774 30003	**127**	**303**	**710**
58 774 10003	**127**	**303**	**710**
58 774 32503	**127**	**303**	**710**
58 774 32504	**127**	**303**	**710**
58 774 12503	**127**	**303**	**710**
58 774 12504	**127**	**303**	**710**

MaxiMill – Shell mill A 491-09





Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	RPMX 1/min.	torque moment Nm	Insert	58 776 ...	58 775 ...
A491.150.R.03-09-A050-175-EF	1.500	3	0.236	1.750	1.421	0.500	11900	2	SNHU 09T3	15003	
A491.150.R.05-09-A050-175-EF	1.500	5	0.236	1.750	1.421	0.500	11900	2	SNHU 09T3		15005
A491.200.R.04.09-A075-175-EF	2.000	4	0.236	1.750	1.750	0.750	9700	2	SNHU 09T3	20004	
A491.200.R.06-09-A075-175-EF	2.000	6	0.236	1.750	1.750	0.750	9700	2	SNHU 09T3		20006
A491.250.R.05-09-A100-200-EF	2.500	5	0.236	2.000	2.250	1.000	8500	2	SNHU 09T3	25005	
A491.250.R.08-09-A100-200-EF	2.500	8	0.236	2.000	2.250	1.000	8500	2	SNHU 09T3		25008
A491.300.R.06-09-A100-200-EF	3.000	6	0.236	2.000	2.250	1.000	7600	2	SNHU 09T3	30006	
A491.300.R.10-09-A100-200-EF	3.000	10	0.236	2.000	2.250	1.000	7600	2	SNHU 09T3		30010
A491.400.R.07-09-A125-200-EF	4.000	7	0.236	2.000	2.750	1.250	6400	2	SNHU 09T3	40007	
A491.400.R.12-09-A125-200-EF	4.000	12	0.236	2.000	2.750	1.250	6400	2	SNHU 09T3		40012
A491.500.R.08-09-B150-200-EF	5.000	8	0.236	2.000	3.750	1.500	5700	2	SNHU 09T3	50008	
A491.500.R.15-09-B150-200-EF	5.000	15	0.236	2.000	3.750	1.500	5700	2	SNHU 09T3		50015


Screwdriver


Molykote

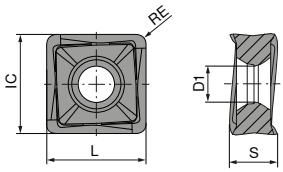

Clamping screw

Spare parts DC	80 950 ...	70 950 ...	70 950 ...
1.500 - 5.000	119	303	710

7

SNHU

Designation	IC inch	L inch	S inch	D1 inch
SNHU 09T3..	0.360	0.360	0.146	0.152



SNHU

ISO	RE inch	-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	NEW -F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		SNHU	SNHU	SNHU	SNHU	SNHU	SNHU
		51 120 ...	51 120 ...	51 119 ...	51 120 ...	51 126 ...	51 126 ...
09T308ER	0.031					45800	90801
09T308SR	0.031	008	108	408	408		
09T312SR	0.047	01200	11200	41200	41200		
09T316SR	0.063	01600	11600	41600	41600		
P		●	●	○	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

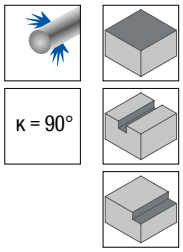
SNHU

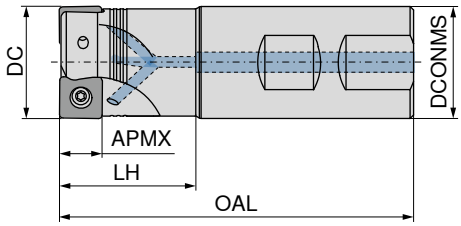
ISO	RE inch	-R50 CTCK215	NEW -R50 CTPK220	-F10 CTWN215	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN			DRAGONSKIN	DRAGONSKIN
		SNHU	SNHU	SNHU	SNHU	SNHU
		51 121 ...	51 121 ...	51 118 ...	51 126 ...	51 126 ...
09T308ER	0.031				15800	55800
09T308FR	0.031			358		
09T308SR	0.031	508	60800			
09T312FR	0.047			36200		
09T312SR	0.047	51200				
09T316FR	0.063			36600		
09T316SR	0.063	51600				
P						
M						
K		●	●	○		
N				●		
S					●	●
H						
O				○		

Milling guide

Cutting data standard values	→ 97–100	Starting Parameter	→ 110
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – End milling cutter C 491-12



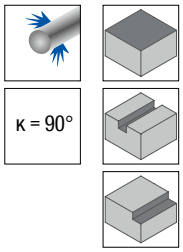


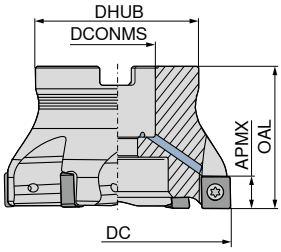
										A		B	
										58 774 ...		**58 774 ...**	
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS $_{h6}$ inch	RPMX 1/min.	torque moment Nm	Insert				
C491.125.R.02-12-B-150-EF	1.250	2	0.315	4.000	1.500	1.250	13700	3,2	SNHU 1204				**52502**
C491.125.R.02-12-A-250-EF-1000	1.250	2	0.315	10.000	2.500	1.250	13700	3,2	SNHU 1204		**42502**		

	 Screwdriver	 Molykote	 Clamping screw
	80 950 ...	**70 950 ...**	**70 950 ...**
Spare parts for Article no.			
58 774 52502	**128**	**303**	**859**
58 774 42502	**128**	**303**	**859**

7

MaxiMill – Shell mill A 491-12





Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	RPMX 1/min.	torque moment Nm	Insert	58 776 ...	58 775 ...
A491.150.R.03-12-A050-175-EF	1.500	3	0.315	1.420	1.420	0.500	11900	3,2	SNHU 1204	15103	
A491.200.R.04-12-A075-175-EF	2.000	4	0.315	1.750	1.750	0.750	9700	3,2	SNHU 1204	20104	
A491.200.R.05-12-A075-175-EF	2.000	5	0.315	1.750	1.750	0.750	9700	3,2	SNHU 1204		20105
A491.250.R.05-12-A100-200-EF	2.500	5	0.315	2.250	2.250	1.000	8500	3,2	SNHU 1204	25105	
A491.250.R.06-12-A100-200-EF	2.500	6	0.315	2.250	2.250	1.000	8500	3,2	SNHU 1204		25106
A491.300.R.06-12-A100-200-EF	3.000	6	0.315	2.250	2.250	1.000	7600	3,2	SNHU 1204	30106	
A491.300.R.08-12-A100-200-EF	3.000	8	0.315	2.250	2.250	1.000	7600	3,2	SNHU 1204		30108
A491.400.R.07-12-A125-200-EF	4.000	7	0.315	2.750	2.750	1.250	6400	3,2	SNHU 1204	40107	
A491.400.R.10-12-A125-200-EF	4.000	10	0.315	2.750	2.750	1.250	6400	3,2	SNHU 1204		40110
A491.500.R.08-12-B150-200-EF	5.000	8	0.315	3.750	3.750	1.500	5700	3,2	SNHU 1204	50108	
A491.500.R.12-12-B150-200-EF	5.000	12	0.315	3.750	3.750	1.500	5700	3,2	SNHU 1204		50112
A491.600.R.09-12-B150-200-EF	6.000	9	0.315	3.750	3.750	1.500	5100	3,2	SNHU 1204	60109	
A491.600.R.13-12-B150-200-EF	6.000	13	0.315	3.750	3.750	1.500	5100	3,2	SNHU 1204		60113


Screwdriver

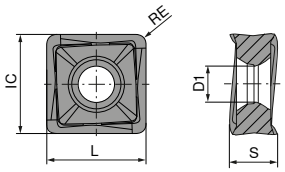

Molykote


Clamping screw

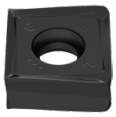
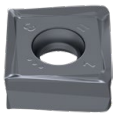
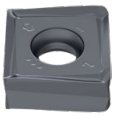
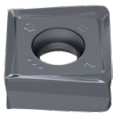
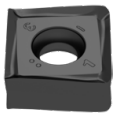
Spare parts DC	80 950 ...	70 950 ...	70 950 ...
1.500 - 6.000	128	303	859

SNHU

Designation	IC inch	L inch	S inch	D1 inch
SNHU 1204..	0.480	0.480	0.197	0.173

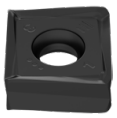
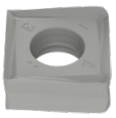
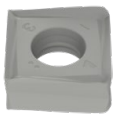


SNHU

		-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	NEW -F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		SNHU	SNHU	SNHU	SNHU	SNHU	SNHU
		51 100 ...	51 100 ...	51 102 ...	51 100 ...	51 128 ...	51 128 ...
ISO	RE inch						
120408ER	0.031					45800	90801
120408SR	0.031	008	108	408	408		
120412SR	0.047		112	412			
120416SR	0.063		116	416			
120420SR	0.079		120	420			
P		●	●	○	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

7

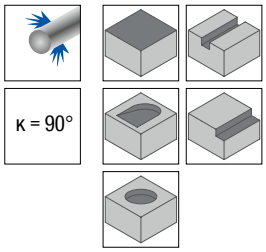
SNHU

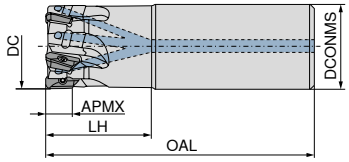
		-R50 CTCK215	-R50 CTPK220	-F10 CTWN215	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN		DRAGONSKIN	DRAGONSKIN
						
		SNHU	SNHU	SNHU	SNHU	SNHU
		51 103 ...	51 103 ...	51 101 ...	51 128 ...	51 128 ...
ISO	RE inch					
120408ER	0.031				15800	55800
120408FR	0.031			358		
120408SR	0.031	508	608			
120412FR	0.047			362		
120412SR	0.047	512				
120416FR	0.063			366		
120416SR	0.063	516				
120420FR	0.079			370		
120420SR	0.079	520				
P						
M						
K		●	●	○		
N				●		
S					●	●
H						
O				○		

Milling guide

Cutting data standard values	→ 97–100	Starting Parameter	→ 110
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – End milling cutter C 211-07



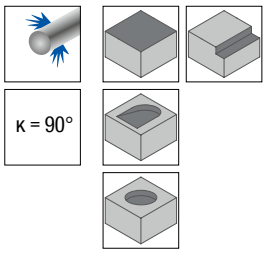


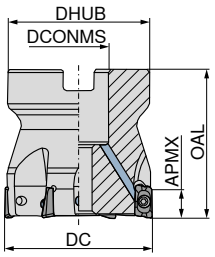
A

58 752 ...

Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	torque moment Nm	Insert	
C211.0375.R.01-07-A-0750-EF	0.375	1	0.236	3.000	0.750	0.375	68000	1	XD.T 0703	03701
C211.0500.R.02-07-A-0750-EF	0.500	2	0.236	3.000	0.750	0.500	66600	1	XD.T 0703	05002
C211.0625.R.03-07-A-125-EF-650	0.625	3	0.236	6.500	1.250	0.625	17760	1	XD.T 0703	06203
C211.0750.R.04-07-A-150-EF-800	0.750	4	0.236	8.000	1.500	0.750	12600	1	XD.T 0703	07504
C211.100.R.06-07-A0875-125-EF	1.000	6	0.236	3.500	1.250	0.875	39840	1	XD.T 0703	10006
C211.125.R.08-07-A100-150-EF	1.250	8	0.236	3.500	1.500	1.000	36240	1	XD.T 0703	12508

MaxiMill – Shell mill A 211-07





58 753 ...

Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Insert	
A211.150.R.08-07-A050-175-EF	1.500	8	0.236	1.420	0.500	1.420	33240	XD.T 0703	15008
A211.200.R.10-07-A075-175-EF	2.000	10	0.236	1.750	0.750	1.750	30480	XD.T 0703	20010

Screwdriver

80 950 ...

Molykote

70 950 ...

Clamping screw

70 950 ...

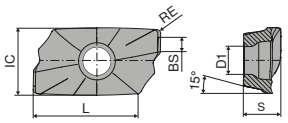
Spare parts

DC			
0.375 - 2.000	117	303	137

7

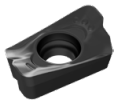
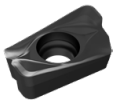
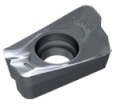
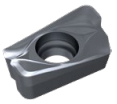
XDKT

Designation	IC inch	D1 inch	L inch	BS inch	S inch
XDKT 0703..	0.193	0.098	0.307	0.047	0.125

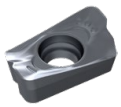
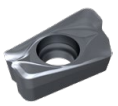
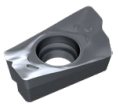
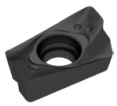
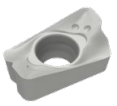


XDKT

XDKT

	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	XDKT	XDKT	XDKT	XDKT
	51 033 ...	51 036 ...	51 033 ...	51 036 ...
ISO / RE inch				
070304SR 0.016	004	004	104	104
070308SR 0.031	008	008	108	108
P	●	●	●	●
M			○	○
K	○	○	○	○
N				
S				
H				
O				

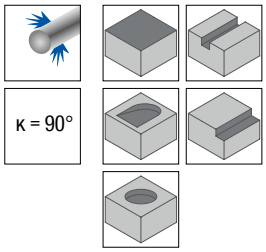
XDKT

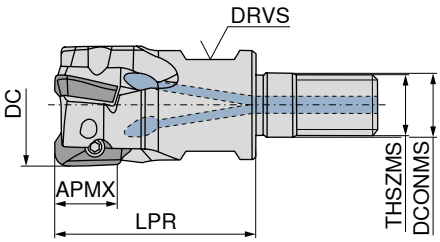
		-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	NEW -F40 CTCM245	-F20 CTWN215	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN	DRAGONSKIN
								
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		51 033 ...	51 036 ...	51 112 ...	51 112 ...	50 507 ...	50 498 ...	51 112 ...
ISO	RE inch							
070304ER	0.016			454	90401		544	
070304FR	0.016					504		
070304SR	0.016	404	404					
070308ER	0.031			458	90801		548	558
070308FR	0.031					508		
070308SR	0.031	408	408					
P		○	○	●	●			
M		●	●	●	●			
K						○		
N						●		
S					○		●	●
H								
O						○		

Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 111
Starting Parameter	→ 111	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

MaxiMill – Screw in cutter G 211-11



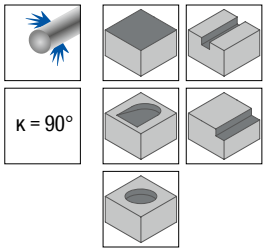


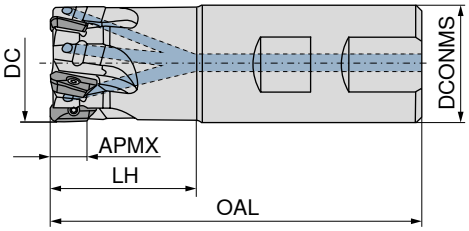
58 736 ...

Designation	DC inch	ZNF	APMX inch	LPR inch	DCONMS inch	THSZMS inch	RPMX 1/min.	torque moment Nm	Insert	
G211.0625.R.02-11-125-F	0.625	2	0.394	1.250	0.335	M8	42000	1,6	XD.T 11T3	06202
G211.0750.R.03-11-118-F	0.750	3	0.394	1.118	0.492	M12	36900	1,6	XD.T 11T3	07503
G211.100.R.04-11-150-F	1.000	4	0.394	1.500	0.492	M12	33200	1,6	XD.T 11T3	10004
G211.125.R.05-11-150-F	1.250	5	0.394	1.500	0.669	M16	30200	1,6	XD.T 11T3	12505

MaxiMill – End milling cutter C 211-11

▲ Insert radius > 0.063": Modify cutter body





A 58 737 ...

B 58 737 ...

Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	RPMX 1/min.	torque moment Nm	Insert		
C211.0625.R.02-11-B-100-EF	0.625	2	0.394	3.250	1.000	0.625	42000	1,6	XD.T 11T3		26202
C211.0625.R.02-11-A-125-EF-650	0.625	2	0.394	6.500	1.250	0.625	14800	1,6	XD.T 11T3	06202	
C211.0750.R.03-11-B-100-EF	0.750	3	0.394	3.500	1.000	0.750	36900	1,6	XD.T 11T3		27503
C211.0750.R.03-11-A-125-EF-650	0.750	3	0.394	6.500	1.250	0.750	15800	1,6	XD.T 11T3	07503	
C211.100.R.04-11-B-125-EF	1.000	4	0.394	3.500	1.250	1.000	33200	1,6	XD.T 11T3		30004
C211.100.R.04-11-A-150-EF-650	1.000	4	0.394	6.500	1.500	1.000	19900	1,6	XD.T 11T3	10004	
C211.125.R.05-11-B100-150-EF	1.250	5	0.394	3.750	1.500	1.000	30200	1,6	XD.T 11T3		32505
C211.125.R.05-11-A100-200-EF-650	1.250	5	0.394	6.500	2.000	1.000	20900	1,6	XD.T 11T3	12505	
C211.150.R.06-11-B-200-EF	1.500	6	0.394	4.000	2.000	1.250	27700	1,6	XD.T 11T3		35006


Screwdriver


Molykote


Clamping screw

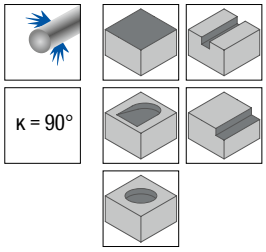
80 950 ... | 70 950 ... | 70 950 ...

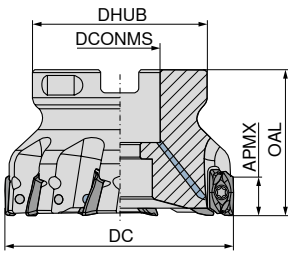
Spare parts DC			
0.625 - 1.250	039	303	128
1.500	039	303	131

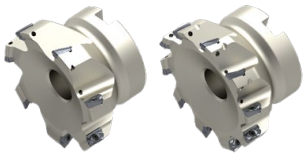
7

MaxiMill – Shell mill A 211-11

▲ Insert radius > 0.063": Modify cutter body







Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	torque moment Nm	Insert	58 738 ...	58 739 ...
A211.150.R.04-11-A050-175-EF	1.500	4	0.394	1.420	0.500	1.420	27700	1,6	XD.T 11T3	15004	
A211.150.R.06-11-A050-175-EF	1.500	6	0.394	1.420	0.500	1.420	27700	1,6	XD.T 11T3		15006
A211.200.R.05-11-A075-175-EF	2.000	5	0.394	1.750	0.750	1.750	25400	1,6	XD.T 11T3	20005	
A211.200.R.08-11-A075-175-EF	2.000	8	0.394	1.750	0.750	1.750	25400	1,6	XD.T 11T3		20008
A211.250.R.06-11-A100-200-EF	2.500	6	0.394	2.250	1.000	2.250	23300	1,6	XD.T 11T3	25006	
A211.250.R.10-11-A100-200-EF	2.500	10	0.394	2.250	1.000	2.250	23300	1,6	XD.T 11T3		25010
A211.300.R.07-11-A100-200-EF	3.000	7	0.394	2.250	1.000	2.250	21300	1,6	XD.T 11T3	30007	
A211.300.R.12-11-A100-200-EF	3.000	12	0.394	2.250	1.000	2.250	21300	1,6	XD.T 11T3		30012
A211.400.R.08-11-B125-200-EF	4.000	8	0.394	2.750	1.250	2.750	19600	1,6	XD.T 11T3	40008	
A211.400.R.14-11-B125-200-EF	4.000	14	0.394	2.750	1.250	2.750	19600	1,6	XD.T 11T3		40014
A211.500.R.10-11-B150-200-EF	5.000	10	0.394	3.750	1.500	3.750	17900	1,6	XD.T 11T3	50010	
A211.600.R.12-11-B150-200-EF	6.000	12	0.394	3.750	1.500	3.750	16500	1,6	XD.T 11T3	60012	


Screwdriver

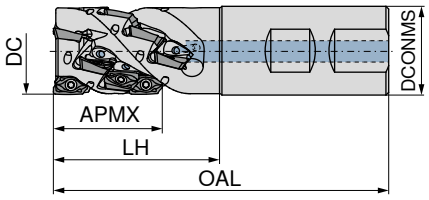

Molykote

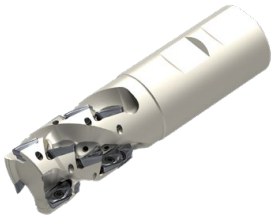

Clamping screw

Spare parts DC	80 950 ...	70 950 ...	70 950 ...
0.625 - 1.250	039	303	128
1.500 - 6.000	039	303	131

MaxiMill – Extended flute cutter C 211-11K

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth





B

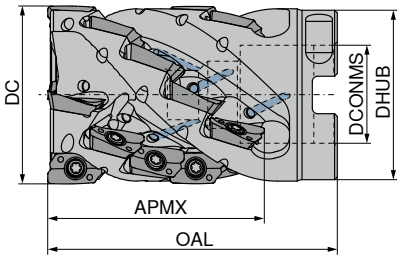
58 758 ...

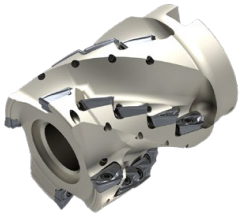
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	ZEFP	ZNP	torque moment Nm	
C211.100.R.02K3-11-B-150-EF	1.000	2	1.060	3.750	1.500	1.000	6	3	1,6	**10002**
C211.125.R.02K4-11-B-200-EF	1.250	2	1.430	4.500	2.000	1.250	8	4	1,6	**12502**
C211.150.R.03K4-11-A-225-EF	1.500	3	1.420	5.100	2.250	1.500	12	4	1,6	**15003** [1)]

1) DIN 1835 A Shank

MaxiMill – Extended flute cutter A 211-11K

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth





58 757 ...

Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	torque moment Nm	Insert	
A211.200.R.04K5-11-A075-EF	2.000	4	1.800	20	5	1.750	0.750	1.750	1,6	XD.T 11T3	**20004**
A211.250.R.05K7-11-A100-EF	2.500	5	2.500	35	7	2.250	1.000	2.250	1,6	XD.T 11T3	**25005**
A211.300.R.06K9-11-A125-EF	3.000	6	3.200	54	9	2.750	1.250	2.750	1,6	XD.T 11T3	**30006**


Cylindrical screw


Screwdriver


Molykote

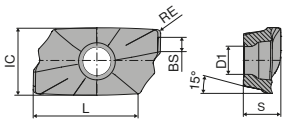

Clamping screw

	70 950 ...	80 950 ...	70 950 ...	70 950 ...
Spare parts for Article no.				
58 757 20004	**002**	**039**	**303**	**131**
58 757 25005	**003**	**039**	**303**	**131**
58 757 30006	**004**	**039**	**303**	**131**
58 758 10002 / 58 758 12502		**039**	**303**	**131**
58 758 15003		**039**	**303**	**131**

7

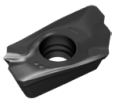
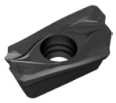
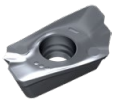
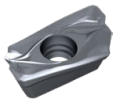
XDKT / XDHT

Designation	IC inch	D1 inch	L inch	BS inch	S inch
XD.T 11T302..	0.268	0.110	0.417	0.079	0.150
XD.T 11T304..	0.268	0.110	0.417	0.071	0.150
XD.T 11T308..	0.268	0.110	0.417	0.055	0.150
XD.T 11T312..	0.268	0.110	0.417	0.055	0.150
XD.T 11T316..	0.268	0.110	0.417	0.055	0.150
XD.T 11T320..	0.268	0.110	0.417	0.055	0.150
XD.T 11T325..	0.268	0.110	0.417	0.055	0.150
XD.T 11T332..	0.268	0.110	0.417	0.031	0.150
XD.T 11T340..	0.268	0.110	0.417	-	0.150
XDHT 11T350..	0.268	0.110	0.417	-	0.150
XDKT 11T332..	0.268	0.110	0.417	0.055	0.150
XDKT 11T332..	0.268	0.110	0.417	-	0.150

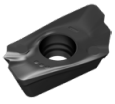
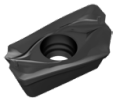
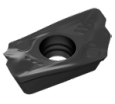
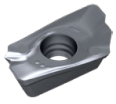
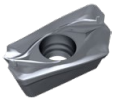
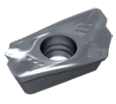


XDKT

XDKT

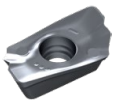
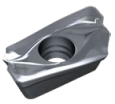
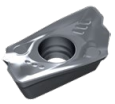
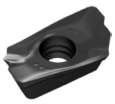
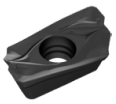
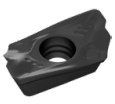
	-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	XDKT	XDKT	XDKT	XDKT
	51 034 ...	51 037 ...	51 034 ...	51 037 ...
ISO / RE inch				
11T308SR 0.031	258	258	058	058
P	●	●	●	●
M				
K				
N				
S				
H				
O				

XDKT

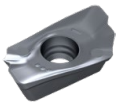
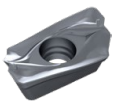
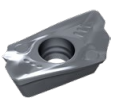
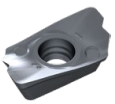
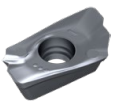
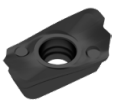
	-F50 CTCP230	-M50 CTCP230	-R50 CTCP230	-F50 CTPP235	-M50 CTPP235	-R50 CTPP235
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
	51 034 ...	51 037 ...	51 039 ...	51 034 ...	51 037 ...	51 039 ...
ISO / RE inch						
11T304SR 0.016	004	004	004	104	104	104
11T308SR 0.031	008	008	008	108	108	108
11T312SR 0.047		012			112	
11T320SR 0.079	020 [1]	020 [1]	020 [1]	120 [1]	120 [1]	120 [1]
11T325SR 0.098	025 [1]	025 [1]	025 [1]	125 [1]	125 [1]	125 [1]
11T332SR 0.126				13200 [1]		
11T340SR 0.157				14000 [1]		
P	●	●	●	●	●	●
M				○	○	○
K	○	○	○	○	○	○
N						
S						
H						
O						

1) Insert radius > 0.063": Modify cutter body

XDKT

		-F50 CTPM225	-M50 CTPM225	-R50 CTPM225	-F50 CTCM235	-M50 CTCM235	-R50 CTCM235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		51 034 ...	51 037 ...	51 039 ...	51 034 ...	51 037 ...	51 039 ...
ISO	RE inch						
11T308SR	0.031	208	208	208	308	308	308
P		●	●	●	●	●	●
M		●	●	●	●	●	●
K							
N							
S							
H							
O							

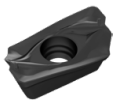
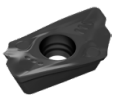
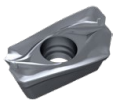
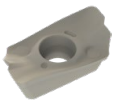
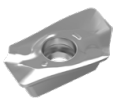
XDKT

		-F50 CTPM240	-M50 CTPM240	-R50 CTPM240	-F40 CTPM245	-F50 CTPM245	NEW -F40 CTCM245	NEW -F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		51 034 ...	51 037 ...	51 039 ...	51 113 ...	51 034 ...	51 113 ...	51 034 ...
ISO	RE inch							
11T304ER	0.016				454		90401	
11T304SR	0.016		404					
11T308ER	0.031				458		90801	
11T308SR	0.031	408	408	408		458		90801
11T312ER	0.047				462		91201	
11T312SR	0.047	412	412	412				
11T316ER	0.063				466		91601	
11T320ER	0.079				470 [1]		92001 [1]	
11T320SR	0.079	420 [1]	420 [1]	420 [1]				
11T325ER	0.098				475 [1]		92501 [1]	
11T332ER	0.126				482 [1]		93201 [1]	
11T332SR	0.126	432 [1]	432 [1]	432 [1]				
11T340ER	0.157				490 [1]		94001 [1]	
P		○	○	○	●	●	●	●
M		●	●	●	●	●	●	●
K								
N								
S							○	○
H								
O								

1) Insert radius > 0.063": Modify cutter body

7

XDKT / XDHT

		-M50 CTCK215 DRAGONSKIN	-R50 CTCK215 DRAGONSKIN	-M50 CTPK220 DRAGONSKIN	-F20 CTWN215	-27P H216T
						
		XDKT	XDKT	XDKT	XDKT	XDHT
		51 037 ...	51 039 ...	51 037 ...	50 478 ...	50 477 ...
ISO	RE inch					
11T302FR	0.008				502	502
11T304FR	0.016				504	504
11T304SR	0.016	504				
11T308FR	0.031				508	508
11T308SR	0.031	508	508	608		
11T312FR	0.047					512
11T316FR	0.063					516
11T320FR	0.079				520 1)	520 1)
11T325FR	0.098				525 1)	525 1)
11T332FR	0.126					532 1)
11T340FR	0.157					540 1)
11T350FR	0.197					550 1)
P						
M						
K		●	●	●	○	○
N					●	●
S						
H						
O					○	○

1) Insert radius > 0.063": Modify cutter body

XDKT

		-F40 CTC5240 DRAGONSKIN	-F40 CTCS245 DRAGONSKIN	-R60 CTP6215
				
		XDKT	XDKT	XDKT
		50 463 ...	51 113 ...	50 464 ...
ISO	RE inch			
11T304ER	0.016	504		
11T308ER	0.031	500	558	
11T308SR	0.031			300
11T312ER	0.047	512	562	
11T316ER	0.063	516	566	
11T320ER	0.079	520 1)	570	
11T325ER	0.098	525 1)	57500 1)	
11T332ER	0.126	532 1)	582	
11T340ER	0.157	540 1)	59000 1)	
P				
M				
K				●
N				
S		●	●	
H				●
O				

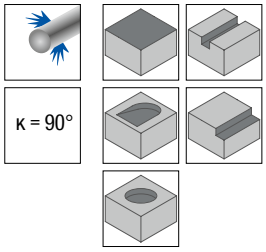
1) Insert radius > 0.063": Modify cutter body

