



Solid drilling and bore machining

HSS drilling

Solid carbide drilling

Reamers

1

Threading

HSS taps

Circular and Thread Milling

Thread turning

2

ISO turning

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TriClamp

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XheadClamp

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Reverse-side machining

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VertiClamp

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Coolant connections

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Turning

Turning Tools

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Milling

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CERATIZIT \ Performance

Premium quality tools for high performance.

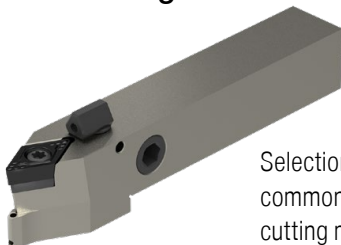
The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium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

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT 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.

ISO turning



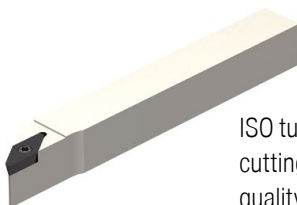
Selection of turning inserts with common ISO geometries in various cutting material grades.

VertiClamp



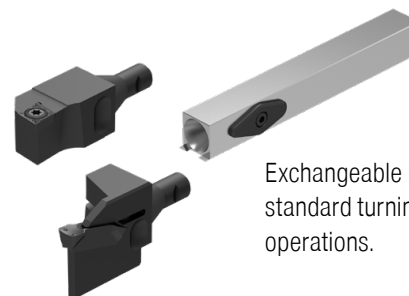
Specialised systems for use on sliding head lathes with vertically positioned indexable inserts.

TriClamp



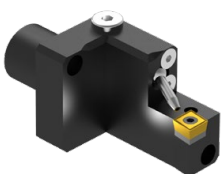
ISO turning inserts with optimised cutting edge for improving the surface quality or increasing the feed rate.

XheadClamp



Exchangeable head system for standard turning and grooving operations.

Reverse-side machining



Flexible tool holder system for machining on the second spindle. There are modular, as well as monoblock tool holders available for turning, grooving, boring and threading on the back of the part.

Coding of the chip breakers

-M50

Inserts – Basic Type	Application range	Material		Chip breaker width
	F = Fine	1 = Steel	5 = Heat Resistant alloys	1 = Narrow
0 N = Negative Inserts	M = Medium	2 = Stainless steel	6 = Hard	↕
5 P = Positive Inserts	R = Rough	3 = Cast Iron	7 = Universal	
		4 = Non Ferrous Metals		9 = Wide

i Detailed information on the chip breakers can be found in the technical appendix → **pages 149–151**

Symbol explanation

CTCP125-P Carbide Grade

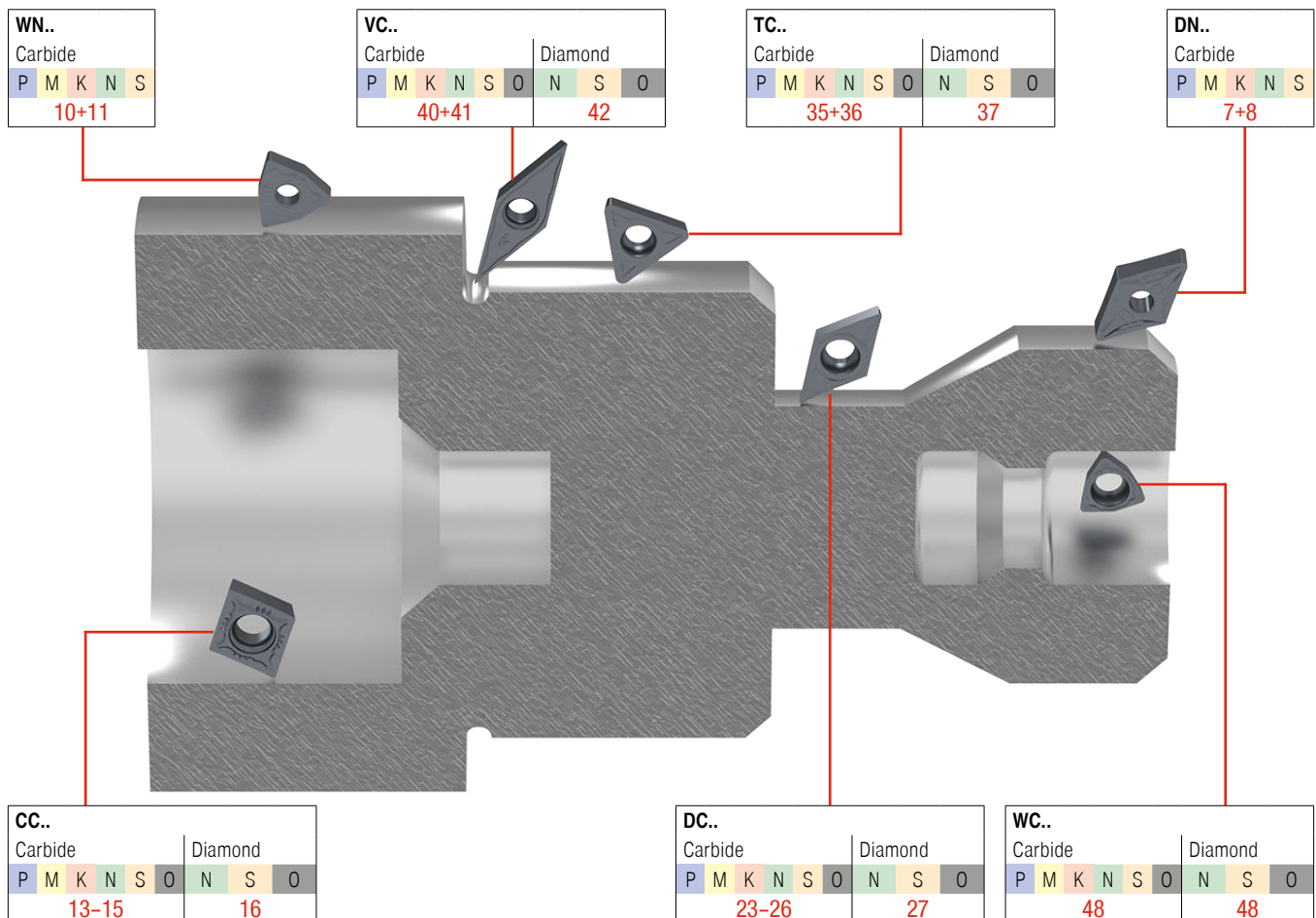
- F** Fine Machining
- M** Medium Machining
- R** Rough Machining



- Smooth cut
- Irregular cutting depth
- Interrupted cut

i A detailed overview of grades can be found in the technical appendix on → **page 168**

Toolfinder – ISO turning – application



Toolfinder – negative inserts



Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials		
P	M	K	N	S	H	O	DN..	WN..

Sharp ↑ ↓ stable	Fine	-F50		●	○	○				7	10
	Medium	-M50		●	○	○				7	10
		-M70		●	○	○				7	10

Sharp ↑ ↓ stable	Fine	-F30		○	●		○			8	11
	Medium	-M30		○	●		○			8	11
		-M60		○	●		○			11	

Toolfinder – positive inserts



			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Non-metal materials	Geometry				
			P	M	K	N	S	H	O	CC..	DC..	TC..	VC..	WC..
Sharp ↓ stable	Fine	-SF	●	○	○					13	23	35	40	48
	Medium	-SMF	●	○	○					13+14	23	35	40	
		-SM	●	○	○					13+14	24	35		
		-SMQ	●	○							24			
Sharp ↓ stable	Medium	-M25	○	●		●				14	24	35		
	-M55	○	●		●					14	24	35		
Sharp ↓ stable	Fine	-23P			○	●			○	14	25			
	Medium	-25P	●	●	○	●	●		○	14	25		40	
		-25Q	●	●	○	●	●		○	14	25		40	
		-27	●	●	○	●	●		○	15	25+26	26	40	
		-29	●	○	○	●			○	15	25+26			
		-M81	●	○						15	25+26			
Fine	-F05	●	●		●	●			15	25+26		36		
Sharp ↓ stable	Diamond				●			●	41	16	27	37	48	
		-CB1			●			●	41	16	27	37		
		-CB2			●			●	41	16		37		
		-CB3			●			●	41	16		37		



This article can be found in our online shop at cuttingtools.ceratizit.com



Toolfinder – holders






Toolholders and boring bars for negative inserts



Geometry	Tool holder
 DN..	9
 WN..	12

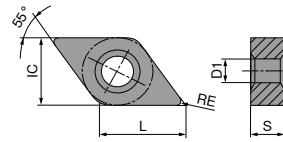
Toolholders and boring bars for positive inserts



Geometry	Tool holder	Tool holder DirectCooling	Boring bars
 CC..	17-20	18+19	21+22
 DC..	28-31	30+31	33
 TC..	38	45	39
 VC..	43		46+47
 WC..			49

DNMG / DNGU

Designation	L mm	S mm	D1 mm	IC mm
DN.. 1104..	11,6	4,76	3,81	9,52



DNMG

ISO		RE mm	NEW -F50 CTCP115-P		NEW -F50 CTCP125-P		NEW -F50 CTCP135-P		NEW -M50 CTCP115-P		NEW -M50 CTCP125-P		NEW -M50 CTCP135-P	
			DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
			F		F		F		M		M		M	
			DNMG		DNMG		DNMG		DNMG		DNMG		DNMG	
			76 134 ...		76 134 ...		76 134 ...		76 136 ...		76 136 ...		76 136 ...	
110402EN	0,2		30201	50201	70201				30401	50401	70401			
110404EN	0,4		30401	50401	70401				30601	50601	70601			
110408EN	0,8		30601	50601	70601									
P			•	•	•	•	•	•	•	•	•	•	•	•
M					○						○			○
K			○	○					○	○				
N														
S														
H														
O														

DNMG

ISO		RE mm	NEW -M70 CTCP115-P		NEW -M70 CTCP125-P		NEW -M70 CTCP135-P	
			DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
			M		M		M	
			DNMG		DNMG		DNMG	
			76 263 ...		76 263 ...		76 263 ...	
110408EN	0,8		30601	50601	70601			
110412EN	1,2		30801	50801	70801			
P			•	•	•	•	•	•
M					○			○
K			○	○				
N								
S								
H								
O								

DNMG

ISO	RE mm						
110404EN	0,4						
110408EN	0,8						
110412EN	1,2						
P							
M							
K							
N							
S							
H							
O							

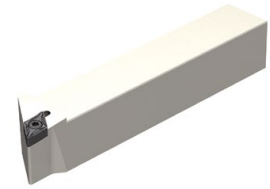
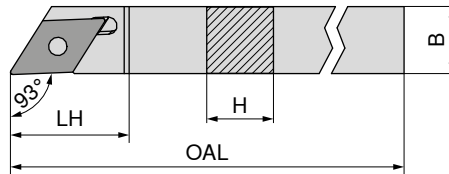
NEW	NEW	NEW	NEW	NEW	NEW
-F30 CTCM120	-F30 CTPM125	-F30 CTCM130	-M30 CTCM120	-M30 CTPM125	-M30 CTCM130
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
F DNMG	F DNMG	F DNMG	M DNMG	M DNMG	M DNMG
75 013 ...	75 013 ...	75 013 ...	75 014 ...	75 014 ...	75 014 ...

DNGU

ISO	RE mm		
1104008FN	0,08		
1104015FN	0,15		
P			
M			
K			
N			
S			
H			
O			

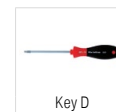
-F32 WPU7620	-F32 WUU7620
F DNGU	F DNGU
72 494 ...	72 401 ...

MaxiLock-S – SDJN 93° – Toolholder with screw clamping



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand		Right-hand	
								70 699 ...	70 698 ...	70 699 ...	70 698 ...
SDJN R/L 1012 H11	10	12	100	21,3	12	3,2	DNGU 1104	010		010	
SDJN R/L 1212 H11	12	12	100	21,3	12	3,2	DNGU 1104	012		012	
SDJN R/L 1616 K11	16	16	125	21,3	16	3,2	DNGU 1104	016		016	
SDJN R/L 2020 K11	20	20	125	21,3	20	3,2	DNGU 1104	020		020	
SDJN R/L 2525 M11	25	25	150	21,3	25	3,2	DNGU 1104	025		025	



Key D

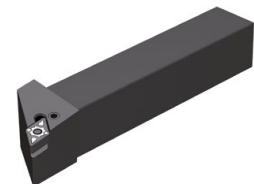
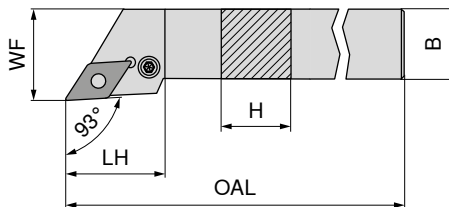


Clamping screw

Spare parts for Article no.

70 698 010 / 70 699 010	128	007
70 698 012 / 70 699 012	128	007
70 698 016 / 70 699 016	128	007
70 698 020 / 70 699 020	128	007
70 698 025 / 70 699 025	128	007

MaxiLock-N – PDJN 93° – Toolholder with lever clamping



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand		Right-hand	
								70 541 ...	70 540 ...	70 541 ...	70 540 ...
PDJN R/L 1616 H11	16	16	100	30	20	3	DN.. 1104	116		116	
PDJN R/L 2020 K11	20	20	125	30	25	3	DN.. 1104	12000 ¹⁾		12000 ¹⁾	
PDJN R/L 2525 M11	25	25	150	30	32	3	DN.. 1104	12500 ¹⁾		12500 ¹⁾	

1) nickel-plated



Key I

70 950 ...



Shim

70 950 ...



Assembly pin

70 950 ...



Lever

70 950 ...



Clamping screw

70 950 ...



Solid Carbide
Seat D

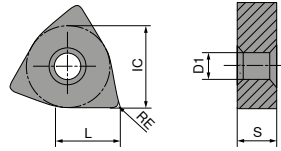
70 950 ...

for Article no.

70 540 116 / 70 541 116	175	122	191	121	208	120
70 540 12000 / 70 541 12000	175	122	191	121	208	120
70 540 12500 / 70 541 12500	175	122	191	121	208	120

WNMG

Designation	L mm	S mm	D1 mm	IC mm
WNMG 0604..	6,5	4,76	3,81	9,52



WNMG

ISO	RE mm	NEW -F50 CTCP115-P	NEW -F50 CTCP125-P	NEW -F50 CTCP135-P	NEW -M50 CTCP115-P	NEW -M50 CTCP125-P	NEW -M50 CTCP135-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F WNMG	F WNMG	F WNMG	M WNMG	M WNMG	M WNMG
		76 157 ...	76 157 ...	76 157 ...	76 139 ...	76 139 ...	76 139 ...
060404EN	0,4	30401	50401	70401	30401	50401	70401
060408EN	0,8	30601	50601	70601	30601	50601	70601
P		●	●	●	●	●	●
M				○			○
K		○	○		○	○	
N							
S							
H							
O							

WNMG

ISO	RE mm	NEW -M70 CTCP115-P	NEW -M70 CTCP125-P	NEW -M70 CTCP135-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		M WNMG	M WNMG	M WNMG
		76 273 ...	76 273 ...	76 273 ...
060408EN	0,8	30601	50601	70601
060412EN	1,2	30801	50801	70801
P		●	●	●
M				○
K		○	○	
N				
S				
H				
O				

WNMG

ISO	RE mm					
060404EN	0,4					
060408EN	0,8					
060412EN	1,2					

NEW	NEW	NEW	NEW	NEW	NEW
-F30 CTCM120	-F30 CTPM125	-F30 CTCM130	-M30 CTCM120	-M30 CTPM125	-M30 CTCM130
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
F WNMG	F WNMG	F WNMG	M WNMG	M WNMG	M WNMG
75 024 ...	75 024 ...	75 024 ...	75 025 ...	75 025 ...	75 025 ...

P	○	○	○	○	○
M	●	●	●	●	●
K					
N					
S			○		○
H					
O					

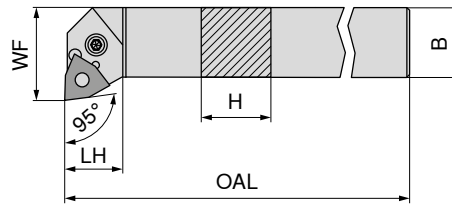
WNMG

ISO	RE mm			
060408EN	0,8			
060412EN	1,2			

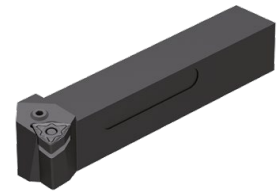
NEW	NEW	NEW
-M60 CTCM120	-M60 CTPM125	-M60 CTCM130
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
M WNMG	M WNMG	M WNMG
75 026 ...	75 026 ...	75 026 ...

P	○	○	○
M	●	●	●
K			
N			
S			○
H			
O			

MaxiLock-N – PWLN 95° – Toolholder with lever clamping



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand	Right-hand
								70 543 ...	70 542 ...
PWLN R/L 1616 H06	16	16	100	20	22,5	3	WNMG 0604	116	11600 ¹⁾
PWLN R/L 2020 K06	20	20	125	26	25,0	3	WNMG 0604	12000 ¹⁾	12000 ¹⁾
PWLN R/L 2525 M06	25	25	150	19	32,0	3	WNMG 0604	125	12500 ¹⁾

1) nickel-plated

Spare parts for Article no.	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide Seat W
70 542 11600 / 70 543 116						
70 542 12000 / 70 543 12000						
70 542 12500 / 70 543 125						

CCMT

ISO	RE mm			
060204EN	0,4			
060208EN	0,8			
09T304EN	0,4			
09T308EN	0,8			

	NEW	NEW	NEW
	-SM CTCP115-P	-SM CTCP125-P	-SM CTCP135-P
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
	M CCMT	M CCMT	M CCMT
	76 252 ...	76 252 ...	76 252 ...
	30401 30601	50401	70401 70601
	31601 31801	51601 51801	71601 71801

P	•	•	•
M			○
K	○	○	
N			
S			
H			
O			

CCMT

ISO	RE mm					
060204EN	0,4					
09T304EN	0,4					
09T308EN	0,8					

	NEW	NEW	NEW	NEW	NEW	
	-M25 CTCM120	-M25 CTPM125	-M25 CTCM130	-M55 CTCM120	-M55 CTPM125	-M55 CTCM130
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
	F CCMT	F CCMT	F CCMT	M CCMT	M CCMT	M CCMT
	75 210 ...	75 210 ...	75 210 ...	75 211 ...	75 211 ...	75 211 ...
	10400	204	30400	10400	204	
	11600 11800	216 218	31600 31800	11600 11800	216 218	31600 31800

P	○	○	○	○	○	○
M	•	•	•	•	•	•
K						
N						
S			○			○
H						
O						

CCGT

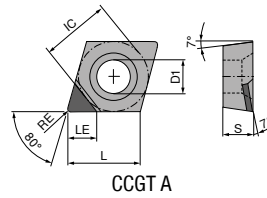
		-23P H216T	-25P H210T	NEW -25P CTPX710	-25Q H210T	NEW -25Q CTPX710
		F CCGT	F CCGT	M CCGT	M CCGT	M CCGT
		70 255 ...	70 248 ...	70 248 ...	70 248 ...	70 248 ...
ISO	RE mm					
060202FN	0,2	652	636	70200		
060204FN	0,4	654	638	70400	678	75400
09T302FN	0,2		639	71400		
09T304FN	0,4	656	640	71600	680	76600
09T308FN	0,8	658	641	71800	681	76800
P				•		•
M				•		•
K		○	○		○	
N		•	•	•	•	•
S			○	•	○	•
H						
O		○	○		○	

CCXT / CCGT / CCMT / CCET

		-M81 CWN2120	-27 H10T	-27 CWN15	NEW -27 CTPX715	NEW -29 H216T	NEW -29 CTPX715	NEW -F05 CTPX710
		M CCXT	M CCGT	M CCGT	M CCGT	M CCMT	M CCMT	F CCET
		70 254 ...	70 254 ...	70 254 ...	70 254 ...	70 245 ...	70 245 ...	76 243 ...
ISO	RE mm							
060201FN	0,1							10100
060202FN	0,2	100	600	300	80200			10200
060204EN	0,4					60400	70400	
060204FN	0,4	102	602	302	80400			10400
09T302FN	0,2	104	604	304	81400			
09T304EN	0,4					61600	71600	
09T304FN	0,4	106	606	306	81600			
09T308EN	0,8					61800	71800	
09T308FN	0,8	108	608	308	81800			
P					•		•	•
M		•		○	•		•	•
K			○		○	○	○	
N		○	•	•	•	•	•	•
S					•		•	•
H								
O			○		○	○	○	

CCGT

Designation	L mm	S mm	D1 mm	IC mm
CCGT 0602..	6,4	2,38	2,8	6,35
CCGT 09T3..	9,7	3,97	4,4	9,52

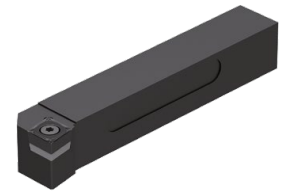
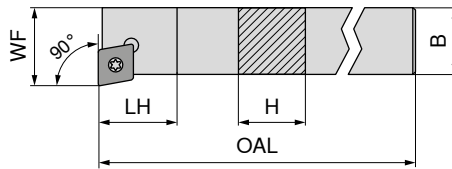


CCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	Cutting Edge Corners					
				-CB1 CTDPD20	-CB1 CTDPD20	-Q-CB2 CTDPS30	-CB3 CTDPU20	-CB1 CTDCD10	-CB2 CTDCD10
				F DIAMOND CCGT 71 300 ...	F DIAMOND CCGT 71 305 ...	M DIAMOND CCGT 71 306 ...	R DIAMOND CCGT 71 302 ...	F DIAMOND CCGT 71 300 ...	M DIAMOND CCGT 71 301 ...
060202FN	0,2	A (1)	2,4					302	30200
060202FN	0,2	A (1)	3,3						
060202FN	0,2	A (1)	3,4	102					
060204FN	0,4	A (1)	2,2					304	304
060204FN	0,4	A (1)	3,1		104				
060204FN	0,4	A (1)	3,2	104			204		
060208FN	0,8	A (1)	2,0					30600	
060208FN	0,8	A (1)	3,0	10600					
09T302FN	0,2	A (1)	2,4						31200
09T302FN	0,2	A (1)	4,4						
09T302FN	0,2	A (1)	4,5	112					
09T304FN	0,4	A (1)	2,2					314	314
09T304FN	0,4	A (1)	4,2		114				
09T304FN	0,4	A (1)	4,3	114			214		
09T308FN	0,8	A (1)	2,0						31600
09T308FN	0,8	A (1)	4,1	118			218		
P									
M									
K									
N				•	•	•	•	•	•
S									
H									
O				•	•	•	•	•	•

MaxiLock-S – SCFC 90° – Toolholder with screw clamping



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand	Right-hand
								70 761 ...	70 760 ...
SCFC R 0808 D06	8	8	60	10	10	1,2	CC.. 0602		008
SCFC R/L 1010 E06	10	10	70	10	12	1,2	CC.. 0602	010	010
SCFC R/L 1212 F09	12	12	80	13	16	3,2	CC.. 09T3	012	012
SCFC R/L 1616 H09	16	16	100	13	20	3,2	CC.. 09T3	016	016

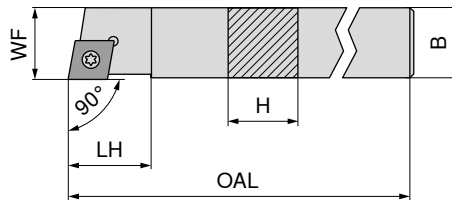
Key D	Combination Key	Clamping screw	Carbide type C	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...

Spare parts for Article no.

70 760 008	110		112		
70 760 010 / 70 761 010	110		112		
70 760 012 / 70 761 012	113		113		
70 760 016 / 70 761 016		398	113	165	171

MaxiLock-S – SCAC 90° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand	Right-hand
								70 757 ...	70 756 ...
SCAC R/L 0808 D06	8	8	60	9	8	1,2	CC.. 0602	008	008
SCAC R/L 1010 E06	10	10	70	9	10	1,2	CC.. 0602	010	010
SCAC R/L 0808 K06	8	8	125	9	8	1,2	CC.. 0602	108	108
SCAC R/L 1010 M06	10	10	150	9	10	1,2	CC.. 0602	110	110
SCAC R/L 1212 F09	12	12	80	13	12	3,2	CC.. 09T3	012	012
SCAC R/L 1616 H09	16	16	100	13	16	3,2	CC.. 09T3	116	116
SCAC R/L 1212 M09	12	12	150	13	12	3,2	CC.. 09T3	112	112
SCAC R/L 1414 M09	14	14	150	13	14	3,2	CC.. 09T3	114	114

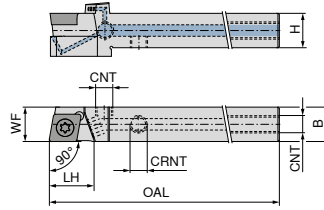
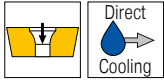
Key D	Combination Key	Clamping screw	Carbide type C	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...

Spare parts for Article no.

70 756 108 / 70 757 108	110		112		
70 756 008 / 70 757 008	110		112		
70 756 110 / 70 757 110	110		112		
70 756 010 / 70 757 010	110		112		
70 756 112 / 70 757 112	113		113		
70 756 012 / 70 757 012	113		113		
70 756 114 / 70 757 114	113		113		
70 756 116 / 70 757 116		398	113	165	171

MaxiLock-S – SCAC 90° DC – Tool holder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions



NEW Left-hand **70 766 ...**
NEW Right-hand **70 766 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CNT	CRNT	torque moment Nm	Insert	Left-hand	Right-hand
SCAC R/L 1212 F09 DC	12	12	80	13	12	M6	M6	3,2	CC.. 09T3	01201	01200
SCAC R/L 1212 M09 DC	12	12	150	13	12	M6	M6	3,2	CC.. 09T3	11201	11200
SCAC R/L 1616 H09 DC	16	16	100	13	16	G1/8"	M6	3,2	CC.. 09T3	01601	01600

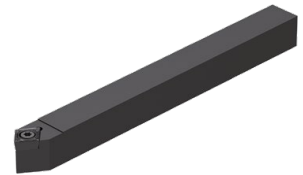
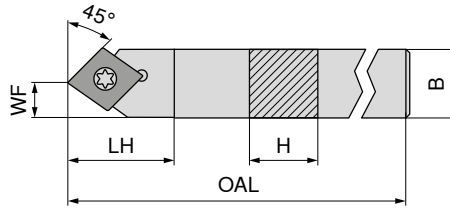
Spare parts for Article no.

Article no.	Clamping screw	Carbide type C	Grubscrew	Grubscrew	Threaded sleeve
70 766 01200 / 70 766 01201	859			86700	
70 766 11200 / 70 766 11201	859			86700	
70 766 01600 / 70 766 01601	87900	165	88000	86700	171

Spare parts for Article no.

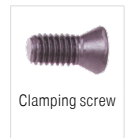
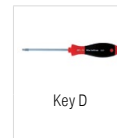
Article no.	Sealing plugs DC	Key D	O-Ring	Coolant nozzle DC	Coolant screw plug
70 766 01200 / 70 766 01201		120			
70 766 11200 / 70 766 11201		120			
70 766 01600 / 70 766 01601	87600	120	88100	87700	294

MaxiLock-S – SCDC 45° – Toolholder with screw clamping



Neutral
70 752 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	
SCDC L 0808 K06	8	8	125	13	4	1,2	CC.. 0602	008
SCDC L 1010 M06	10	10	150	13	5	1,2	CC.. 0602	010
SCDC L 1212 M09	12	12	150	18	6	3,2	CC.. 09T3	012
SCDC L 1414 M09	14	14	150	18	7	3,2	CC.. 09T3	014



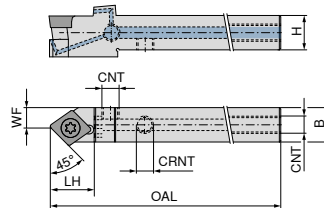
80 950 ...

70 950 ...

Spare parts for Article no.

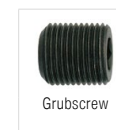
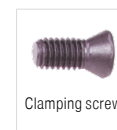
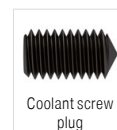
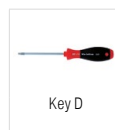
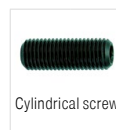
70 752 008	T08	110	M2,5x6	112
70 752 010	T08	110	M2,5x6	112
70 752 012	T15	113	M3,5x11	113
70 752 014	T15	113	M3,5x11	113

MaxiLock-S – SCDC 45° DC – Tool holder with screw clamping



NEW
Neutral
70 767 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CNT	CRNT	torque moment Nm	Insert	
SCDC L 0808 K06 DC	8	8	125	13	4	M5	M5	1,2	CC.. 0602	00801
SCDC L 1010 M06 DC	10	10	150	13	5	M6	M6	1,2	CC.. 0602	01001
SCDC L 1212 M09 DC	12	12	150	18	6	M6	M6	3,2	CC.. 09T3	01201
SCDC L 1414 M09 DC	14	14	150	18	7	G1/8"	M6	3,2	CC.. 09T3	01401



83 950 ...

80 950 ...

70 950 ...

70 950 ...

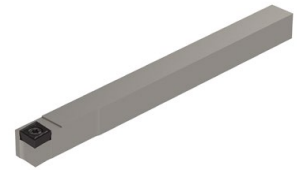
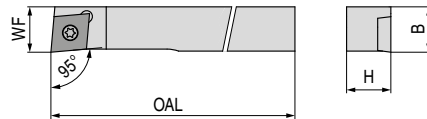
70 950 ...

Spare parts for Article no.

70 767 00801	157	039	112	86700
70 767 01001		039	112	86700
70 767 01201		120	113	86700
70 767 01401		120	113	86700

IsoClamp – SCLC 95° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	WF mm	Insert
SCLC R/L 0808 H06	8	8	100	8	CC..0602
SCLC R/L 1010 H06	10	10	100	10	CC..0602
SCLC R/L 1212 H09	12	12	100	12	CC..09T3

Left-hand	Right-hand
72 353 ...	72 352 ...
008	008
010	010
012	012

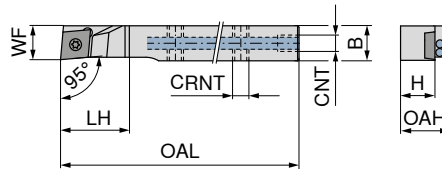
Spare parts for Article no.

72 352 008 / 72 353 008
 72 352 010 / 72 353 010
 72 352 012 / 72 353 012

	80 950 ...	70 950 ...	
Key D			
Clamping screw			
T08	110	M2,5x6	112
T08	110	M2,5x6	112
T15	113	M3,5x11	113

IsoClamp – SCLC 95° – Tool holder with thro' coolant

▲ for sliding head lathes



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CNT mm	CRNT mm	Insert
SCLC R/L 0808 H06 IC	8	8	100	16	8	M5	M5	CC..0602
SCLC R/L 1010 H06 IC	10	10	100	16	10	M5	M5	CC..0602
SCLC R/L 1212 H09 IC	12	12	100	19	12	M5	M5	CC..09T3
SCLC R/L 1616 K09 IC	16	16	125	19	16	M5	M5	CC..09T3

Left-hand	Right-hand
72 351 ...	72 350 ...
008	008
010	010
012	012
016	016

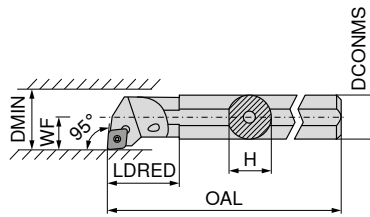
Spare parts for Article no.

72 350 008 / 72 351 008
 72 350 010 / 72 351 010
 72 350 012 / 72 351 012
 72 350 016 / 72 351 016

	72 950 ...	80 950 ...	70 950 ...
Cylindrical screw			
Key D			
Clamping screw			
011	110	112	
011	110	112	
011	113	113	
011	113	113	

MaxiLock-S – SCLC 95° – Boring bar with screw clamping

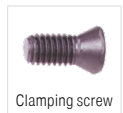
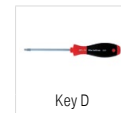
- ▲ A... = with thro' coolant
- ▲ S... = without thro' coolant



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 717 ...	70 716 ...
A08F SCLC R/L 06	8	7,6	80	17	5	11	1,2	CC.. 0602	208	208
S08H SCLC R/L 06	8	7,2	100		5	11	1,2	CC.. 0602	008	008
A10H SCLC R/L 06	10	9,5	100	19	7	13	1,2	CC.. 0602	210	210
S10K SCLC R/L 06	10	9,0	125		7	13	1,2	CC.. 0602	010	010
A12K SCLC R/L 06	12	11,5	125	22	9	16	1,2	CC.. 0602	212	212
S12Q SCLC R/L 06	12	11,0	180		9	16	1,2	CC.. 0602	012	012
A16M SCLC R/L 06	16	14,0	150	50	9	18	1,2	CC.. 0602	116	116
A16M SCLC R/L 09	16	15,0	150	29	11	20	3,2	CC.. 09T3	216	216
S16R SCLC R/L 09	16	14,5	200		11	20	3,2	CC.. 09T3	016	016
A20Q SCLC R/L 09	20	18,5	180	32	13	25	3,2	CC.. 09T3	220	220
S20S SCLC R/L 09	20	18,0	250		13	25	3,2	CC.. 09T3	020	020
A25R SCLC R/L 09	25	23,0	200	36	17	32	3,2	CC.. 09T3	225	225
S25T SCLC R/L 09	25	23,0	300		17	32	3,2	CC.. 09T3	025	025

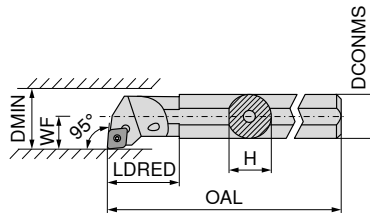


Spare parts for Article no.

	80 950 ...	70 950 ...
70 716 008 / 70 717 008	110	116
70 716 208 / 70 717 208	110	116
70 716 010 / 70 717 010	110	116
70 716 210 / 70 717 210	110	116
70 716 012 / 70 717 012	110	116
70 716 212 / 70 717 212	110	116
70 716 116 / 70 717 116	110	116
70 716 016 / 70 717 016	113	110
70 716 216 / 70 717 216	113	110
70 716 020 / 70 717 020	113	110
70 716 220 / 70 717 220	113	304
70 716 025 / 70 717 025	113	113
70 716 225 / 70 717 225	113	304

MaxiLock-S – SCLC 95° – Boring bar with screw clamping

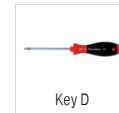
▲ Type: Solid carbide



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 719 ...	70 718 ...
E08H SCLC R/L 06	8	7,6	100		6	11	1,2	CC.. 0602	008	008
E10K SCLC R/L 06	10	9,0	125	22	7	13	1,2	CC.. 0602	010	010
E12Q SCLC R/L 06	12	11,5	180	26	9	16	1,2	CC.. 0602	012	012
E16R SCLC R/L 09	16	15,0	200	34	11	20	3,2	CC.. 09T3	016	016
E20S SCLC R/L 09	20	18,5	250	38	13	25	3,2	CC.. 09T3	020	020
E25T SCLC R/L 09	25	23,0	300	43	17	32	3,2	CC.. 09T3	025	025



Key D

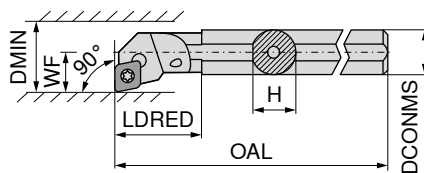


Clamping screw

Spare parts for Article no.

Article no.	Key D	Clamping screw
70 719 008 / 70 718 008	T08	M2,5x5
70 719 010 / 70 718 010	T08	M2,5x5
70 719 012 / 70 718 012	T08	M2,5x5
70 719 016 / 70 718 016	T15	M3,5x7,2
70 719 020 / 70 718 020	T15	M3,5x8,6
70 719 025 / 70 718 025	T15	M3,5x11

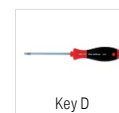
MaxiLock-S – SCFC 90° – Boring bar with screw clamping



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 793 ...	70 792 ...
A08F SCFC R/L 06	8	7,6	80	17	5	11	1,2	CC.. 0602	208	208
A10H SCFC R/L 06	10	9,5	100	19	7	13	1,2	CC.. 0602	210	210
A12K SCFC R/L 06	12	11,5	125	22	9	16	1,2	CC.. 0602	212	212



Key D



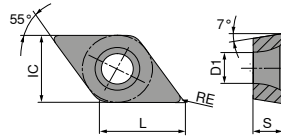
Clamping screw

Spare parts for Article no.

Article no.	Key D	Clamping screw
70 792 208 / 70 793 208	T08	M2,5x5
70 792 210 / 70 793 210	T08	M2,5x5
70 792 212 / 70 793 212	T08	M2,5x5

DCGT / DCMT / DCXT / DCET

Designation	L mm	S mm	D1 mm	IC mm
DC.T 0702..	7,75	2,38	2,8	6,35
DC.T 11T3..	11,60	3,97	4,4	9,52



DCMT / DCGT

		NEW	NEW	NEW	NEW	NEW	NEW	
		-SF CTCP115-P	-SF CTCP125-P	-SF CTCP125-P	-SF CTCP135-P	-SMF CTCP115-P	-SMF CTCP125-P	-SMF CTCP135-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F DCMT	F DCGT	F DCMT	F DCMT	F DCMT	F DCMT	F DCMT
		76 259 ...	76 257 ...	76 259 ...	76 259 ...	76 265 ...	76 265 ...	76 265 ...
ISO	RE mm							
070202EN	0,2		50201					
070204EN	0,4	30401		50401	70401		50401	70401
070208EN	0,8							70601
11T304EN	0,4	31601		51601	71601	31601	51601	71601
11T308EN	0,8	31801		51801	71801	31801	51801	71801
P		•	•	•	•	•	•	•
M					○			○
K		○	○	○	○	○	○	○
N								
S								
H								
O								

DCMT / DCGT

		NEW	NEW	NEW	NEW	NEW	NEW	NEW
		-SM	-SM	-SM	-SM	-SM	-SMQ	-SMQ
		CTCP115-P	CTCP125-P	CTCP125-P	CTCP135-P	CTCP135-P	CTCP115-P	CTCP125-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		M	M	M	M	M	M	M
		DCMT	DCGT	DCMT	DCGT	DCMT	DCMT	DCMT
		76 258 ...	76 256 ...	76 258 ...	76 256 ...	76 258 ...	76 195 ...	76 195 ...
ISO	RE mm							
070202EN	0,2		50201		70201			
070204EN	0,4	30401		50401		70401	30401	50401
070208EN	0,8	30601		50601		70601		
11T304EL	0,4							51601
11T304EN	0,4	31601		51601		71601		51501
11T304ER	0,4							51701
11T308EN	0,8	31801		51801		71801		51801
11T312EN	1,2			52001				
P		●	●	●	●	●	●	●
M					○	○		
K		○	○	○			○	○
N								
S								
H								
O								

DCMT

		NEW	NEW	NEW	NEW	NEW
		-M25	-M25	-M25	-M55	-M55
		CTCM120	CTPM125	CTCM130	CTCM120	CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F	F	F	M	M
		DCMT	DCMT	DCMT	DCMT	DCMT
		75 213 ...	75 213 ...	75 213 ...	75 214 ...	75 214 ...
ISO	RE mm					
070202EN	0,2		10200	202	30200	
070204EN	0,4		10400	204	30400	
070208EN	0,8				10400	204
					10600	206
						30400
						30600
11T302EN	0,2		11400	214	31400	
11T304EN	0,4		11600	216	31600	
11T308EN	0,8		11800	218	31800	
					11600	216
					11800	218
						31600
						31800
P			○	○	○	○
M			●	●	●	●
K						
N						
S					○	○
H						
O						

DCGT

ISO	RE mm	-FM37 WUU7610	-FM37 WPU7610	-FM37 WPU7620
0702006FN	0,06	006	706	506
0702015FN	0,15	015	715	515
0702035FN	0,35	035	735	535
11T3008FN	0,08	038	738	538
11T3015FN	0,15	045	745	
11T3035FN	0,35	065	765	565
P		○	●	●
M			●	○
K			○	●
N		●	○	○
S		○	●	○
H				
O		●	○	○

DCGT

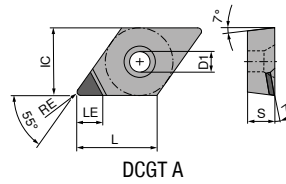
ISO	RE mm	-23P H216T	-25P H210T	NEW -25P CTPX710 DRAGONSKIN	-25Q H210T	NEW -25Q CTPX710 DRAGONSKIN	-27 H10T	-27 CWN15
070202FN	0,2			70200			600	300
070204FN	0,4	654	634	70400			602	302
11T302FN	0,2		635	71400			604	304
11T304FL	0,4				670	75700		
11T304FN	0,4	664	636	71600	660	75600	606	306
11T304FR	0,4				680	75800		
11T308FL	0,8				672			
11T308FN	0,8	666	638	71800	662	76000	608	308
11T308FR	0,8				682			
P				●		●		
M				●		●		○
K		○	○		○		○	
N		●	●	●	●	●	●	●
S			○	●	○	●		
H								
O		○	○		○		○	

DCXT / DCGT / DCMT / DCET

		-M81 CWN2120	NEW -27 CTPX715 DRAGONSKIN	NEW -29 H216T	NEW -29 CTPX715 DRAGONSKIN	NEW -F05 CTPX710 DRAGONSKIN
		M DCXT	M DCGT	M DCMT	M DCMT	F DCET
		70 260 ...	70 260 ...	70 246 ...	70 246 ...	76 254 ...
ISO	RE mm					
0702005FN	0,05					10200
070201FN	0,10					10400
0702015FN	0,15					10600
070202FN	0,20	100	80200			10800
070204FN	0,40	102	80400			
070204EN	0,40			60400	70400	
11T3005FN	0,05					11400
11T301FN	0,10					11600
11T3015FN	0,15					11800
11T302FN	0,20	104	81400			12000
11T304EN	0,40			61600	71600	
11T304FN	0,40	106	81600			12200
11T308EN	0,80			61800	71800	
11T308FN	0,80	108	81800			
P			●		●	●
M		●				●
K			○	○	○	
N		○	●	●	●	●
S			●		●	●
H						
O			○	○	○	

DCGT

Designation	L mm	S mm	D1 mm	IC mm
DCGT 0702..	7,75	2,38	2,8	6,35
DCGT 11T3..	11,60	3,97	4,4	9,52



DCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

-CB1 CTDPD20	-CB1 CTDPS30	-CB2 CTDPS30	-CB3 CTDPU20	-CB1 CTDCD10	-CB2 CTDCD10
F DIAMOND DCGT	F DIAMOND DCGT	M DIAMOND DCGT	R DIAMOND DCGT	F DIAMOND DCGT	M DIAMOND DCGT
71 310 ...	71 310 ...	71 311 ...	71 312 ...	71 310 ...	71 311 ...

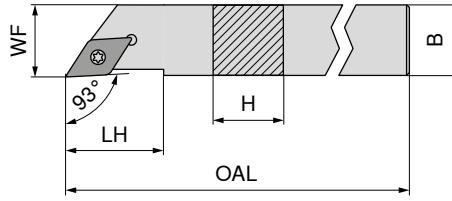
ISO	RE mm	TCE (NOI)	LE mm	71 310 ...	71 310 ...	71 311 ...	71 312 ...	71 310 ...	71 311 ...
070201FN	0,1	A (1)	3,8	10100	20100				
070202FN	0,2	A (1)	2,6					302	30200
070202FN	0,2	A (1)	3,7	102	202	202		304	304
070204FN	0,4	A (1)	2,3				204		
070204FN	0,4	A (1)	3,4	104	204	204			
070208FN	0,8	A (1)	2,0			208			308
070208FN	0,8	A (1)	3,0	108					
11T301FN	0,1	A (1)	4,8	11100	21100	21100			
11T302FN	0,2	A (1)	2,6					31200	31200
11T302FN	0,2	A (1)	4,7	112	212	212			
11T304FN	0,4	A (1)	2,3					314	314
11T304FN	0,4	A (1)	4,3	114	214	214	214		
11T308FN	0,8	A (1)	2,0					318	318
11T308FN	0,8	A (1)	4,0	118	218	218	218		

P									
M									
K									
N				•	•	•	•	•	•
S									
H									
O				•	•	•	•	•	•

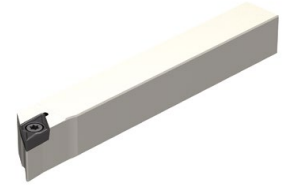
3

MaxiLock-S – SDJC 93° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

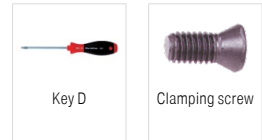


ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert
SDJC R/L 0808 H07	8	8	100	13,0	8	1,2	DC.. 0702
SDJC R/L 1010 H07	10	10	100	13,0	10	1,2	DC.. 0702
SDJC R/L 1212 H07	12	12	100	14,5	12	1,2	DC.. 0702
SDJC R/L 1616 K07	16	16	125	33,0	16	1,2	DC.. 0702
SDJC R/L 1212 H11	12	12	100	22,0	12	3,2	DC.. 11T3
SDJC R/L 1616 K11	16	16	125	33,0	16	3,2	DC.. 11T3
SDJC R/L 2020 K11	20	20	125		20		DC.. 11T3

Left-hand	Right-hand
70 685 ...	70 684 ...
108	108
110	110
112	112
116	116
212	212
216	216
220	220

Spare parts

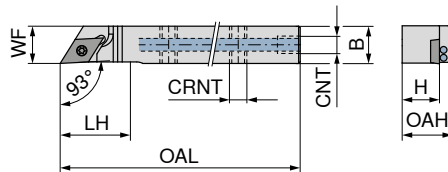
Insert	Key D	Clamping screw
DC.. 0702	T08	110 002
DC.. 11T3	T15	113 006



80 950 ...	72 950 ...

IsoClamp – SDJC 93° – Tool holder with thro' coolant

▲ for sliding head lathes



Illustrations show right-hand versions

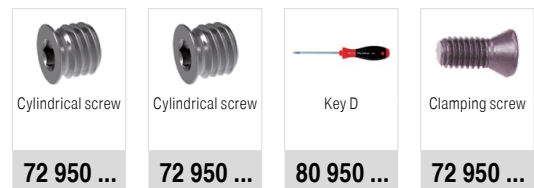


ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CNT	CRNT	Insert
SDJC L 0808 H07 IC	8	8	100	17	8	M5	M5	DC.. 0702
SDJC R/L 1010 H07 IC	10	10	100	17	10	M5	M5	DC.. 0702
SDJC R/L 1212 H07 IC	12	12	100	17	12	M5	M5	DC.. 0702
SDJC R/L 1616 K07 IC	16	16	125	17	16	G1/8"	M5	DC.. 0702
SDJC R/L 1010 H11 IC	10	10	100	22	10	M5	M5	DC.. 11T3
SDJC R/L 1212 H11 IC	12	12	100	22	12	M5	M5	DC.. 11T3
SDJC R/L 1616 K11 IC	16	16	125	22	16	G1/8"	M5	DC.. 11T3
SDJC R/L 2020 K11 IC	20	20	125	22	20	G1/8"	M5	DC.. 11T3

Left-hand	Right-hand
72 357 ...	72 356 ...
008	010
010	010
012	012
016	016
110	110
112	112
116	116
120	120

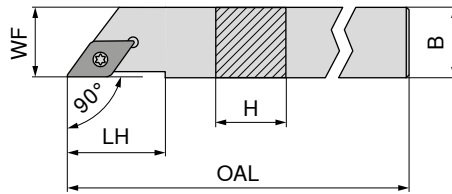
Spare parts

Insert	CNT	Cylindrical screw	Key D	Clamping screw
DC.. 0702	M5			
DC.. 0702	G1/8"	72 950 ... 010	80 950 ... 110	72 950 ... 002
DC.. 11T3	M5			
DC.. 11T3	G1/8"	72 950 ... 010	80 950 ... 113	72 950 ... 006



MaxiLock-S – SDAC 90° – Toolholder with screw clamping

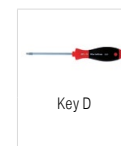
▲ for sliding head lathes



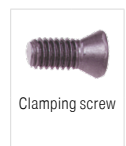
Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand		Right-hand	
								70 789 ...		70 788 ...	
SDAC R/L 0808 K07	8	8	125	14	8	1,2	DC.. 0702		008		008
SDAC R/L 1010 M07	10	10	150	14	10	1,2	DC.. 0702		010		010
SDAC R/L 1212 M07	12	12	150	14	12	1,2	DC.. 0702		012		012
SDAC R/L 1414 M11	14	14	150	21	14	3,2	DC.. 11T3		014		014



80 950 ...

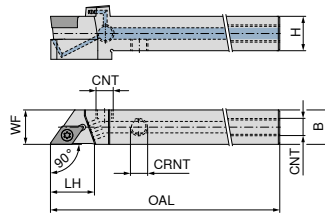
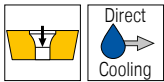


70 950 ...

Spare parts for Article no.				
70 788 008 / 70 789 008	T08	110	M2,5x6	112
70 788 010 / 70 789 010	T08	110	M2,5x6	112
70 788 012 / 70 789 012	T08	110	M2,5x6	112
70 788 014 / 70 789 014	T15	113	M3,5x11	113

MaxiLock-S – SDAC 90° DC – Tool holder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions



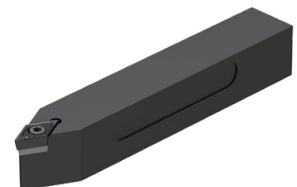
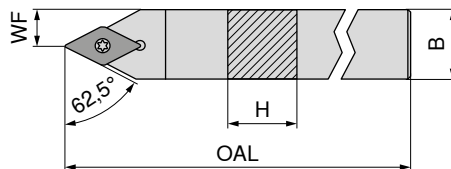
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CNT	CRNT	torque moment Nm	Insert	NEW Left-hand 70 771 ...	NEW Right-hand 70 771 ...
SDAC R/L 0808 K07 DC	8	8	125	14	8	M5	M5	1,2	DC.. 0702	00801	00800
SDAC R/L 1010 M07 DC	10	10	150	14	10	M6	M6	1,2	DC.. 0702	01001	01000
SDAC R/L 1212 M07 DC	12	12	150	14	12	M6	M6	1,2	DC.. 0702	01201	01200
SDAC R/L 1212 M11 DC	12	12	150	21	12	M6	M6	3,2	DC.. 11T3	11201	11200

Spare parts for Article no.

Article no.	83 950 ...	80 950 ...	70 950 ...	70 950 ...
70 771 00800	157	110	112	
70 771 00801	157	039	112	
70 771 01000 / 70 771 01001		039	112	86700
70 771 01200 / 70 771 01201		039	112	86700
70 771 11200 / 70 771 11201		113	113	86700

Cylindrical screw	Key D	Clamping screw	Grubscrew
83 950 ...	80 950 ...	70 950 ...	70 950 ...

MaxiLock-S – SDNC 62.5° – Toolholder with screw clamping



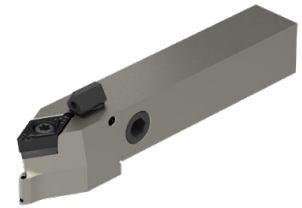
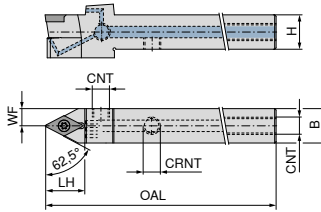
ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	Neutral 70 680 ...
SDNC N 0808 D07	8	8	60	4,0	1,2	DC.. 0702	008
SDNC N 1010 E07	10	10	70	5,0	1,2	DC.. 0702	010
SDNC N 1212 F07	12	12	80	6,0	1,2	DC.. 0702	012
SDNC N 1616 H11	16	16	100	8,0	3,2	DC.. 11T3	016
SDNC N 2020 K11	20	20	125	10,0	3,2	DC.. 11T3	020
SDNC N 2525 M11	25	25	150	12,5	3,2	DC.. 11T3	025

Spare parts for Article no.

Article no.	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 680 008	110		112		
70 680 010	110		112		
70 680 012	110		112		
70 680 016		398	113	106	171
70 680 020		398	113	106	171
70 680 025		398	113	106	171

Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...

MaxiLock-S – SDNC 62.5° DC – Tool holder with screw clamping



NEW
Neutral
70 774 ...

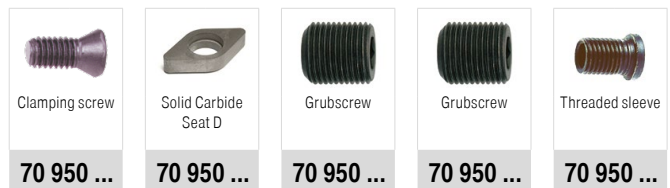
ISO designation	H mm	B mm	OAL mm	WF mm	CNT	CRNT	torque moment Nm	Insert	
SDNC N 1212 F07 DC	12	12	80	6,0	M6	M6	1,2	DC.. 0702	01200
SDNC N 1212 M07 DC	12	12	150	6,0	M6	M6	1,2	DC.. 0702	11200
SDNC N 1212 M11 DC	12	12	150	6,0	M6	M6	3,2	DC.. 11T3	21200
SDNC N 1616 H11 DC	16	16	100	8,0	G1/8"	M6	3,2	DC.. 11T3	01600
SDNC N 2020 K11 DC	20	20	125	10,0	G1/8"	M6	3,2	DC.. 11T3	02000
SDNC N 2525 M11 DC	25	25	150	12,5	G1/8"	M6	3,2	DC.. 11T3	02500

**Spare parts
for Article no.**

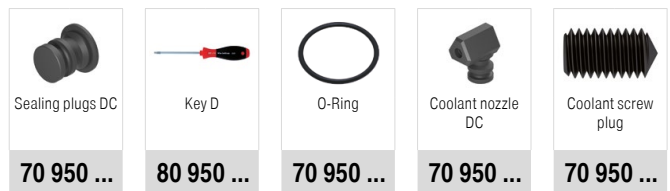
Article no.	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 774 01200	857			86700	
70 774 11200	857			86700	
70 774 01600	87900	106	88000	86700	171
70 774 02000	87900	106	88000	86700	171
70 774 21200	859			86700	
70 774 02500	87900	106	88000	86700	171

**Spare parts
for Article no.**

Article no.	70 950 ...	80 950 ...	70 950 ...	70 950 ...	70 950 ...
70 774 01200		039			
70 774 11200		039			
70 774 01600	87600	120	88100	87700	294
70 774 02000	87600	120	88100	87700	294
70 774 21200		120			
70 774 02500	87600	120	88100	87700	294

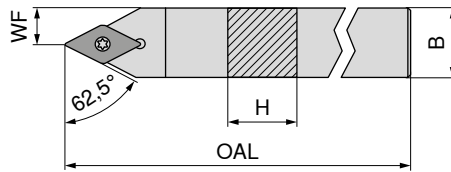


Clamping screw	Solid Carbide Seat D	Grubscrew	Grubscrew	Threaded sleeve
70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...



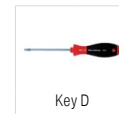
Sealing plugs DC	Key D	O-Ring	Coolant nozzle DC	Coolant screw plug
70 950 ...	80 950 ...	70 950 ...	70 950 ...	70 950 ...

MaxiLock-S – SDNC 62.5° – Toolholder with screw clamping

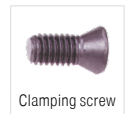


Neutral
70 784 ...

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	
SDNC N 0808 K07	8	8	125	4	1,2	DC.. 0702	008
SDNC N 1010 M07	10	10	150	5	1,2	DC.. 0702	010
SDNC N 1212 M07	12	12	150	6	1,2	DC.. 0702	012
SDNC N 1414 M11	14	14	150	7	3,2	DC.. 11T3	014



80 950 ...



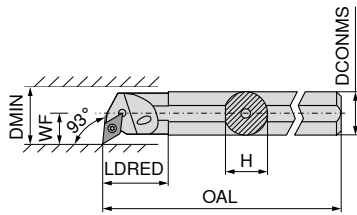
Clamping screw

70 950 ...

Spare parts for Article no.				
70 784 008	T08	110	M2,5x6	112
70 784 010	T08	110	M2,5x6	112
70 784 012	T08	110	M2,5x6	112
70 784 014	T15	113	M3,5x11	113

MaxiLock-S – SDUC 93° – Boring bar with screw clamping

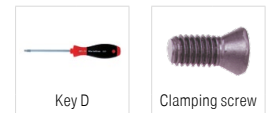
- ▲ A... = with thro' coolant
- ▲ S... = without thro' coolant



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 737 ...	70 736 ...
S12Q SDUC R/L 07	12	11,0	180		9	17	1,2	DC.. 0702	012	012
A12K SDUC R/L 07	12	11,5	125	22	9	16	1,2	DC.. 0702	212	212
S16R SDUC R/L 07	16	15,0	200		11	21	1,2	DC.. 0702	016	016
A16M SDUC R/L 07	16	15,0	150	29	11	20	1,2	DC.. 0702	216	216
S20S SDUC R 07	20	18,0	250		13	25	1,2	DC.. 0702		020
A20Q SDUC R/L 07	20	18,5	180	32	13	25	1,2	DC.. 0702	220	220
S20S SDUC R 11	20	18,0	250		13	25	3,2	DC.. 11T3		120
A20Q SDUC R/L 11	20	18,5	180	32	13	25	3,2	DC.. 11T3	320	320



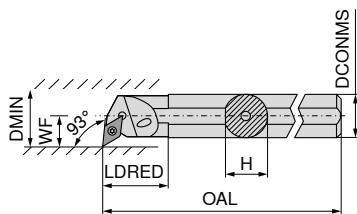
80 950 ... 70 950 ...

Spare parts

Insert	Left-hand	Right-hand
DC.. 0702	110	112
DC.. 11T3	113	110

MaxiLock-S – SDUC 93° – Boring bar with screw clamping

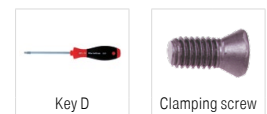
- ▲ Type: Solid carbide



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 739 ...	70 738 ...
E12Q SDUC R/L 07	12	11,5	180	26	9	16	1,2	DC.. 0702	012	012
E16R SDUC R/L 07	16	15,0	200	34	11	20	1,2	DC.. 0702	016	016
E20S SDUC R/L 11	20	18,5	250	38	13	25	3,2	DC.. 11T3	120	120
E25T SDUC R/L 11	25	23,0	300	43	17	32	3,2	DC.. 11T3	125	125

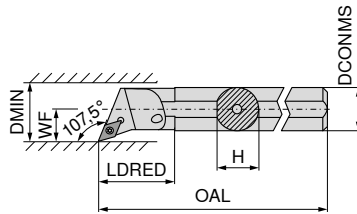


80 950 ... 70 950 ...

Spare parts for Article no.

Article no.	Left-hand	Right-hand
70 739 012 / 70 738 012	110	112
70 739 016 / 70 738 016	110	112
70 739 120 / 70 738 120	113	304
70 739 125 / 70 738 125	113	113

MaxiLock-S – SDQC 107.5° – Boring bar with screw clamping



Illustrations show right-hand versions



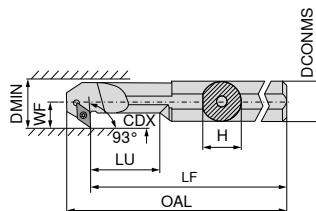
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 741 ...	70 740 ...
A10H SDQC R/L 07	10	9,0	100	22	7	12,5	1,2	DC.. 0702	210	210
A12K SDQC R/L 07	12	11,5	125	22	9	16,0	1,2	DC.. 0702	212	212
A16M SDQC R/L 07	16	15,0	150	29	11	20,0	1,2	DC.. 0702	216	216
A20Q SDQC R/L 07	20	18,5	180	32	13	25,0	1,2	DC.. 0702	220	220
A25R SDQC R/L 11	25	23,0	200	36	17	32,0	3,2	DC.. 11T3	225	225

Spare parts for Article no.

Article no.	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 740 210 / 70 741 210	110			112	
70 740 212 / 70 741 212	110			112	
70 740 216 / 70 741 216	110			112	
70 740 220 / 70 741 220	110			112	
70 740 225 / 70 741 225		398		113	171

Part	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
Key D					
Combination Key					
Clamping screw					
Solid Carbide Seat D					
Threaded sleeve					

MaxiLock-S – SDXC 93° – Boring bar with screw clamping



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	LF mm	OAL mm	LU mm	WF mm	DMIN mm	CDX mm	torque moment Nm	Insert	Left-hand	Right-hand
											70 733 ...	70 732 ...
A12K SDXC R/L 07	12	11,5	125	137,0	24	9	16	4,5	1,2	DC.. 0702	212	212
A16M SDXC R/L 07	16	15,0	150	162,0	36	11	20	4,5	1,2	DC.. 0702	216	216
A20Q SDXC R/L 11	20	18,5	180	196,5	40	13	25	6,5	3,2	DC.. 11T3	220	220
A25R SDXC R/L 11	25	23,0	200	216,8	50	17	32	9,5	3,2	DC.. 11T3	225	225

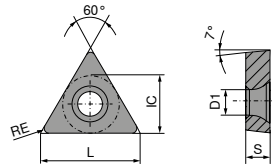
Spare parts for Article no.

Article no.	80 950 ...	70 950 ...
70 733 212 / 70 732 212	110	112
70 733 216 / 70 732 216	110	112
70 733 220 / 70 732 220	113	304
70 733 225 / 70 732 225	113	304

Part	80 950 ...	70 950 ...
Key D		
Clamping screw		

TCMT / TCGT

Designation	L mm	S mm	D1 mm	IC mm
TCMT 0902..	9,6	2,38	2,5	5,56
TC.T 1102..	11,0	2,38	2,8	6,35






TCMT / TCGT

		NEW	NEW	NEW	NEW	NEW	NEW
		-SF CTCP125-P	-SMF CTCP115-P	-SMF CTCP135-P	-SM CTCP115-P	-SM CTCP125-P	-SM CTCP135-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F TCMT	F TCMT	F TCMT	M TCMT	M TCMT	M TCMT
		76 275 ...	76 284 ...	76 284 ...	76 274 ...	76 274 ...	76 270 ...
ISO	RE mm						
090204EN	0,4					50401	70401
110202EN	0,2						71401
110204EN	0,4	51601			31601	51601	71601
110208EN	0,8	51801	31801	71801	31801		71801
P		●	●	○	●	●	●
M				○			○
K		○	○		○	○	
N							
S							
H							
O							

TCMT

		NEW		NEW	NEW	NEW
		-M25 CTCM120	-M25 CTPM125	-M25 CTCM130	-M55 CTCM120	-M55 CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F TCMT	F TCMT	F TCMT	M TCMT	M TCMT
		75 217 ...	75 217 ...	75 217 ...	75 218 ...	75 218 ...
ISO	RE mm					
090204EN	0,4				10400	204
110204EN	0,4	11600	216	31600	11600	216
P		○	○	○	○	○
M		●	●	●	●	●
K						
N						
S				○		○
H						
O						

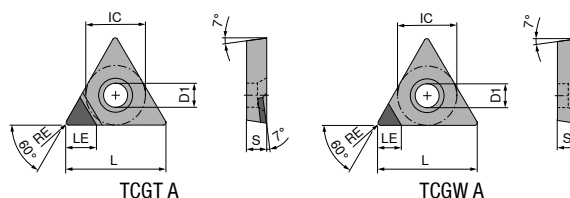
TCGT

		NEW
-27 H10T	-27 CWN15	-27 CTPX715
○ ○ ⊕	○ ○ ⊕	DRAGONSKIN ○ ○ ⊕
		
M TCGT	M TCGT	M TCGT
70 276 ...	70 276 ...	70 276 ...
600	300	71400
602	302	81600

ISO	RE mm			
110202FN	0,2			
110204FN	0,4			
P				●
M			○	●
K		○		○
N		●	●	●
S				●
H				
O		○		○

TCGT / TCGW

Designation	L mm	S mm	D1 mm	IC mm
TCG. 0902..	9,6	2,38	2,5	5,56
TCG. 1102..	11,0	2,38	2,8	6,35



TCGW / TCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

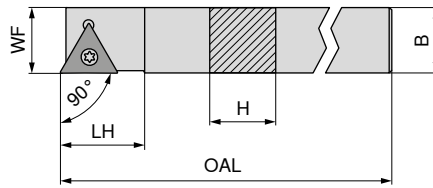
	CTDPD20	NEW CTDPD20	-CB1 CTDPD20	-CB2 CTDPS30	NEW CTDPS30
	F	F	F	M	F
	DIAMOND TCGW	DIAMOND TCGT	DIAMOND TCGT	DIAMOND TCGT	DIAMOND TCGT
	71 140 ...	71 184 ...	71 325 ...	71 326 ...	71 184 ...
ISO					
090202FN	0,2	A (1)	3,7		
090204FN	0,4	A (1)	3,4		
090208FN	0,8	A (1)	3,0		
110202FN	0,2	A (1)	3,7		
110204FN	0,4	A (1)	3,4		
110208FN	0,8	A (1)	3,0		
	100		112	212	20001
	102		114	214	20101
	104	10001			
	106	10101	122	222	
	108	10201	124	224	20201
	110	10301			

P					
M					
K					
N		•	•	•	•
S					
H					
O		•	•	•	•

3

MaxiLock-S – STAC 90° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

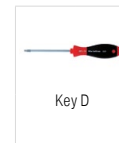


ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert
STAC R/L 1010 K09	10	10	125	12	10	1	TC.. 0902
STAC R/L 1212 K11	12	12	125	15	12	1,2	TC.. 1102
STAC R 1414 K11	14	14	125	15	14	1,2	TC.. 1102

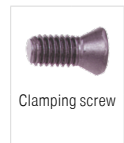
Left-hand	Right-hand
70 769 ...	70 768 ...
010	010
012	012
	014

Spare parts for Article no.

70 769 012 / 70 768 012	T08	110	M2,5x6	112
70 768 014	T08	110	M2,5x6	112



Key D

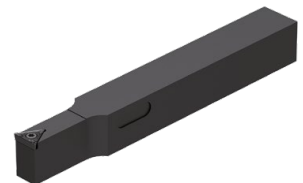
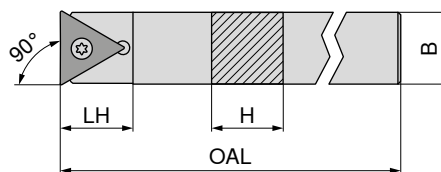


Clamping screw

80 950 ...

70 950 ...

MaxiLock-S – STCC 90° – Toolholder with screw clamping

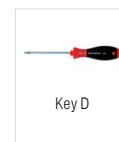


ISO designation	H mm	B mm	OAL mm	LH mm	torque moment Nm	Insert
STCC N 0808 K09	8	8	125	11	1	TC.. 0902
STCC N 1010 K11	10	10	125	15	1,2	TC.. 1102
STCC N 1212 K11	12	12	125	15	1,2	TC.. 1102
STCC N 1414 K11	14	14	125	21	1,2	TC.. 1102
STCC N 1616 K11	16	16	125	24	1,2	TC.. 1102

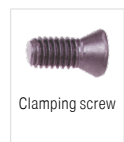
Neutral
70 782 ...

Spare parts for Article no.

70 782 010	T08	110	M2,5x6	112
70 782 012	T08	110	M2,5x6	112
70 782 014	T08	110	M2,5x6	112
70 782 016	T08	110	M2,5x6	112



Key D



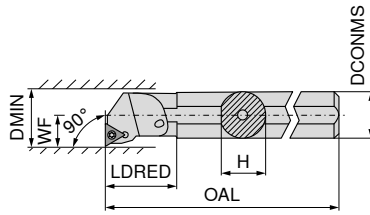
Clamping screw

80 950 ...

70 950 ...

MaxiLock-S – STFC 90° – Boring bar with screw clamping

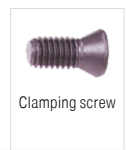
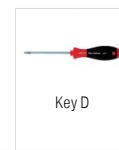
- ▲ A... = with thro' coolant
- ▲ S... = without thro' coolant



Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 729 ...	70 728 ...
A10H STFC R/L 09	10	9,5	100	19	7	13	1	TC.. 0902	210	210
A12K STFC R/L 11	12	11,5	125	22	9	16	1,2	TC.. 1102	212	212
A16M STFC R/L 11	16	15,0	150	29	11	20	1,2	TC.. 1102	216	216

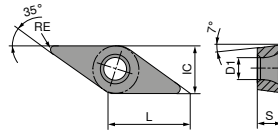


**Spare parts
for Article no.**

Article no.	Key D	Clamping screw
70 729 212 / 70 728 212	T08	110 M2,5x6
70 729 216 / 70 728 216	T08	110 M2,5x6

VC GT / VC MT / VC ET

Designation	L mm	S mm	D1 mm	IC mm
VC.T 1103..	11,1	3,18	2,9	6,35



VC GT / VC MT

		NEW	NEW	NEW	NEW	NEW	NEW	NEW
		-SF CTCP115-P	-SF CTCP125-P	-SF CTCP135-P	-SMF CTCP115-P	-SMF CTCP125-P	-SMF CTCP135-P	-SMF CTCP135-P
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		F VCGT	F VCGT	F VCGT	F VCMT	F VCMT	F VCGT	F VCMT
		76 277 ...	76 277 ...	76 277 ...	76 288 ...	76 288 ...	76 285 ...	76 288 ...
ISO	RE mm							
110302EN	0,2	31401	51401	71401			71401	
110304EN	0,4	31601	51601	71601	31601	51601		71601
110308EN	0,8	31801	51801	71801				
P		•	•	•	•	•	•	•
M				○			○	○
K		○	○		○	○		
N								
S								
H								
O								

VC GT

			NEW				NEW
		-25P H210T	-25P CTPX710	-25Q H210T	-27 H10T	-27 CWN15	-27 CTPX715
			DRAGONSKIN				DRAGONSKIN
		F VCGT	M VCGT	M VCGT	M VCGT	M VCGT	M VCGT
		70 282 ...	70 282 ...	70 282 ...	70 280 ...	70 280 ...	70 280 ...
ISO	RE mm						
110302FN	0,2		71400		606	306	81400
110304FL	0,4	638		670			
110304FN	0,4	640	71600		608	308	81600
110304FR	0,4			680			
110308FN	0,8				610	310	71800
P			•				•
M			•			○	•
K		○		○	○		○
N		•	•	•	•	•	•
S		○	•	○			•
H							
O		○		○	○		○

VCET

NEW

-F05
CTPX710

DRAGONSKIN



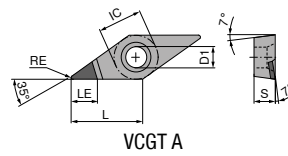
F
VCET

76 255 ...

ISO	RE mm	
1103005FN	0,05	11400
1103015FN	0,15	11800
110301FN	0,10	11600
110302FN	0,20	12000
110304FN	0,40	12200
P		•
M		•
K		
N		•
S		•
H		
O		

VCGT

Designation	L mm	S mm	D1 mm	IC mm
VCGT 1103..	11,1	3,18	2,9	6,35

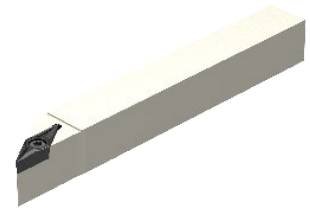
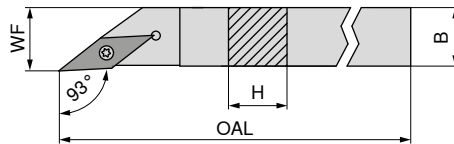


VCGT

▲ TCE(NOI) = Design and number of equipped cutting edge corners

ISO	RE mm	TCE (NOI)	LE mm	-CB1 CTDPD20		-CB1 CTDPS30		-CB2 CTDPS30		-CB3 CTDPU20		-CB1 CTDCD10		-CB2 CTDCD10	
				Diagram	Image	Diagram	Image	Diagram	Image	Diagram	Image	Diagram	Image	Diagram	Image
				F	F	M	R	F	M						
				DIAMOND	DIAMOND	DIAMOND	DIAMOND	DIAMOND	DIAMOND						
				VCGT	VCGT	VCGT	VCGT	VCGT	VCGT						
				71 330 ...	71 330 ...	71 331 ...	71 332 ...	71 330 ...	71 331 ...						
110301FN	0,1	A (1)	3,0												
110301FN	0,1	A (1)	5,4	11000						31000					
110302FN	0,2	A (1)	3,0							312				312	
110302FN	0,2	A (1)	4,6	112	21200	212									
110304FN	0,4	A (1)	3,0							314				314	
110304FN	0,4	A (1)	3,9	114	214	214	214								
110308FN	0,8	A (1)	3,3			21800									
P															
M															
K															
N				•	•	•	•	•	•	•	•	•	•	•	•
S															
H															
O				•	•	•	•	•	•	•	•	•	•	•	•

MaxiLock-S – SVJC 93° – Toolholder with screw clamping



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	Left-hand 70 697 ...	Right-hand 70 696 ...
SVJC R/L 0808 H11	8	8	100	8	1,2	VC.. 1103	008	008
SVJC R/L 1010 H11	10	10	100	10	1,2	VC.. 1103	010	010
SVJC R/L 1212 H11	12	12	100	12	1,2	VC.. 1103	112	112
SVJC R/L 1616 K11	16	16	125	16	1,2	VC.. 1103	116	116



Key D



Clamping screw

80 950 ...

70 950 ...

110

112

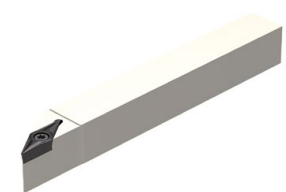
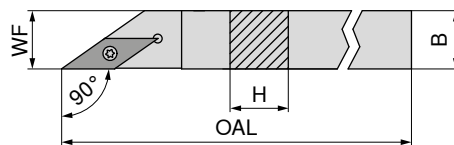
Spare parts

Insert

VC.. 1103

MaxiLock-S – SVAC 90° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	Left-hand 70 695 ...	Right-hand 70 694 ...
SVAC R/L 0808 H11	8	8	100	8	1,2	VC.. 1103	008	008
SVAC R/L 1010 H11	10	10	100	10	1,2	VC.. 1103	010	010
SVAC R/L 1212 H11	12	12	100	12	1,2	VC.. 1103	012	012



Key D



Clamping screw

80 950 ...

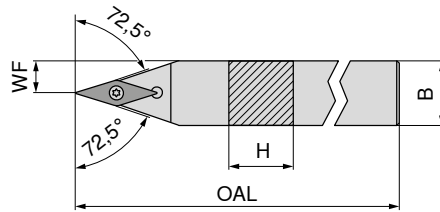
70 950 ...

Spare parts

for Article no.

70 694 008 / 70 695 008	T08	110	M2,5x6	112
70 694 010 / 70 695 010	T08	110	M2,5x6	112
70 694 012 / 70 695 012	T08	110	M2,5x6	112

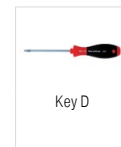
MaxiLock-S – SVVC 72.5° – Toolholder with screw clamping



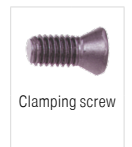
Neutral
70 692 ...

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert
SVVC N 1212 F11	12	12	80	6	1,2	VC.. 1103
SVVC N 1616 H11	16	16	100	8	1,2	VC.. 1103
SVVC N 2020 K11	20	20	125	10	1,2	VC.. 1103

012
016
020



80 950 ...



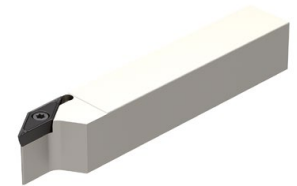
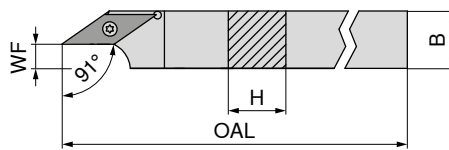
70 950 ...

Spare parts for Article no.

70 692 012	110	112
70 692 016	110	112
70 692 020	110	112

MaxiLock-S – SVXC 91° – Toolholder with screw clamping

▲ for sliding head lathes



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert
SVXC R/L 1010 H11	10	10	100	2,5	1,2	VC.. 1103
SVXC R/L 1212 H11	12	12	100	4,5	1,2	VC.. 1103
SVXC R/L 1616 K11	16	16	125	8,5	1,2	VC.. 1103

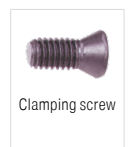
Left-hand
70 691 ...

Right-hand
70 690 ...

010
012
016



80 950 ...

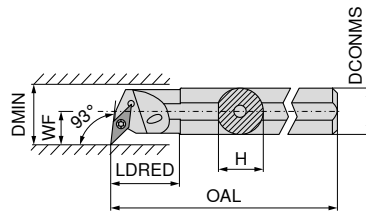


70 950 ...

Spare parts for Article no.

70 691 010 / 70 690 010	T08	110	M2,5x6	112
70 691 012 / 70 690 012	T08	110	M2,5x6	112
70 691 016 / 70 690 016	T08	110	M2,5x6	112

MaxiLock-S – SVUC 93° – Boring bar with screw clamping

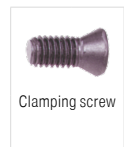
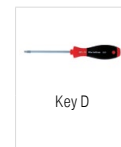


Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert
A16M SVUC R/L 11	16	15,0	150	29	11	20	1,2	VC.. 1103
A20Q SVUC R/L 11	20	18,5	180	32	13	25	1,2	VC.. 1103
A25R SVUC R/L 11	25	23,0	200	36	17	32	1,2	VC.. 1103

Left-hand	Right-hand
70 745 ...	70 744 ...
216	216
220	220
225	225



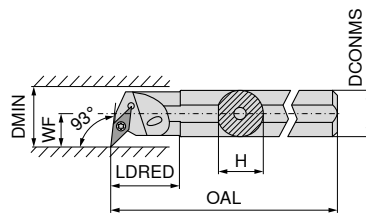
Spare parts for Article no.

70 744 216 / 70 745 216
70 744 220 / 70 745 220
70 744 225 / 70 745 225

Left-hand	Right-hand
80 950 ...	70 950 ...
110	112
110	112
110	112

MaxiLock-S – SVUC 93° – Boring bar with screw clamping

▲ Type: Solid carbide

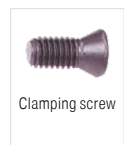
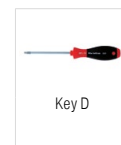


Illustrations show right-hand versions



ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert
E16R SVUC R/L 11	16	15,0	200	34	11	20	1,2	VC.. 1103
E20S SVUC R/L 11	20	18,5	250	38	13	25	1,2	VC.. 1103

Left-hand	Right-hand
70 747 ...	70 746 ...
016	016
020	020

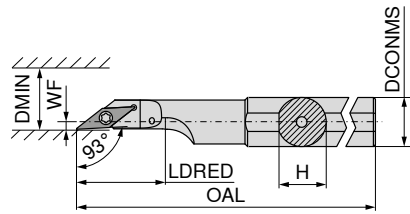


Spare parts for Article no.

70 746 016 / 70 747 016
70 746 020 / 70 747 020

Left-hand	Right-hand
80 950 ...	70 950 ...
110	112
110	112
T08	M2,5x6
T08	M2,5x6

MaxiLock-S – SVJC 93° – Boring bar with screw clamping

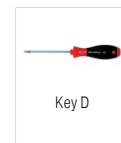


Illustrations show right-hand versions



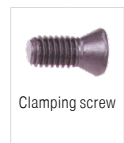
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert
A16M SVJC R/L 11	16	15	150	30	2	22	1,2	VC.. 1103
A20M SVJC R/L 11	20	19	150	38	2	25	1,2	VC.. 1103

Left-hand 70 727 ...	Right-hand 70 726 ...
216	216
220	220



Key D

80 950 ...



Clamping screw

70 950 ...

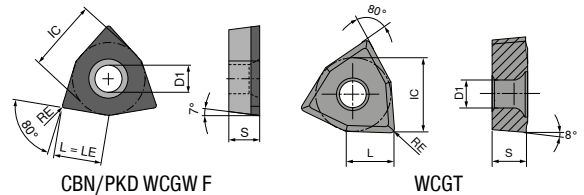
Spare parts

for Article no.

70 727 216 / 70 726 216	110	112
70 727 220 / 70 726 220	110	112

WCGT / WCGW

Designation	L mm	S mm	D1 mm	IC mm
WCGW 0201..	2,70	1,58	2,3	3,97
WCGT 0201..	2,71	1,59	2,1	3,97



WCGT

-SF TCM10	-SF CTPP430	-SF H216T
F	F	F
CERMET WCGT	WCGT	WCGT
70 287 ...	70 287 ...	70 287 ...
900	450	600
902	452	602

ISO	RE mm
020102EN	0,2
020104EN	0,4

P	●	●	
M	○	●	
K	○	○	○
N		○	●
S		○	
H			
O			○

WCGW

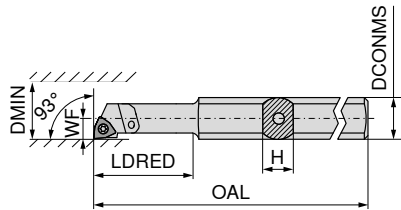
▲ TCE(NOI) = Design and number of equipped cutting edge corners

CTDPD20
F
DIAMOND WCGW
71 154 ...
100
102

ISO	RE mm	TCE (NOI)	LE mm
020102FN	0,2	F	2,7
020104FN	0,4	F	2,7

P			
M			
K			
N			●
S			
H			
O			●

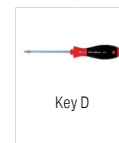
MaxiLock-S – SWUC 93° – Boring bar with screw clamping



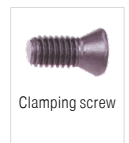
Illustrations show right-hand versions



ISO designation	H mm	OAL mm	LDRED mm	WF mm	DCONMS mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 731 ...	70 730 ...
A0508H SWUC R/L 02	7	100	24	2,9	8	5,8	0,4	WC.. 0201..	005	005
A0608H SWUC R/L 02	7	100	24	3,9	8	7,8	0,4	WC.. 0201..	006	006



Key D



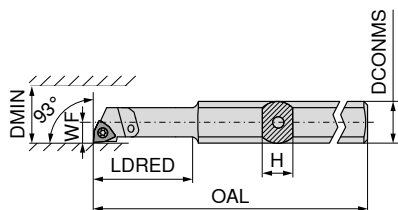
Clamping screw

Spare parts for Article no.

70 731 005 / 70 730 005	T06	108	M1,8x3,4	334
70 731 006 / 70 730 006	T06	108	M1,8x3,4	334

MaxiLock-S – SWUC 93° – Boring bar with screw clamping

▲ with carbide core

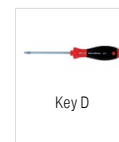


Illustrations show right-hand versions



ISO designation	H mm	OAL mm	LDRED mm	WF mm	DCONMS mm	DMIN mm	torque moment Nm	Insert	Left-hand	Right-hand
									70 743 ...	70 742 ...
E-A0508H SWUC R/L 02	7	100	24	2,9	8	5,8	0,4	WC.. 0201..	005	005
E-A0608H SWUC R/L 02	7	100	24	3,9	8	7,8	0,4	WC.. 0201..	006	006
SET							0,4	WC.. 0201..	999	999

Set includes boring bars 70 743 005 and 70 743 006 or 70 742 005 and 70 742 006



Key D



Clamping screw

Spare parts for Article no.

70 743 005 / 70 742 005	T06	108	M1,8x3,4	334
70 743 006 / 70 742 006	T06	108	M1,8x3,4	334

Toolfinder – TriClamp

- ▲ Indexable inserts with ground wiper geometry
Improves surface quality or increases feed rate
- ▲ Turning in all three contour directions
Maximum flexibility without changing the tool
- ▲ Smallest corner radii 0.0–0.2 mm
Generates sharp edges
- ▲ Perfect chip control
Reduces downtime
- ▲ High cutting depths can be achieved
Reduces the retraction distance

Application directions



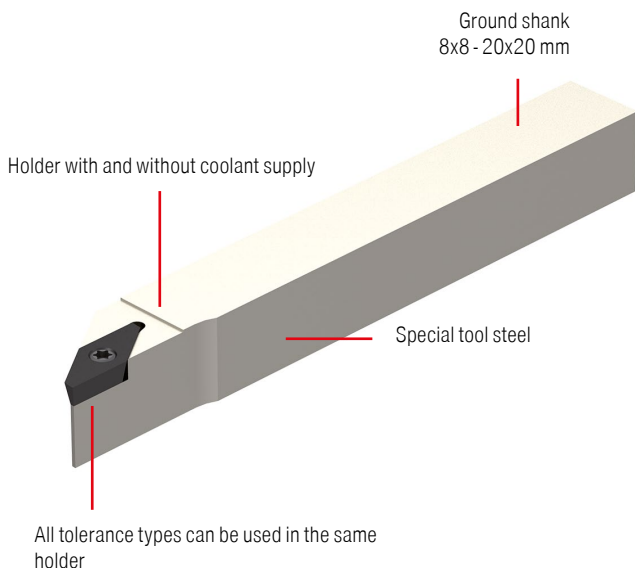
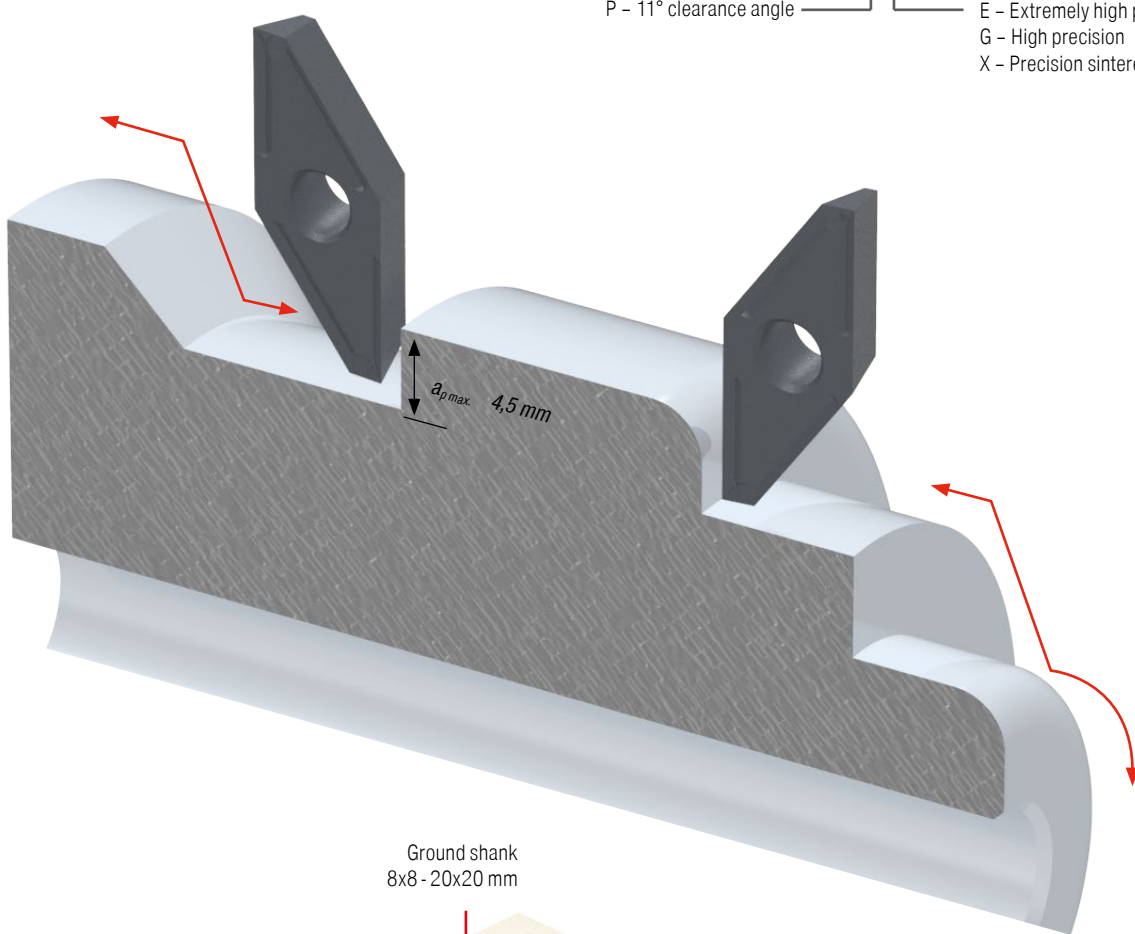
TriClamp system

VPET	→ Page 51
VPGT	→ Page 51
VPXT	→ Page 51

P – 11° clearance angle

Precision ↑

E – Extremely high precision
G – High precision
X – Precision sintered

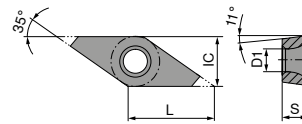


Tool holder

90°	→ Page 53
91°	→ Page 54
93°	→ Page 53–59

VPGT / VPET / VPXT

Designation	L mm	S mm	D1 mm	IC mm
VP.T 1003..	10	3,18	4,4	6,35



VPGT

ISO	RE mm	-FL WPU7610		-FR WPU7610		-FL TiAIN+		-FR TiAIN+		NEW -FL WUU7620		NEW -FR WUU7620	
		○	○	○	○	○	○	○	○	○	○	○	○
		F VPGT 72 405 ...		F VPGT 72 404 ...		F VPGT 72 493 ...		F VPGT 72 492 ...		F VPGT 72 493 ...		F VPGT 72 492 ...	
1003ZZ	0,00	760 ²⁾		760 ¹⁾		500 ²⁾		500 ¹⁾		70000 ²⁾		70000 ¹⁾	
1003008	0,08	728 ²⁾		728 ¹⁾		508 ²⁾		508 ¹⁾		70800 ²⁾		70800 ¹⁾	
1003015	0,15	735 ²⁾		735 ¹⁾		515 ²⁾		515 ¹⁾		71500 ²⁾		71500 ¹⁾	
P		●		●		●		●		●		●	
M		○		○		○		○		○		○	
K		●		●		●		●		●		●	
N		○		○		○		○		○		○	
S		○		○		○		○		○		○	
H													
O		○		○		○		○		○		○	

1) Note ! Right hand insert for right hand holder

2) Note ! Left hand insert for left hand holder

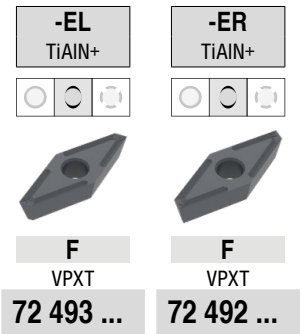
VPET

ISO	RE mm	-FL WUU7610		-FR WUU7610		-FL WPU7610		-FR WPU7610		-FL WPU7620		-FR WPU7620	
		○	○	○	○	○	○	○	○	○	○	○	○
		F VPET 72 403 ...		F VPET 72 402 ...		F VPET 72 403 ...		F VPET 72 402 ...		F VPET 72 403 ...		F VPET 72 402 ...	
1003ZZ	0,00	060 ²⁾		060 ¹⁾		760 ²⁾		760 ¹⁾		560 ²⁾		560 ¹⁾	
1003008	0,08	028 ²⁾		028 ¹⁾		728 ²⁾		728 ¹⁾		528 ²⁾		528 ¹⁾	
1003015	0,15	035 ²⁾		035 ¹⁾		735 ²⁾		735 ¹⁾		535 ²⁾		535 ¹⁾	
P		●		●		●		●		●		●	
M		○		○		○		○		○		○	
K		●		●		●		●		●		●	
N		○		○		○		○		○		○	
S		○		○		○		○		○		○	
H													
O		○		○		○		○		○		○	

1) Note ! Right hand insert for right hand holder

2) Note ! Left hand insert for left hand holder

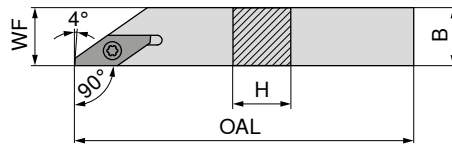
VPXT



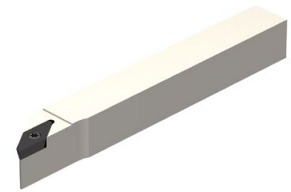
ISO	RE mm	72 493 ...	72 492 ...
1003015	0,15	615 ²⁾	615 ¹⁾
1003035	0,35	635 ²⁾	635 ¹⁾
P		●	●
M		○	○
K		●	●
N		○	○
S		○	○
H			
O		○	○

- 1) Note ! Right hand insert for right hand holder
- 2) Note ! Left hand insert for left hand holder

TriClamp – SVAP 90° – Toolholder with screw clamping

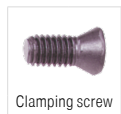
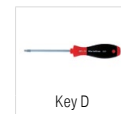


Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	WF mm	Insert
SVAP R/L 0808 H10	8	8	100	8	VP.. 1003
SVAP R/L 1010 H10	10	10	100	10	VP.. 1003
SVAP R/L 1212 H10	12	12	100	12	VP.. 1003

Left-hand	Right-hand
72 382 ...	72 380 ...
008	008
010	010
012	012



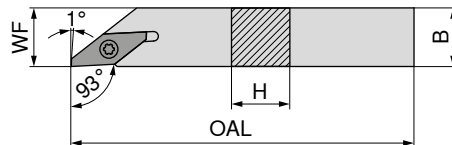
Spare parts
Insert

VP.. 1003

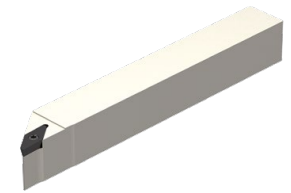
T08

80 950 ...	72 950 ...
110	002

TriClamp – SVJP 93° – Toolholder with screw clamping

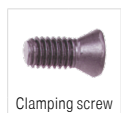
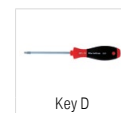


Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	WF mm	Insert
SVJP R/L 0808 H10	8	8	100	8	VP.. 1003
SVJP R/L 1010 H10	10	10	100	10	VP.. 1003
SVJP R/L 1212 H10	12	12	100	12	VP.. 1003
SVJP R/L 1616 K10	16	16	125	16	VP.. 1003

Left-hand	Right-hand
72 386 ...	72 384 ...
008	008
010	010
012	012
016	016



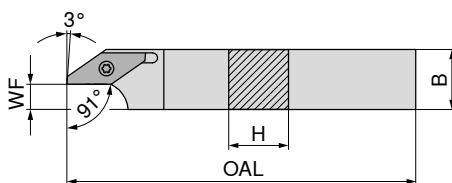
Spare parts
Insert

VP.. 1003

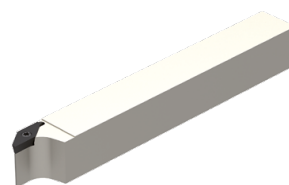
T08

80 950 ...	72 950 ...
110	002

TriClamp – SVXP 91° – Toolholder with screw clamping





Illustrations show right-hand versions



ISO designation	B mm	H mm	OAL mm	WF mm	Insert	Left-hand 72 390 ...	Right-hand 72 388 ...
SVXP R/L 0808 H10	8	8	100	1	VP.. 1003	008	008
SVXP R/L 1010 H10	10	10	100	3	VP.. 1003	010	010
SVXP R/L 1212 H10	12	12	100	5	VP.. 1003	012	012
SVXP R/L 1616 K10	16	16	125	9	VP.. 1003	016	016

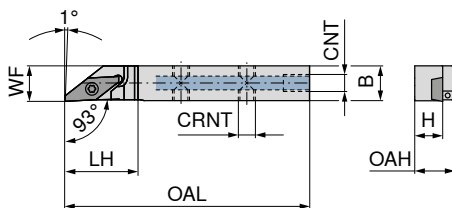
Spare parts
Insert
VP.. 1003


Key D


Clamping screw

	80 950 ...	72 950 ...
T08	110	002

TriClamp – SVJP 93°-IC – Tool holder with screw clamping and thro' coolant



Illustrations show right-hand versions



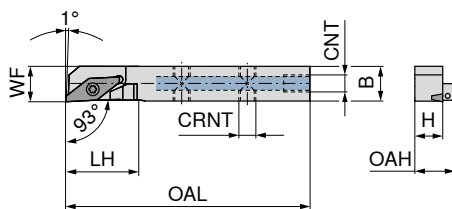
ISO designation	H mm	B mm	LH mm	WF mm	OAL mm	OAH mm	CRNT	CNT	Insert	Left-hand 72 361 ...	Right-hand 72 360 ...
SVJP R/L 0810 H10 IC	8	10	21	10	100	11,5	M5	M5	VP.. 1003	008	008
SVJP R/L 1010 H10 IC	10	10	21	10	100	13,5	M5	M5	VP.. 1003	010	010
SVJP R/L 1212 H10 IC	12	12	21	12	100	15,5	M5	M5	VP.. 1003	012	012
SVJP R/L 1616 K10 IC	16	16	21	16	125	19,5	M5	G1/8"	VP.. 1003	016	016
SVJP R/L 2020 K10 IC	20	20	21	20	125	23,5	M5	G1/8"	VP.. 1003	020	020

Spare parts
for Article no.

72 360 008 / 72 361 008							M5x4	011	T08	110	002
72 360 010 / 72 361 010							M5x4	011	T08	110	002
72 360 012 / 72 361 012							M5x4	011	T08	110	002
72 360 016 / 72 361 016				G1/8"		010	M5x4	011	T08	110	002
72 360 020 / 72 361 020				G1/8"		010	M5x4	011	T08	110	002

 Suitable accessories can be found on → Page 131+132

TriClamp – SVJP 93°-VIC – Reinforced tool holder with screw clamping and thro' coolant



Illustrations show right-hand versions



ISO designation	H mm	B mm	LH mm	WF mm	OAL mm	OAH mm	CRNT	CNT	Insert
SVJP R/L 0810 H10 VIC	8	10	21	10	100	11,5	M5	M5	VP.. 1003
SVJP R/L 1010 H10 VIC	10	10	21	10	100	13,5	M5	M5	VP.. 1003
SVJP R/L 1212 H10 VIC	12	12	21	12	100	15,5	M5	M5	VP.. 1003

Left-hand	Right-hand
72 363 ...	72 362 ...
008	008
010	010
012	012

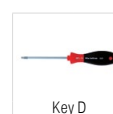
Spare parts

Insert

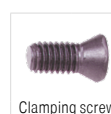
VP.. 1003



Cylindrical screw



Key D



Clamping screw

72 950 ...

80 950 ...

72 950 ...

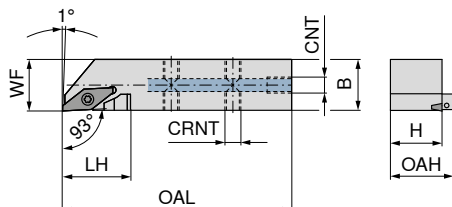
M5x4

011 T08

110

002

TriClamp – SVJP 93°-VIC – Reinforced tool holder with screw clamping and thro' coolant



Illustrations show right-hand versions



ISO designation	H mm	B mm	LH mm	WF mm	OAL mm	OAH mm	CRNT	CNT	Insert
SVJP R/L 1616 K10 VIC	16	16	21	16	125	19,5	M5	G1/8"	VP.. 1003
SVJP R/L 2020 K10 VIC	20	20	21	20	125	23,5	M5	G1/8"	VP.. 1003

Left-hand	Right-hand
72 365 ...	72 364 ...
016	016
020	020

Spare parts

Insert

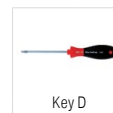
VP.. 1003



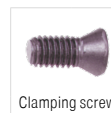
Cylindrical screw



Cylindrical screw



Key D



Clamping screw

72 950 ...

72 950 ...

80 950 ...

72 950 ...

G1/8"

010

M5x4

011 T08

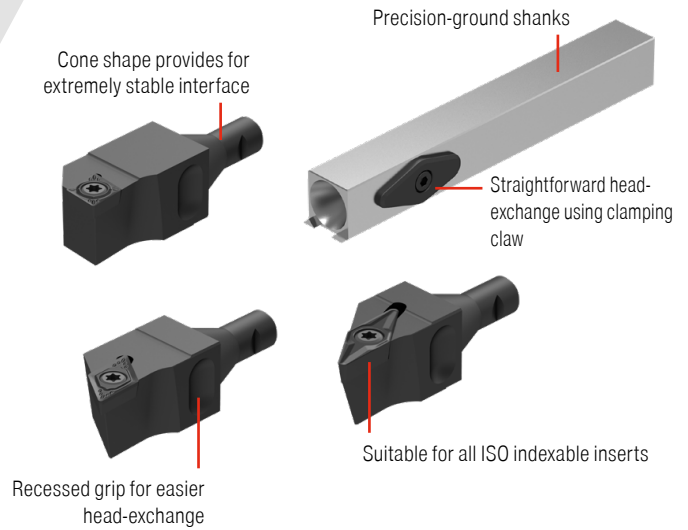
110

002

Suitable accessories can be found on → Page 131+132

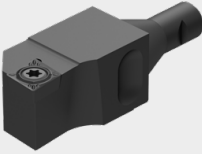
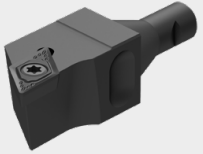
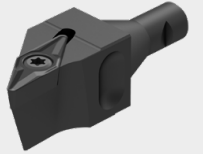
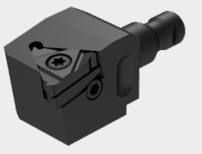
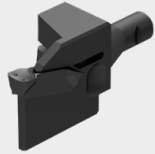
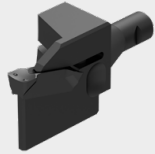
Highlights

- ▲ Quick and easy head-exchange
Reduced downtime
- ▲ Uniform height and lengths
No setup time required
- ▲ High repeatability of $\pm 7.5 \mu\text{m}$
Low reject rate
- ▲ Ground base holder
Maximum precision
- ▲ Secure positioning of heads
Repeat inspections not required



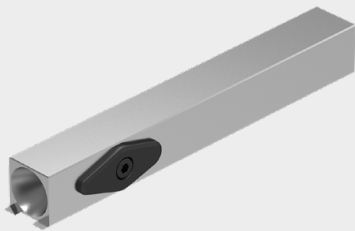
Overview

Exchangeable heads

CC.T	DC.T	VC.T	External thread	GX grooving	
					
SCLC 95°	SDJC 93° / SDAC 90° / SDNC 62,5°	SVJC 93°	11.. / 16..	GX09	GX16
→ 57	→ 57+58	→ 59	→ 59+60	→ 60	

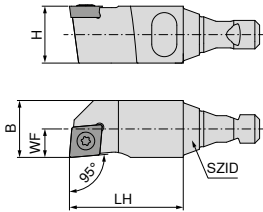
Basic holder

SZID 12: OAL = 63 mm	SZID 12: OAL = 93 mm
SZID 16: OAL = 63 mm	SZID 16: OAL = 89 mm



→ 61

XheadClamp – SCLC 95° exchangeable head turning tool



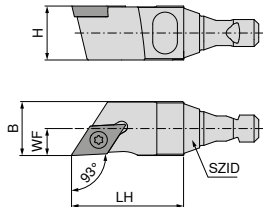
Illustrations show right-hand versions

ISO designation	SZID	H mm	B mm	LH mm	WF mm	Insert	Left-hand	Right-hand
							72 809 ...	72 808 ...
SCLC R/L 06 BH12	12	12	12	24	6	CC.. 0602	221	221
SCLC R/L 06 BH16	16	16	16	28	8	CC.. 0602	621	621
SCLC R/L 09 BH12	12	12	12	24	6	CC.. 09T3	222	222
SCLC R/L 09 BH16	16	16	16	28	8	CC.. 09T3	622	622

Spare parts	Key D	Combination Key	Clamping screw
Insert			
CC.. 0602	T08	110	
CC.. 09T3		T15/SW	398
			M2,5x6
			M3,5x11
			112
			113

Suitable indexable inserts can be found in the ISO turning section on → **Page 13–16.**

XheadClamp – SDJC 93° exchangeable head turning tool



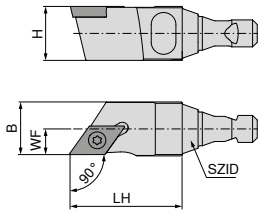
Illustrations show right-hand versions

ISO designation	SZID	H mm	B mm	LH mm	WF mm	Insert	Left-hand	Right-hand
							72 811 ...	72 810 ...
SDJC R/L 07-BH12	12	12	12	24	6	DC.. 0702	230	230
SDJC R/L 07-BH16	16	16	16	28	8	DC.. 0702	630	630
SDJC R/L 11-BH12	12	12	12	24	6	DC.. 11T3	231	231
SDJC R/L 11-BH16	16	16	16	28	8	DC.. 11T3	631	631

Spare parts	Key D	Combination Key	Clamping screw
Insert			
DC.. 0702	T08	110	M2,5x6
DC.. 11T3	T15	113	M4x11
			112
			174

Suitable indexable inserts can be found in the ISO turning section on → **Page 23–27.**

XheadClamp – SDAC 90° exchangeable head turning tool






Illustrations show right-hand versions



ISO designation	SZID	B mm	H mm	WF mm	LH mm	Insert	NEW Left-hand 72 811 ...	NEW Right-hand 72 810 ...
SDACR 07-BH12	12	12	12	6	24	DC.. 0702	228	228
SDACR 07-BH16	16	16	16	8	28	DC.. 0702	628	628
SDACR 11-BH12	12	12	12	6	24	DC.. 11T3	229	229
SDACR 11-BH16	16	16	16	8	28	DC.. 11T3	629	629

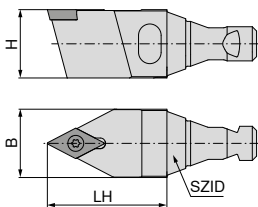
Spare parts for Article no.

72 810 229 / 72 811 229								
72 810 228 / 72 811 228							110	112
72 810 628 / 72 811 628							110	112
72 810 629 / 72 811 629							398	113

		
Key D	Combination Key	Clamping screw
80 950 ...	70 950 ...	70 950 ...

 Suitable indexable inserts can be found in the ISO turning section on → **Page 23–27.**




XheadClamp – SDNC 62.5° exchangeable head turning tool



ISO designation	SZID	H mm	B mm	LH mm	Insert	NEW Neutral 72 814 ...
SDNC N 07-BH12	12	12	12	28	DC.. 0702	232
SDNC N 07-BH16	16	16	16	28	DC.. 0702	632
SDNC N 11-BH12	12	12	12	24	DC.. 11T3	233
SDNC N 11-BH16	16	16	16	28	DC.. 11T3	633

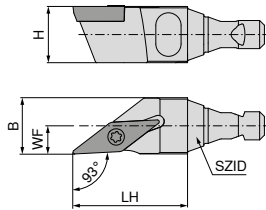
Spare parts for Article no.

72 814 232								
72 814 632							110	112
72 814 233							110	112
72 814 633							398	113

		
Key D	Combination Key	Clamping screw
80 950 ...	70 950 ...	70 950 ...

 Suitable indexable inserts can be found in the ISO turning section on → **Page 23–27.**

XheadClamp – SVJC 93° exchangeable head turning tool



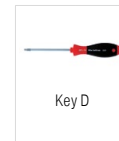
Illustrations show right-hand versions



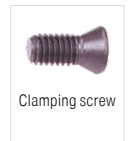
ISO designation	SZID	H mm	B mm	LH mm	WF mm	Insert	Left-hand		Right-hand	
							72 813 ...	72 812 ...		
SVJC R/L 11-BH12	12	12	12	24	6	VC.. 1103	234		234	
SVJC R/L 11-BH16	16	16	16	28	8	VC.. 1103	634		634	

Spare parts

Insert	T08	80 950 ...	M2,5x6	70 950 ...
VC.. 1103		110		112



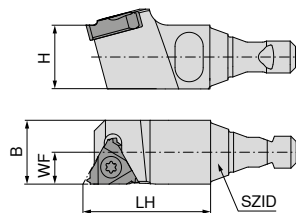
Key D



Clamping screw

Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

XheadClamp – Exchangeable head standard external threading tool



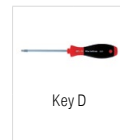
Illustrations show right-hand versions



Designation	SZID	H mm	LH mm	WF mm	Insert	NEW	
						Left-hand	Right-hand
SE R/L 11-BH12	12	12	24	6	11 ..	72 803 ...	72 802 ...
SE R/L 11-BH16	16	16	28	8	11 ..	241 641	241 641

for Article no.

72 802 241 / 72 803 241	110	230
72 802 641 / 72 803 641	110	230



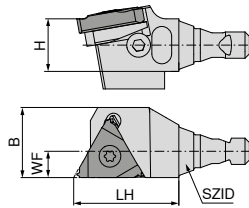
Key D



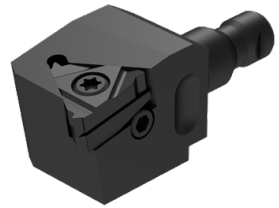
Clamping screw

Suitable indexable inserts can be found in **Chapter 2, Thread turning.**

XheadClamp – Exchangeable head standard external threading tool



Illustrations show right-hand versions



Designation	SZID	H mm	LH mm	WF mm	Insert
SE R/L 16-BH12	12	12	24	16	16 ..
SE R/L 16-BH16	16	16	28	18	16 ..

	NEW Left-hand 72 805 ...	NEW Right-hand 72 804 ...
	242	242
	642	642

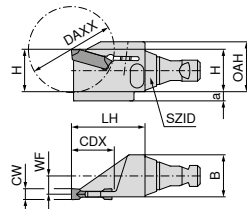
Spare parts for Article no.

72 805 242				
72 805 642				
72 804 242				
72 804 642				

Shim	Screw-U	Key D	Clamping screw
71 950 ...	71 950 ...	80 950 ...	71 950 ...
129	234	110	231
129	234	110	231
121	234	110	231
121	234	110	231

Suitable indexable inserts can be found in **Chapter 2, Thread turning**.

XheadClamp – GX 09/16 exchangeable head grooving tool holder



Illustrations show right-hand versions



Designation	SZID	B mm	H mm	OAH mm	LH mm	CDX mm	DAXX mm	WF mm	CW mm	a mm	for grooving inserts	Left-hand 72 801 ...	Right-hand 72 800 ...
GX09-1 R/L -BH12	12	12	12	15	24	12,5	25	5,5	0,60-2,50	4,0	GX 09-1	112	112
GX09-1 R/L -BH16	16	16	16	19	28	16,0	32	7,5	0,60-2,50	3,5	GX 09-1	116	116
GX09-2 R/L -BH12	12	12	12	15	24	12,5	25	5,0	0,60-3,00	4,0	GX 09-2	212	212
GX09-2 R/L -BH16	16	16	16	19	28	16,0	32	7,0	0,60-3,00	3,5	GX 09-2	216	216
GX16-1 R/L -BH12	12	12	12	15	24	12,5	25	5,5	0,60-2,50	4,0	GX 16-1	612	612
GX16-1 R/L -BH16	16	16	16	19	28	16,0	32	7,5	0,60-2,50	3,5	GX 16-1	616	616
GX16-2 R/L -BH12	12	12	12	15	24	12,5	25	5,0	0,60-3,50	4,0	GX 16-2	712	712
GX16-2 R/L -BH16	16	16	16	19	28	16,0	32	7,0	0,60-3,50	3,5	GX 16-2	716	716

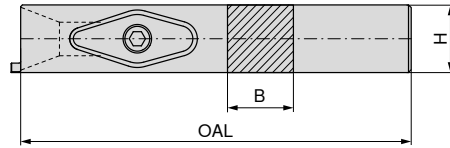
Spare parts for grooving inserts

GX 09-1				
GX 09-2				
GX 16-1				
GX 16-2				

Key D	Clamping screw
80 950 ...	70 950 ...
113	174
113	174
113	174
113	174

Suitable indexable inserts can be found in the grooving tools section on → **Page 229**

XheadClamp – Base holder



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	For exchange- able heads	Left-hand	Right-hand
					72 841 ...	72 840 ...
BHSH.12X63 R/L	12	12	63	BH12	263	263
BHSH.12X93 R/L	12	12	93	BH12	293	293
BHSH.16X63 R/L	16	16	63	BH16	663	663
BHSH.16X89 R/L	16	16	89	BH16	693	693

Spare parts For exchangeable heads					Clamping screw	Clamp	Key I
					72 950 ...	72 950 ...	70 950 ...
BH12	SR.BHSH.12	801	PR.BHSH.12	800	SW2,5	175	
BH16	SR.BHSH.16	803	PR.BHSH.16	802	SW3	176	

Reverse-side machining – highlights

▲ **Speed**

Ultra-fast tool change by tightening / loosening just one bolt

▲ **Flexibility**

Flexible on all machines

Base holders are installed in the same way on all machines and remain in the machines

▲ **Precision**

Most accurate height adjustment possible

▲ **Set-up time optimisation**

Presetting via an adjustment screw directly in the machine or externally in the presetting device

▲ **Cooling**

Optional coolant overpressure by attaching a coolant attachment

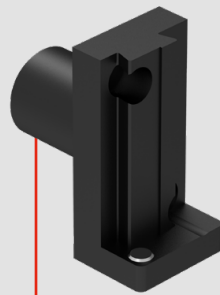
Reverse-side machining – Toolfinder

Modular tools



Distance plates

→ Page 68



CITIZEN

→ Page 64

DOOSAN

→ Page 64

HANHWA

→ Page 65

MAIER

→ Page 65

STAR

→ Page 66

TORNOS

→ Page 66

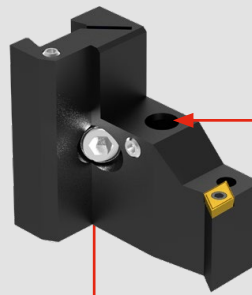
CITIZEN / GILDEMEISTER / HANHWA / TORNOS / TSUGAMI

→ Page 67

TORNOS / TSUGAMI

→ Page 67

Accessories



Turning Holder

CC / DC / VC → Page 69-71

Thread turning holder

→ Page 72

Grooving tool holder

TX → Page 73

Drills and boring bars

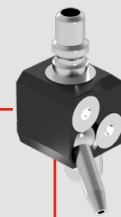
→ Page 74

Cutting inserts

→ Page 75+76

Collet Chuck

→ Page 77

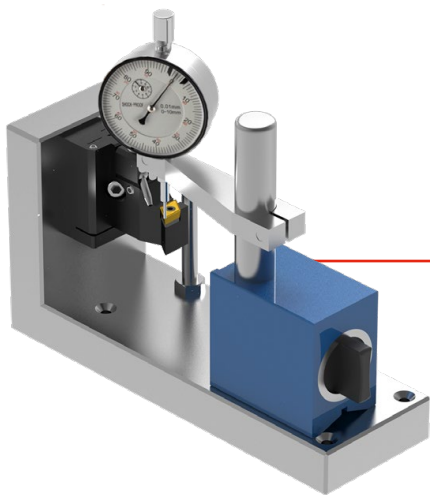


Coolant insert

→ Page 100

Setting Device

Using the adjustment device, you can set our modular holder to the right height outside the machine, which is a plus in terms of flexibility and time.



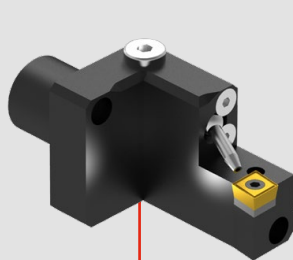
Setting Device

→ Page 103

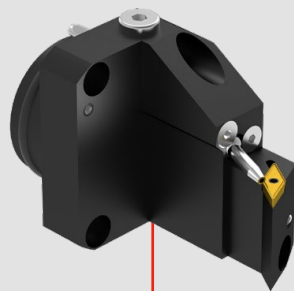
Detailed information on using the adjustment device

→ Page 155+156

Monoblock tools



STAR

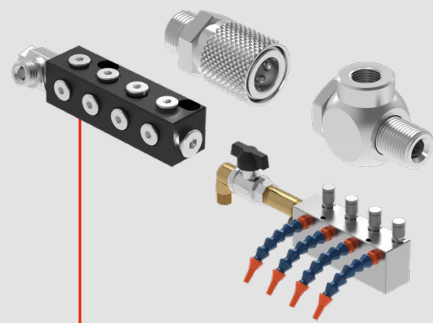


TSUGAMI

- Turning Holder CC / DC / VC → Page 78-82
- Thread turning holder → Page 83
- Grooving tool holder TX → Page 84
- Drills and boring bars → Page 96
- Cutting inserts → Page 98

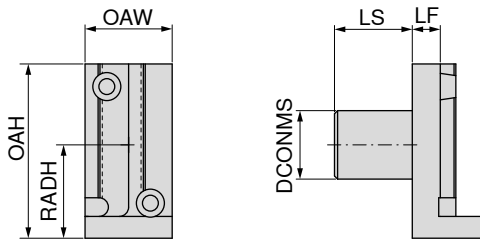
- Turning Holder CC / DC / VC → Page 85-93
- Thread turning holder → Page 94
- Grooving tool holder TX → Page 95
- Drills and boring bars → Page 97
- Cutting inserts → Page 99

Accessories



- Coolant manifold → Page 100+101
- Coolant nozzles → Page 101
- Screw plug → Page 101
- Coolant connection → Page 101+102
- Threaded adapter → Page 102
- Coolant hoses → Page 102
- Coupler connector → Page 102
- Quick-coupler → Page 102
- Protection plug → Page 102

Machine base holder for CITIZEN



NEW

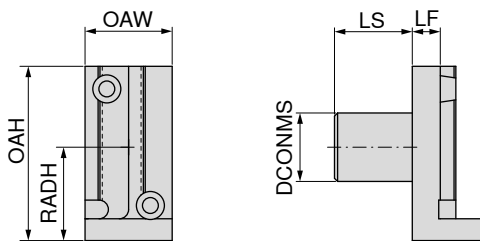
72 951 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm	
CI.GH 3/4"-40	19,05	28	56	9	40	30	07004
CI.GH 25-30	25,00	28	56	9	30	30	07002
CI.GH 1"-60	25,40	28	56	9	60	30	07003
CI.GH 31-15	31,00	34	58	9	15	32	07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 951 07001	Citizen	A32-VII with drive
72 951 07002	Citizen	L12 / A20 / CL20 with drive
72 951 07003	Citizen	A20 / A32 / C32 / L32 / M32 without drive
72 951 07004	Citizen	C16 / L12 / L20 / M16

Machine base holder for DOOSAN



NEW

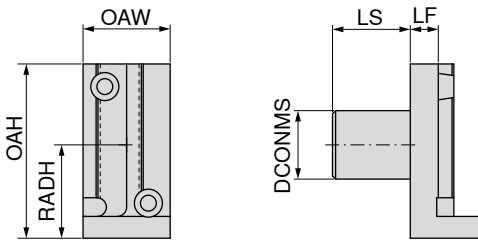
72 952 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm	
DO.GH 32-25	32	34	56	9	25	30	07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 952 07001	Doosan	Puma ST20G

Machine base holder for HANWHA



NEW

72 953 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm
HA.GH 25-40	25	28	56	9	40	30
HA.GH 32-27	32	38	56	34	27	30
HA.GH 33-40	33	28	56	9	40	30

07003

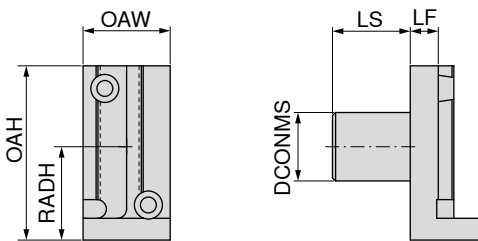
07002

07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 953 07001	Hanwha	XD20 / 26 / 32 / 38
72 953 07002	Hanwha	XD38H
72 953 07003	Hanwha	XE26

Machine base holder for MAIER



NEW

72 954 ...

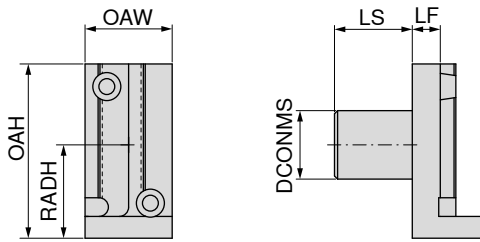
Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm
MA.GH 34-20	34	38	56	9	20	30

07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 954 07001	Maier	ML26 / ML32 / ML12C / ML16C / ML16D / ML20

Machine base holder for STAR



NEW

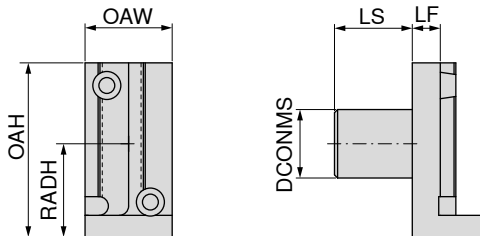
72 955 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm	
ST.GH 22-20	22	38	56	9	20	30	07001
ST.GH 22-25	22	28	56	9	25	30	07002

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 955 07001	Star	SR32 / SR32J / SR32JN (from mach. no 161)
72 955 07002	Star	ECAS12 / ECAS20 / SR20RIII / SR20N / SR20JN / SR32J / SR10J / SR16R / SR20R / SR20RII

Machine base holder for TORNOS



NEW

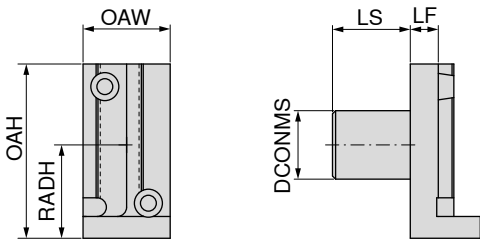
72 956 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm	
TO.GH 20-100	20	28	56	9	100	30	07002
TO.GH 25-100	25	28	56	9	100	30	07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 956 07001	Tornos	Deco 7 / 10 / 13 / 20 (Ø25)
72 956 07002	Tornos	Deco 7 / 10 / 13 / 20 (Ø20)

Machine base holder for CITIZEN / GILDEMEISTER / HANWHA / TORNOS / TSUGAMI



NEW

72 958 ...

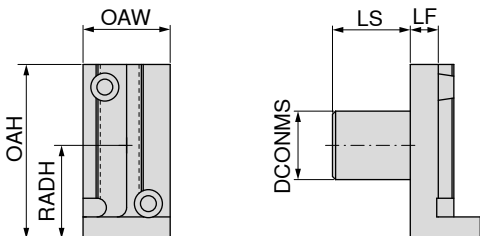
Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm
C/CI/GI/HA/TO/TS.GH 20-40	20	28	56	9	40	30

07001

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 958 07001	Citizen	K16
	Gildemeister	Sprint 20
	Hanwha	SL 12H
	Tornos	Delta 20 / Gamma 20
	Tsugami	BO 125 / 205

Machine base holder for TORNOS / TSUGAMI



NEW

72 958 ...

Designation	DCONMS mm	OAW mm	OAH mm	LF mm	LS mm	RADH mm
TO/TS.GH 32-50	32	28	56	9	50	30

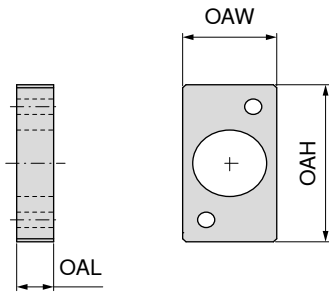
07002

suitable for the following machines:

Article no.	Machine manufacturer	Machine type
72 958 07001	Tornos	Delta 385 without drive
	Tsugami	BO 385 / BH 38

Distance plate

▲ flexible adjustment of the projection length



NEW

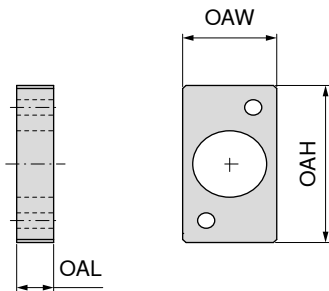
72 951 ...