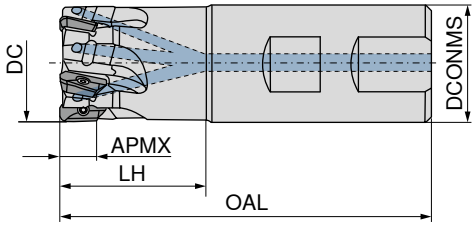
Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 112
Starting Parameter	→ 112	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

MaxiMill – End milling cutter C 211-15

▲ Insert radius > 0.098": Modify cutter body

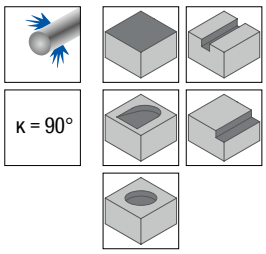


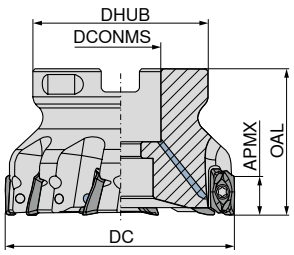


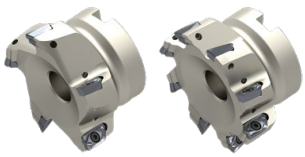
										A	B
										58 747 ...	58 747 ...
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	torque moment Nm	Insert		
C211.100.R.02-15-A-200-EF-800	1.000	2	0.551	8.000	2.000	1.000	7520	3,2	XD.T 1505	**10002**	
C211.125.R.03-15-B-150-EF-400	1.250	3	0.551	4.000	1.500	1.250	24160	3,2	XD.T 1505		**32503**
C211.125.R.03-15-A-250-EF-1000	1.250	3	0.551	10.000	2.500	1.250	6800	3,2	XD.T 1505	**12503**	
C211.150.R.03-15-B125-200-EF-450	1.500	3	0.551	4.500	2.000	1.250	22160	3,2	XD.T 1505		**35003**
C211.150.R.04-15-B125-200-EF-450	1.500	4	0.551	4.500	2.000	1.250	22160	3,2	XD.T 1505		**35004**
C211.150.R.03-15-A125-300-EF-1000	1.500	3	0.551	10.000	3.000	1.250	6120	3,2	XD.T 1505	**15003**	

MaxiMill – Shell mill A 211-15

▲ Insert radius > 0.098": Modify cutter body







										58 748 ...	58 749 ...
Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	RPMX 1/min.	torque moment Nm	Insert		
A211.150.R.03-15-A050-175-EF	1.500	3	0.551	1.420	0.500	1.420	22160	3,2	XD.T 1505	**15003**	
A211.200.R.05-15-A075-175-EF	2.000	5	0.551	1.750	0.750	1.750	20320	3,2	XD.T 1505	**20005**	
A211.250.R.06-15-A100-200-EF	2.500	6	0.551	2.250	1.000	2.250	18640	3,2	XD.T 1505	**25006**	
A211.300.R.05-15-A100-200-EF	3.000	5	0.551	2.250	1.000	2.250	17040	3,2	XD.T 1505	**30005**	
A211.300.R.08-15-A100-200-EF	3.000	8	0.551	2.250	1.000	2.250	17040	3,2	XD.T 1505		**30008**
A211.400.R.06-15-A125-200-EF	4.000	6	0.551	2.750	1.250	2.750	16000	3,2	XD.T 1505	**40006**	
A211.400.R.09-15-A125-200-EF	4.000	9	0.551	2.750	1.250	2.750	16000	3,2	XD.T 1505		**40009**
A211.500.R.10-15-B150-250-EF	5.000	10	0.551	3.750	1.500	3.750	14320	3,2	XD.T 1505	**50010**	
A211.600.R.08-15-B150-250-EF	6.000	8	0.551	2.500	1.500	3.750	13200	3,2	XD.T 1505	**60008**	
A211.600.R.10-15-B150-250-EF	6.000	10	0.551	3.750	1.500	3.750	13200	3,2	XD.T 1505		**60010**


Screwdriver


Molykote

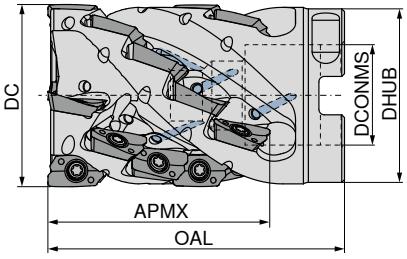

Clamping screw

	80 950 ...	70 950 ...	70 950 ...
Spare parts DC			
1.000 - 6.000	**120**	**303**	**839**

7

MaxiMill – Extended flute cutter A 211-15K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



58 759 ...

Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS H6 inch	DHUB inch	torque moment Nm	Insert	
A211.200.R.03K4-15-A075-EF	2.000	3	2.000	12	4	1.750	0.750	1.750	3,2	XD.T 1505	**20003**
A211.250.R.04K5-15-A100-EF	2.500	4	2.500	20	5	2.250	1.000	2.250	3,2	XD.T 1505	**25004**
A211.300.R.04K6-15-A100-EF	3.000	4	3.000	24	6	2.250	1.000	2.250	3,2	XD.T 1505	**30004**
A211.300.R.04K6-15-A125-EF	3.000	4	3.000	24	6	2.750	1.250	2.750	3,2	XD.T 1505	**30104**


Cylindrical screw


Screwdriver

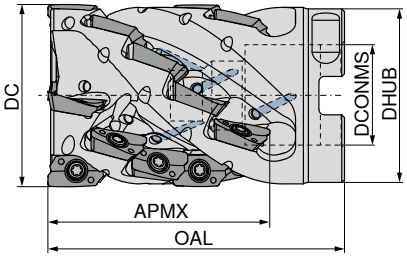

Molykote


Clamping screw

	70 950 ...	80 950 ...	70 950 ...	70 950 ...
Spare parts DC				
2.000	**002**	**120**	**303**	**839**
2.500 - 3.000	**003**	**120**	**303**	**839**

MaxiMill – Extended flute cutter A 211-15K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



58 759 ...

Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS H6 inch	DHUB inch	torque moment Nm	Insert	
A211.400.R.05KN6-15-A150-EF	4.000	5	3.090	30	6	4.250	1.500	3.750	3,2	XD.T 1505	**40005**


Cylindrical screw


Screwdriver

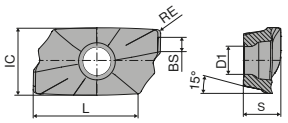

Molykote


Clamping screw

	70 950 ...	80 950 ...	70 950 ...	70 950 ...
Spare parts for Article no.				
58 759 40005	**004**	**128**	**303**	**20500**

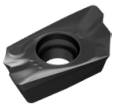
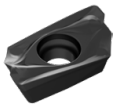
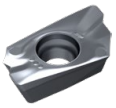
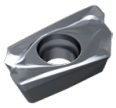
XDKT

Designation	IC inch	D1 inch	L inch	BS inch	S inch
XDKT 150508..	0.366	0.173	0.583	0.063	0.219
XDKT 150512..	0.366	0.173	0.583	0.063	0.219
XDKT 150516..	0.366	0.173	0.583	0.063	0.219
XDKT 150520..	0.366	0.173	0.583	0.063	0.219
XDKT 150525..	0.366	0.173	0.583	0.063	0.219
XDKT 150530..	0.366	0.173	0.583	0.063	0.219
XDKT 150532..	0.366	0.173	0.583	0.075	0.219
XDKT 150540..	0.366	0.173	0.583	0.047	0.219
XDKT 150560..	0.366	0.173	0.583	-	0.219

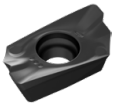
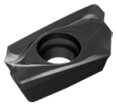
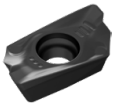
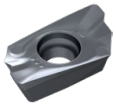
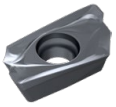
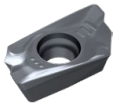


XDKT

XDKT

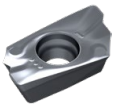
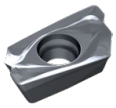
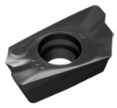
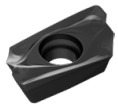
		-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XDKT	XDKT	XDKT	XDKT
		51 035 ...	51 038 ...	51 035 ...	51 038 ...
ISO	RE inch				
150508SR	0.031	**258**	**258**	**058**	**058**
P		●	●	●	●
M					
K					
N					
S					
H					
O					

XDKT

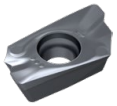
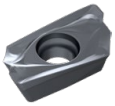
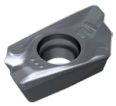
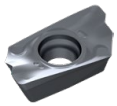
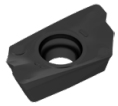
		-F50 CTCP230	-M50 CTCP230	-R50 CTCP230	-F50 CTPP235	-M50 CTPP235	-R50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		51 035 ...	51 038 ...	51 040 ...	51 035 ...	51 038 ...	51 040 ...
ISO	RE inch						
150508SR	0.031	**008**	**008**	**008**	**108**	**108**	**108**
150512SR	0.047		**012**			**112**	
150516SR	0.063		**016**			**116**	
150520SR	0.079			**020**		**120**	**120**
150530SR	0.118		**030**			**130**	
150540SR	0.157		**040**			**140**	
P		●	●	●	●	●	●
M					○	○	○
K		○	○	○	○	○	○
N							
S							
H							
O							

7

XDKT

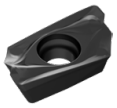
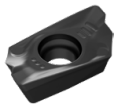
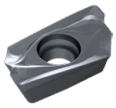
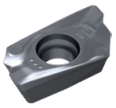
		-F50 CTPM225 DRAGONSKIN	-M50 CTPM225 DRAGONSKIN	-F50 CTCM235 DRAGONSKIN	-M50 CTCM235 DRAGONSKIN
					
		XDKT	XDKT	XDKT	XDKT
		51 035 ...	51 038 ...	51 035 ...	51 038 ...
ISO	RE inch				
150508SR	0.031	208	208	308	308
P		●	●	●	●
M		●	●	●	●
K					
N					
S					
H					
O					

XDKT

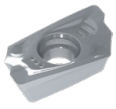
			-F50 CTPM240 DRAGONSKIN	-M50 CTPM240 DRAGONSKIN	-R50 CTPM240 DRAGONSKIN	-F40 CTPM245 DRAGONSKIN	NEW -F40 CTCM245 DRAGONSKIN
							
			XDKT	XDKT	XDKT	XDKT	XDKT
			51 035 ...	51 038 ...	51 040 ...	51 114 ...	51 114 ...
ISO	RE inch						
150508ER	0.031					458	90801
150508SR	0.031		408	408	408		
150512ER	0.047						91201
150512SR	0.047			412			
150516ER	0.063						91601
150516SR	0.063			416			
150520ER	0.079						92001 1)
150525ER	0.098						92501 1)
150530SR	0.118			430			
150532ER	0.126					482 2)	93201 2)
150540ER	0.157					490 2)	94001 2)
150540SR	0.157			440			
150560ER	0.236						96001 2)
P			○	○	○	●	●
M			●	●	●	●	●
K							
N							
S							○
H							
O							

1) Insert radius > 0.098": Modify cutter body
2) Insert radius > 0.063": Modify cutter body

XDKT

	-M50 CTCK215 DRAGONSKIN	-R50 CTCK215 DRAGONSKIN	-M50 CTPK220 DRAGONSKIN	-R50 CTPK220 DRAGONSKIN	-F20 CTWN215
					
	XDKT	XDKT	XDKT	XDKT	XDKT
	51 038 ...	51 040 ...	51 038 ...	51 040 ...	50 479 ...
ISO / RE inch					
150508FR 0.031					508
150508SR 0.031	508	508	608	608	
P					
M					
K	●	●	●	●	○
N					●
S					
H					
O					○

XDKT

	-F40 CTC5240 DRAGONSKIN	-F40 CTCS245 DRAGONSKIN	-R60 CTP6215
			
	XDKT	XDKT	XDKT
	50 473 ...	51 114 ...	50 469 ...
ISO / RE inch			
150508ER 0.031	508	558	
150508SR 0.031			300
150532ER 0.126	532 [1]		
150540ER 0.157	540 [1]	59000 [1]	
P			
M			
K			●
N			
S	●	●	
H			●
O			

1) Insert radius > 0.098": Modify cutter body

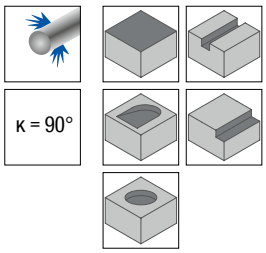
7

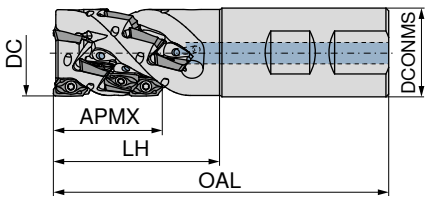
Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 113
Starting Parameter	→ 113	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

MaxiMill – End milling cutter C 211-20K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows





B

58 779 ...

Designation	DC inch	ZNF	APMX inch	ZNP	ZEFP	OAL inch	LH inch	DCONMS inch	torque moment Nm	Insert	
C211.200.R.03K10-20-B200-EF	2.000	3	6.500	10	30	11.000	6.690	2.000	5	XD.. 2007..	**20003**


Screwdriver
80 950 ...

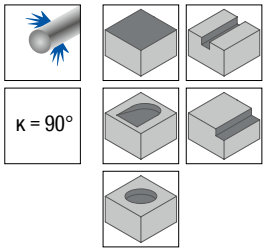

Molykote
70 950 ...

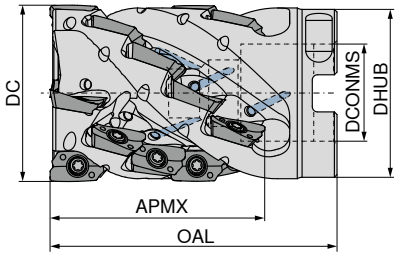

Clamping screw
70 950 ...

Spare parts for Article no.			
58 779 20003	**106**	**303**	**01200**

MaxiMill – Extended flute cutter A 211-20K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows





NEW

58 780 ...

Designation	DC inch	ZNF	APMX inch	ZNP	ZEFP	OAL inch	DCONMS H6 inch	DHUB inch	Insert	
A211.250.R.04K4-20-A100-EF	2.500	4	2.650	4	16	2.250	1.000	2.250	XD.. 2007..	**25004**
A211.300.R.05K5-20-A125-EF	3.000	5	3.250	5	20	2.750	1.250	2.750	XD.. 2007..	**30005**
A211.400.R.05K5-20-A150-EF	4.000	5	3.340	5	20	4.250	1.500	3.750	XD.. 2007..	**40005**


Cylindrical screw
70 950 ...


Screwdriver
80 950 ...

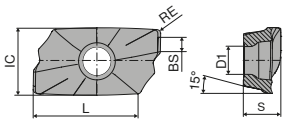

Molykote
70 950 ...


Clamping screw
70 950 ...

Spare parts for Article no.				
58 780 25004	**003**	**106**	**303**	**01200**
58 780 30005	**004**	**106**	**303**	**01200**
58 780 40005	**004**	**106**	**303**	**01200**

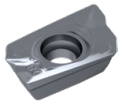
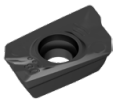
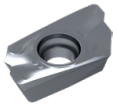
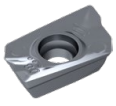
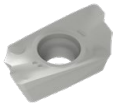
XDKT

Designation	IC inch	D1 inch	L inch	S inch
XDKT 200708..	0.492	0.217	0.740	0.273
XDKT 200716..	0.492	0.217	0.740	0.271
XDKT 200732..	0.492	0.217	0.740	0.269
XDKT 200740..	0.492	0.217	0.740	0.268
XDKT 200760..	0.492	0.217	0.740	0.268



XDKT

XDKT

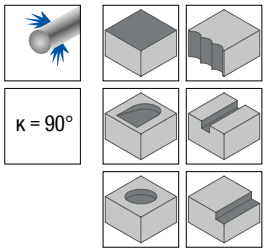
		NEW	NEW		NEW	NEW		
		-M50 CTPP235	-M50 CTCP230	-F40 CTPM245	-F40 CTCM245	-M50 CTPK220	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		51 145 ...	51 145 ...	51 127 ...	51 127 ...	51 145 ...	51 127 ...	51 127 ...
ISO	RE inch							
200708ER	0.031	**10800**	**00800**	**45800**	**90801**	**60800**	**15800**	**55800**
200716ER	0.063	**11600**	**01600**	**46600**	**91601**	**61600**	**16600**	**56600**
200732ER	0.126			**48200**	**93201**		**18200**	**58200**
200740ER	0.157				**94001**		**19000**	
200760ER	0.236				**96001**		**19200**	
P		●	●	●	●			
M		○		●	●			
K		○	○			●		
N								
S					○		●	●
H								
O								

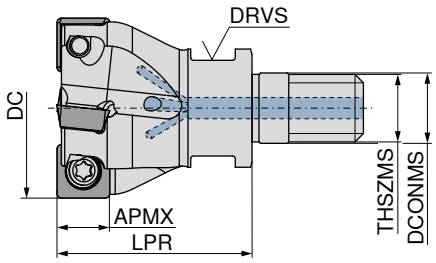
Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 114
Starting Parameter	→ 114	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

7

MaxiMill – Screw in cutter G 490-09

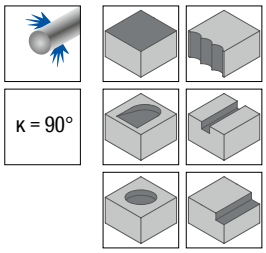


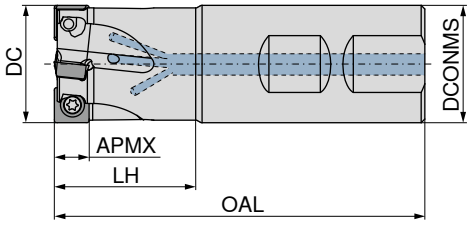


58 726 ...

Designation	DC inch	ZNF	APMX inch	LPR inch	THSZMS inch	DCONMS inch	torque moment Nm	Insert	
G490.100.R.03-09-125-F	1.000	3	0.315	1.250	M12	0.492	3,2	SD.. 09T3..	10003
G490.125.R.04-09-150-F	1.250	4	0.315	1.500	M16	0.669	3,2	SD.. 09T3..	12504

MaxiMill – End milling cutter C 490-09





A 58 727 ...

B 58 727 ...

Designation	DC inch	ZNF	APMX inch	DCONMS inch	OAL inch	LH inch	torque moment Nm	Insert		
C490.100.R.03-09-B-125-EF	1.000	3	0.315	1.000	3.500	1.250	3,2	SD.. 09T3..		30003
C490.100.R.02-09-A-150-EF-800	1.000	2	0.315	1.000	8.000	1.500	3,2	SD.. 09T3..	10002	
C490.125.R.04-09-B-150-EF	1.250	4	0.315	1.250	3.750	1.500	3,2	SD.. 09T3..		32504
C490.125.R.03-09-A-200-EF-1000	1.250	3	0.315	1.250	10.000	2.000	3,2	SD.. 09T3..	12503	


Screwdriver

80 950 ...


Molykote

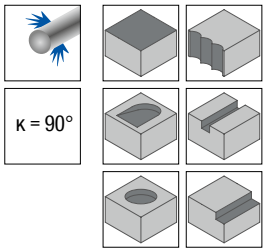
70 950 ...

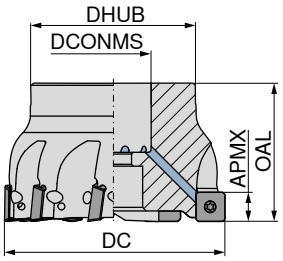

Clamping screw

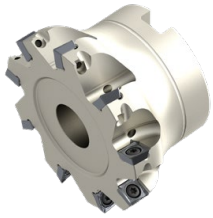
70 950 ...

Spare parts DC			
1.000 - 1.250	105	303	110

MaxiMill – Shell mill A 490-09







58 728 ...

Designation	DC inch	ZNF	APMX inch	DHUB inch	DCONMS H6 inch	OAL inch	torque moment Nm	Insert	
A490.150.R.05-09-A050-175-EF	1.500	5	0.315	1.250	0.500	1.250	3,2	SD.. 09T3..	15005
A490.200.R.06-09-A075-175-EF	2.000	6	0.315	1.650	0.750	1.650	3,2	SD.. 09T3..	20006
A490.250.R.07-09-A100-200-EF	2.500	7	0.315	1.970	1.000	1.970	3,2	SD.. 09T3..	25007
A490.300.R.09-09-A100-200-EF	3.000	9	0.315	2.130	1.000	2.130	3,2	SD.. 09T3..	30009
A490.400.R.10-09-B125-200-EF	4.000	10	0.315	2.870	1.250	2.870	3,2	SD.. 09T3..	40010
A490.500.R.11-09-B200-200-EF	5.000	11	0.315	3.750	2.000	2.000	3,2	SD.. 09T3..	50011
A490.600.R.12-09-B200-200-EF	6.000	12	0.315	3.750	2.000	2.000	3,2	SD.. 09T3..	60012


Screwdriver

80 950 ...


Molykote

70 950 ...


Clamping screw

70 950 ...

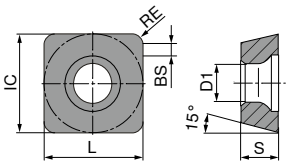
Spare Parts

DC			
1.500 - 6.000	105	303	110

7

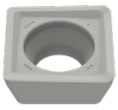
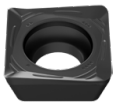
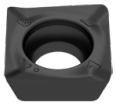
SDHT / SDNT

Designation	IC inch	D1 inch	L inch	BS inch	S inch
SD.T 09T3..	0.375	0.173	0.375	0.098	0.156

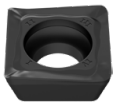
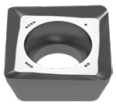


SDHT / SDNT

NEW

	TCM10	-29 CTCP230	CTPP235	-29 CTPP235	-33 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	CERMET						
	SDHT	SDNT	SDNT	SDNT	SDNT	SDNT	SDNT
	50 424 ...	51 011 ...	51 082 ...	51 011 ...	51 030 ...	51 111 ...	51 111 ...
ISO / RE inch							
09T308ER 0.031	900	008	108	108	408	458	90801
09T308SR 0.031							
P	●	●	●	●	○	●	●
M			○	○	●	●	●
K	○	○	○	○			
N							
S							○
H							
O							

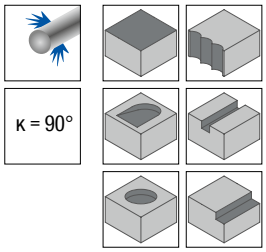
SDNT / SDHT

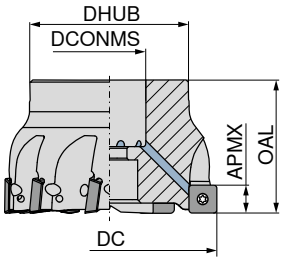
	-31 CTCK215	-27P H216T	-27P AMZ	-27 CTC5240	-M31 CTC5240	-F10 CTCS245
	DRAGONSKIN			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	SDNT	SDHT	SDHT	SDHT	SDNT	SDHT
	51 029 ...	50 424 ...	50 424 ...	50 496 ...	50 425 ...	51 125 ...
ISO / RE inch						
09T308ER 0.031				508	508	55800
09T308FR 0.031		550	650			
09T308SR 0.031	508					
P						
M						
K	●	○	○			
N		●	●			
S				●	●	●
H						
O		○	○			

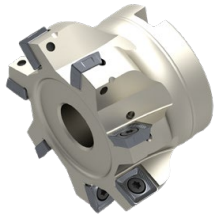
Milling guide

Cutting data standard values	→ 97–100	Starting Parameter	→ 115
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – Shell mill A 490-12







Designation	DC inch	ZNF	APMX inch	DHUB inch	DCONMS inch	OAL inch	torque moment Nm	Insert	58 703 ...
A490.200.R.05-12-A075-175-EF	2.000	5	0.393	1.750	0.750	1.750	5	SD.. 1205..	20005


Screwdriver
80 950 ...


Molykote
70 950 ...


Clamping screw
70 950 ...

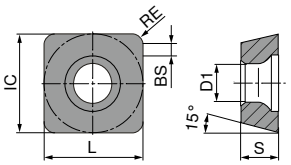
Spare Parts for Article no.

58 703 20005	106	303	01200

7

SDHW / SDMT / SDHT

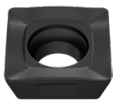
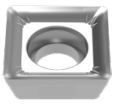
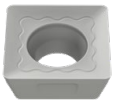
Designation	IC inch	D1 inch	L inch	BS inch	S inch
SDH. 120508..	0.500	0.217	0.500	0.087	0.197
SDHT 120512..	0.500	0.217	0.500	0.071	0.197
SDHT 120520..	0.500	0.217	0.500	0.039	0.197
SDHT 120525..	0.500	0.217	0.500	0.059	0.197
SDMT 120508..	0.500	0.217	0.500	0.118	0.197
SDMT 1205ZZ..	0.500	0.217	0.500	0.035	0.197



SDHW / SDMT / SDHT

		TCM10	-29 CTCP230	-29 CTPP235	-29 CTPM240	-33 CTPM240	-F50 CTPM245	NEW -F50 CTCM245
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		CERMET						
		SDHW	SDMT	SDMT	SDMT	SDHT	SDMT	SDMT
		50 428 ...	51 081 ...	51 081 ...	51 081 ...	51 028 ...	51 110 ...	51 110 ...
ISO	RE inch							
120508ER	0.031						458	90801
120508SR	0.031	901						
120512SR	0.047					412		
120520SR	0.079					421		
1205ZZSN	0.031		020	120	420			
P		●	●	●	○	○	●	●
M				○	●	●	●	●
K		○	○	○				
N								
S								○
H								
O								

SDMT / SDHT

	-31 CTCK215	-27P H216T	-27P AMZ	-M31 CTC5240	-F50 CTCS245
	DRAGONSKIN			DRAGONSKIN	DRAGONSKIN
					
	SDMT	SDHT	SDHT	SDMT	SDMT
	51 059 ...	50 426 ...	50 426 ...	50 580 ...	51 110 ...
ISO RE inch					
120508ER 0.031				**508**	**55800**
120508FR 0.031		**555**	**655**		
120525FR 0.098		**559**			
1205ZZSN 0.031	**521**				
P					
M					
K	●	○	○		
N		●	●		
S				●	●
H					
O		○	○		

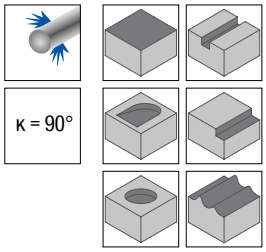
Milling guide

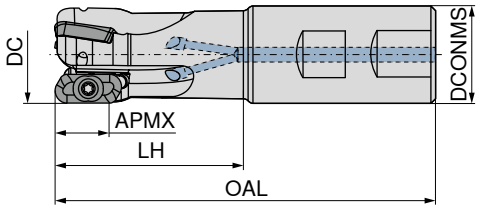
Cutting data standard values	→ 97–100	Starting Parameter	→ 116
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

7

MaxiMill – End milling cutter 90° C HSC-11

- Insert radius > 0.125": Modify cutter body
- High Speed Cutter (HSC)





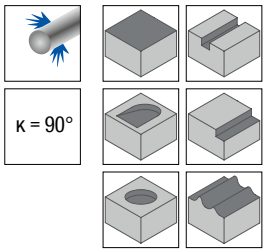
A

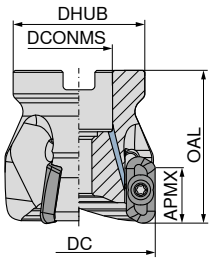
58 675 ...

Designation	DC inch	ZNF	APMX inch	DCONMS h6 inch	OAL inch	LH inch	torque moment Nm	Insert	
CHSC.0625.R.02-11-A-100-EF	0.625	2	0.393	0.625	3.000	1.000	1,8	XDHT 11T3..	06202
CHSC.0625.R.02-11-A-125-EF	0.625	2	0.393	0.625	3.250	1.250	1,8	XDHT 11T3..	06302
CHSC.0750.R.02-11-A-150-EF	0.750	2	0.393	0.750	3.600	1.500	1,8	XDHT 11T3..	07502
CHSC.100.R.03-11-A-200-EF	1.000	3	0.393	1.000	4.350	2.000	1,8	XDHT 11T3..	10003

MaxiMill – Shell mill 90° A HSC-11

- Insert radius > 0.125": Modify cutter body
- High Speed Cutter (HSC)





58 718 ...

Designation	DC inch	ZNF	APMX inch	DCONMS H6 inch	DHUB inch	OAL inch	torque moment Nm	Insert	
AHSC.150.R.04-11-A050-175-EF	1.500	4	0.393	0.500	1.421	1.750	1,8	XDHT 11T3..	15004
AHSC.200.R.04-11-A075-175-EF	2.000	4	0.393	0.750	1.750	1.750	1,8	XDHT 11T3..	20004
AHSC.250.R.05-11-A100-200-EF	2.500	5	0.393	1.000	2.250	2.000	1,8	XDHT 11T3..	25005
AHSC.300.R.05-11-A100-200-EF	3.000	5	0.393	1.000	2.250	2.000	1,8	XDHT 11T3..	30005

Screwdriver

80 950 ...

Molykote

70 950 ...

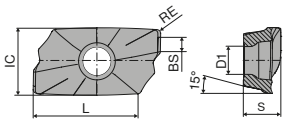
Clamping screw

70 950 ...