Designation	OAW mm	OAH mm	OAL mm	Base holder
CI.DP-GH1"-60-11	28	52	11	CI.GH1"-60
CI.DP-GH25-30-11	28	52	11	CI.GH25-30
CI.DP-GH3/4"-40-11	28	52	11	CI.GH3/4"-40

04006
04005
04007

Distance plate

▲ flexible adjustment of the projection length



NEW

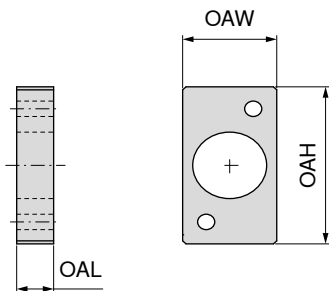
72 953 ...

Designation	OAW mm	OAH mm	OAL mm	Base holder
HA.DP-GH33-40-11	35	52	11	HA.GH33-40

04004

Distance plate

▲ flexible adjustment of the projection length



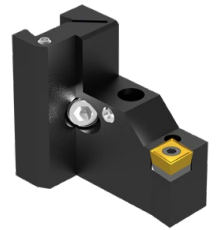
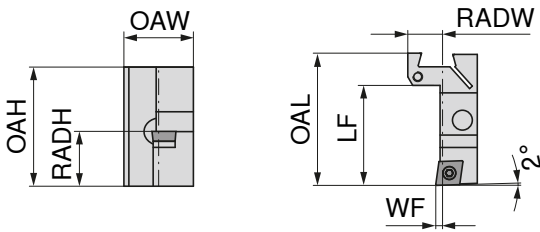
NEW

72 955 ...

Designation	OAW mm	OAH mm	OAL mm	Base holder
ST.DP-GH22-25-11	28	52	11	ST.GH22-25

04003

Tool holder block with screw clamping for CC.. Indexable inserts




NEW

72 981 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert
MU.AH-CC09-R	28	48	41	14	22	2,5	54	CC.. 09T3

08001

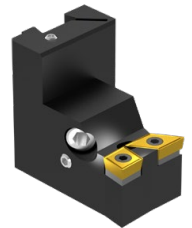
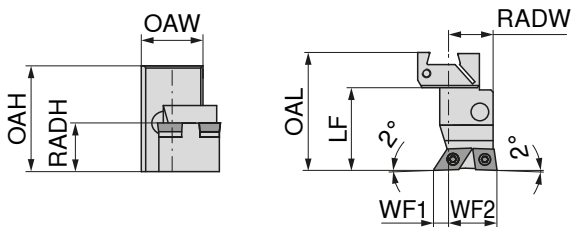
			
Key D	Clamping screw	Carbide type C	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...
113	113	165	171

Spare parts
for Article no.
72 981 08001

 Suitable indexable inserts can be found in the ISO turning section on → **Page 13–16.**

3

Tool holder block (double) with screw clamping for CC.. / DC.. Indexable inserts



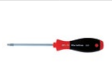





NEW

double


72 981 ...

Designation	OAH mm	LF mm	RADW mm	RADH mm	OAL mm	WF1 mm	WF2 mm	Insert
MU.AH-CC09-L-DC11-R	48	38	20	22	54	22	7	CC.. 09T3 / DC.. 11T3

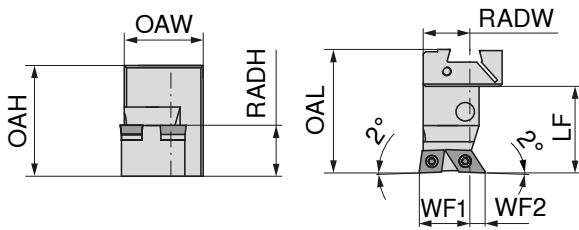
08011

					
Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Carbide type C	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
113	398	113	106	165	171

Spare parts
for Article no.
72 981 08011

 Suitable CC.. Indexable inserts can be found in the ISO turning section on → **Page 13–16.**
Suitable DC.. Indexable inserts can be found in the ISO turning section on → **Page 23–27.**

Tool holder block (double) with screw clamping for CC.. / DC.. Indexable inserts









NEW

double

72 981 ...

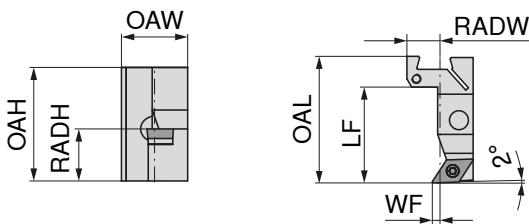
Designation	OAH mm	LF mm	RADW mm	RADH mm	OAL mm	WF1 mm	WF2 mm	Insert	
MU.AH-CC09-R-DC11-L	48	38	20	22	54	22	7	CC.. 09T3 / DC.. 11T3	08010

Spare parts
for Article no.
72 981 08010

					
Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Carbide type C	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
113	398	113	106	165	171

i Suitable CC.. Indexable inserts can be found in the ISO turning section on → **Page 13–16.**
 Suitable DC.. Indexable inserts can be found in the ISO turning section on → **Page 23–27.**

Tool holder block with screw clamping for DC.. Indexable inserts








NEW

72 981 ...

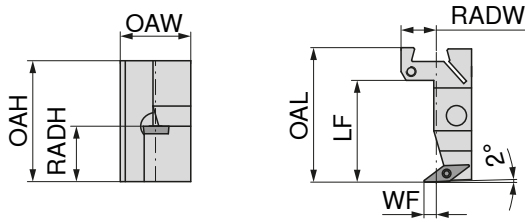
Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert	
MU.AH-DC07-R	28	48	41	14	22	3,0	54	DC.. 0702	08002
MU.AH-DC11-R	28	48	41	14	22	3,5	54	DC.. 11T3	08003

Spare parts
for Article no.
72 981 08002
72 981 08003

				
Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
110	398	112 113	106	171

i Suitable indexable inserts can be found in the ISO turning section on → **Page 23–27.**

Tool holder block with screw clamping for VC.. Indexable inserts








NEW

72 981 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert	
MU.AH-VC11-R	28	48	41	14	22	5,0	54	VC.. 1103	08004
MU.AH-VC16-R	28	48	41	14	22	14,5	54	VC.. 1604	08005

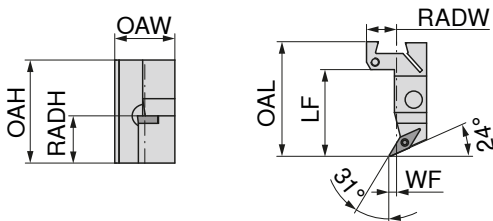
Spare parts
for Article no.
72 981 08004
72 981 08005

 Key D	 Combination Key	 Clamping screw	 Solid Carbide Seat V	 Threaded sleeve
80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
110	398	112 113	107	171

 (VC.. 1103) Suitable indexable inserts can be found in the ISO turning section on → Page 40–42.
(VC.. 1604) Suitable indexable inserts can be found in our OnlineShop.

3

Tool holder block with screw clamping for VC.. Indexable inserts





NEW

72 981 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert	
MU.AH-VC11-24-R	28	48	41	14	22	3	54	VC.. 1103	08006

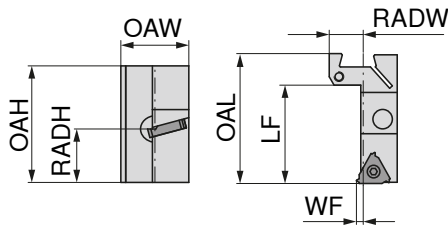
Spare parts
for Article no.
72 981 08006

 Key D	 Clamping screw
80 950 ...	70 950 ...
110	112

 Suitable indexable inserts can be found in the ISO turning section on → Page 40–42.

Tool holders for right external thread-turning inserts

- ▲ Tool holder with approach angle 1.5°
- ▲ Thread-turning inserts with pitch max. 1.5 mm



NEW

Right-hand

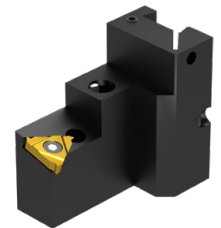
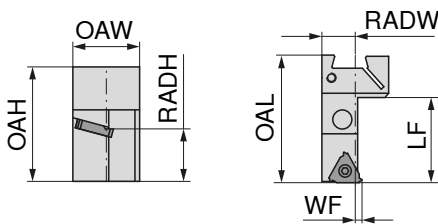
72 981 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert
MU.AH-ER16-R	28	48	41	14	22	3	54	16 ER..

08007

Tool holders for left external thread-turning inserts

- ▲ Tool holder with approach angle 1.5°
- ▲ Thread-turning inserts with pitch max. 1.5 mm



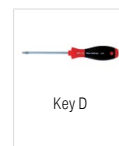
NEW

Left-hand

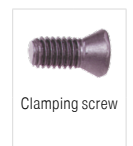
72 981 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert
MU.AH-ER16-L	28	48	34	14	22	3	54	16 EL..

08008



80 950 ...



71 950 ...

Spare parts for Article no.

72 981 08008
72 981 08007

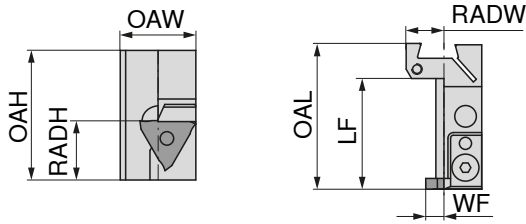
112
112

231
231

Suitable indexable inserts can be found in **Chapter 2, Thread turning.**

Tool holder block for TX grooving inserts

▲ Insert width 0.5-4.0 mm



NEW

Right-hand

72 986 ...

Designation	OAW mm	OAH mm	LF mm	RADW mm	RADH mm	WF mm	OAL mm	Insert	
MU.AH-TX-R	28	48	41	14	22	7	54	TX R/N/L...2/3/4	16001

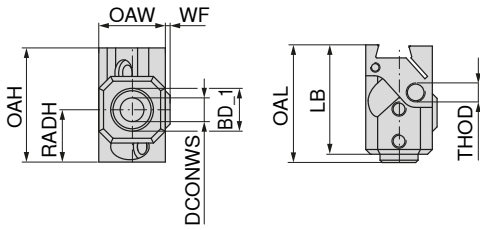
Spare parts
for Article no.
72 986 16001

			
Clamp	Lock washer	Countersunk screw	Guide pin with flange
72 950 ...	72 950 ...	72 950 ...	72 950 ...
19001	19002	19003	19004

 Suitable indexable inserts can be found in the main catalogue, **Chapter 11 Grooving tools.**

Tool holder blocks for drills and boring bars

▲ with inner high-pressure coolant supply through the tool

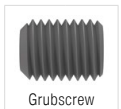


NEW



72 982 ...

Designation	DCONWS mm	BD_1 mm	OAW mm	OAH mm	LB mm	WF mm	OAL mm	RADH mm	THOD	
MU.AH-BH06IK	6	12	28	48	46,0		48,5	22	M6	03001
MU.AH-BH08IK	8	14	28	48	46,0		48,5	22	M8	03002
MU.AH-BH10IK	10	16	28	48	46,0		49,5	22	M8	03003
MU.AH-BH12IK	12	18	28	48	50,0		52,5	22	M10	03004
MU.AH-BH14IK	14	19	28	48	50,5		54,0	22	M10	03005
MU.AH-BH16IK	16	21	28	48	50,5	2	54,0	22	M10	03006



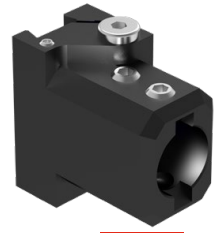
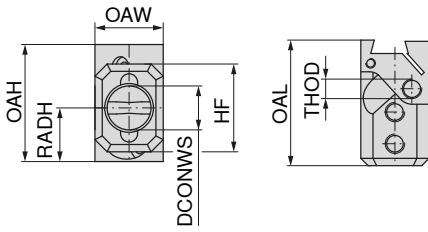
72 950 ...

Spare parts
for Article no.

72 982 03001	19011
72 982 03004	19013
72 982 03005	19013
72 982 03006	19013

Tool holders for clamping inserts

- ▲ Thro' coolant directly through base holder
- ▲ Also suitable for collet chucks



NEW



72 983 ...

Designation	DCONWS _{H6} mm	HF mm	OAW mm	OAH mm	RADH mm	OAL mm	CRNT
MU.AH-S20IK	20	36	28	48	22	51,5	M8x1

20001



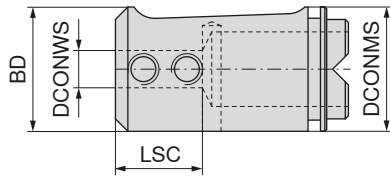
83 950 ...

Spare parts
for Article no.
72 983 20001

464

Clamping insert for UltraMini cutting inserts

▲ with inner high-pressure coolant supply through the tool



72 995 ...

Designation	DCONMS _{g6} mm	DCONWS mm	BD _{g6} mm	LSC mm	
MU.ULTRAMINI.KH-DM4	20	4	20	13	08001
MU.ULTRAMINI.KH-DM5	20	5	20	14	08002
MU.ULTRAMINI.KH-DM6	20	6	20	14	08003
MU.ULTRAMINI.KH-DM7	20	7	20	14	08004
MU.ULTRAMINI.KH-DM8	20	8	20	19	08005



72 950 ...

Spare parts

DCONWS	
4	19009
5 - 7	19010
8	19012

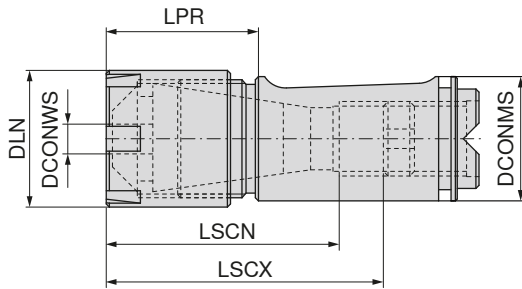
Suitable UltraMini cutting inserts can be found on → **Page 290–309**

ER collet chuck (mini lock nut)

▲ with inner high-pressure coolant supply through the tool

Scope of supply:

Base body without lock nut



72 984 ...

Designation	LPR mm	DCONMS _{g6} mm	DLN mm	LSCX mm	LSCN mm	for collet	
MU.S20-SPZH-ER16-IK	25,0	20	22	55	38	426E (ER16)	06001
MU.S20-SPZH-ER20-IK	27,5	20	28	56	40	428E (ER20)	06002



83 950 ...

**Spare parts
for Article no.**

72 984 06001	058
72 984 06002	059

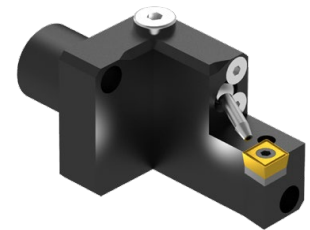
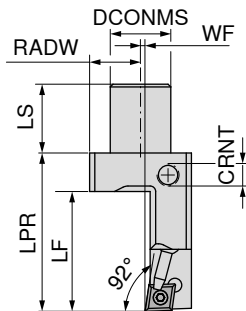
Sealing discs can be found in our clamping technology catalogue, Chapter Adapters and accessories on → **Page 269.**

Rear holder with screw clamping for CC.. Indexable inserts

▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

Designation	DCONMS mm _{g6}	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
ST.SR20R4-RE-K-CC09-L-IK	22	25	43,5	1,5	77,5	18,5	M8x1	CC.. 09T3	08005
ST.SR20R4-RE-K-CC09-R-IK	22	25	43,5	1,5	57,5	18,5	M8x1	CC.. 09T3	08004

Screw plug	Countersunk screw	Coolant nozzle	Combination Key	Clamping screw	Carbide type C	Threaded sleeve	Alu ring	
72 950 ...	72 950 ...	72 989 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...	
19006	19007	10002	398	113	165	171	19008	
72 955 08005	19006	19007	10002	398	113	165	171	19008

Spare parts for Article no.

72 955 08005	19006	19007	10002	398	113	165	171	19008
72 955 08004	19006	19007	10002	398	113	165	171	19008

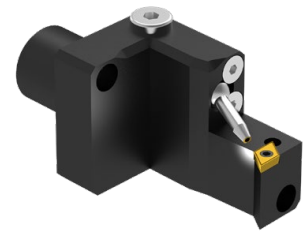
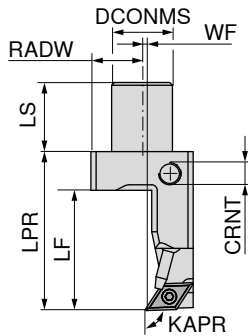
Suitable indexable inserts can be found in the ISO turning section on → **Page 13–16.**

Rear holder with screw clamping for DC.. Indexable inserts

▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

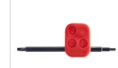








Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	KAPR °	Insert	
ST.SR20R4-RE-K-DC07-R-IK	22	25	43,5	1,5	57,5	18,5	M8x1	92	DC.. 0702	08006
ST.SR20R4-RE-K-DC11-R-IK	22	25	43,5	1,0	57,5	18,5	M8x1	92	DC.. 11T3	08008
ST.SR20R4-RE-L-DC07-R-IK	22	25	43,5	1,5	77,5	18,5	M8x1	92	DC.. 0702	08007
ST.SR20R4-RE-L-DC11-R-IK	22	25	43,5	1,0	77,5	18,5	M8x1	92	DC.. 11T3	08009

Spare parts for Article no.

Article no.	70 950 ...	70 950 ...	70 950 ...	72 950 ...	72 950 ...
72 955 08006		112			19008
72 955 08008	398	113		19005	19008
72 955 08007		112			19008
72 955 08009	398	113		19005	19008

Spare parts for Article no.

Article no.	72 950 ...	72 950 ...	80 950 ...	72 989 ...
72 955 08006		19006	19007	
72 955 08008		19006	19007	
72 955 08007		19006	19007	110
72 955 08009		19006	19007	

 Combination Key 70 950 ...	 Clamping screw 70 950 ...	 Solid Carbide Seat D 70 950 ...	 Threaded bush 72 950 ...	 Alu ring 72 950 ...
 Screw plug 72 950 ...	 Countersunk screw 72 950 ...	 Key D 80 950 ...	 Coolant nozzle 72 989 ...	

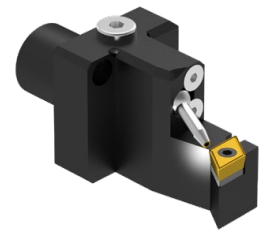
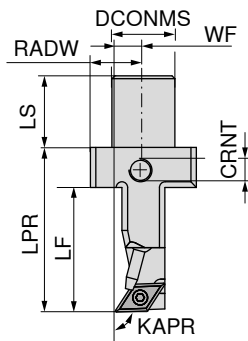
1 Suitable indexable inserts can be found in the ISO turning section on → Page 40–42.

Rear holder with screw clamping for DC.. Indexable inserts

▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

Designation	DCONMS mm _{g6}	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	KAPR °	Insert	
ST.SR20R4-RX-K-DC11-R-1K	22	25	43,5	10	57,5	18,5	M8x1	92	DC.. 11T3	08010
ST.SR20R4-RX-L-DC11-R-1K	22	25	43,5	10	77,5	18,5	M8x1	92	DC.. 11T3	08011

Screw plug	Countersunk screw	Coolant nozzle	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve	Alu ring	
72 950 ...	72 950 ...	72 989 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...	
19006	19007	10002	398	113	106	171	19008	
72 955 08010	19006	19007	10002	398	113	106	171	19008

Spare parts for Article no.

72 955 08010	19006	19007	10002	398	113	106	171	19008
72 955 08011	19006	19007	10002	398	113	106	171	19008

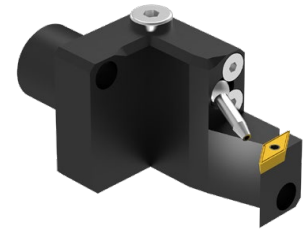
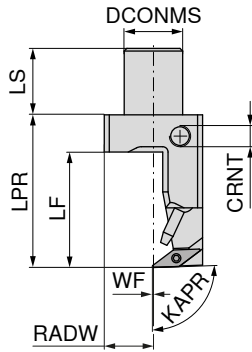
Suitable indexable inserts can be found in the ISO turning section on → Page 40–42.

Rear holder with screw clamping for VC.. Indexable inserts

▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

Designation	DCONMS mm _{g6}	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	KAPR °	Insert	
ST.SR20R4-RE-K-VC11-R-1K	22	25	43,5	0,5	57,5	18,5	M8x1	92	VC.. 1103	08012
ST.SR20R4-RE-L-VC11-R-1K	22	25	43,5	0,5	77,5	18,5	M8x1	92	VC.. 1103	08013

Screw plug	Countersunk screw	Key D	Coolant nozzle	Clamping screw	Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	70 950 ...	72 950 ...
19006	19007	110	10002	112	19008
19006	19007	110	10002	112	19008

Spare parts for Article no.

72 955 08012
72 955 08013

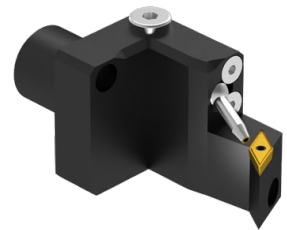
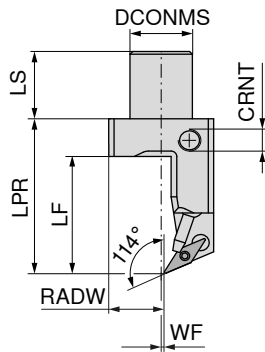
Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder with screw clamping for VC.. Indexable inserts

▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
ST.SR20R4-RE-K-VC11-24-R-IK	22	25	43,5	1,1	57,5	18,5	M8x1	VC.. 1103	08014
ST.SR20R4-RE-L-VC11-24-R-IK	22	25	43,5	1,1	77,5	18,5	M8x1	VC.. 1103	08015

Screw plug	Countersunk screw	Key D	Coolant nozzle	Clamping screw	Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	70 950 ...	72 950 ...
19006	19007	110	10002	112	19008
19006	19007	110	10002	112	19008

Spare parts for Article no.

72 955 08014
72 955 08015

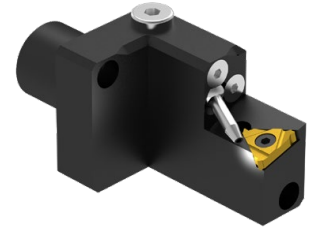
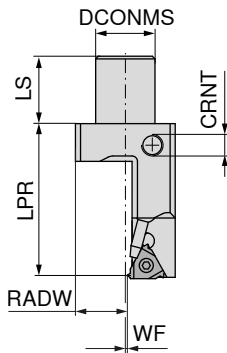
Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder for right outer thread-turning inserts (ER 16..)

- ▲ for **STAR** SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R
- ▲ Tool holder with approach angle 1.5°
- ▲ Thread-turning inserts with pitch max. 1.5 mm

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW
Right-hand
72 955 ...

Designation	DCONMS _{g6} mm	LS mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
ST.SR20R4-RE-K-ER16-R-1K	22	25	0,7	57,5	18,5	M8x1	16 ER..	08016
ST.SR20R4-RE-L-ER16-R-1K	22	25	0,7	77,5	18,5	M8x1	16 ER..	08017

Screw plug	Countersunk screw	Key D	Coolant nozzle	Clamping screw	Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	71 950 ...	72 950 ...
19006	19007	112	10002	231	19008
19006	19007	112	10002	231	19008

Spare parts
for Article no.
72 955 08016
72 955 08017

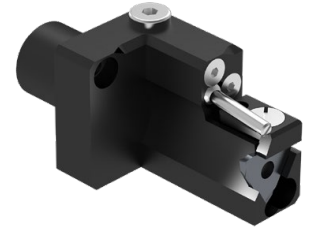
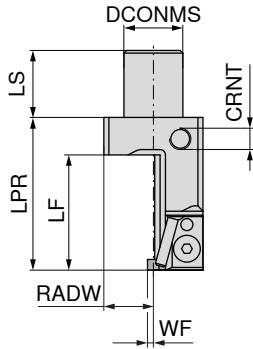
Suitable indexable inserts can be found in **Chapter 2, Thread turning.**

Rear holder for TX grooving inserts

- ▲ for STAR SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R
- ▲ Insert width 0.5-4.0 mm

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 955 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
ST.SR20R4-RE-K-TX-R-IK	22	25	43	2	57	18,5	M8x1	TX R/N/L ...2/3/4	16018
ST.SR20R4-RE-L-TX-R-IK	22	25	43	2	77	18,5	M8x1	TX R/N/L ...2/3/4	16019

Screw plug	Clamp	Lock washer	Countersunk screw	Coolant nozzle	Guide pin with flange	Alu ring
72 950 ...	72 950 ...	72 950 ...	72 950 ...	72 989 ...	72 950 ...	72 950 ...
19006	19001	19002	19003	10001	19004	19008
72 955 16018	19006	19001	19002	19003	10001	19004
72 955 16019	19006	19001	19002	19003	10001	19004

Spare parts for Article no.

72 955 16018	19006	19001	19002	19003	10001	19004	19008
72 955 16019	19006	19001	19002	19003	10001	19004	19008

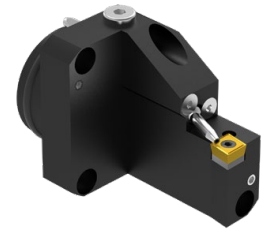
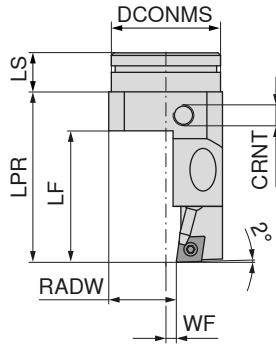
Suitable indexable inserts can be found in the main catalogue, **Chapter 11 Grooving tools.**

Rear holder with screw clamping for CC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:



Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
TS.RE42.65-CC09-R-1K	42	15	50,5	4	65,5	26	M8x1	CC.. 09T3	08001

 Screw plug 72 950 ... 19006	 Countersunk screw 72 950 ... 19007	 Key D 80 950 ... 113	 Coolant nozzle 72 989 ... 10002	 Clamping screw 70 950 ... 113	 Carbide type C 70 950 ... 165	 Threaded sleeve 70 950 ... 171	 Alu ring 72 950 ... 19008
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Spare parts
for Article no.
72 957 08001

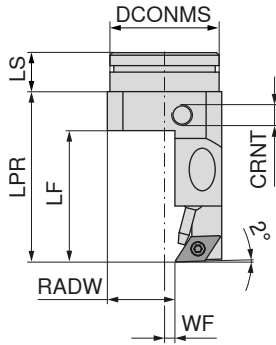
 Suitable indexable inserts can be found in the ISO turning section on → **Page 13–16.**

Rear holder with screw clamping for DC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection











NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
TS.RE42.65-DC11-R-1K	42	15	50,5	4	65,5	26	M8x1	DC.. 11T3	08002

**Spare parts
for Article no.
72 957 08002**

							
Screw plug	Countersunk screw	Coolant nozzle	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve	Alu ring
72 950 ...	72 950 ...	72 989 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...
19006	19007	10002	398	113	106	171	19008

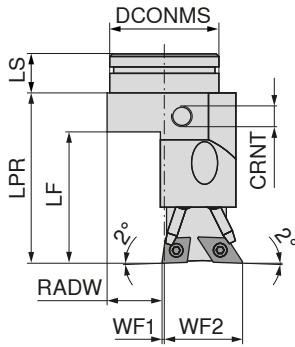
 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder (double) with screw clamping for CC.. / DC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW
double
72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	LPR mm	WF1 mm	WF2 mm	RADW mm	CRNT	Insert	
TS.RD42.65-CC09-R-DC11-L-IK	42	15	50,5	65,5	1	30	21	M8x1	CC.. 09T3 / DC.. 11T3	08009

Spare parts
for Article no.
72 957 08009

Clamping screw	Solid Carbide Seat D	Carbide type C	Threaded sleeve	Alu ring
70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...
113	106	165	171	19008

Spare parts
for Article no.
72 957 08009

Screw plug	Countersunk screw	Key D	Coolant nozzle	Combination Key
72 950 ...	72 950 ...	80 950 ...	72 989 ...	70 950 ...
19006	19007	113	10002	398

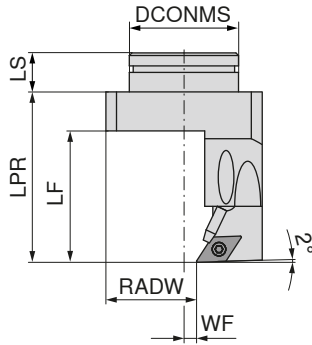
Suitable CC.. Indexable inserts can be found in the ISO turning section on → **Page 13–16.**
Suitable DC.. Indexable inserts can be found in the ISO turning section on → **Page 23–27.**

Overhead rear holder with screw clamping for DC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection











NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	LPR mm	WF mm	RADW mm	Insert	
TS.RY42.65-DC11-R-1K	42	15	50,5	65,5	4,5	34,5	DC.. 11T3	08007

**Spare parts
for Article no.
72 957 08007**

							
Screw plug	Countersunk screw	Coolant nozzle	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve	Alu ring
72 950 ...	72 950 ...	72 989 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...
19006	19007	10002	398	113	106	171	19008

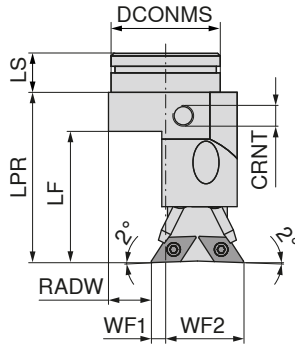
 Suitable indexable inserts can be found in the ISO turning section on → **Page 23–27.**

Rear holder (double) with screw clamping for DC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:









Holder with coolant nozzle and screw plug, without coolant connection



NEW
double
72 957 ...
08011

Designation	DCONMS _{g6} mm	LS mm	LF mm	LPR mm	WF1 mm	WF2 mm	RADW mm	CRNT	Insert
TS.RD42.65-DC11-R-DC11-L-1K	42	15	50,5	65,5	5,5	30	16,5	M8x1	DC.. 11T3

Spare parts
for Article no.
72 957 08011

 Screw plug 72 950 ... 19006	 Countersunk screw 72 950 ... 19007	 Coolant nozzle 72 989 ... 10002	 Combination Key 70 950 ... 398	 Clamping screw 70 950 ... 113	 Solid Carbide Seat D 70 950 ... 106	 Threaded sleeve 70 950 ... 171	 Alu ring 72 950 ... 19008
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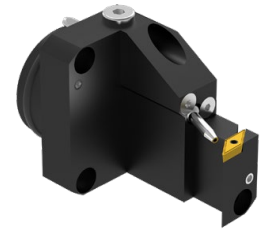
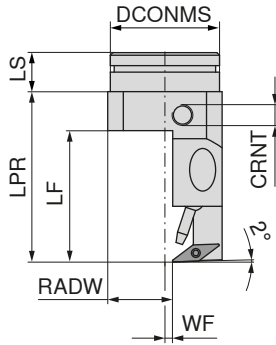
 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder with screw clamping for VC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:







Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	LPR mm	WF mm	RADW mm	CRNT	Insert	
TS.RE42.65-VC11-R-1K	42	15	50,5	65,5	3	25	M8x1	VC.. 1103	08003

 Screw plug	 Countersunk screw	 Key D	 Coolant nozzle	 Clamping screw	 Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	70 950 ...	72 950 ...
19006	19007	110	10002	112	19008

Spare parts
for Article no.
72 957 08003

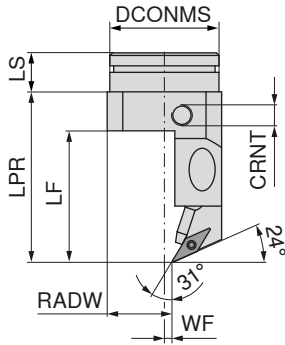
 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder with screw clamping for VC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection


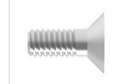






NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	LPR mm	WF mm	RADW mm	CRNT	Insert	
TS.RE42.65-VC11-24-R-1K	42	15	50,5	65,5	3	25	M8x1	VC.. 1103	08004

**Spare parts
for Article no.
72 957 08004**

 Screw plug	 Countersunk screw	 Key D	 Coolant nozzle	 Clamping screw	 Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	70 950 ...	72 950 ...
19006	19007	110	10002	112	19008

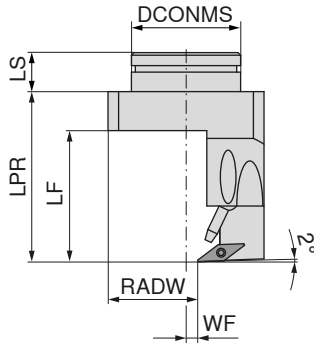
 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Overhead rear holder with screw clamping for VC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:


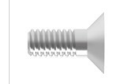




Holder with coolant nozzle and screw plug, without coolant connection



NEW

72 957 ...

Designation	DCONMS _{g6} mm	LS mm	WF mm	LF mm	LPR mm	RADW mm	CRNT	Insert	
TS.RY42.65-VC11-R-1K	42	15	3	50,5	65,5	25	M8x1	VC.. 1103	08008

 Screw plug 72 950 ... 19006	 Countersunk screw 72 950 ... 19007	 Key D 80 950 ... 110	 Coolant nozzle 72 989 ... 10002	 Clamping screw 70 950 ... 112	 Alu ring 72 950 ... 19008
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Spare parts
for Article no.
72 957 08008

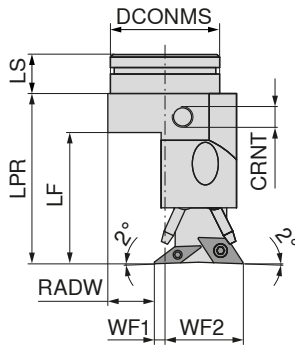
 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

Rear holder (double) with screw clamping for VC.. / DC.. Indexable inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

Scope of supply:






Holder with coolant nozzle and screw plug, without coolant connection







NEW
double
72 957 ...

Designation	DCONMS mm _{g6}	LS mm	LF mm	LPR mm	WF1 mm	WF2 mm	RADW mm	CRNT	Insert	
TS.RD42.65-VC11-R-DC11-L-1K	42	15	50,5	65,5	4	30	18	M8x1	VC.. 1103 / DC.. 11T3	08010

Spare parts
for Article no.
72 957 08010

				
70 950 ...	70 950 ...	70 950 ...	70 950 ...	72 950 ...
398	113	106	171	19008

Spare parts
for Article no.
72 957 08010

			
72 950 ...	72 950 ...	80 950 ...	72 989 ...
19006	19007	110	10002

 Suitable indexable inserts can be found in the ISO turning section on → **Page 40–42.**

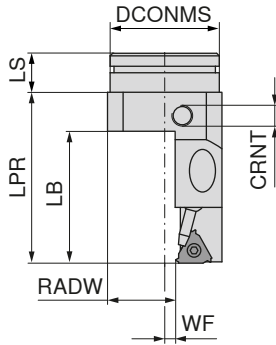
3

Rear holder for right outer thread-turning inserts (ER 16..)

- ▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329
- ▲ Tool holder with approach angle 1.5°
- ▲ Thread-turning inserts with pitch max. 1.5 mm







Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW
Right-hand
72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
TS.RE42.65-ER16-R-IK	42	15	50,5	4	65,5	26	M8x1	16 ER..	08005

 Screw plug	 Countersunk screw	 Key D	 Coolant nozzle	 Clamping screw	 Alu ring
72 950 ...	72 950 ...	80 950 ...	72 989 ...	71 950 ...	72 950 ...
19006	19007	112	10002	231	19008

Spare parts
for Article no.
72 957 08005

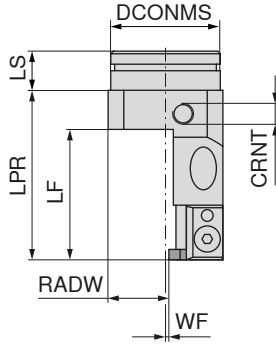
 Suitable indexable inserts can be found in **Chapter 2, Thread turning.**

Rear holder for TX grooving inserts

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329
▲ Insert width 0.5-4.0 mm

Scope of supply:

Holder with coolant nozzle and screw plug, without coolant connection



NEW
72 957 ...

Designation	DCONMS _{g6} mm	LS mm	LF mm	WF mm	LPR mm	RADW mm	CRNT	Insert	
TS.RE42.65-TX-R-IK	42	15	50	1	65,5	23	M8x1	TX R/N/L ...2/3/4	16006

**Spare parts
for Article no.**
72 957 16006

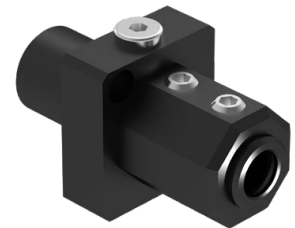
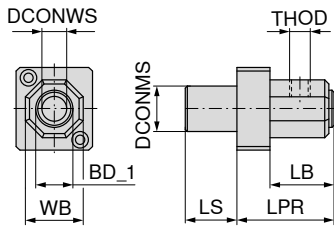
Screw plug	Clamp	Lock washer	Countersunk screw	Coolant nozzle	Guide pin with flange	Alu ring
72 950 ...	72 950 ...	72 950 ...	72 950 ...	72 989 ...	72 950 ...	72 950 ...
19006	19001	19002	19003	10001	19004	19008

Suitable indexable inserts can be found in the main catalogue, **Chapter 11 Grooving tools.**

Rear holder for drills and boring bars

▲ for **STAR** SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R

▲ with inner high-pressure coolant supply through the tool

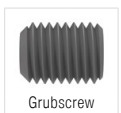


NEW



72 955 ...

Designation	DCONMS mm ^{g6}	DCONWS mm	BD_1 mm	LPR mm	LS mm	WB mm	LB mm	THOD	
ST.SR20R4-BH-06-1K	22	6	12	47	25	28	31	M6	03020
ST.SR20R4-BH-08-1K	22	8	14	47	25	28	31	M8	03021
ST.SR20R4-BH-10-1K	22	10	16	47	25	28	31	M8	03022
ST.SR20R4-BH-12-1K	22	12	18	47	25	28	31	M10	03023
ST.SR20R4-BH-14-1K	22	14	19	47	25	28	31	M10	03024
ST.SR20R4-BH-66-1K	22	16	21	47	25	32	31	M10	03025



Grubscrew

72 950 ...

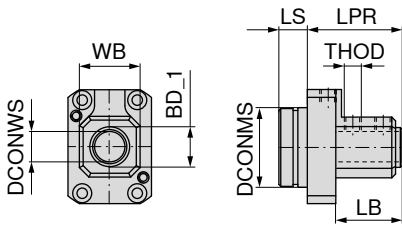
Spare parts
for Article no.
72 955 03020
72 955 03023
72 955 03024
72 955 03025

19011
19013
19013
19013

Rear holder for drills and boring bars

▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329

▲ with inner high-pressure coolant supply through the tool



NEW



72 957 ...

Designation	DCONMS mm ^{g6}	DCONWS mm	BD_1 mm	LPR mm	LS mm	WB mm	LB mm	THOD	
TS.RE42.65-BH-06-1K	42	6	12	50	15	28	35	M6	03012
TS.RE42.65-BH-08-1K	42	8	14	50	15	28	35	M8	03013
TS.RE42.65-BH-10-1K	42	10	16	50	15	28	35	M8	03014
TS.RE42.65-BH-12-1K	42	12	18	50	15	28	35	M10	03015
TS.RE42.65-BH-14-1K	42	14	18	50	15	28	35	M10	03016
TS.RE42.65-BH-16-1K	42	16	21	50	15	32	35	M10	03017



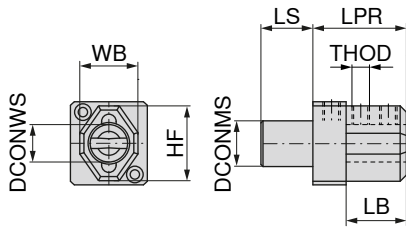
72 950 ...

Spare parts
for Article no.
72 957 03012
72 957 03015
72 957 03016
72 957 03017

19011
19013
19013
19013

Rear holder for clamping inserts

- ▲ for **STAR** SR 20 R-IV / 20 JII / 32 JII / 38 / SW 12 / 20 / SV 20 R
- ▲ Thro' coolant directly through base holder
- ▲ Also suitable for collet holders



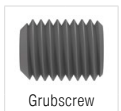
NEW



72 955 ...

Designation	DCONMS _{G6} mm	DCONWS _{H6} mm	HF mm	LS mm	LB mm	WB mm	LPR mm	CRNT
ST.SR20R4-S20-1K	22	20	36	25	29	28	45	M8x1

20027



Grubscrew

83 950 ...

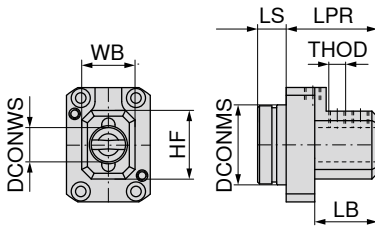
Spare parts
for Article no.
72 955 20027

464

 Suitable cutting inserts and collet holders can be found on → **Page 76+77**

Rear holder for clamping inserts

- ▲ for **TSUGAMI** B0 266 / 326 / 386 / 38T / HS 267 / 237 / 38M / BW 269 / 329
- ▲ Thro' coolant directly through base holder
- ▲ Also suitable for collet holders

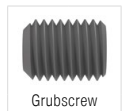


NEW



72 957 ...

Designation	DCONMS _{g6}	DCONWS _{H6}	HF	LS	LB	WB	LPR	CRNT	
	mm	mm	mm	mm	mm	mm	mm		
TS.RE42.65-S-20-IK	42	20	36	15	33	28	48	M8x1	20018



Grubscrew

83 950 ...

Spare parts
for Article no.
72 957 20018

464

 Suitable cutting inserts and collet holders can be found on → **Page 76+77**

Coolant attachment for height-adjustable insert holder, left



NEW
Left-hand

72 985 ...

Designation	for
MU.KS-KA-AH-L	MU.AH-...-L

09003

Coolant attachment for STAR



NEW

72 955 ...

Designation
ST.KS-KA-STAR

09026

Coolant attachment for height-adjustable insert holder, right



NEW
Right-hand

72 985 ...

Designation	for
MU.KS-KA-AH-R	MU.AH-...-R

09001

Coolant distributor for high-pressure connections - 6 outlets

Scope of supply:
without quick-couplers



NEW

72 991 ...

Designation
MU.KSV-45-30-35x6

12003

Coolant attachment for height-adjustable insert holder, double



NEW
double

72 985 ...

Designation	for
MU.KS-KA-AH-D	MU.AH-...-R/L

09002

Coolant distributor for high-pressure connections - 7 outlets

Scope of supply:
without quick-couplers



NEW

72 991 ...

Designation
MU.KSV-80-30-30x7

12002

Coolant distributor for high-pressure connections - 8 outlets

Scope of supply:
without quick-couplers



NEW

72 991 ...

12001

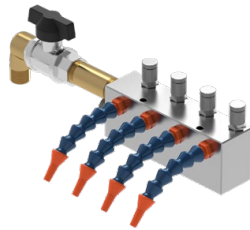
Designation

MU.KSV-110-30-30x8

Coolant distributor for STAR SR 32

▲ 4x high-pressure and 4x low-pressure connections (G1/8")

Scope of supply:
without quick-couplers



NEW

72 991 ...

12004

Designation

MU.KSV-45-30-35x6

Coolant nozzle for high-pressure applications



NEW

72 989 ...

10002

Designation

MU.KS-KD-HD

Coolant nozzle for TX grooving tool holder



NEW

72 989 ...

10001

Designation

MU.KS-KD-HO

Coolant nozzle for low-pressure applications



NEW

72 989 ...

10003

Designation

MU.KS-KD-ND

G1/8" screw plug

- ▲ Max. 200 bar/2900 psi
- ▲ No sealing ring required



NEW

72 950 ...

010

Designation

VS.G1/8

THSZMS

G1/8"

Angled coolant connection - short



NEW

short

72 987 ...

18001

Designation

MU.KS-KA-VU-K

THOD

M8x1

Angled coolant connection - long



NEW

long

72 987 ...

18002

Designation

MU.KS-KA-VU-L

THOD

M8x1

Angled coolant connection for distributor

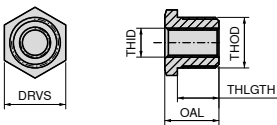


NEW

72 987 ...

Designation	THOD	THID	
MU.KS-KA-KSV	G1/8"	G1/8"	18003

Threaded adapter



NEW

72 988 ...

THID	THOD	THLGD	DRVS	OAL	
		mm	mm	mm	
M8x1	G1/4"	11,5	17	15,0	01003
M8x1	M12x1	11,5	14	15,0	01001
M8x1	M14x1	11,5	17	15,0	01002
M8x1	G1/8"	11,5	14	23,5	01004

Flexible coolant hoses

- ▲ incl. prefitted quick-coupler and coupler connector
- ▲ extremely flexible
- ▲ pressure-resistant up to 300 bar



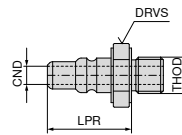
NEW

72 990 ...

Designation	BD	CND	OAL	
	mm	mm	mm	
MU.KSS-DN3-150	6,0	3	150	11005
MU.KSS-DN3-250	6,0	3	250	11006
MU.KSS-DN5-200	9,5	5	200	11001
MU.KSS-DN5-300	9,5	5	300	11002
MU.KSS-DN5-400	9,5	5	400	11003
MU.KSS-DN5-500	9,5	5	500	11004

Coupler connector

- ▲ pressure-resistant up to at least 400 bar



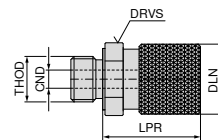
NEW

72 992 ...

Designation	LPR	CND	DRVS	OAL	
	mm	mm	mm	mm	
MU.KSKS-M8x1	18,5	4	12	19	13001

Quick-coupler

- ▲ pressure-resistant up to at least 400 bar
- ▲ rapid change of coolant distribution without screws thanks to click system



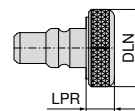
NEW

72 993 ...

THOD	BD	DLN	LPR	CND	
	mm	mm	mm	mm	
G1/8"	16	15,5	21,5	4	15001

Sealing plugs

- ▲ for closing off the quick-coupler to protect against contamination



NEW

72 994 ...

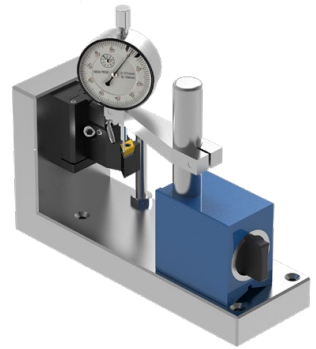
Designation	LPR	DLN	
	mm	mm	
MU.KSVS	5,5	15,5	17001

Adjustment device for setting height of tool block holder

- ▲ Reduced setup times thanks to convenient presetting away from the machine
- ▲ prevention of machine downtimes
- ▲ best positional accuracy following tool change by presetting away from the machine

Scope of supply:

- 72 996 05001: Adjustment device with dial gauge and dial gauge stand
- 72 996 05002: Adjustment device without dial gauge and dial gauge stand



NEW

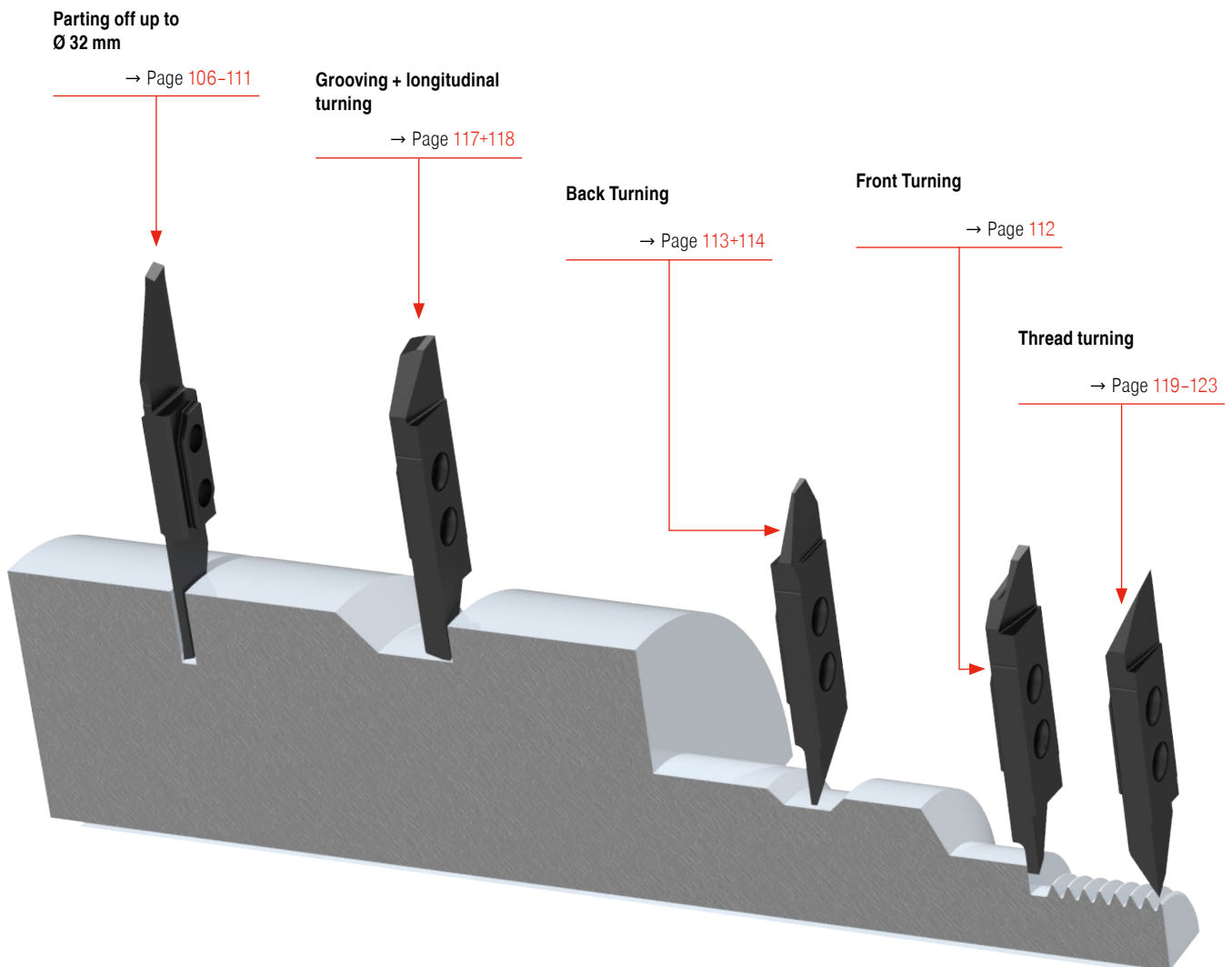
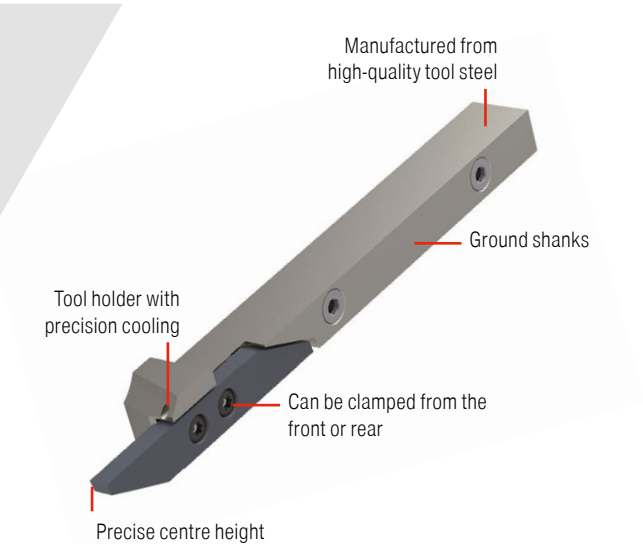
72 996 ...

Designation	
MU.EV MAX	05001
MU.EV MAX-OMU	05002

 Information on correct usage, and any conversions required can be found on → [Page 155+156](#)

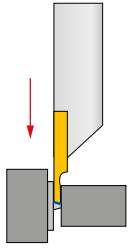
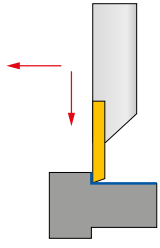
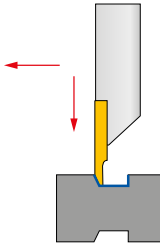
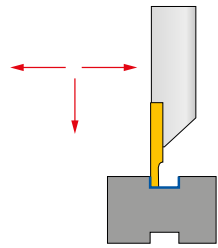
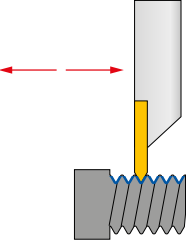
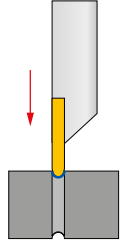
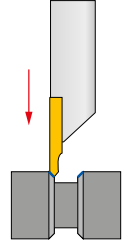
Toolfinder – VertiClamp

- ▲ Vertical arrangement of cutting edges
Less space required
- ▲ Second cutting edge can still be used in the event of breakage
Minimises costs
- ▲ Insert seat protected against swarf
Increases the service life of the holder
- ▲ High changeover precision
Reduces unproductive times
- ▲ Large selection of indexable inserts and geometries
Increases flexibility
- ▲ Optional coolant supply to cutting edge
Increases service life and improves surface quality






Overview – VertiClamp

Inserts

<p>Parting</p>  <p>→ Page 106-111</p>	<p>Front Turning</p>  <p>→ Page 112</p>	<p>Back Turning</p>  <p>→ Page 113+114</p>	<p>Grooving + longitudinal turning</p>  <p>→ Page 115-118</p>
<p>Thread turning</p>  <p>→ Page 119-123</p>	<p>Radius Grooving</p>  <p>→ Page 124</p>	<p>Chamfers</p>  <p>→ Page 125</p>	

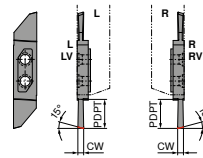
Tool holder

<p>normal with through coolant</p>	<p>Standard tool holders</p>  <p>→ Page 127 → Page 127</p>	<p>Offset tool holders</p>  <p>→ Page 128 → Page 129</p>	<p>Contra tool holders</p>  <p>→ Page 130</p>
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3

3002 L / 3002 LV / 3002 R / 3002 RV

Designation	CW mm	PDPT mm
3002-0,8-6	0,8	6
3002-0,8-10	0,8	10
3002-1,0-6	1,0	6
3002-1,0-13	1,0	13
3002-1,2-6	1,2	6
3002-1,5-8	1,5	8
3002-1,5-16	1,5	16
3002-1,8-8	1,8	8
3002-2,0-10	2,0	10
3002-2,0-16	2,0	16
3002-2,5-13	2,5	13
3002-2,5-16	2,5	16
3002-3,0-16	3,0	16



3002 L/LV / 3002 R/RV

3002 L / 3002 LV / 3002 R / 3002 RV

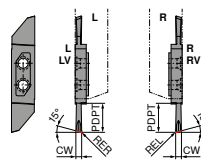
▲ for parting off

	WPU7620	WPU7620	WPU7620	WPU7620
	F	F	F	F
	3002 L	3002 LV	3002 R	3002 RV
	72 420 ...	72 422 ...	72 416 ...	72 418 ...
ISO				
3002-0,8-6	510	510	510	510
3002-0,8-10	530	530	530	530
3002-1,0-6	512	512	512	512
3002-1,0-13	532	532	532	532
3002-1,2-6	514	514	514	514
3002-1,5-8	516	516	516	516
3002-1,5-16	536	536	536	536
3002-1,8-8	518	518	518	518
3002-2,0-10	520	520	520	520
3002-2,0-16	540	540	540	540
3002-2,5-13	522 ¹⁾	522 ¹⁾	522 ¹⁾	522 ¹⁾
3002-2,5-16	542 ¹⁾	542 ¹⁾	542 ¹⁾	542 ¹⁾
3002-3,0-16	524 ¹⁾	524 ¹⁾	524 ¹⁾	524 ¹⁾
P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

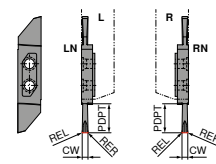
1) used with tool holders with 12 mm and larger shank size

3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

Designation	CW mm	PDPT mm
3002-1,5-8	1,5	8
3002-1,5-10	1,5	10
3002-1,5-16	1,5	16
3002-2,0-10	2,0	10
3002-2,0-16	2,0	16
3002-2,5-13	2,5	13
3002-2,5-16	2,5	16
3002-3,0-16	3,0	16



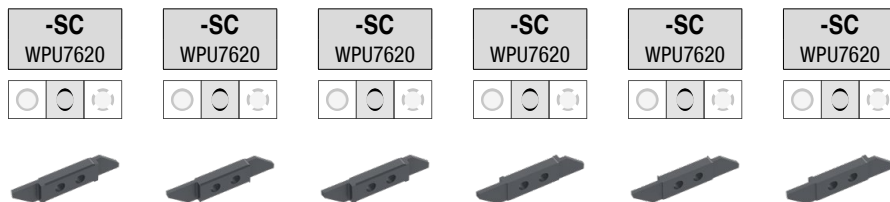
3002 L/LV / 3002 R/RV



3002 LN / 3002 RN

3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

▲ for parting off



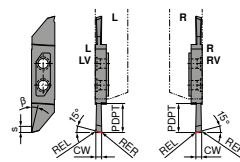
ISO	REL mm	RER mm	F						
			3002 L 72 432 ...	3002 LN 72 426 ...	3002 LV 72 434 ...	3002 R 72 428 ...	3002 RN 72 424 ...	3002 RV 72 430 ...	
3002-1,5-8	0,00	0,08	508		508				
3002-1,5-8	0,08	0,00					508		508
3002-1,5-10	0,08	0,08			510			510	
3002-1,5-16	0,08	0,08			530			530	
3002-1,5-16	0,08	0,00					528		528
3002-1,5-16	0,00	0,08	528						
3002-2,0-10	0,08	0,08			512			512	
3002-2,0-10	0,08	0,00					510		510
3002-2,0-10	0,00	0,08	510						
3002-2,0-16	0,08	0,08			532			532	
3002-2,0-16	0,08	0,00					530		530
3002-2,0-16	0,00	0,08	530						
3002-2,5-13	0,08	0,08			514 ¹⁾			514 ¹⁾	
3002-2,5-13	0,08	0,00					512 ¹⁾		512 ¹⁾
3002-2,5-13	0,00	0,08	512 ¹⁾						
3002-2,5-16	0,08	0,08			534 ¹⁾			534 ¹⁾	
3002-2,5-16	0,08	0,00					532 ¹⁾		532 ¹⁾
3002-2,5-16	0,00	0,08	532 ¹⁾						
3002-3,0-16	0,08	0,08			516 ¹⁾			516 ¹⁾	
3002-3,0-16	0,08	0,00					514 ¹⁾		514 ¹⁾
3002-3,0-16	0,00	0,08	514 ¹⁾						
P			●	●	●	●	●	●	●
M			●	●	●	●	●	●	●
K			○	○	○	○	○	○	○
N			○	○	○	○	○	○	○
S			●	●	●	●	●	●	●
H									
O			○	○	○	○	○	○	○

1) used with tool holders with 12 mm and larger shank size

3

3002 L / 3002 LV / 3002 R / 3002 RV

Designation	CW mm	PDPT mm	s mm
3002-0,8-10	0,8	10	2
3002-0,8-10	1,0	10	2
3002-1,0-13	1,0	13	2
3002-1,5-8-06	1,5	8	2
3002-1,5-8-12	1,5	8	2
3002-1,5-16	1,5	16	2
3002-2,0-10-06	2,0	10	2
3002-2,0-10-12	2,0	10	2
3002-2,0-16-12	2,0	16	2
3002-2,0-16-06	2,0	16	2
3002-2,5-13-12	2,5	13	2
3002-2,5-13-06	2,5	13	2
3002-2,5-16-12	2,5	16	2
3002-2,5-16-06	2,5	16	2
3002-3,0-16-12	3,0	16	2
3002-3,0-16-06	3,0	16	2



3002 L/LV / 3002 R/RV

3002 L / 3002 LV / 3002 R / 3002 RV

▲ for parting off

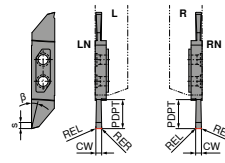
-SPT WPU7620	-SPT WPU7620	-SPT WPU7620	-SPT WPU7620
F 3002 L	F 3002 LV	F 3002 R	F 3002 RV
72 440 ...	72 442 ...	72 436 ...	72 438 ...

ISO	REL mm	RER mm	72 440 ...	72 442 ...	72 436 ...	72 438 ...
3002-0,8-10	0,00	0,00	50600	50600	50600	50600
3002-1,0-13	0,00	0,00	52800	52800	52800	52800
3002-1,5-16	0,00	0,00	53000	53000	53000	53000
3002-1,5-8-06	0,00	0,05	540	540		540
3002-1,5-8-06	0,05	0,00			540	
3002-1,5-8-12	0,00	0,05	570	570		570
3002-1,5-8-12	0,05	0,00			570	
3002-2,0-10-06	0,00	0,05	572	572		572
3002-2,0-10-06	0,05	0,00			572	
3002-2,0-10-12	0,00	0,05	582	582		582
3002-2,0-10-12	0,05	0,00			582	
3002-2,0-16-06	0,00	0,05	552	552		552
3002-2,0-16-06	0,05	0,00			552	
3002-2,0-16-12	0,00	0,05	592	592		592
3002-2,0-16-12	0,05	0,00			592	
3002-2,5-13-06	0,00	0,05	554	554		554
3002-2,5-13-06	0,05	0,00			554	
3002-2,5-13-12	0,00	0,05	584	584		584
3002-2,5-13-12	0,05	0,00			584	
3002-2,5-16-06	0,00	0,05	574	574		574
3002-2,5-16-06	0,05	0,00			574	
3002-2,5-16-12	0,00	0,05	594	594		594
3002-2,5-16-12	0,05	0,00			594	
3002-3,0-16-06	0,00	0,05	556	556		556
3002-3,0-16-06	0,05	0,00			556	
3002-3,0-16-12	0,00	0,05	586	586		586
3002-3,0-16-12	0,05	0,00			586	

P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

3002 LN / 3002 RN

Designation	CW mm	PDPT mm	s mm	β°
3002-1,0-10	1,0	10	2	20
3002-1,5-10-06	1,5	10	2	6
3002-1,5-10-12	1,5	10	2	12
3002-1,5-16	1,5	16	2	20
3002-2,0-10-06	2,0	10	2	6
3002-2,0-10-12	2,0	10	2	12
3002-2,0-16-12	2,0	16	2	12
3002-2,0-16-06	2,0	16	2	6
3002-2,5-13-12	2,5	13	2	12
3002-2,5-13-06	2,5	13	2	6
3002-2,5-16-06	2,5	16	2	6
3002-2,5-16-12	2,5	16	2	12
3002-3,0-16-12	3,0	16	2	12
3002-3,0-16-06	3,0	16	2	6



3002 LN / 3002 RN

3002 LN / 3002 RN

▲ for parting off

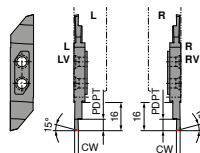
ISO	REL mm	RER mm
3002-1,0-10	0,05	0,05
3002-1,5-10-06	0,05	0,05
3002-1,5-10-12	0,05	0,05
3002-1,5-16	0,05	0,05
3002-2,0-10-06	0,05	0,05
3002-2,0-10-12	0,05	0,05
3002-2,0-16-06	0,05	0,05
3002-2,0-16-12	0,05	0,05
3002-2,5-13-06	0,05	0,05
3002-2,5-13-12	0,05	0,05
3002-2,5-16-06	0,05	0,05
3002-2,5-16-12	0,05	0,05
3002-3,0-16-06	0,05	0,05
3002-3,0-16-12	0,05	0,05

-SPT WPU7620	-SPT WPU7620
F 3002 LN	F 3002 RN
72 515 ...	72 514 ...
50800	50800
550	550
580	580
53000	53000
572	572
582	582
552	552
592	592
554	554
584	584
574	574
594	594
556	556
586	586

P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3002 L-16 / 3002 LV-16 / 3002 R-16 / 3002 RV-16

Designation	CW mm	PDPT mm
3002-0,8-..	0,8	6
3002-1,0-..	1,0	6
3002-1,2-..	1,2	6



3002 L/LV / 3002 R/RV

3002 L-16 / 3002 LV-16 / 3002 R-16 / 3002 RV-16

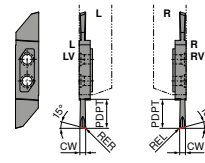
▲ For parting off with pick-up spindle

	WPU7620	WPU7620	WPU7620	WPU7620
	F	F	F	F
	3002 L-16	3002 LV-16	3002 R-16	3002 RV-16
	72 497 ...	72 499 ...	72 496 ...	72 498 ...

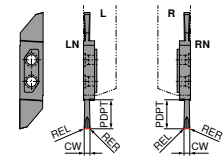
ISO	3002 L-16	3002 LV-16	3002 R-16	3002 RV-16
3002-0,8-6-16	510	510	510	510
3002-1,0-6-16	51200	51200	51200	51200
3002-1,2-6-16	514	514	514	514
P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

Designation	CW mm	PDPT mm
3002-2,0-10..	2	10



3002 L/LV / 3002 R/RV



3002 LN / 3002 RN

3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

- ▲ For parting off
- ▲ **E**: Blade with rounded cutting edge
- ▲ **F**: Blade with sharp cutting edge

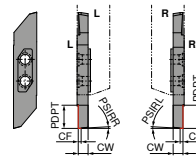
	-GS WPU7620	-GS WPU7620	-GS WPU7620	-GS WPU7620	-GS WPU7620	-GS WPU7620
	F 3002 L	F 3002 LN	F 3002 LV	F 3002 R	F 3002 RN	F 3002 RV
	72 501 ...	72 505 ...	72 507 ...	72 500 ...	72 504 ...	72 506 ...
ISO	REL mm	RER mm				
3002-2,0-10 E	0,2	0,2				
3002-2,0-10 E	0,2	0,0				
3002-2,0-10 E	0,0	0,2	512			512
3002-2,0-10 F	0,2	0,2		512		
3002-2,0-10 F	0,2	0,0			512	
3002-2,0-10 F	0,0	0,2	552			552

P	●	●	●	●	●	●
M	●	●	●	●	●	●
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	●	●	●	●	●	●
H						
O	○	○	○	○	○	○

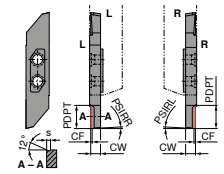
3

3003 L / 3003 R

Designation	CBMD	CW mm	CF mm	s mm	PDPT mm
3003-3,4-..	-SPU	3,4	0,2	1,2	8
3003-3,4-..		3,4	1,0	-	8



3003 L / 3003 R



-SPU 3002 L / 3002 R

3003 L / 3003 R

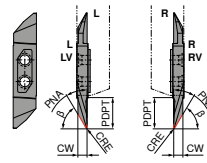
▲ for front turning

	WPU7620	WPU7620	-SPU WPU7620	-SPU WPU7620
	F 3003 L	F 3003 R	F 3003 L	F 3003 R
	72 446 ...	72 444 ...	72 521 ...	72 520 ...
ISO				
3003-3,4-8	510	510	510	510

P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

3004 L / 3004 LV / 3004 R / 3004 RV

Designation	CRE mm	CW mm	PDPT mm	PNA °	β°
3004-3,2-5 35015	0,15	3,2	11	35	55
3004-3,2-5 35035	0,35	3,2	11	35	55
3004-3,2-6 29008	0,08	3,2	11	29	61
3004-3,2-6 29015	0,15	3,2	11	29	61
3004-3,2-6 29035	0,35	3,2	11	29	61
3004-3,2-6 29075	0,75	3,2	11	29	61



3004 L/LV / 3004 R/RV

3004 L / 3004 LV / 3004 R / 3004 RV

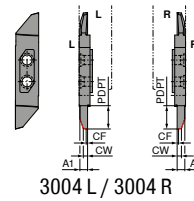
▲ for back turning

	-SP WPU7620	-SP WPU7620	-SP WPU7620	-SP WPU7620
	F 3004 L	F 3004 LV	F 3004 R	F 3004 RV
	72 562 ...	72 563 ...	72 560 ...	72 561 ...
ISO				
3004-3,2-5 35015	514		514	
3004-3,2-5 35035	516		516	
3004-3,2-6 29008	508	508	508	508
3004-3,2-6 29015	510	510	510	510
3004-3,2-6 29035	512	512	512	512
3004-3,2-6 29075	515	515	515	515

P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

3004 L / 3004 R

Designation	CW mm	CF mm	PDPT mm	a ₁ mm
3004-0,8-...	0,8	0,5	6	2,0
3004-1,0-...	1,0	0,5	6	2,2
3004-1,2-...	1,2	0,5	8	2,4
3004-1,5-...	1,5	0,5	8	2,7
3004-1,8-...	1,8	0,5	8	3,0



3004 L / 3004 R

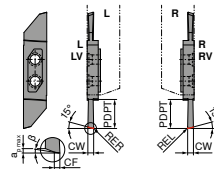
▲ for back turning

WPU7620	WPU7620
F 3004 L	F 3004 R
72 457 ...	72 456 ...

ISO	3004 L	3004 R
3004-0,8-6	504	504
3004-1,0-6	506	506
3004-1,2-8	508	508
3004-1,5-8	510	510
3004-1,8-8	512	512
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3002-015 L / 3002-015 LV / 3002-015 R / 3002-015 RV

Designation	CW mm	CF mm	PDPT mm	β°	$a_{p\max}$ mm
3002-015-..	2	0,3	10	1,5	0,45



3002-015 L/LV / 3002-015 R/RV

3002-015 L / 3002-015 LV / 3002-015 R / 3002-015 RV

▲ For turning and parting off

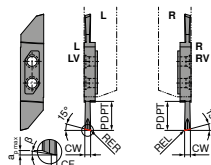
	WPU7620	WPU7620	WPU7620	WPU7620
	F	F	F	F
	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
	72 517 ...	72 519 ...	72 516 ...	72 518 ...
ISO				
3002-015-2,0-10	510	510	510	510

ISO	3002-015-2,0-10	510	510	510	510
P		●	●	●	●
M		●	●	●	●
K		○	○	○	○
N		○	○	○	○
S		●	●	●	●
H					
O		○	○	○	○

3

3002-015 L / 3002-015 LV / 3002-015 R / 3002-015 RV

Designation	CW mm	CF mm	PDPT mm	β°	$a_{p\max}$ mm
3002-015-..	2	0,3	10	15	0,45



3002-015 L/LV / 3002-015 R/RV

3002-015 L / 3002-015 LV / 3002-015 R / 3002-015 RV

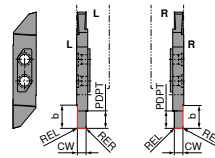
▲ For turning and parting off

	-SC WPU7620	-SC WPU7620	-SC WPU7620	-SC WPU7620
	F 3002-015 L	F 3002-015 LV	F 3002-015 R	F 3002-015 RV
	72 511 ...	72 513 ...	72 510 ...	72 512 ...
ISO	REL mm	RER mm		
3002-015-2,0-10	0,15	0,00	510	510
3002-015-2,0-10	0,00	0,15	510	510

P	●	●	●	●
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H				
O	○	○	○	○

3005 L / 3005 R

Designation	CW mm	PDPT mm	b mm
3005-1,0-...	1,0	2,5	8
3005-1,5-...	1,5	3,0	8
3005-2,0-...	2,0	4,0	8
3005-2,5-...	2,5	5,0	8
3005-3,0-...	3,0	6,0	8





3005 L / 3006 R

3005 L / 3005 R

▲ for grooving and turning

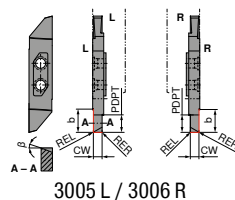
ISO	REL mm	RER mm
3005-1,0-2,5	0,05	0,05
3005-1,5-3	0,05	0,05
3005-2,0-4	0,05	0,05
3005-2,5-5	0,05	0,05
3005-3,0-6	0,05	0,05

WPU7620		WPU7620	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
F 3005 L		F 3005 R	
72 466 ...		72 464 ...	
518		518	
510		510	
512		512	
514		514	
516		516	

P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3005 L / 3005 R

Designation	CW mm	PDPT mm	b mm	β°
3005-0,8-2,5	0,8	2,5	8	10
3005-1,0-3,5	1,0	3,5	8	10
3005-1,5-4	1,5	4,0	8	10
3005-1,5-4 R08	1,5	4,0	8	10
3005-2,0-5	2,0	5,0	8	10
3005-2,0-5 R08	2,0	5,0	8	10
3005-2,0-5 R15	2,0	5,0	8	10
3005-2,5-6	2,5	6,0	8	10
3005-2,5-6 R08	2,5	6,0	8	10
3005-2,5-6 R15	2,5	6,0	8	10
3005-3,0-6	3,0	6,0	8	10
3005-3,0-6 R08	3,0	6,0	8	10
3005-3,0-6 R15	3,0	6,0	8	10



3005 L / 3005 R

▲ for grooving and turning

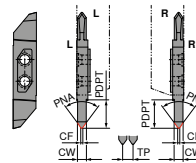
ISO	REL mm	RER mm
3005-0,8-2,5	0,00	0,00
3005-1,0-3,5	0,00	0,00
3005-1,5-4	0,00	0,00
3005-1,5-4 R08	0,08	0,08
3005-2,0-5	0,00	0,00
3005-2,0-5 R08	0,08	0,08
3005-2,0-5 R15	0,15	0,15
3005-2,5-6	0,00	0,00
3005-2,5-6 R08	0,08	0,08
3005-2,5-6 R15	0,15	0,15
3005-3,0-6	0,00	0,00
3005-3,0-6 R08	0,08	0,08
3005-3,0-6 R15	0,15	0,15

-CP WPU7620	-CP WPU7620
F 3005 L	F 3005 R
72 470 ...	72 468 ...

P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3006 L / 3006 R

Designation	TP mm	CW mm	PDPT mm	PNA °	CF mm
3006-2-6-...	0,25 - 2,0	2	6	60	0,035
3006-3-10-..	0,25 - 2,0	3	10	60	0,035



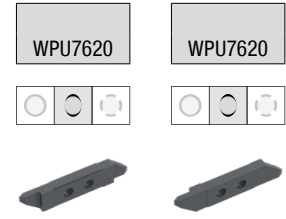
3006 L / 3006 R

3006 L / 3006 R

▲ For thread turning (partial profile)



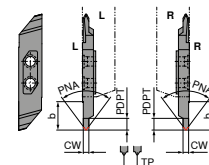
ISO	F 3006 L 72 478 ...	F 3006 R 72 476 ...
3006-2-6-60	510	510
3006-3-10-60	512	512
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○



3

3006 VP L / 3006 VP R

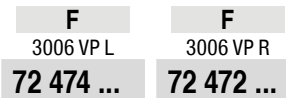
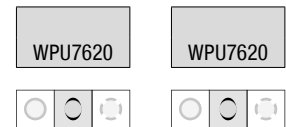
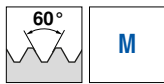
Designation	TP mm	TD mm	CW mm	PDPT mm	b mm	PNA °
3006-0,15..	0,15	M0,6	0,16	0,275	8	60
3006-0,25..	0,25	M1 - M1,2	0,28	0,275	8	60
3006-0,35..	0,35	M1,6 - M1,8	0,36	0,275	8	60
3006-0,35..	0,35	M1,6 - M1,8	0,38	0,275	8	60
3006-0,4-..	0,40	M2	0,44	0,275	8	60
3006-0,45..	0,45	M2,2 - M2,5	0,50	0,275	8	60
3006-0,5-..	0,50	M3	0,70	1,400	8	60
3006-0,6-..	0,60	M3,5	0,80	1,400	8	60
3006-0,7-..	0,70	M4	0,90	1,800	8	60
3006-0,75..	0,75	M4,5	0,95	1,900	8	60
3006-0,8-..	0,80	M5	1,00	2,000	8	60
3006-1,0-..	1,00	M6 - M7	1,20	2,400	8	60
3006-1,25..	1,25	M8 - M9	1,45	2,900	8	60
3006-1,5-..	1,50	M10 - M11	1,74	3,400	8	60
3006-1,75..	1,75	M12	1,95	3,900	8	60
3006-2,0-..	2,00	M14 - M16	2,20	4,000	8	60



3006 L / 3006 R

3006 VP L / 3006 VP R

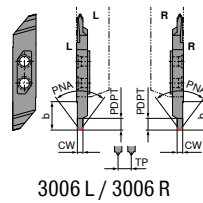
▲ For thread turning (full profile)



ISO	3006 VP L 72 474 ...	3006 VP R 72 472 ...
3006-0,15-10-60 VP	50800	50800
3006-0,25-10-60 VP	510	510
3006-0,35-10-60 VP	512	512
3006-0,4-10-60 VP	514	514
3006-0,45-10-60 VP	516	516
3006-0,5-10-60 VP	518	518
3006-0,6-10-60 VP	520	520
3006-0,7-10-60 VP	522	522
3006-0,75-10-60 VP	524	524
3006-0,8-10-60 VP	526	526
3006-1,0-10-60 VP	528	528
3006-1,25-10-60 VP	530	530
3006-1,5-10-60 VP	532	532
3006-1,75-10-60 VP	534	534
3006-2,0-10-60 VP		53600
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

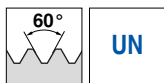
3006 VP L / 3006 VP R

Designation	TP mm	CW mm	PDPT mm	b mm	PNA °
3006-13 U..	1,954	2,4	4,2	8	60
3006-14 U..	1,814	2,2	3,9	8	60
3006-16 U..	1,588	1,8	3,6	8	60
3006-18 U..	1,411	1,6	3,4	8	60
3006-20 U..	1,270	1,4	2,9	8	60
3006-24 U..	1,058	1,2	2,4	8	60
3006-28 U..	0,907	1,2	2,2	8	60
3006-32 U..	0,794	1,0	2,0	8	60
3006-36 U..	0,705	0,8	1,8	8	60
3006-40 U..	0,635	0,8	1,8	8	60
3006-44 U..	0,577	0,8	1,4	8	60
3006-48 U..	0,529	0,6	1,4	8	60



3006 VP L / 3006 VP R

▲ for thread turning (full profile UN)



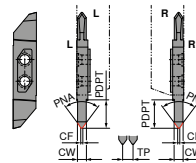
	NEW	NEW
	WPU7620	WPU7620
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		
	F	F
	3006 VP L	3006 VP R
	72 531 ...	72 530 ...

ISO	3006 VP L	3006 VP R
3006-13 UN 10-60 VP	52400	52400
3006-14 UN 10-60 VP	52200	52200
3006-16 UN 10-60 VP	52000	52000
3006-18 UN 10-60 VP	51800	51800
3006-20 UN 10-60 VP	51600	51600
3006-24 UN 10-60 VP	51400	51400
3006-28 UN 10-60 VP	51200	51200
3006-32 UN 10-60 VP	51000	51000
3006-36 UN 10-60 VP	50800	50800
3006-40 UN 10-60 VP	50600	50600
3006-44 UN 10-60 VP	50400	50400
3006-48 UN 10-60 VP	50200	50200
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3

3006 L / 3006 R

Designation	TP mm	CW mm	PDPT mm	PNA °	CF mm
3006-2-6-...	0,25 - 2,0	2	6	55	0,035
3006-3-10-..	0,25 - 2,0	3	10	55	0,035





3006 L / 3006 R

3006 L / 3006 R

▲ For thread turning (partial profile)

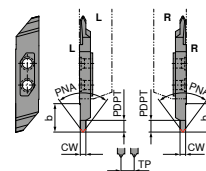


WPU7620	WPU7620
○ ○ ⊕	○ ○ ⊕
	
F 3006 L	F 3006 R
72 527 ...	72 526 ...

ISO	3006 L	3006 R
3006-2-6-55	50000	50000
3006-3-10-55	50200	50200
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3006 VP L / 3006 VP R

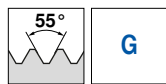
Designation	TP mm	TD mm	CW mm	PDPT mm	b mm	PNA °
3006-G11-..	2,309	1-11 - 6-11	2,54	5,0	8	55
3006-G14-..	1,814	1/2-14 - 7/8-14	2,00	4,5	8	55
3006-G19-..	1,337	1/4-19 - 3/8-19	1,48	3,3	8	55
3006-G28-..	0,907	1/8-28 - 1/16-28	1,00	2,3	8	55



3006 L / 3006 R

3006 VP L / 3006 VP R

▲ For thread turning (full profile)



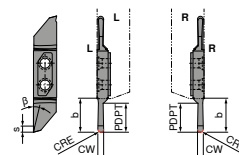
WPU7620	WPU7620
F	F
3006 VP L	3006 VP R
72 529 ...	72 528 ...

ISO	3006 VP L	3006 VP R
3006-G11-10-55 VP	51100	51100
3006-G14-10-55 VP	51400	51400
3006-G19-10-55 VP	51900	51900
3006-G28-10-55 VP	52800	52800
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3

3007 L / 3007 R

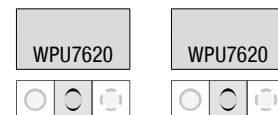
Designation	CW mm	b mm	PDPT mm	CRE mm	s mm	β°
3007-R0,25-2..	0,5	12	2,0	0,25	2	6
3007-R0,5-2,5..	1,0	12	2,5	0,50	2	6
3007-R0,6-2,5..	1,2	12	2,5	0,60	2	6
3007-R0,75-3..	1,5	12	3,0	0,75	2	6
3007-R0,8-3-1..	1,6	12	3,0	0,80	2	6
3007-R1,0-10	2,0	12	10,0	1,00	2	6
3007-R1,5-10	3,0	12	10,0	1,50	2	6
3007-R1,5-16	3,0	17	16,0	1,50	2	6



3007 L / 3008 R

3007 L / 3007 R

▲ for radius turning

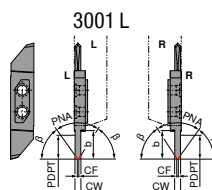
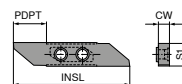
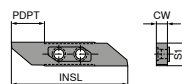


F	F
3007 L	3007 R
72 482 ...	72 480 ...

ISO	72 482 ...	72 480 ...
3007-R0,25-2-10	510	510
3007-R0,5-2,5-10	512	512
3007-R0,6-2,5-10	514	514
3007-R0,75-3-10	516	516
3007-R0,8-3-10	518	518
3007-R1,0-10	520	520
3007-R1,5-10	522	522
3007-R1,5-16	524	524
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H		
O	○	○

3012 L / 3012 R / 3001 L / 3001 R

Designation	CW mm	PDPT mm	b mm	PNA °	CF mm
3012-2-6-...	2,0	2	10	60	0,035
3012-2-10-...	2,0	10	12	90	0,02
3001-3,5-...	3,5	11	-	-	-



3001 R

3012 L / 3012 R

3012 L / 3012 R

▲ for chamfering

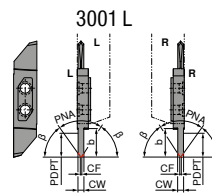
NEW	NEW
WPU7620	WPU7620
F	F
3012 L	3012 R
72 486 ...	72 484 ...

ISO	3012-2-6-60	3012-2-10-45
P	●	●
M	●	●
K	○	○
N	○	○
S	●	●
H	○	○
O	○	○

3

3012 L / 3012 R / 3001 L / 3001 R

Designation	CW mm	PDPT mm	S1 mm	INSL mm
3001-3,5-...	3,5	11	8	40,5
3001-3,6-...	3,6	17	8	51,5
3012-2-10..	2,0	10	8	40,0
3012-2-6-...	2,0	2	8	40,0



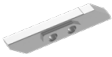

3012 L / 3012 R

3001 R

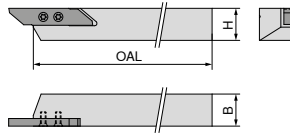
3001 L / 3001 R

▲ Blank

ISO
3001-3,5-10
3001-3,6-17

	NEW	NEW
	WUU7620	WUU7620
		
	3001 L 72 414 ...	3001 R 72 412 ...
	11000	11000
	13000	13000

VertiClamp – Standard tool holder



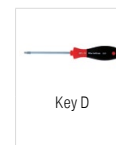
Illustrations show right-hand versions



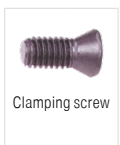
ISO designation	H mm	B mm	OAL mm	Insert	Left-hand		Right-hand	
					72 302 ...	72 300 ...	72 302 ...	72 300 ...
3000-08x100 .	8	8	100	30..	008		008	
3000-10x100 .	10	10	100	30..	010		010	
3000-12x100 .	12	12	100	30..	012		012	
3000-16x125 .	16	16	125	30..	016		016	
3000-20x125 .	20	20	125	30..	020		020	
3000-25x150 .	25	25	150	30..	025		025	

Spare parts for Article no.

Article no.	Insert	80 950 ...	72 950 ...
72 300 016 / 72 302 016	T08	110	005
72 300 008 / 72 302 008	T08	110	004
72 300 010 / 72 302 010	T08	110	005
72 300 012 / 72 302 012	T08	110	005
72 300 020 / 72 302 020	T08	110	005
72 302 025	T08	110	005

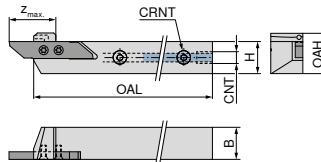


Key D



Clamping screw

VertiClamp – Standard holder with thro' coolant



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	OAH mm	z _{max} mm	CRNT	CNT	Insert	Left-hand		Right-hand	
									72 311 ...	72 310 ...	72 311 ...	72 310 ...
3000-08x100 .IC	8	12	100	12,2	26	M5	M5	30..	008		008	
3000-10x100 .IC	10	12	100	14,0	26	M5	M5	30..	010		010	
3000-12x100 .IC	12	12	100	16,0	26	M5	M5	30..	012		012	
3000-16x100 .IC	16	16	125	20,0	26	M5	G1/8"	30..	016		016	
3000-20x100 .IC	20	20	125	24,0	26	M5	G1/8"	30..	020		020	
3000-25x100 .IC	25	25	125	29,0	26	M5	G1/8"	30..	025		025	

Spare parts for Article no.

Article no.	Insert	72 950 ...	72 950 ...	80 950 ...	72 950 ...
72 310 008 / 72 311 008	M5x4	011	T08	110	004
72 310 010 / 72 311 010	M5x4	011	T08	110	005
72 310 012 / 72 311 012	M5x4	011	T08	110	005
72 310 016 / 72 311 016	G1/8"	010	M5x4	110	005
72 310 020 / 72 311 020	G1/8"	010	M5x4	110	005
72 310 025 / 72 311 025	G1/8"	010	M5x4	110	005



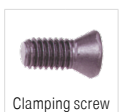
Cylindrical screw



Cylindrical screw

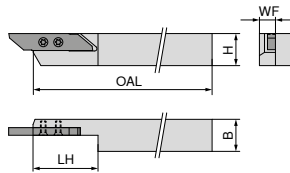


Key D



Clamping screw

VertiClamp - Offset tool holder

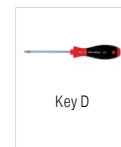


Illustrations show right-hand versions

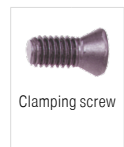


ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	Insert
3000-10x100 .A	10	10	100	37	8	30..
3000-12x100 .A	12	12	100	37	8	30..
3000-16x125 .A	16	16	125	37	8	30..

Left-hand	Right-hand
72 309 ...	72 308 ...
006	006
008	008
010	010



Key D

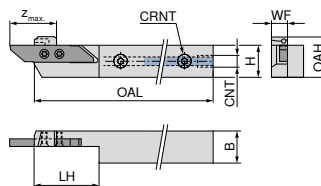


Clamping screw

Spare parts for Article no.

72 308 006 / 72 309 006	T08	110	004
72 308 008 / 72 309 008	T08	110	004
72 308 010 / 72 309 010	T08	110	004

VertiClamp - Offset holder with thro' coolant



Illustrations show right-hand versions



NEW Left-hand	NEW Right-hand
72 315 ...	72 314 ...
016	016

ISO designation	H mm	B mm	OAL mm	WF mm	LH mm	OAH mm	Z _{max} mm	CNT	CRNT	Insert
3000-16x125 .A IC	16	16	125	8	37	20	27	G1/8"	M5	30..



Cylindrical screw



Cylindrical screw



Key D

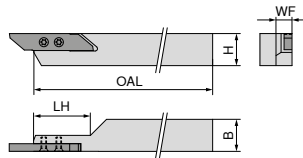


Clamping screw

Spare parts for Article no.

72 314 016 / 72 315 016	G1/8"	010	M5x4	011	T08	110	004
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VertiClamp – Offset holder with offset insert seat

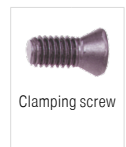
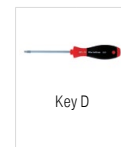


Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	Insert
3000-10x100 .AV	10	10	100	28	8	30..
3000-12x100 .AV	12	12	100	28	8	30..
3000-16x125 .AV	16	16	125	28	8	30..

NEW	NEW
Left-hand	Right-hand
72 317 ...	72 316 ...
010	010
012	
016	016

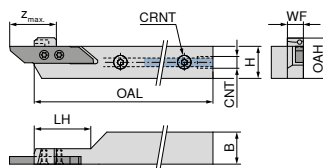


80 950 ...	72 950 ...

Spare parts
for Article no.

72 316 010 / 72 317 010	T08	110	004
72 317 012	T08	110	004
72 316 016 / 72 317 016	T08	110	004

VertiClamp – Offset holder with offset insert seat and thro' coolant

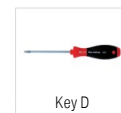


Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	OAH mm	Z _{max} mm	CRNT	CNT	Insert
3000-16x125 .AV IC	16	16	125	20	27	M5	G1/8"	30..

NEW	NEW
Left-hand	Right-hand
72 313 ...	72 312 ...
016	016

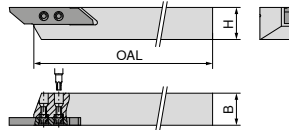


72 950 ...	72 950 ...	80 950 ...	72 950 ...

Spare parts
for Article no.

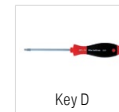
72 312 016 / 72 313 016	G1/8"	010	M5x4	011	T08	110	004
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VertiClamp – Combi tool holder



ISO designation	H mm	B mm	OAL mm	Insert
3000-08x100 .C	8	8	100	30..
3000-10x100 .C	10	10	100	30..
3000-12x100 .C	12	12	100	30..
3000-16x125 .C	16	16	125	30..
3000-20x125 .C	20	20	125	30..

Left-hand 72 306 ...	Right-hand 72 304 ...
008	008
010	010
012	012
016	016
020	020

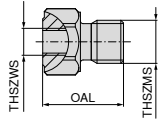


**Spare parts
for Article no.**

Article no.	Key D	Clamping screw	Threaded sleeve
72 304 008 / 72 306 008	T08	110	003
72 304 010 / 72 306 010	T08	110	003
72 304 012 / 72 306 012	T08	110	003
72 304 016 / 72 306 016	T08	110	003
72 304 020 / 72 306 020	T08	110	003

Reducer fitting

- ▲ Max. 200 bar/2900 psi
- ▲ No sealing ring required

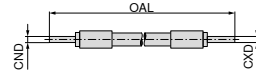


72 301 ...

Designation	THSZWS	THSZMS	OAL mm	
RV.100.M6-M5	M5	M6	18	002
RV.100.M8x1-M5	M5	M8x1	15	008
RV.100.M10x1-M5	M5	M10x1	15	007
RV.100.G1/8-M5	M5	G1/8"	15	006

Hose (connecting piece/connecting piece)

- ▲ Max. 200 bar/2900 psi

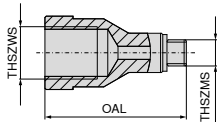


72 305 ...

Designation	CND mm	CXD mm	OAL mm	
HDKS.150.4-4	4	4	150	003
HDKS.200.4-4	4	4	200	014
HDKS.300.4-4	4	4	300	025
HDKS.500.4-4	4	4	500	037

Reducer fitting

- ▲ Max. 200 bar/2900 psi
- ▲ Includes sealing ring



72 301 ...

Designation	THSZWS	THSZMS	OAL mm	
RV.100.M5-M6	M6	M5	15	001
RV.100.M5-M8x1	M8x1	M5	23	003
RV.100.M5-M10x1	M10x1	M5	27	005
RV.100.M5-G1/8	G1/8"	M5	27	004

Hose (connecting piece/thread)

- ▲ Max. 200 bar/2900 psi
- ▲ No sealing ring required



72 305 ...

Designation	THSZMS	CXD mm	OAL mm	
HDKS.150.M5-4	M5	4	150	010
HDKS.200.M5-4	M5	4	200	021
HDKS.300.M5-4	M5	4	300	033
HDKS.500.M5-4	M5	4	500	045



Sealing ring

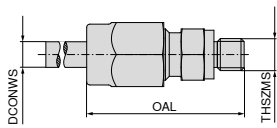
72 950 ...

Spare parts for Article no.

72 301 001	009
72 301 003	009
72 301 005	009
72 301 004	009

Straight fitting

▲ Max. 200 bar/2900 psi

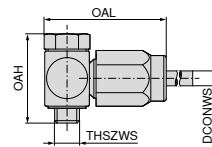


72 307 ...

Designation	DCONWS mm	THSZMS	OAL mm	
KA. M5-4	4	M5	27	009
KA. G1/8-4	4	G1/8"	32	003

Swivel fitting

▲ Max. 200 bar/2900 psi

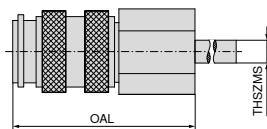


72 307 ...

Designation	DCONWS mm	OAH mm	THSZMS	OAL mm	
KA.SV.M5-4	4	21	M5	28	017
KA.SV.G1/8-4	4	30	G1/8"	37	012

Quick connection (coupling)

▲ Max. 200 bar/2900 psi



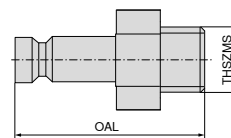
72 319 ...

Designation	THSZMS	OAL mm	
KIG.M5	M5	26	001

Quick connection (connector)

▲ Max. 200 bar/2900 psi

▲ No sealing ring required



72 320 ...

Designation	THSZMS	OAL mm	
SAG.M5	M5	20	001


Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Tensile strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C Annealed	420 N/mm ² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C Annealed	640 N/mm ² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3	< 0,45 % C Tempered	840 N/mm ² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C Annealed	910 N/mm ² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5	< 0,75 % C Tempered	1010 N/mm ² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1	Annealed	610 N/mm ² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2	Tempered	930 N/mm ² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3	Tempered	1010 N/mm ² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4	Tempered	1200 N/mm ² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	680 N/mm ² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2	Hardened and tempered	1100 N/mm ² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3	Hardened and tempered	1300 N/mm ² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic Annealed	680 N/mm ² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic Tempered	1010 N/mm ² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic Quenched	610 N/mm ² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)	780 N/mm ² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic	350 N/mm ² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)	500 N/mm ² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic	540 N/mm ² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic	845 N/mm ² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic	440 N/mm ² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic	780 N/mm ² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable Age-hardened	340 N/mm ² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	250 N/mm ² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable Age-hardened	300 N/mm ² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable	440 N/mm ² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %	375 N/mm ² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn	300 N/mm ² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper	340 N/mm ² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
	S	Heat-resistant alloys	S.1.1	Fe – basis Annealed	680 N/mm ² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865
S.1.2			Fe – basis Age-hardened	950 N/mm ² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
S.2.1			Ni or Co basis Annealed	840 N/mm ² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
S.2.2			Ni or Co basis Age-hardened	1180 N/mm ² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
S.2.3			Ni or Co basis Cast	1080 N/mm ² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
Titanium alloys		S.3.1	Pure titanium	400 N/mm ²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys Age-hardened	1050 N/mm ² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys	1400 N/mm ² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
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	≤ 150 N/mm ²				
		O.1.2	Plastics, thermoplastic	≤ 100 N/mm ²				
		O.2.1	Aramid fibre-reinforced	≤ 1000 N/mm ²				
		O.2.2	Glass/carbon-fibre reinforced	≤ 1000 N/mm ²				
		O.3.1	Graphite					

* Tensile strength

Cutting data standard values

Index	DRAGONSKIN								CWN2120	CTPX710 -M34	CTPX710 -25P/-25Q	CTPX715 -27	H210T	H10T/ H216T	CWN15	WUU7610	WPU7610	WPU7620	
	TCM10	CTCP115-P	CTCP125-P	CTCP135-P	CTCM120	CTPM125	CTCM130	CTPP430											v _c in m/min
P.1.1	309	370	295	210	229	203	184	215		325	340	275				85	110	115	
P.1.2	266	315	250	175	200	171	152	190		286	300	236				50	65	70	
P.1.3	227	270	210	145	173	142	123	165		250	260	200				50	65	70	
P.1.4	213	250	200	135	164	132	113	160		238	250	188				50	65	70	
P.1.5	193	230	180	120	150	118	98	150		220	235	170				50	65	70	
P.2.1	273	325	260	180	204	176	157	200		292	300	242				50	65	70	
P.2.2	210	250	195	130	161	130	110	160		235	250	185				50	65	70	
P.2.3	193	230	180	120	150	118	98	140		220	235	170				50	65	70	
P.2.4	144	170	130	85	116	81	61	110		175	190	125				50	65	70	
P.3.1	219	200	170	150	159	142	124	140		140	150	138				50	65	70	
P.3.2	167	140	105	95	116	97	81	100		85	95	81				50	65	70	
P.3.3	114	85	40	35	73	51	38	70		30	35	24				50	65	70	
P.4.1	219	200	170	155	159	142	124	140		140	155	138				50	65	70	
P.4.2	193	170	135	125	138	119	103	120		113	130	109				50	65	70	
M.1.1	219			155	159	142	124	140	130	140	150	138			100		55	65	
M.2.1				95	116	97	81	100	85	85	90	81			55		40	45	
M.3.1				135	146	128	111	130	115	124	130	120			85		55	65	
K.1.1		255	170					140				200	170	140			110	115	
K.1.2		235	160					130				160	130	115			110	115	
K.2.1	260	270	180					140				190	180	150			110	115	
K.2.2	215	205	160					140				150	130	110			110	115	
K.3.1	300	250	200					100				210	190	170			110	115	
K.3.2	205	210	160					100				180	160	140			110	115	
N.1.1								300	1750	1840	1840	1750	1650	1400	1650	180	200	220	
N.1.2								315	1500	1600	1600	1500	1350	1100	1400	180	200	220	
N.2.1								270	1250	1250	1250	1200	1200	950	1250	180	200	220	
N.2.2								140	1250	1250	1250	1200	1100	950	1200	180	200	220	
N.2.3								180	700	750	750	700	600	500	750	180	200	220	
N.3.1								200	650	650	650	625	525	425	600	180	200	220	
N.3.2								200	600	630	630	600	500	400	570	180	200	220	
N.3.3								200	480	500	500	475	375	275	460	180	200	220	
N.4.1								200	330	340	340	325	275	225	280	180	200	220	
S.1.1							35	65		100	110	40	43			40	45	45	
S.1.2							26	50		80	85	30	33			40	45	45	
S.2.1							20	45		63	75	30	33			35	40	40	
S.2.2							20	40		40	45	24	25			35	40	40	
S.2.3							18	40		38	43	20	20						
S.3.1							110	65		95	100	110	110						
S.3.2							63	50		55	60	70	70			35	45	45	
S.3.3							45	40		40	45	50	50			35	45	45	
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1												140	160	130		180	200	220	
O.1.2																180	200	220	
O.2.1												150	140	105					
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.

Machinability of non-ferrous metals with carbide indexable inserts

	Material group	Material examples	Machinability of aluminium alloys		Comments	
				*		
N	Pure aluminium	non hardenable	Al 99,5	W7	5	<ul style="list-style-type: none"> ▲ Snarl chips ▲ Possibly bad surface ▲ Excessive built-up edge ▲ Long tool life ▲ Use coolant emulsion
			Al 99,5	F13	4	
			Al 99	W8	5	
			Al 99	F14	4	
	Aluminium wrought alloys	non hardenable	Al Mn	W10	5	<ul style="list-style-type: none"> ▲ Snarl, continuous or fragmented chip ▲ Large feed rates necessary for good swarf control ▲ Built-up edge ▲ Long tool life ▲ Emulsion coolant is advantageous
			Al Mn	F16	4	
			Al Mg 1	W10	5	
			Al Mg 1	F19	4	
			Al Mg 3	W18	4	
			Al Mg 3	F25	3	
			Al Mg 5	W25	4	
			AL Mg 5	F28	2	
			Al Mg 4,5 Mn	W27	4	
			Al Mg 4,5 Mn	G35	3	
		hardenable	Al Mg Si 0,5	W	4	<ul style="list-style-type: none"> ▲ Good swarf control with higher feed rates ▲ Very good swarf control ▲ No built up edge ▲ Very good surface quality ▲ Good swarf control ▲ Good surface quality ▲ Little built-up edge
			Al Mg Si 0,5	F13-25	3	
			Al Mg Si 1	W	4	
			Al Mg Si 1	F21-30	3	
			Al Mg Si Pb	F20-28	2	
			Al Cu Si Pb	F28-37	1	
			Al Cu Mg Pb	F34-37	1	
			Al Cu Mg 1	W	3	
			Al Cu Mg 1	F33-40	2	
			Al Cu Mg 2	W	3	
	Al Cu Mg 2	F40-47	2			
	Al Cu Si Mn	W	3			
	Al Cu Si Mn	F43-46	2			
	Al Zn Mg Cu 1,5	F50-52	2			
	Al Sn 6 Cu		1			
	Cast Aluminium Alloys	non hardenable	G-Al Si 12		3	<ul style="list-style-type: none"> ▲ Good swarf control ▲ Built-up edge ▲ Higher Si content results in lower tool life ▲ High wear of the carbide ▲ Good swarf control ▲ Good surface quality ▲ Long tool life
			G-Al Si 10 Mg		3	
			G-Al Si 5 Mg		2	
			G-Al Si 7 Mg (9 Mg)		2	
			G-Al Si Cu 3		2	
			G-Al Si 6 Cu 4		2	
			G-Al Mg 3 (Mg 5)		2	
			G-Al Mg 9		2	
			G-Al Mg 10		2	
G-Al Mg 3 Si (5 Si)				2		
G-Al Cu 4 Ti (Mg)				2		
G-Al Si 12 Cu Mg Ni				2		
Copper wrought alloys		Cu Ag				
		Cu As				
		Cu Cd				
		Cu Cd Sn				
		Cu Mg				
		Cu Mn				
	brass	Cu Zn Al				
		Cu Sn				
	bronze	Cu Sn Zn				
		Cu Ni				
		Cu Ni Fe				
		Cu Al				
0	Non metal materials	Duroplastics				
		Fibre-reinforced plastics				
		hard rubber				

* 1 = good machinability, 5 = bad machinability

3

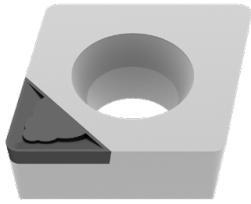
Cutting data standard values for diamond cutting materials CTD PD20 / PS30 / PU20 / CD10 / MD05

Index	Material group	$a_p = 0,04-0,4 \text{ mm}$		$a_p = 0,4-1,0 \text{ mm}$		$a_p = 0,4-2,5 \text{ mm}$		
		Surface roughness R_z in μm		Surface roughness R_z in μm		Surface roughness R_z in μm		
		2,5-5,0	5,0-10	2,5-5,0	5,0-10	2,5-5,0	5,0-10	
		CTD ...	CTD ...	CTD ...	CTD ...	CTD ...	CTD ...	
N.1.1 N.1.2	Aluminium wrought alloys without Si $f=0,05-0,5 \text{ mm/rev.}$	Tool Material v_c in m/min	PD20 / PU20 / CD10 / MD05 400-2500	PD20 / PU20 / CD10 / MD05 400-2500	PD20 / PU20 / CD10 / MD05 400-2000	PD20 / PU20 / CD10 / MD05 400-2000	PD20 / PU20 / CD10 / MD05 400-1600	PD20 / PU20 / CD10 / MD05 400-1600
		Tool Material v_c in m/min		PD20 / CD10 400-2500		PD20 / CD10 400-2000		PD20 / CD10 400-1600
		Tool Material v_c in m/min	PD20 / PU20 400-2500	PD20 / PU20 400-2500	PD20 / PU20 400-2000	PD20 / PU20 400-2000	PD20 / PU20 400-1600	PD20 / PU20 400-1600
N.2.1	Cast Aluminium Alloys Si \leq 12% - hardened or Si=12-20% - non hardened $f=0,05-0,5 \text{ mm/rev.}$	Tool Material v_c in m/min	PS30 / PU20 / CD10 / MD05 600-2000	PS30 / PU20 / CD10 / MD05 600-2200	PS30 / PU20 / CD10 / MD05 600-1800	PS30 / PU20 / CD10 / MD05 600-2000	PS30 / PU20 / CD10 / MD05 600-1500	PS30 / PU20 / CD10 / MD05 600-1800
		Tool Material v_c in m/min	PD20 / PU20 / CD10 400-2000	PD20 / PU20 / CD10 400-2200	PD20 / PU20 / CD10 400-1800	PS30 / PU20 / CD10 600-2000	PS30 / PU20 / CD10 400-1500	PS30 / PU20 / CD10 400-1800
		Tool Material v_c in m/min	PS30 600-2000	PS30 600-2200	PS30 600-1800	PS30 600-2000	PS30 600-1500	
N.2.2 N.2.3	Aluminium cast alloys Si=12-20% $f=0,05-0,5 \text{ mm/rev.}$	Tool Material v_c in m/min	PU20 / CD10 / MD05 800-1200	PU20 / CD10 / MD05 400-1800	PU20 / CD10 / MD05 700-1000	PU20 / CD10 / MD05 400-1500	PU20 / CD10 / MD05 600-900	PU20 / CD10 / MD05 400-1200
		Tool Material v_c in m/min		PU20 / CD10 600-1800		PU20 / CD10 600-1500		PU20 / CD10 600-1200
		Tool Material v_c in m/min		PU20 600-1800		PU20 600-1500		
N.3.1 N.3.2 N.3.3	Copper and copper wrought alloys $f=0,05-0,5 \text{ mm/rev.}$	Tool Material v_c in m/min	PD20 / PU20 / CD10 / MD05 400-1800	PD20 / PU20 / CD10 / MD05 300-1600	PD20 / PU20 / CD10 / MD05 400-1600	PS30 / PU20 / CD10 / MD05 300-1600	PD20 / PU20 / CD10 / MD05 400-1400	PD20 / PU20 / CD10 / MD05 400-1500
		Tool Material v_c in m/min	PU20 / CD10 300-1500	PD20 / PU20 / CD10 300-1500	PD20 / PU20 / CD10 400-1600	PS30 / PU20 / CD10 300-1500	PD20 / PU20 / CD10 400-1500	PD20 / PU20 / CD10 300-1400
		Tool Material v_c in m/min		PD20 / PU20 300-1800		PS30 / PU20 300-1700	PD20 / PU20 300-1600	PS30 / PU20 200-1300
O.1.1 O.1.2	Plastic materials without reinforcement (acrylic glass) $f=0,05-0,7 \text{ mm/rev.}$	Tool Material v_c in m/min		PD20 / CD10 / MD05 400-1200		PD20 / CD10 / MD05 300-1000		PS30 / CD10 / MD05 200-1000
		Tool Material v_c in m/min		PD20 / CD10 300-1200		PD20 / CD10 200-1000		PS30 / CD10 200-900
		Tool Material v_c in m/min		PD20 / CD10 400-1200		PD20 / CD10 300-1000		PD20 / CD10 200-1000
O.2.1 O.2.2	Plastic materials with reinforcement (glass-fibre, carbon-fibre reinforced) $f=0,05-0,7 \text{ mm/rev.}$	Tool Material v_c in m/min	PS30 / PU20 / CD10 / MD05 500-1000		PS30 / PU20 / CD10 / MD05 400-900	PS30 / PU20 / CD10 / MD05 300-900	PS30 / PU20 / CD10 / MD05 300-800	PS30 / PU20 / CD10 / MD05 200-1200
		Tool Material v_c in m/min	PS30 / PU20 / CD10 400-900		PS30 / PU20 / CD10 300-800	PS30 / PU20 / CD10 200-900	PS30 / PU20 / CD10 200-800	PS30 / PU20 / CD10 200-1400
		Tool Material v_c in m/min	PU20 500-1000		PU20 400-800	PU20 300-1000	PU20 300-800	
O.3.1	Graphite	Tool Material v_c in m/min	PD20 / PS30 / PU20 / CD10 100-3000		PD20 / PS30 / PU20 / CD10 100-3000		PD20 / PS30 / PU20 / CD10 100-3000	

Smooth cut	Irregular cutting depth	Interrupted cut
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Cutting data standard values for the CB chip breaker geometries

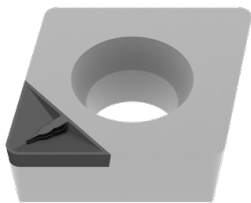
-CB1



3D-Chip Breaker -CB1				
Corner Radius	a _p in mm		f _z in mm/rev.	
	min.	max.	min.	max.
0,1 mm	0,05	0,30	0,02	0,05
0,2 mm	0,06	0,40	0,03	0,08
0,4 mm	0,10	0,80	0,04	0,15
0,8 mm	0,15	1,00	0,08	0,20
1,2 mm	0,30	1,50	0,12	0,25

- ▲ Finish and Superfinish
- ▲ Extremely sharp cutting edge geometry
- ▲ Depth of Cut a_p: 0.05–1.5 mm
- ▲ Smallest cutting pressure for highest accuracies
- ▲ For machining of thin-walled and unstable workpieces

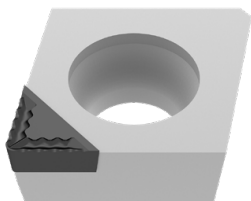
-CB2



3D-Chip Breaker -CB2				
Corner Radius	a _p in mm		f _z in mm/rev.	
	min.	max.	min.	max.
0,2 mm	0,50	0,80	0,08	0,12
0,4 mm	0,60	1,50	0,08	0,20
0,8 mm	0,70	1,50	0,15	0,30
1,2 mm	0,80	2,00	0,20	0,40

- ▲ Semi-finish and Finish machining
- ▲ Negative edge preparation
- ▲ Cutting Depth a_p: 0,5–2,0 mm
- ▲ High surface quality and tight tolerances
- ▲ Machining of solid workpieces under stable conditions

-CB3




3D-Chip Breaker -CB3				
Corner Radius	a _p in mm		f _z in mm/rev.	
	min.	max.	min.	max.
0,4 mm	1,00	3,00	0,10	0,20
0,8 mm	1,00	3,00	0,15	0,35

- ▲ Medium and rough machining
- ▲ Highly aggressive chip breaker
- ▲ Cutting depth a_p: 1,0–3,0 mm
- ▲ Stable component conditions necessary
- ▲ Cooling must be ensured


Cutting data standard values – VertiClamp system

Index	Parting				Turning				
	WPU7620	Fine	Medium	Rough	WPU7620		Fine	Medium	Rough
	v_c in m/min	f	f	f	v_c in m/min	a_p in mm	f	f	f
P.1.1	80	0,005-0,080	0,02-0,15	0,10-0,25	80	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.1.2	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.1.3	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.1.4	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.1.5	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.2.1	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.2.2	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.2.3	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.2.4	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.3.1	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.3.2	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.3.3	75	0,005-0,080	0,02-0,15	0,10-0,25	75	< 3	0,005-0,080	0,02-0,15	0,10-0,25
P.4.1	75	0,005-0,080	0,01-0,12	0,10-0,20	75	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
P.4.2	75	0,005-0,080	0,01-0,12	0,10-0,20	75	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
M.1.1	55	0,005-0,080	0,01-0,12	0,10-0,20	55	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
M.2.1	55	0,005-0,080	0,01-0,12	0,10-0,20	55	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
M.3.1	55	0,005-0,080	0,01-0,12	0,10-0,20	55	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.1.1	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.1.2	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.2.1	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.2.2	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.3.1	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
K.3.2	70	0,005-0,080	0,01-0,12	0,10-0,20	70	< 2,5	0,005-0,080	0,01-0,12	0,10-0,20
N.1.1	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.1.2	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.2.1	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.2.2	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.2.3	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.3.1	180	0,050-0,200	0,02-0,25	0,10-0,40	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.3.2	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.3.3	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
N.4.1	180	0,050-0,200	0,02-0,25	0,10-0,30	180	< 3	0,050-0,200	0,02-0,25	0,10-0,30
S.1.1	45	0,005-0,060	0,02-0,08	0,10-0,25	45	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
S.1.2	45	0,005-0,060	0,02-0,08	0,10-0,25	45	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
S.2.1	40	0,005-0,060	0,02-0,08	0,10-0,25	40	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
S.2.2	40	0,005-0,060	0,02-0,08	0,10-0,25	40	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
S.2.3									
S.3.1									
S.3.2	45	0,005-0,060	0,02-0,08	0,10-0,25	45	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
S.3.3	45	0,005-0,060	0,02-0,08	0,10-0,25	45	< 2,5	0,005-0,060	0,02-0,08	0,10-0,25
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1	220	0,050-0,200	0,02-0,25	0,10-0,30	220	< 3	0,050-0,200	0,02-0,25	0,10-0,30
O.1.2	220	0,050-0,200	0,02-0,25	0,10-0,30	220	< 3	0,050-0,200	0,02-0,25	0,10-0,30
O.2.1									
O.2.2									
O.3.1									

 The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values – VertiClamp and TriClamp system

Index	VertiClamp system				TriClamp system					
	Grooving				Turning					
	WPU7620	Fine	Medium	Rough	WUU7610	WPU7610	WPU7620	WUU7620		
v_c in m/min	f	f	f	v_c in m/min				f	$a_{p,max}$ in mm	
P.1.1	80	0,005–0,080	0,02–0,15	0,10–0,25	85	110	115	80	0,005–0,080	1,5
P.1.2	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.1.3	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.1.4	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.1.5	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.2.1	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.2.2	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.2.3	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.2.4	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.3.1	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.3.2	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.3.3	75	0,005–0,080	0,02–0,15	0,10–0,25	50	65	70	40	0,005–0,080	1,5
P.4.1	75	0,005–0,080	0,01–0,12	0,10–0,20	50	65	70	40	0,005–0,080	1,5
P.4.2	75	0,005–0,080	0,01–0,12	0,10–0,20	50	65	70	40	0,005–0,080	1,5
M.1.1	55	0,005–0,080	0,01–0,12	0,10–0,20		55	65		0,005–0,080	1,5
M.2.1	55	0,005–0,080	0,01–0,12	0,10–0,20		40	45		0,005–0,080	1,5
M.3.1	55	0,005–0,080	0,01–0,12	0,10–0,20		55	65		0,005–0,080	1,5
K.1.1	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
K.1.2	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
K.2.1	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
K.2.2	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
K.3.1	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
K.3.2	70	0,005–0,080	0,01–0,12	0,10–0,20		110	115		0,005–0,080	1,5
N.1.1	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.1.2	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.2.1	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.2.2	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.2.3	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.3.1	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.3.2	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.3.3	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
N.4.1	180	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	1,5
S.1.1	45	0,005–0,060	0,02–0,08	0,10–0,25	40	45	45	40	0,005–0,060	1,0
S.1.2	45	0,005–0,060	0,02–0,08	0,10–0,25	40	45	45	40	0,005–0,060	1,0
S.2.1	40	0,005–0,060	0,02–0,08	0,10–0,25	35	40	40	35	0,005–0,060	1,0
S.2.2	40	0,005–0,060	0,02–0,08	0,10–0,25	35	40	40	35	0,005–0,060	1,0
S.2.3										
S.3.1										
S.3.2	45	0,005–0,060	0,02–0,08	0,10–0,25	35	45	45	40	0,005–0,060	1,0
S.3.3	45	0,005–0,060	0,02–0,08	0,10–0,25	35	45	45	40	0,005–0,060	1,0
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	220	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	2,0
O.1.2	220	0,050–0,200	0,02–0,25	0,10–0,30	180	200	220	180	0,050–0,200	2,0
O.2.1										
O.2.2										
O.3.1										

 The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for negative inserts

Designation	-F50						-M50					
	f			a _p			f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.
	mm/rev.			mm			mm/rev.			mm		
CN.. 090304	0,06	0,15	0,25	0,2	0,5	1,5						
CN.. 090308	0,10	0,20	0,30	0,4	1,0	2,0						
CN.. 120404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	2,0	5,0
CN.. 120408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	2,0	5,0
CN.. 120412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	2,0	5,0
CN.. 120416							0,25	0,40	0,60	1,4	2,0	5,0
CN.. 160608							0,15	0,25	0,40	0,6	3,0	8,0
CN.. 160612							0,20	0,30	0,50	1,0	3,0	8,0
CN.. 160616							0,25	0,40	0,60	1,4	3,0	8,0
CN.. 160624												
CN.. 190608												
CN.. 190612												
CN.. 190616												
CN.. 190624												
CN.. 250924												
DN.. 110402	0,04	0,10	0,20	0,1	0,4	2,3						
DN.. 110404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	1,5	4,0
DN.. 110408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	1,5	4,0
DN.. 110412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	1,5	4,0
DN.. 150404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	2,0	5,0
DN.. 150408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	2,0	5,0
DN.. 150412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	2,0	5,0
DN.. 150416							0,25	0,40	0,60	1,4	2,0	5,0
DN.. 150604	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	2,0	5,0
DN.. 150608	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	2,0	5,0
DN.. 150612	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	2,0	5,0
DN.. 150616							0,25	0,40	0,60	1,4	2,0	5,0
SN.. 090308	0,10	0,20	0,30	0,4	1,0	2,0						
SN.. 120404	0,06	0,15	0,25	0,2	0,6	1,5						
SN.. 120408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	2,0	5,0
SN.. 120412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	2,0	5,0
SN.. 120416							0,25	0,40	0,60	1,4	2,0	5,0
SN.. 150608							0,15	0,25	0,40	0,6	3,0	8,0
SN.. 150612							0,20	0,30	0,50	1,0	3,0	8,0
SN.. 150616							0,25	0,40	0,60	1,4	3,0	8,0
SN.. 190612												
SN.. 190616												
SN.. 190624												
SN.. 250724												
SN.. 250924												
TN.. 110304	0,06	0,15	0,25	0,2	0,6	1,5						
TN.. 110308	0,10	0,20	0,30	0,4	1,0	2,0						
TN.. 160404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	2,0	5,0
TN.. 160408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	2,0	5,0
TN.. 160412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	2,0	5,0
TN.. 220404												
TN.. 220408							0,15	0,25	0,40	0,6	3,0	8,0
TN.. 220412							0,20	0,30	0,50	1,0	3,0	8,0
TN.. 220416												
VN.. 160404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	1,0	4,0
VN.. 160408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	1,0	4,0
VN.. 160412							0,20	0,30	0,50	1,0	1,0	4,0
WN.. 060404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	1,0	3,0
WN.. 060408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	1,0	3,0
WN.. 060412							0,20	0,30	0,50	1,0	1,0	3,0
WN.. 080404	0,06	0,15	0,25	0,2	0,6	1,5	0,10	0,20	0,30	0,4	1,5	4,0
WN.. 080408	0,10	0,20	0,30	0,4	1,0	2,0	0,15	0,25	0,40	0,6	1,5	4,0
WN.. 080412	0,14	0,25	0,35	0,6	1,4	2,6	0,20	0,30	0,50	1,0	1,5	4,0
WN.. 080416							0,25	0,40	0,60	1,4	1,5	4,0

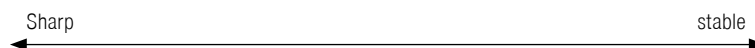
Sharp ← → stable

 The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-M70					
	f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.
	mm/rev.			mm		
CN.. 090304						
CN.. 090308						
CN.. 120404						
CN.. 120408	0,20	0,30	0,45	0,8	3,0	6,0
CN.. 120412	0,25	0,40	0,60	1,2	3,0	6,0
CN.. 120416	0,30	0,45	0,70	1,6	3,0	6,0
CN.. 160608	0,20	0,30	0,45	0,8	4,0	8,0
CN.. 160612	0,25	0,40	0,60	1,2	4,0	8,0
CN.. 160616	0,30	0,45	0,70	1,6	4,0	8,0
CN.. 160624	0,40	0,70	1,20	2,4	4,0	8,0
CN.. 190608	0,20	0,30	0,45	0,8	4,5	9,0
CN.. 190612	0,25	0,40	0,60	1,2	4,5	9,0
CN.. 190616	0,30	0,45	0,70	1,6	4,5	9,0
CN.. 190624	0,40	0,70	1,20	2,4	4,5	9,0
CN.. 250924	0,40	0,70	1,20	2,4	6,0	13,0
DN.. 110402						
DN.. 110404						
DN.. 110408	0,20	0,25	0,45	0,8	2,0	5,0
DN.. 110412	0,25	0,35	0,60	1,2	2,0	5,0
DN.. 150404						
DN.. 150408	0,20	0,25	0,45	0,8	2,5	6,0
DN.. 150412	0,25	0,35	0,60	1,2	2,5	6,0
DN.. 150416	0,30	0,40	0,70	1,6	2,5	6,0
DN.. 150604						
DN.. 150608	0,20	0,25	0,45	0,8	2,5	6,0
DN.. 150612	0,25	0,35	0,60	1,2	2,5	6,0
DN.. 150616	0,30	0,40	0,70	1,6	2,5	6,0
SN.. 090308						
SN.. 120404						
SN.. 120408	0,20	0,30	0,50	0,8	3,0	6,0
SN.. 120412	0,25	0,40	0,65	1,2	3,0	6,0
SN.. 120416	0,30	0,45	0,70	1,6	3,0	6,0
SN.. 150608						
SN.. 150612	0,25	0,40	0,65	1,2	4,0	8,0
SN.. 150616	0,30	0,45	0,75	1,6	4,0	8,0
SN.. 190612	0,25	0,40	0,65	1,2	4,5	9,0
SN.. 190616	0,30	0,45	0,75	1,6	4,5	9,0
SN.. 190624	0,40	0,70	1,20	2,4	4,5	9,0
SN.. 250724						
SN.. 250924	0,40	0,70	1,20	2,4	6,0	13,0
TN.. 110304						
TN.. 110308						
TN.. 160404						
TN.. 160408	0,20	0,25	0,45	0,8	2,5	6,0
TN.. 160412	0,25	0,35	0,60	1,2	2,5	6,0
TN.. 220404	0,15	0,20	0,30	0,4	3,0	7,0
TN.. 220408	0,20	0,25	0,45	0,8	3,0	7,0
TN.. 220412	0,25	0,35	0,60	1,2	3,0	7,0
TN.. 220416	0,30	0,40	0,70	1,6	3,0	7,0
VN.. 160404						
VN.. 160408						
VN.. 160412						
WN.. 060404						
WN.. 060408	0,20	0,30	0,45	0,8	2,0	4,0
WN.. 060412	0,25	0,40	0,60	1,2	2,0	4,0
WN.. 080404						
WN.. 080408	0,20	0,30	0,45	0,8	2,5	5,0
WN.. 080412	0,25	0,40	0,60	1,2	2,5	5,0
WN.. 080416	0,30	0,45	0,70	1,6	2,5	5,0