Spare parts DC			
0.625 - 1.000	039	303	128
1.500 - 3.000	039	303	131

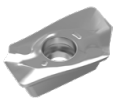
XDKT / XDHT

Designation	IC inch	D1 inch	L inch	BS inch	S inch
XD.T 11T302FR	0.268	0.110	0.417	0.079	0.150
XD.T 11T304FR	0.268	0.110	0.417	0.071	0.150
XD.T 11T308FR	0.268	0.110	0.417	0.055	0.150
XD.T 11T320FR	0.268	0.110	0.417	0.055	0.150
XD.T 11T325FR	0.268	0.110	0.417	0.055	0.150
XDHT 11T312FR	0.268	0.110	0.417	0.055	0.150
XDHT 11T316FR	0.268	0.110	0.417	0.055	0.150
XDHT 11T332FR	0.268	0.110	0.417	0.031	0.150
XDHT 11T340FR	0.268	0.110	0.417	-	0.150
XDHT 11T350FR	0.268	0.110	0.417	-	0.150



XDKT

XDKT / XDHT

		-F20 CTWN215	-27P H216T
			
		XDKT	XDHT
		50 478 ...	50 477 ...
ISO	RE inch		
11T302FR	0.008	502	502
11T304FR	0.016	504	504
11T308FR	0.031	508	508
11T312FR	0.047		512
11T316FR	0.063		516
11T320FR	0.079	520 1)	520 1)
11T325FR	0.098	525 1)	525 1)
11T332FR	0.126		532 1)
11T340FR	0.157		540 1)
11T350FR	0.197		550 1)
P			
M			
K		○	○
N		●	●
S			
H			
O		○	○

1) Insert radius > 0.063": Modify cutter body

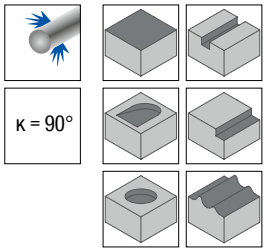
Milling guide

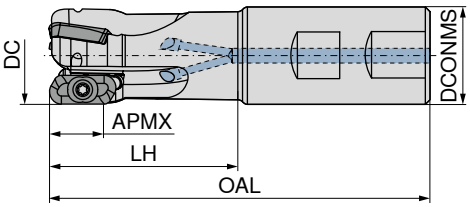
Safety advice	→ 117	Cutting data standard values	→ 118
Machining strategy	→ 119+120	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

7

MaxiMill – End milling cutter 90° C HSC-19

- Insert radius > 0.157": Modify cutter body
- High Speed Cutter (HSC)





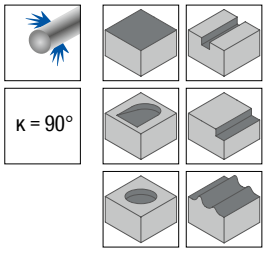
A

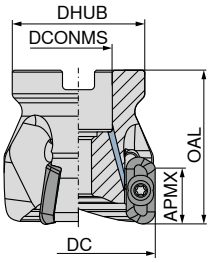
58 679 ...

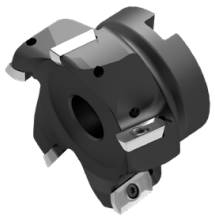
Designation	DC inch	ZNF	APMX inch	DCONMS $_{h5}$ inch	OAL inch	LH inch	RPMX 1/min.	torque moment Nm	Insert	
CHSC.100.R.02-19-A-200-EF	1.000	2	0.709	1.000	4.500	2.000	35000	5	XDHT 1904..	**10002**
CHSC.100.R.02-19-A-250-EF	1.000	2	0.709	1.000	6.500	2.500	32800	5	XDHT 1904..	**10102**
CHSC.125.R.02-19-A-250-EF	1.250	2	0.709	1.250	5.000	2.500	29100	5	XDHT 1904..	**12502**
CHSC.125.R.02-19-A-325-EF	1.250	2	0.709	1.250	6.500	3.250	27200	5	XDHT 1904..	**12602**
CHSC.150.R.03-19-A125-325-EF	1.500	3	0.709	1.250	5.750	3.250	23800	5	XDHT 1904..	**15003**
CHSC.150.R.03-19-A125-400-EF	1.500	3	0.709	1.250	6.500	4.000	21900	5	XDHT 1904..	**15103**

MaxiMill – Shell mill 90° A HSC-19

- Insert radius > 0.157": Modify cutter body
- High Speed Cutter (HSC)







58 716 ...

Designation	DC inch	ZNF	APMX inch	DCONMS $_{H6}$ inch	DHUB inch	OAL inch	RPMX 1/min.	torque moment Nm	Insert	
AHSC.200.R.03-19-A075-175-EF	2.000	3	0.709	0.750	1.750	1.750	21600	5	XDHT 1904..	**20003**
AHSC.250.R.03-19-A100-200-EF	2.500	3	0.709	1.000	2.250	2.250	18800	5	XDHT 1904..	**25003**
AHSC.250.R.04-19-A100-200-EF	2.500	4	0.709	1.000	2.250	2.250	18800	5	XDHT 1904..	**25004**
AHSC.300.R.03-19-A100-200-EF	3.000	3	0.709	1.000	2.250	2.250	16400	5	XDHT 1904..	**30003**
AHSC.300.R.04-19-A100-200-EF	3.000	4	0.709	1.000	2.250	2.250	16400	5	XDHT 1904..	**30004**
AHSC.400.R.04-19-B125-200-EF	4.000	4	0.709	1.250	2.750	2.750	14500	5	XDHT 1904..	**40004**
AHSC.500.R.05-19-B150-200-EF	5.000	5	0.709	1.500	3.750	3.750	12800	5	XDHT 1904..	**50005**
AHSC.600.R.05-19-B150-200-EF	6.000	5	0.709	1.500	3.750	3.750	11500	5	XDHT 1904..	**60005**

Screwdriver

80 950 ...

Molykote

70 950 ...

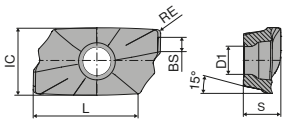
Clamping screw

70 950 ...

Spare parts for Article no.			
58 679 10002 / 58 679 10102	**105**	**303**	**172**
58 679 12502	**039**	**303**	**128**
58 679 12602 / 58 679 15003	**105**	**303**	**173**
58 679 15103	**105**	**303**	**173**
58 716 40004 / 58 716 50005	**105**	**303**	**174**
58 716 60005 / 58 716 20003	**105**	**303**	**174**
58 716 25003 / 58 716 25004	**105**	**303**	**174**
58 716 30004 / 58 716 30003	**105**	**303**	**174**

XDHT

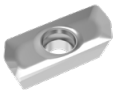
Designation	IC inch	D1 inch	L inch	BS inch	S inch
XDHT 190402..	0.375	0.183	0.748	0.079	0.187
XDHT 190404..	0.375	0.183	0.748	0.079	0.187
XDHT 190408..	0.375	0.183	0.748	0.079	0.187
XDHT 190412..	0.375	0.183	0.748	0.079	0.187
XDHT 190416..	0.375	0.183	0.748	0.079	0.187
XDHT 190420..	0.375	0.183	0.748	0.079	0.187
XDHT 190425..	0.375	0.183	0.748	0.055	0.187
XDHT 190432..	0.375	0.183	0.748	0.039	0.187
XDHT 190440..	0.375	0.183	0.748	0.039	0.187
XDHT 190450..	0.375	0.183	0.748	-	0.187



XDKT

XDHT

-27P
H216T


XDHT
50 487 ...

ISO	RE inch	
190402FR	0.008	**552**
190404FR	0.016	**554**
190408FR	0.031	**556**
190412FR	0.047	**557**
190416FR	0.063	**558**
190420FR	0.079	**560**
190425FR	0.098	**562**
190432FR	0.126	**564**
190440FR	0.157	**566**
190450FR	0.197	**568** 1)
P		
M		
K		○
N		●
S		
H		
O		○

1) Insert radius > 0.157": Modify cutter body

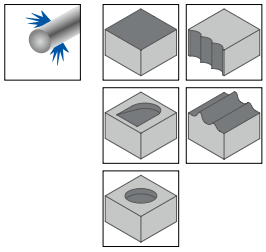
Milling guide

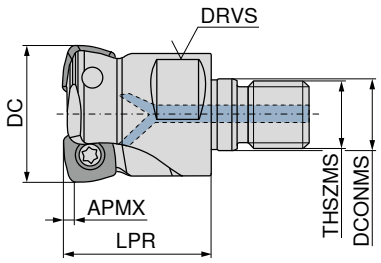
Cutting data standard values	→ 97–100	Safety advice	→ 117
Machining strategy	→ 121–123	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

7

MaxiMill – Screw in cutter G HFC

▲ High Feed Cutter (HFC)



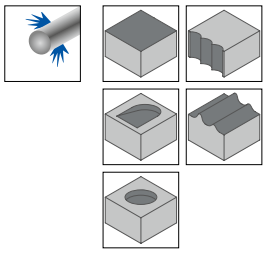


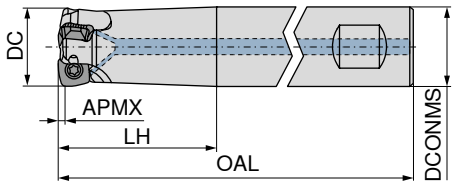
58 682 ...

Designation	DC inch	ZNF	APMX inch	LPR inch	DCONMS inch	THSZMS inch	RPMX 1/min.	torque moment Nm	Insert	
GHFC.0625.R.02-06-125-F	0.625	2	0.031	1.250	0.335	M8	17800	1,2	XPLX 0603..	06202
GHFC.0750.R.03-06-125-F	0.750	3	0.031	1.250	0.413	M10	21400	1,2	XPLX 0603..	07503
GHFC.100.R.04-06-150-F	1.000	4	0.031	1.500	0.492	M12	17000	1,2	XPLX 0603..	10004
GHFC.125.R.05-06-150-F	1.250	5	0.031	1.500	0.669	M16	20300	1,2	XPLX 0603..	12505

MaxiMill – End milling cutter C HFC

▲ High Feed Cutter (HFC)





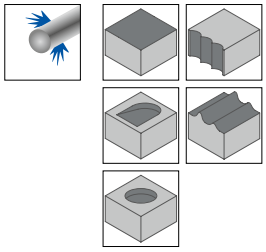
A B

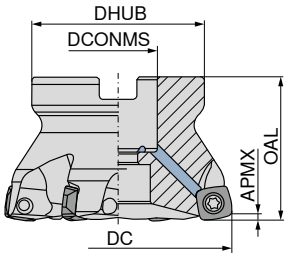
58 681 ... 58 681 ...

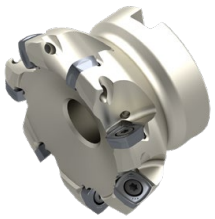
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	RPMX 1/min.	torque moment Nm	Insert			
CHFC.0625.R.02-06-B-150-EF	0.625	2	0.031	3.500	1.500	0.625	18100	1,2	XPLX 0603..			26202
CHFC.0625.R.02-06-A-150-EF-800	0.625	2	0.031	8.000	1.500	0.625	18100	1,2	XPLX 0603..	06202		
CHFC.0750.R.03-06-B-200-EF	0.750	3	0.031	4.200	2.000	0.750	14100	1,2	XPLX 0603..			27503
CHFC.0750.R.03-06-A-200-EF-900	0.750	3	0.031	9.000	2.000	0.750	14100	1,2	XPLX 0603..	07503		
CHFC.100.R.04-06-B-200-EF	1.000	4	0.031	4.400	2.000	1.000	15400	1,2	XPLX 0603..			30004
CHFC.100.R.04-06-A-200-EF-900	1.000	4	0.031	9.000	2.000	1.000	15400	1,2	XPLX 0603..	10004		
CHFC.125.R.05-06-B100-250-EF	1.250	5	0.031	4.900	2.500	1.000	10700	1,2	XPLX 0603..			32505
CHFC.125.R.05-06-A100-250-EF-900	1.250	5	0.031	9.000	2.500	1.000	10700	1,2	XPLX 0603..	12505		
CHFC.100.R.03-09-B-200-EF	1.000	3	0.039	4.300	2.000	1.000	15400	3,2	XDLX 09T3..			60003
CHFC.100.R.03-09-A-200-EF-800	1.000	3	0.039	8.000	2.000	1.000	9000	3,2	XDLX 09T3..	50003		
CHFC.125.R.04-09-B100-250-EF	1.250	4	0.039	4.800	2.500	1.000	10700	3,2	XDLX 09T3..			62504
CHFC.125.R.03-09-A-250-EF-1000	1.250	3	0.039	10.000	2.500	1.250	8100	3,2	XDLX 09T3..	52503		
CHFC.125.R.02-12-A-250-EF-1000	1.250	2	0.079	10.000	2.500	1.250	6480	5	XOLX 1204..	82502		
CHFC.150.R.03-12-A125-250-EF-1000	1.500	3	0.079	10.000	2.500	1.250	6100	5	XOLX 1204..	85003		

MaxiMill – Shell mill A HFC

▲ High Feed Cutter (HFC)







58 683 ...

Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	RPMX 1/min.	torque moment Nm	Insert	
AHFC.150.R.04-09-A050-175-EF	1.500	4	0.039	1.420	0.500	1.420	26400	3,2	XDLX 09T3..	15004
AHFC.200.R.05-09-A075-175-EF	2.000	5	0.039	1.750	0.750	1.750	23500	3,2	XDLX 09T3..	20005
AHFC.250.R.06-09-A075-200-EF	2.500	6	0.039	1.750	0.750	1.750	20500	3,2	XDLX 09T3..	25006
AHFC.200.R.04-12-A075-175-EF	2.000	4	0.079	1.750	0.750	1.750	18800	5	XOLX 1204..	20104
AHFC.250.R.05-12-A100-200-EF	2.500	5	0.079	2.250	1.000	2.250	16400	5	XOLX 1204..	25105
AHFC.300.R.07-12-A100-200-EF	3.000	7	0.079	2.250	1.000	2.250	14000	5	XOLX 1204..	30107
AHFC.400.R.08-12-A125-200-EF	4.000	8	0.079	2.750	1.250	2.750	12000	5	XOLX 1204..	40108
AHFC.500.R.10-12-B150-250-EF	5.000	10	0.079	3.750	1.500	3.750	9800	5	XOLX 1204..	50110
AHFC.300.R.06-19-A100-200-EF	3.000	6	0.130	2.250	1.000	2.250	4900	5	XOLX 1906..	30206
AHFC.400.R.08-19-A125-200-EF	4.000	8	0.130	2.750	1.250	2.750	4000	5	XOLX 1906..	40208
AHFC.500.R.10-19-B150-250-EF	5.000	10	0.130	3.750	1.500	3.750	3500	5	XOLX 1906..	50210

Screwdriver

80 950 ...

Molykote

70 950 ...

Clamping screw

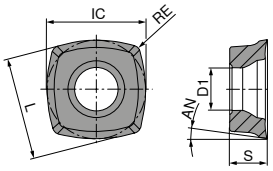
70 950 ...

Spare parts for Article no.			
58 681 06202 / 58 681 07503	102	303	116
58 681 10004 / 58 681 12505	102	303	116
58 681 82502 / 58 681 85003	106	303	01200
58 681 52503 / 58 681 62504	105	303	304
58 681 50003 / 58 681 60003	105	303	110
58 681 26202 / 58 681 27503	102	303	116
58 681 30004 / 58 681 32505	102	303	116
58 682 06202 / 58 682 07503	102	303	116
58 682 10004 / 58 682 12505	102	303	116
58 683 25006 / 58 683 15004	105	303	304
58 683 40108 / 58 683 50110	106	303	01200
58 683 50210 / 58 683 40208	106	303	302
58 683 30206	106	303	302
58 683 20005	105	303	304
58 683 20104 / 58 683 25105	106	303	01200
58 683 30107	106	303	01200

7

XPLX / XDLX / XOLX / XOHX

Designation	IC inch	D1 inch	L inch	BS inch	S inch	AN °
XPLX 0603..	0.250	0.110	0.236	0.039	0.108	11.000
XDLX 09T3..	0.375	0.173	0.354	0.075	0.156	15.000
XO.X 1204..	0.500	0.217	0.472	0.051	0.187	10.000
XOLX 1906..	0.754	0.236	0.748	-	0.250	10.000



XPLX

NEW

	-M50 CTCP220	-M50 CTPP225	-M50 CTPP235	-M50 CTPM225	-M50 CTPM240	-F40 CTPM245	-F40 CTCM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
	XPLX	XPLX	XPLX	XPLX	XPLX	XPLX	XPLX
	51 019 ...	51 019 ...	51 019 ...	51 019 ...	51 019 ...	51 116 ...	51 116 ...
ISO RE inch							
060305ER 0.020						**455**	**90501**
060305SR 0.020	**255**	**055**	**105**	**205**	**405**		
P	●	●	●	●	○	●	●
M			○	●	●	●	●
K			○				
N							
S							○
H							
O							

XPLX

	-M50 CTCK215	-F40 CTC5240	-F40 CTCS245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
	XPLX	XPLX	XPLX
	51 019 ...	50 518 ...	51 116 ...
ISO RE inch			
060305ER 0.020		**558**	**55500**
060305SR 0.020	**505**		
P			
M			
K	●		
N			
S		●	●
H			
O			

XDLX

		-M50 CTCP220	-M50 CTPP225	-M50 CTCP230	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XDLX	XDLX	XDLX	XDLX
		51 016 ...	51 016 ...	51 016 ...	51 016 ...
ISO	RE inch				
09T308SR	0.031	258	058	008	108
P		●	●	●	●
M					○
K				○	○
N					
S					
H					
O					

XDLX

		NEW					
		-M50 CTPM225	-M50 CTCM235	-M50 CTPM240	-F40 CTPM245	-M50 CTPM245	-M50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		XDLX	XDLX	XDLX	XDLX	XDLX	XDLX
		51 016 ...	51 016 ...	51 016 ...	51 115 ...	51 016 ...	51 016 ...
ISO	RE inch						
09T308ER	0.031				458		
09T308SR	0.031	208	308	408		458	90801
P		●	●	○	●	●	●
M		●	●	●	●	●	●
K							
N							
S							○
H							
O							

7

XDLX / XOLX

			NEW			
		-M50 CTCK215	-M50 CTPK220	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XDLX	XOLX	XDLX	XDLX
		51 016 ...	51 017 ...	50 503 ...	51 115 ...
ISO	RE inch				
09T308ER	0.031			558	558
09T308SR	0.031	508			
190615SR	0.059		61500		
P					
M					
K		●	●		
N					
S				●	●
H					
O					

XOLX

		-M50 CTCP220	-M50 CTPP225	-M50 CTCP230	-M50 CTPP235	-R50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XOLX	XOLX	XOLX	XOLX	XOLX
		51 017 ...	51 017 ...	51 017 ...	51 017 ...	51 018 ...
ISO	RE inch					
120410SR	0.039	260	060	010	110	110
P		●	●	●	●	●
M					○	○
K				○	○	○
N						
S						
H						
O						

XOLX

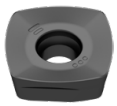
		-M50 CTPM225	-M50 CTCM235	-M50 CTPM240	-F40 CTPM245	-M50 CTPM245	NEW -F40 CTCM245	NEW -M50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		XOLX	XOLX	XOLX	XOLX	XOLX	XOLX	XOLX
		51 017 ...	51 017 ...	51 017 ...	51 022 ...	51 017 ...	51 022 ...	51 017 ...
ISO	RE inch							
120410ER	0.039				460		91001	
120410SR	0.039	210	310	410		460		91001
P		●	●	○	●	●	●	●
M		●	●	●	●	●	●	●
K								
N								
S							○	○
H								
O								

XOLX / XOHX

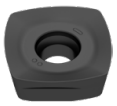
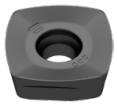
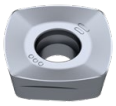
		-M50 CTCK215	-F40 CTC5240	-F50 CTC5240	-F40 CTCS245	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XOLX	XOLX	XOHX	XOLX	XOHX
		51 017 ...	50 504 ...	51 124 ...	51 022 ...	51 124 ...
ISO	RE inch					
120410ER	0.039		558		560	
120410SR	0.039	510		16000		56000
P						
M						
K		●				
N						
S			●	●	●	●
H						
O						

7

XOLX

	-M50 CTCP230	-M50 CTPP235	-M50 CTPM240	-F40 CTPM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	XOLX	XOLX	XOLX	XOLX
	51 017 ...	51 017 ...	51 017 ...	51 022 ...
ISO / RE inch				
190615ER 0.059				465
190615SR 0.059	015	115	415	
P	●	●	○	●
M		○	●	●
K	○	○		
N				
S				
H				
O				

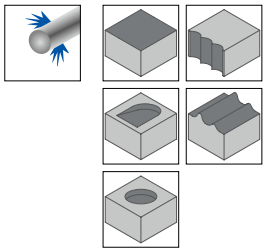
XOLX

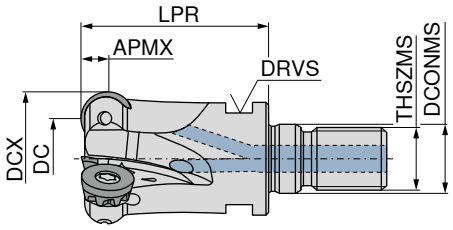
	NEW -F40 CTCM245	-M50 CTCK215	NEW -M50 CTPK220	-F40 CTC5240	-F40 CTCS245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	XOLX	XOLX	XOLX	XOLX	XOLX
	51 022 ...	51 017 ...	51 017 ...	50 504 ...	51 022 ...
ISO / RE inch					
190615ER 0.059	91501		61500	515	56500
190615SR 0.059		515			
P	●				
M	●				
K		●	●		
N					
S	○			●	●
H					
O					

Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 125–128
Starting Parameter	→ 125–128	Technical Information	→ 132–136
Chip groove description and overview	→ 137–139	Grade description and overview	→ 140–142

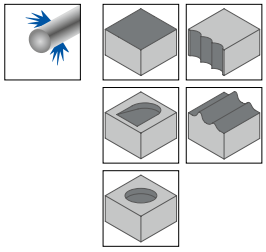
MaxiMill – Screw in cutter G 251 RS

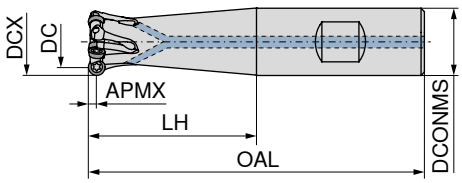




Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS inch	LPR inch	THSZMS inch	RPMX 1/min.	torque moment Nm	Insert	58 684 ...
G251.100.R.03-10-125-RS-F	0.606	1.000	3	0.197	0.492	1.250	M12	25450	2	RP.X 10T3..	10103
G251.125.R.04-10-125-RS-F	0.856	1.250	4	0.196	0.669	1.500	M16	25450	2	RP.X 10T3..	12604
G251.150.R.05-10-175-RS-F	1.106	1.500	5	0.197	0.669	1.750	M16	15150	2	RP.X 10T3..	15105
G251.125.R.03-12-125-RS-F	0.777	1.250	3	0.236	0.492	1.575	M12	25450	3,2	RP.X 1204..	22503

MaxiMill – End milling cutter C 251 RS





Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	Insert	A 58 685 ...	B 58 685 ...
C251.0750.R.03-08-B-125-RS-EF	0.435	0.750	3	0.157	3.500	1.250	0.750	31800	RDHX 0802..		27503
C251.0750.R.03-08-A-200-RS-EF-800	0.435	0.750	3	0.157	8.000	2.000	0.750	22260	RDHX 0802..	07503	
C251.100.R.04-08-B-225-RS-EF	0.685	1.000	4	0.157	4.500	2.250	1.000	25450	RDHX 0802..		30004
C251.100.R.04-08-A-300-RS-EF-800	0.685	1.000	4	0.157	8.000	3.000	1.000	18000	RDHX 0802..	10004	
C251.125.R.05-08-B-275-RS-EF	0.935	1.250	5	0.157	5.250	2.750	1.250	19850	RDHX 0802..		32505
C251.125.R.05-08-A-325-RS-EF-1000	0.935	1.250	5	0.157	10.000	3.250	1.250	18000	RDHX 0802..	12505	
C251.100.R.03-10-B-225-RS-EF	0.606	1.000	3	0.197	4.500	2.250	1.000	25450	RP.X 10T3..		50003
C251.100.R.03-10-A-300-RS-EF-800	0.606	1.000	3	0.197	8.000	3.000	1.000	20000	RP.X 10T3..	40003	
C251.125.R.04-10-B-275-RS-EF	0.857	1.250	4	0.197	5.250	2.750	1.250	19850	RP.X 10T3..		52504
C251.125.R.04-10-A-325-RS-EF-1000	0.857	1.250	4	0.197	10.000	3.250	1.250	18000	RP.X 10T3..	42504	
C251.150.R.05-10-B125-325-RS-EF	1.106	1.500	5	0.197	6.000	3.250	1.250	15100	RP.X 10T3..		55005
C251.150.R.05-10-A125-375-RS-EF-1000	1.106	1.500	5	0.197	10.000	3.750	1.250	10700	RP.X 10T3..	45005	
C251.125.R.02-12-A-325-RS-EF-1000	0.778	1.250	2	0.236	10.000	3.250	1.250	8500	RP.X 1204..	62502	
C251.150.R.03-12-A125-375-RS-EF-1000	1.028	1.500	3	0.236	10.000	3.750	1.250	12500	RP.X 1204..	65003	
C251.150.R.02-16-A125-375-RS-EF-1000	0.870	1.500	2	0.315	10.000	3.750	1.250	10500	RP.X 1605..	75002	


Screwdriver
80 950 ...

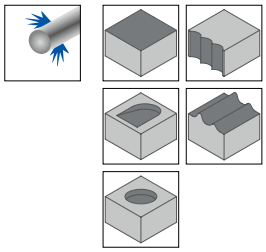

Molykote
70 950 ...

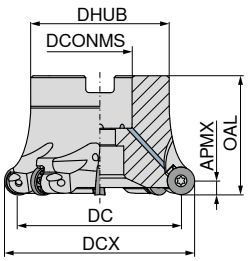

Clamping screw
70 950 ...

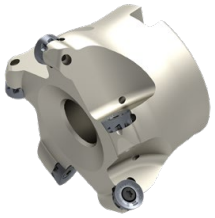
Spare parts Insert			
RDHX 0802..	102	303	116
RP.X 10T3..	104	303	840
RP.X 10T3..		303	
RP.X 1204..	105	303	304
RP.X 1605..	106	303	01200

7

MaxiMill – Shell mill A 251 RS







58 686 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	torque moment Nm	Insert	
A251.150.R.06-08-A050-175-RS-EF	1.185	1.500	6	0.157	1.420	1.420	0.500	15150	1,2	RDHX 0802..	15006
A251.300.R.12-08-A100-200-RS-IN-EF	2.685	3.000	12	0.157	2.250	2.250	1.000	7950	1,2	RDHX 0802..	30012
A251.150.R.05-10-A050-175-RS-EF	1.106	1.500	5	0.197	1.420	1.420	0.500	15900	2	RP.X 10T3..	15105
A251.200.R.06-10-A075-175-RS-EF	1.606	2.000	6	0.197	1.750	1.750	0.750	12700	2	RP.X 10T3..	20106
A251.200.R.05-12-A075-175-RS-EF	1.528	2.000	5	0.236	1.750	1.750	0.750	12700	3,2	RP.X 1204..	20205
A251.200.R.06-12-A075-175-RS-EF	1.528	2.000	6	0.236	1.750	1.750	0.750	12700	3,2	RP.X 1204..	20206
A251.250.R.06-12-A100-200-RS-EF	2.028	2.500	6	0.236	2.250	2.250	1.000	10100	3,2	RP.X 1204..	25206
A251.300.R.07-12-RS-A100-200-EF	2.528	3.000	7	0.236	2.250	2.250	1.000	7950	3,2	RP.X 1204..	30207
A251.400.R.10-12-B125-200-RS-EF	3.528	4.000	10	0.236	2.750	2.750	1.250	6350	3,2	RP.X 1204..	40210
A251.600.R.12-12-B150-200-RS-EF	5.528	6.000	12	0.236	3.750	3.750	1.500	8300	3,2	RP.X 1204..	60212
A251.200.R.03-16-A075-175-RS-EF	1.370	2.000	3	0.315	1.750	1.750	0.750	12700	5	RP.X 1605..	20303
A251.250.R.05-16-A100-200-RS-EF	1.870	2.500	5	0.315	2.250	2.250	1.000	10100	5	RP.X 1605..	25305
A251.300.R.06-16-A100-200-RS-EF	2.370	3.000	6	0.315	2.250	2.250	1.000	7950	5	RP.X 1605..	30306
A251.400.R.07-16-B125-200-RS-EF	3.370	4.000	7	0.315	2.750	2.750	1.250	6350	5	RP.X 1605..	40307
A251.500.R.08-16-B150-200-RS-EF	4.370	5.000	8	0.315	3.750	3.750	1.500	5400	5	RP.X 1605..	50308
A251.600.R.10-16-B150-200-RS-EF	5.370	6.000	10	0.315	3.750	3.750	1.500	7200	5	RP.X 1605..	60310
A251.300.R.05-20-A100-200-RS-EF	2.213	3.000	5	0.394	2.250	2.250	1.000	8600	5	RP.X 2006..	30405
A251.400.R.06-20-A125-200-RS-EF	3.213	4.000	6	0.394	2.750	2.750	1.250	6350	5	RP.X 2006..	40406
A251.500.R.07-20-B150-200-RS-EF	4.213	5.000	7	0.394	3.750	3.750	1.500	5400	5	RP.X 2006..	50407
A251.600.R.08-20-B150-200-RS-EF	5.213	6.000	8	0.394	3.750	3.750	1.500	6500	1,2	RP.X 2006..	60408

Screwdriver

80 950 ...

Molykote

70 950 ...

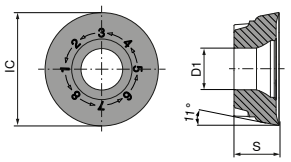
Clamping screw

70 950 ...