Designation	-M60						-M34					
	f			a _p			f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.
mm/rev.			mm			mm/rev.			mm			
CN.. 090304												
CN.. 090308												
CN.. 120404							0,08	0,12	0,18	1,0	1,5	3,0
CN.. 120408	0,25	0,30	0,50	1,5	2,5	6,0	0,10	0,15	0,35	1,0	1,8	3,5
CN.. 120412	0,30	0,35	0,55	2,0	3,0	6,0	0,13	0,20	0,40	1,5	2,0	4,0
CN.. 120416	0,30	0,40	0,60	2,0	3,0	6,0	0,15	0,25	0,45	2,0	3,0	4,5
CN.. 160608												
CN.. 160612	0,30	0,35	0,55	2,0	3,0	8,0						
CN.. 160616												
CN.. 160624												
CN.. 190608												
CN.. 190612												
CN.. 190616												
CN.. 190624												
CN.. 250924												
DN.. 110402												
DN.. 110404												
DN.. 110408												
DN.. 110412												
DN.. 150404							0,08	0,12	0,18	0,8	1,2	2,5
DN.. 150408							0,10	0,15	0,30	1,0	1,8	3,5
DN.. 150412							0,13	0,20	0,38	1,5	2,0	4,0
DN.. 150416												
DN.. 150604												
DN.. 150608	0,25	0,30	0,45	1,5	2,5	6,0	0,10	0,15	0,30	1,0	1,8	3,5
DN.. 150612	0,30	0,40	0,55	1,5	2,5	6,0	0,13	0,20	0,38	1,5	2,0	4,0
DN.. 150616												
SN.. 090308												
SN.. 120404												
SN.. 120408	0,30	0,35	0,50	1,5	2,0	6,0	0,15	0,25	0,40	1,0	2,0	4,0
SN.. 120412	0,30	0,40	0,55	2,0	2,5	6,0	0,15	0,25	0,45	1,5	2,5	4,5
SN.. 120416	0,30	0,40	0,60	2,0	2,5	6,0						
SN.. 150608												
SN.. 150612												
SN.. 150616												
SN.. 190612												
SN.. 190616												
SN.. 190624												
SN.. 250724												
SN.. 250924												
TN.. 110304												
TN.. 110308												
TN.. 160404												
TN.. 160408	0,25	0,25	0,45	1,5	2,5	5,0	0,10	0,15	0,35	1,0	2,0	4,0
TN.. 160412	0,30	0,30	0,55	2,0	2,5	5,5						
TN.. 220404							0,10	0,15	0,35	1,0	2,0	4,0
TN.. 220408							0,13	0,20	0,40	1,5	2,5	4,0
TN.. 220412												
TN.. 220416							0,15	0,25	0,45	2,0	2,5	4,5
VN.. 160404							0,07	0,10	0,18	0,8	1,2	2,0
VN.. 160408							0,10	0,15	0,20	1,0	1,5	2,5
VN.. 160412							0,13	0,18	0,25	1,5	1,8	3,0
WN.. 060404												
WN.. 060408	0,25	0,30	0,45	1,5	2,0	4,0						
WN.. 060412	0,30	0,35	0,50	2,0	2,5	4,5						
WN.. 080404												
WN.. 080408	0,25	0,30	0,50	1,5	2,0	5,0	0,10	0,15	0,35	1,0	2,0	4,0
WN.. 080412	0,30	0,35	0,55	2,0	2,5	5,5	0,13	0,20	0,40	1,5	2,0	4,0
WN.. 080416												



Cutting data values for positive inserts


Designation	-SF						-SMF					
	f			a _p			f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.
	mm/rev.			mm			mm/rev.			mm		
CC.. 060200	0,02	0,035	0,05	0,1	0,4	1,5						
CC.. 060201	0,02	0,035	0,05	0,2	0,4	1,5						
CC.. 060202	0,03	0,1	0,15	0,2	0,4	1,5						
CC.. 060204	0,05	0,1	0,2	0,2	0,6	1,5	0,07	0,15	0,25	0,3	0,7	2
CC.. 060208	0,05	0,125	0,2	0,2	1	1,5	0,1	0,17	0,27	0,6	1	2
CC.. 09T300	0,02	0,035	0,05	0,2	0,75	2						
CC.. 09T301	0,02	0,035	0,05	0,2	0,75	2						
CC.. 09T302	0,05	0,075	0,1	0,2	0,75	2						
CC.. 09T304	0,05	0,12	0,2	0,2	0,75	2	0,07	0,15	0,25	0,3	0,8	2,5
CC.. 09T308	0,05	0,125	0,25	0,4	1	2	0,1	0,17	0,27	0,6	1	2,5
CC.. 09T312												
CC.. 120402	0,05	0,075	0,1	0,2	0,8	2,5						
CC.. 120404	0,05	0,12	0,2	0,2	1	2,5	0,07	0,15	0,25	0,3	1	3
CC.. 120408	0,08	0,15	0,25	0,4	1	2,5	0,1	0,17	0,27	0,6	1,2	3
CC.. 120412	0,08	0,15	0,25	0,4	1,5	2,5						
DC.. 0702005												
DC.. 070201												
DC.. 0702015												
DC.. 070202	0,03	0,1	0,15	0,1	0,4	1,5						
DC.. 070204	0,05	0,12	0,2	0,2	0,6	1,5	0,07	0,15	0,25	0,3	0,7	2
DC.. 070208							0,1	0,17	0,27	0,6	1	2
DC.. 11T3005												
DC.. 11T301												
DC.. 11T3015												
DC.. 11T302												
DC.. 11T304	0,05	0,12	0,2	0,2	0,7	2	0,07	0,15	0,25	0,3	0,8	2,5
DC.. 11T308	0,08	0,15	0,25	0,4	1	2	0,1	0,17	0,27	0,6	1,2	2,5
DC.. 11T312												
RC.. 0602M0												
RC.. 0803M0												
RC.. 1003M0												
RC.. 1204M0												
RC.. 1606M0							0,15	0,3	0,6	0,25	2	3,5
RC.. 2006M0												
RC.. 2507M0												
SC.. 09T304	0,05	0,12	0,2	0,2	0,7	2	0,07	0,15	0,25	0,3	0,8	2,5
SC.. 09T308	0,08	0,15	0,25	0,4	1	2	0,1	0,17	0,27	0,6	1	2,5
SC.. 120408	0,08	0,15	0,25	0,4	1	2,5	0,1	0,17	0,27	0,6	1,2	3
SC.. 120412												
TC.. 090204												
TC.. 110202												
TC.. 110204	0,05	0,12	0,2	0,2	0,7	2						
TC.. 110208	0,08	0,15	0,25	0,4	1	2	0,1	0,17	0,27	0,6	1	2,5
TC.. 16T302												
TC.. 16T304	0,05	0,12	0,2	0,2	0,8	2,5	0,07	0,15	0,25	0,3	1	3
TC.. 16T308	0,08	0,15	0,25	0,4	1	2,5	0,1	0,17	0,27	0,6	1,2	3
TC.. 16T312												
TC.. 220408												
VC.. 1103005												
VC.. 110301												
VC.. 1103015												
VC.. 110302	0,02	0,08	0,15	0,1	0,4	1,5	0,05	0,1	0,18	0,2	0,5	2
VC.. 110304	0,05	0,1	0,2	0,2	0,6	1,5	0,07	0,15	0,23	0,3	0,7	2
VC.. 110308	0,08	0,12	0,22	0,4	1	1,5						
VC.. 160402												
VC.. 160404	0,05	0,1	0,2	0,2	0,7	2	0,07	0,15	0,23	0,3	0,8	2,5
VC.. 160408	0,08	0,12	0,22	0,4	1	2	0,1	0,17	0,27	0,6	1	2,5
VC.. 160412												
VC.. 220530												
WC.. 020102	0,02	0,075	0,1	0,1	0,4	1						
WC.. 020104	0,02	0,1	0,2	0,1	0,6	1,5						

Sharp ← → stable

 The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-SM						-SMQ					
	f			a _p			f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.
	mm/rev.			mm			mm/rev.			mm		
CC.. 060200												
CC.. 060201												
CC.. 060202	0,04	0,12	0,2	0,2	0,6	2,5						
CC.. 060204	0,08	0,17	0,3	0,4	0,8	2,5						
CC.. 060208	0,12	0,2	0,35	0,8	1	2,5						
CC.. 09T300												
CC.. 09T301												
CC.. 09T302												
CC.. 09T304	0,08	0,17	0,3	0,4	1	3	0,10	0,25	0,4	0,4	2	4
CC.. 09T308	0,12	0,2	0,35	0,8	1,2	3	0,15	0,30	0,5	0,8	2	4
CC.. 09T312	0,15	0,22	0,4	1,2	1,5	3						
CC.. 120402												
CC.. 120404	0,08	0,17	0,3	0,4	1,2	3,5	0,10	0,25	0,4	0,4	2	4
CC.. 120408	0,12	0,2	0,35	0,8	1,5	3,5	0,15	0,30	0,5	0,8	2	4
CC.. 120412	0,15	0,22	0,4	1,2	2	3,5						
DC.. 0702005												
DC.. 070201												
DC.. 0702015												
DC.. 070202	0,04	0,12	0,2	0,2	0,6	2,5						
DC.. 070204	0,08	0,17	0,3	0,4	0,8	2,5	0,10	0,18	0,25	0,4	1,5	3
DC.. 070208	0,12	0,2	0,3	0,8	1	2,5						
DC.. 11T3005												
DC.. 11T301												
DC.. 11T3015												
DC.. 11T302												
DC.. 11T304	0,8	0,17	0,3	0,4	1	3	0,10	0,25	0,4	0,4	2	4
DC.. 11T308	0,12	0,2	0,35	0,8	1,2	3	0,15	0,30	0,5	0,8	2	4
DC.. 11T312	0,15	0,22	0,4	1,2	1,7	3						
RC.. 0602M0	0,2	0,3	0,5	0,2	0,5	1,5						
RC.. 0803M0	0,2	0,3	0,6	0,2	0,6	2						
RC.. 1003M0	0,25	0,4	0,7	0,2	0,7	2,5						
RC.. 1204M0	0,3	0,5	0,8	0,2	0,8	3						
RC.. 1606M0	0,4	0,6	1	0,3	1	3,5						
RC.. 2006M0	0,5	0,8	1,2	0,4	1,2	4						
RC.. 2507M0	0,6	0,9	1,4	0,6	2	5						
SC.. 09T304	0,08	0,17	0,3	0,4	1	3						
SC.. 09T308	0,12	0,2	0,35	0,8	1,2	3						
SC.. 120408	0,12	0,2	0,35	0,8	1,5	3,5						
SC.. 120412	0,15	0,22	0,4	1,2	2	3,5						
TC.. 090204	0,08	0,12	0,2	0,4	0,8	2						
TC.. 110202	0,08	0,1	0,2	0,4	0,6	3						
TC.. 110204	0,12	0,2	0,35	0,8	1,2	3						
TC.. 110208	0,12	0,2	0,35	0,8	1,2	3						
TC.. 16T302												
TC.. 16T304	0,08	0,17	0,3	0,4	1,2	3,5						
TC.. 16T308	0,12	0,2	0,35	0,8	1,5	3,5						
TC.. 16T312	0,15	0,22	0,4	1,2	1,7	3,5						
TC.. 220408	0,12	0,2	0,35	0,8	2,5	6						
VC.. 1103005												
VC.. 110301												
VC.. 1103015												
VC.. 110302												
VC.. 110304												
VC.. 110308												
VC.. 160402												
VC.. 160404	0,08	0,17	0,25	0,4	1	3						
VC.. 160408	0,12	0,2	0,3	0,8	1,2	3						
VC.. 160412	0,15	0,22	0,32	1,2	1,5	3						
VC.. 220530												
WC.. 020102												
WC.. 020104												

Sharp stable

 Information on the cutting data of chip breakers not included in this overview, can be found on → Page 149–152

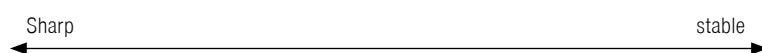
Cutting data values for positive inserts

Designation	-M25						-M55					
	f			a _p			f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.	min.	Recom- mended	max.
mm/rev.			mm			mm/rev.			mm			
CC.. 060200												
CC.. 060201												
CC.. 060202												
CC.. 060204	0,06	0,13	0,20	0,2	1,1	2,0	0,06	0,13	0,20	0,4	1,5	2,6
CC.. 060208												
CC.. 09T300												
CC.. 09T301												
CC.. 09T302												
CC.. 09T304	0,06	0,14	0,22	0,2	1,2	2,2	0,08	0,16	0,24	0,4	1,7	3,0
CC.. 09T308	0,10	0,20	0,30	0,4	1,8	3,2	0,12	0,24	0,35	0,8	2,4	4,0
CC.. 09T312												
CC.. 120402												
CC.. 120404							0,08	0,18	0,28	0,4	2,2	4,0
CC.. 120408							0,12	0,26	0,40	0,8	2,8	4,8
CC.. 120412												
DC.. 0702005												
DC.. 070201												
DC.. 0702015												
DC.. 070202	0,04	0,09	0,13	0,1	0,9	1,6						
DC.. 070204	0,06	0,12	0,18	0,2	1,1	2,0	0,06	0,14	0,22	0,4	1,3	2,2
DC.. 070208							0,08	0,16	0,24	0,8	1,6	2,4
DC.. 11T3005												
DC.. 11T301												
DC.. 11T3015												
DC.. 11T302	0,04	0,10	0,16	0,1	1,1	2,0						
DC.. 11T304	0,06	0,14	0,22	0,2	1,2	2,2	0,08	0,16	0,24	0,4	1,7	3,0
DC.. 11T308	0,10	0,20	0,30	0,4	1,8	3,2	0,12	0,24	0,35	0,8	2,4	4,0
DC.. 11T312												
RC.. 0602M0												
RC.. 0803M0												
RC.. 1003M0												
RC.. 1204M0												
RC.. 1606M0												
RC.. 2006M0												
RC.. 2507M0												
SC.. 09T304							0,12	0,24	0,35	0,8	2,4	4,0
SC.. 09T308							0,12	0,26	0,40	0,8	2,8	4,8
SC.. 120408												
SC.. 120412												
TC.. 090204							0,06	0,12	0,18	0,4	1,3	2,2
TC.. 110202												
TC.. 110204	0,06	0,13	0,20	0,2	1,2	2,2	0,06	0,14	0,22	0,4	1,4	2,4
TC.. 110208												
TC.. 16T302												
TC.. 16T304	0,06	0,14	0,22	0,2	1,6	3,0						
TC.. 16T308	0,10	0,20	0,30	0,4	1,9	3,4	0,12	0,24	0,35	0,8	2,6	4,4
TC.. 16T312												
TC.. 220408												
VC.. 1103005												
VC.. 110301												
VC.. 1103015												
VC.. 110302												
VC.. 110304												
VC.. 110308												
VC.. 160402												
VC.. 160404	0,06	0,13	0,20	0,2	1,2	2,2	0,08	0,14	0,20	0,4	1,7	3,0
VC.. 160408	0,10	0,15	0,25	0,4	1,4	3,0	0,12	0,21	0,30	0,8	2,1	3,4
VC.. 160412												
VC.. 220530												
WC.. 020102												
WC.. 020104												

Sharp ← → stable

 The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-F05					
	f			a _p		
	min.	Recom- mended	max.	min.	Recom- mended	max.
	mm/rev.			mm		
CC.. 060200						
CC.. 060201						
CC.. 060202						
CC.. 060204						
CC.. 060208						
CC.. 09T300						
CC.. 09T301						
CC.. 09T302						
CC.. 09T304						
CC.. 09T308						
CC.. 09T312						
CC.. 120402						
CC.. 120404						
CC.. 120408						
CC.. 120412						
DC.. 0702005	0,02	0,025	0,04	0,1	1	2
DC.. 070201	0,02	0,03	0,05	0,1	1	2
DC.. 0702015	0,02	0,04	0,075	0,1	1	2
DC.. 070202	0,02	0,05	0,1	0,1	1	2
DC.. 070204						
DC.. 070208						
DC.. 11T3005	0,02	0,025	0,04	0,1	1,25	2,5
DC.. 11T301	0,02	0,03	0,05	0,1	1,25	2,5
DC.. 11T3015	0,02	0,04	0,075	0,1	1,25	2,5
DC.. 11T302	0,02	0,075	0,1	0,1	1,25	2,5
DC.. 11T304	0,02	0,1	0,25	0,1	1,25	2,5
DC.. 11T308						
DC.. 11T312						
RC.. 0602M0						
RC.. 0803M0						
RC.. 1003M0						
RC.. 1204M0						
RC.. 1606M0						
RC.. 2006M0						
RC.. 2507M0						
SC.. 09T304						
SC.. 09T308						
SC.. 120408						
SC.. 120412						
TC.. 090204						
TC.. 110202						
TC.. 110204						
TC.. 110208						
TC.. 16T302						
TC.. 16T304						
TC.. 16T308						
TC.. 16T312						
TC.. 220408						
VC.. 1103005	0,02	0,025	0,04	0,1	1,25	2,5
VC.. 110301	0,02	0,03	0,05	0,1	1,25	2,5
VC.. 1103015	0,02	0,04	0,075	0,1	1,25	2,5
VC.. 110302	0,02	0,075	0,1	0,1	1,25	2,5
VC.. 110304	0,02	0,15	0,25	0,1	1,25	2,5
VC.. 110308						
VC.. 160402						
VC.. 160404						
VC.. 160408						
VC.. 160412						
VC.. 220530						
WC.. 020102						
WC.. 020104						



 Information on the cutting data of chip breakers not included in this overview, can be found on → **Page 149–152**

Diamond as a cutting material



Ensures

- ▲ Optimal surface quality
- ▲ burr-free workpieces
- ▲ high service lives
- ▲ lowest cutting forces
- ▲ High Process Security

Complete programme of roughing, finishing and wiper inserts for machining aluminium, non ferrous metals, plastics, ...

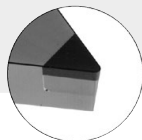
The cutting materials

	CTD CD10 (CVD)	CTD PD20 (PKD)	CTD PU20 (PKD)	CTD PS30 (PKD)
	Fine grain Size (N10)	Fine grain grade (N20)	Coarse grain grade (N20)	Coarse grain Size (N30)
Properties	<ul style="list-style-type: none"> ▲ perfect sharp edges ▲ no cutting pressure ▲ very close tolerances ▲ highest abrasion resistance with highest toughness ▲ very high heat conductivity 	<ul style="list-style-type: none"> ▲ high sharpness ▲ lower cutting pressure than PDC-S ▲ close tolerance ▲ lower abrasion resistance with increased toughness 	<ul style="list-style-type: none"> ▲ Very sharp cutting edge ▲ Reduced cutting pressure ▲ Tight tolerances ▲ Very high level of wear resistance and toughness 	<ul style="list-style-type: none"> ▲ high sharpness ▲ lower cutting pressure ▲ close tolerance ▲ lower abrasion resistance than with the PDC, with increased toughness
Material	suitable for superfinishing and semi-finishing of all non ferrous metals and NE-composite materials with small to high levels of abrasiveness	suitable for fine machining of all NE-materials with low abrasiveness	suitable for finishing to roughing non-ferrous metals and non-ferrous materials with highly abrasive alloying element. High chip removal on fibre-reinforced plastics such as CFRP and GFRP.	suitable for fine machining of all NE-materials and non-ferrous metals with low to very high levels of abrasiveness

Cutting Geometries

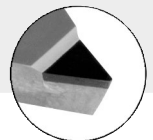
Neutral rake angle:

- ▲ higher cutting force
- ▲ higher temperature
- ▲ improved surface quality
- ▲ for stable workpieces



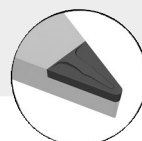
Positive rake angle:

- ▲ Lower cutting force
- ▲ Lower temperature
- ▲ reduction in surface quality
- ▲ for unstable workpieces
- ▲ improved accuracy



CB chip breaker geometries:


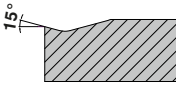
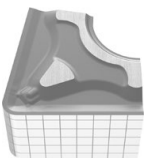
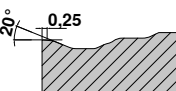
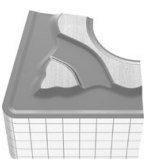
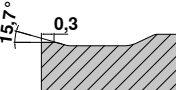
- ▲ Reliable chip control
- ▲ Ideal for low-alloy aluminium
- ▲ For F | M | R applications



Notes on diamond usage



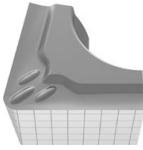
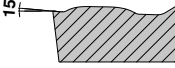
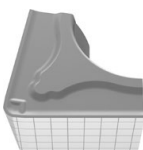
- ▲ Coolant is not generally needed, however it facilitates chip removal
- ▲ Note the chemical reaction to carbide-forming elements (PCD)
- ▲ Note the thermal interaction and critical temperature:
PCD: 600 °C, CVD: 700 °C
Depending on the material, use cooling.





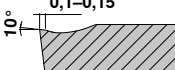

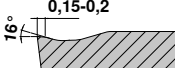
Standard chip breakers / application notes

Negative	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration		Geometry	
					a_p mm	f mm		
Main application steel and cast iron, secondary application stainless steels -F50 ▲ Fine turning chip breaker for fine machining ▲ Steel and stainless steels ▲ Excellent chip control ▲ High surface quality	 F	CTCP115 / CTCP125	CTCP115 / CTCP125 / CTCP135	CTCP135	 15°	0,10–2,60	0,06–0,35	CN.. DN.. SN.. TN.. VN.. WN..
		CTCP115	CTCP125	CTCP135				
		CTCP115 / CTCP125 / CTCK110 / CTCK120	CTCP115 / CTCP125 / CTCK110 / CTCK120	CTCP125 / CTCP135				
-M50 ▲ Medium machining ▲ First choice for steel machining ▲ Universal application ▲ Wide range of applications	 M	CTCP115 / CTCP125 / CTCK110 / CTCK120	CTCP115 / CTCP125	CTCP125 / CTCP135	 20° 0,25	0,50–5,00	0,12–0,40	CN.. DN.. SN.. TN.. VN.. WN..
		CTCP115	CTCP125	CTCP135				
		CTCP115 / CTCP125 / CTCK110 / CTCK120	CTCP115 / CTCP125 / CTCK110 / CTCK120	CTCP125 / CTCK120				
-M70 ▲ Light to medium rough machining ▲ Cast crust and forging skin ▲ Stable cutting edge ▲ Interrupted cut ▲ Raw materials and forgings	 M R	CTCK110 / CTCK120 / CTCP115	CTCP115 / CTCP125	CTCP125 / CTCP135	 15,7° 0,3	1,50–4,50	0,20–0,80	CN.. DN.. SN.. TN.. WN..
		CTCP115	CTCP125	CTCP135				
		CTCK110 / CTCK120 / CTCP115 / CTCP125	CTCK120 / CTCP125	CTCP125 / CTCK120				

Negative					Sectional illustration			
Main application stainless steels, secondary application steel and super alloys -F30 ▲ Finishing of stainless steels ▲ Continuous cut ▲ High surface quality ▲ Good swarf control	 F	CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130	 15°	0,08–2,5	0,10–0,35	CN.. DN.. SN.. TN.. VN.. WN..
		CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130				
		CTCM120 / CTPM125 / CTCM130	CTCM120 / CTPM125 / CTCM130	CTCM130				
-M30 ▲ Option for stainless steel machining ▲ Good swarf control ▲ Little edg build up ▲ Low cutting forces ▲ Little built-up edge ▲ Applicable on unstable machines	 F	CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130	 15° 0,25	1,00–4,50	0,15–0,40	CN.. DN.. SN.. TN.. VN.. WN..
		CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130				
		CTCM120 / CTPM125 / CTCM130	CTCM120 / CTPM125 / CTCM130	CTCM130				
-M60 ▲ Light to medium roughing ▲ Stable cutting edge ▲ Interrupted cut ▲ Forged skin and cast crust	 F M	CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130	 18° 0,3	1,50–6,00	0,25–0,50	CN.. DN.. SN.. TN.. WN..
		CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130				
		CTCM120 / CTPM125 / CTCM130	CTCM120 / CTPM125 / CTCM130	CTCM130				

Standard chip breakers / application notes

Positive		Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration		Geometry					
						a_p mm	f mm						
Main application steel and cast iron, secondary application stainless steels	-SF	 F	CTCP115	CTCP125	CTCP125 / CTCP135		0,05–2,50	0,05–0,25	CC.. DC.. SC.. TC.. VC.. WC..				
	<ul style="list-style-type: none"> ▲ Finishing / contour turning ▲ Good swarf control ▲ High surface quality ▲ Low cutting forces 												
	-SMF		CTEP110 / CTCP115	TCM10 / CTCP125 / CTCP115	CTCP135						0,20–1,30	0,06–0,25	CC.. DC.. SC.. TC.. VC..
	<ul style="list-style-type: none"> ▲ Finishing to medium machining ▲ Low cutting forces ▲ Good swarf control ▲ High surface quality 		CTEP110	CTCP135	CTCP135								
	-SM		 M	CTCP115 / CTCP125	CTCP125 / CTCP135 / CTCP115								
<ul style="list-style-type: none"> ▲ Medium machining ▲ Universal application ▲ Stable cutting edge ▲ Varying depths of cut ▲ Wide range of applications 	CTCP115 / CTCK110 / CTCK120	CTCP135 CTCP125 / CTCK110 / CTCK120		CTCP135 CTCK120									
-SMQ	 M	CTCP115		CTCP125	CTCP125		1,00–4,00	0,15–0,45	CC.. DC..				
<ul style="list-style-type: none"> ▲ Positive wiper geometry ▲ Finishing to medium machining ▲ Very high feeds ▲ High surface quality 		CTCP125 / CTCP115		CTCP125	CTCP125								

Positive		Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration		Geometry	
						a_p mm	f mm		
Main application stainless steels, secondary application steel and super alloys	-M25	 F M	CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130		0,40–3,20	0,10–0,30	CC.. DC.. TC.. VC..
	<ul style="list-style-type: none"> ▲ First choice for medium machining of stainless steels ▲ High surface quality ▲ Little built-up edge 		CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130				
	-M55	 M	CTCM120 / CTPM125	CTCM120 / CTPM125 / CTCM130	CTCM130		0,40–4,80	0,06–0,35	CC.. DC.. SC.. TC.. VC..
<ul style="list-style-type: none"> ▲ First choice for medium machining to roughing of stainless steels ▲ Smooth to lightly interrupted cut ▲ Good swarf control ▲ Stable cutting edge 	CTCM120 / CTPM125		CTCM120 / CTPM125 / CTCM130	CTCM130					




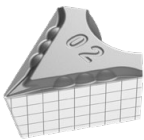

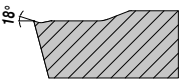
Standard chip breakers / application notes

positive	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration		Geometry	
					a _p mm	f mm		
-23P ▲ Maximum tolerance class ▲ Outstanding chip control, even with the smallest cutting depths ▲ Very low cutting forces	 F	H216T	H216T	H216T	 30°	0,2-4,0	0,05-0,3	CC.. DC..
		H216T	H216T	H216T				
		H216T	H216T	H216T				
		H216T	H216T	H216T				
		H216T	H216T	H216T				
-25P ▲ Low adhesion ▲ Good chip control with soft aluminium alloys	 F M	CTPX710	CTPX710		 20°	0,50-4,50	0,05-0,60	CC.. DC.. SC.. VC..
		CTPX710	CTPX710					
		CTPX710 / H216T	CTPX710 / H216T	CTPX710 / H216T				
		CTPX710	CTPX710					
		CTPX710	CTPX710					
-25Q ▲ Sharp cutting edge ▲ Good swarf control on soft aluminium alloys ▲ Low adhesion	 M	CTPX710	CTPX710		 20°	0,05-6,50	0,05-0,60	CC.. DC.. VC..
		CTPX710	CTPX710					
		H210T	H210T					
		H210T / CTPX710	H210T / CTPX710	H210T / CTPX710				
		H210T / CTPX710	H210T / CTPX710					
-27 ▲ Wiper geometry ▲ High feeds ▲ High surface quality ▲ Good chip control with softer aluminium alloys ▲ Low adhesion	 M R	CTPX715	CTPX715		 19°-25°	1,00-10,00	0,10-0,75	CC.. DC.. RC.. SC.. TC.. VC..
		CTPX715	CTPX715					
		CTPX715 / H216T	CTPX715 / H216T					
		CTPX715 / H216T	CTPX715 / H216T	CTPX715 / H216T				
		CTPX715	CTPX715					
-29 ▲ Direct sintered aluminium geometry ▲ Positive rake angle ▲ Good chip control ▲ For medium to rough machining	 M	CTPX715	CTPX715		 20°	1,00-6,00	0,25-0,60	CC.. DC.. VC..
		CTPX715	CTPX715					
		CTPX715	CTPX715	H216T				
		CTPX715 / H216T	CTPX715 / H216T	H216T				
		CTPX715	CTPX715					
-M81 ▲ Dircetly pressed insert ▲ Positive rake angle ▲ Good swarf control ▲ For medium to rough machining	 M	CWN2120			 20°	1,00-6,00	0,25-0,60	CC.. DC.. VC..
		CWN2120	CWN2120	CWN2120				
		CWN2120	CWN2120	CWN2120				
		CWN2120	CWN2120	CWN2120				
		CWN2120	CWN2120	CWN2120				

Main application non-ferrous metals, secondary application stainless steels, steels, super alloys, cast iron

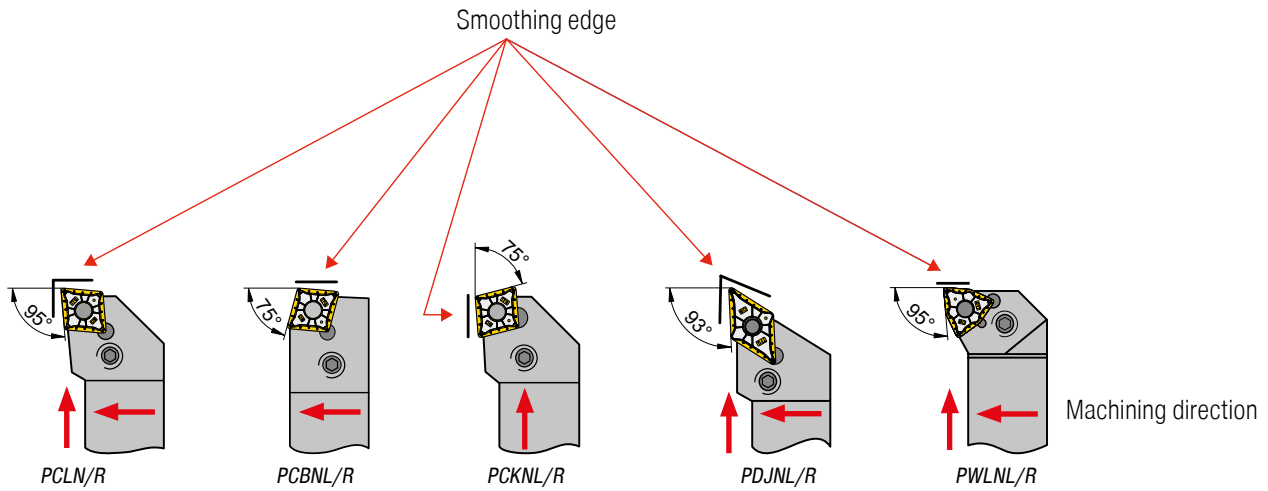
3

Standard chip breakers / application notes

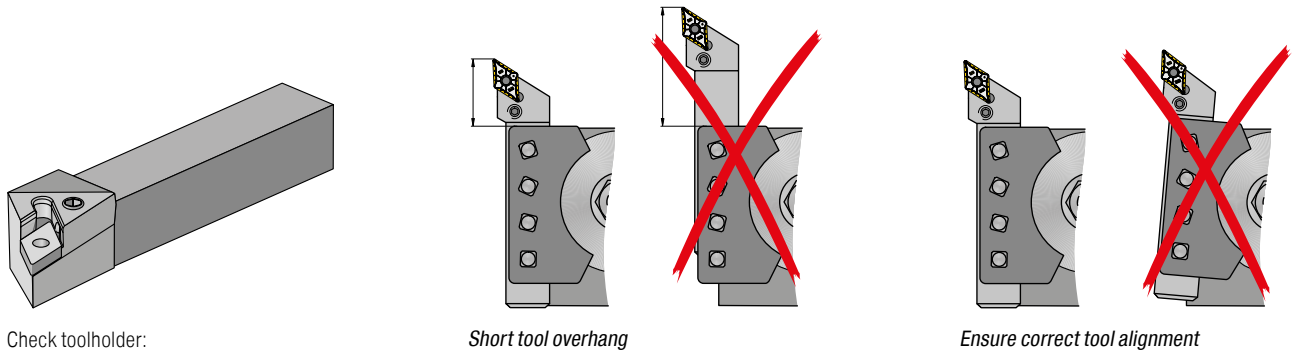
	Positive	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration		Geometry
						a_p mm	f mm	
Main application super alloys and stainless steels, secondary application steels and non-ferrous metals <ul style="list-style-type: none"> ▲ The universal Alu geometry ▲ Sharp cutting edge ▲ Extremely positive rake angle ▲ Low adhesion ▲ High feed rates 	 	CTPX710	CTPX710				DC., VC..	
		CTPX710	CTPX710					
		CTPX710	CTPX710					
		CTPX710	CTPX710					
		CTPX710	CTPX710					
					0,10–2,50	0,02–0,25		
		CTPX710	CTPX710					

Masterfinish – smoothing geometry – information

High-quality surfaces can be produced inexpensively using indexable inserts with smoothing edge (-TFQ; -TMQ; -SMQ; -25Q).



All turning inserts with smoothing cutting edge are clamped in standard ISO tool holders



Check toolholder:

- ▲ Insert seat
- ▲ Shim
- ▲ Clamping Lever

Feed rate guide values for surface finish quality

Roughness range R_z in μm	$R_{t\text{max}}$	Corresponds to R_a	Roughness index	ISO 1302	Corner radius r_e in mm and feed rate f in mm/rev.			
					$r_e = 0,4$	$r_e = 0,8$	$r_e = 1,2$	$r_e = 1,6$
63-100	$\sqrt{R_t 100}$	12,5-25	N11	$\frac{25}{\nabla}$		0,51	0,69	0,88
40-63	$\sqrt{R_t 63}$	6,3-25	N10	$\frac{12,5}{\nabla}$	0,27	0,43	0,56	0,68
31,5-40	$\sqrt{R_t 40}$	4,9-6,3	N9	$\frac{6,3}{\nabla}$	0,25	0,37	0,49	0,57
25-31,5	$\sqrt{R_t 31,5}$	4,0-4,9			0,22	0,32	0,41	0,47
16-25	$\sqrt{R_t 25}$	2,5-4,0	N8	$\frac{3,2}{\nabla}$	0,20	0,28	0,36	0,39
10-16	$\sqrt{R_t 16}$	1,6-2,5			0,15	0,22	0,29	0,31
6,3-10	$\sqrt{R_t 10}$	1,0-1,6	N7	$\frac{1,6}{\nabla}$	0,10	0,13	0,18	0,20

Masterfinish – smoothing geometry – operating principle

Relationship of feed rate to surface roughness

Improved Surface Quality

Given identical feed rates, the indexable insert with smoothing geometry attains an R_t value that is many times better than a conventional indexable insert.



Shorter machining time

If the same R_t value is achieved as with a standard indexable insert, the indexable insert with the smoothing geometry can be moved at twice the feed speed (= lower cycle times!)



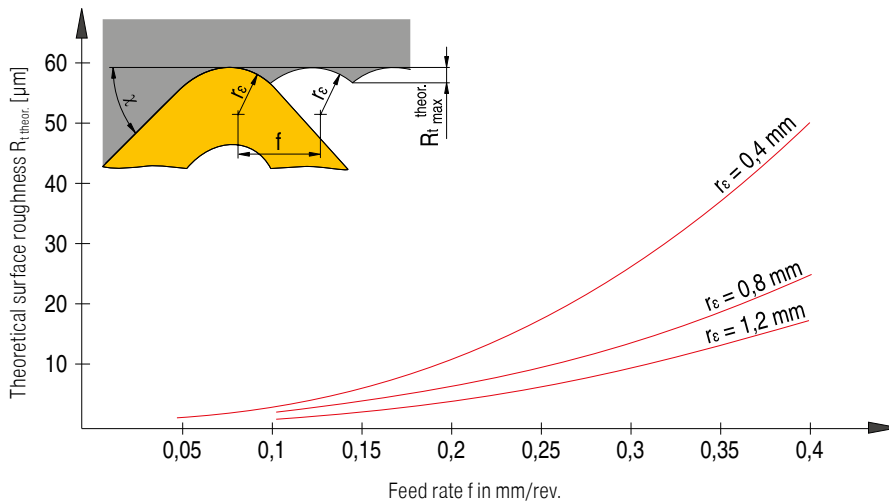
Theoretical Surface Quality

The maximum theoretical surface roughness with turning $R_{t,theor}$ is the combination of feed rate and corner radius:

or approximately:

$$R_{t,theor} = \left(r_\epsilon - \sqrt{r_\epsilon^2 - \frac{f^2}{4}} \right) \cdot 1000$$

$$R_{t,theor} \approx \frac{125 \cdot f^2}{r_\epsilon} \text{ [}\mu\text{m]}$$

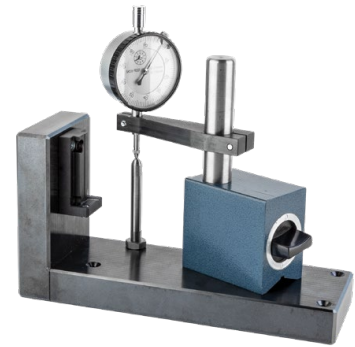


Setting Device

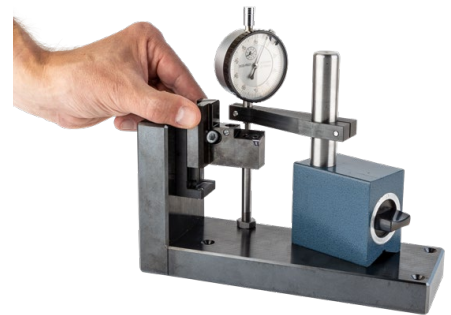
The adjustment device is profitable if the tool system is expanded with several tool holder blocks on several machines. The tool system can be preset so that holders on every machine have a suitable centre height in relation to the turning centre of the machine.

Setting Device

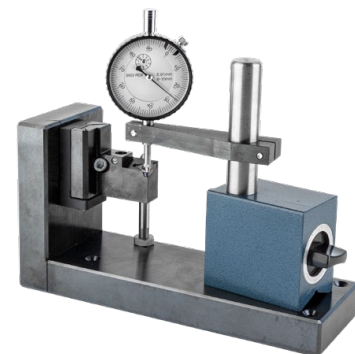
1. Zero the dial gauge on the surface of the measuring stick.



2. Place tool holder block on the device and gently tighten the clamping screw until the holder sits on the device free of play. Ideally, set the centre height slightly below the centre, so that the tool holder block is pushed upward when the height is set.



3. Carefully place the dial gauge on the tip of the tool's cutting edge.

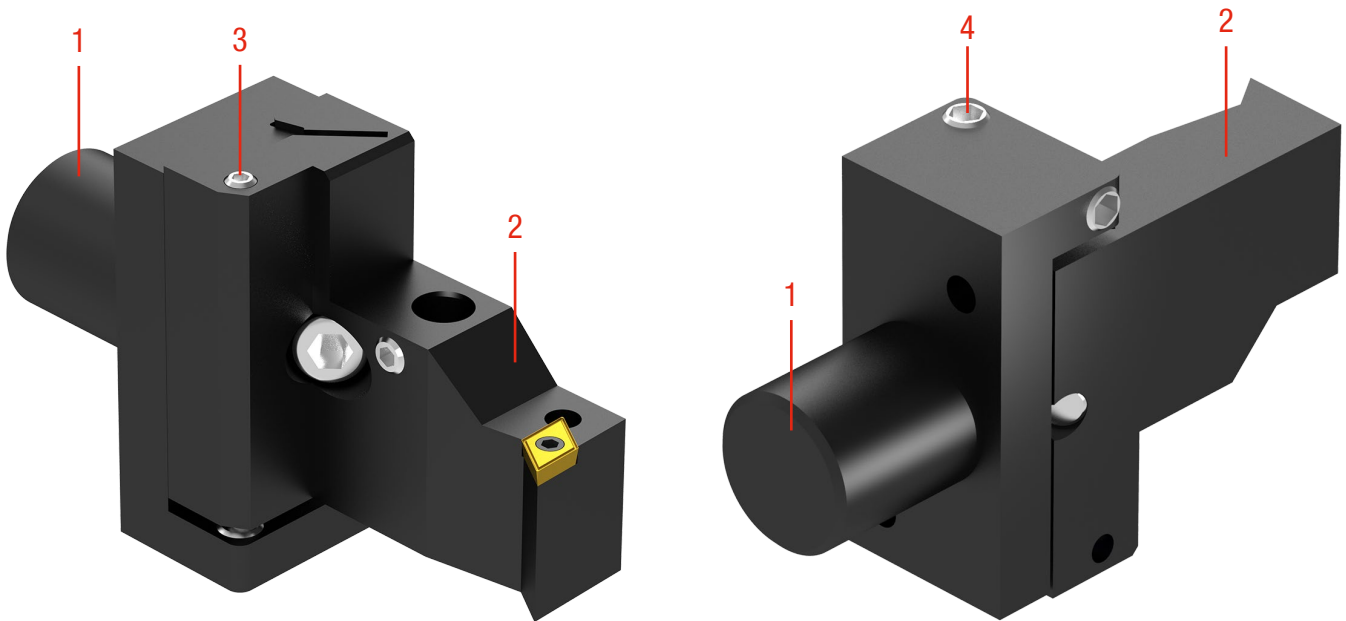


4. Adjust the height adjustment screw until the dial gauge is set to zero.



Procedure when retrofitting on the CT tool system

1. Screw all base holders (1) into the machine.
2. Clamp the height-adjustable screw (4) of the individual base holders (1) and set to the same height using the dial gauge.
3. Clamp a tool holder block (2) onto any base holder (1) and set precisely on the turning centre using the height-adjustable screw (3) of the tool holder block (2).
4. Remove the tool holder block (2) from the machine and clamp it on the height presetting device.
5. Set the dial gauge on the tool to zero and adjust the measuring pin on the presetting device.
6. Each additional tool holder block (2) is set to zero once on the presetting device using the measuring pin and dial gauge.



If several tool holders are arranged side-by-side, you can quickly and reliably fix them at the same height using height adjustment screws (3) and (4).

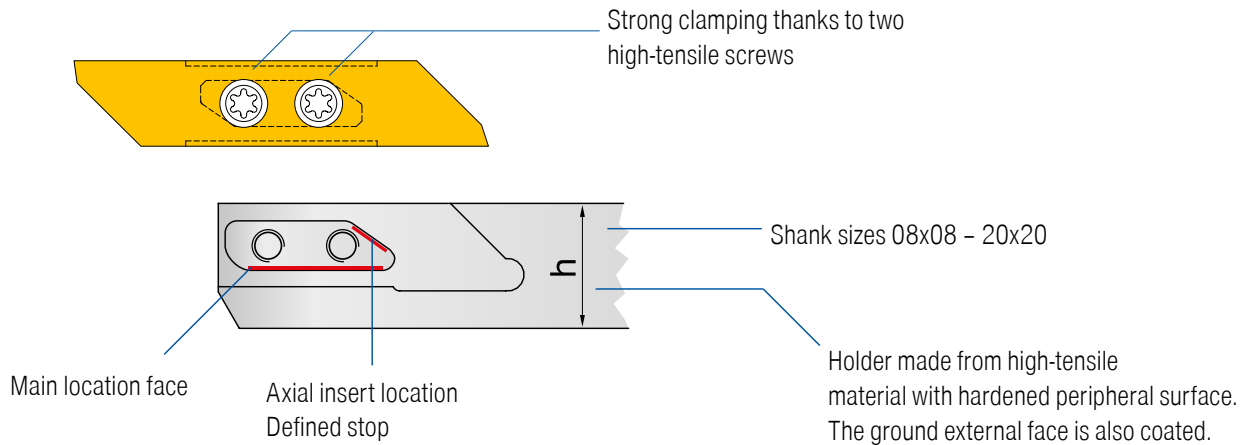
The same tool holders (2) can be used for multiple machines without presetting them again individually. However, the base holders (1) of the other machines must be adjusted to one another.

This is done as follows:

1. Screw all base holders into machine 2.
2. Clamp a preset tool block holder from machine 1 on any base holder in machine 2 and adjust the turning centre precisely using the height-adjustment screw of the base holder.
3. Set all other height-adjustable screws on the rest of the base holders in machine 2 to the same height using the dial gauge. The preset tool block holders can thus be used on each tool station of several machines without readjustment.

VertiClamp

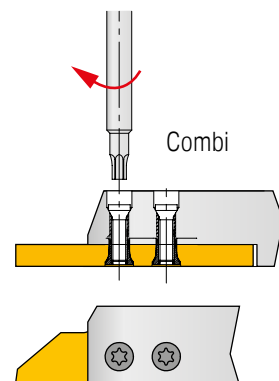
Features



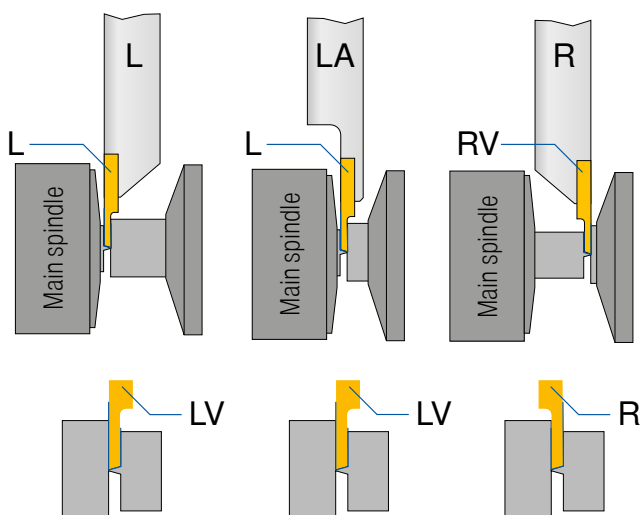
Advantages

- ▲ The connection between the indexable insert and holder guarantees optimum fixation
- ▲ The second cutting edge can always be used, even if the first cutting edge is broken off
- ▲ Shearing forces do not act on the screws
- ▲ For all cutting edge forms, the overhang of the cutting edge from the tool holder is identical
- ▲ Vertical insert orientation maintained thanks to large seating surface
- ▲ The indexable insert seat is completely protected against swarf
- ▲ Inserts are clamped through two high-tensile screws and a tapered axial stop of 30° in all cutting directions

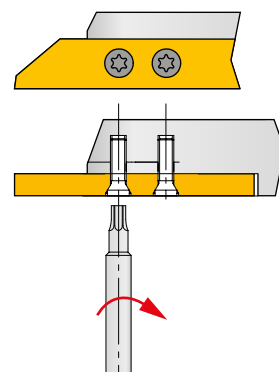
Clamping of cutting edge With combi holders



Turning away from the spindle



Clamping of cutting edge With standard holders

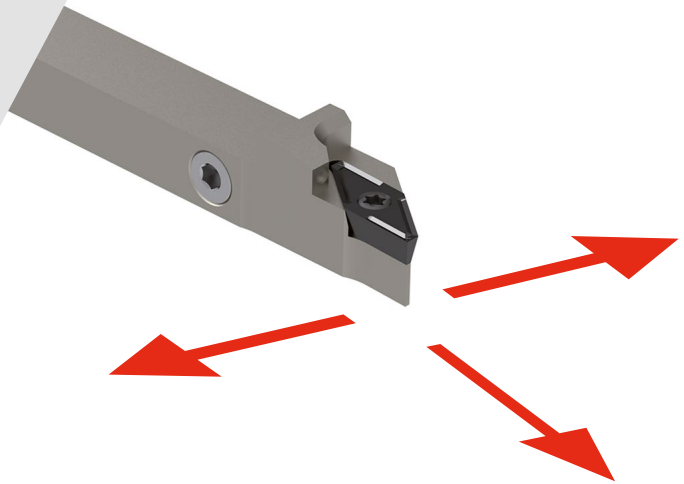


TriClamp

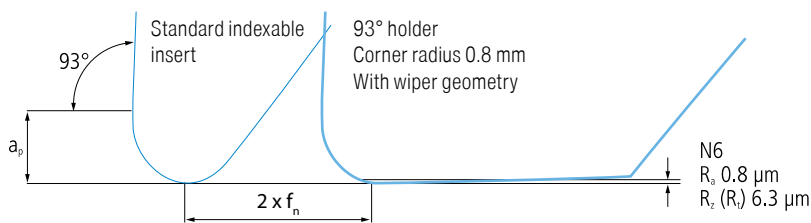
The feed rate can be doubled through the use of the TriClamp system with wiper geometry and 93° holder. This in turn allows machining times to be reduced considerably with no impact on quality, or the surface quality can be improved whilst retaining the same machining time. The ability to machine in a radial direction and in both axial directions makes this system particularly flexible.

Advantages

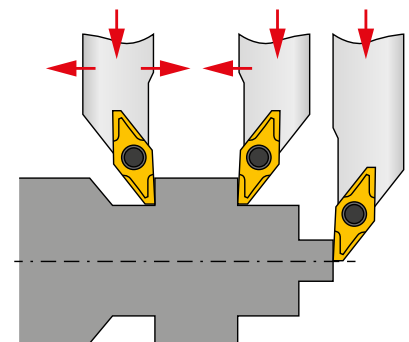
- ▲ Expansion of the ISO range
- ▲ Turning in three directions
- ▲ All cutting edges can easily be replaced
- ▲ Sharp positive cutting edges with 11° clearance angle
- ▲ Small corner radii 0.08 mm and 0.2 mm
- ▲ Perfect chip control
- ▲ Special holders for sliding head lathes (Cross-sections 8x8 mm to 16x16 mm)



Smoothing geometry in detail:

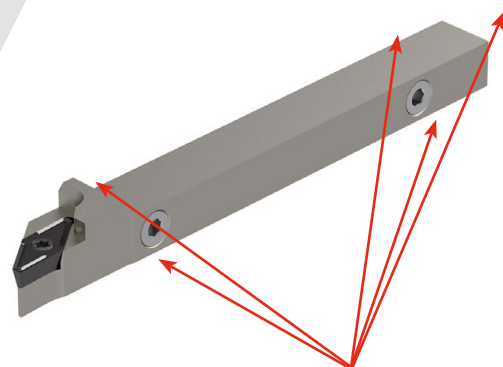


Applications:



Tool holders with a thro' coolant supply increase the performance of indexable inserts and improve the quality of components, particularly in the case of difficult-to-machine materials such as stainless steels and super alloys.

- ▲ All IC holders have five coolant supply options
- ▲ Made from highly tempered steel
- ▲ Precise coolant jet on the cutting edge
- ▲ Can be used at any coolant pressure



Coolant connection options

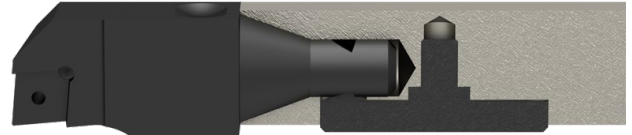
XheadClamp

The fast tool change with high repeatability has become a competitive advantage for series that usually have to be manufactured with the maximum chip evacuation possible. Ceratizit has taken this production requirement into account with the newly developed XheadClamp holder system. Time savings and an extremely short setup process are key advantages of the system. The XheadClamp system is also setting standards in terms of flexibility and ease of use.

With the XheadClamp, changing the indexable insert or geometry – e.g. switching from turning to grooving inserts – can be accomplished quickly, easily and with maximum precision.

Clamping method

- ▲ Extremely high clamping forces
- ▲ Release and clamping of an exchangeable head using only one screw
- ▲ Repeatability of less than $\pm 7.5 \mu\text{m}$
- ▲ Maximum stability



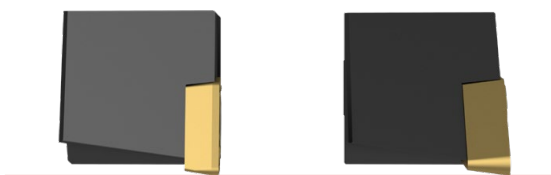
Versatility

- ▲ All heads can be installed regardless of system size
- ▲ Tools can be adapted to the component
- ▲ Fastest indexable insert change thanks to exchangeable head



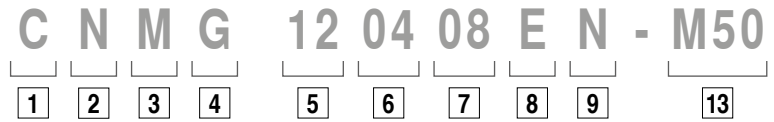
Accuracy

- ▲ No variable X and Y dimensions when changing the head
- ▲ Repeatability of less than $\pm 7.5 \mu\text{m}$
- ▲ Centre height is retained even when the insert size is changed
- ▲ Two-nose system guarantees the correct position

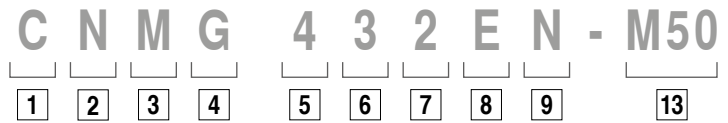


ISO designation system for inserts

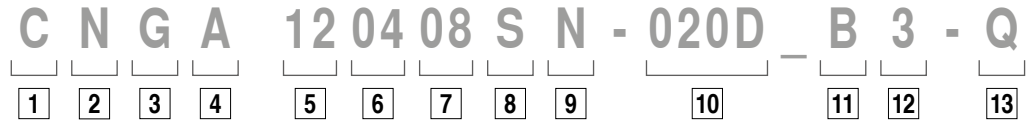
Indexable inserts – metric



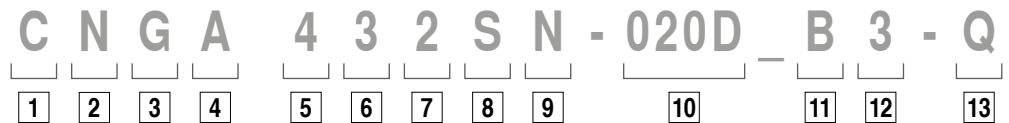
Indexable inserts – inch



Indexable inserts, CBN, ceramic – metric



Indexable inserts, CBN, ceramic – inch



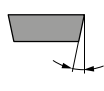
1

Insert shape

V	35°	Included angle
D	55°	
E	75°	
C	80°	Included angle
M	86°	
K	55°	Included angle
B	82°	
A	85°	Other shapes
L	90°	
P	108°	
H	120°	
O	135°	
R	-	
S	90°	
T	60°	
W	80°	

2

Clearance angle

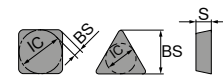


α		α	
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°		

O Clearance angles not included within the standard for which particular information is necessary.

3

Tolerances

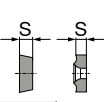


	IC±		BS		S	
	mm	inch	mm	inch	mm	inch
A	0,025	.0010	0,005	.0002	0,025	.001
F	0,013	.0005	0,005	.0002	0,025	.001
C	0,025	.0010	0,013	.0005	0,025	.001
H	0,013	.0005	0,013	.0005	0,025	.001
E	0,025	.0010	0,025	.0010	0,025	.001
G	0,025	.0010	0,025	.0010	0,13	.005
J	0,05-0,15*	.002-.006*	0,005	.0002	0,025	.001
K	0,05-0,15*	.002-.006*	0,013	.0005	0,025	.001
L	0,05-0,15*	.002-.006*	0,025	.0010	0,025	.001
M	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,13	.005
N	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,025	.001
U	0,08-0,25*	.003-.010*	0,13-0,38*	.005-.015*	0,13	.005

* Depends on insert size

6


Insert thickness



mm		inch		Code	
1,59	1/16	01	1		
2,38	3/32	02			
3,18	1/8	03	2		
3,97	5/32	T3			
4,76	3/16	04	3		
5,56	7/32	05			
6,35	1/4	06	4		
7,94	5/16	07	5		
9,52	3/8	09	6		

7

Corner radius

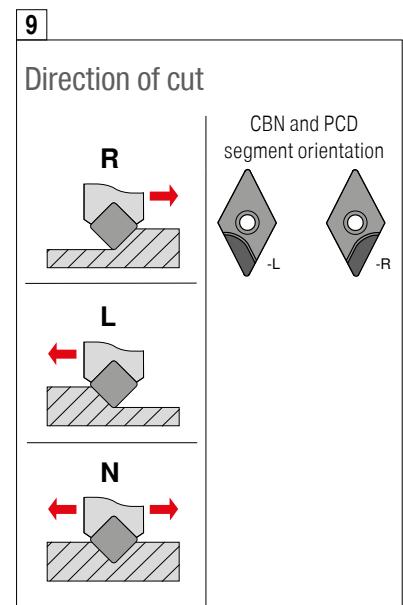


mm		inch		Code		
≤ 0,05	.0015	00	X0			RN 00 RC MO
0,1	.004	01	0			
0,2	.008	02	.5			
0,4	1/64	04	1			
0,8	1/32	08	2			
1,2	3/64	12	3			
1,6	1/16	16	4			
2,0	5/64	20	5			
2,4	3/32	24	6			
2,8	7/64	28	7			
3,2	1/8	32	8			

8

Cutting edge

F	Sharp
E	rounded
T	chamfered
S	Chamfered and honed
K	Double-chamfered
P	Double-chamfered and honed
R	Round chamfer





4

Characteristics

N	
R	
F	
A	
M, P	
G, P	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special version

inch
Change at inscribed circle
IK < 1/4"

IK > 1/4"	IK < 1/4"
N / R / F	E
A / M / G	D
X	X

5

Cutting length

Type	ISO	ANSI	L		IC	
			mm	inch	mm	inch
	06	2	6,4	.250	6,35	.250
	09	3	9,7	.382	9,525	.375
	12	4	12,9	.508	12,70	.500
	16	5	16,1	.634	15,875	.625
	19	6	19,3	.760	19,05	.750
	25	8	25,8	1.016	25,4	1.000
	06	2	6,35	.250	6,35	.250
	09	3	9,525	.375	9,525	.375
	12	4	12,7	.500	12,7	.500
	15	5	15,875	.625	15,875	.625
	19	6	19,05	.750	19,05	.750
	25	8	25,4	1.000	25,4	1.000
	07	2	7,7	.303	6,35	.250
	11	3	11,6	.457	9,525	.375
	15	4	15,5	.610	12,70	.500
	11	2	11,1	.437	6,35	.250
	16	3	16,6	.653	9,525	.375
	22	4	22,10	.870	12,70	.500

Type	ISO	ANSI	L		IC		
			mm	inch	mm	inch	
	06	1.2	6,9	.272	3,97	.156	
	09	1.8	9,6	.378	5,56	.219	
	11	2	11,0	.433	6,35	.250	
	16	3	16,5	.650	9,525	.375	
	22	4	22,	.079	12,70	.039	
	27	5	27,5	1.083	15,875	.625	
	33	6	33,0	1.299	19,05	.750	
		06	3	6,5	.256	9,525	.375
		08	4	8,7	.331	12,70	.039
		10	5	10,9	.429	15,875	.625
	06	2	6,35	.250	6,35	.250	
	08	-	8,0	.315	8,0	.315	
	09	3	9,52	.375	9,52	.375	
	10	-	10,0	.394	10,0	.394	
	12*	-	12,0	.472	12,0	.472	
	12	4	12,7	.488	12,70	.488	
	15	5	15,875	.625	15,875	.625	
	16	-	16,0	.630	16,0	.630	
	19	6	19,05	.750	19,05	.750	
	25	8	25,0	.984	25,0	.984	
	25*	-	25,4	1.000	25,4	1.000	
	31	10	31,75	1.250	31,75	1.250	
	32	-	32,0	1.260	32,0	1.260	

* inch version

10

Chamfer type

	mm	inch		
015	0,15	.006	A	05°
020	0,20	.008	B	10°
025	0,25	.010	C	15°
050	0,50	.020	D	20°
075	0,75	.030	E	25°
100	1,00	.040	F	30°
			G	35°

1) Two letters are assigned for double-chamfered cutting edges
e.g. BE =
chamfer angle 1 (y₁) = 10°
chamfer angle 2 (y₂) = 25°

11

Number of cutting edges

Single sided		Complete insert thickness	
A		T	
B		U	
C		V	
D		W	
G		X	
H		Y	
Double sided		Entire clamping flat	
K		S	
L		F	
M		E	
N			
P			
Q			

12

Segment length

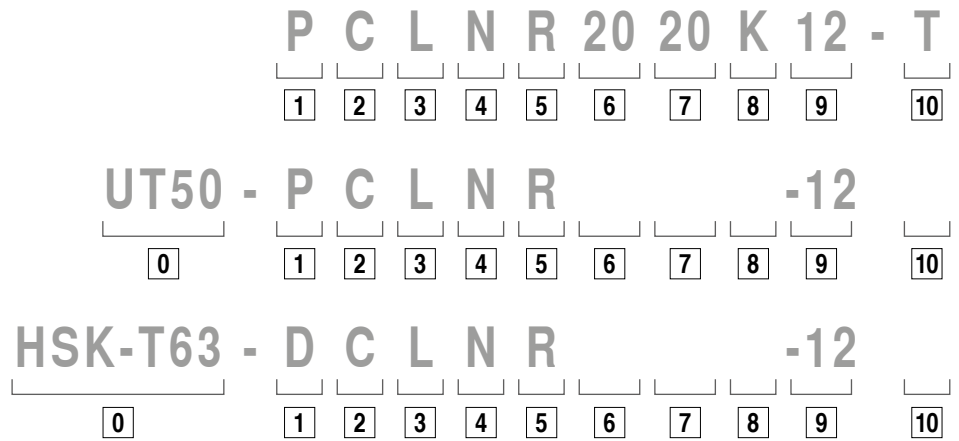
Approx. specification in mm

13

Chip breaker designation

You can find a comprehensive chip breaker overview on
→ page 149–152

ISO designation system for tool holders



0

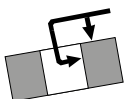
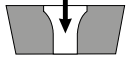
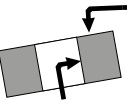
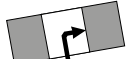
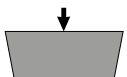
System/size

UT = UTS
 according to ISO 26622
 UT40 = UTS 40 mm
 UT50 = UTS 50 mm
 UT63 = UTS 63 mm

HSK-T
 according to ISO 12164
 HSK-T63 = 63 mm
 HSK-T100 = 100 mm

1

Tool holder

<p>D</p>  <p>Retained from above and via bore</p>	<p>S</p>  <p>Retained via centre screw</p>
<p>M</p>  <p>Retained from above and via bore</p>	<p>P</p>  <p>Retained via the bore</p>
<p>C</p>  <p>Retained from above</p>	<p>X</p> <p>Special version</p>


2

Insert shape

V 35°	Included angle
D 55°	
E 75°	
C 80°	Included angle
M 86°	
K 55°	Included angle
B 82°	
A 85°	Other shapes
L 90°	
P 108°	
H 120°	
O 135°	
R -	
S 90°	
T 60°	
W 80°	

6


Shank height



H

7

Shank width




B

8

Tool length

OAL			OAL		
mm	inch		mm	inch	
32	4.000	A	160	4.500	N
40	4.500	B	170	5.500	P
50	5.000	C	180	-	Q
60	6.000	D	200	6.000	R
70	7.000	E	250	7.000	S
80	8.000	F	300	8.000	T
90	5.500	G	350	5.500	U
100	5.625	H	400	3.500	V
110	5.300	J	450	3.500	W
125	14.000	K	500	3.750	Y
140	6.800	L	Special version		X
150	4.400	M			



OAL



3

Style

A 90° B 75° C 90° D 45° E 60°
 F 90° G 90° H 107,5° J 93° K 75°
 L 95° M 50° N 63° P 117,5° R 75°
 S 45° T 60° U 93° V 72,5° W 60°
 Y 85°

4

Clearance angle

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

O Clearance angles not included within the standard for which particular information is necessary.

5

Direction of cut

R

L

N

9

Cutting length

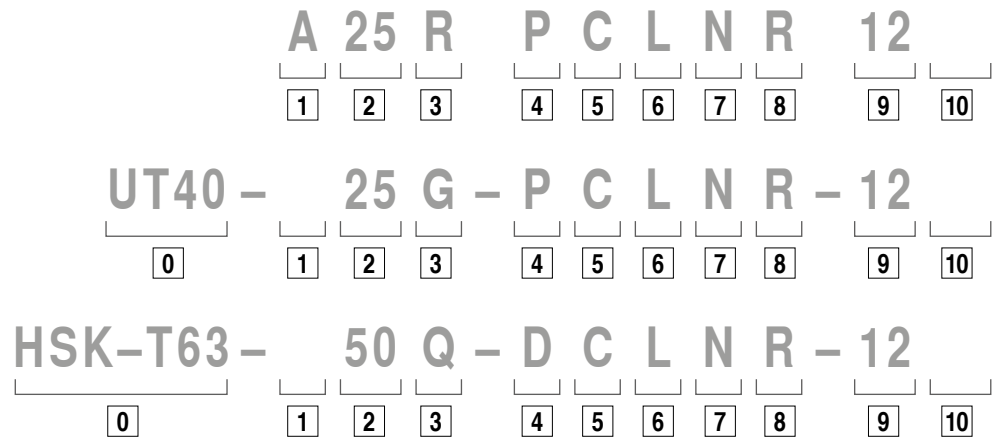
L S R ABK T VDECM O H P W

10

Manufacturer specification

T = Toggle
 Special length (mm)
 Insert thickness (deviating from standard)
 Special version (X...)
 Machine manufacturer (specific)

ISO designation system for boring bars



0

System/size

UT = UTS
 according to ISO 26622
 UT40 = UTS 40 mm
 UT50 = UTS 50 mm
 UT63 = UTS 63 mm

HSK-T
 according to ISO 12164
 HSK-T63 = 63 mm
 HSK-T100 = 100 mm

1

Shank type

S Steel shank	E As C with coolant hole
A Steel shank with coolant hole	F As C with antivibration system
B Steel shank with antivibration system	G As C with coolant hole and antivibration system
D Steel shank with coolant hole and antivibration system	H Heavy metal
C Carbide shank with steel head	J Heavy metal with coolant hole

5

Insert shape

V 35°	Included angle
D 55°	
E 75°	
C 80°	
M 86°	
K 55°	Included angle
B 82°	
A 85°	
L 90°	Other shapes
P 108°	
H 120°	
O 135°	
R -	
S 90°	
T 60°	
W 80°	

6

Style

*) CERATIZIT factory standard

7

Clearance angle

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

O Clearance angles not included within the standard for which particular information is necessary.



2

Shank type & size

DCONMS mm	DCONMS inch
08	
10	
12	
16	
20	
25	
32	
40	
50	
60	

A two-digit figure indicating the boring bar diameter in 1/16 of an inch.

3

Tool length

OAL		
mm	inch	
80	3	F
100	3,5	H
110	4	J
125	4,5	K
140	5	L
150	5,5	M
160	6	N
170	6,5	P
180	6,75	Q
200	7	R
250	8	S
300	10	T
350	12	U
400	14	V
450	16	W
500	18	Y
	20	
Special version		X

4

Clamping method

<p>D</p> <p>Retained from above and via bore</p>	<p>S</p> <p>Retained via centre screw</p>
<p>M</p> <p>Retained from above and via bore</p>	<p>P</p> <p>Retained via the bore</p>
<p>C</p> <p>Retained from above</p>	<p>X</p> <p>Special version</p>

8

Direction of cut

R

L

9

Cutting length

10

Manufacturer specification

T = Toggle
 Special length (mm)
 Insert thickness (deviating from standard)
 Special version (X..)
 Machine manufacturer (specific)

Types of wear

Wear on clearance face



Abrasion on flank: normal wear after a certain machining time

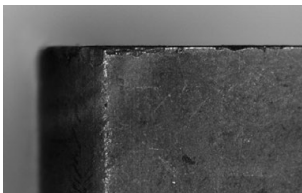
Cause

- ▲ Too high cutting speed
- ▲ Carbide grade with too low wear resistance
- ▲ Feed rate not adapted

Remedy

- ▲ Reduce cutting speed
- ▲ Use grade with higher wear resistance
- ▲ Adapt feed rate to cutting speed and cutting depth

Edge chipping



Through excessive mechanical stress at the cutting edge fracture and chipping can occur.

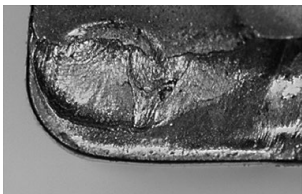
Cause

- ▲ Grade with too high wear resistance
- ▲ Vibration
- ▲ Too high cutting speed and / or feed rate
- ▲ Interrupted cut
- ▲ Swarf damage

Remedy

- ▲ Use tougher grade
- ▲ Use negative cutting edge geometry with chip groove
- ▲ Improve stability (tool, work piece)

Cratering



The hot chip which is being evacuated causes cratering at the rake face of the cutting edge.

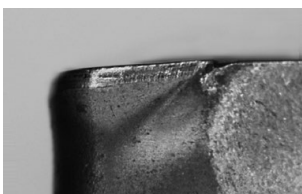
Cause

- ▲ Too high cutting speed and / or feed rate
- ▲ Rake angle too shallow
- ▲ Grade with insufficient wear resistance
- ▲ Insufficient coolant supply

Remedy

- ▲ Reduce cutting speed and / or feed rate
- ▲ Use grade with higher wear resistance
- ▲ Increase coolant quantity and / or pressure, optimise coolant supply
- ▲ Use grade which is more resistant to cratering

Plastic deformation



High machining temperature and simultaneous mechanical stress can lead to plastic deformation.

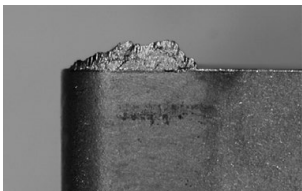
Cause

- ▲ Too high machining temperature resulting in softening of substrate
- ▲ Damage of coating
- ▲ Grade with insufficient wear resistance
- ▲ Insufficient coolant supply

Remedy

- ▲ Reduce cutting speed
- ▲ Use grade with higher wear resistance
- ▲ Provide cooling

Built-up edge



Built-up material / edges occur when the chip is not evacuated properly due to insufficient cutting temperature.

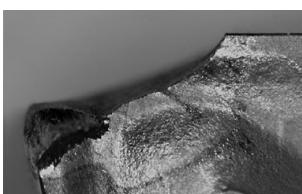
Cause

- ▲ Insufficient cutting speed
- ▲ Rake angle too shallow
- ▲ Wrong cutting material
- ▲ Lack of cooling / lubrication

Remedy

- ▲ Increase cutting speed
- ▲ Increase rake angle
- ▲ Apply TiN coating
- ▲ Use emulsion with higher concentration

Insert breakage



Excessive stress of the insert causes breakage.

Cause

- ▲ Excessive stress of cutting material
- ▲ Lack of stability
- ▲ Clearance angle too small

Remedy

- ▲ Use tougher grade
- ▲ Use protective edge chamfer
- ▲ Increase edge hone
- ▲ Use geometry with higher stability

Recommendation for Optimum Results

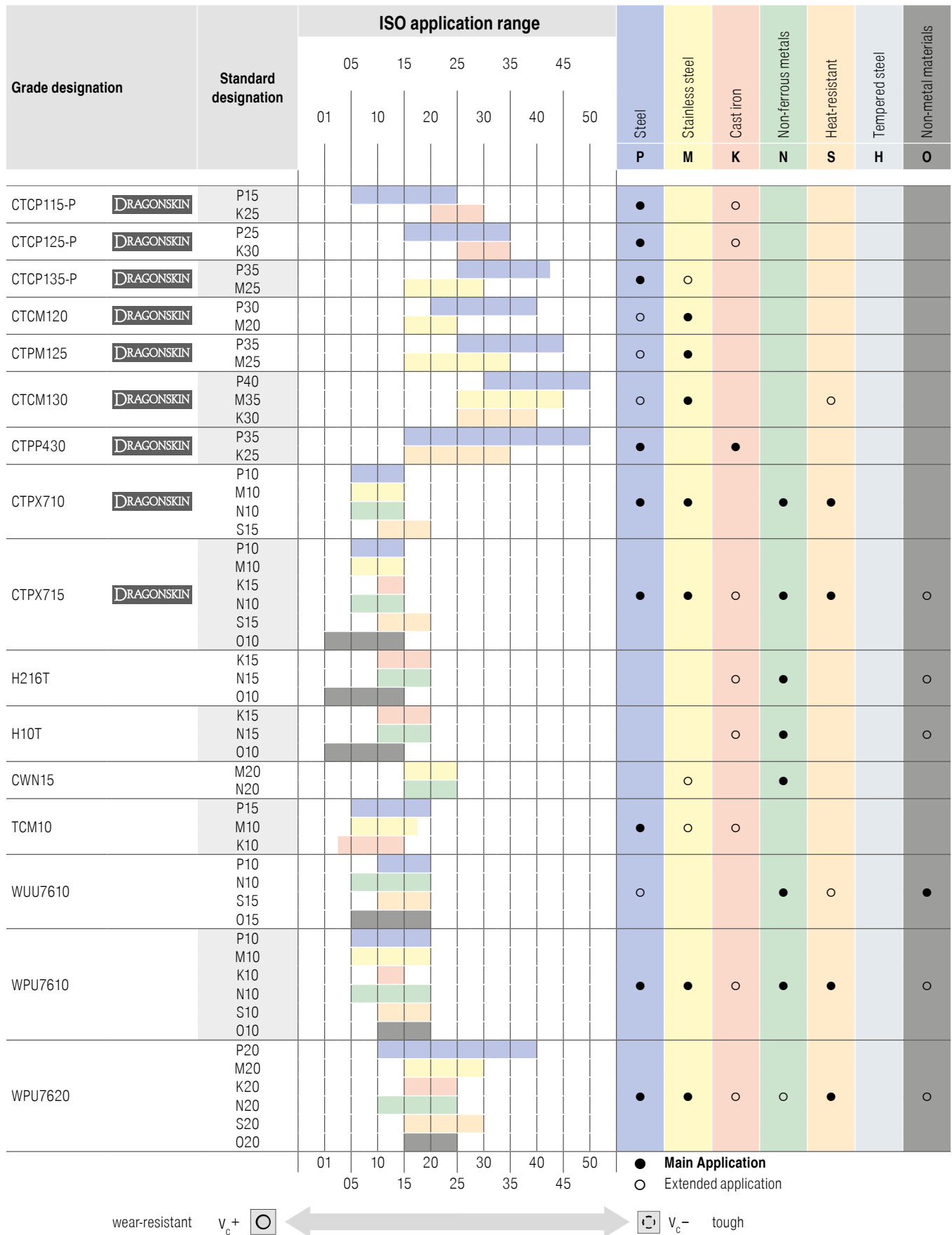
Type of problem																	
Type of wear						Work piece problems				Swarf control							
Wear on clearance face	Cratering	Edge chipping	Plastic deformation	Insert breakage	Built-up edge	Vibration	Formation of pits and burrs	Chattered surface	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)						
↓	↓		↓		↓	↓			↑	↓		Cutting speed	Cutting data	Remedy measures			
~		↓	↓	↓		↑		↓	↓	↑	↓	Feed rate					
↓	↓	↓	↓				↓	↓	↓			Feed rate at centre					
		↑	~		↓	~	↓	↓	↓	↓	↑	Chip groove	↑		↓	Insert selection	
↑		↑	↑	↑		↓	↓	↓	↑			Corner radius	↑		larger smaller		↓
↑	↑	↓	↑	↓								Tool Material	↑		Wear resistance toughness		↓
		~		~		~		~	~			Tool clamping	General criteria				
		~		~		~		~	~			Work piece clamping					
		~		~		~			↓			Overhang					
~		~				~	~		~			Tip height					
●	~		●		●		●		●	●		Cooling lubricant					

raise, increase large influence
 raise, increase small influence

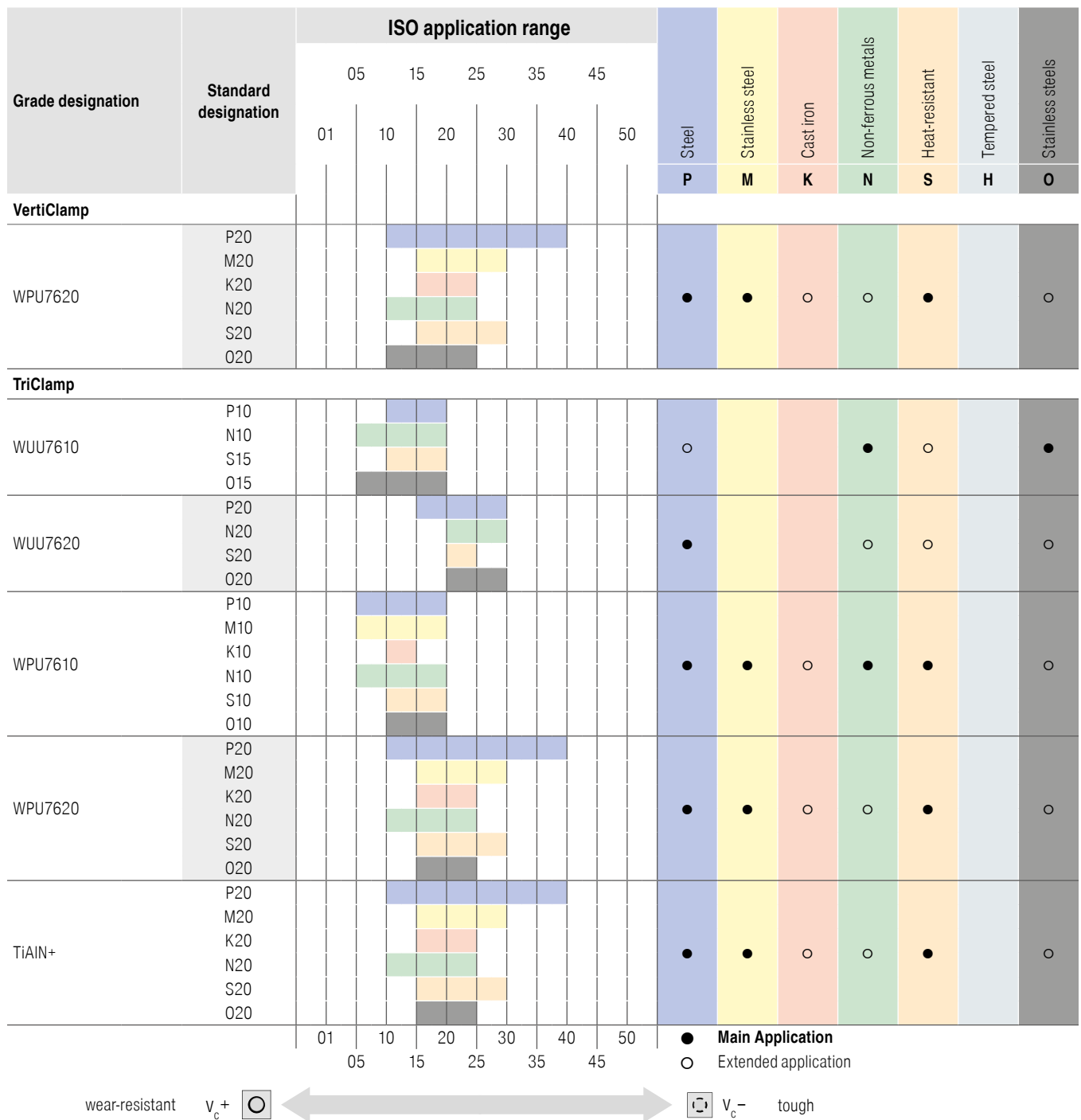
avoid, reduce large influence
 avoid, reduce small influence

check, optimise
 use

Grades Overview



Grades Overview



3

Grade description

<p>CTCP115-P DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiCN-Al₂O₃-coated ▲ with wear detection ▲ ISO P15 K25 ▲ The wear-resistant high-performance grades for stable conditions and continuous long cutting 	<p>H10T</p> <ul style="list-style-type: none"> ▲ Carbide, uncoated ▲ ISO K15 N15 O10 ▲ The uncoated carbide grade for machining aluminium and other non-ferrous metals
<p>CTCP125-P DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiCN-Al₂O₃-coated ▲ with wear detection ▲ ISO P25 K30 ▲ The first choice for universal machining of steels 	<p>H210T</p> <ul style="list-style-type: none"> ▲ Carbide, uncoated ▲ ISO N10 S10 K10 O10 ▲ The wear-resistant carbide grade for machining aluminium and other non-ferrous metals
<p>CTCP135-P DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiCN-Al₂O₃-coated ▲ with wear detection ▲ ISO P35 M25 ▲ The robust alternative for heavily interrupted cutting and variable conditions 	<p>H216T</p> <ul style="list-style-type: none"> ▲ Carbide, uncoated ▲ ISO K15 N15 O10 ▲ The uncoated carbide grade for machining aluminium and other non-ferrous metals ▲ Also highly suitable for HSC machining
<p>CTCM120 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiCN-Al₂O₃-coated ▲ ISO P15 M20 ▲ Wear-resistant turning grade for austenitic stainless steel; top performance for smooth cuts 	<p>CWN15</p> <ul style="list-style-type: none"> ▲ Carbide, TiN-coated ▲ ISO M15 K15 ▲ Special carbide grade for abrasive aluminium alloys
<p>CTPM125 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ ISO P35 M25 ▲ The universal carbide grade with maximum toughness, without affecting the necessary hot hardness and wear resistance for stainless machining 	<p>WUU7610</p> <ul style="list-style-type: none"> ▲ Carbide, uncoated ▲ ISO P10 N10 S10 ▲ Uncoated carbide grades tailored for machining non-ferrous metals
<p>CTCM130 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiCN-Al₂O₃-coated ▲ ISO P25 M30 ▲ Robust turning grade for austenitic stainless steel with interrupted cuts 	<p>WUU7620</p> <ul style="list-style-type: none"> ▲ Carbide, uncoated ▲ ISO P20 N20 S20 ▲ Uncoated carbide for steel machining
<p>CTPX710 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, AlTiN-coated ▲ ISO P10 M10 K10 N10 S15 ▲ Universal multi-material grade from the X7 line for highest machining requirements 	<p>WPU7610</p> <ul style="list-style-type: none"> ▲ Carbide, PVD-AlTiN ▲ ISO P10 K10 M10 N10 S10 ▲ Wear-resistant carbide grades for machining stainless steels and super alloys
<p>CTPX715 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, AlTiN-coated ▲ ISO P10 M10 K10 N10 S15 O10 ▲ Universal multi-material grade from the X7 line for highest machining requirements 	<p>WPU7620</p> <ul style="list-style-type: none"> ▲ Carbide, PVD-AlTiN ▲ ISO P20 M20 K20 N20 S20 ▲ Universal, PVD-coated carbide grades for a wide range of applications
<p>CTPP430 DRAGONSKIN</p> <ul style="list-style-type: none"> ▲ Carbide, TiAlN-coated ▲ ISO P30 M25 K30 S25 N25 ▲ The universal high-performance grades for steel, austenitic steel and heat-resistant alloys 	<p>TiAlN+</p> <ul style="list-style-type: none"> ▲ Carbide, TiAlN-coated ▲ ISO P20 M20 K20 N20 S20 ▲ Universal, PVD-coated carbide grades for a wide range of applications
	<p>CWN2120</p> <ul style="list-style-type: none"> ▲ Carbide, TiN coating ▲ ISO K20 N10 ▲ The universal carbide grades for stainless steel and super alloys

Grade description

C T C **P** 1 2 5 (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
	...

Environmentally friendly, sustainable & cost-effective

Certified recycling of valuable carbide

By deliberately conserving limited primary resources, we aim to significantly increase the proportion of recovered materials using carbide recycling. Our certified recycling process allows us to transform our used carbide products into a reusable powder and, using extremely low amounts of energy, to completely convert the finished product back into its original form.

Join our sustainable material cycle

As part of our long-term partnership, we hope that we can together complete the cycle from the secondary raw material to a new finished product. Send us your used carbide. We will then process it in the approved manner. The price we offer for the returned carbide is always based on the current market price. Best of all: We take care of the entire process for you and also provide free, quantity-specific collection containers and transport solutions. Do you want to conserve valuable resources and make an important contribution to protecting the environment together with us? If so, our recycling process is just what you need.



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Grade overview and application	202+203

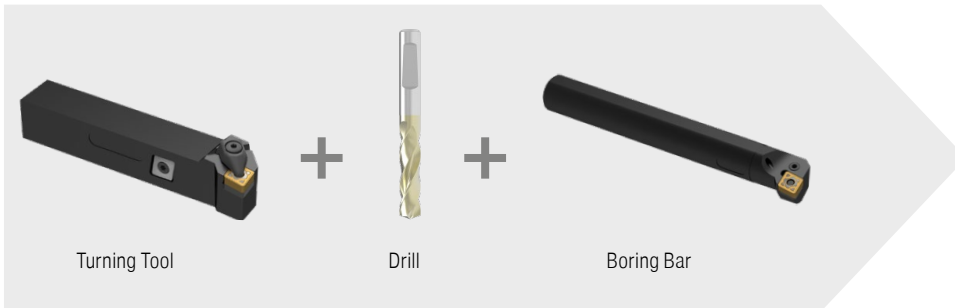
CERATIZIT \ Performance

Premium quality tools for high performance.

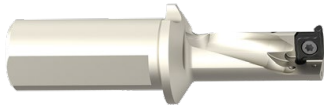
The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium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

Advantages of EcoCut

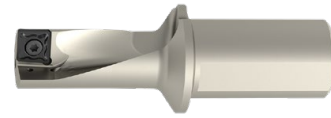
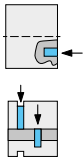
- ▲ reduced machining time
- ▲ reduced need for tool positions
- ▲ generates flat bottom of hole
- ▲ less programming
- ▲ lower set-up costs / reduced setting time
- ▲ time savings due to fewer tool changes



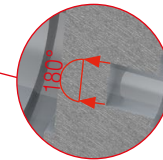
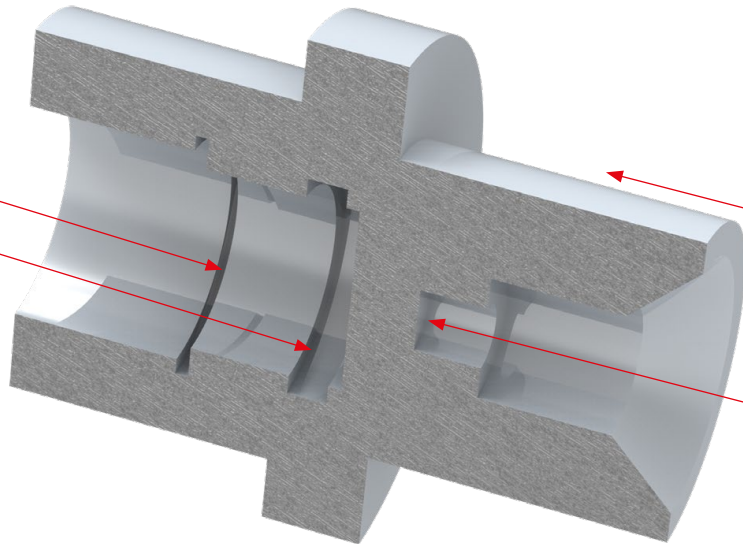
Application examples



EcoCut ProfileMaster



EcoCut Classic



EcoCut Mini



Symbol explanation



Turning outside profiles



Drilling into full material



Turning internal profiles



External / internal radial grooving



Axial grooving



Int. coolant supply

-27P Polished chip breaker
H216T Carbide Grade

F Fine Machining
M Medium Machining
R Rough Machining

○ ○ ○
○ ○ ○
○ ○ ○
Smooth cut
Irregular cutting depth
Interrupted cut

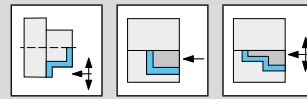
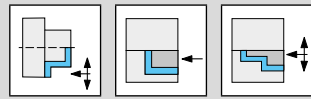
Toolfinder

Tool system

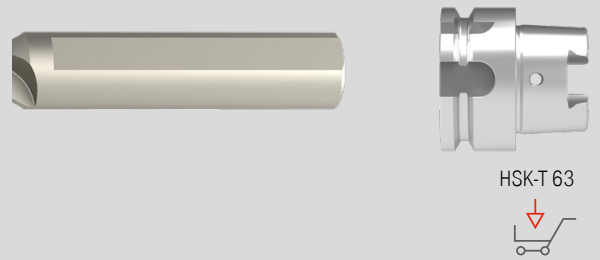
EcoCut Mini

EcoCut Classic

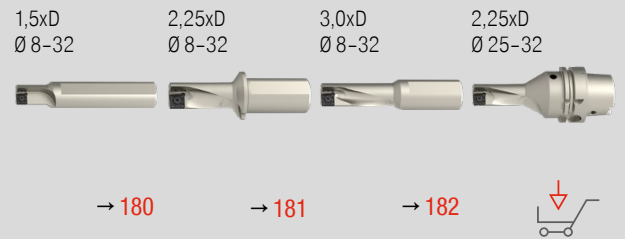
Application



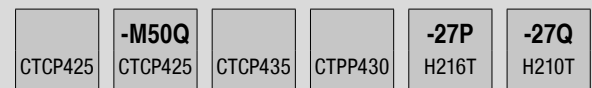
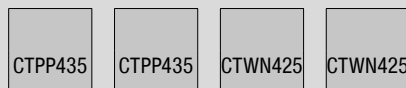
Machine interface



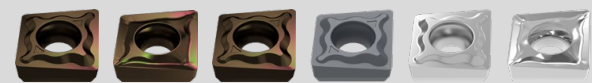
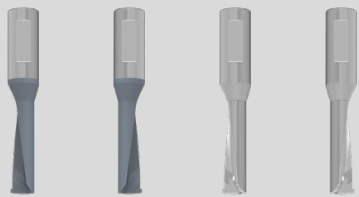
Lengths and diameters
Versions



Cutting material designation



Cutting conditions



Solid carbide Solid carbide Solid carbide Solid carbide

Left-hand Right-hand Left-hand Right-hand

M	M	M	M	M	M
XCNT	XCNT	XCNT	XCNT	XCET	XCET

Application range

●	●		
○	○		
○	○	○	○
○	○	●	●
●	●	○	○
○	○		
○	○	○	○

●	●	●	●		
○	○	○	○		
○	○	○	○	●	○
○	○		○	●	●
		○	○	○	●
○	○				
○	○	○	○	○	○

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→ 179 → 179 → 179 → 179 → 179 → 179

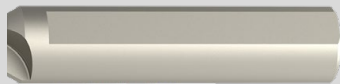
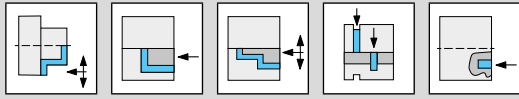
→ v. Page 187

→ v. Page 187

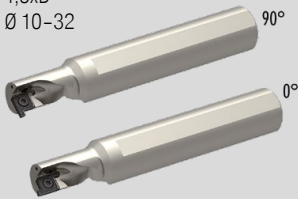


EcoCut tools are suitable for off-centre drilling. This permits certain deviations from the nominal tool diameter to be achieved
→ For details, see the technical information.

EcoCut ProfileMaster

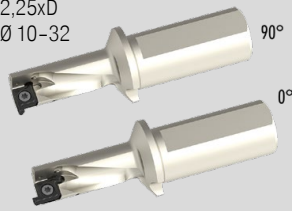


1,5xD
Ø 10-32

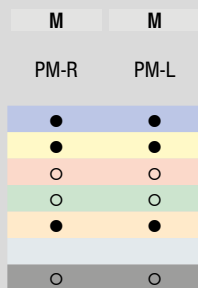
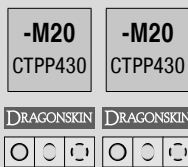


→ 184

2,25xD
Ø 10-32



→ 185



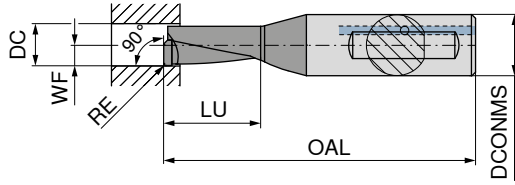
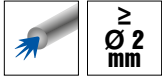
→ 183

→ 183

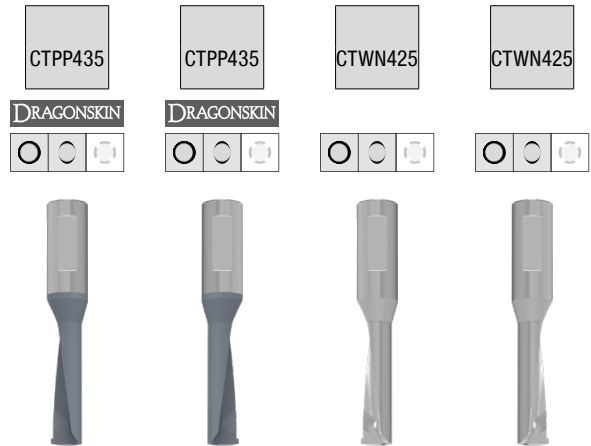
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EcoCut – Mini

▲ Drilling and turning tool for small diameters



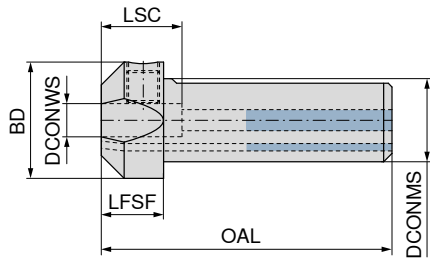
Illustrations show right-hand versions



	Solid carbide Left-hand 70 805 ...	Solid carbide Right-hand 70 804 ...	Solid carbide Left-hand 70 805 ...	Solid carbide Right-hand 70 804 ...
ECM 02 R/L 2,25D	320	320		
ECM 02 R/L 2,25D AL			420	420
ECM 02 R/L 4,00D	321	321		
ECM 02 R/L 4,00D AL			421	421
ECM 02,5 R/L 2,25D	325	325		
ECM 02,5 R/L 2,25D AL			425	425
ECM 02,5 R/L 4,00D	326	326		
ECM 02,5 R/L 4,00D AL			426	426
ECM 03 R/L 2,25D	330	330		
ECM 03 R/L 2,25D AL			430	430
ECM 03 R/L 4,00D	331	331		
ECM 03 R/L 4,00D AL			431	431
ECM 03,5 R/L 2,25D	335	335		
ECM 03,5 R/L 2,25D AL			435	435
ECM 03,5 R/L 4,00D	336	336		
ECM 03,5 R/L 4,00D AL			436	436
ECM 04 R/L 2,25D	300	300		
ECM 04 R/L 2,25D AL			450	450
ECM 04 R/L 4,00D	301	301		
ECM 04 R/L 4,00D AL			451	451
ECM 05 R/L 2,25D	302	302		
ECM 05 R/L 2,25D AL			452	452
ECM 05 R/L 4,00D	303	303		
ECM 05 R/L 4,00D AL			453	453
ECM 06 R/L 2,25D	306	306		
ECM 06 R/L 2,25D AL			456	456
ECM 06 R/L 4,00D	312	312		
ECM 06 R/L 4,00D AL			462	462
ECM 07 R/L 2,25D	308	308		
ECM 07 R/L 2,25D AL			458	458
ECM 07 R/L 4,00D	314	314		
ECM 07 R/L 4,00D AL			464	464
ECM 08 R/L 2,25D	310	310		
ECM 08 R/L 2,25D AL			460	460
ECM 08 R/L 4,00D	316	316		
ECM 08 R/L 4,00D AL			466	466

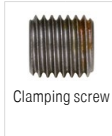
P	●	●		
M	●	●		
K	○	○	○	○
N	○	○	●	●
S	●	●	○	○
H				
O	○	○	○	○

EcoCut – Adapter Mini



70 800 ...

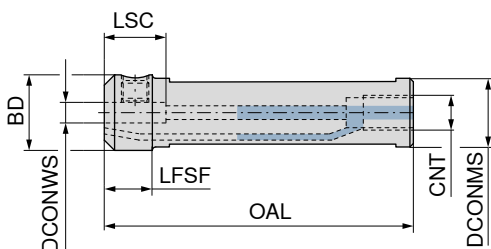
Designation	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm	
EC-ADX16-04	4	16,00	22	59,0	14	18	716
EC-ADX12-04-E	4	19,05	25	63,5	14	18	719
EC-ADX20-04	4	20,00	25	64,0	14	18	720
EC-ADX16-06	6	16,00	22	59,0	14	18	976
EC-ADX12-06-E	6	19,05	25	63,5	14	18	986
EC-ADX20-06	6	20,00	25	64,0	14	18	996
EC-ADX16-08	8	16,00	22	59,0	14	18	978
EC-ADX12-08-E	8	19,05	25	63,5	14	18	988
EC-ADX20-08	8	20,00	25	64,0	14	18	998



70 950 ...

Spare parts for Article no.		
70 800 716	M5x10 ISO 4026	867
70 800 719	M5x10 ISO 4026	867
70 800 720	M5x10 ISO 4026	867
70 800 976	M8x1x8 – SW4	123
70 800 986	M8x1x8 – SW4	123
70 800 996	M8x1x8 – SW4	123
70 800 978	M8x1x8 – SW4	123
70 800 988	M8x1x8 – SW4	123
70 800 998	M8x1x8 – SW4	123

EcoCut – Mini adapter with coolant connection thread



70 801 ...

Designation	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm	Thread	
ECA 16-04	4	16,00	20,0	75	14	18	G 1/8	716
ECA 0750-04	4	19,05	20,0	100	14	18	G 1/8	719
ECA 20-04	4	20,00	19,6	90	14	18	G 1/8	720
ECA 22-04	4	22,00	21,6	110	14	18	G 1/8	722
ECA 25-04	4	25,00	24,6	110	14	18	G 1/8	725
ECA 1000-04	4	25,40	25,0	110	14	18	G 1/8	726
ECA 16-06	6	16,00	22,0	75	14	18	G 1/8	816
ECA 0750-06	6	19,05	22,0	100	14	18	G 1/8	819
ECA 20-06	6	20,00	22,0	90	14	18	G 1/8	820
ECA 22-06	6	22,00	21,6	110	14	18	G 1/8	822
ECA 25-06	6	25,00	24,6	110	14	18	G 1/8	825
ECA 1000-06	6	25,40	25,0	110	14	18	G 1/8	826
ECA 16-08	8	16,00	22,0	75	14	18	G 1/8	916
ECA 0750-08	8	19,05	22,0	100	14	18	G 1/8	919
ECA 20-08	8	20,00	22,0	90	14	18	G 1/8	920
ECA 22-08	8	22,00	21,6	110	14	18	G 1/8	922
ECA 25-08	8	25,00	24,6	110	14	18	G 1/8	925
ECA 1000-08	8	25,40	25,0	110	14	18	G 1/8	926



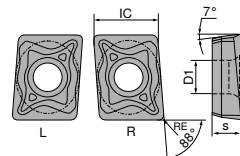
70 950 ...

Spare parts for Article no.

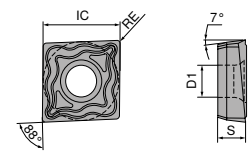
70 801 716	M5X8 – DIN 913	13200
70 801 719	M5X8 – DIN 913	13200
70 801 720	M5X8 – DIN 913	13200
70 801 722	M5X8 – DIN 913	13200
70 801 725	M5x10 ISO 4026	867
70 801 726	M5x10 ISO 4026	867
70 801 816	M8x1x8 – SW4	123
70 801 819	M8x1x8 – SW4	123
70 801 820	M8x1x8 – SW4	123
70 801 822	M8x1x8 – SW4	123
70 801 825	M8x1x8 – SW4	123
70 801 826	M8x1x8 – SW4	123
70 801 916	M8x1x8 – SW4	123
70 801 919	M8x1x8 – SW4	123
70 801 920	M8x1x8 – SW4	123
70 801 922	M8x1x8 – SW4	123
70 801 925	M8x1x8 – SW4	123
70 801 926	M8x1x8 – SW4	123

XCNT / XCET

Designation	S mm	D1 mm	IC mm
XC.T 0401..	1,80	2,10	4,5
XC.T 0502..	2,10	2,25	5,8
XC.T 0602..	2,38	2,50	6,5
XC.T 0703..	3,18	2,80	7,6
XC.T 0803..	3,18	3,40	8,5



XC. T 04..



XC. T 05../06../07../08../09../10../13../17..

XCNT / XCET

CTCP425	-M50Q CTCP425	CTCP435	CTPP430	-27P H216T	-27Q H210T
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		
M	M	M	M	M	M
XCNT	XCNT	XCNT	XCNT	XCET	XCET

ISO	RE mm	70 386 ...	70 386 ...	70 386 ...	70 386 ...	70 286 ...	70 286 ...
040102EL	0,2	720		820	920		
040102ER	0,2	722		822	922		
040102FL	0,2					620	120
040102FR	0,2					622	122
040104EL	0,4	700	750	800	900		
040104ER	0,4	702	752	802	902		
040104FL	0,4					600	100
040104FR	0,4					602	102
050202EN	0,2	723		823	923		
050202FN	0,2					623	123
050204EN	0,4	703	753	803	903		
050204FN	0,4					603	103
060202EN	0,2	724		824	924		
060202FN	0,2					624	124
060204EN	0,4	704	754	804	904		
060204FN	0,4					604	104
070304EN	0,4	705	755	805	905		
070304FN	0,4					605	105
080304EN	0,4	706	756	806	906		
080304FN	0,4					606	106

P	●	●	●	●			
M	○	○	○	○			
K	○	○	○	○	●		○
N					○	●	●
S				○	○	○	●
H							
O					○	○	○

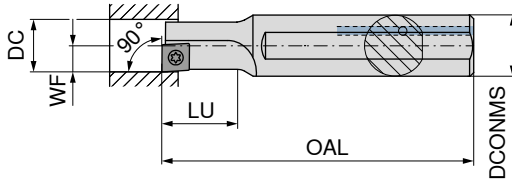
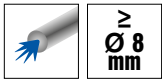
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EcoCut – Classic 1.5xD

▲ Drilling and turning tool

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver



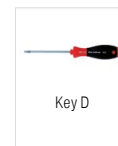
Illustrations show right-hand versions



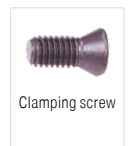
Left-hand Right-hand

Designation	DC mm	DCONMS mm	OAL mm	LU mm	WF mm	torque moment Nm	Insert	70 805 ...	70 804 ...
ECC 08 L 1,5D 04	8	12	80	12	4	0,4	XC.T 0401..EL	008 ²⁾	
ECC 08 R 1,5D 04	8	12	80	12	4	0,4	XC.T 0401..ER		008 ¹⁾
ECC 10 R/L 1,5D 05	10	12	90	15	5	0,7	XC.T 0502..	010	010
ECC 12 R/L 1,5D 06	12	16	100	18	6	1,0	XC.T 0602..	012	012
ECC 14 R/L 1,5D 07	14	16	110	21	7	1,2	XC.T 0703..	014	014
ECC 16 R/L 1,5D 08	16	20	125	24	8	2,2	XC.T 0803..	016	016

- 1) Note! Right-hand insert on right-hand tool
- 2) Note! Left-hand insert on left-hand tool



80 950 ...



70 950 ...

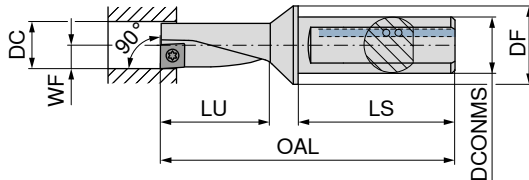
Spare parts for Article no.	80 950 ...	70 950 ...
70 805 008	T06 - IP 123	M1,8x3,6 - IP 862
70 804 008	T06 - IP 123	M1,8x3,6 - IP 862
70 805 010 / 70 804 010	T06 - IP 123	M2x4,3 - IP 863
70 805 012 / 70 804 012	T07 - IP 124	M2,2x5 - IP 856
70 805 014 / 70 804 014	T08 - IP 125	M2,5x6 - IP 857
70 805 016 / 70 804 016	T09 - IP 126	M3x7 - IP 819

EcoCut – Classic 2.25xD

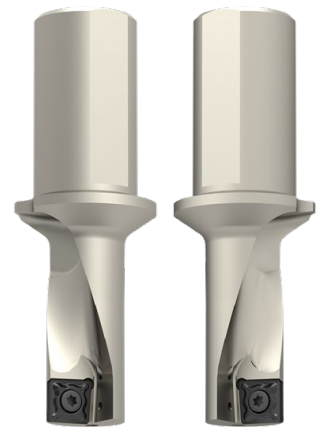
▲ Drilling and turning tool

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver



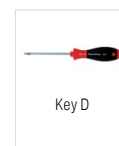
Illustrations show right-hand versions



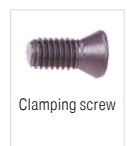
Left-hand **70 805 ...** Right-hand **70 804 ...**

Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LS mm	WF mm	torque moment Nm	Insert		
ECC 08 L 2,25D 04	8	10	12	60,0	18,0	38	4	0,4	XC.T 0401..EL	108 ²⁾	
ECC 08 R 2,25D 04	8	10	12	60,0	18,0	38	4	0,4	XC.T 0401..ER		108 ¹⁾
ECC 10 R/L 2,25D 05	10	12	16	69,5	22,5	42	5	0,7	XC.T 0502..	110	110
ECC 12 R/L 2,25D 06	12	16	20	78,0	27,0	45	6	1,0	XC.T 0602..	112	112
ECC 14 R/L 2,25D 07	14	16	20	83,5	31,5	45	7	1,2	XC.T 0703..	114	114
ECC 16 R/L 2,25D 08	16	20	25	94,0	36,0	50	8	2,2	XC.T 0803..	116	116

- 1) Note! Right-hand insert on right-hand tool
- 2) Note! Left-hand insert on left-hand tool



Key D



Clamping screw

80 950 ...

70 950 ...

Spare parts for Article no.

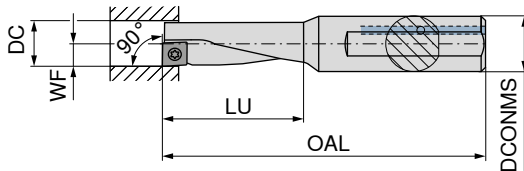
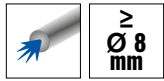
70 805 108	T06 - IP	123	M1,8x3,6 - IP	862
70 804 108	T06 - IP	123	M1,8x3,6 - IP	862
70 805 110 / 70 804 110	T06 - IP	123	M2x4,3 - IP	863
70 805 112 / 70 804 112	T07 - IP	124	M2,2x5 - IP	856
70 805 114 / 70 804 114	T08 - IP	125	M2,5x6 - IP	857
70 805 116 / 70 804 116	T09 - IP	126	M3x7 - IP	819

EcoCut – Classic 3xD – Heavy metal

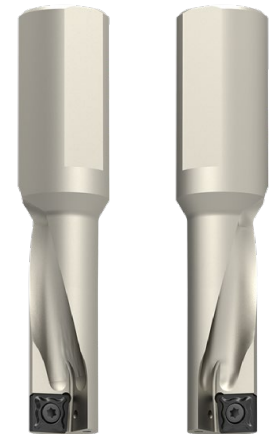
- ▲ Drilling and turning tool
- ▲ vibration-damped

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver

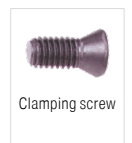
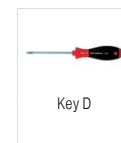


Illustrations show right-hand versions



Designation	DC mm	DCONMS mm	OAL mm	LU mm	WF mm	torque moment Nm	Insert	Article no.	
								70 805 ...	70 804 ...
ECC 08 L 3,00D 04 H	8	12	80	24	4	0,4	XC.T 0401..EL	608 ²⁾	
ECC 08 R 3,00D 04 H	8	12	80	24	4	0,4	XC.T 0401..ER		608 ¹⁾
ECC 10 R/L 3,00D 05 H	10	12	85	30	5	0,7	XC.T 0502..	610	610
ECC 12 R/L 3,00D 06 H	12	16	95	36	6	1,0	XC.T 0602..	612	612
ECC 14 R/L 3,00D 07 H	14	16	100	42	7	1,2	XC.T 0703..	614	614
ECC 16 R/L 3,00D 08 H	16	20	110	48	8	2,2	XC.T 0803..	616	616

- 1) Note! Right-hand insert on right-hand tool
- 2) Note! Left-hand insert on left-hand tool

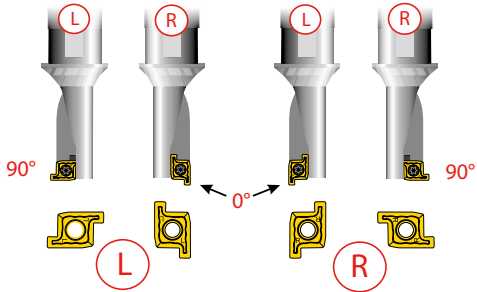
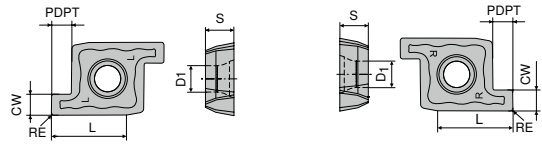


**Spare parts
for Article no.**

Article no.	Part	Quantity	Part	Quantity
70 805 608	T06 - IP	123	M1,8x3,6 - IP	862
70 804 608	T06 - IP	123	M1,8x3,6 - IP	862
70 805 610 / 70 804 610	T06 - IP	123	M2x4,3 - IP	863
70 805 612 / 70 804 612	T07 - IP	124	M2,2x5 - IP	856
70 805 614 / 70 804 614	T08 - IP	125	M2,5x6 - IP	857
70 805 616 / 70 804 616	T09 - IP	126	M3x7 - IP	819

PM-R / PM-L

Designation	CW mm	PDPT mm	L mm	S mm	D1 mm
PM 10 G 201504	2,0	1,5	5	2,10	2,1
PM 12 G 201804	2,0	1,8	6	2,30	2,5
PM 16 G 252004	2,5	2,0	8	2,80	3,4



PM-L / PM-R

-M20 CTPP430	-M20 CTPP430
DRAGONSKIN	DRAGONSKIN
M PM-L	M PM-R
70 289 ...	70 289 ...
510	511
515	516
520	521
P	●
M	●
K	○
N	○
S	●
H	●
O	○

ISO	RE mm
PM 10 G 201504	0,4
PM 12 G 201804	0,4
PM 16 G 252004	0,4

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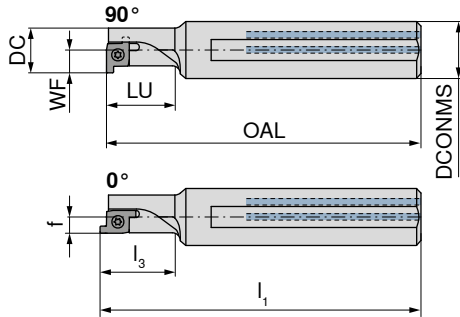
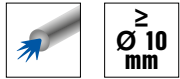
3

EcoCut – ProfileMaster 1.5xD

▲ Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver

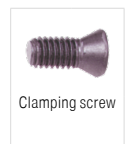
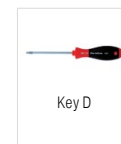


Illustrations show right-hand versions



Designation	DC mm	DCONMS mm	OAL mm	LU mm	WF mm	I ₁ mm	I ₃ mm	f mm	torque moment Nm	Insert	Left-hand	Right-hand
											70 821 ...	70 820 ...
PMC 10 R/L 1,5D	10	12	80	15	5				0,4	PM 10R/L	010 ¹⁾	010 ¹⁾
PMC 12 R/L 1,5D	12	16	90	18	6				1,0	PM 12R/L	012 ¹⁾	012 ¹⁾
PMC 16 R/L 1,5D	16	20	125	24	8	127,3	26,3	5,7	2,2	PM 16R/L	016	016

1) only usable as 90° version



Spare parts

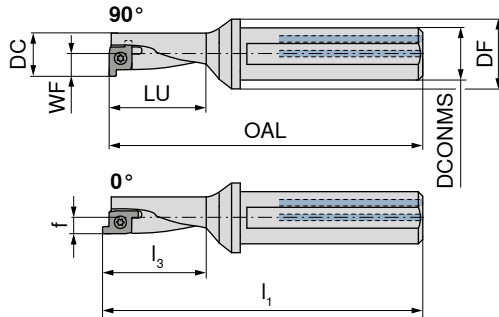
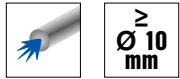
		80 950 ...		70 950 ...
70 820 010 / 70 821 010	T06 - IP	123	M1,8x3,6 - IP	862
70 820 012 / 70 821 012	T07 - IP	124	M2,2x4,2 - IP	137
70 820 016 / 70 821 016	T09 - IP	126	M3x5,7 - IP	008

EcoCut – ProfileMaster 2.25xD

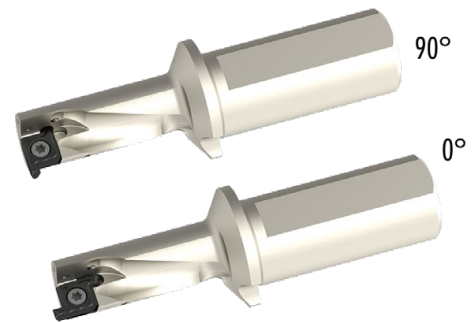
▲ Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver



Illustrations show right-hand versions

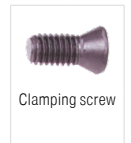
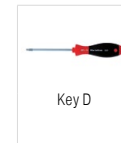


Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	WF mm	I ₁ mm	I ₃ mm	f mm	torque moment Nm	Insert	Left-hand	Right-hand
												70 821 ...	70 820 ...
PMC 10 R/L 2,25D	10	12	18	72,4	22,5	5				0,4	PM 10R/L	110 ¹⁾	110 ¹⁾
PMC 12 R/L 2,25D	12	16	22	78,0	27,0	6				1,0	PM 12R/L	112 ¹⁾	112 ¹⁾
PMC 16 R/L 2,25D	16	20	28	96,5	36,0	8	98,8	38,3	5,7	2,2	PM 16R/L	116	116

1) only usable as 90° version

Spare parts

		80 950 ...		70 950 ...
70 820 110 / 70 821 110	T06 - IP	123	M1,8x3,6 - IP	862
70 820 112 / 70 821 112	T07 - IP	124	M2,2x4,2 - IP	137
70 820 116 / 70 821 116	T09 - IP	126	M3x5,7 - IP	008




Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Tensile strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C Annealed	420 N/mm ² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C Annealed	640 N/mm ² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3	< 0,45 % C Tempered	840 N/mm ² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C Annealed	910 N/mm ² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5	< 0,75 % C Tempered	1010 N/mm ² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1	Annealed	610 N/mm ² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2	Tempered	930 N/mm ² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3	Tempered	1010 N/mm ² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4	Tempered	1200 N/mm ² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	680 N/mm ² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2	Hardened and tempered	1100 N/mm ² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3	Hardened and tempered	1300 N/mm ² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic Annealed	680 N/mm ² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic Tempered	1010 N/mm ² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic Quenched	610 N/mm ² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)	780 N/mm ² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic	350 N/mm ² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)	500 N/mm ² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic	540 N/mm ² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic	845 N/mm ² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic	440 N/mm ² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic	780 N/mm ² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable Age-hardened	340 N/mm ² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	250 N/mm ² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable Age-hardened	300 N/mm ² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable	440 N/mm ² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %	375 N/mm ² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn	300 N/mm ² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper	340 N/mm ² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn	
S	Heat-resistant alloys	S.1.1	Fe - basis Annealed	680 N/mm ² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2	Fe - basis Age-hardened	950 N/mm ² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis Annealed	840 N/mm ² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2	Ni or Co basis Age-hardened	1180 N/mm ² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3	Ni or Co basis Cast	1080 N/mm ² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium	400 N/mm ²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys Age-hardened	1050 N/mm ² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
S.3.3	Beta alloys	1400 N/mm ² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al		
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	≤ 150 N/mm ²				
		O.1.2	Plastics, thermoplastic	≤ 100 N/mm ²				
		O.2.1	Aramid fibre-reinforced	≤ 1000 N/mm ²				
		O.2.2	Glass/carbon-fibre reinforced	≤ 1000 N/mm ²				
		O.3.1	Graphite					

* Tensile strength

Cutting data standard values for EcoCut

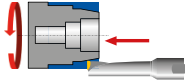
	DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
	EcoCut Mini CTWN425	EcoCut Mini CTPP435	EcoCut Classic CTCF425	EcoCut Classic CTCF435	EcoCut Classic CTPP430	EcoCut Classic H210T	EcoCut Classic H216T	EcoCut ProfileMaster CTPP430
Index	v _c in m/min							
P.1.1		146	227	208	182			168
P.1.2		125	197	179	156			141
P.1.3		106	169	151	132			115
P.1.4		100	160	142	124			106
P.1.5		90	146	128	112			94
P.2.1		128	202	183	160			145
P.2.2		98	158	140	122			104
P.2.3		90	146	128	112			94
P.2.4		67	112	94	82			61
P.3.1		104	156	143	116			112
P.3.2		67	113	98	86			76
P.3.3		31	70	53	56			39
P.4.1		104	156	143	116			112
P.4.2		86	134	120	101			94
M.1.1		104	156	143	116			112
M.2.1		67			86			76
M.3.1		93			107			102
K.1.1	140	140	205	185	160	110	170	180
K.1.2	115	120	205	185	140	90	130	260
K.2.1	150	140	200	180	160	120	180	160
K.2.2	110	120	200	180	140	85	130	250
K.3.1	170	150	195	175	125	140	190	130
K.3.2	140	125	195	175	110	110	160	230
N.1.1	300	40			40	40	60	300
N.1.2	50	290			290	290	310	200
N.2.1	300	290			290	290	60	300
N.2.2	300	190			190	190	460	200
N.2.3	450	340			340	340	60	150
N.3.1	350	240			240	240	460	300
N.3.2	350	240			240	240	460	300
N.3.3	250	190			190	190	360	200
N.4.1	200	140			140	140	260	200
S.1.1	38	35		35	55	33	43	35
S.1.2	28	30		30	55	25	33	30
S.2.1	28	18		18	55	25	33	20
S.2.2	24	15		15	55	20	25	15
S.2.3	20	15		15	55	20	20	15
S.3.1	90	85		85	70	65	110	85
S.3.2	55	40		40	60	43	70	40
S.3.3	40	30		30	40	30	50	30
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1	130	110			110	110	155	130
O.1.2								
O.2.1	105	95			95	95	140	105
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.

Depth of Cut and Feedrate for EcoCut Mini

Turning

2.25xD

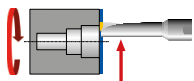


EcoCut Mini Size	Depth of Cut a_p in mm										
	0,25	0,5	0,75	1,0	1,5	2,0	2,5	3,0	3,5	4,0	
Feed rate f in mm/rev.											
ECM 02..	0,02-0,07	0,02-0,07									
ECM 02,5..	0,02-0,07	0,02-0,07	0,02-0,05								
ECM 03..	0,02-0,07	0,02-0,07	0,02-0,05	0,02-0,05							
ECM 03,5..	0,02-0,07	0,02-0,07	0,02-0,05	0,02-0,05	0,02-0,05						
ECM 04..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,07	0,01-0,05					
ECM 05..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04				
ECM 06..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04			
ECM 07..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04		
ECM 08..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04	

4xD

EcoCut Mini Size	Depth of Cut a_p in mm										
	0,25	0,5	0,75	1,0	1,5	2,0	2,5	3,0	3,5	4,0	
Feed rate f in mm/rev.											
ECM 02..	0,02-0,05	0,01-0,05									
ECM 02,5..	0,02-0,05	0,01-0,05									
ECM 03..	0,02-0,05	0,02-0,05	0,01-0,05								
ECM 03,5..	0,02-0,05	0,02-0,05	0,02-0,05	0,01-0,05							
ECM 04..	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,01-0,05						
ECM 05..	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04					
ECM 06..	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04					
ECM 07..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04				
ECM 08..	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,1	0,04-0,095	0,03-0,08	0,02-0,06	0,01-0,04			

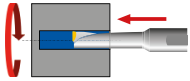
Face turning



EcoCut Mini Size	2,25xD		4xD	
	$a_{p\ max.}$ in mm	f in mm/rev.	$a_{p\ max.}$ in mm	f in mm/rev.
ECM 02..	0,30	0,01-0,05	0,30	0,01-0,03
ECM 02,5..	0,30	0,01-0,05	0,30	0,01-0,03
ECM 03..	0,50	0,01-0,06	0,50	0,01-0,04
ECM 03,5..	0,50	0,01-0,06	0,50	0,01-0,04
ECM 04..	0,70	0,03-0,07	0,70	0,02-0,05
ECM 05..	0,70	0,03-0,07	0,70	0,02-0,05
ECM 06..	0,70	0,03-0,07	0,70	0,02-0,05
ECM 07..	1,00	0,04-0,08	1,00	0,03-0,06
ECM 08..	1,00	0,04-0,08	1,00	0,03-0,06

Depth of Cut and Feedrate for EcoCut Mini

Drilling
Feed rate



EcoCut Mini Size	2,25xD	4xD
	f in mm/rev.	f in mm/rev.
ECM 02..	0,0025–0,0075	0,0025–0,005
ECM 02,5..	0,0025–0,010	0,0025–0,005
ECM 03..	0,0025–0,0125	0,0025–0,010
ECM 03,5..	0,0025–0,0150	0,0025–0,010
ECM 04..	0,005–0,030	0,005–0,0125
ECM 05..	0,005–0,030	0,005–0,015
ECM 06..	0,005–0,030	0,005–0,020
ECM 07..	0,005–0,035	0,005–0,025
ECM 08..	0,005–0,040	0,005–0,030

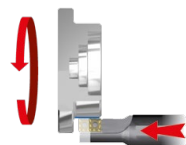
max. bore depth

EcoCut Mini Size	2,25xD	4xD
	Max. hole depth in mm	Max. hole depth in mm
ECM 02..	4,50	8,0
ECM 02,5..	5,63	10,0
ECM 03..	6,75	12,0
ECM 03,5..	7,88	14,0
ECM 04..	9,0	16,0
ECM 05..	11,25	20,0
ECM 06..	13,5	24,0
ECM 07..	15,75	28,0
ECM 08..	18,0	32,0

Depth of Cut and Feedrate for EcoCut Classic

Turning

1.5xD




EcoCut Classic Size	Depth of Cut a_p in mm											
	1	2	3	4	5	6	7	8	9	10	12	14
Feed rate f in mm/rev.												
ECC 08	0,06–0,12	0,06–0,12	0,04–0,10	0,02–0,08								
ECC 10	0,07–0,15	0,07–0,15	0,05–0,13	0,04–0,11	0,02–0,09							
ECC 12	0,08–0,16	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12	0,02–0,10						
ECC 14	0,09–0,18	0,09–0,18	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,02–0,11					
ECC 16	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,20	0,08–0,18	0,06–0,16	0,04–0,14	0,02–0,12				
ECC 18	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,05–0,16	0,03–0,13			
ECC 20	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,11–0,23	0,09–0,21	0,07–0,19	0,05–0,17	0,03–0,15		
ECC 25	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,11–0,24	0,09–0,22	0,07–0,20	0,03–0,16	
ECC 32	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,14–0,30	0,15–0,30	0,15–0,30	0,13–0,28	0,11–0,26	0,07–0,22	0,03–0,18

 Feed f may be increased by 50–75 % when using -M50Q and -27Q.