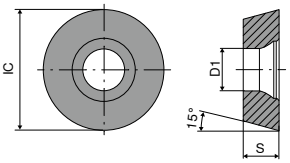
Spare Parts Insert			
RDHX 0802..	102	303	116
RP.X 10T3..	104	303	840
RP.X 1204..	105	303	304
RP.X 1605..	106	303	01200
RP.X 2006..	106	303	302

RDHX / RPHX / RPNX

Designation	IC inch	D1 inch	S inch
RDHX 0501..	0.197	0.098	0.063
RDHX 0802..	0.315	0.110	0.094
RP.X 10T3..	0.394	0.134	0.156
RP.X 1204..	0.472	0.173	0.187
RP.X 1605..	0.630	0.217	0.219
RP.X 2006..	0.787	0.236	0.250



RP.X 10T3.. / RP.X 1204.. / RP.X 1605.. / RPNX 2006..



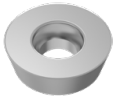
RDHX 0501.. / RDHX0802..

RDHX

NEW

	-SN CTCP230 DRAGONSKIN	-SN CTPP235 DRAGONSKIN	-F50 CTPM240 DRAGONSKIN	-F50 CTPM245 DRAGONSKIN	-F50 CTCM245 DRAGONSKIN
					
	RDHX	RDHX	RDHX	RDHX	RDHX
	51 048 ...	51 048 ...	51 083 ...	51 083 ...	51 083 ...
ISO					
0501M0SN	020	120		465	
0802M0SN	025	125	420	470	92001
0802M4SN				471	92101
P	●	●	○	●	●
M		○	●	●	●
K	○	○			
N					
S					○
H					
O					

RDHX

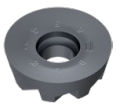
	-EN CTCK215 DRAGONSKIN	-FN H216T	-M31 CTC5240 DRAGONSKIN	-F50 CTCS245 DRAGONSKIN
				
	RDHX	RDHX	RDHX	RDHX
	51 048 ...	50 481 ...	50 481 ...	51 083 ...
ISO				
0501M0FN		600		
0802M0EN			500	
0802M0FN		602		
0802M0SN				570
0802M4EN	520		50100	
P				
M				
K	●	○		
N		●		
S			●	●
H				
O		○		

7

RPHX / RPNX

	-SN TCM10	-F50 CTCP230 DRAGONSKIN	-M50 CTCP230 DRAGONSKIN	-SN CTCP230 DRAGONSKIN	-SN CTCP230 DRAGONSKIN
					
	CERMET				
	RPHX	RPNX	RPNX	RPHX	RPNX
	50 483 ...	51 055 ...	51 054 ...	51 052 ...	51 057 ...
ISO					
10T3M0SN	900				
10T3M8SN		020	020	020	
1204M0SN	902				
1204M8SN		025	025	025	025
1605M8SN			030	030	030
2006M8SN					035
P	●	●	●	●	●
M					
K	○	○	○	○	○
N					
S					
H					
O					

RPHX / RPNX

	-F50 CTPP235 DRAGONSKIN	-F50 CTPP235 DRAGONSKIN	-M30 CTPP235 DRAGONSKIN	-M30 CTPP235 DRAGONSKIN
				
	RPHX	RPNX	RPHX	RPNX
	51 051 ...	51 055 ...	51 049 ...	51 053 ...
ISO				
10T3M8EN			120	
10T3M8SN	12000	120		
1204M8SN	125	125		
1605M0SN		130		
2006M8EN				120
P	●	●	●	●
M	○	○	○	○
K	○	○	○	○
N				
S				
H				
O				

RPNX / RPHX

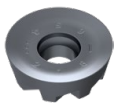
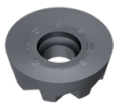
	-M50 CTPP235 DRAGONSKIN	-M50 CTPP235 DRAGONSKIN	-SN CTPP235 DRAGONSKIN	-SN CTPP235 DRAGONSKIN
				
	RPNX	RPHX	RPHX	RPNX
	51 054 ...	51 050 ...	51 052 ...	51 057 ...
ISO				
10T3M8SN	12000	12000	120	
1204M8SN	125		125	125
1605M8SN	130		130	130
2006M8SN				135
P	●	●	●	●
M	○	○	○	○
K	○	○	○	○
N				
S				
H				
O				

RPHX

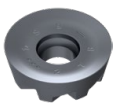
	-F50 CTPM225 DRAGONSKIN	-M30 CTPM225 DRAGONSKIN	-SN CTPM225 DRAGONSKIN	-F50 CTCM235 DRAGONSKIN	-M30 CTCM235 DRAGONSKIN
					
	RPHX	RPHX	RPHX	RPHX	RPHX
	51 051 ...	51 049 ...	51 052 ...	51 051 ...	51 049 ...
ISO					
1204M8EN		225			325
1204M8SN	225		225	325	
P	●	●	●	●	●
M	●	●	●	●	●
K					
N					
S					
H					
O					

7

RPHX / RPNX

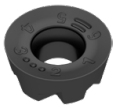
	-F50 CTPM240 DRAGONSKIN	-F50 CTPM240 DRAGONSKIN	-M30 CTPM240 DRAGONSKIN	-M30 CTPM240 DRAGONSKIN	-M50 CTPM240 DRAGONSKIN
					
	RPHX	RPNX	RPHX	RPNX	RPHX
	51 051 ...	51 055 ...	51 049 ...	51 053 ...	51 050 ...
ISO					
10T3M8EN			420		
10T3M8SN	420				420
1204M8EN			425		
1204M8SN	425				425
1605M8EN			430		
1605M8SN	430				
2006M8EN				420	
2006M8SN		435			
P	○	○	○	○	○
M	●	●	●	●	●
K					
N					
S					
H					
O					

RPHX / RPNX

	CTPM245 DRAGONSKIN	-F50 CTPM245 DRAGONSKIN	-F50 CTPM245 DRAGONSKIN	-M32 CTPM245 DRAGONSKIN	-M50 CTPM245 DRAGONSKIN
					
	RPHX	RPHX	RPNX	RPHX	RPHX
	51 052 ...	51 051 ...	51 055 ...	51 108 ...	51 050 ...
ISO					
10T3M4SN		470 [1]	470 [1]		470 [1]
10T3M8SN		471	471		471
1204M4EN	475 [1]			475 [1]	
1204M4SN		475 [1]	475 [1]		475 [1]
1204M6SN		476			476
1204M8SN		477	476		477
1605M8SN		480			
2006M4SN		485 [1]			
2006M8SN			485		
P	●	●	●	●	●
M	●	●	●	●	●
K					
N					
S					
H					
O					

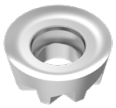
1) Insert with 4 indexes

RPNX / RPHX

	NEW -F50 CTCM245 DRAGONSKIN	NEW -M50 CTCM245 DRAGONSKIN	NEW -F50 CTCM245 DRAGONSKIN	NEW -M50 CTCM245 DRAGONSKIN
	 RPNX	 RPNX	 RPHX	 RPHX
	51 055 ...	**51 054 ...**	**51 051 ...**	**51 050 ...**
ISO				
10T3M4SN	**92001** [1]		**92001** [1]	**92001** [1]
10T3M8SN	**92101**		**92101**	
1204M4SN	**92501** [1]		**92501** [1]	**92501** [1]
1204M6SN		**92601**	**92601**	**92601**
1204M8SN	**92601**			**92701**
1605M8SN	**93001**		**93001**	
2006M8SN	**93501**	**93501**		
P	●	●	●	●
M	●	●	●	●
K				
N				
S	○	○	○	○
H				
O				

1) Insert with 4 indexes

RPNX / RPHX

	-R30 CTCK215 DRAGONSKIN	-SN CTCK215 DRAGONSKIN	-SN CTCK215 DRAGONSKIN	-SN CTPK220 DRAGONSKIN	-27P H216T
	 RPNX	 RPHX	 RPNX	 RPNX	 RPHX
	51 056 ...	**51 052 ...**	**51 057 ...**	**51 057 ...**	**50 483 ...**
ISO					
10T3M8EN	**520**				
10T3M8FN					**600**
10T3M8SN		**520**		**620**	
1204M8EN	**525**				
1204M8FN					**602**
1204M8SN		**525**	**525**	**625**	
1605M8FN					**604**
1605M8SN		**530**	**530**	**630**	
2006M8SN			**535**	**635**	
P					
M					
K	●	●	●	●	○
N					●
S					
H					
O					○

7

RPNX / RPHX

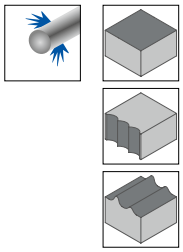
ISO	NEW -M31 CTC5240 DRAGONSKIN RPNX 51 149 ...	-M31 CTC5240 DRAGONSKIN RPHX 50 493 ...	-F50 CTCS245 DRAGONSKIN RPHX 51 051 ...	-F50 CTCS245 DRAGONSKIN RPNX 51 055 ...	-R60 CTP6215 RPNX 50 508 ...
10T3M4EN		550 [1]			
10T3M4SN			570 [1]		
10T3M8EN		551			
10T3M8SN			571		
1204M4EN		552 [1]			
1204M4SN			575		
1204M6EN		56200	57800		
1204M8EN		582			300
1204M8SN			577		
1605M8EN		555	58100		
2006M8EN	12001				
2006M8SN				585	
P					
M					
K					●
N					
S	●	●	●	●	
H					●
O					

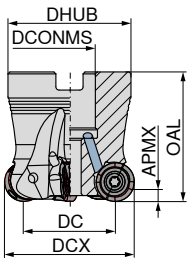
1) Insert with 4 indexes

Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 129
Technical Information	→ 132–136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – Shell mill A 252





58 689 ...

Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS inch	torque moment Nm	Insert	
A252.150.R.04-12-A050-175-EF	1.027	1.500	4	0.118	1.500	1.500	0.500	3,2	RNHU 1205..	**15004**
A252.200.R.05-12-A075-175-EF	1.527	2.000	5	0.118	1.750	1.750	0.750	3,2	RNHU 1205..	**20005**
A252.250.R.06-12-A100-200-EF	2.027	2.500	6	0.118	2.250	2.250	1.000	3,2	RNHU 1205..	**25006**
A252.300.R.07-12-A100-200-EF	2.527	3.000	7	0.118	2.250	2.250	1.000	3,2	RNHU 1205..	**30007**

Screwdriver

80 950 ...

Molykote

70 950 ...

Clamping screw

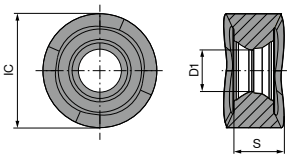
70 950 ...

Spare Parts DC			
1.027 - 2.527	**128**	**303**	**859**

7

RNHU

Designation	IC inch	D1 inch	S inch
RNHU 1004..	0.394	0.134	0.181
RNHU 1205..	0.472	0.173	0.209



RNHU

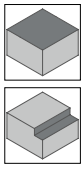
	-M50 CTPP235	-F50 CTPM240	-M31 CTPM245	-M32 CTPM245	-M31 CTC5240	-M31 CTC5240
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	RNHU	RNHU	RNHU	RNHU	RNHU	RNHU
	51 130 ...	51 129 ...	51 106 ...	51 107 ...	50 520 ...	50 521 ...
ISO						
1004M4ER	**12000**	**42000**	**470**	**470**	**550**	
1205M4ER		**42500**	**475**	**475**		**552**
1205M4SR	**12500**					
P	●	○	●	●		
M	○	●	●	●		
K	○					
N						
S					●	●
H						
O						

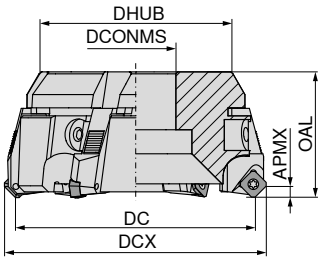
Milling guide

Cutting data standard values	→ 97–100	Machining strategy	→ 130
Technical Information	→ 132+136	Chip groove description and overview	→ 137–139
Grade description and overview	→ 140–142		

MaxiMill – Combi Mill Base Holder 260

▲ Basic body with clamping wedges, without cartridges





58 715 ...

DC inch	ZNF	DCONMS inch	DHUB inch	OAL inch	
3.000	5	1.000	2.449	2.449	**30005**
4.000	6	1.250	3.386	3.386	**40006**
5.000	7	1.500	3.780	3.780	**50007**
6.000	10	1.500	4.882	4.882	**60010**
8.000	12	2.500	6.772	6.772	**80012**
10.000	14	2.500	8.898	8.898	**10014**

For information on axial runout setting, see → **page 131**

	 Clamping wedge screw	 Clamping Wedge	 Key-T	 Molykote	 Eccentric Key
	70 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts DC					
3.000 - 10.000	**297**	**296**	**317**	**303**	**298**

Insert related diameter

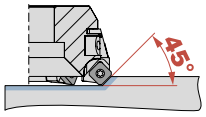
		Nominal Ø in inches															
		3,00		**4,00**		**5,00**		**6,00**		**8,00**		**10,00**		**12,00**		**16,00**	
	Inserts	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**	**DC inch**	**DCX inch**
	SD.. 0903..	3,15	3,48	3,94	4,27	4,84	5,17	6,22	6,55	7,80	8,13	9,76	10,09	12,32	12,65	15,67	16,00
	SD.. 1204..	3,15	3,72	3,94	4,51	4,84	5,41	6,22	6,79	7,80	8,37	9,76	10,33	12,32	12,89	15,67	16,24
	SE.. 1204..	3,15	3,66	3,94	4,45	4,84	5,35	6,22	6,73	7,80	8,31	9,76	10,28	12,32	12,83	15,67	16,18
	SD.. 1504..	2,95	3,70	3,74	4,49	4,65	5,39	6,02	6,77	7,60	8,35	9,57	10,31	12,13	12,87	15,47	16,22
	SP.. 1204..	3,23	3,46	4,02	4,25	4,92	5,16	6,30	6,54	7,87	8,11	9,84	10,08	12,40	12,64	15,75	15,98
	OA.. 0605..	3,15	3,37	3,94	4,16	4,84	5,06	6,22	6,44	7,80	8,02	9,76	9,98	12,32	12,54	15,67	15,89
	RP.X 1204..	3,15	3,62	3,94	4,41	4,84	5,31	6,22	6,69	7,80	8,27	9,76	10,24	12,32	12,80	15,67	16,14
	RP.X 16..	2,99	3,62	3,78	4,41	4,69	5,31	6,06	6,69	7,64	8,27	9,61	10,24	12,17	12,80	15,51	16,14
	SD.. 1205..	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	SD.. 09T3	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	LD..1504..	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	XD.T 11T3	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	XDKT 1505	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	AP.. 1003..	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	
	TPKW 2204..	3,50		4,29		5,20		6,57		8,15		10,12		12,68		16,02	

7

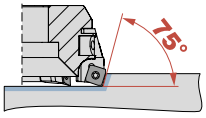
MaxiMill 260/combi cutter system

Cassette for inserts

Face milling

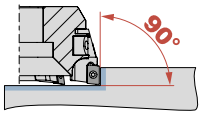


	SD.. 0903..	SD.. 1204.. XD.. 1204..	SE.. 1204..	SD.. 1504..	SA.. 1706..	OA.. 0605..
Cartridge no.	041	031	029	032	058	057
Article no. 70 950 ...	329	411	306	412	30800	338



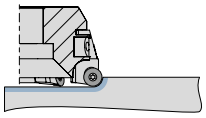
	SP.. 1204..
Cartridge no.	018
Article no. 70 950 ...	310

Shoulder milling



	AP.. 1003..	LD.. 1504..	XD.T 11T3..	XDKT 1505..	SD.. 1205..	SD.. 09T3..	TPKW 2204..
Cartridge no.	042	051	054	056	039	055	025
Article no. 70 950 ...	307	300	336	339	311	337	313

Face/Copy milling



	RP.X 1204..	RP.X 16....
Cartridge no.	052	053
Article no. 70 950 ...	333	707

Insert	APMX inch	Cassette 70 950 ...
AP.. 1003..	0.315	307
LD.. 1504..	0.551	300
OA.. 0605..	0.138	338
RP.X 1204..	0.236	333
RP.X 16..	0.315	707
SAKU 1706	0.331	30800
SD.. 0903..	0.157	329
SD.. 09T3..	0.315	337
SD.. 1204..	0.236	411
SD.. 1205..	0.236	311
SD.. 1504..	0.354	412
SE.. 1204..	0.236	306
SP.. 1204..	0.354	310
TPKW 2204..	0.709	313
XD.T 11T3	0.394	336
XDKT 1505..	0.551	339

TORX® blade


Screwdriver


Molykote


Clamping screw


Torque screwdriver

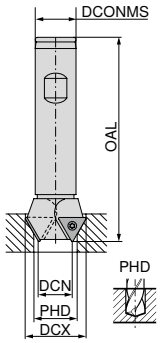
Spare parts Insert	80 950 ...	80 950 ...	70 950 ...	70 950 ...	80 950 ...
AP.. 1003..	033	110	303	112	191
OA.. 0605..	037	114	303	302	193
RP.X 1204.. / LD.. 1504..	036	113	303	304	192
SD.. 0903..	033	110	303	115	191
SD.. 09T3..	036	113	303	110	192
SD.. 1204.. / SE.. 1204.. / SP.. 1204.. / SD.. 1205.. / SD.. 1504.. / RP.X 16.. / TPKW 2204..	037	114	303	280	193
XD.T.. 11T3..	043	125	303	131	191
XDKT 1505..	054	128	303	839	192

Insert countersink 90°

Supply details:
Indexable insert countersink including clamping screws

WPS

NEW



58 196 ...

DCX inch	DCN inch	PHD inch	ZEFP	ZNF	DCONMS inch	OAL inch	Insert	
0.748	0.276	0.374	2	2	0.625	3.940	TOHX 090204	**19000**
0.906	0.433	0.472	2	2	0.625	3.940	TOHX 090204	**23000**
1.024	0.433	0.472	1	2	0.625	3.940	TOHX 090204	**26000**
1.181	0.472	0.472	2	2	0.750	3.940	TOHX 140305	**30000**
1.339	0.630	0.669	2	2	0.750	3.940	TOHX 140305	**34000**
1.457	0.748	0.787	2	2	0.750	3.940	TOHX 140305	**37000**

TORX® Screws

62 950 ...

Screwdriver

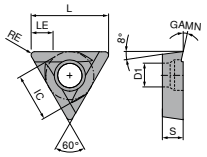
80 950 ...

Spare parts DCX			
0.748 - 1.024	**09900**		**125**
1.181 - 1.457	**12600**		**127**

7

TOHX

Designation	L inch	S inch	D1 inch	IC inch
140305EN	0.536	0.118	0.150	0.323



TOHX

		NEW -G06 BK8425	NEW -U877 BK8425	NEW -G12 BK8425
		F TOHX 62 602 ...	F TOHX 62 604 ...	F TOHX 62 603 ...
ISO	RE inch			
090204EN	0.016		31400	31400
140305EN	0.020	33000		
P		●	●	●
M		●	●	●
K		●	●	●
N				
S		●	●	●
H		○	○	○
O				

TOHX

		NEW -U877 K10	NEW -G12 K10
		F TOHX 62 604 ...	F TOHX 62 603 ...
ISO	RE inch		
090204EN	0.016	51400	
090204FN	0.016		51600
140305FN	0.020		52800
P			
M			
K			
N		●	●
S		●	●
H			
O		●	●

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength lbf/in²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0.15 % C	Annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C	Annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3		Tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C	Annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5		Tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1		Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2		Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3		Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4		Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2		Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3		Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic	Tempered	117500 lbf/in² / 250 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	88500 lbf/in² / 200 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic	Tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)		113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic		88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)		127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic		78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic		122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic		63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic		113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable		49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable		43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable		63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn		43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper		49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2			137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis	Annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2			171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3		Cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium		5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys		152300 lbf/in²	3.7165	TiAl6V4		
		S.3.3	Beta alloys		203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1		Hardened and tempered	46-55 HRC				
		H.1.2		Hardened and tempered	56-60 HRC				
		H.1.3		Hardened and tempered	61-65 HRC				
		H.1.4		Hardened and tempered	66-70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 21800 lbf/in²				
		O.1.2	Plastics, thermoplastic		≤ 14500 lbf/in²				
		O.2.1	Aramid fibre-reinforced		≤ 145000 lbf/in²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 145000 lbf/in²				
		O.3.1	Graphite						

*** Tensile Strength at Rupture (Rm)**

7

Cutting data standard values

	Cutting Material **hard** (v_c↑) → **tough** (v_c↓)															
	DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN				DRAGONSKIN			
	CERMET CTEP210		CERMET TCM10		CTCP220		CTPP225		CTCP230		CTPP231		CTPP235		CTPP236	
Index																
P.1.1	1130		960		1120	560	870	520	940	500	660	330	810	450	990	590
P.1.2	1000		850		1020	510	770	470	800	440	560	300	690	400	890	530
P.1.3	870		740		920	460	680	430	670	390	460	260	570	350	740	430
P.1.4	820		710		890	450	650	410	620	370	560	300	530	330	890	530
P.1.5	760		650		840	420	610	390	560	350	530	300	470	310	790	460
P.2.1	1020		870		1030	520	790	480	820	450	560	300	700	410	890	530
P.2.2	810		700		880	440	650	410	610	370	430	230	520	330	660	400
P.2.3	760		650		840	420	610	390	560	350	560	300	470	310	890	530
P.2.4	600		520		730	360	500	340	390	280	400	200	320	250	590	360
P.3.1					460	230	430	210	460	290	560	300	400	320	890	530
P.3.2					310	170	330	170	300	180	460	260	360	270	590	460
P.3.3					170	100	230	120	130	70	400	230	320	230	500	400
P.4.1					460	230	430	210	460	290	460	260	400	320	590	460
P.4.2					390	200	380	190	380	230	430	230	380	300	560	430
M.1.1											560	300	400	320	890	530
M.2.1													360	270		
M.3.1													390	310		
K.1.1									1020	630	1190	300			500	360
K.1.2	990		790						530	330	1190	300			500	360
K.2.1	1160		920						660	400	760	560			500	360
K.2.2	990		790						430	260	530	360			500	360
K.3.1	990		790						630	380	690	530				
K.3.2									530	330	690	530				
N.1.1																
N.1.2																
N.2.1													500	360		
N.2.2													500	360		
N.2.3													500	360		
N.3.1													500	360		
N.3.2																
N.3.3																
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1																
S.3.2																
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

Cutting data standard values

	Cutting Material **hard** (v_c↑) → **tough** (v_c↓)															
	DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN					
													CERAMIC		CBN	
	CTPM225		CTCM235		CTPM240		CTPM241		CTPM245		CTCM245		CTN3105		CTL3215	
Index	✗	🚰	✗	🚰	✗	🚰	✗	🚰	✗	🚰	✗	🚰	✗	🚰	✗	🚰
P.1.1	900	630	830	610	750	470	660	330	800	460	920	440				
P.1.2	760	540	690	500	620	420	560	300	680	410	800	390				
P.1.3	640	450	570	410	500	370	460	230	570	360	680	340				
P.1.4	600	430	530	370	460	350	560	300	530	340	650	330				
P.1.5	530	380	470	330	400	330	500	260	480	320	590	300				
P.2.1	780	550	710	520	640	420	560	300	700	420	820	400				
P.2.2	580	420	520	370	450	350	400	200	520	340	640	320				
P.2.3	530	380	470	330	400	330	560	300	480	320	590	300				
P.2.4	380	280	310	210	260	270	360	200	330	260	450	240				
P.3.1	490	400	450	380	410	350	690	330	510	350	580	400				
P.3.2	400	330	420	360	370	310	590	330	470	310	540	360				
P.3.3	310	270	400	350	320	280	530	300	430	260	500	310				
P.4.1	490	400	450	380	410	350	460	300	510	350	580	400				
P.4.2	440	370	440	370	390	330	430	260	490	330	560	380				
M.1.1	**490**	**400**	**450**	**380**	**410**	**350**	**690**	**330**	**510**	**350**	**580**	**400**				
M.2.1	**400**	**330**	**420**	**360**	**370**	**310**	**590**	**300**	**470**	**310**	**540**	**360**				
M.3.1	**460**	**380**	**440**	**380**	**400**	**340**	**690**	**330**	**500**	**340**	**570**	**390**				
K.1.1													**2640**		**2640**	
K.1.2													**1980**		**1980**	
K.2.1																
K.2.2															**1490**	
K.3.1																
K.3.2																
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1																
N.3.2																
N.3.3																
N.4.1																
S.1.1								200				260				
S.1.2								200				230				
S.2.1								200				120				
S.2.2								200				80				
S.2.3								200				100				
S.3.1								200								
S.3.2								200								
S.3.3								200								
H.1.1																
H.1.2															500	
H.1.3																
H.1.4																
H.2.1															920	
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

7

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

Cutting data standard values

Cutting Material **hard** (v_c↑) → **tough** (v_c↓)

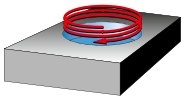
Index	CTCK215		CTPK220		CTPK221		AMZ		H216T		CTWN215		CTC5240		CTCS245		CTP6215	
	DRAGONSKIN		DRAGONSKIN										DRAGONSKIN					
P.1.1					630	400												
P.1.2					590	330												
P.1.3					500	260												
P.1.4					590	330												
P.1.5					560	300												
P.2.1					590	330												
P.2.2					460	260												
P.2.3					590	330												
P.2.4					430	260												
P.3.1					690	400												
P.3.2					530	300												
P.3.3					430	260												
P.4.1					690	400												
P.4.2					630	330												
M.1.1																		
M.2.1																		
M.3.1																		
K.1.1	1190	690	1060	630	890	660	660		430	430	430	430					920	830
K.1.2	730	430	560	330	890	660	530		360	360	360	360					630	530
K.2.1	760	460	690	430	830	590	610		430	430	430	430					590	500
K.2.2	530	330	460	300	590	400	500		400	400	400	400					590	500
K.3.1	830	500	660	400	730	560	660		430	430	430	430					830	730
K.3.2	690	430	560	330	730	560	580		360	360	360	400					630	530
N.1.1								4950		4950		4950						
N.1.2								3300		3300		3300						
N.2.1								3960		3630		3630						
N.2.2								3960		3300		3300						
N.2.3								990		920		920						
N.3.1								1160		1160		1160						
N.3.2								1160		1160		1160						
N.3.3								1060		1060		1060						
N.4.1								1060		1060		1060						
S.1.1														260		210		
S.1.2														230		180		
S.2.1														120		90		
S.2.2														80		70		
S.2.3														100		80		
S.3.1														260		210		
S.3.2														170		130		
S.3.3														130		110		
H.1.1																	170	
H.1.2																	130	
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1								530	530	530	530	530						
O.1.2																		
O.2.1								590	790	790	790	790						
O.2.2																		
O.3.1																		

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

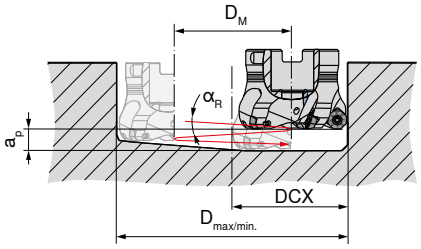
System MaxiMill 274-04/-09

Machining strategy

Helical plunge milling



$D_{max.}$ in inch = largest diameter for flat bottom hole
$D_{min.}$ in inch = smallest hole diameter for flat bottom surface
D_M = D_{max} – DCX and D_{min} – DCX



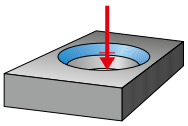
OF..04

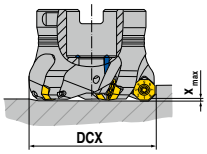
DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.01	1.77	1.54	2.3
1.21	2.17	1.93	1.9
1.48	2.72	2.48	1.4
1.80	3.35	3.11	1.2
2.19	4.13	3.90	0.9
2.70	5.16	4.92	0.7
3.37	6.50	6.26	0.6
4.16	8.07	7.83	0.5
5.15	10.04	9.80	0.4

SF..09

DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.08	1.77	1.65	1.9
1.28	2.17	2.05	1.5
1.54	2.72	2.60	1.1
1.87	3.35	3.23	0.9
2.27	4.13	4.02	0.7
2.78	5.16	5.04	0.5
3.44	6.50	6.38	0.4
4.23	8.07	7.95	0.3
5.22	10.04	9.92	0.3

Axial plunging





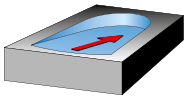
OF..04

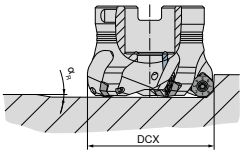
DCX inch	x_{max} inch
1.01	0.10
1.21	0.10
1.48	0.10
1.80	0.10
2.19	0.10
2.70	0.10
3.37	0.10
4.16	0.10
5.15	0.10

SF..09

DCX inch	x_{max} inch
1.08	0.15
1.28	0.14
1.54	0.13
1.87	0.12
2.27	0.12
2.78	0.12
3.44	0.11
4.23	0.11
5.22	0.11

Angled ramping





OF..04

DCX inch	$\alpha_{R\,max}$ °
1.01	14.2
1.21	9.5
1.48	6.5
1.80	4.7
2.19	3.5
2.70	2.7
3.37	2.0
4.16	1.6
5.15	1.2

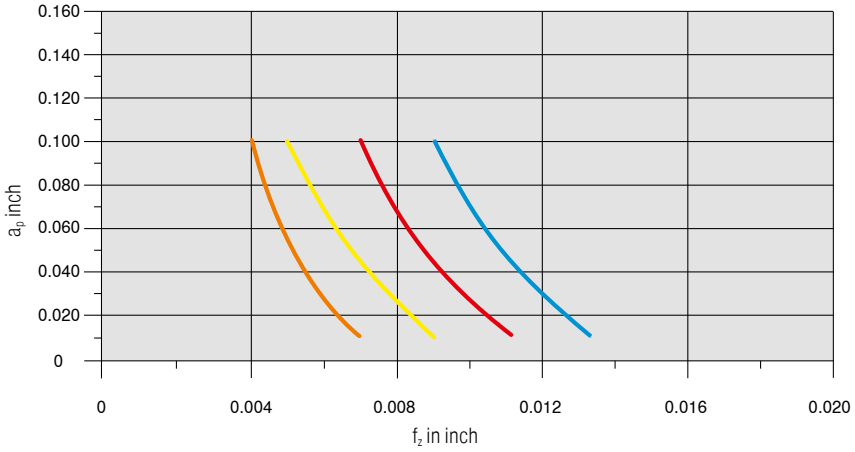
SF..09

DCX inch	$\alpha_{R\,max}$ °
1.08	20.4
1.28	13.0
1.54	8.0
1.87	5.8
2.27	4.3
2.78	3.2
3.44	2.3
4.23	1.7
5.22	1.3