2.25xD

EcoCut Classic Size	Depth of Cut a_p in mm										
	1,0	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	7,0
Feed rate f in mm/rev.											
ECC 08	0,06–0,12	0,04–0,10	0,02–0,08								
ECC 10	0,07–0,15	0,05–0,13	0,03–0,11	0,02–0,09							
ECC 12	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12	0,02–0,10						
ECC 14	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,04–0,13	0,02–0,11					
ECC 16	0,10–0,20	0,10–0,20	0,09–0,19	0,07–0,17	0,05–0,15	0,03–0,13					
ECC 18	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,05–0,16	0,03–0,14				
ECC 20	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,10–0,22	0,08–0,20	0,06–0,18	0,04–0,16			
ECC 25	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,12–0,25	0,10–0,23	0,08–0,21	0,06–0,19	0,04–0,17	
ECC 32	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,14–0,29	0,12–0,27	0,10–0,25	0,08–0,23	0,05–0,20

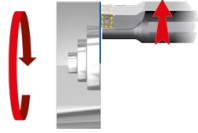
 Feed f may be increased by 50–75 % when using -M50Q and -27Q.

3xD

EcoCut Classic Size	Depth of Cut a_p in mm								
	1,0	2,0	2,5	3,0	3,5	4,0	5,0	6,0	7,0
Feed rate f in mm/rev.									
ECC 08	0,05–0,10	0,02–0,06							
ECC 10	0,06–0,11	0,03–0,07							
ECC 12	0,06–0,12	0,04–0,10	0,02–0,08						
ECC 14	0,07–0,13	0,05–0,11	0,02–0,09						
ECC 16	0,07–0,15	0,06–0,14	0,04–0,12	0,02–0,09					
ECC 18	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12					
ECC 20	0,09–0,18	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,03–0,12			
ECC 25	0,10–0,19	0,10–0,19	0,10–0,19	0,08–0,17	0,06–0,15	0,03–0,13			
ECC 32	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,03–0,14		

Depth of Cut and Feedrate for EcoCut Classic

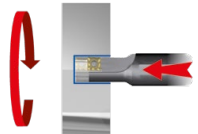
Face turning



EcoCut Classic Size	1,5xD		2,25xD		3xD	
	a _p in mm	f in mm/rev.	a _p in mm	f in mm/rev.	a _p in mm	f in mm/rev.
ECC 08	2,00	0,05-0,10	1,90	0,04-0,09	1,10	0,04-0,07
ECC 10	2,50	0,06-0,12	2,20	0,05-0,10	1,20	0,04-0,09
ECC 12	3,00	0,07-0,14	2,60	0,06-0,12	1,40	0,05-0,11
ECC 14	3,50	0,08-0,16	3,00	0,07-0,14	1,60	0,06-0,12
ECC 16	4,00	0,09-0,18	3,40	0,08-0,16	1,90	0,06-0,13
ECC 18	4,50	0,10-0,20	3,80	0,09-0,18	2,00	0,07-0,14
ECC 20	5,00	0,11-0,22	4,20	0,10-0,20	2,20	0,08-0,15
ECC 25	6,00	0,12-0,24	5,00	0,11-0,22	2,60	0,09-0,18
ECC 32	8,00	0,13-0,27	6,00	0,12-0,25	3,00	0,10-0,20

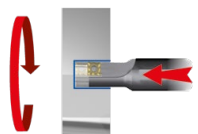
Drilling

Feed rate



EcoCut Classic Size	1,5xD	2,25xD	3xD
	f in mm/rev.	f in mm/rev.	f in mm/rev.
ECC 08	0,01-0,04	0,01-0,04	0,01-0,02
ECC 10	0,01-0,05	0,01-0,05	0,01-0,03
ECC 12	0,01-0,05	0,01-0,05	0,01-0,04
ECC 14	0,01-0,07	0,01-0,07	0,01-0,05
ECC 16	0,02-0,08	0,02-0,08	0,02-0,06
ECC 18	0,03-0,09	0,03-0,09	0,03-0,07
ECC 20	0,03-0,10	0,03-0,10	0,03-0,08
ECC 25	0,03-0,12	0,03-0,12	0,04-0,09
ECC 32	0,05-0,15	0,05-0,15	0,05-0,11

max. bore depth

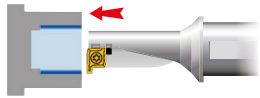


EcoCut Classic Size	1,5xD	2,25xD	3xD
	Max. hole depth in mm	Max. hole depth in mm	Max. hole depth in mm
ECC 08	12,0	18,0	24,0
ECC 10	15,0	22,5	30,0
ECC 12	18,0	27,0	36,0
ECC 14	21,0	31,5	42,0
ECC 16	24,0	36,0	48,0
ECC 18	27,0	40,5	54,0
ECC 20	30,0	45,0	60,0
ECC 25	37,5	56,5	75,0
ECC 32	48,0	72,0	96,0

Depth of Cut and Feedrate for EcoCut ProfileMaster 90°

Turning

1,5xD



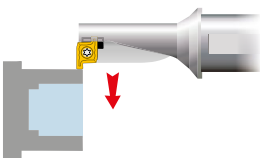
EcoCut ProfileMaster Size	Depth of Cut a_p in mm							
	1	2	3	4	5	6	7	8
	Feed rate f in mm/rev.							
EC PM 10	0,07-0,20	0,05-0,17	0,02-0,12					
EC PM 12	0,07-0,20	0,05-0,17	0,02-0,12					
EC PM 16	0,10-0,25	0,07-0,23	0,05-0,21	0,02-0,17				
EC PM 20	0,12-0,27	0,10-0,26	0,007-0,24	0,05-0,20	0,02-0,14			
EC PM 25	0,15-0,30	0,15-0,30	0,13-0,28	0,10-0,26	0,05-0,22	0,02-0,18		
EC PM 32	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,30	0,10-0,27	0,07-0,24	0,05-0,21	0,02-0,15

2,25xD

EcoCut ProfileMaster Size	Depth of Cut a_p in mm							
	1	2	3	4	5	6	7	8
	Feed rate f in mm/rev.							
EC PM 10	0,07-0,19	0,02-0,13						
EC PM 12	0,07-0,19	0,02-0,13						
EC PM 16	0,10-0,25	0,07-0,21	0,02-0,13					
EC PM 20	0,12-0,27	0,07-0,24	0,05-0,19					
EC PM 25	0,15-0,30	0,10-0,27	0,07-0,23	0,02-0,15				
EC PM 32	0,15-0,30	0,15-0,30	0,10-0,27	0,07-0,23	0,02-0,15			

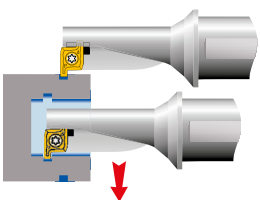
Face turning

1.5xD and 2.25xD



EcoCut ProfileMaster Size	Depth of Cut a_p in mm					
	1,0	1,5	2,0	2,5	3,0	3,5
	Feed rate f in mm/rev.					
EC PM 10	0,02-0,15	0,02-0,15				
EC PM 12	0,02-0,15	0,02-0,15				
EC PM 16	0,05-0,20	0,05-0,20	0,05-0,20			
EC PM 20	0,08-0,22	0,08-0,22	0,08-0,22	0,08-0,22		
EC PM 25	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25	
EC PM 32	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25

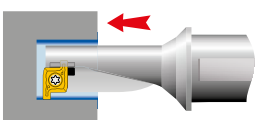
Internal + external – radial grooving



EcoCut ProfileMaster Size	1,5xD	EcoCut ProfileMaster Size	2,25xD
	f in mm/rev.		f in mm/rev.
EC PM 10	0,01-0,08	EC PM 10	0,01-0,08
EC PM 12	0,02-0,10	EC PM 12	0,02-0,10
EC PM 16	0,04-0,15	EC PM 16	0,04-0,15
EC PM 20	0,04-0,16	EC PM 20	0,04-0,16
EC PM 25	0,07-0,20	EC PM 25	0,07-0,20
EC PM 32	0,08-0,22	EC PM 32	0,08-0,22

Drilling

Feed and max. hole depth



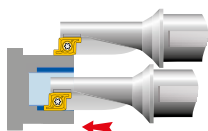
EcoCut ProfileMaster Size	1,5xD		EcoCut ProfileMaster Size	2,25xD	
	f in mm/rev.	Max. hole depth in mm		f in mm/rev.	Max. hole depth in mm
EC PM 10	0,01-0,05	15,0	EC PM 10	0,01-0,05	22,5
EC PM 12	0,01-0,06	18,0	EC PM 12	0,01-0,06	27,0
EC PM 16	0,02-0,09	24,0	EC PM 16	0,02-0,09	36,0
EC PM 20	0,03-0,10	30,0	EC PM 20	0,03-0,10	45,0
EC PM 25	0,04-0,12	37,5	EC PM 25	0,04-0,12	56,3
EC PM 32	0,04-0,14	48,0	EC PM 32	0,04-0,14	72,0

Depth of Cut and Feedrate for EcoCut ProfileMaster 0°

 EcoCut ProfileMaster Sizes 10 and 12 can not be used as 0° version.

Turning

1,5xD



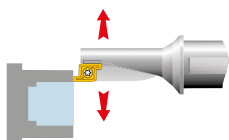
EcoCut ProfileMaster Size	Depth of cut a_p in mm					
	1,0	1,5	2,0	2,5	3,0	3,5
	Feed rate f in mm/rev.					
EC PM 16	0,04–0,20	0,04–0,20	0,04–0,20			
EC PM 20	0,06–0,22	0,06–0,22	0,06–0,22	0,06–0,22		
EC PM 25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	
EC PM 32	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28

2,25xD

EcoCut ProfileMaster Size	Depth of cut a_p in mm					
	1,0	1,5	2,0	2,5	3,0	3,5
	Feed rate f in mm/rev.					
EC PM 16	0,04–0,20	0,04–0,20	0,04–0,20			
EC PM 20	0,06–0,22	0,06–0,22	0,06–0,22	0,06–0,22		
EC PM 25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	
EC PM 32	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28

Face turning

1,5xD

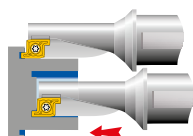


EcoCut ProfileMaster Size	Depth of cut a_p in mm						
	1,0	1,5	2,0	2,5	3,0	3,5	4,0
	Feed rate f in mm/rev.						
EC PM 16	0,05–0,20	0,05–0,20	0,05–0,20				
EC PM 20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20			
EC PM 25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25		
EC PM 32	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25

2,25xD

EcoCut ProfileMaster Size	Depth of cut a_p in mm						
	1,0	1,5	2,0	2,5	3,0	3,5	4,0
	Feed rate f in mm/rev.						
EC PM 16	0,05–0,20	0,05–0,20	0,05–0,20				
EC PM 20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20			
EC PM 25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25		
EC PM 32	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25

Axial grooving external + internal



EcoCut ProfileMaster Size	1,5xD
	Feed rate f in mm/rev.
EC PM 16	0,02–0,12
EC PM 20	0,04–0,14
EC PM 25	0,06–0,18
EC PM 32	0,08–0,20

EcoCut ProfileMaster Size	2,25xD
	Feed rate f in mm/rev.
EC PM 16	0,02–0,12
EC PM 20	0,04–0,14
EC PM 25	0,06–0,18
EC PM 32	0,08–0,20

Chip Breakers Overview

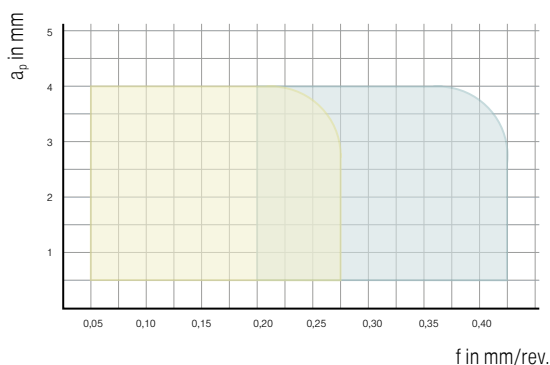
EcoCut Classic

	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration
					f mm
-EN ▲ Universal geometry ▲ Excellent chip breakage ▲ Positive cutting edge ▲ Low to medium feeds		CTCP425	CTCP435 / CTPP430	CTPP430 / CTCP435	
		CTCP425 / CTPP430	CTPP430	CTPP430	
		CTCP425	CTCP435 / CTPP430	CTCP435	
		CTPP430	CTPP430	CTPP430	
		CTCP435 / CTPP430	CTCP435 / CTPP430	CTCP435	
		CTCP435 / CTPP430	CTCP435 / CTPP430	CTCP435	0,05–0,275
-M50Q ▲ With smoothing geometry ▲ Excellent surface qualities ▲ Good chip formation ▲ Medium to high feeds		CTCP425	CTCP425		
		CTCP425			
		CTCP425	CTCP425		
					0,2–0,425
-27P ▲ Positive cutting edge ▲ Periphery ground ▲ Polished rake face ▲ First choice for non-ferrous metals					
		H216T	H216T	H216T	
		H216T	H216T	H216T	
		H216T	H216T		
		H216T	H216T		
					0,1–0,4
-27Q ▲ With smoothing geometry ▲ Extremely positive geometry ▲ Periphery ground ▲ Low adhesion					
		H210T	H210T		
		H210T	H210T		
		H210T	H210T		
		H210T	H210T		
					0,2–0,5

EcoCut ProfileMaster

-M20 ▲ Positive geometry ▲ Universal application ▲ Low to medium feeds		CTPP430	CTPP430	CTPP40	
		CTPP430	CTPP430	CTPP430	
		CTPP430	CTPP430	CTPP430	
		CTPP430	CTPP430	CTPP430	
		CTPP430	CTPP430		
		CTPP430	CTPP430	CTPP430	0,05–0,25

Application area of -EN and -M50Q chip breakers



EcoCut Classic 2.25xD – ECC16 – XCNT 080304

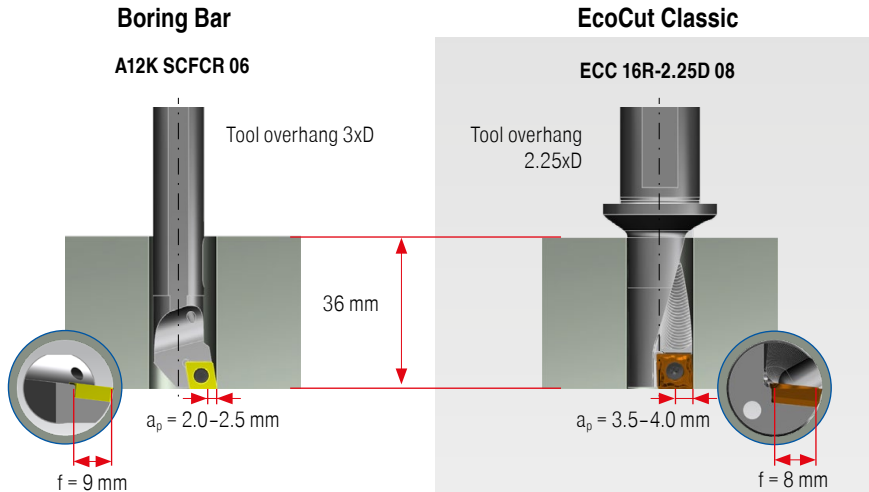
- = -M50Q
- = Standard

EcoCut Classic – Application as the most stable boring tool

EcoCut can be used not only as a multifunctional tool. In comparison with a boring bar EcoCut used as a pure boring tool gives the user enormous benefits.

Example: machining bores, 16 mm diameter by 36 mm depth

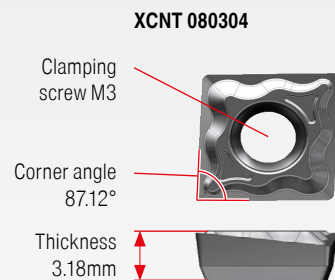
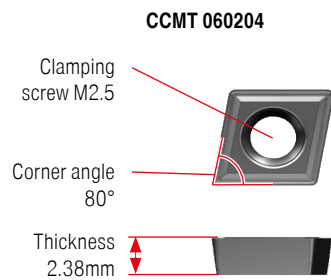
Differences in the tool



Your Advantages

- Large, stable toolholder**
- ▲ Absorption of high cutting forces
 - ▲ Low vibration
 - ▲ Chip Booster for perfect cooling and chip evacuation
- Benefits**
- ▲ High surface quality
 - ▲ Perfect chip control
 - ▲ Max. process security

Differences in the insert

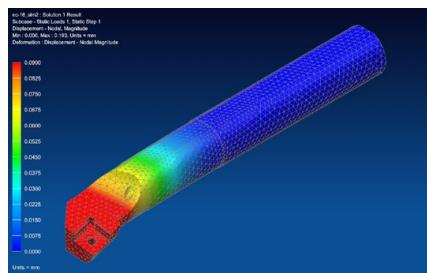


- Large and stable insert**
- ▲ Increased process security
 - ▲ Enables large depths of cut
 - ▲ Higher cutting data
 - ▲ Higher tool life
- Benefits**
- ▲ Reduction in machining time
 - ▲ Increased productivity
 - ▲ Reduced tooling costs

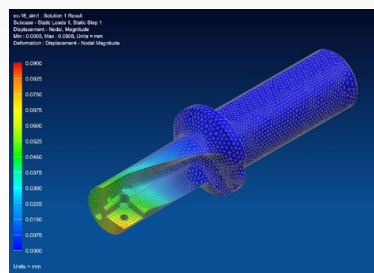
Stability Comparison

Calculation using FEM

A load of 1000 N on the insert seat corresponds to an approx. a_p of 2.0 mm and f of 0.2 mm



Deflection 0.19mm

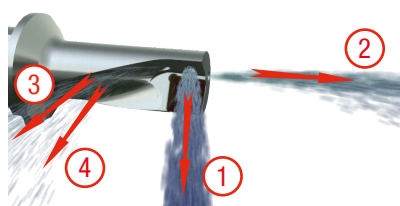


Deflection 0.08mm

Practical experience shows:

- ▲ Reduced machining time by up to **75 %**
- ▲ Increase in tool life by **400 %** possible

Innovative chip removal – Chip-Booster



EcoCut tools are equipped with a unique coolant and chip removal system.

- ① Cooling of the indexable insert
- ② General coolant stream
- ③ Chip booster for improved chip transport
- ④ Chip booster prevents chips from getting stuck between tool and workpiece

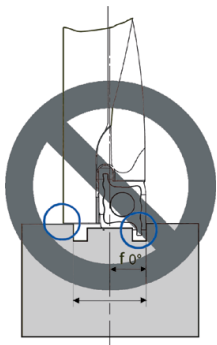
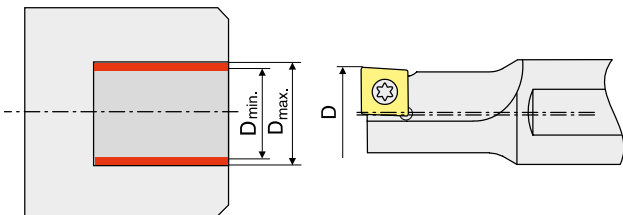
① For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

Application Tips

Drilling Off centre

Due to the special construction of the EcoCut tool and insert, off-centre drilling is possible.

Deviations from the tool nominal \emptyset , can be achieved (see adjacent table).



ProfileMaster 0°
Not suitable for drilling!

EcoCut Mini	Tool nominal- \emptyset	Work piece bore \emptyset	
	D in mm	D _{min.} in mm	D _{max.} in mm
ECM 02 L/R - ...D	2	1,95	2,1
ECM 02,5 L/R - ...D	2,5	2,45	2,6
ECM 03 L/R - ...D	3	2,95	3,15
ECM 03,5 L/R - ...D	3,5	3,45	3,65
ECM 04 R/L - ...D	4	3,90	4,20
ECM 05 R/L - ...D	5	4,90	5,20
ECM 06 R/L - ...D	6	5,90	6,20
ECM 07 R/L - ...D	7	6,90	7,20
ECM 08 R/L - ...D	8	7,90	8,20

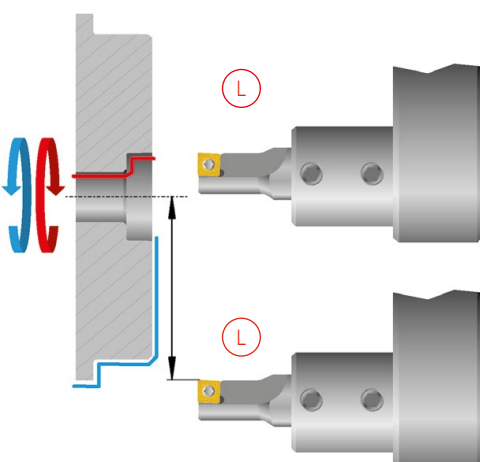
EcoCut Classic	Tool nominal- \emptyset	Work piece bore \emptyset	
	D in mm	D _{min.} in mm	D _{max.} in mm
ECC 08 R/L - ... 04	8	7,85	8,30
ECC 10 R/L - ... 05	10	9,85	10,50
ECC 12 R/L - ... 06	12	11,85	12,50
ECC 14 R/L - ... 07	14	13,85	14,50
ECC 16 R/L - ... 08	16	15,85	16,50
ECC 18 R/L - ... 09	18	17,85	18,50
ECC 20 R/L - ... 10	20	19,80	20,50
ECC 25 R/L - ... 13	25	24,80	25,80
ECC 32 R/L - ... 17	32	31,80	33,00

EcoCut ProfileMaster	Tool nominal- \emptyset	Work piece bore \emptyset	
	D in mm	D _{min.} in mm	D _{max.} in mm
PM 10R/L ...	10	9,85	12
PM 12R/L ...	12	11,85	15
PM 16R/L ...	16	15,85	19
PM 20R/L ...	20	19,80	24
PM 25R/L ...	25	24,80	29
PM 32R/L ...	32	31,80	38

Machining over centre

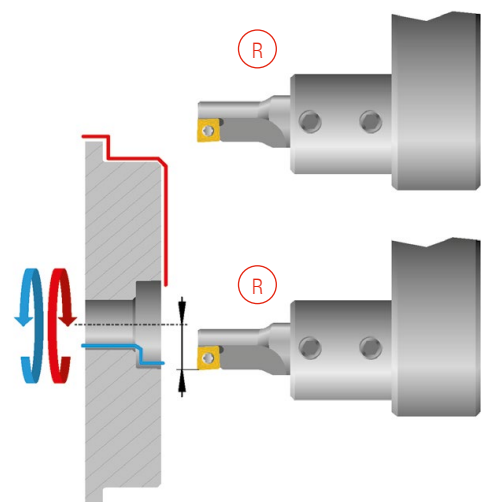
Problem

In case of insufficient movement of the machine across the centre line, the external diameter can not be machined with the same tool.



Solution

Use a right hand EcoCut tool.

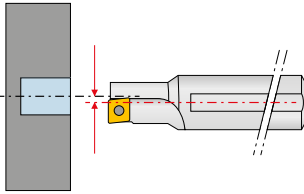


Application Tips

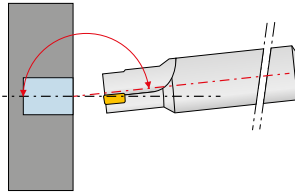
With axial displacement there is the danger of collision!

Problems

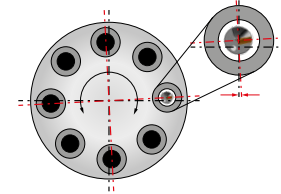
Displacement in x-direction:



Angular error:



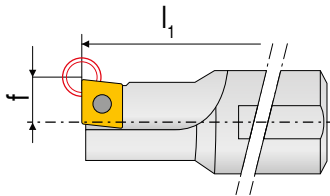
Turret position error:



Remedy

When pre-setting the tool:

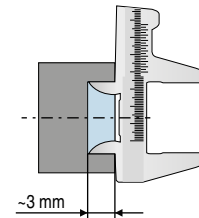
- ▲ Definition as an internal turning tool for programming



- ▲ Enter the tool nominal \varnothing as bore target \varnothing

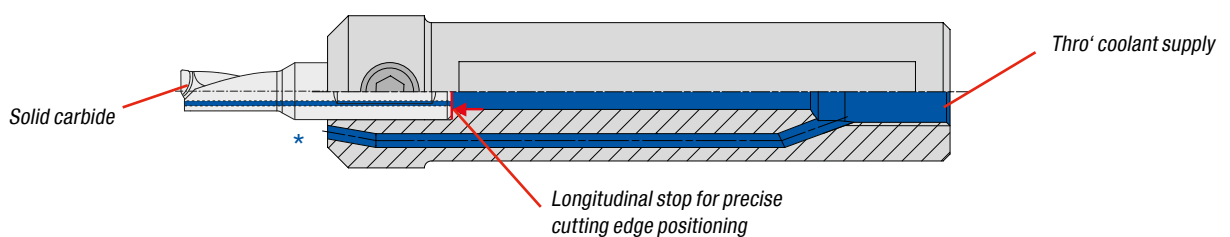
At the machine:

- ▲ Make measuring cut, approx. 3 mm deep
- ▲ Measure drilled diameter produced



- ▲ If necessary correct drilling \varnothing
- ▲ Start machining

EcoCut Mini adapter – Design



* Cross-section rotated by 90° for clarity

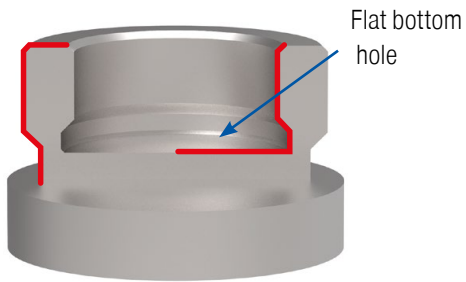
Mounting of the insert for EcoCut Classic

For tools up to \varnothing 8 mm right and left handed inserts are required. From \varnothing 10-32 mm neutral inserts are used.

Note!
Ensure correct installation position.



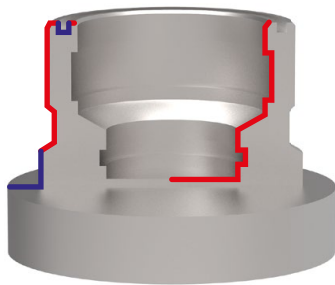
EcoCut ProfileMaster – the highlight with regard to efficiency



Right hand tool



right hand insert



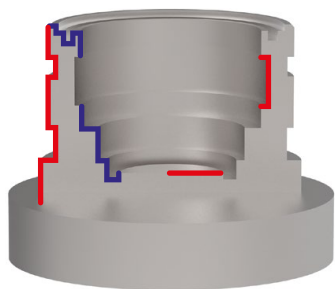
Right hand tool



left hand insert



right hand insert



Left hand tool

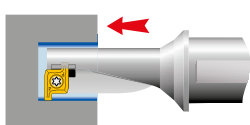


Right hand tool



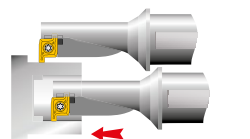
right hand insert

Version 90°

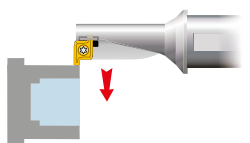


Drilling into solid material with flat bottom hole

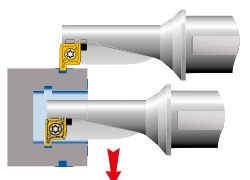
Boring



Turning External Diameters



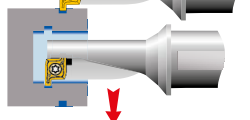
Turning Internal Diameters



Turning Profiles

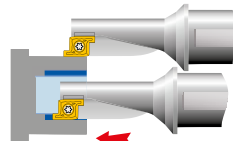


External radial grooving

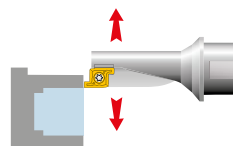


Internal radial grooving

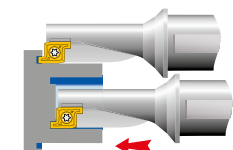
Version 0°



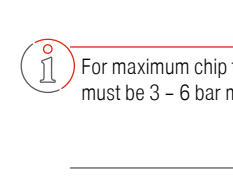
Turning External Diameters



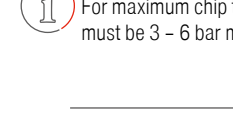
Turning Internal Diameters



Turning Profiles



Axial grooving external



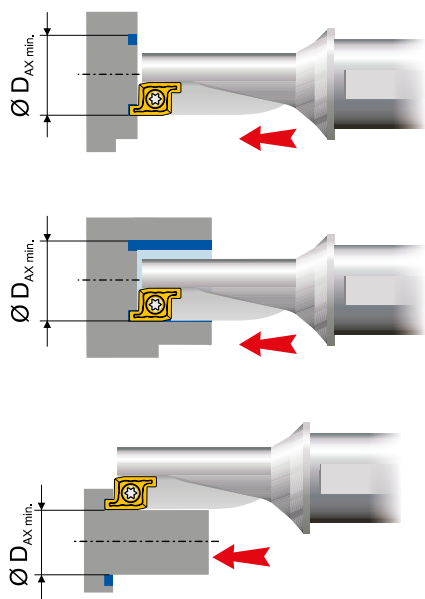
Axial grooving internal



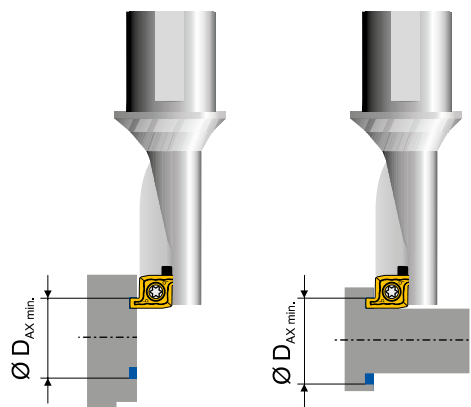
For maximum chip transport efficiency when drilling, coolant pressure must be 3 – 6 bar minimum (optimal 7 – 10 bar).

EcoCut ProfileMaster – Axial Grooving

0° (from Ø 16 mm)

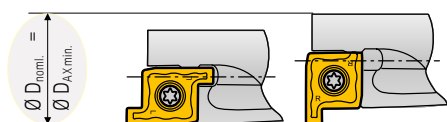


90°

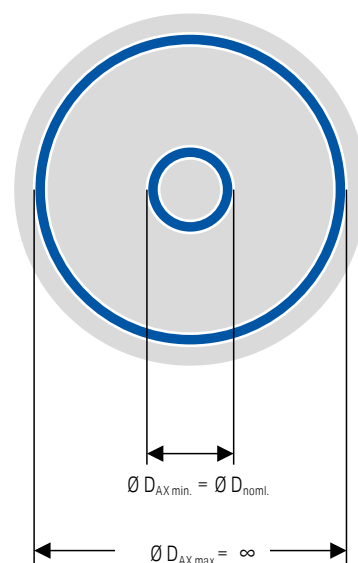


EcoCut ProfileMaster	Ø D _{noml.} mm	Ø D _{AX min.} mm	Ø D _{AX max.} mm
PM 10R/L 1,5D	10	10	> 10
PM 10R/L 2,25D	10	10	> 10
PM 12R/L 1,5D	12	12	> 12
PM 12R/L 2,25D	12	12	> 12
PM 16R/L 1,5D	16	16	> 16
PM 16R/L 2,25D	16	16	> 16
PM 20R/L 1,5D	20	20	> 20
PM 20R/L 2,25D	20	20	> 20
PM 25R/L 1,5D	25	25	> 25
PM 25R/L 2,25D	25	25	> 25
PM 32R/L 1,5D	32	32	> 32
PM 32R/L 2,25D	32	32	> 32

$$\text{Ø } D_{AX \text{ min.}} = \text{Ø } D_{noml.}$$



- Ø D_{noml.} = Nominal tool diameter
- Ø D_{AX min.} = smallest diameter for axial grooving
- Ø D_{AX max.} = largest diameter for axial grooving



Application Tips

Recommendation for Optimum Results

Type of problem									Remedy measures
Type of wear				Work piece problems		Swarf control			
Edge breakage	Built-up edge	Wear on clearance face	Plastic deformation	Vibration	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)		
	▲	▼	▼	▼	▲	▼		Cutting data	Cutting speed
▼		⤿	▼	▲	▼	▲	▼		Feed rate
▲		▲	▲	▼	▲			Insert selection	Corner radius ▲ larger ▼ smaller
▼		▲	▲						Tool Material ▲ Wear resistance ▼ toughness
⤿				⤿	⤿			General criteria	Tool clamping
⤿				⤿	⤿				Work piece clamping
⤿				⤿	▼				Overhang
⤿		⤿		⤿	⤿				Tip height
	●	●	●		●	●			Cooling lubricant

▲ raise, increase large influence

▼ avoid, reduce large influence

⤿ control, optimize

↑ raise, increase small influence

↓ avoid, reduce small influence

● use

Designation System

EcoCut – indexable insert designation

X C E T 17 05 08 F N - 27P

1 2 3 4 5 6 7 8 9 10



- 1 Insert shape
- 2 Clearance angle
- 3 Tolerances
- 4 Characteristics
- 5 Cutting length
- 6 Insert thickness
- 7 Corner radius
- 8 Cutting edge
- 9 Direction of cut
- 10 Chip groove

EcoCut – holder designation

ECC 32 R - 3.0D 17 H

1 2 3 4 5 6

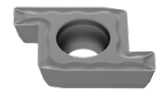


- 1 System
- 2 Nominal diameter in mm
- 3 Direction of cut
- 4 maximum hole depth
- 5 insert size
- 6 Tool holder version in Densimet

EcoCut ProfileMaster – indexable insert designation

PM 25 R G 35 30 04 - M20

1 2 3 4 5 6 7 8



- 1 ProfileMaster
- 2 Nominal diameter in mm
- 3 Direction of cut
- 4 Version
- 5 Groove width in mm/10
- 6 Groove depth in mm/10
- 7 Corner radius
- 8 Chip groove

EcoCut ProfileMaster – holder designation

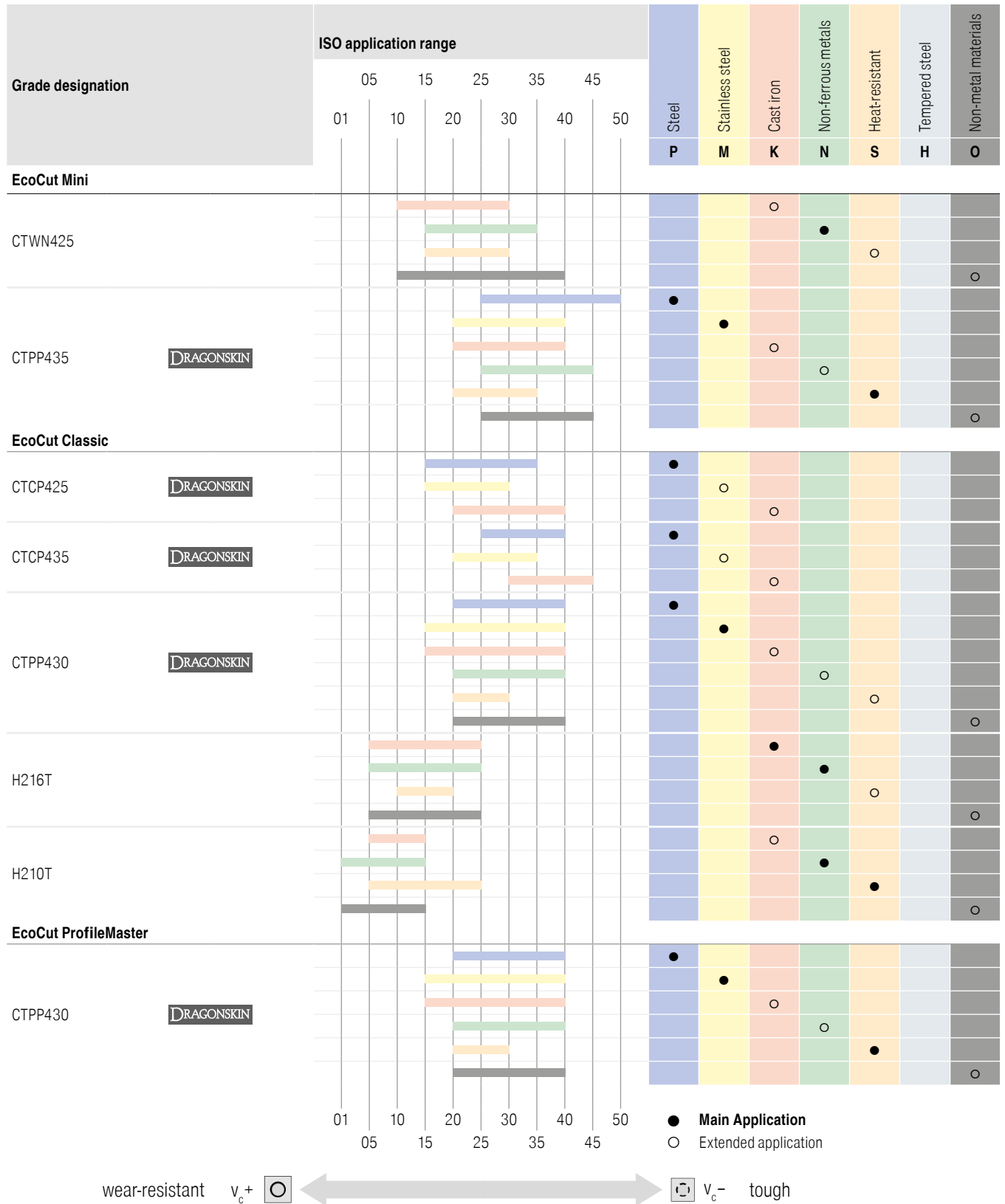
PMC 25 R - 2.25D

1 2 3 4



- 1 ProfileMaster
- 2 Nominal diameter in mm
- 3 Direction of cut
- 4 maximum hole depth

Application



Grades Overview

EcoCut Classic

- CTCP425**

▲

Carbide, Ti+Al₂O₃-coated

▲

ISO | **P25** | K30 | M20

▲

The wear-resistant choice for steel and cast iron materials under stable conditions and at high cutting speeds
- CTCP435**

▲

Carbide, Ti+Al₂O₃-coated

▲

ISO | **P35** | M30 | K40

▲

The reliable choice for steel and cast iron materials under unstable conditions
- CTPP430**

▲

Carbide, TiAlN-coated

▲

ISO | **P30** | **M25** | K30 | N25 | S25 | O25

▲

The universal high-performance grade for steel, austenitic steel and heat-resistant alloys
- H210T**

▲

Carbide, uncoated

▲

ISO | K10 | **N10** | **S10** | O10

▲

The wear-resistant carbide grade for machining aluminium and other non-ferrous metals
- H216T**

▲

Carbide, uncoated

▲

ISO | **K15** | **N15** | S15 | O15

▲

The uncoated carbide grade for machining aluminium and other non-ferrous metals

▲

Also highly suitable for HSC machining

EcoCut Mini

- CTPP435**

▲

Carbide, TiAlN-coated

▲

ISO | **P35** | **M30** | K30 | N30 | **S30** | O30

▲

The universal high-performance grade for steel, austenitic steel and heat-resistant alloys
- CTWN425**

▲

Carbide, uncoated

▲

ISO | K20 | **N25** | S25 | O25

▲

The uncoated carbide grade for machining aluminium and other non-ferrous metals

EcoCut ProfileMaster

- CTPP430**

▲

Carbide, TiAlN-coated

▲

ISO | **P30** | **M25** | K30 | N25 | **S25** | O25

▲

The universal high-performance grade for steel, austenitic steel and heat-resistant alloys

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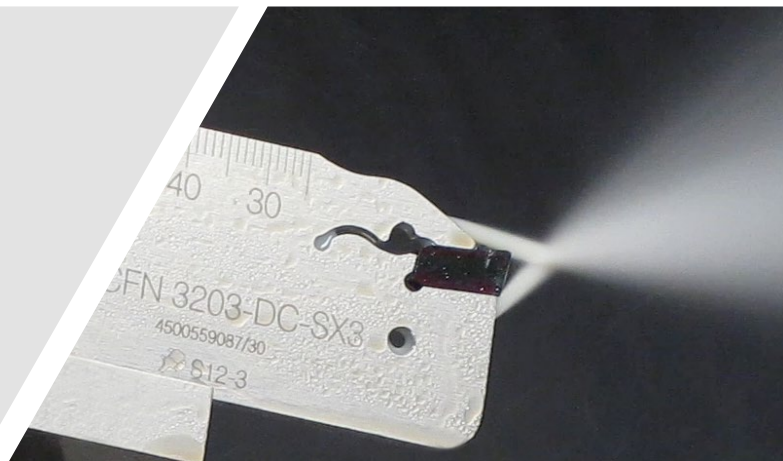
CERATIZIT \ Performance

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.

Advantages of the DirectCooling blade

- ▲ The best machining results, even with reduced pump output
Highest flow volume of all thro' coolant blades on the market
- ▲ User friendly
Reinforced blades without sealing screw
- ▲ Process-secure spare part for easy handling and a long service life
Single-piece sealing screw made from steel (for standard blades)



Symbol explanation



Grooving



Main Application



Turning



Extended application



Face turning



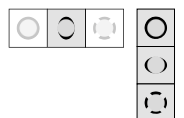
Repeatability



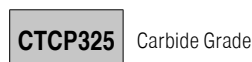
Axial grooving



F: Fine Machining
M: Medium Machining
R: Rough Machining

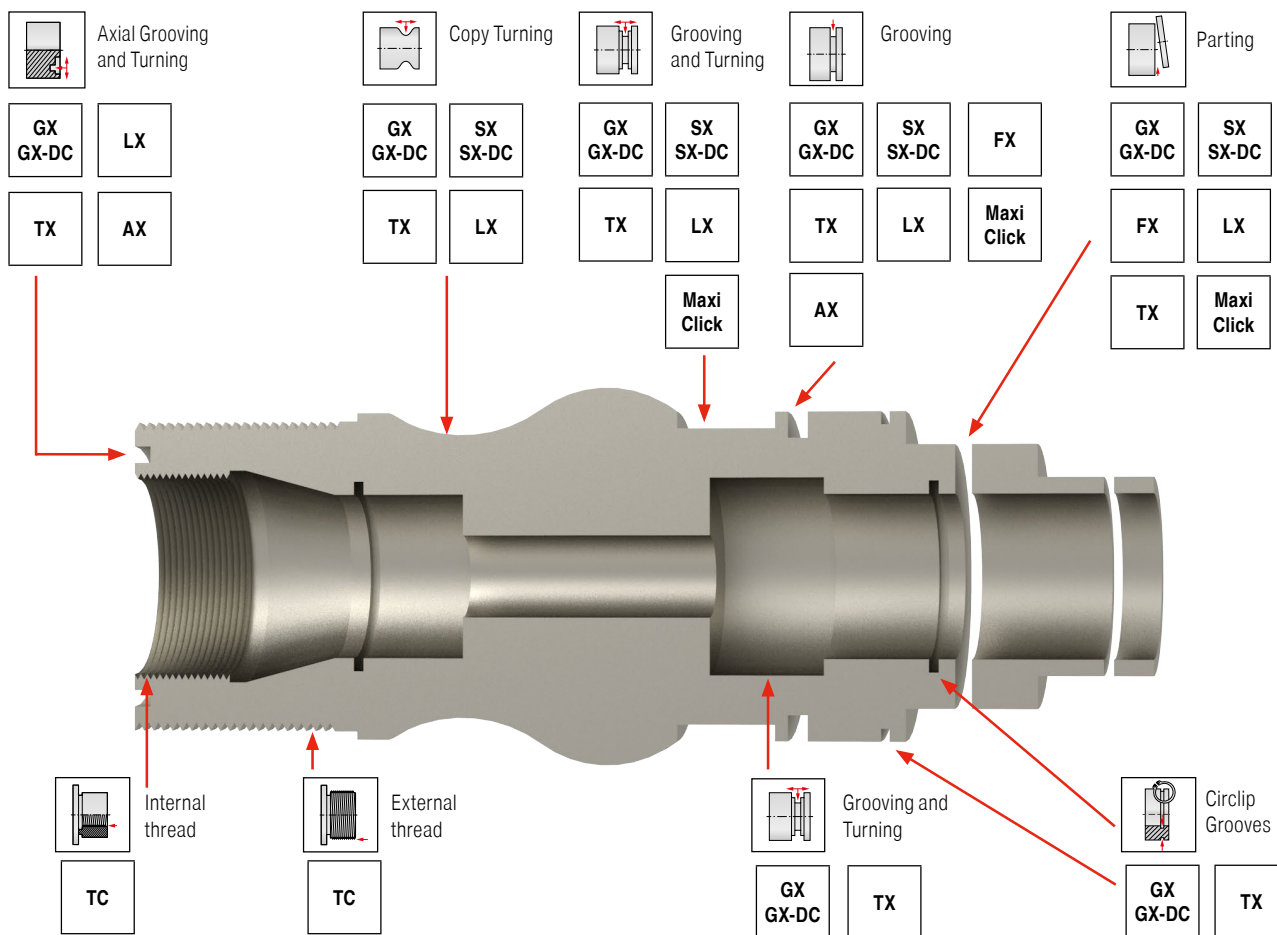


Smooth cut
Irregular cutting depth
Interrupted cut



Carbide Grade

Toolfinder – System Overview



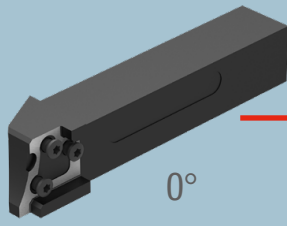
System Description

Page No.

SX	The single edged SX grooving system is even more versatile with the -M3 chip breaker. Besides grooving / parting with the -F2, -M2, or -27P chip breakers, the SX -M3 type also allows copying turning operations with the highest chip control. With this additional option, the SX grooving system can cover all areas of grooving making it a universal grooving tool. Available as a Modular or Mono system.	210-216
SX-DC	Our tried-and-tested single-edged SX grooving system is now available with targeted DirectCooling (DC) thro' coolant supply. The coolant is guided through two coolant holes – one above and one below the grooving insert – straight to the point where it will be most effective: the cutting edge itself.	215
FX	A single-edged grooving system with a variety of specialized chip geometries. From fine machining in unstable parts through to high-performance machining under stable conditions. Available as a Modular or Mono system.	217-222
GX	Double edged grooving system for grooving, parting off, turning and for producing circlip grooves. Available in sizes GX09, GX16 and GX24. Available as a Modular or Mono system.	223-243
GX-DC	Our tried-and-tested two-edged GX grooving system is now available with targeted DirectCooling (DC) thro' coolant supply. The coolant is guided through two coolant holes – one above and one below the grooving insert – straight to the point where it will be most effective: the cutting edge itself.	233+244
TX	Three-edged system for parting, grooving, axial grooving, radial grooving, and fine turning. Positive ground cutting geometries, with a very soft cut with minimum cutting forces. Universally applicable for almost all materials. Available as a Monosystem.	
LX	Single edged system for extreme applications starting from a cutting width of 8.0 mm. The LX system is for use in stable conditions. Available as a Modular or Mono system	
AX	Double-edged Axial grooving system for grooving and groove turning with high precision. Due to the three different depths (5 mm, 10 mm and 15 mm) stable tools are available for each application.	
TC	Double-edged thread turning system for the production of external and internal threads. Advantage is the use without pitch angle correction and in narrow or difficult areas of application. Available as a Modular or Mono system.	246-253
Maxi Click	Five-edged grooving system for grooving and parting	254-258

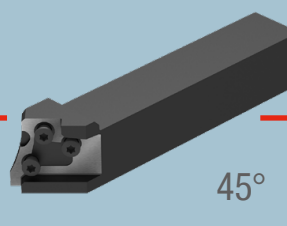
Toolfinder - External Machining

ModularClamp

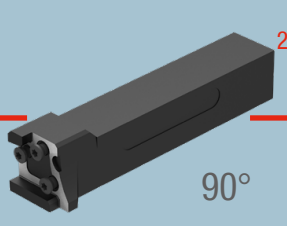


259

0°




45°



260

90°


GX 09



230

231

GX 16



230

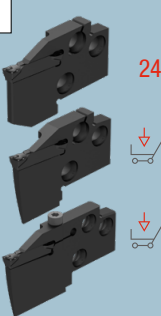
231

GX 24

Deep Radial Grooving,
Parting and Turning

Axial Grooving and Face
Turning


Deep Axial Grooving and
Face Turning



243

GX 09

Circlip grooves




228

Cutting width
CW = 0,5-3,15 mm (H13)


Grooving and
Turning

-F2



223


Standard



224

Radius grooves


Standard



229

CRE = 0,8-1,2 mm

-M40




225

Cutting width
CW = 2,0-3,5 mm

GX 16

Circlip grooves




228

Cutting width
CW = 0,5-5,15 mm (H13)


Grooving and
Turning

-F2



223


Standard



224

Radius grooves

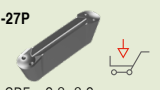
Standard



229

CRE = 0,8-3,0 mm


-27P



227

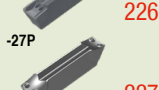
Cutting width
CW = 2,0-6,0 mm

-M1



225

-27P




226

GX 24


Radial, axial and deep axial grooving and
parting, face turning and turning

-F2




237

-E




238

-M1




239

-M40




240

-M3



241

-27P

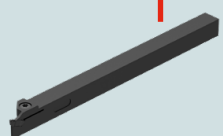


242

Cutting width
CW = 2,0-6,0 mm

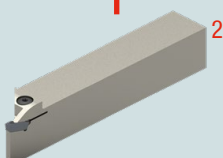
CRE = 1,5-4,0 mm

GX 09



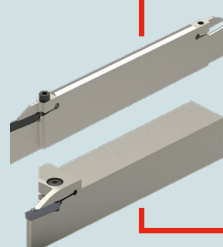
232

GX 16 - **GX-DC**



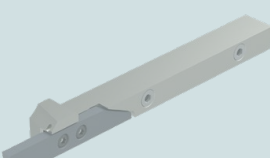
233+234

GX 24 - **GX-DC**



244+245

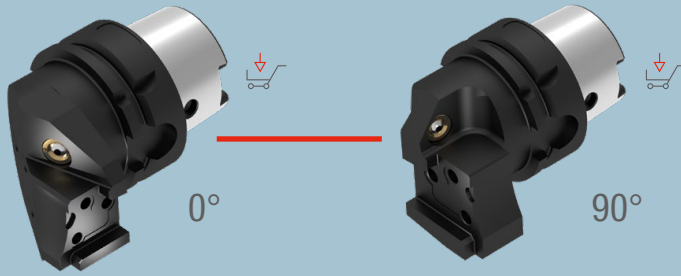
MonoClamp



The VertiClamp grooving system can be found in **Chapter 3**
Turning using VertiClamp

03|206

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SX

FX

LX

TC

AX



SX

FX

LX

TC

AX

TX

Maxi Click

<p>Parting, Grooving and Turning</p> <ul style="list-style-type: none"> -F2 #H34# 210 -M2 212 Cutting width CW = 2,0-6,0 mm -M1 211 -27P 213 Grooving and copy turning -M3 214 CRE = 1,5-3,0 mm 	<p>Parting and Grooving</p> <ul style="list-style-type: none"> -F1 217 -M1 218+219 -27P 220 -R2 220 Cutting width CW = 2,2 - 9,7 mm 	<p>Deep Parting and Grooving</p> <ul style="list-style-type: none"> -M2 221 -M3 222 Cutting width CW = 8,0 - 10,0 mm 	<p>Thread turning</p> <p>Full profile</p> <ul style="list-style-type: none"> 60° 246+247 55° 249 <p>Partial profile</p> <ul style="list-style-type: none"> 60° 248 55° 250 	<p>Axial Grooving and Turning</p> <ul style="list-style-type: none"> -F50 251 Groove width CW = 3,0 mm 	<p>Parting</p> <p>Circlip Grooves</p> <p>Corner undercut</p> <p>Fine and copy turning</p> <p>Axial grooving</p>	<p>-F2 5 mm 254</p> <p>-F2 10 mm 255</p> <p>-F3 10 mm 256</p> <p>Cutting width CW = 1,0 - 2,5 mm</p>
--	---	--	--	---	---	--

SX

SX-DC

FX

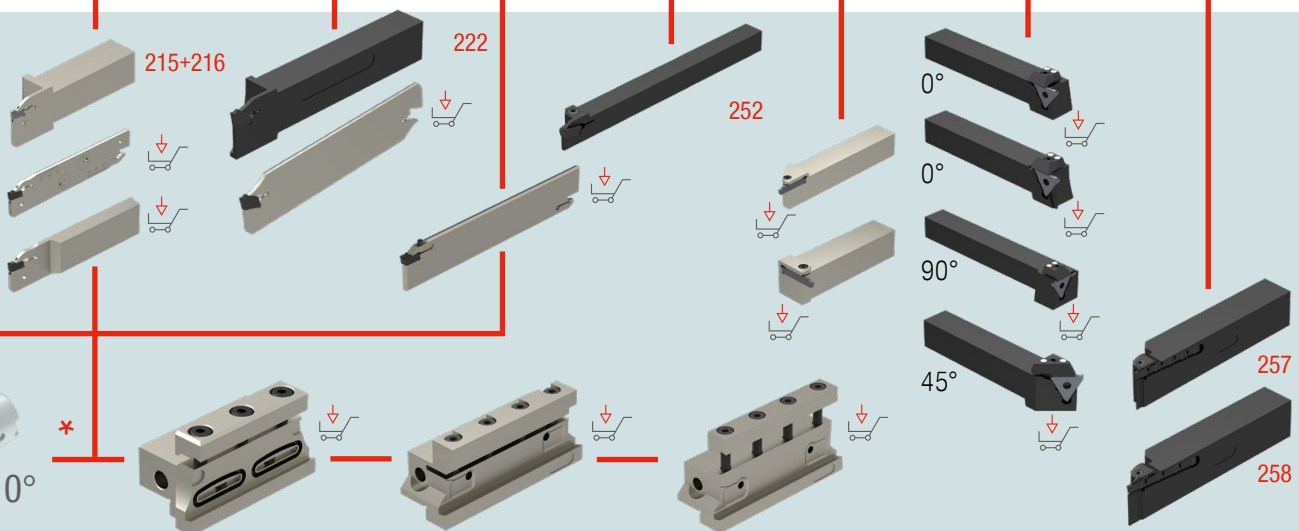
LX

TC

AX

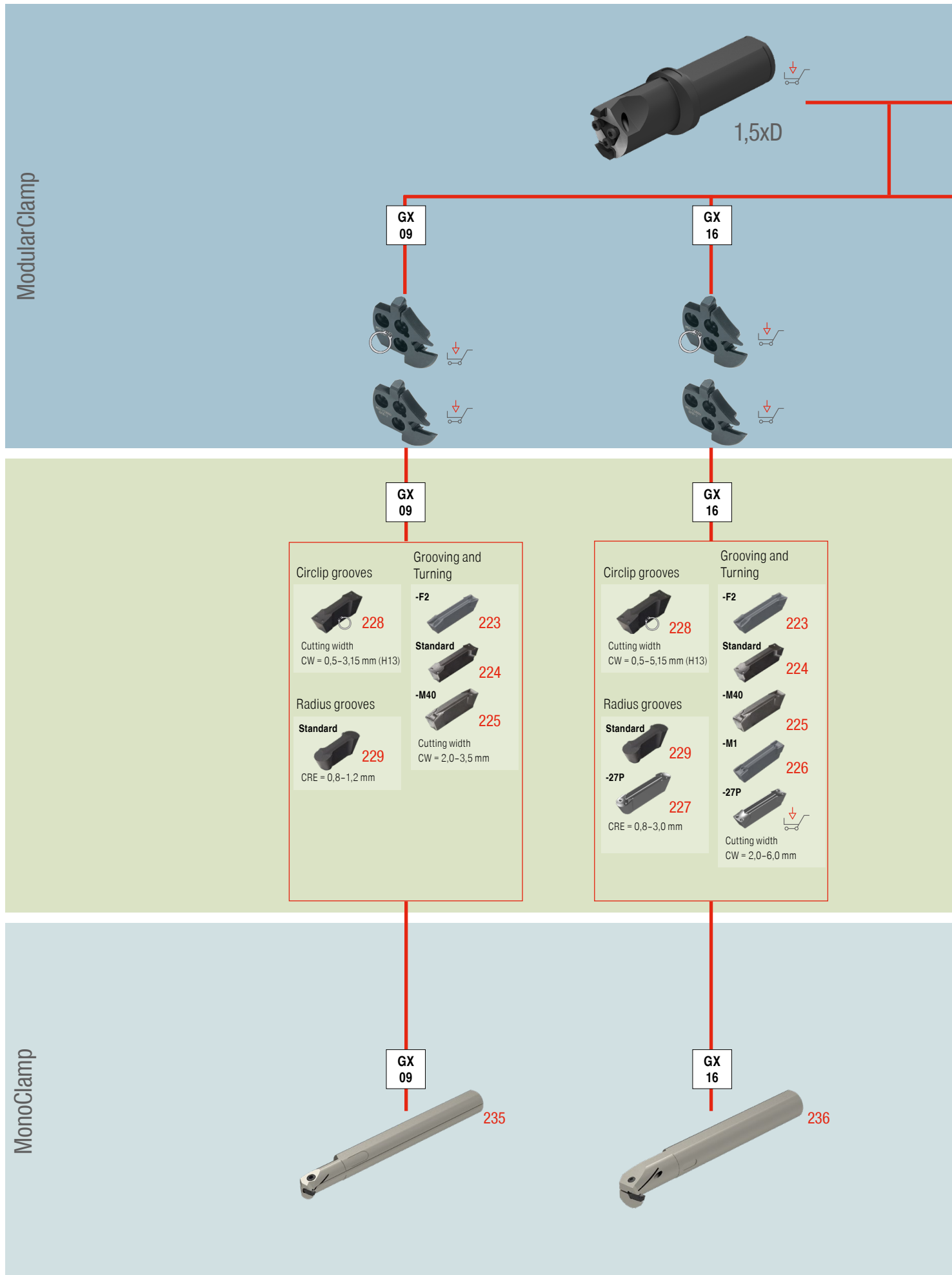
TX

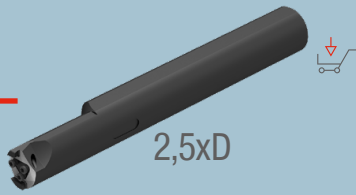
Maxi Click



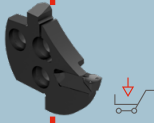
* These articles can be found in → Catalogue - Clamping technology, Chapter 16

Toolfinder - Internal Machining

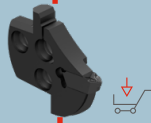




GX
24



TC







GX
24

Radial, axial and deep axial grooving and parting, face turning and turning

- | | |
|---|--|
| -M1
 239 | -M3
 241 |
| -M40
 240 | -27PF
 241
CRE = 1,5 - 4,0 mm |
| -E
 238 | |
| -F2
 237 | |
| -27P
 227 | |
- Cutting width
CW = 2,0 - 6,0 mm











TC

Thread turning

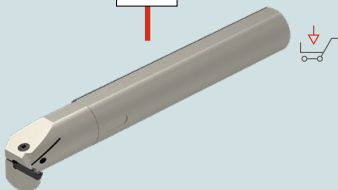
- | |
|---|
| Partial profile
60°  248 |
| Full profile
60°  247 |
| Full profile
55°  249 |
| Partial profile
55°  250 |

TX

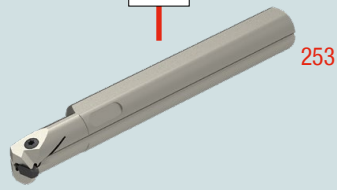
Parting

- | |
|---|
|   |
| Circlip Grooving Inserts
  |
| For corner relief
  |
| Fine and copy turning
  |
| Axial grooving
  |

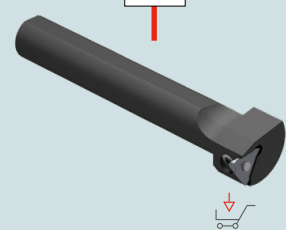
GX
24



TC

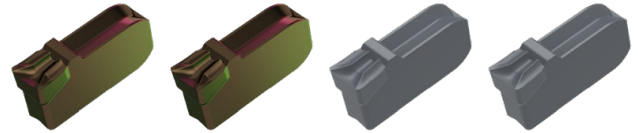
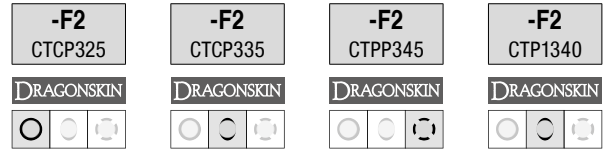
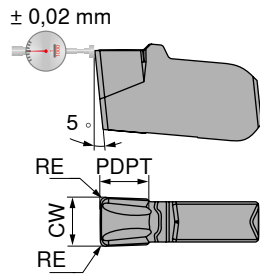
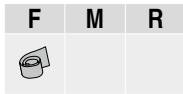
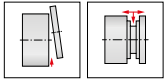


TX



Insert SX

▲ High precision ground geometry



Designation	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 346 ...	70 346 ...	70 346 ...	70 346 ...
					923	523	822 823	622 623
SX E2.00 N 0.20	2	0,2	1,5	-SX2				
SX E3.00 N 0.30	3	0,3	2,0	-SX3				
P					●	●	●	●
M					○	○	○	○
K					●	●	●	●
N								○
S					○		○	●
H								
O								○

→ v_c Page 261
→ Application recommendation on page 266

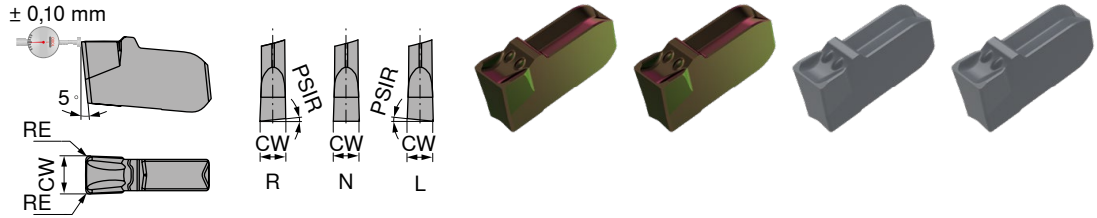
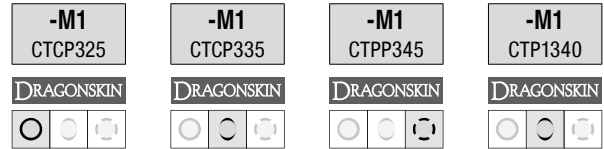
Internal machining

External machining

		→ 214	→ 215+216					

Insert SX

▲ Specially developed geometry with negative edge-chamfers available in right, left and neutral types



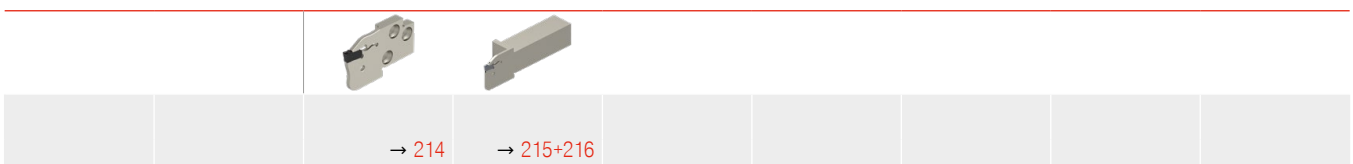
Designation	IH	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PSIR	for tool holder	70 342 ...	70 342 ...	70 342 ...	70 342 ...
SX E2.00 L 6	L	2	0,2	6°	-SX2				612
SX E3.00 L 6	L	3	0,2	6°	-SX3	913			613
SX E2.00 N 0.20	N	2	0,2		-SX2	922		822	622
SX E3.00 N 0.20	N	3	0,2		-SX3	923	523	823	623
SX E2.00 R 6	R	2	0,2	6°	-SX2				602
SX E3.00 R 6	R	3	0,2	6°	-SX3	903			603
P						●	●	●	●
M						○	○	●	●
K						●	●		●
N									○
S						○		○	●
H									
O									○

→ v_c Page 261
→ Application recommendation on page 267

Note: reduce feed rate by 20–50 % with R/L version!