System MaxiMill 274-04

Starting Parameter

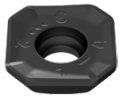
OF.. 04



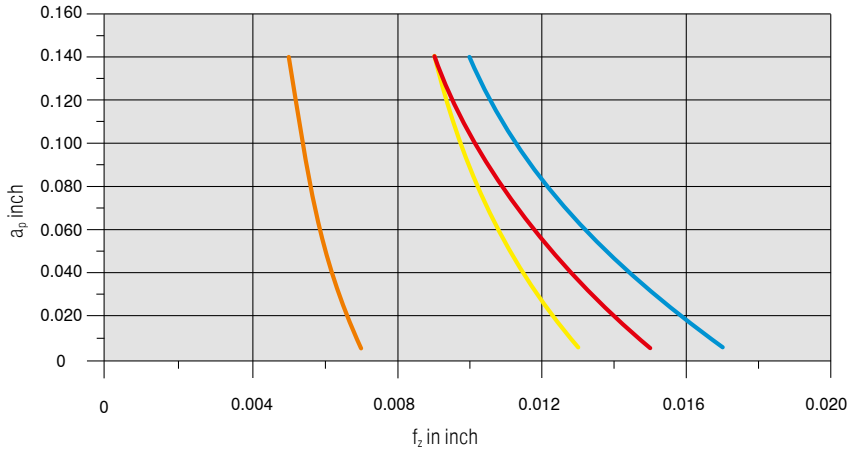
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**OFHT040305SN-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**OFHT040305SN-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**OFHT040305SN-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OFHT040305SN-F50**	**CTC5240**	115	Emulsion

System MaxiMill 274-09

Starting Parameter



SF.. 09



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SFKT0903AFSR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SFHT0903AFSR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SFKT0903AFSR-R50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SFHT0903AFSR-F50**	**CTC5240**	115	Emulsion

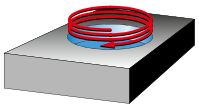
Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

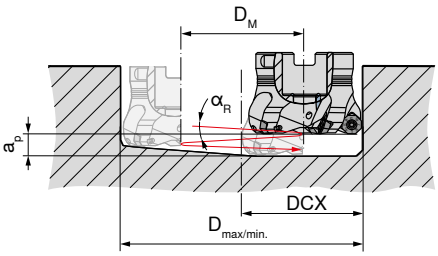
System MaxiMill 274-05/-12

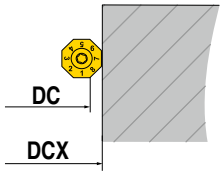
Machining strategy

Helical plunge milling



$D_{max.}$ in inch = largest diameter for flat bottom hole
$D_{min.}$ in inch = smallest hole diameter for flat bottom surface
D_M = D_{max} – DCX and D_{min} – DCX





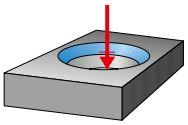
OF..05

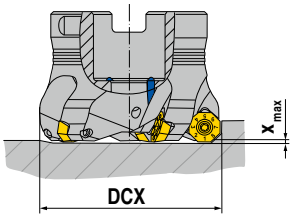
DC inch	DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.97	**2.28**	4.21	3.90	1.1
2.48	**2.80**	5.24	4.92	0.9
3.15	**3.46**	6.57	6.26	0.7
3.94	**4.25**	8.15	7.83	0.5
4.92	**5.23**	10.12	9.80	0.4

SF..12

DC inch	DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.85	**2.40**	4.21	4.13	0.5
2.36	**2.91**	5.24	5.16	0.4
3.03	**3.58**	6.57	6.50	0.3
3.81	**4.37**	8.15	8.07	0.25
4.80	**5.35**	10.12	10.04	0.2

Axial plunging





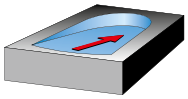
OF..05

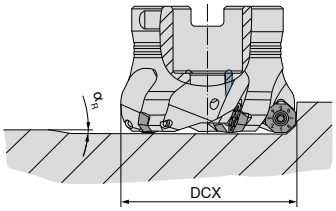
DC inch	DCX inch	X_{max} inch
1.97	**2.28**	0.09
2.48	**2.80**	0.07
3.15	**3.46**	0.07
3.94	**4.25**	0.04
4.92	**5.23**	0.06

SF..12

DC inch	DCX inch	X_{max} inch
1.85	**2.40**	0.13
2.36	**2.91**	0.13
3.03	**3.58**	0.12
3.81	**4.37**	0.10
4.80	**5.35**	0.10

Angled ramping





OF..05

DC inch	DCX inch	$\alpha_{R\,max}$ °
1.97	**2.28**	3.2
2.48	**2.80**	2.0
3.15	**3.46**	1.5
3.94	**4.25**	0.7
4.92	**5.23**	0.7

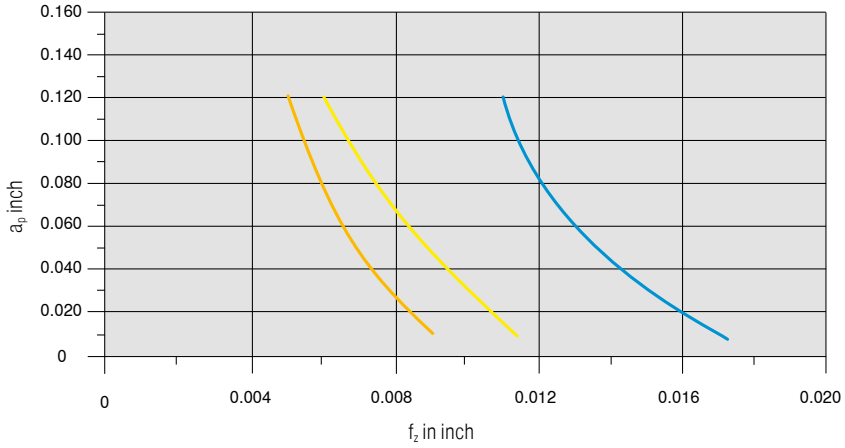
SF..12

DC inch	DCX inch	$\alpha_{R\,max}$ °
1.85	**2.40**	4.9
2.36	**2.91**	3.4
3.03	**3.58**	2.4
3.81	**4.37**	1.6
4.80	**5.35**	1.3

System MaxiMill 274-05

Starting Parameter

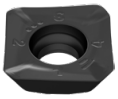
OF.. 05



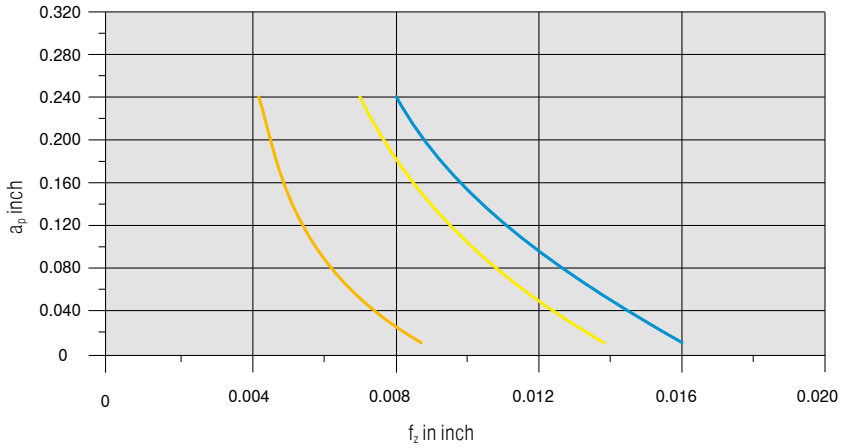
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**OFHT050410SN-M50**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**OFHT050410SN-F50**	**CTPM240**	600	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OFHT050410SN-F50**	**CTC5240**	115	Emulsion

System MaxiMill 274-12

Starting Parameter



SF.. 12



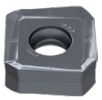
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SFKT1204AFSR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SFKT1204AFSR-M50**	**CTPM240**	600	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SFHT1204AFER-F40**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

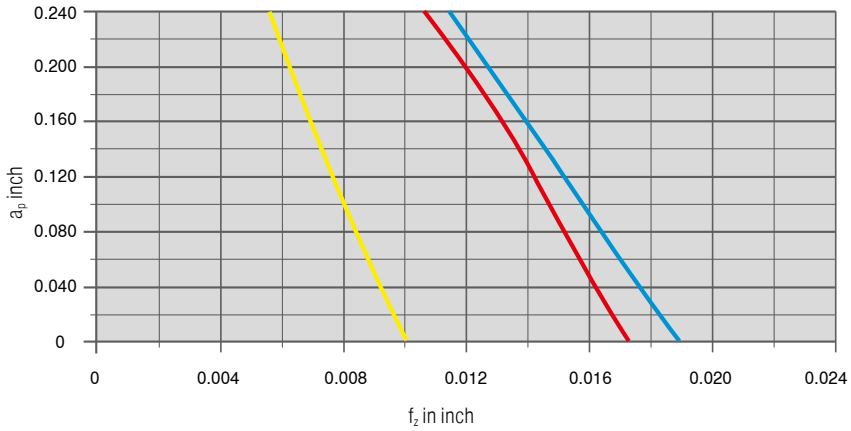
From v_c > 1300 SFM, the tool must be balanced!

MaxiMill 271-12 system

Starting Parameter



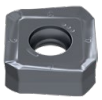
SOHU 12



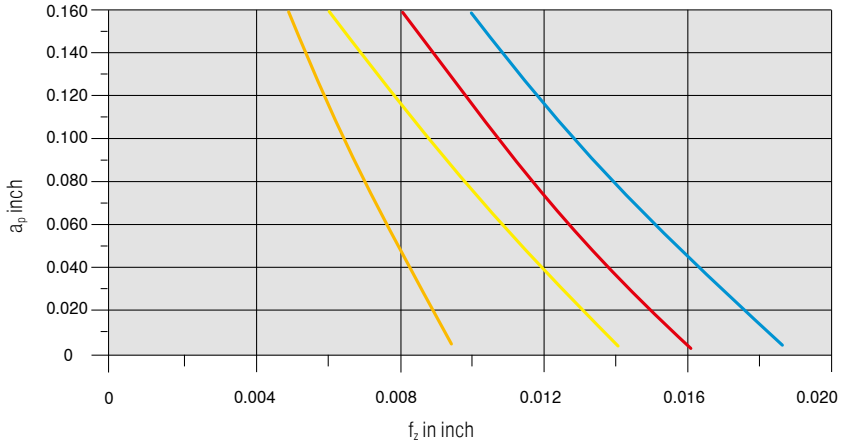
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SOHU 1204ABSR-M50**	**CTPP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SOHU 1204ABSR**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SOHU 1204ABSR-R50**	**CTCK215**	990	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SOHU 1204ABSR-F50**	**CTC5240**	115	Emulsion

System MaxiMill 271-17

Starting Parameter



SAKU 17



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SAKU 1706ABSR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SAKU 1706ABSR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SAKU 1706ABSR-R50**	**CTCK215**	990	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SAKU 1706ABSR-F50**	**CTC5240**	115	Emulsion

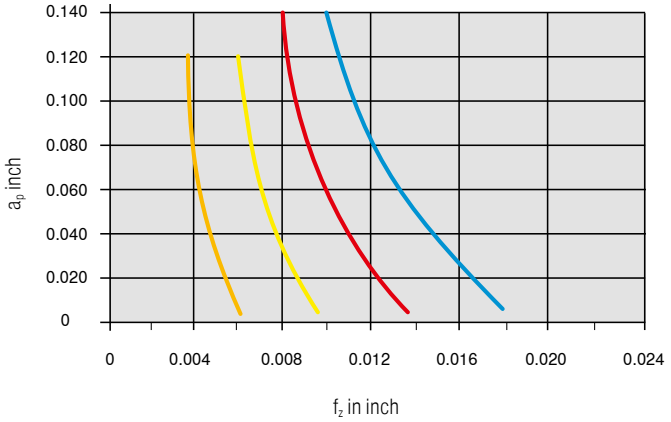
Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

MaxiMill 273 system

Starting Parameter

OAKU



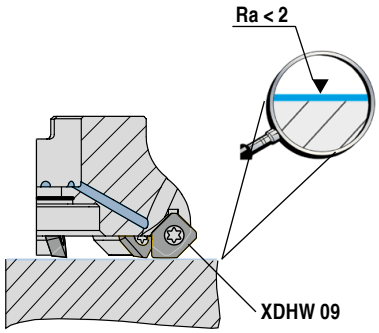
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**OAKU 060508SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**OAKU 060508SR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**OAKU 060508SR-R50**	**CTCK215**	990	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OAKU 060508ER-F40**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

MaxiMill 270 system

Machining strategy

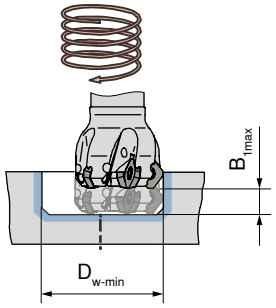


Finish milling with wiper inserts

Two wiper inserts are mounted in each 5.000" head

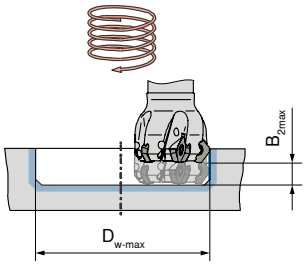

Steel	SDNT	0903AESN-29	CTPP235	+	XDHW	0903AESN	CTPP235
	SDNT	0903AESN-29	CTCP230	+	XDHW	0903AESN	CTCP230
	SDHT	0903AESN-33	CTCP230	+	XDHW	0903AESN	CTCP230
	SDHW	0903AESN	TCM10	+	XDHW	0903AESN	TCM10
Cast iron	SDNT	0903AESN-31	CTCK215	+	XDHW	0903AEEN	CTCK215
Non-ferrous metals	SDHT	0903AEFN-ALP	-27P H216T	+	XDHW	0903AEFN	-27P H216T

Helical plunge milling (without start hole)



C 270-09

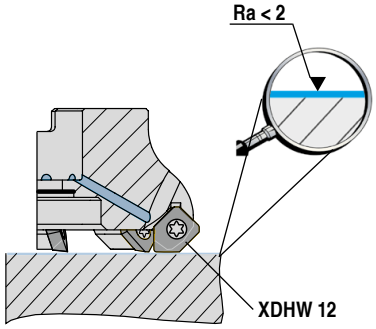
DC inch	$D_{w\text{-}min}$ inch	$B_{1\,max}$ inch	$D_{w\text{-}max}$ inch	$B_{2\,max}$ inch
0.25	0.57	0.06	0.75	0.06
0.50	1.12	0.06	1.22	0.06
0.63	1.44	0.06	1.54	0.06
0.75	1.75	0.06	1.85	0.06
1.00	2.15	0.06	2.24	0.06
1.25	2.70	0.06	2.80	0.06



A 270-09

DC inch	$D_{w\text{-}min}$ inch	$B_{1\,max}$ inch	$D_{w\text{-}max}$ inch	$B_{2\,max}$ inch
1.25	2.70	0.06	2.80	0.06
1.50	3.33	0.06	3.43	0.06
2.00	4.11	0.06	4.21	0.06
2.50	5.14	0.06	5.24	0.06
3.00	6.48	0.06	6.57	0.06
4.00	8.05	0.06	8.15	0.06
5.00	10.02	0.06	10.12	0.06
6.00	12.78	0.06	12.87	0.06

System MaxiMill 270-12

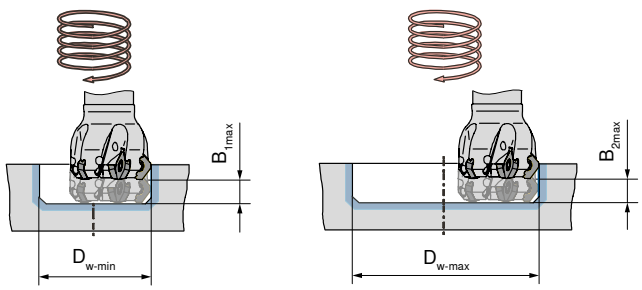


Finish milling with wiper inserts

Two wiper inserts are mounted in each 5.000" head


Steel	SDMT	1204AESN-29R	CTPP235	+	XDHW	1204AESN	CTPP235
	SDMT	1204AESN-29R	CTCP230	+	XDHW	1204AESN	CTCP230
	SDHW	1204AESN-R	TCM10	+	XDHW	1204AESN	TCM10
Cast iron	SDMT	1204AEEN-31	CTCK215	+	XDHW	1204AEEN	CTCK215
	SDHW	1204AESN-R	CTCK215	+	XDHW	1204AEEN	CTCK215
Non-ferrous metals	SDHT	1204AEFN-ALP	-27P H216T	+	XDHW	1204AEFN	-27P H216T

Helical plunge milling (without start hole)

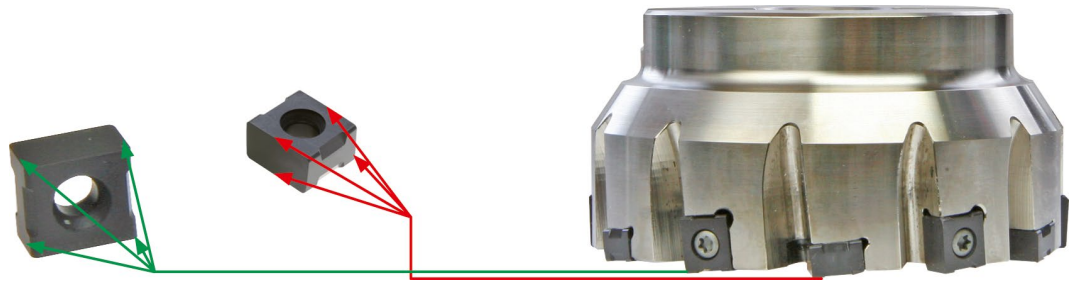


DC inch	$D_{w\text{-}min}$ inch	$B_{1\,max}$ inch	$D_{w\text{-}max}$ inch	$B_{2\,max}$ inch
1.25	2.93	0.06	3.07	0.06
1.50	3.56	0.06	3.70	0.06
2.00	4.35	0.06	4.49	0.06
2.50	5.37	0.06	5.51	0.06
3.00	6.71	0.06	6.85	0.06
4.00	8.29	0.06	8.43	0.06
5.00	10.26	0.06	10.39	0.06
6.00	13.01	0.06	13.15	0.06

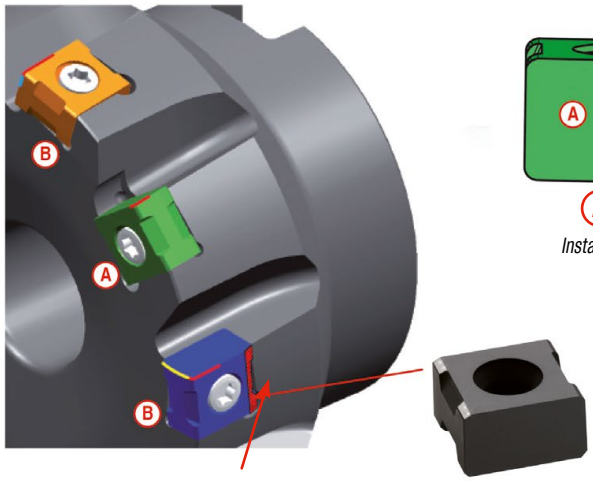
From v_c > 1300 SFM, the tool must be balanced!

MaxiMill HEC 11 / HEC 12 system

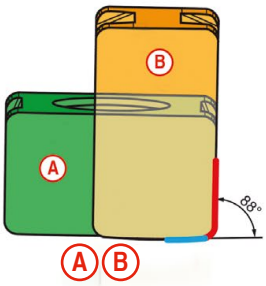
4 cutting edges per installation position



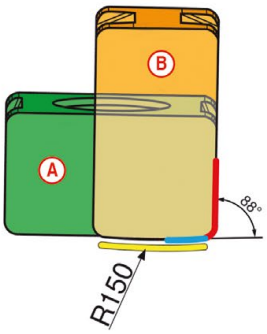
Correct assembly of standard and wiper inserts



Marking for the correct assembly



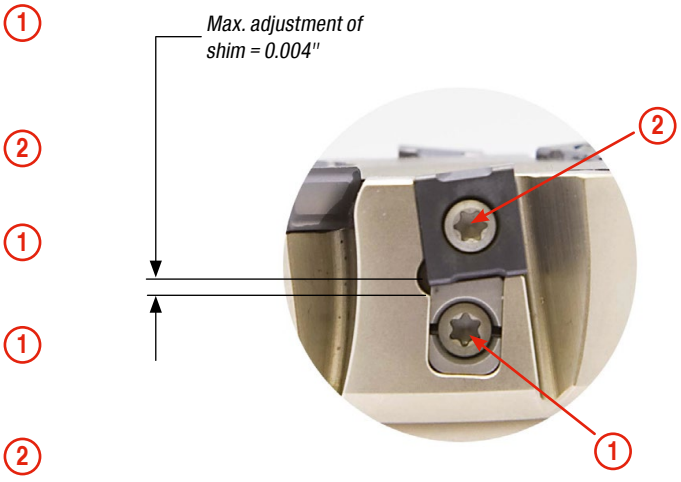
Installation position



Face machining insert — B
Insert main cutting edge — A B
Wiper Facet — B

Adjust the tools in axial direction

- Install the wedge into the cutter body and lightly clamp the clamping screw so as not to clamp.
- Install the inserts as shown and tighten to 1,0 Nm torque.
- Using pre-setting equipment, mark the highest cutting edge.
- With small adjustments of the setting screw set all cutting edges to the same height by 0.0002" or better.
- Clamp insert with 3,2 Nm torque.



Average chip thickness [h_m] – the approach

Face milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m inch
for steel	...–800	0.008
for steel	800–1000	0.007
for steel	1000–1200	0.006
for steel	1200–...	0.006
for stainless steel	... –750	0.008
for stainless steel	750–900	0.007
for stainless steel	900–1150	0.007
for stainless steel	1150– ...	0.006

2 Select the corrected feed rate value from the table based on the appropriate chip thickness [h_m] and depth of cut [a_e].

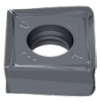
h_m inch	Corrected feed value f_z for h_m			
0.008	0.016 **	0.016 **	0.013	0.011
0.007	0.016 **	0.016 **	0.011	0.010
0.006	0.016 **	0.014	0.010	0.009
0.006	0.014	0.012	0.009	0.008
0.008	0.016 **	0.016 **	0.013	0.012
0.007	0.016 **	0.016 **	0.012	0.011
0.007	0.016 **	0.015	0.011	0.009
0.006	0.015	0.013	0.009	0.008
a_e =	**0.012 x DC**	**0.016 x DC**	**0.030 x DC**	**0.040 x DC**

** f_z > 0,016": Danger of an open space contact

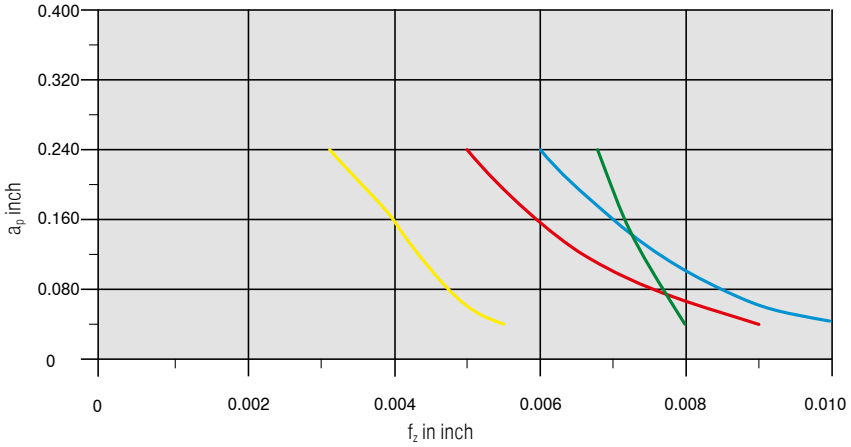
7

MaxiMill 491-09 system

Starting Parameter



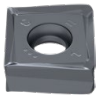
SNHU 09



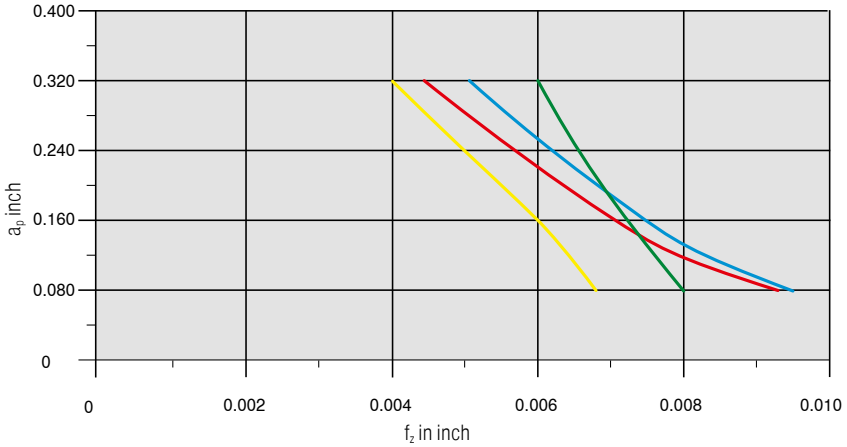
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SNHU09T308SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SNHU09T308SR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SNHU09T308SR-R50**	**CTCK215**	825	Dry
Non-ferrous metals	**N.1.2**	Aluminum	**SNHU09T308FR-F10**	**CTWN215**	1650	Emulsion

MaxiMill 491-12 system

Starting Parameter



SNHU 12



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SNHU120408SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SNHU120408SR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SNHU120408SR-R50**	**CTCK215**	825	Dry
Non-ferrous metals	**N.1.2**	Aluminum	**SNHU120408FR-F10**	**CTC5240**	1650	Emulsion

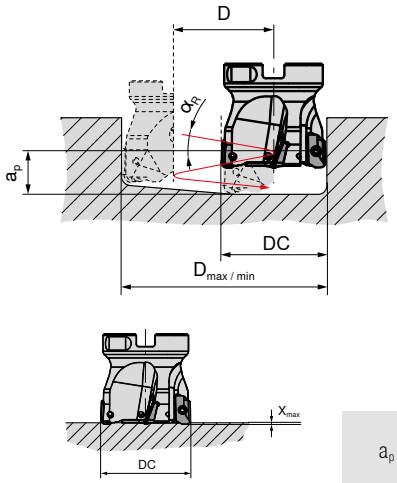
Detailed information on cutting speed for each grade can be found on → page **98–100**

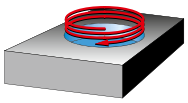
From v_c > 1300 SFM, the tool must be balanced!

System MaxiMill 211-07

Machining strategy

Helical plunge milling



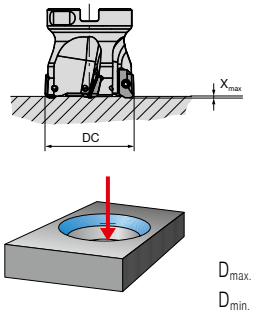


a_p inch = D * π * tan α_R

DC inch	D_{max} / RE 0.4 inch	D_{min} inch	$\alpha_{R\,max}$ °
0.39	0.75	0.51	5.5
0.50	0.91	0.67	6.0
0.63	1.22	0.98	3.0
0.75	1.54	1.30	2.0
1.00	1.93	1.69	1.5
1.25	2.48	2.24	1.2
1.50	3.11	2.87	0.8
2.00	3.90	3.66	0.7

DC inch	D inch	$\alpha_{R\,max\,360°}$ °
0.39	0.51	5.5
0.50	0.67	6.0
0.63	0.98	3.0
0.75	1.30	2.0
1.00	1.69	1.5
1.25	2.24	1.2
1.50	2.87	0.8
2.00	3.66	0.7

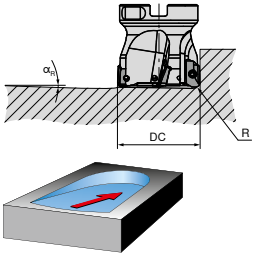
Axial plunging



DC inch	X_{max} inch
0.39	0.03
0.50	0.03
0.63	0.03
0.75	0.03
1.00	0.03
1.25	0.03
1.50	0.03
2.00	0.03

$D_{max.}$ in inch = largest diameter for flat bottom hole
$D_{min.}$ in inch = smallest hole diameter for flat bottom surface

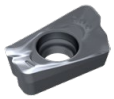
Angled ramping



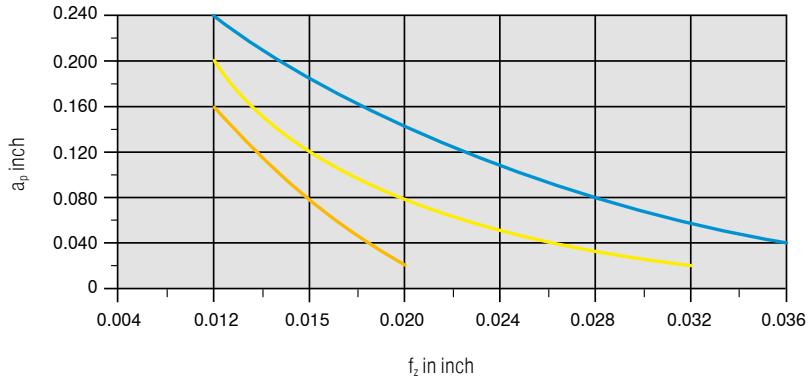
DC inch	α °
0.39	11.0
0.50	7.9
0.63	4.3
0.75	3.0
1.00	2.5
1.25	1.6
1.50	1.2
2.00	1.0

D = D_{max} - DC / D_{min} - DC

Starting Parameter



XDKT 07



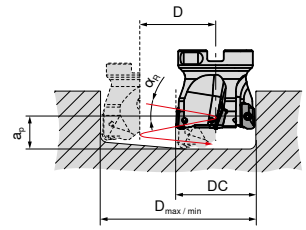
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDKT070308SR-M50**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XDKT070308SR-F50**	**CTPM240**	600	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDKT070308ER-F50**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

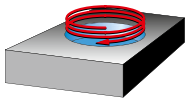
From v_c > 1300 SFM, the tool must be balanced!

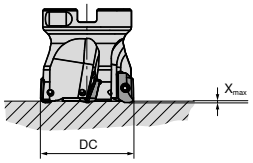
System MaxiMill 211-11

Machining strategy

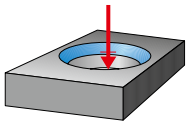


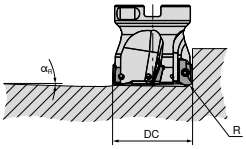
① Helical plunge milling



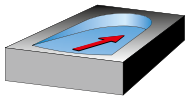


② Axial plunging





③ Angled ramping



DC inch	① Helical plunge milling RE = 0.032"	② Axial plunging X_{max}	③ Angled ramping α_R
0.50	α_R 16 ° $D_{max.}$ 0.83" $D_{min.}$ 0.55"	0.056“	18 °
0.63	α_R 9.5 ° $D_{max.}$ 1.14" $D_{min.}$ 0.83"	0.060"	10.8 °
0.75	α_R 7 ° $D_{max.}$ 1.45" $D_{min.}$ 1.18"	0.080"	9.8 °
1.00	α_R 4.5 ° $D_{max.}$ 1.85" $D_{min.}$ 1.57"	0.080"	7.5 °
1.25	α_R 3.2 ° $D_{max.}$ 2.40" $D_{min.}$ 2.08"	0.040"	4.8 °
1.50	α_R 2.2 ° $D_{max.}$ 3.03" $D_{min.}$ 2.83"	0.064"	2.9 °
2.00	α_R 1.7 ° $D_{max.}$ 3.85" $D_{min.}$ 3.66"	0.064"	2.2 °
2.50	α_R 1.5 ° $D_{max.}$ 4.84" $D_{min.}$ 4.57"	0.064"	1.8 °
3.00	α_R 1.0 ° $D_{max.}$ 6.18" $D_{min.}$ 6.03"	0.064"	1.4 °
4.00	α_R 0.8 ° $D_{max.}$ 4.21" $D_{min.}$ 3.97“	0.064"	1.1 °

$D_{max.}$ in inch = largest diameter for flat bottom hole

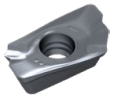
$D_{min.}$ in inch = Smallest diameter for flat bottom surface

a_p inch = D x π x tan (α_R) = Pitch

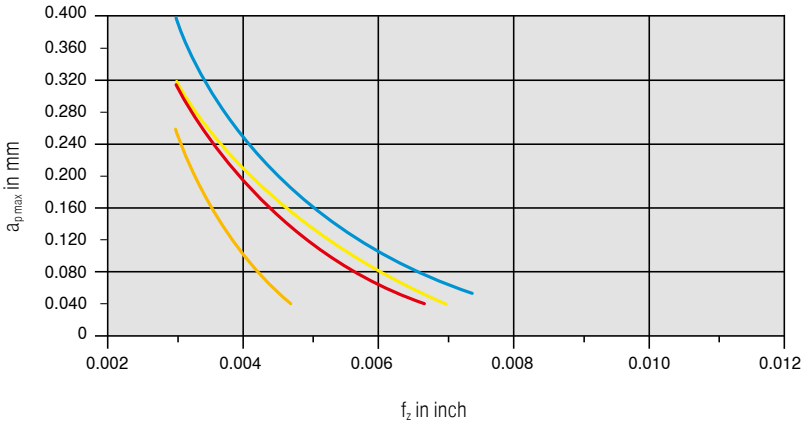
l_a in mm = Overhang length

DC inch	Maximum speed related to projection length n_{max} in min^{-1}				
	l_a = 1–2 x Ø inch	l_a = 2.5 x Ø inch	l_a = 3 x Ø inch	l_a = 4 x Ø inch	l_a = 5 x Ø inch
0.50	55000	51500	47000	42000	37000
0.63	42000	38500	34100	28900	24200
0.75	36900	33000	28500	23900	19500
1.00	33200	29000	24400	19900	15400
1.25	30200	26000	20900	16600	11900
1.50	27700	23000	18000	13500	9000
2.00	25400	20400	15400	10800	6100
2.50	23300	18300	12900	8300	3700
3.00	21300	16100	10600	5800	
4.00	19600	14100	8400		

Starting Parameter



XDKT 11



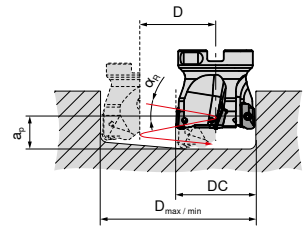
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDKT11T308SR-M50**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XDKT11T308SR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XDKT11T308SR-R50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDKT11T308ER-F50**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

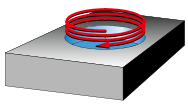
From v_c > 1300 SFM, the tool must be balanced!

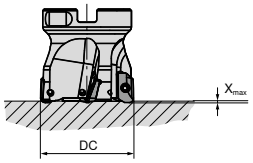
System MaxiMill 211-15

Machining strategy

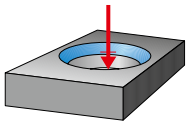


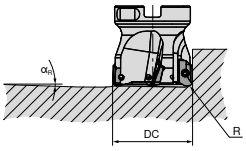
① Helical plunge milling



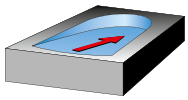


② Axial plunging





③ Angled ramping



DC inch	Helical plunge milling RE = 0.032“	Axial plunging X_{max}	Angled ramping α_R
1.00	α_R 7.5 ° $D_{max.}$ 1.89“ $D_{min.}$ 1.45“	0.108“	9.5 °
1.25	α_R 5 ° $D_{max.}$ 2.44“ $D_{min.}$ 1.85“	0.060“	6.8 °
1.50	α_R 3.2 ° $D_{max.}$ 3.07“ $D_{min.}$ 2.48“	0.060“	5.1 °
2.00	α_R 2.5 ° $D_{max.}$ 3.86“ $D_{min.}$ 3.38“	0.060“	2.5 °
2.50	α_R 1.5 ° $D_{max.}$ 4.88“ $D_{min.}$ 4.37“	0.060“	2.5 °
3.00	α_R 1.3 ° $D_{max.}$ 6.22“ $D_{min.}$ 5.78“	0.060“	2.0 °
4.00	α_R 1.1 ° $D_{max.}$ 7.80“ $D_{min.}$ 7.48“	0.060“	1.5 °
5.00	α_R 0.9 ° $D_{max.}$ 9.76“ $D_{min.}$ 9.45“	0.060“	0.9 °
6.00	α_R 0.6 ° $D_{max.}$ 12.52“ $D_{min.}$ 12.20“	0.060“	0.7 °
8.00	α_R 0.8 ° $D_{max.}$ 4.21“ $D_{min.}$ 3.97“	0.064“	1.1 °

$D_{max.}$ in inch = largest diameter for flat bottom hole

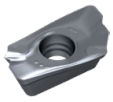
$D_{min.}$ in inch = Smallest diameter for flat bottom surface

a_p inch = D x π x tan (α_R) = Pitch

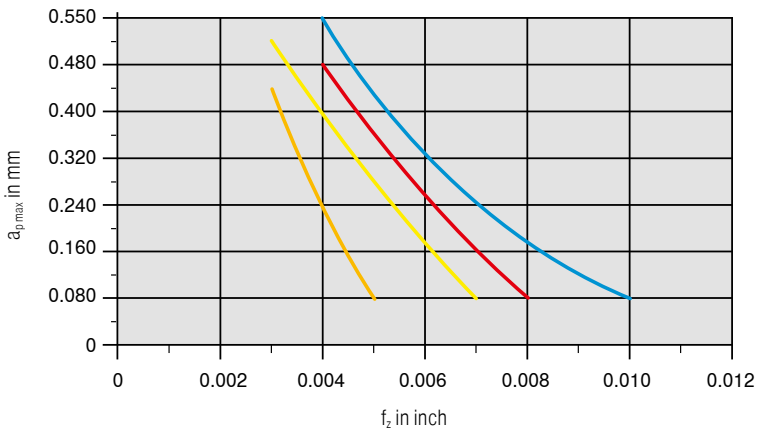
l_a in mm = Overhang length

DC inch	Maximum speed related to projection length n_{max} in min^{-1} $l_a = 2 \times Ø$ inch	$l_a = 3 \times Ø$ inch	$l_a = 5 \times Ø$ inch
1.00	26560	19520	13320
1.25	24160	16720	9520
1.50	22160	14400	7200
2.00	20320	12320	4880
2.50	18640	10320	2960
3.00	17040	8480	
4.00	15680	6720	
5.00	14320		
6.00	13200		

Starting Parameter



XDKT 15



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDKT150508SR-M50**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XDKT150508SR-F50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XDKT150508SR-R50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDKT150508ER-F40**	**CTC5240**	115	Emulsion

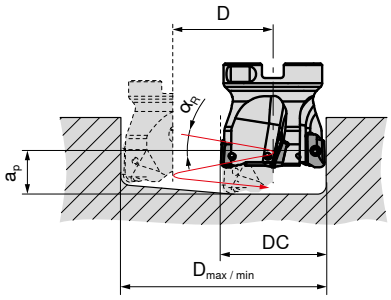
Detailed information on cutting speed for each grade can be found on → page **98–100**

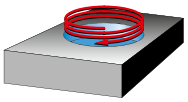
From v_c > 1300 SFM, the tool must be balanced!

System MaxiMill 211-20

Machining strategy

Helical plunge milling

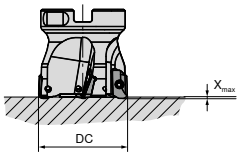


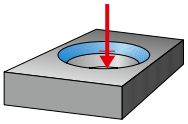


DC inch	D_{max} / RE 0.016 inch	D_{min} inch	$\alpha_{R\,max}$ °
2.50	4.882	4.213	2.2
3.00	6.220	5.630	1.7
4.00	7.795	7.205	1.3

a_p inch $= D * \pi * \tan \alpha_R$

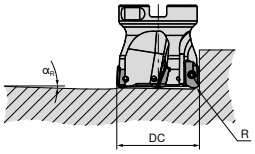
Axial plunging

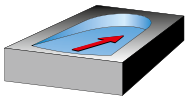




DC inch	X_{max} inch
2.50	0.100
3.00	0.100
4.00	0.100

Angled ramping



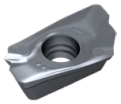


DC inch	α °
2.50	2.2
3.00	1.7
4.00	1.3

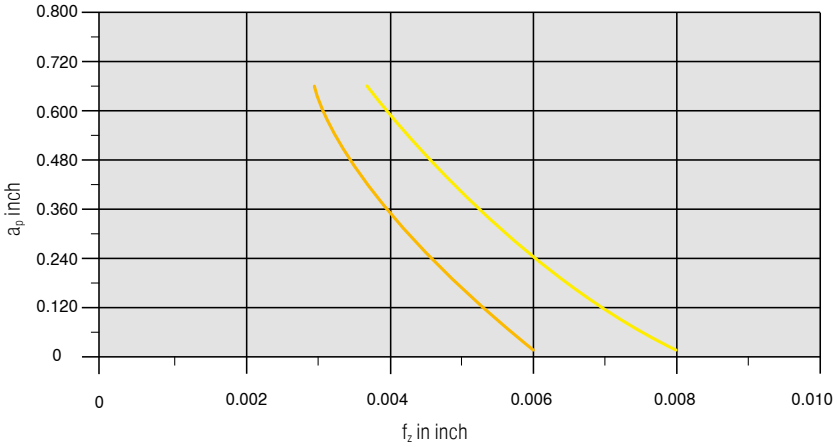
$D = D_{max} - DC / D_{min} - DC$

$D_{max.}$ in inch = largest diameter for flat bottom hole
$D_{min.}$ in inch = smallest hole diameter for flat bottom surface

Starting Parameter



XDKT 20



Material			Inserts		v_c in ft/min	Cooling
Stainless steel	**M.1.1**	316Ti	**XDKT200708ER-F40**	**CTPM240**	600	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDKT200708ER-F40**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

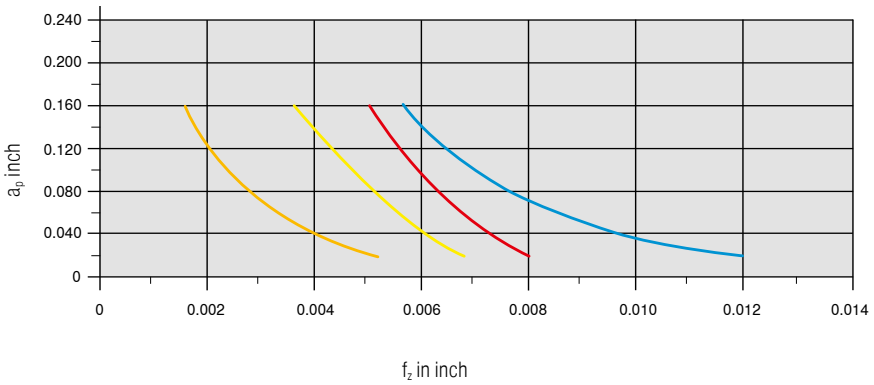
System MaxiMill 490-09

Machining strategy

System MaxiMill 490-09 is not suitable for plunging!

Starting Parameter

SDNT 09



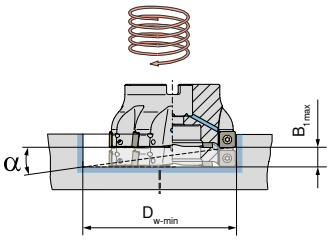
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SDNT09T308SR-29**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SDNT09T308SR-33**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SDNT09T308SR-31**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SDNT09T308ER-M31**	**CTC5240**	115	Emulsion

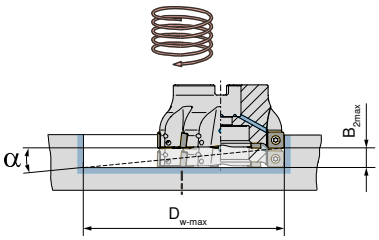
Detailed information on cutting speed for each grade can be found on → page **98–100**

System MaxiMill 490-12

Machining strategy

Helical plunge milling (without start hole)





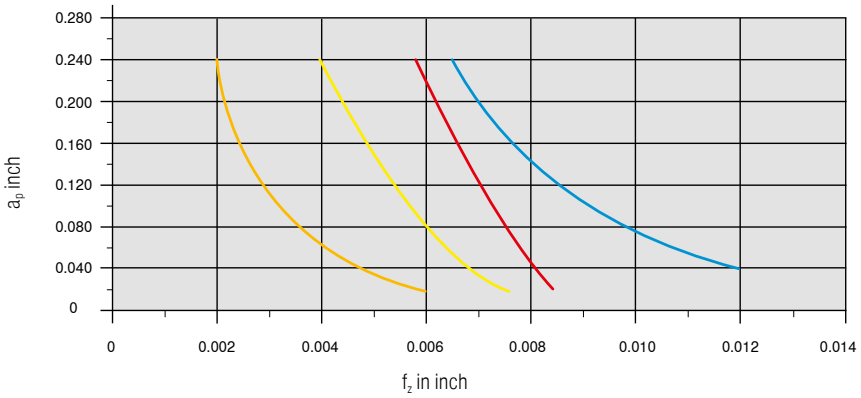
$$B = (D_W - DC) \times \pi \times \tan \alpha$$

D_w = Diameter of the hole to be produced
DC = Nominal diameter of the milling tool
B = Axial feed to 360° circular movement

DC inch	$D_{w\text{-}min}$ inch	$B_{1\,max}$ inch	$D_{w\text{-}max}$ inch	$B_{2\,max}$ inch	α °
2.00	3.031	0.098	3.858	0.189	2,0
2.50	4.055	0.071	4.882	0.118	1,0
3.00	5.394	0.083	6.220	0.118	0,8
4.00	6.969	0.083	7.795	0.114	0,6
5.00	8.937	0.071	9.764	0.094	0,4

Starting Parameter

SDMT 12



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SDMT1205ZZSN-29**	**CTCP230**	660	Dry
Stainless steel	**M.1.1**	316Ti	**SDMT120512SR-33**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**SDMT1205ZZSN-31**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SDMT120508ER-M31**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

HSC machining

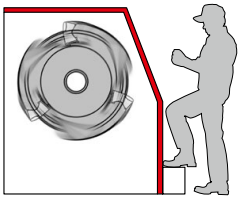
Safety advice

Suitability of the tool for HSC machining

HSC tools from CERATIZIT have been specially developed for this machining strategy and guarantee maximum operational reliability.

Observation of safety precautions of the machine manufacturer

Make sure that all safety precautions of the machine-manufacturer are observed (e.g.: closed machine guards).

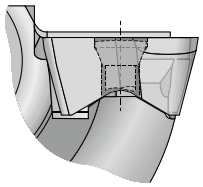


Suitability of the adapters for HSC machining

According to the milling situation, choose the optimum tool/clamping device combination. For high speed milling applications it is necessary to dynamically balance tool and tool adapter together (see ISO 1940 directives).

Mounting the indexable insert with centrifugal force protection

Insert clamping: EURO-patent EP 1083017A1
Make sure that the insert pocket is cleaned and the threading bore for the clamping screw is in good condition.
Check the axial and radial contact points of the insert in the pocket.
The clamping screws for positive insert clamping must be tightened with a torque of (XDHT11 = 1,8 Nm; XDH.19 = 6,0 Nm).



Maximum admissible number of revolutions

Please note the maximum number of revolutions stated on the tool. This number is exclusively valid for the specific tool and must be adapted according to the selected tool adapter, total overhang length and the respective machining situation.

Optimum application range of the tool (a_e, a_p, f_z, n)

In order to guarantee productive milling, please observe the recommendations regarding the cutting parameters.

Failure to comply with these safety regulations automatically excludes CERATIZIT from any liability

System MaxiMill HSC-11

Cutting data standard values

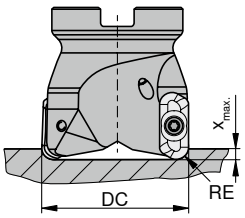
Workpiece material		Treatment / alloy		VDI 3323 Group	Hardness HB	H216T (CWK26) v_c in ft/min	H216T (CWK26) v_c in ft/min
N	Aluminum alloys,	non hardenable		21	60		660–9840
		hardenable		22	100		660–6560
	Cast aluminum alloy	non hardenable	< 12% Si	23	80		660–6560
		hardenable	< 12% Si	24	90		660–5900
		non hardenable	> 12% Si	25	130		660–3280
	Copper and copper alloys (Bronze, Brass)		Free-cutting steel alloy (1% Pb)	26			660–1970
			brass, red bronze	27	90	820–3280	820–3280
			bronze	28	100		490–1310
			lead-free copper and electrolytic copper	29	100		980–2620
O	Non metal materials		Duroplastics	29		260–3280	260–3280
			Fibre-reinforced plastics	29		230–1640	230–1640
			hard rubber	30		260–100	260–100

= full lubricant = Minimum quantity lubrication = dry machining

System MaxiMill HSC-11

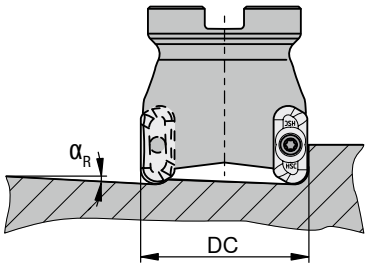
Machining strategy

Axial ramping



DC inch	11 RE 0.008–0.157 $x_{max.}$ inch
0.63	0.07
0.75	0.09
1.00	0.10
1.25	0.09
1.50	0.09
2.00	0.09
2.50	0.08
3.00	0.07
4.00	0.07

Linear ramping



DC inch	α_R °
0.63	18.8
0.75	15.3
1.00	10.3
1.25	6.8
1.50	4.8
2.00	3.5
2.50	2.5
3.00	1.8
4.00	1.3

Milling strategy for roughing and finishing

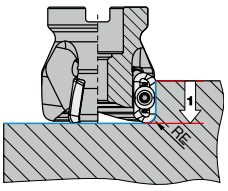
With maximum chip volume

Indexable Insert	RE inch	a_p inch	$a_{p\,max.}$ inch
XDHT 11T302FR-ALP	0.008	0.39	0.39
XDHT 11T304FR-ALP	0.016	0.39	0.38
XDHT 11T308FR-ALP	0.031	0.39	0.36
XDHT 11T312FR-ALP	0.047	0.39	0.35
XDHT 11T316FR-ALP	0.063	0.39	0.33
XDHT 11T320FR-ALP	0.079	0.39	0.31
XDHT 11T325FR-ALP	0.098	0.39	0.30
XDHT 11T332FR-ALP	0.126	0.39	0.27
XDHT 11T340FR-ALP	0.157	0.39	0.24
XDHT 11T350FR-ALP	0.197	0.39	0.20

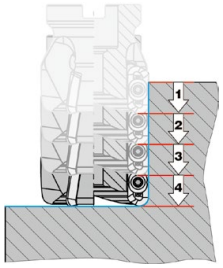
With maximum side wall quality

Indexable Insert	RE inch	$a_{p\,max.}$ inch
XDHT 11T302FR-ALP	0.008	0.31
XDHT 11T304FR-ALP	0.016	0.30
XDHT 11T308FR-ALP	0.031	0.28
XDHT 11T312FR-ALP	0.047	0.26
XDHT 11T316FR-ALP	0.063	0.27
XDHT 11T320FR-ALP	0.079	0.25
XDHT 11T325FR-ALP	0.098	0.22
XDHT 11T332FR-ALP	0.126	0.19
XDHT 11T340FR-ALP	0.157	0.16
XDHT 11T350FR-ALP	0.197	0.12

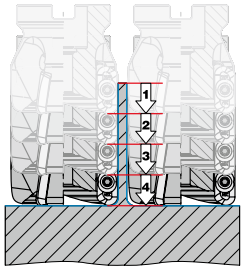
Shoulder milling



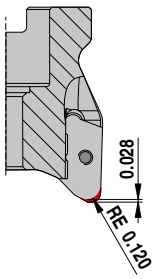
Pocket milling

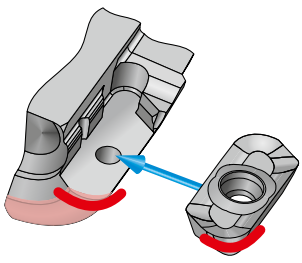


Pocket milling with thin walled components



Modification to front profile



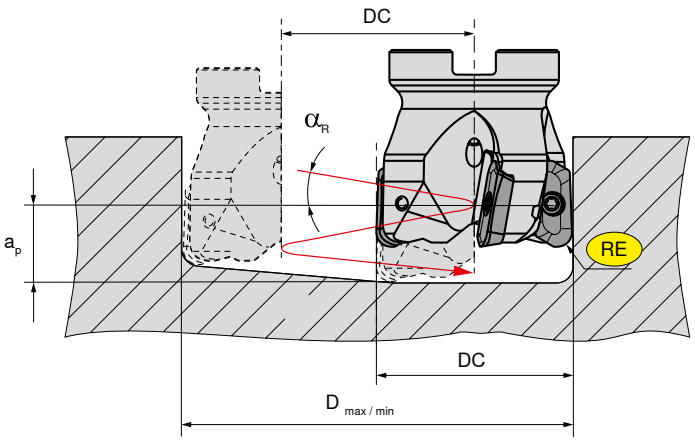


For inserts with a corner radius larger than 0.125" the basic body of the tool must be modified according to the drawing above.

System MaxiMill HSC-11

Machining strategy

Helical plunging



RE = Insert radius
α_R inch = Maximum ramping angle (related to centre of tool)

a_p inch = pitch → D x π x tan (α_R)

D in inch = → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

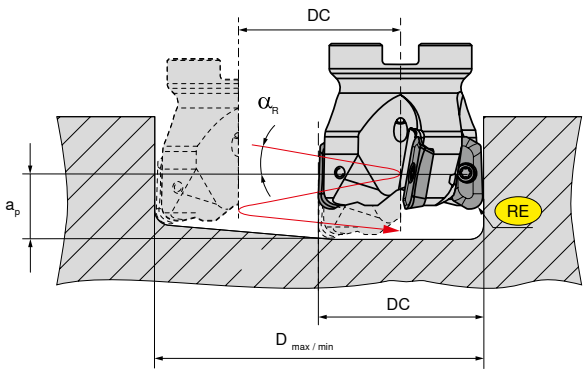
$D_{max.}$ in inch = largest drilling diameter
$D_{min.}$ in inch = smallest drilling diameter
$DN_{max.}$ inch = Maximum hole diameter for non flat bottom

DC inch		XDHT-11 (HSC-11)								
(DN_{max})		RE = 0.008	RE = 0.016	RE = 0.032	RE = 0.048	RE = 0.064	RE = 0.080	RE = 0.100	RE = 0.125	RE = 0.160
1.25	α_R	9.7°	10.0°	9.9°	9.4°	8.9°	8.4°	7.9°	7.0°	6.1°
	$D_{max.}$	1.18	1.18	1.14	1.10	1.06	1.06	1.02	0.94	0.91
(0.75)	$D_{min.}$	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
1.37	α_R	9.4°	9.1°	8.7°	8.3°	7.9°	7.5°	6.9°	6.2°	5.3°
	$D_{max.}$	1.34	1.34	1.30	1.26	1.22	1.22	1.18	1.10	1.06
(0.87)	$D_{min.}$	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
1.50	α_R	8.8°	8.6°	8.3°	7.9°	7.5°	7.5°	6.5°	5.9°	5.1°
	$D_{max.}$	1.42	1.42	1.38	1.34	1.30	1.30	1.26	1.18	1.14
(1.00)	$D_{min.}$	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
1.50	α_R	8.4°	8.2°	7.8°	7.4°	7.7°	6.7°	6.2°	5.5°	4.8°
	$D_{max.}$	1.50	1.50	1.46	1.42	1.38	1.38	1.34	1.26	1.22
(1.00)	$D_{min.}$	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
1.75	α_R	7.6°	7.4°	7.8°	6.7°	6.4°	6.5°	5.6°	5.2°	4.3°
	$D_{max.}$	1.65	1.65	1.61	1.57	1.53	1.53	1.49	1.41	1.37
(1.00)	$D_{min.}$	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
2.00	α_R	6.7°	6.5°	6.2°	5.9°	5.6°	5.3°	4.9°	4.4°	3.8°
	$D_{max.}$	1.89	1.89	1.85	1.81	1.77	1.77	1.73	1.65	1.61
(1.50)	$D_{min.}$	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
2.50	α_R	4.7°	4.7°	4.8°	4.6°	4.3°	4.1°	3.8°	3.4°	2.9°
	$D_{max.}$	2.44	2.44	2.40	2.36	2.32	2.32	2.28	2.20	2.17
(2.00)	$D_{min.}$	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
3.00	α_R	3.3°	3.3°	3.4°	3.4°	3.5°	3.3°	3.0°	2.7°	2.3°
	$D_{max.}$	3.07	3.07	3.03	2.99	2.95	2.95	2.91	2.83	2.80
(2.50)	$D_{min.}$	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97
4.00	α_R	2.4°	2.5°	2.5°	2.5°	2.6°	2.6°	2.4°	2.2°	1.9°
	$D_{max.}$	3.86	3.86	3.82	3.78	3.74	3.74	3.70	3.62	3.58
(3.50)	$D_{min.}$	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
5.00	α_R	1.7°	1.7°	1.7°	1.8°	1.8°	1.8°	1.8°	1.7°	1.5°
	$D_{max.}$	4.88	4.88	4.84	4.80	4.76	4.76	4.72	4.65	4.61
(4.50)	$D_{min.}$	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39
6.25	α_R	1.1°	1.1°	1.1°	1.1°	1.1°	1.1°	1.1°	1.2°	1.2°
	$D_{max.}$	6.22	6.22	6.18	6.14	6.10	6.10	6.06	5.98	5.94
(5.75)	$D_{min.}$	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41
7.75	α_R	0.8°	0.8°	0.9°	0.9°	0.9°	0.9°	0.9°	0.9°	0.9°
	D_{max}	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75
(7.25)	$D_{min.}$	7.80	7.80	7.76	7.72	7.68	7.68	7.64	7.56	7.52

System MaxiMill HSC-19

Machining strategy

Helical plunging



RE = Insert radius
α_R iinch = Maximum ramping angle (related to centre of tool)

a_p inch = pitch → D x π x tan (α_R)

D in inch = → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

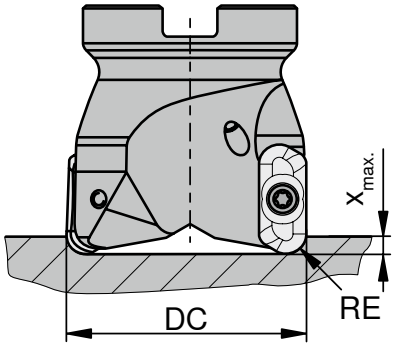
$D_{max.}$ in inch = largest drilling diameter
$D_{min.}$ in inch = smallest drilling diameter
$DN_{max.}$ inch = Maximum hole diameter for non flat bottom

	DC inch	DN_{max} inch	α_R °	D_{max} inch	D_{min} inch
RE = 0.008“	**1.00**	1.93	7°02‘	1.89	1.26
	1.25	2.48	4°34‘	2.44	1.81
	1.50	3.11	3°47‘	3.07	2.44
	2.00	3.90	3°01‘	3.82	3.19
	2.50	4.92	2°17‘	4.88	4.21
	3.00	6.26		6.22	5.55
	4.00	7.83		7.80	7.13
RE = 0.016“	**1.00**	0.98	7°08‘	1.93	1.89
	1.25	1.26	4°37‘	2.48	2.44
	1.50	1.57	3°49‘	3.11	3.07
	2.00	1.97	3°02‘	3.90	3.86
	2.50	2.48	2°18‘	4.92	4.88
	3.00	3.15		6.26	6.22
	4.00	3.94		7.83	7.80
RE = 0.032“	**1.00**	1.93	7°21‘	1.85	1.26
	1.25	2.48	4°44‘	2.40	1.81
	1.50	3.11	3°53‘	3.03	2.44
	2.00	3.90	3°05‘	3.82	3.19
	2.50	4.92	2°20‘	4.84	4.21
	3.00	6.26		6.18	5.55
	4.00	7.83		7.76	7.13
RE = 0.078“	**1.00**	0.98	8°40‘	1.93	1.77
	1.25	1.26	5°04‘	2.48	2.32
	1.50	1.57	4°06‘	3.11	2.95
	2.00	1.97	3°13‘	3.90	3.74
	2.50	2.48	2°25‘	4.92	4.76
	3.00	3.15		6.26	6.10
	4.00	3.94		7.83	7.68
RE = 0.098“	**1.00**	1.93	8°24‘	1.73	1.26
	1.25	2.48	5°13‘	2.28	1.81
	1.50	3.11	4°12‘	2.91	2.44
	2.00	3.90	3°17‘	3.70	3.19
	2.50	4.92	2°27‘	4.72	4.21
	3.00	6.26		6.06	5.55
	4.00	7.83		7.64	7.13
RE = 0.128“	**1.00**	0.98	8°54‘	1.93	1.65
	1.25	1.26	5°26‘	2.48	2.20
	1.50	1.57	4°20‘	3.11	2.83
	2.00	1.97	3°21‘	3.90	3.62
	2.50	2.48	2°30‘	4.92	4.65
	3.00	3.15		6.26	5.98
	4.00	3.94		7.83	7.56
RE = 0.157“	**1.00**	1.93	9°32‘	1.61	1.26
	1.25	2.48	5°42‘	2.17	1.81
	1.50	3.11	4°30‘	2.80	2.44
	2.00	3.90	3°28‘	3.58	3.19
	2.50	4.92	2°33‘	4.61	4.21
	3.00	6.26		5.94	5.55
	4.00	7.83		7.52	7.13
RE = 0.196“	**1.00**	0.98	6°49‘	1.93	1.54
	1.25	1.26	3°59‘	2.48	2.09
	1.50	1.57	3°20‘	3.11	2.72
	2.00	1.97	2°13‘	3.90	3.50
	2.50	2.48	1°52‘	4.92	4.53
	3.00	3.15		6.26	5.87
	4.00	3.94		7.83	7.44

System MaxiMill HSC-19

Machining strategy

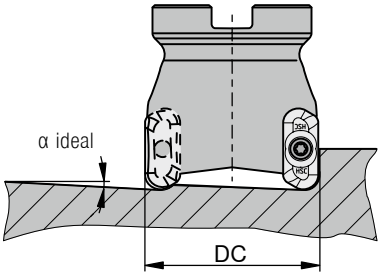
Axial ramping



HSC 19	DC mm	19 RE 0.008–0.157 $x_{max.}$ mm	19 RE 0.196 $x_{max.}$ mm
CHSC 19 / GHSC 19 / MHSC 19	1.00	0.196	0.157
CHSC 19 / GHSC 19 / MHSC 19	1.25–1.50	0.157	0.118
AHSC 19	1.50–4.00	0.157	0.118

HPC 19	DC mm	19 RE 0.008–0.157 $x_{max.}$ mm	19 RE 0.196 $x_{max.}$ mm
CHPC 19 / MHPC 19	1.00	0.196	0.157
CHPC 19 / MHPC 19	1.25–1.50	0.236	0.196
AHPC 19	1.50–4.00	0.236	0.196

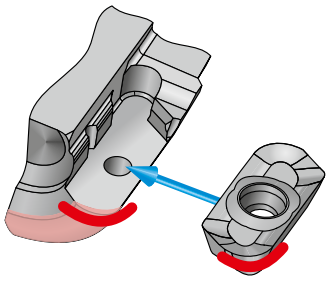
Linear ramping

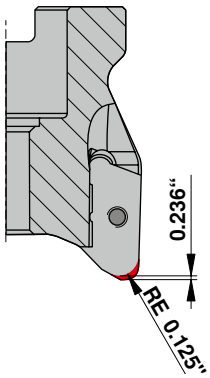


DC mm	α ideal HSC 19	α ideal HPC 19
1.00	11°	11°
1.25	7°	7°
1.50	5°	5°
2.00	4°	4°
2.50	3°	3°
3.00	2°	
4.00	2°	

Modification to basic body

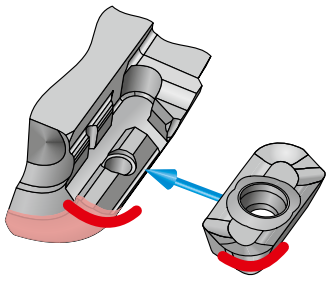
HSC 19





Modification to front profile

HPC 19

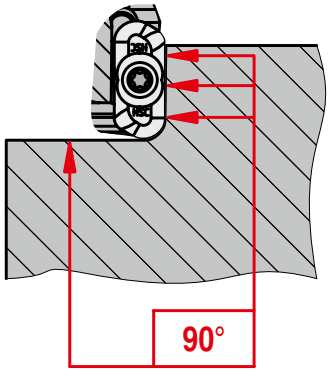


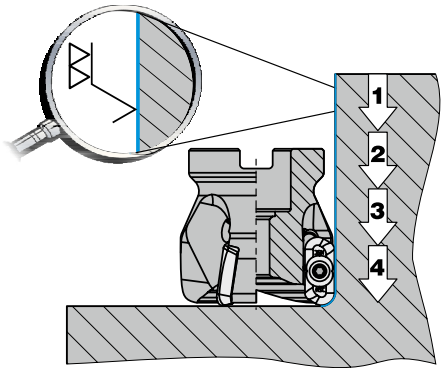
For inserts with a corner radius larger than 4.0 mm the basic body of the tool must be modified according to the drawing above.

System MaxiMill HSC-19

Machining strategy

Excellent side wall quality after roughing operation.
Additional finishing operations minimized or no longer required.





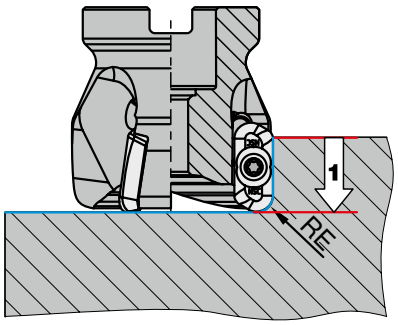
With maximum chip volume

Indexable Insert	RE inch	a_p inch	$a_{p\ max.}$ inch
XDH. 190402FR-ALP	0.008	0.71	0.70
XDH. 190404FR-ALP	0.016	0.71	0.69
XDH. 190408FR-ALP	0.032	0.71	0.68
XDH. 190420FR-ALP	0.078	0.71	0.63
XDH. 190425FR-ALP	0.098	0.71	0.59
XDH. 190432FR-ALP	0.128	0.71	0.58
XDH. 190440FR-ALP	0.157	0.71	0.55
XDH. 190450FR-ALP	0.196	0.67	0.51

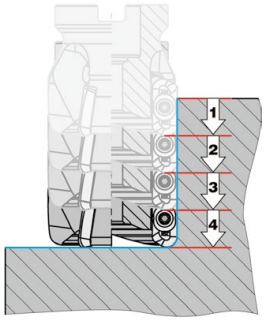
With maximum side wall quality

Indexable Insert	RE inch	$a_{p\ max.}$ inch
XDH. 190402FR-ALP	0.008	0.46
XDH. 190404FR-ALP	0.016	0.46
XDH. 190408FR-ALP	0.032	0.44
XDH. 190420FR-ALP	0.078	0.39
XDH. 190425FR-ALP	0.098	0.37
XDH. 190432FR-ALP	0.128	0.35
XDH. 190440FR-ALP	0.157	0.31
XDH. 190450FR-ALP	0.196	0.28

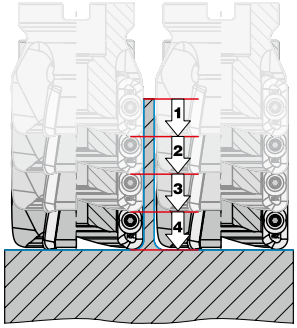
Shoulder milling



Pocket milling



Pocket milling with
thin walled components



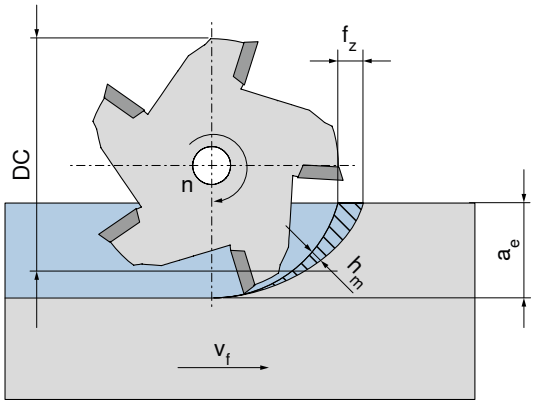
This information applies to the inserts type XDHT 19 and XDHX 19.

Average chip thickness [h_m] – the approach

Shoulder milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m mm
for steel	...–800	0.0063
for steel	800–1000	0.0055
for steel	1000–1200	0.0048
for steel	1200–...	0.0039
for stainless steel	...–750	0.0059
for stainless steel	750–900	0.0051
for stainless steel	900–1150	0.0043
for stainless steel	1150–...	0.0035*

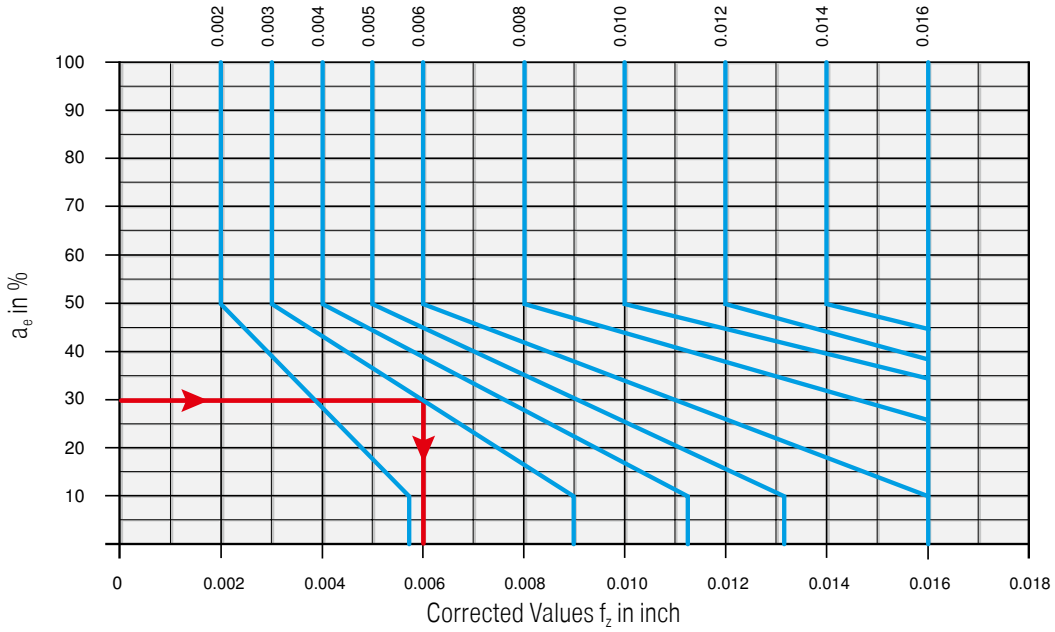


2 Select the corrected feed rate value from the table based on the appropriate chip thickness [h_m] and depth of cut [a_e].

h_m mm	Corrected feed value f_z for h_m				
0.0063	0.0142	0.0114	0.0098	0.0071	0.0063
0.0055	0.0122	0.0102	0.0087	0.0060	0.0055
0.0048	0.0106	0.0087	0.0075	0.0055	0.0047
0.0039	0.0087	0.0071	0.0063	0.0047	0.0039
0.0059	0.0134	0.0106	0.0094	0.0067	0.0059
0.0051	0.0114	0.0094	0.0083	0.0059	0.0051
0.0043	0.0098	0.0079	0.0067	0.0051	0.0043
0.0035*	0.0079	0.0063	0.0055	0.0039	0.0035
a_e =	**0.2 x DC**	**0.3 x DC**	**0.4 x DC**	**0.75 x DC**	**1 x DC**

* f_z < 0.032": Danger, as tool is not working and cutting

Start values f_z in inch from starting parameter diagram

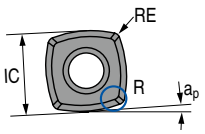


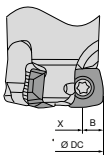
Example:
Start value (f_z) = 0.003"
a_e = 30 %
corrected value (f_z) = 0..006"

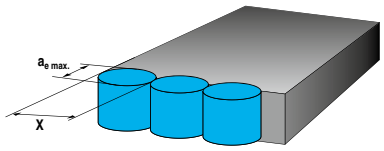
System MaxiMill HFC-06

Machining strategy

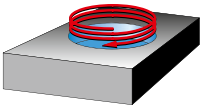
Programmed radius R = 0.047"

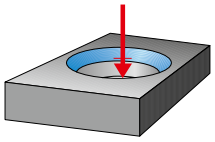


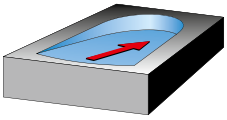




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in inch	RE in inch	$a_{p\ max.}$ in inch	DC in inch	X in inch	B in inch	$a_{e\ max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.25	0.020	0.032	0.625–1.25	DC–(2 x B)	0.169	0.209	0.004	0.003	0.016	<0.7 x DC

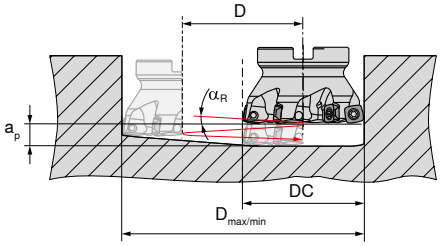






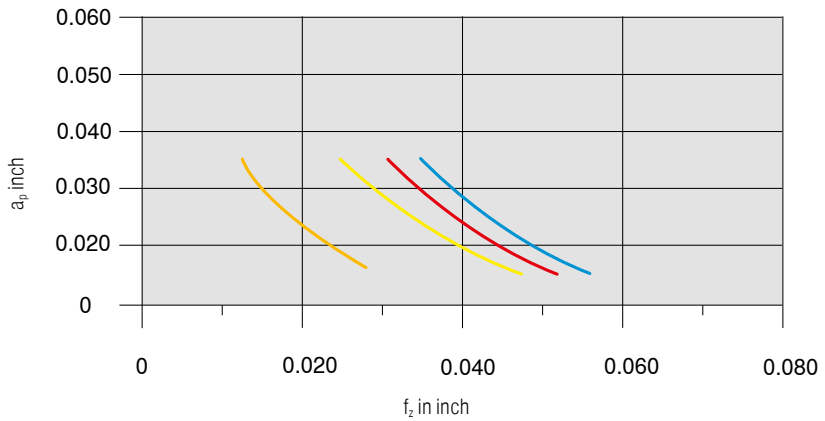
	circular		
	Helical plunging (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\ max.}$ °
0.625	1.22	0.866	4.5°
0.750	1.53	1.18	2.3°
1.00	1.93	1.57	1.3°
1.25	2.48	2.12	0.9°

	axial	Angled
	Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\ max.}$ °
0.625	0.020	5.9°
0.750		3.2°
1.00		2.0°
1.25		1.3°



Starting Parameter

XPLX 06



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XPLX 060305SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XPLX 060305ER-M40**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XPLX 060305ER-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XPLX 060305SR-F40**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

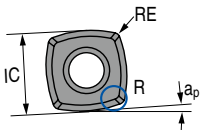
From v_c > 1300 SFM, the tool must be balanced!

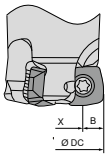
7

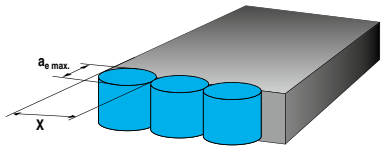
System MaxiMill HFC-09

Machining strategy

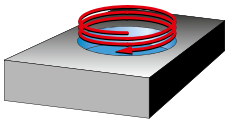
Programmed radius R = 0.078“

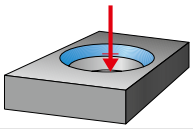


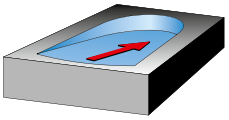




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in inch	RE in inch	$a_{p\,max.}$ in inch	DC in inch	X in inch	B in inch	$a_{e\,max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.354	0.032	0.040	1.00–2.50	DC–(2 x B)	0.142	0.295	0.004	0.003	0.016	<0.7 x DC

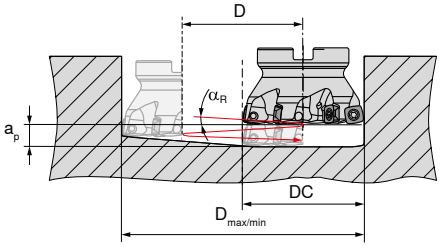






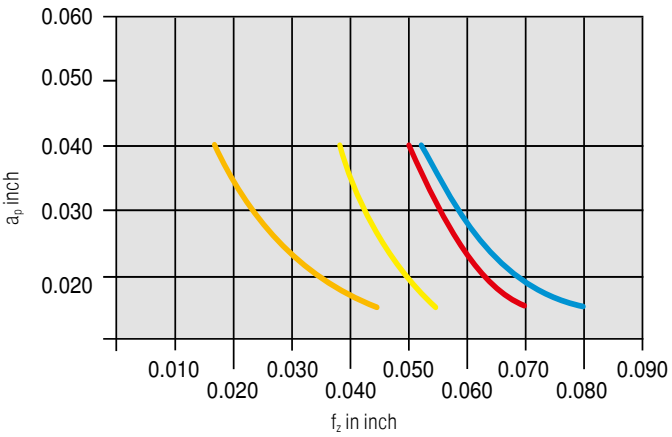
	circular		
	Helical plunging (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\,max.}$ °
1.00	1.89	1.37	3.1°
1.25	2.44	1.93	1.7°
1.37	2.67	2.16	1.4°
1.50	3.07	2.56	1.0°
1.62	4.01	2.71	0.9°
2.00	3.85	3.34	0.8°
2.12	4.01	3.50	0.7°
2.50	4.88	4.37	0.7°
2.62	5.11	4.60	0.6°

	axial	Angled
	Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\,max.}$ °
1.00		3.6°
1.25		2.0°
1.37		1.6°
1.50		1.2°
1.62	0.030	1.1°
2.00		0.9°
2.12		0.8°
2.50		0.8°
2.62		0.7°



Starting Parameter

XDLX 09



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDLX09T308SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XDLX09T308SR-M50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XDLX09T308SR-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDLX09T308ER-F40**	**CTC5240**	115	Emulsion

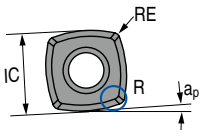
Detailed information on cutting speed for each grade can be found on → page **98–100**

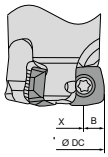
From v_c > 1300 SFM, the tool must be balanced!

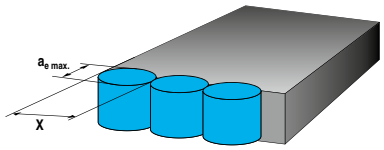
System MaxiMill HFC-12

Machining strategy

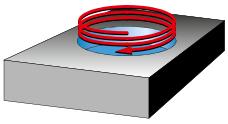
Programmed radius R = 0.118“

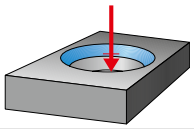


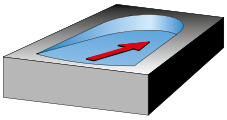




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in inch	RE in inch	$a_{p\,max.}$ in inch	DC in inch	X in inch	B in inch	$a_{e\,max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.472	0.040	0.080	1.25–4.00	DC–(2 x B)	0.326	0.393	0.006	0.004	0.008	<0.7 x DC

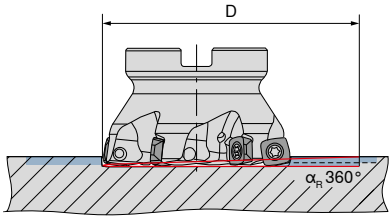






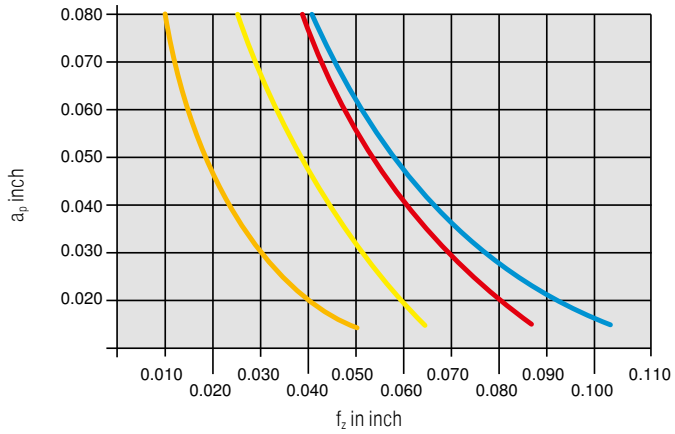
	circular	
	Helical plunging (helical plunging into solid material)	
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\,max.}$ °
1.00	2.45	1.73	6.1°
1.25	2.67	1.97	3.7°
1.50	3.07	2.56	2.5°
1.62	3.22	2.52	2.3°
2.00	3.86	3.15	1.3°
2.12	4.01	3.30	1.3°
2.50	4.88	4.17	0.9°
2.62	5.12	4.41	0.9°
3.00	6.22	5.51	1.1°
4.00	7.79	7.09	0.6°

	axial	Angled
	Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\,max.}$ °
1.25	0.045	7.2°
1.37		4.4°
1.50		2.9°
1.62		2.7°
2.00 + 2.12		1.5°
2.50 + 2.62		1.1°
3.00		1.3°
4.00		0.7°



Starting Parameter

XOLX 12



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XOLX120410SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XOLX120410ER-M50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XOLX120410ER-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XOLX120410ER-F40**	**CTC5240**	115	Emulsion

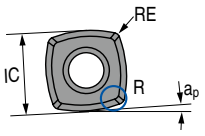
Detailed information on cutting speed for each grade can be found on → page **98–100**

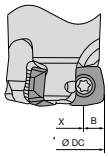
From v_c > 1300 SFM, the tool must be balanced!

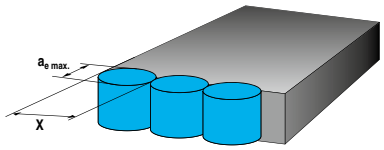
System MaxiMill HFC-19

Machining strategy

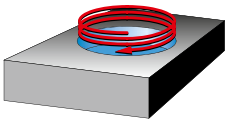
Programmed radius R = 0.196“

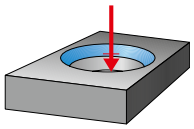


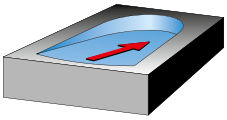




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in inch	RE in inch	$a_{p\,max.}$ in inch	DC in inch	X in inch	B in inch	$a_{e\,max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.753	0.060	0.129	2.50–4.00	DC–(2 x B)	0.516	0.472	0.008	0.004	0.010	<0.65 x DC

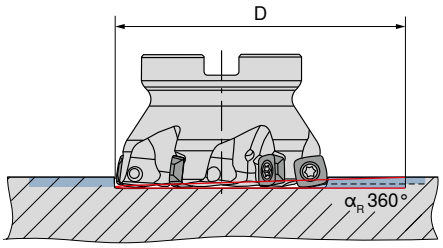






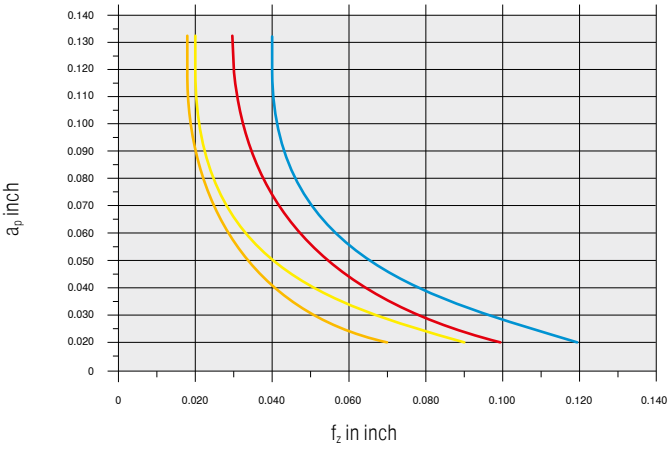
	circular		
	Helical plunging (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\,max.}$ °
2.50	3.82	4.84	2.5
3.00	5.15	6.18	1.4
4.00	6.73	7.75	1.0
5.00	8.70	9.72	0.7
6.00	11.45	12.48	0.5

	axial	Angled	
		Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\,max.}$ °	$a_{p\,max}$ inch
2.50	0.067	2.9	0.129
3.00		1.8	
4.00		1.3	
5.00		1.0	
6.00		0.7	



Starting Parameter

XOLX 19



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XOLX190615SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.1.1**	316Ti	**XOLX190615SR-M50**	**CTPM240**	600	Dry
Cast iron	**K.1.1**	GG25 Cast Iron	**XOLX190615SR-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XOLX190615ER-F40**	**CTC5240**	115	Emulsion

Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

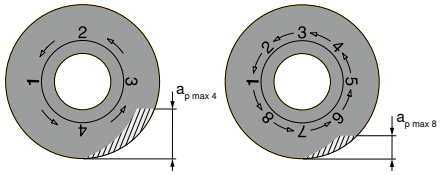
MaxiMill 251 RS system

Technical data

Recommended cutting depth

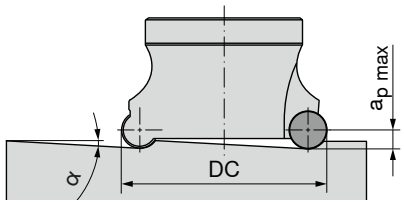
Ø inch	4-position $a_{p\,max.}$ inch	4-position $a_{p\,max}$ theoretical inch	8-face $a_{p\,max.}$ inch
0.196	0.040	0.080	0.028
0.314	0.060	0.140	0.043
0.393	0.100	0.180	0.055
0.472	0.120	0.220	0.067
0.629	0.160	0.300	0.090
0.787	0.160	0.380	0.114

Average depth for the 4/8 index use of the insert



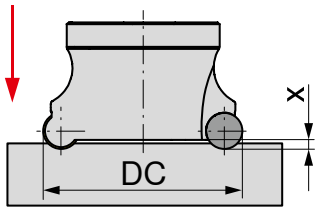
Detailed information on cutting speed for each grade can be found on → page **98–100**

Linear ramping

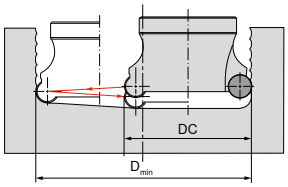


Ø DC inch	05 α °	08 α °	10 α °	12 α °	16 α °	20 α °
0.37	3.4					
0.50	16.0					
0.62	8.0	5.0				
0.75	5.5	20.0	1.3			
1.00	4.0	13.0	2.0	6.0		
1.25	3.0	8.0	3.0	4.0		
1.50			3.3	2.8		
1.62			3.1			
2.00			2.4	2.6	4.0	
2.12			2.2	2.3		
2.50				1.9	2.8	
2.62				1.6		
3.00				1.3	2.0	3.2
4.00				1.0	1.5	2.3
5.00						1.7

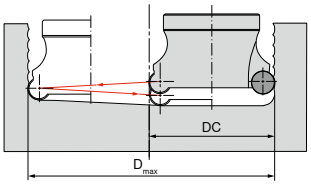
Axial ramping



Ø DC inch	05 $X_{max.}$ inch	08 $X_{max.}$ inch	10 $X_{max.}$ inch	12 $X_{max.}$ inch	16 $X_{max.}$ inch	20 $X_{max.}$ inch
0.37	0.020					
0.50	0.050					
0.62	0.050	0.020				
0.75	0.050	0.106	0.008			
1.00	0.050	0.106	0.016	0.040		
1.25	0.050	0.106	0.030	0.043		
1.50			0.060	0.047		
1.62			0.060	0.060		
2.00			0.060	0.060	0.080	
2.12			0.060	0.060	0.080	
2.50				0.060	0.080	
2.62				0.060	0.080	
3.00				0.060	0.080	0.120
4.00				0.060	0.080	0.120
5.00						0.120



$D_{min.}$ = smallest drilling diameter depending on the tool diameter



$D_{max.}$ = Maximum hole diameter Depending on the tool diameter

maximum possible hole diameter = 2 x DC – 0.040”

Ø DC inch	05 D_{min} inch	05 D_{max} inch	05 α_R °	08 D_{min} inch	08 D_{max} inch	08 α_R °	10 D_{min} inch	10 D_{max} inch	10 α_R °	12 D_{min} inch	12 D_{max} inch	12 α_R °	16 D_{min} inch	16 D_{max} inch	16 α_R °	20 D_{min} inch	20 D_{max} inch	20 α_R °
0.37	0.47	0.59	2.5															
0.50	0.63	0.75	2.1															
0.62	0.94	1.06	1.5	0.83	0.94	2.4												
0.75	1.26	1.38	1.2	1.06	1.26	1.9	1.02	1.18	1.3									
1.00	1.65	1.77	1.0	1.46	1.65	1.5	1.46	1.57	1.8	1.22	1.50	2.2						
1.25	2.20	2.32	0.7	2.01	2.20	1.2	1.97	2.13	1.5	1.81	2.05	1.7						
1.50							2.52	2.76	1.1	2.44	2.68	1.4						
1.62							2.68	2.91	1.1									
2.00							3.31	3.54	0.9	3.19	3.46	1.1	2.95	3.31	1.5			
2.12							3.46	3.70	0.9	3.39	3.62	1.0						
2.50										4.21	4.49	0.9	3.98	4.33	1.1			
2.62										4.45	4.72	0.8						
3.00										5.59	5.83	0.7	5.31	5.67	0.9	5.04	5.51	1.1
4.00										7.13	7.40	0.5	6.89	7.24	0.7	6.61	7.09	0.9
5.00																8.58	9.06	0.7

7

System MaxiMill 252

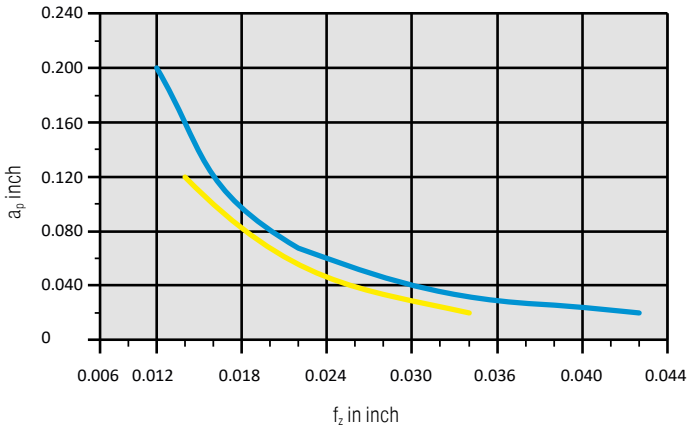
Machining strategy

Recommended cutting depth

Ø inch	4-position $a_{p\,max}$ inch	inch
0.393	0.100	0.180
0.472	0.120	0.220

Starting Parameter

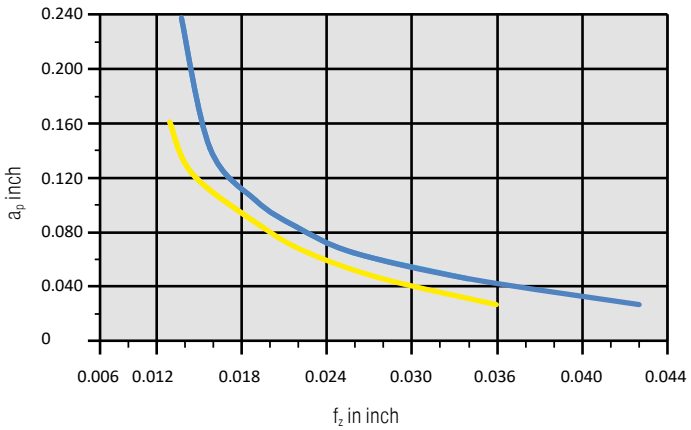
RNHU 10



Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XOLX120410SR-M50**	**CTPP235**	600	Dry
Stainless steel	**M.1.1**	316Ti	**XOLX120410ER-M50**	**CTPM240**	600	Dry

Starting Parameter

RNHU 12



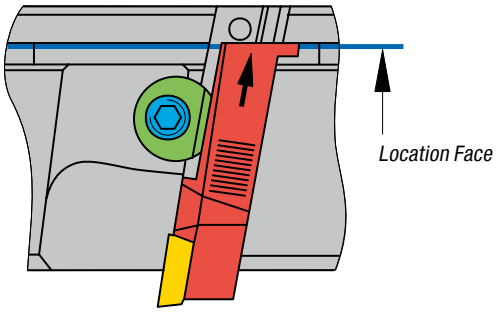
Material			Inserts		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XOLX120410SR-M50**	**CTPP235**	600	Dry
Stainless steel	**M.1.1**	316Ti	**XOLX120410ER-M50**	**CTPM240**	600	Dry

Detailed information on cutting speed for each grade can be found on → page **98–100**

From v_c > 1300 SFM, the tool must be balanced!

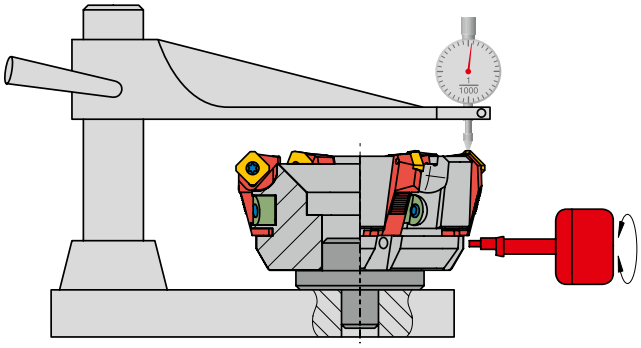
System MaxiMill 260

Setting of axial run-out for roughing



For assembly simply press cartridges onto the location face of the radial groove. The axial run-out amounts to 0.00072" measured on the master insert.

Setting of axial run-out with eccentric key and clock gauge or on optical presetting equipment



Exact setting of axial run-out up to 0.0008"

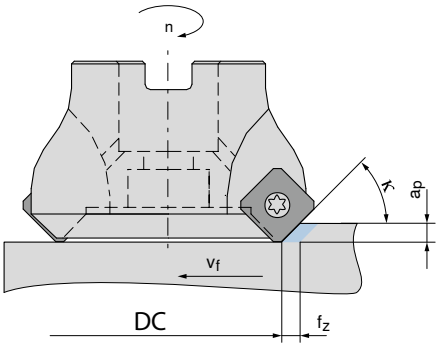
- Clean the milling tools
- Mount cutter on appropriate setting equipment.
- Loosen clamping wedge, push cassette to face and tighten wedge lightly.
- Insert ecentric key into hole and turn until cassette is in desired position.
- Keep ecentric key in contact with the cassette so that it remains in position.
  Tighten wedge (torque moment 10 Nm).
- The tool is now ready for use.

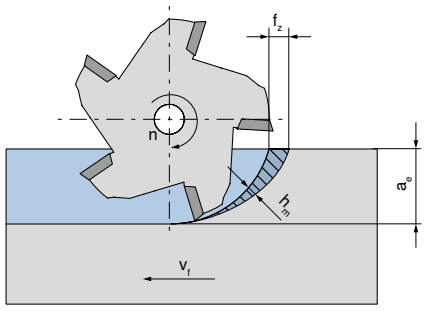
7

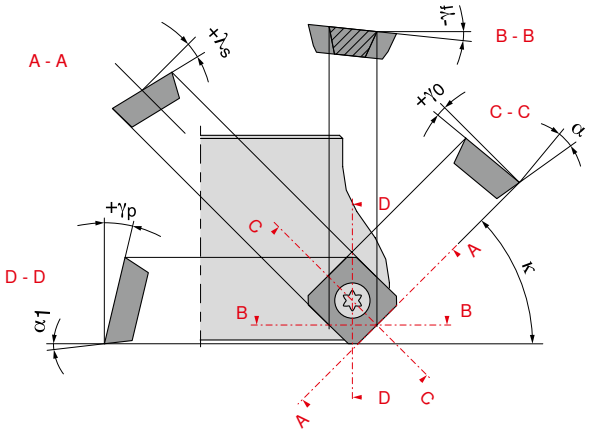
Abbreviations & dimensions

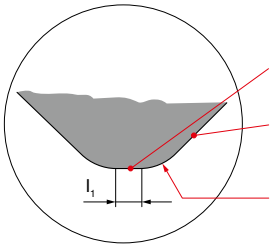
a_e	cutting width	inch
a_p	Cutting depth	inch
DC	Tool diameter	inch
D_w	Workpiece diameter	inch
f_z	Feed per tooth	inch
h_m	Average Chip Thickness	inch
k	Number of teeth	
k_c	Specific cutting force	N/inch²
$k_{c1.1}$	Specific cutting force for 1 mm ² chip area	N/inch²
BS	Length of wiper land	inch
m_c	Increase of specific cutting force	
n	rpm	rpm
Q	Chip volume	in³/min
v_c	Cutting speed	ft/min
v_f	Feed rate	in/min
ZNF	Number of Effective Teeth	

γ_0	Effective cutting angle	degree
γ_f	Side clearance angle	degree
γ_p	Axial cutting angle	degree
κ	Cutting edge angle	degree
λ_s	Angle of inclination	degree
α	Clearance angle	degree
α_1	Side clearance angle	degree









Wiper land

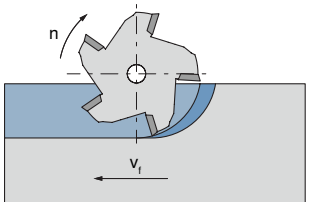
Main cutting edge

Corner radius

Engagement conditions

Recommended

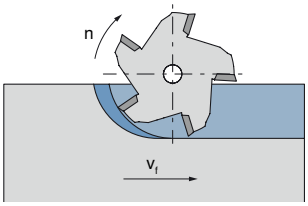
Climb milling



The feed direction of the workpiece is the same as the direction of rotation of the milling cutter in the cutting zone. The chips have maximum thickness at the beginning, chip thickness then decreases until it becomes zero at the end of the cut.

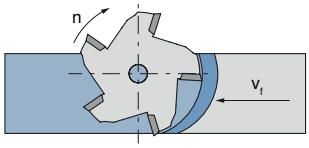
Unsuitable

Conventional milling

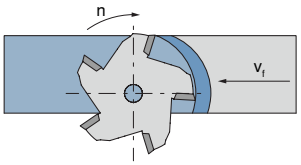


The feed direction of the workpiece is opposite to the direction of rotation of the milling cutter in the cutting zone. Chip thickness is zero at the beginning and increases until it reaches its maximum at the end of the cut.

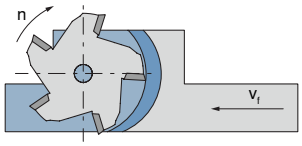
Cutter positioning



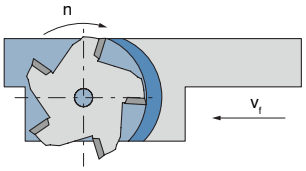
If possible the cutter should exit tangentially of the workpiece.



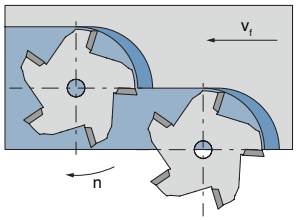
Workpiece situation



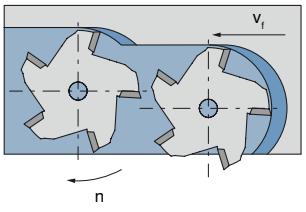
The workpiece should be clamped in such a way as to allow the cutter to emerge tangentially of the workpiece along the whole machining length.



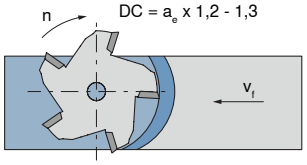
Overlapping



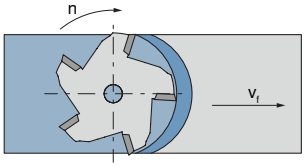
Either employ climb milling or ensure that the cutter comes out of the workpiece tangentially, as in the illustration on the left.



Cutter size



When face milling the diameter of the cutter should be 20–30 % larger than that of the workpiece.



7

ISO designation indexable milling inserts

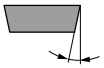
X	D	K	T	11	T3	08	S	R	-	F50
1	2	3	4	5	6	7	8	9		10

Z	N	H	W	12	05	PO	S	R	-	15	06	-	R
1	2	3	4	5	6	7	8	9		11	12		13

1 Insert shape

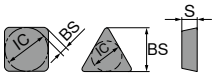
A	85°	
B	82°	
K	55°	
H	120°	
L	90°	
O	135°	
P	108°	
C	80°	
D	55°	
E	75°	
M	86°	
V	35°	
R		
S	90°	
T	60°	
W	80°	
X Z	Special version	

2 Clearance angle

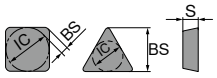


	α
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Special version

3 Tolerances

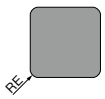


	IC ±inch	BS ±inch	S ±inch	IC = 1/4 / 3/8	IC = 1/2	IC = 5/8 / 3/4
A	0.0010	0.0002	0.0001	●	●	●
C	0.0010	0.0005	0.0001	●	●	●
E	0.0010	0.0010	0.0001	●	●	●
F	0.0005	0.0002	0.0001	●	●	●
G	0.0010	0.0010	0.0005	●	●	●
H	0.0005	0.0005	0.0010	●	●	●
J	0.0020	0.0002	0.0010	●		
	0.0031	0.0002	0.0010		●	
	0.0039	0.0002	0.0010			●
K	0.0020	0.0005	0.0010	●		
	0.0031	0.0005	0.0008		●	
	0.0039	0.0005	0.0008			●



	IC ±inch	BS ±inch	S ±inch	IC = 1/4 / 3/8	IC = 1/2	IC = 5/8 / 3/4
M	0.0020	0.0031	0.0051	●		
	0.0031	0.0051	0.0051		●	
	0.0039	0.0059	0.0051			●
N	0.0020	0.0031	0.0010	●		
	0.0031	0.0051	0.0010		●	
	0.0039	0.0059	0.0010			●
U	0.0031	0.0051	0.0051	●		
	0.0051	0.0079	0.0051		●	
	0.0071	0.0071	0.0051			●

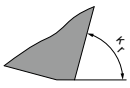
7 Wiper land / corner radius



Radius

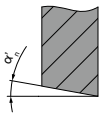
	RE in inch
M0*	
02	0.008
04	0.016
08	0.031
12	0.047

* Only with insert type "R"



1. Designation

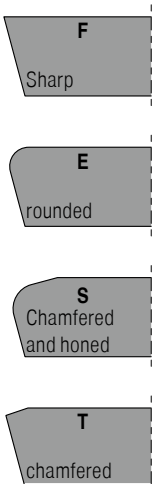
	K_r
A	45°
D	60°
E	75°
F	85°
P	90°
Z	Alternative



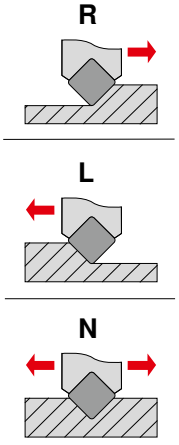
2. Designation

	α'_n
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z O	Alternative

8 Cutting edge



9 Direction of cut



4

Characteristics

A	
F	
G	
M	
N	
Q	
R	
T	
U	
W	
X	Special version

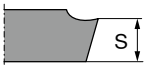
5

Cutting length

IC inch	A	T	C/S	H	L	R	V	W	O	X	Z
0.193										07	
0.196						05					
0.219			05		08			03			
0.236											
1 / 4		11	06		10			04		06	
0.262	10										
0.267										11	
0.275											04
0.313			07								
0.315						08					
0.354					12						
0.366										15	
3 / 8	16	16	09		15			06	04		
0.376	15										
0.378										09	
0.394			10		11	10					12
0.472						12					
0.492										20	
1 / 2		12/22	12		20		22	08		12	
0.622			15		22			10			
0.630						16					
0.638				09							
0.659			16								
0.670			17								
0.676									06		
0.716									07		
3 / 4			19					13			
0.787						20					

6

Insert thickness



	S inch
01	0.063
T1	0.078
02	0.094
03	0.125
T3	0.156
04	0.187
05	0.219
06	0.250
07	0.312
09	0.375

10

Chip groove

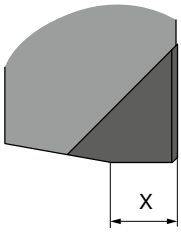
Chip breaker designation
F.. = fine
M.. = medium
R.. roughing

Additional characteristics:
R = transition radius main/ secondary cutting edge
Q = Masterfinish

11

Manufacturer specification

Length of the finishing cutting edge

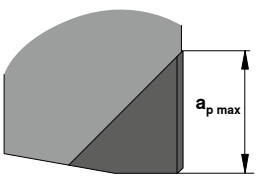


00 = 0,0 mm / 0.00 in
10 = 1,0 mm / 0.039 in
12 = 1,2 mm / 0.047 in
15 = 1,5 mm / 0.059 in
30 = 3,0 mm / 0.118 in
50 = 5,0 mm / 0.197 in

12

Manufacturer specification

$a_{p\,max}$



02 = 2,0 mm / 0.078 in
03 = 3,0 mm / 0.118 in
04 = 4,0 mm / 0.157 in
06 = 6,0 mm / 0.236 in
07 = 7,0 mm / 0.275 in
11 = 11,0 mm / 0.433 in

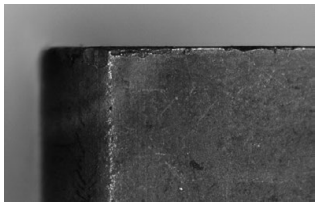
13

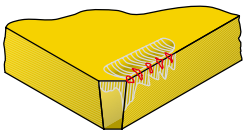
Manufacturer specification

F = Fine
M = Medium
R = Rough

7

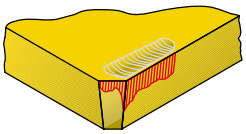
Cutting demands when milling





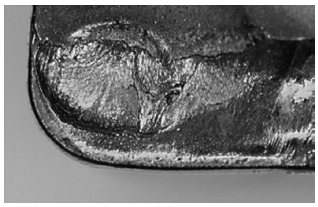
Edge chipping

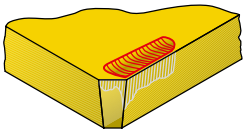
Cutting speed ↑
Feed per tooth ↓
Toughness of grade ↑
Cutting edge chamfer ↑



Wear on clearance face

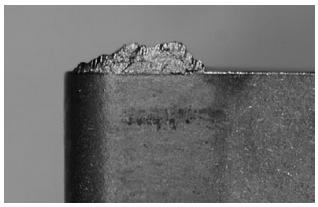
Cutting speed ↓
Feed per tooth ↑
Abrasion resistant grade ↑

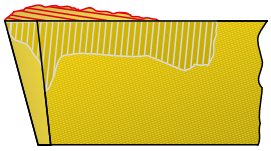




Cratering

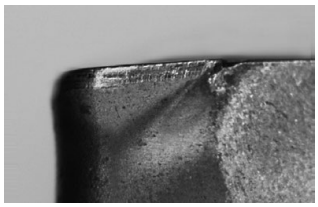
Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

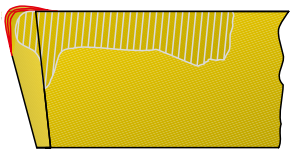




Built-up edge

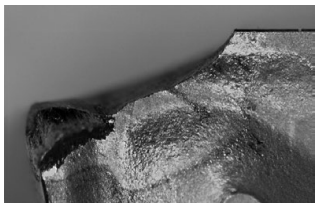
Cutting speed ↑
Feed per tooth ↑
Wear resistance ↑

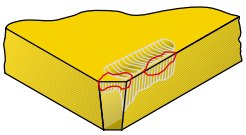




Cutting-edge deformation

Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

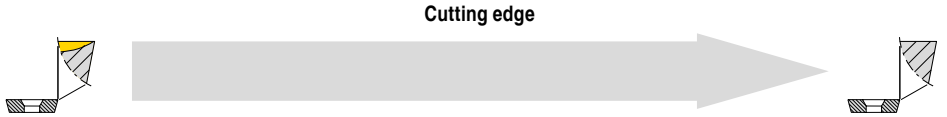




Cutting Edge Breakage

Cutting speed ↓
Toughness of grade ↑

Chip Breakers Overview



			Sharp		medium		stable	
			●		● ●		● ● ●	
			10	20	30	40	50	60
increasing wedge angle	fine	F	**-F10 -27 -27P**	**-F20**		**-F40**	**-F50**	**-ER -FN -33P -33**
	medium	M			**-M31 -M30 -M32**		**-M50 -31**	**-EN -29**
	rough	R			**-R30**		**-R50**	**-SN -R60 -SR**

Chip breaker code

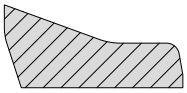
			Cutting edge		
			Sharp	medium	stable
			10–20	30–40	50–60
Application type	light	F	●	● ●	● ● ●
	universal	M	●	● ●	● ● ●
	difficult	R	●	● ●	● ● ●

Example: Chip breaker -M50

Chip groove description

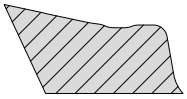
-27P

- Highly positive geometry
- Sharp cutting edges
- Reduced built up edge
- First choice for non-ferrous metals



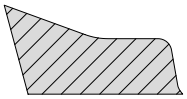
-F10

- Very positive geometry
- Sharp cutting edge
- Prevents sticking and edge build up
- First Choice for non-ferrous metal



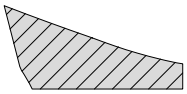
-27

- Highly positive geometry
- Sharp cutting edges
- First choice for non-ferrous metals



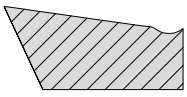
-F20

- Extremely positive geometry
- Lightly rounded cutting edge
- First choice for non-ferrous metals



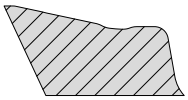
-F40

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- For heat-resistant materials, titanium and super alloys



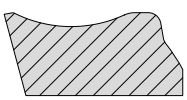
-F50

- Positive geometry with small positive protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



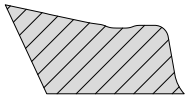
-33P

- Positive geometry with small neutral protective chamfer
- Low adhesion
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



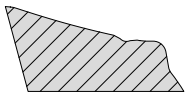
-M30

- Positive geometry
- Rounded cutting edge
- Medium rough machining
- First choice for martensitic stainless steels



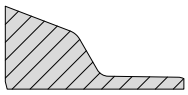
-M31

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- For heat-resistant materials, titanium and super alloys



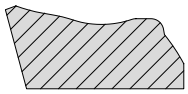
-M32

- Positive geometry
- Rounded cutting edge
- Low cutting force and good stability
- Medium rough machining
- First choice for martensitic stainless steels



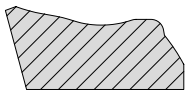
-M50

- Positive geometry with slightly negative protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



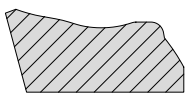
-31

- Positive geometry with neutral protective chamfer
- Rounded cutting edge
- Heavy rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



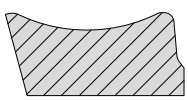
-29

- Positive geometry with slightly negative protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



-33

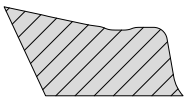
- Positive geometry with small neutral protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



Chip groove description

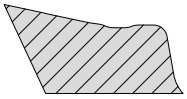
-29R

- Positive geometry with slightly negative protective chamfer
- Heavily rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



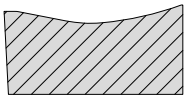
-R30

- Positive geometry with slightly negative protective chamfer
- Heavily rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



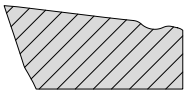
-R50

- Slightly positive geometry
- Rounded cutting edge
- Medium rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



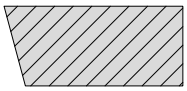
-R60

- Positive geometry with negative stable protective chamfer
- Heavily rounded cutting edge
- For stable machining conditions
- First choice for heavily interrupted cuts
- Heavy rough machining
- First choice for cast iron materials



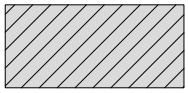
-FN

- Neutral and highly stable geometry
- Heavily rounded cutting edge
- For stable machining conditions
- First choice for hard machining up to approx. 50 HRC



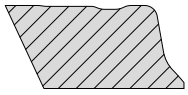
-ER

- Neutral Geometry
- Rounded cutting edge
- Universal application
- High surface quality due to face chamfer
- First choice for machining cast iron and non-ferrous metals



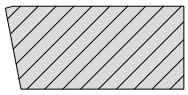
-EN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- First choice for machining cast iron and non-ferrous metals



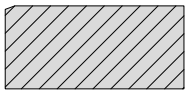
-SN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- Low cutting forces
- First choice for good flatness



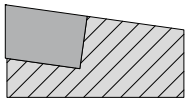
-SR

- Neutral geometry with negative protective chamfer
- Rounded cutting edge
- Robust indexable insert
- For poor machining conditions
- First choice for machining cast iron and steels



-FR

- Neutral Geometry
- Slightly rounded and stable cutting edge
- Associated with Ceramic and CBN cutting materials.
- For stable machining situations
- First choice for machining cast irons



Grades Overview

Grade designation	Standard designation	ISO application range	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials
		01 05 10 15 20 25 30 35 40 45 50	P	M	K	N	S	H	O
CTEP210	HE-P10		●		●				
	HE-K05								
TCM10 (CWC10)	HT-P15		●		○				
	HT-K10								
CTCP220	HC-P20		●		●				
	HC-K20								
CTPP225	HC-P25		●		●				
	HC-K25								
CTCP230	HC-P30		●		●				
	HC-K25								
CTPP235	HC-P35		●	○	○				
	HC-M30								
	HC-K30								
CTPM225	HC-P25		●	●					
	HC-M25								
CTCM235	HC-P40		●	●					
	HC-M35								
CTPM240	HC-P40		○	●					
	HC-M40								
CTPM245	HC-P45		●	●					
	HC-M50								
CTCM245	HC-P45		●	●			○		
	HC-M50								
	HC-S35								
CTN3105	CN-K05				●				
CTL3215	BC-K10				●			○	
	BC-H10								
CTCK215	HC-K15				●				
CTPK220	HC-K20				●				
CTD4205	DP-N05					●			○
	DP-O05								
AMZ	HC-K10								
	HC-N10				○	●			○
	HC-O10								
CTWN215	HC-K15								
	HC-N10				○	●			○
	HC-O10								
H216T	HW-K15								
	HW-N15				○	●			○
	HW-O15								
CTC5240	HC-S35						●		
CTCS245	HC-S45						●		
CTP6215	HC-K15				●			●	
	HC-H15								

● **Main Application**
○ Extended application

wear-resistant v_c+ ◯ ⟷ ◌ v_c− tough

Grade description

AMZ
- Carbide, TiAlN-coated
- ISO | K10 | **N10** | O10
- The coated carbide grade for aluminium machining

CTC5240
- Carbide, TiN-TiB_2-coated
- ISO | **S35**
- The special grade for machining titanium and titanium alloys

CTCK215
- Carbide, TiCN-Al_2O_3-coated
- ISO | **K15**
- The first choice for machining cast iron materials at high cutting speeds

CTCM235
- Carbide, TiCN-Al_2O_3-coated
- ISO | **P40** | **M35**
- The tough alternative for general steel machining
- Well suited to martensitic steel materials

CTCM245
- Carbide, TiCN-Al_2O_3 coated
- ISO **M45/P50**; S35
- Special grade for machining high-alloy steel materials

CTCP220
- Carbide, TiCN-Al_2O_3-coated
- ISO | **P20** | **K20**
- The wear-resistant grade for dry machining steels

CTCP225
- Carbide, TiAlTaN-coated
- ISO | **P25** | **K25**
- The wear-resistant grade for wet machining of steels

CTCP230
- Carbide, TiCN-Al_2O_3-coated
- ISO | **P30** | K25
- The first choice for dry machining steel at high cutting speeds

CTD4205
- Carbide, uncoated
- ISO | **N05** | O05
- Polycrystalline diamond grade for machining non-ferrous metals and non-metallic materials

CTEP210
- Cermet, TiCN-Al_2O_3-coated
- ISO | **P10** | **K05**
- The coated cermet grade with reserves of toughness for finish machining at high cutting speeds

CTP6215
- Carbide, TiAlN-coated
- ISO | **K15** | **H15**
- The coated carbide grade for hard machining

CTPK220
- Carbide, TiAlTaN-coated
- ISO | **K20**
- Optimal for machining high-strength cast iron materials in the tougher application range

CTPM225
- Carbide, TiAlTaN-coated
- ISO | **P25** | **M25**
- The wear-resistant choice for machining austenitic steels

CTPM240
- Carbide, TiAlTaN-coated
- ISO | P40 | **M40**
- The first choice for machining austenitic steels

CTPM245
- Carbide, TiAlTaN-coated
- ISO | **M45** | **P50**
- The first choice for machining martensitic steels

Grade description

CTPP235

- Carbide, TiAlTaN-coated
- ISO | **P35** | M30 | K30
- The wear-resistant grade for wet machining of steels

CTWN215

- Carbide, uncoated
- ISO | K15 | **N10** | O10
- Uncoated carbide grade for machining non-ferrous metals

H216T

- Carbide, uncoated
- ISO | K15 | **N15** | O15
- The uncoated carbide grade for machining aluminium and other non-ferrous metals
- Also highly suitable for HSC machining

TCM10

- Cermet, uncoated
- ISO | **P15** | **M10** | K10
- The uncoated cermet grade for finish machining stainless and hardened steel
- Particularly wear resistant thanks to high heat resistance

CTCS245

- Carbide, CVD TiN-TiB2 coated
- ISO | **S45**
- The special grade for machining nickel-based alloys

Grade description

C T C **P** **2** **2 0** (Example)

Main application – material

1|P	Steel
2|M	Stainless steel
3|K	Cast iron
4|N	Light and non ferrous metals
5|S	Super alloys, titanium
6|H	Hard materials
7|X	Universal application

Application

1	Turning
2	Milling
3	Grooving
4	Drilling
5	Thread turning
6	Others
7	Several processes

Degree of hardness

05	ISO 05
10	ISO 10
15	ISO 15
	...

Grade description – Indexable insert countersink

BK8425

- Carbide, TiAlN/TiN-coated
- ISO | **P25** | **M25** | **K25**
- Universal grade with greater wear resistance thanks to innovative PVD multi-layer coating

K10

- Carbide, uncoated
- ISO | **K10**
- Uncoated carbide grade for machining grey cast iron or non-ferrous metals, depending on the cutting edge geometry

Chip breakers

-SM

- Rake angle 15°
- For universal use with medium machining
- Stable cutting edge

-U877

- Rake angle 6°
- circumferentially ground
- Three-ground chip breaker with second clearance angle for clearance with small tool diameters

-G06

- Rake angle 6°
- Preferred application in P / M / K
- Characterized by a particularly stable wedge angle

-G12

- Rake angle 12°
- Preferred application in P / N / S
- is characterized by a particularly high cutting performance