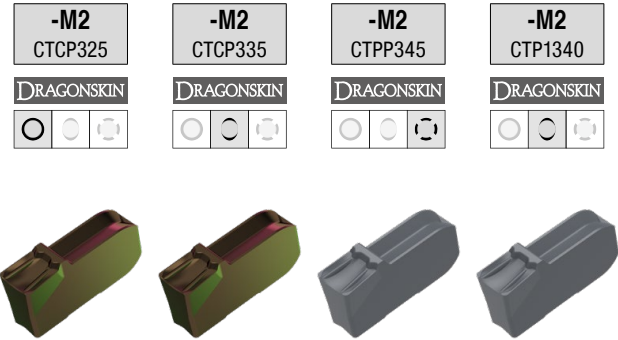
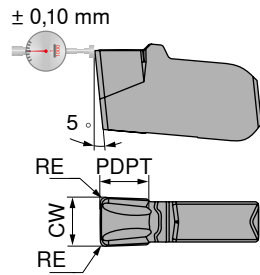
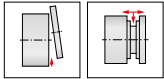
Internal machining

External machining



Insert SX

▲ All purpose geometry for parting, grooving & turning.



Designation	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 343 ...		70 343 ...		70 343 ...		70 343 ...	
					922	923	522	523	822	823	622	623
SX E2.00 N 0.20	2	0,2	1,5	-SX2	●	○	●	○	●	○	●	○
SX E3.00 N 0.30	3	0,3	2,0	-SX3	●	○	●	○	●	○	●	○
P					●	○	●	○	●	○	●	○
M					○	○	○	○	○	○	○	○
K					●	○	●	○	●	○	●	○
N					○	○	○	○	○	○	○	○
S					○	○	○	○	○	○	○	○
H												
O												○

→ v_c Page 261
→ Application recommendation on page 266

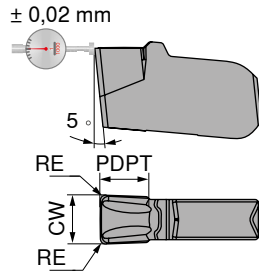
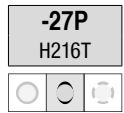
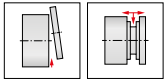
Internal machining

External machining

		→ 214	→ 215+216								

Insert SX

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ Specialist for aluminum and other soft long-chipping non-ferrous metals



70 349 ...

Designation	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	
SX E2.00 N 0.20	2	0,2	2,0	-SX2	122
SX E3.00 N 0.30	3	0,3	2,5	-SX3	123

P	
M	
K	●
N	●
S	○
H	
O	○

→ v_c Page 261
→ Application recommendation on page 266

Internal machining

External machining

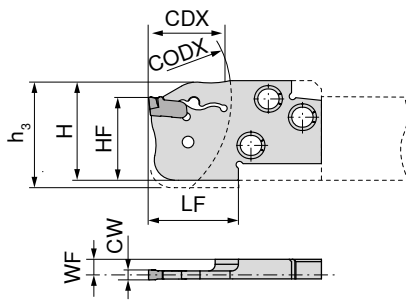


			→ 214	→ 215+216					

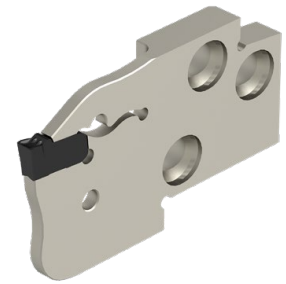
3

ModularClamp MSS – Radial grooving module SX

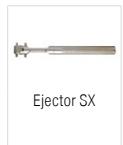
▲ for parting, grooving and finish turning



Illustrations show right-hand versions



Designation	HF mm	CW mm	WF mm	LF mm	H mm	h ₃ mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Right-hand
										70 897 ...	70 896 ...
E20 R/L 20-SX2	20	2	3,57	22	24	27	60	20	SX .2..	020	020
E20 R/L 20-SX3	20	3	3,20	22	24	27	60	20	SX .3..	120	120

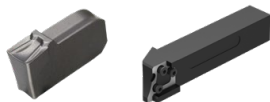


Ejector SX

Spare parts for grooving inserts

SX .2..	SX 2-3	836
SX .3..	SX 2-3	836

70 950 ...

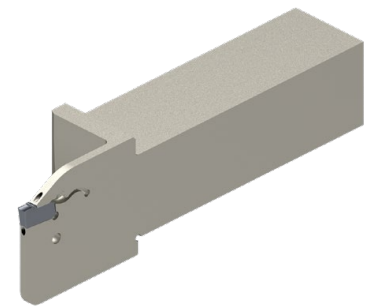
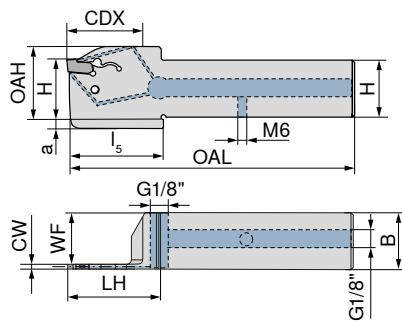


→ 210-213

→ 259

 Please order SX assembly key separately if required.

MonoClamp – Radial Monoholder SX-DC



Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAL mm	LH mm	I ₅ mm	OAH mm	CDX mm	a mm	for grooving inserts	Left-hand	Right-hand
												70 847 ...	70 847 ...
E12 R/L 0022-1212X-K-DC-SX2	12	12	2	11,2	71	27	28	22	22	5	SX .2..	21201	21200
E16 R/L 0026-1616X-K-DC-SX2	16	16	2	15,2	87	32	33	26	26	4	SX .2..	21601	21600
E20 R/L 0026-2020X-K-DC-SX2	20	20	2	19,2	102	32	33	31	26	5	SX .2..	22001	22000
E16 R/L 0026-1616X-K-DC-SX3	16	16	3	14,8	87	32	33	26	26	4	SX .3..	31601	31600
E20 R/L 0026-2020X-K-DC-SX3	20	20	3	18,8	102	32	33	31	26	5	SX .3..	32001	32000



**Spare parts
for grooving inserts**

	Left-hand	Right-hand
SX .2..	SX 2-3	836
SX .3..	SX 2-3	836

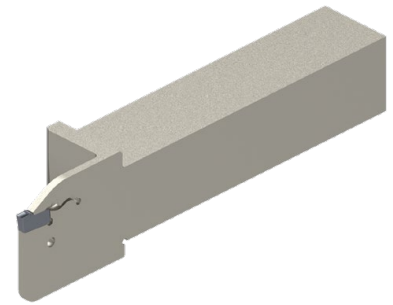
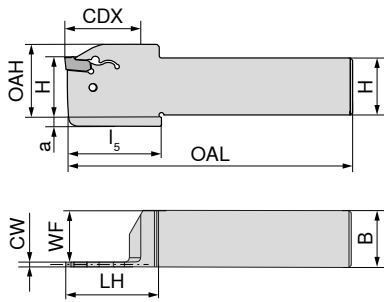
70 950 ...



→ 210-213

1 Please order SX assembly key separately if required.

MonoClamp – Radial Monoholder SX



Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAL mm	LH mm	l ₅ mm	OAH mm	CDX mm	a mm	for grooving inserts	Left-hand	Right-hand
												70 846 ...	70 846 ...
E12 R/L 0022-1212K-K-SX2	12	12	2	11,2	125	27	28	22	22	5	SX .2..	21201	21200
E16 R/L 0026-1616K-K-SX2	16	16	2	15,2	125	33	33	26	26	4	SX .2..	21601	21600
E20 R/L 0026-2020K-K-SX2	20	20	2	19,2	125	33	33	31	26	5	SX .2..	22001	22000
E16 R/L 0026-1616K-K-SX3	16	16	3	14,8	125	33	33	26	26	4	SX .3..	31601	31600
E20 R/L 0026-2020K-K-SX3	20	20	3	18,8	125	31	33	31	26	5	SX .3..	32001	32000



Ejector SX

Spare parts for grooving inserts

SX .2..	SX 2-3	836
SX .3..	SX 2-3	836

70 950 ...

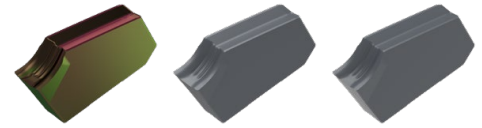
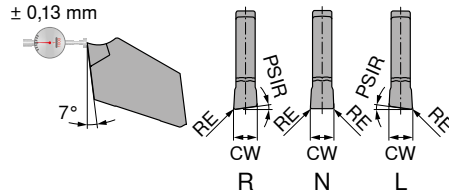
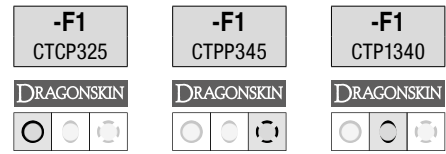
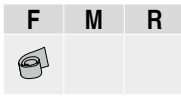
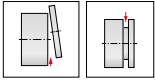


→ 210-213

Please order SX assembly key separately if required.

Insert FX

- ▲ Excellent cutting geometry with low cutting forces
- ▲ Very good swarf control also with low feed rates
- ▲ Reduced built-up edge



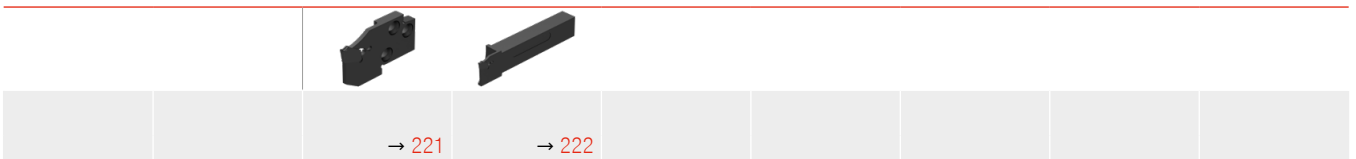
Designation	IH	CW _{-0,1} mm	RE _{+/-0,05} mm	PSIR	for tool holder	70 331 ...		
FX 2.2 L 5-F1	L	2,2	0,15	5°	-FX 2.2		847	647
FX 3.1 L 5-F1	L	3,1	0,20	5°	-FX 3.1		851	651
FX 3.1 L 8-F1	L	3,1	0,20	8°	-FX 3.1		855	
FX 2.2 N 0.15-F1	N	2,2	0,15		-FX 2.2	998	848	648
FX 3.1 N 0.20-F1	N	3,1	0,20		-FX 3.1	902	852	652
FX 3.1 N 0.40-F1	N	3,1	0,40		-FX 3.1	906	856	656
FX 2.2 R 5-F1	R	2,2	0,15	5°	-FX 2.2		849	649
FX 3.1 R 5-F1	R	3,1	0,20	5°	-FX 3.1		853	653
FX 3.1 R 8-F1	R	3,1	0,20	8°	-FX 3.1		857	
P						●	●	●
M						○	●	●
K						●		●
N								○
S						○	○	●
H								
O								○

→ v_c Page 261
→ Application recommendation on page 268

Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

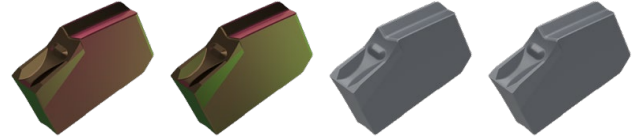
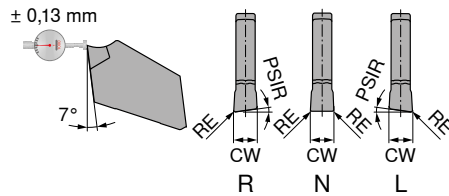
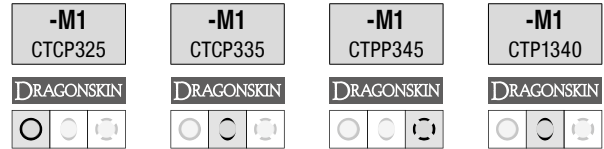
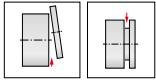
External machining



3

Insert FX

▲ narrow version



Designation	IH	CW _{-0.1} mm	RE _{+/-0.05} mm	PSIR	for tool holder	70 330 ...	70 330 ...	70 330 ...	70 330 ...
FX 2.2 L 4-M1	L	2,2	0,1	4°	-FX 2.2		550	800	600
FX 2.2 N 0.10-M1	N	2,2	0,1		-FX 2.2	902	552	802	602
FX 2.2 R 4-M1	R	2,2	0,1	4°	-FX 2.2		554	804	604
P						●	●	●	●
M						○	○	●	●
K						●	●		●
N									○
S						○		○	●
H									
O									○

→ v_c Page 261
→ Application recommendation on page 268

Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

External machining

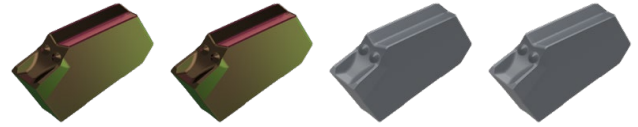
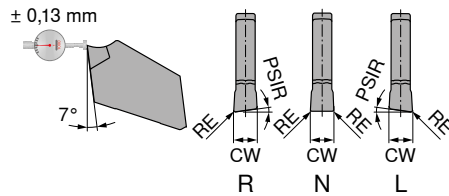
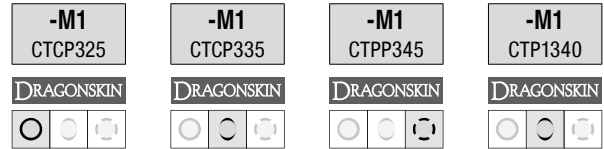
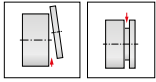


→ 221

→ 222

Insert FX

▲ wide version



Designation	IH	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PSIR	for tool holder	70 332 ...			
						900	550	800	600
FX 3.1 L 6-M1	L	3,1	0,15	6°	-FX 3.1	900	550	800	600
FX 3.1 N 0.15-M1	N	3,1	0,15		-FX 3.1	902	552	802	602
FX 3.1 R 6-M1	R	3,1	0,15	6°	-FX 3.1	904	554	804	604
P						●	●	●	●
M						○	○	●	●
K						●	●		●
N									○
S						○		○	●
H									
O									○

→ v_c Page 261
→ Application recommendation on page 268

Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

External machining

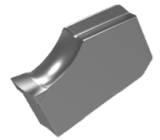
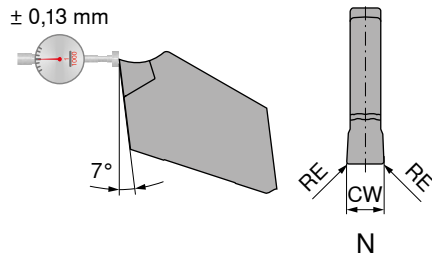
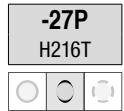
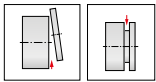


→ 221

→ 222

Insert FX

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge, polished chip breaker
- ▲ Reduced built-up edge



70 334 ...

Designation	IH	CW ^{-0,1} mm	RE ^{-0,05} mm	for tool holder
FX 2.2 N 0.10	N	2,2	0,10	-FX 2.2
FX 3.1 N 0.15	N	3,1	0,15	-FX 3.1

650
652

P	
M	
K	●
N	●
S	○
H	
O	○

→ v_c Page 261
→ Application recommendation on page 268

Internal machining

External machining

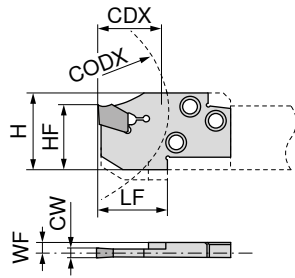


→ 221

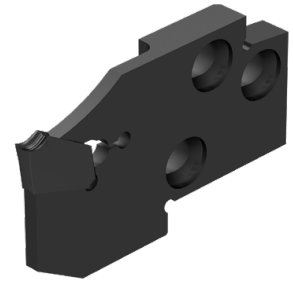
→ 222

ModularClamp MSS – Radial grooving module FX short/long

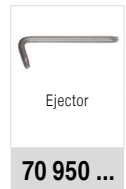
▲ For parting and grooving



Illustrations show right-hand versions

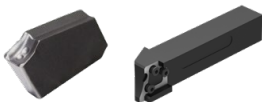


Designation	HF mm	CW mm	WF mm	LF mm	H mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Right-hand
									70 876 ...	70 875 ...
E20 R/L 20-FX 2.2	23	2,2	3,58	22	27	60	20	FX 2.2 ..	020	020
E20 R/L 20-FX 3.1	23	3,1	3,20	22	27	60	20	FX 3.1 ..	120	120



Spare parts for grooving inserts

FX 2.2 ..	375
FX 3.1 ..	376

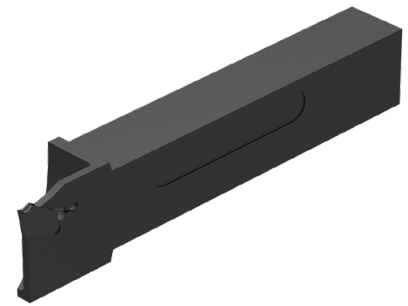
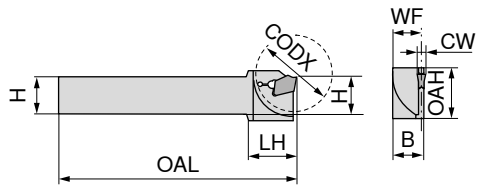


→ 217-220	→ 259+260								
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MonoClamp – Radial Monoholder FX

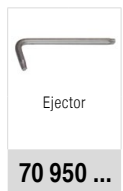
Scope of supply:

Blade and ejector



Illustrations show right-hand versions

Designation	H mm	B mm	OAL mm	LH mm	OAH mm	CW mm	WF mm	CODX mm	for grooving inserts	Left-hand	Right-hand
										70 837 ...	70 836 ...
XLCE R/L 1010 M-FX2.2	10	10	150	19,4	21	2,2	9,18	30	FX 2.2 ..	101	101
XLCE R/L 1212 F-FX2.2	12	12	80	21,0	21	2,2	11,18	30	FX 2.2 ..	102	102
XLCE R/L 1212 M-FX2.2	12	12	150	19,4	21	2,2	11,18	30	FX 2.2 ..	103	103
XLCE R/L 1414 M-FX2.2	14	14	150	19,4	21	2,2	13,18	30	FX 2.2 ..	104	104
XLCE R/L 1612 H-FX2.2	16	12	100	21,0	21	2,2	11,18	30	FX 2.2 ..	105	105
XLCE R/L 1612 H-FX3.1	16	12	100	21,4	25	3,1	10,80	35	FX 3.1 ..	106	106
XLCE R/L 2016 K-FX3.1	20	16	125	26,4	26	3,1	14,80	40	FX 3.1 ..	107	107



Spare parts for grooving inserts

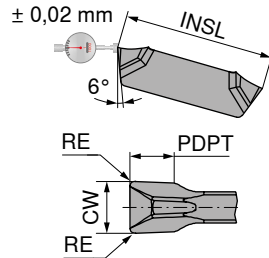
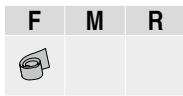
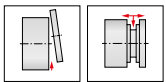
FX 2.2 ..	375
FX 3.1 ..	376



→ 217-220

Insert GX 09/16

- ▲ Insert with ground periphery
- ▲ Suitable also for parting off tubes and thin-walled workpieces



-F2
CTP1340

DRAGONSKIN



70 360 ...

Designation	INSL mm	CW ^{+/-0,02} mm	RE ^{+/-0,05} mm	PDPT mm	for tool holder	
GX 09-1 E2.00 N 0.20	9	2,0	0,2	1,5	GX 09-1	600
GX 09-1 E2.50 N 0.20	9	2,5	0,2	1,5	GX 09-1	602
GX 09-2 E3.00 N 0.30	9	3,0	0,3	2,0	GX 09-2	604
GX 16-1 E2.00 N 0.20	16	2,0	0,2	2,5	GX 16-1	650
GX 16-2 E3.00 N 0.30	16	3,0	0,3	3,0	GX 16-2	652

P	●
M	●
K	●
N	○
S	●
H	
O	○

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→ Application recommendation on page 262

Internal machining

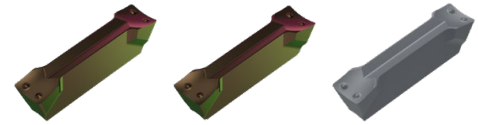
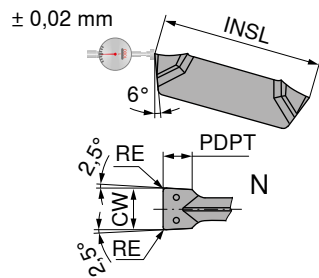
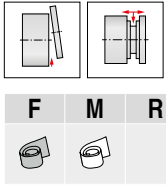
External machining

→ 235+236	→ 230+231	→ 232						

3

Insert GX 09/16 – Standard

▲ Suitable for parting thin-walled workpieces



Designation	INSL mm	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder
GX 09-1 E2.00 N 0.20	9	2,0	0,2	1,5	GX 09-1
GX 09-1 E2.50 N 0.20	9	2,5	0,2	1,5	GX 09-1
GX 09-2 E3.00 N 0.30	9	3,0	0,3	2,0	GX 09-2
GX 16-1 E2.00 N 0.20	16	2,0	0,2	2,5	GX 16-1
GX 16-1 E2.50 N 0.20	16	2,5	0,2	2,5	GX 16-1
GX 16-2 E3.00 N 0.30	16	3,0	0,3	3,0	GX 16-2
GX 16-2 E3.00 N 0.50	16	3,0	0,5	3,0	GX 16-2

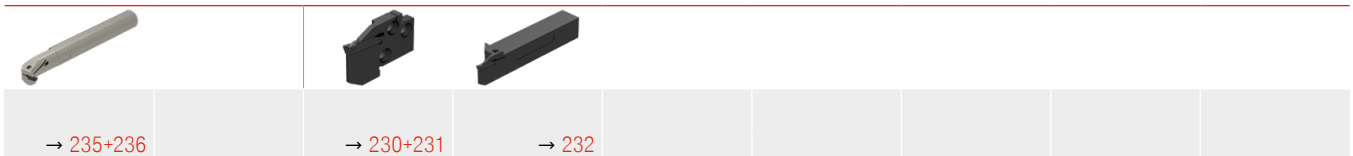
70 350 ...	70 350 ...	70 350 ...
984		634
988		638
992		642
900	500	600
904	504	604
908	508	608
910		

P	●	●	●
M	○	○	●
K	●	●	●
N			○
S	○		●
H			
O			○

→ v_c Page 261
→ Application recommendation on page 262

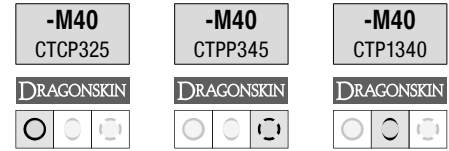
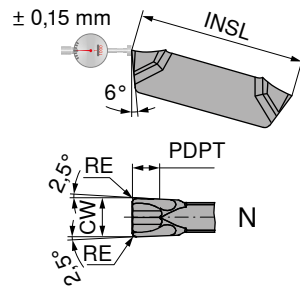
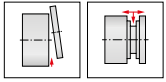
Internal machining

External machining



Insert GX 09/16

▲ Very good swarf control

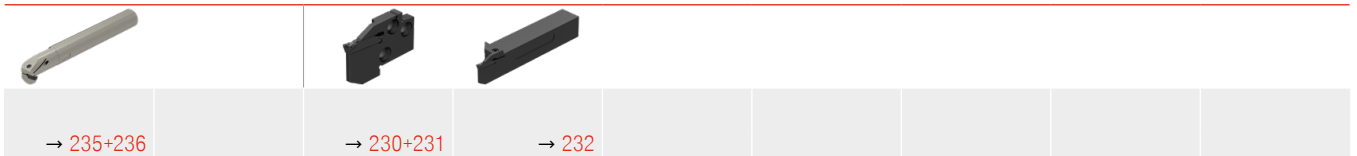


Designation	INSL mm	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 351 ...		
						986	886	686
GX 09-1 E2.00 N 0.20	9	2	0,2	1,5	GX 09-1	986	886	686
GX 09-2 E3.00 N 0.30	9	3	0,3	2,0	GX 09-2	994	894	694
GX 16-1 E2.00 N 0.20	16	2	0,2	2,5	GX 16-1	902	802	602
GX 16-2 E3.00 N 0.30	16	3	0,3	3,0	GX 16-2	910	810	610
P						●	●	●
M						○	●	●
K						●	○	○
N						○	○	○
S						○	○	●
H								
O								○

→ v_c Page 261
→ Application recommendation on page 262

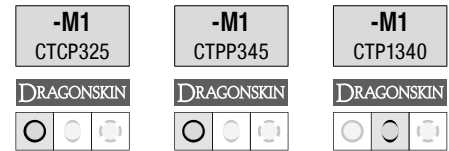
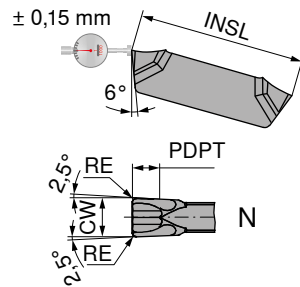
Internal machining

External machining



Insert GX 16

▲ Very good swarf control



Designation	INSL mm	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 362 ...	70 362 ...	70 362 ...
GX 16-1 E2.00 N 0.20	16	2	0,2	2,0	GX 16-1		800	600
GX 16-2 E3.00 N 0.20	16	3	0,2	2,5	GX 16-2	902	802	602
P						●	●	●
M						○	●	●
K						●	○	●
N								○
S						○	○	●
H								
O								○

→ v_c Page 261
→ Application recommendation on page 263

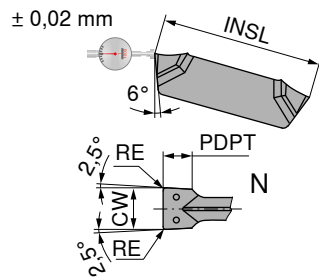
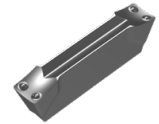
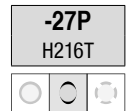
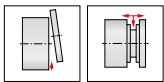
Internal machining

External machining

→ 236	→ 230+231	→ 232						

Insert GX 16

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ ground periphery



70 350 ...

Designation	INSL mm	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder
GX 16-1 E2.00 N 0.20	16	2	0,2	2,5	GX 16-1
GX 16-2 E3.00 N 0.30	16	3	0,3	3,0	GX 16-2

650
658

P	
M	
K	●
N	●
S	○
H	
O	○

→ v_c Page 261

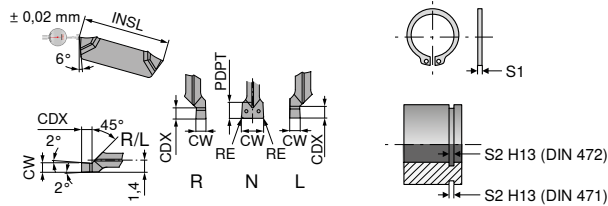
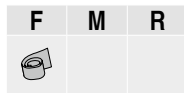
→ Application recommendation on page 262

Internal machining

External machining

→ 236	→ 230+231	→ 232						

Circlip groove insert GX 09/16 – Standard



Designation	IH	INSL mm	S ₁ mm	S ₂ mm	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	CDX mm	PDPT mm	for tool holder	70 352 ...	70 352 ...
GX 09-1 S0.60 L	L	9	0,40	0,50	0,60		0,75		R/L 02-GX 09-1		679
GX 09-1 S0.80 L	L	9	0,60	0,70	0,80		0,94		R/L 02-GX 09-1		681
GX 09-1 S0.90 L	L	9	0,70	0,80	0,90		1,04		R/L 02-GX 09-1		683
GX 09-1 S1.00 L	L	9	0,80	0,90	1,00		1,14		R/L 02-GX 09-1		684
GX 09-1 S1.20 L	L	9	1,00	1,10	1,20		1,34		R/L 02-GX 09-1		686
GX 09-1 S1.40 L	L	9	1,20	1,30	1,40		1,53		R/L 02-GX 09-1		688
GX 09-1 S1.70 L	L	9	1,50	1,60	1,70		1,82		R/L 02-GX 09-1		690
GX 16-2 S0.60 L	L	16	0,40	0,50	0,60		0,75		R/L 03-GX 16-2		607
GX 16-2 S0.80 L	L	16	0,60	0,70	0,80		0,94		R/L 03-GX 16-2		609
GX 16-2 S0.90 L	L	16	0,70	0,80	0,90		1,04		R/L 03-GX 16-2		611
GX 16-2 S1.00 L	L	16	0,80	0,90	1,00		1,14		R/L 03-GX 16-2		612
GX 16-2 S1.20 L	L	16	1,00	1,10	1,20		1,34		R/L 03-GX 16-2		614
GX 16-2 S1.40 L	L	16	1,20	1,30	1,40		1,53		R/L 03-GX 16-2		616
GX 16-2 S1.70 L	L	16	1,50	1,60	1,70		1,82		R/L 03-GX 16-2		618
GX 16-2 S1.95 L	L	16	1,75	1,85	1,95		2,07		R/L 03-GX 16-2		620
GX 16-2 S2.25 L	L	16	2,00	2,15	2,25		2,36		R/L 03-GX 16-2		622
GX 09-1 S1.95 N	N	9	1,75	1,85	1,95	0,1		2	GX 09-1	692	
GX 09-1 S2.25 N	N	9	2,00	2,15	2,25	0,1		2	GX 09-1	694	
GX 09-2 S2.75 N	N	9	2,50	2,65	2,75	0,1		2	GX 09-2	696	
GX 09-2 S3.25 N	N	9	3,00	3,15	3,25	0,1		2	GX 09-2	698	
GX 16-2 S2.75 N	N	16	2,50	2,65	2,75	0,1		3	GX 16-2	624	
GX 16-2 S3.25 N	N	16	3,00	3,15	3,25	0,1		3	GX 16-2	626	
GX 09-1 S0.60 R	R	9	0,40	0,50	0,60		0,75		R/L 02-GX 09-1		670
GX 09-1 S0.80 R	R	9	0,60	0,70	0,80		0,94		R/L 02-GX 09-1		672
GX 09-1 S0.90 R	R	9	0,70	0,80	0,90		1,04		R/L 02-GX 09-1		674
GX 09-1 S1.00 R	R	9	0,80	0,90	1,00		1,14		R/L 02-GX 09-1		676
GX 09-1 S1.20 R	R	9	1,00	1,10	1,20		1,34		R/L 02-GX 09-1		678
GX 09-1 S1.40 R	R	9	1,20	1,30	1,40		1,53		R/L 02-GX 09-1		680
GX 09-1 S1.70 R	R	9	1,50	1,60	1,70		1,82		R/L 02-GX 09-1		682
GX 16-2 S0.60 R	R	16	0,40	0,50	0,60		0,75		R/L 03-GX 16-2		695
GX 16-2 S0.80 R	R	16	0,60	0,70	0,80		0,94		R/L 03-GX 16-2		697
GX 16-2 S0.90 R	R	16	0,70	0,80	0,90		1,04		R/L 03-GX 16-2		699
GX 16-2 S1.00 R	R	16	0,80	0,90	1,00		1,14		R/L 03-GX 16-2		600
GX 16-2 S1.20 R	R	16	1,00	1,10	1,20		1,34		R/L 03-GX 16-2		602
GX 16-2 S1.40 R	R	16	1,20	1,30	1,40		1,53		R/L 03-GX 16-2		604
GX 16-2 S1.70 R	R	16	1,50	1,60	1,70		1,82		R/L 03-GX 16-2		606
GX 16-2 S1.95 R	R	16	1,75	1,85	1,95		2,07		R/L 03-GX 16-2		608
GX 16-2 S2.25 R	R	16	2,00	2,15	2,25		2,36		R/L 03-GX 16-2		610
P										●	●
M										●	●
K										●	●
N										○	○
S										●	●
H											
O										○	○

→ v_c Page 261

→ Application recommendation on page 262



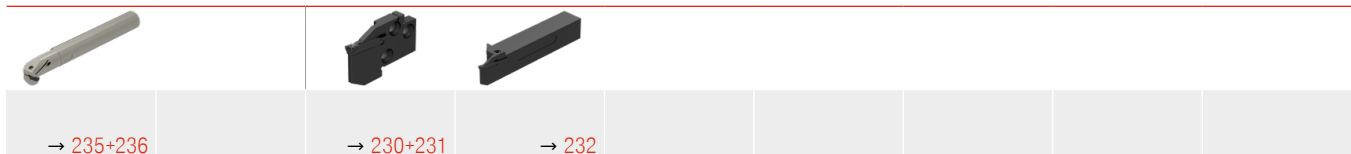
Attention - applies only to internal machining:

Right-hand insert → left-hand module or monobloc boring bar

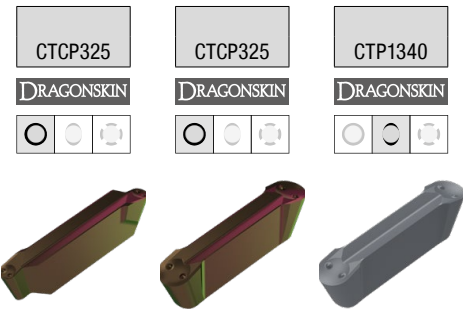
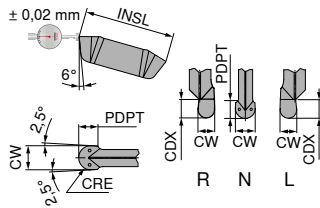
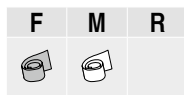
Left-hand insert → right-hand module or monobloc boring bar

Internal machining

External machining



Radius groove insert GX 09/16



Designation	IH	INSL mm	CW ± 0.02 mm	CRE mm	PDPT mm	CDX mm	for tool holder	70 354 ...	70 354 ...	70 354 ...
GX 09-1 R0.80 L	L	9	1,6	0,8		1,78	R/L 02-GX 09-1	988		
GX 16-2 R0.80 L	L	16	1,6	0,8		1,78	R/L 03-GX 16-2	912		
GX 16-2 R1.00 L	L	16	2,0	1,0		2,18	R/L 03-GX 16-2	916		
GX 16-2 R1.20 L	L	16	2,4	1,2		2,58	R/L 03-GX 16-2	920		
GX 09-1 R1.00 N	N	9	2,0	1,0	1,0		GX 09-1		992	
GX 09-1 R1.20 N	N	9	2,4	1,2	1,2		GX 09-1		996	
GX 16-2 R1.50 N	N	16	3,0	1,5	1,5		GX 16-2		924	624
GX 09-1 R0.80 R	R	9	1,6	0,8		1,78	R/L 02-GX 09-1	984		
GX 16-2 R0.80 R	R	16	1,6	0,8		1,78	R/L 03-GX 16-2	900		
GX 16-2 R1.00 R	R	16	2,0	1,0		2,18	R/L 03-GX 16-2	904		
GX 16-2 R1.20 R	R	16	2,4	1,2		2,58	R/L 03-GX 16-2	908		
P								●	●	●
M								○	○	●
K								●	●	●
N										○
S								○	○	●
H										
O										○

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Attention - applies only to internal machining:

Right-hand insert → left-hand module or monobloc boring bar

Left-hand insert → right-hand module or monobloc boring bar

Internal machining

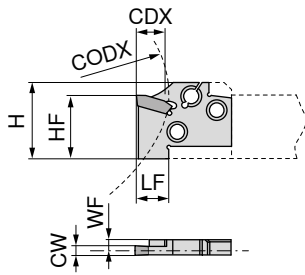
External machining

→ 235+236	→ 230+231	→ 232							

3

ModularClamp MSS – Radial grooving module GX 09/16

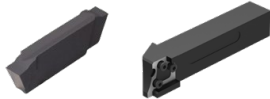
- ▲ For circlip grooves ≤ 2,75 mm
- ▲ For radius grooves up to ≤ 1,2 mm
- ▲ For external recessing



Illustrations show right-hand versions



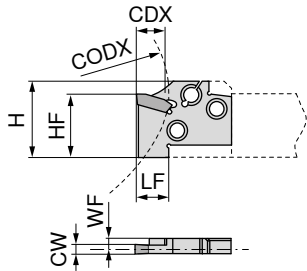
Designation	CW mm	WF mm	LF mm	HF mm	H mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Right-hand
									70 871 ...	70 870 ...
E12 R/L 02-GX 09-1	<1,95	3,15	8	12	14,5	36	2	GX 09-1 ..R/L	112	112
E16 R/L 02-GX 09-1	<1,95	3,15	8	16	19,5	48	2	GX 09-1 ..R/L	116	116
E20 R/L 03-GX 16-2	<2,75	3,40	13	20	24,0	60	3	GX 16-2 ..R/L	120	120



→ 223-229	→ 259+260									
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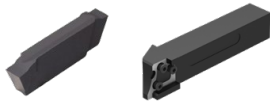
ModularClamp MSS – Radial grooving module GX 09/16

- ▲ For grooving and turning
- ▲ For circlip grooves ≤ 5,25 mm
- ▲ For radius grooves up to ≤ 2,5 mm
- ▲ For external recessing



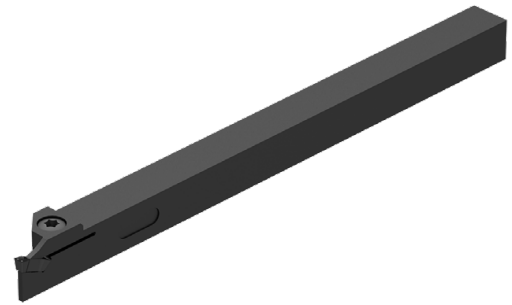
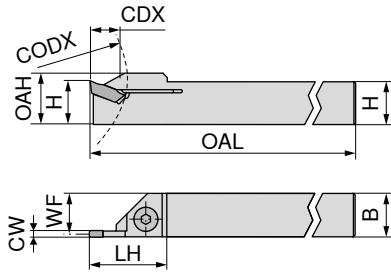
Illustrations show right-hand versions

Designation	CW mm	WF mm	LF mm	HF mm	H mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Right-hand
									70 866 ...	70 865 ...
E12 R/L 07-GX 09-1	2,00 - 2,75	3,15	8	12	14,5	36	7	GX 09-1 ..N	012	012
E12 R/L 07-GX 09-2	2,76 - 3,75	3,15	8	12	14,5	36	7	GX 09-2 ..N	112	112
E16 R/L 07-GX 09-1	2,00 - 2,75	3,15	8	16	19,5	48	7	GX 09-1 ..N	016	016
E16 R/L 07-GX 09-2	2,76 - 3,75	3,15	8	16	19,5	48	7	GX 09-2 ..N	116	116
E20 R/L 12-GX 16-1	2,00 - 2,75	3,75	13	20	24,0	60	12	GX 16-1 ..N	020	020
E20 R/L 12-GX 16-2	2,76 - 3,75	3,40	13	20	24,0	60	12	GX 16-2 ..N	120	120



→ 223-229	→ 259+260									
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MonoClamp – Radial Monoholder GX 09

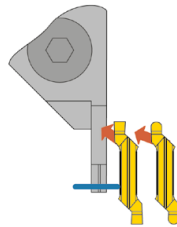


Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	CODX mm	CDX mm	for grooving inserts GX 09 ..	Left-hand	Right-hand
											70 863 ...	70 862 ...
E10 R/L 00-1010M-GX09	10	10	2,00-3,50	9,35	12	150	18	30	7	GX 09 ..	010	010



When using 'R' or 'L' tools the tool must be modified at the end face to ensure cutting clearance.



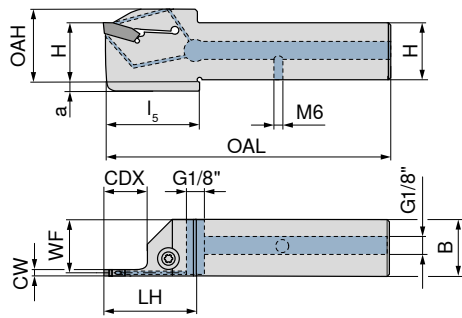
Spare parts
for grooving inserts
GX 09 ..

Key D		Clamping screw	
80 950 ...	70 950 ...		
T15	113	M4x11	442

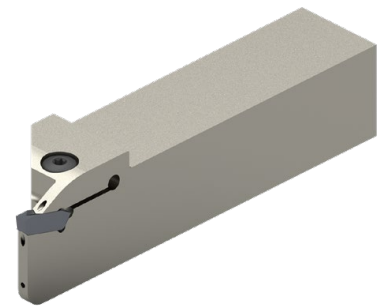


→ 223-229									
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MonoClamp – Radial Monoholder GX-DC 16



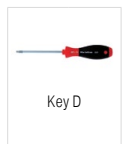
Illustrations show right-hand versions



NEW Left-hand **NEW** Right-hand

70 842 ... **70 842 ...**

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	l _s mm	a mm	CDX mm	for grooving inserts	70 842 ...	70 842 ...
E16 R/L 0013S2-1616X-S-DC-GX16	16	16	2	15,20	21	90	35	36	4	13	GX 16-1 E2..	21601	21600
E16 R/L 0013S3-1616X-S-DC-GX16	16	16	3	14,85	21	90	35	36	4	13	GX 16-2 E3..	31601	31600
E20 R/L 0013S2-2020X-S-DC-GX16	20	20	2	19,20	25	104	35			13	GX 16-1 E2..	22001	22000
E20 R/L 0013S3-2020X-S-DC-GX16	20	20	3	18,85	25	104	35			13	GX 16-2 E3..	32001	32000



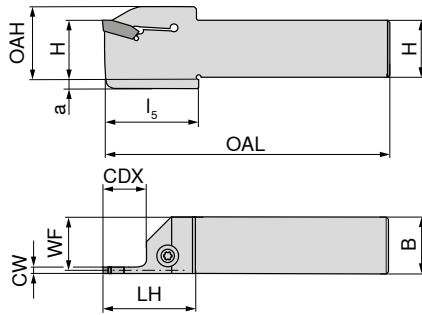
80 950 ...

Spare parts for grooving inserts

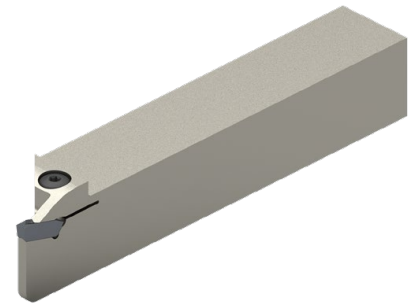
GX 16-1 E2..	T15 - IP	128
GX 16-2 E3..	T15 - IP	128

Suitable indexable inserts and cutting data can be found in the catalogue Cutting tools → **Chapter 11 – Grooving tools**

MonoClamp – Radial Monoholder GX 16



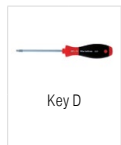
Illustrations show right-hand versions



NEW Left-hand **NEW** Right-hand

70 843 ... **70 843 ...**

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	I _s mm	a mm	CDX mm	for grooving inserts	70 843 ...	70 843 ...
E12 R/L 0013S2-1212K-S-GX16	12	12	2	11,20	17	125	25	26	4	13	GX 16-1 E2..	21201	21200
E12 R/L 0013S3-1212K-S-GX16	12	12	3	10,85	17	125	25	26	4	13	GX 16-2 E3..	31201	31200
E16 R/L 0013S2-1616K-S-GX16	16	16	2	15,20	21	125	25	26	4	13	GX 16-1 E2..	21601	21600
E16 R/L 0013S3-1616K-S-GX16	16	16	3	14,85	21	125	25	26	4	13	GX 16-2 E3..	31601	31600
E20 R/L 0013S2-2020K-S-GX16	20	20	2	19,20	25	125	25			13	GX 16-1 E2..	22001	22000
E20 R/L 0013S3-2020K-S-GX16	20	20	3	18,85	25	125	25			13	GX 16-2 E3..	32001	32000

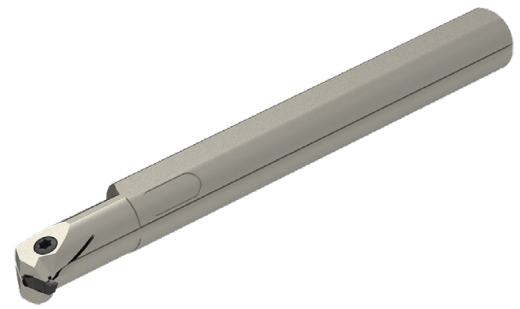
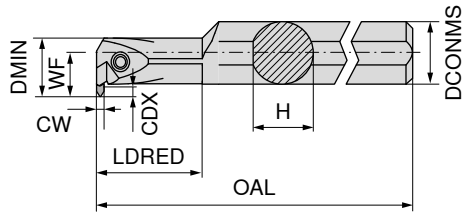


Spare parts for grooving inserts

GX 16-1 E2..	T15 - IP	128
GX 16-2 E3..	T15 - IP	128

Suitable indexable inserts and cutting data can be found in the catalogue Cutting tools → **Chapter 11 – Grooving tools**

MonoClamp – Radial Mono-boring bars GX 09

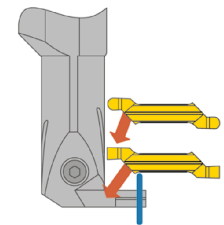


Illustrations show right-hand versions

Designation	H mm	DCONMS mm	DMIN mm	CW mm	CDX mm	WF mm	OAL mm	LDRED mm	for grooving inserts	Left-hand	Right-hand
										70 859 ...	70 858 ...
I12 R/L 90-2,5D-GX09	15,25	16	16	2,00-3,75	3	11	150	30	GX 09 ..	012	012

i Right hand boring bar → left hand insert only
Left hand boring bar → right hand insert only

i When using „R“ or „L“ tools the insert support seat requires modification to prevent the insert fouling.



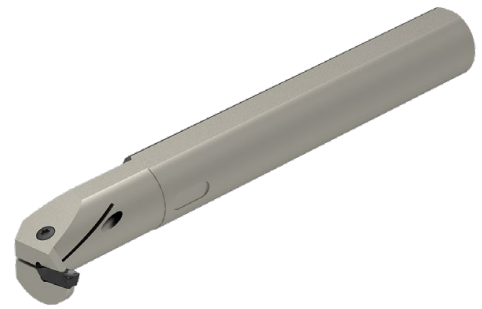
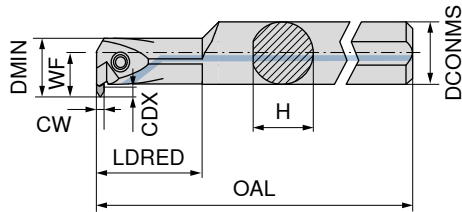
**Spare parts
for grooving inserts**
GX 09 ..

	80 950 ...	70 950 ...
Key D	113	441
Clamping screw	M3,5x12,5	441



→ 223-229

MonoClamp – Radial Mono-boring bars GX 16

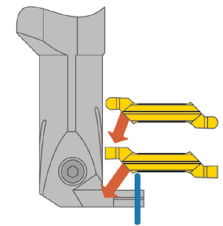


Illustrations show right-hand versions

Designation	H mm	DCONMS mm	DMIN mm	CW mm	CDX mm	WF mm	OAL mm	LDRED mm	for grooving inserts	Left-hand	Right-hand
										70 893 ...	70 892 ...
I16 R/L 90-2.0D-GX16-1	15,25	16	20,5	2,00 - 2,75	5,0	13,5	150	32	GX 16-1	516	516
I16 R/L 90-2.0D-GX16-2	15,25	16	20,5	2,76 - 3,75	5,0	13,5	150	32	GX 16-2	616	616
I20 R/L 90-2.0D-GX16-2	19,00	20	25,0	2,76 - 3,75	5,5	15,5	180	40	GX 16-2	620	620

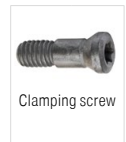
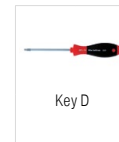
i Right hand boring bar → left hand insert only
Left hand boring bar → right hand insert only

i When using „R“ or „L“ tools the insert support seat requires modification to prevent the insert fouling.



Spare parts for grooving inserts

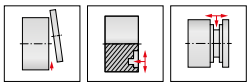
		80 950 ...	70 950 ...
GX 16-1	T15	113	403
GX 16-2	T15	113	403



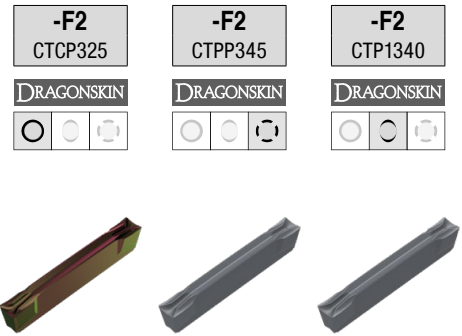
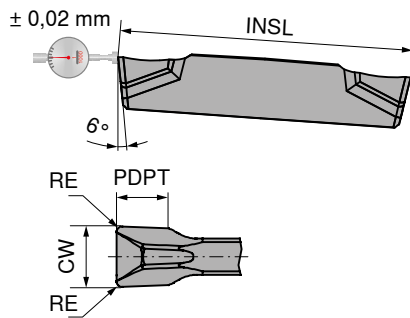
→ 223-229

Insert GX 24

- ▲ Insert with ground periphery
- ▲ Suitable also for parting off tubes and thin-walled workpieces



F	M	R



Designation	INSL mm	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 350 ...		
						962	862	662
GX 24-2 E3.00 N 0.30	24	3,0	0,3	2,5	GX 24-2	●	●	●
GX 24-2 E3.50 N 0.30	24	3,5	0,3	2,5	GX 24-2	○	○	○
P						●	●	●
M						○	○	○
K						●	●	●
N						○	○	○
S						○	○	○
H						○	○	○
O						○	○	○

→ v_c Page 261
→ Application recommendation on page 262

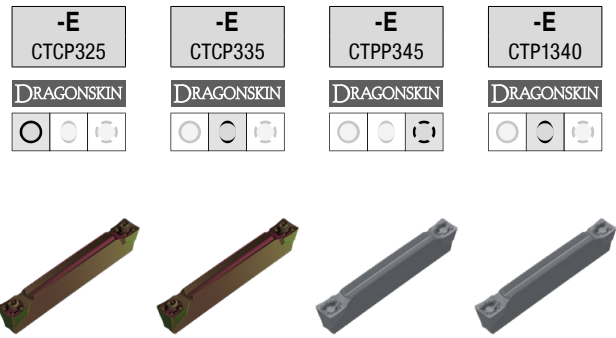
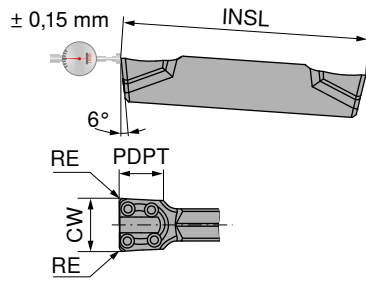
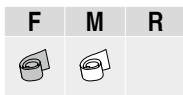
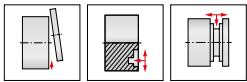
Internal machining

External machining



→ 243

Insert GX 24



Designation	INSL mm	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	70 350 ...			
						932	532	832	632
GX 24-2 E3.00 N 0.30	24	3	0,3	2,5	GX 24-2				
P						●	●	●	●
M						○	○	●	●
K						●	●		●
N									○
S						○		○	●
H									
O									○

→ v_c Page 261
→ Application recommendation on page 262

Internal machining

External machining



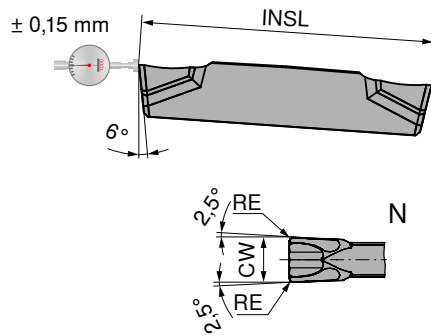
→ 243

Insert GX 24

▲ Very good swarf control



F	M	R



-M1 CTCP325	-M1 CTPP345	-M1 CTP1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL mm	CW mm	RE mm	for tool holder	70 363 ...		
					900	800	600
GX 24-1 E2.00 N 0.20	24	2	0,2	GX 24-1	900	800	600
GX 24-2 E3.00 N 0.20	24	3	0,2	GX 24-2	902	802	602
P					●	●	●
M					○	●	●
K					●		●
N							○
S					○	○	●
H							
O							○

→ v_c Page 261
→ Application recommendation on page 263

Internal machining

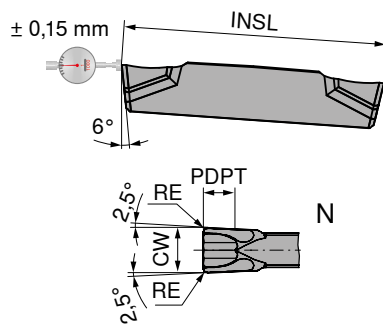
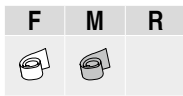
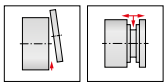
External machining



→ 243

Insert GX 24

▲ Very good swarf control



-M40 CTCP325	-M40 CTPP345	-M40 CTP1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL mm	CW mm	RE mm	PDPT mm	for tool holder	70 364 ...	70 364 ...	70 364 ...
						900	800	600
GX 24-2 E3.00 N 0.30	24	3	0,3	3,5	GX 24-2			
P						●	●	●
M						○	●	●
K						●		●
N								○
S						○	○	●
H								
O								○

→ v_c Page 261
→ Application recommendation on page 262

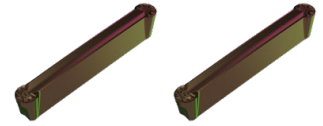
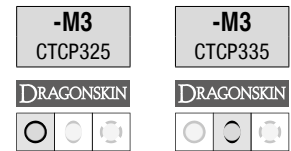
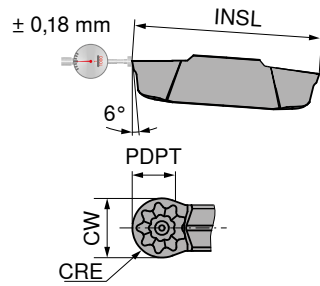
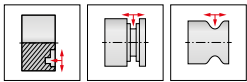
Internal machining

External machining



→ 243

Radius groove insert GX 24



Designation	INSL mm	CW $_{-0,05}$ mm	CRE mm	PDPT mm	for tool holder
GX 24-2 R1.50 N	24,4	3	1,5	1,5	GX 24-2

70 354 ...	70 354 ...
952	552

P	●	●
M	○	○
K	●	●
N		
S	○	
H		
O		

→ v_c Page 261
→ Application recommendation on page 263

Internal machining

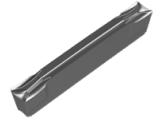
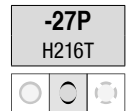
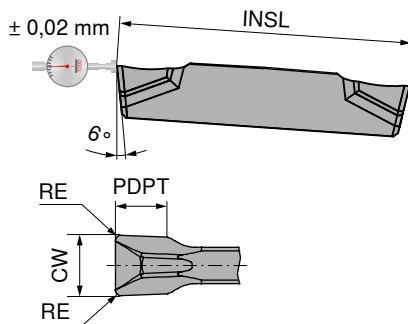
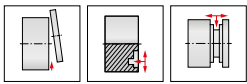
External machining



→ 243

Insert GX 24

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ ground periphery



70 350 ...

Designation	INSL mm	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder
GX 24-2 E3.00 N 0.30	24	3	0,3	2,5	GX 24-2

682

P	
M	
K	●
N	●
S	○
H	
O	○

→ v_c Page 261
→ Application recommendation on page 262

Internal machining

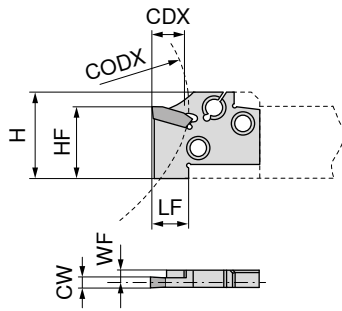
External machining



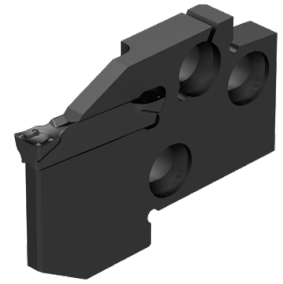
→ 243

ModularClamp MSS – Radial grooving module GX 24

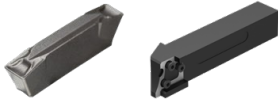
- ▲ For deep radial parting and grooving
- ▲ For turning



Illustrations show right-hand versions

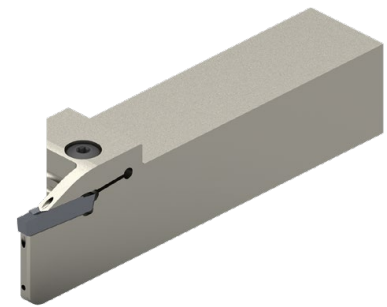
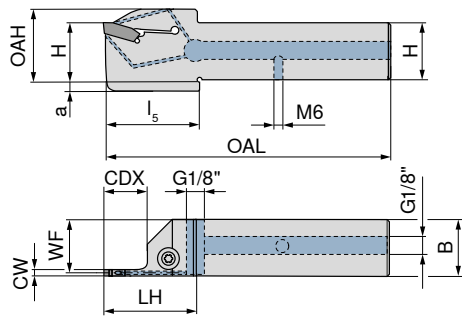


Designation	CW mm	WF mm	LF mm	HF mm	H mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Right-hand
									70 868 ...	70 867 ...
E20 R/L 21-GX 24-1	2,00 - 2,75	3,85	22	20	24	60	21	GX 24-1	020	020
E20 R/L 21-GX 24-2	3	3,40	22	20	24	60	21	GX 24-2	120	120



→ 237-242	→ 259+260									
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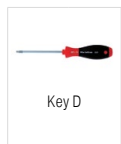
MonoClamp – Radial Monoholder GX-DC 24



NEW Left-hand **NEW** Right-hand

70 844 ... **70 844 ...**

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	l _s mm	a mm	CDX mm	for grooving inserts	70 844 ...	70 844 ...
E16 R/L 0021S2-1616X-S-DC-GX24	16	16	2	15,2	22	94	39	40	4	21	GX 24-1 E2..	21601	21600
E16 R/L 0021S3-1616X-S-DC-GX24	16	16	3	14,8	22	94	39	40	4	21	GX 24-2 E3..	31601	31600
E20 R/L 0021S2-2020X-S-DC-GX24	20	20	2	19,2	26	109	40			21	GX 24-1 E2..	22001	22000
E20 R/L 0021S3-2020X-S-DC-GX24	20	20	3	18,8	26	109	40			21	GX 24-2 E3..	32001	32000

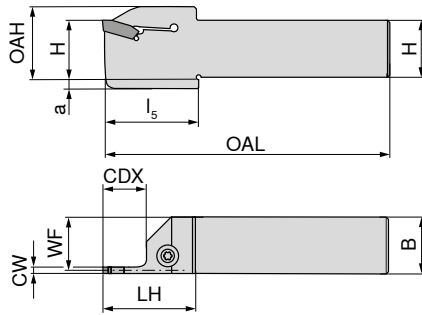


Spare parts for grooving inserts

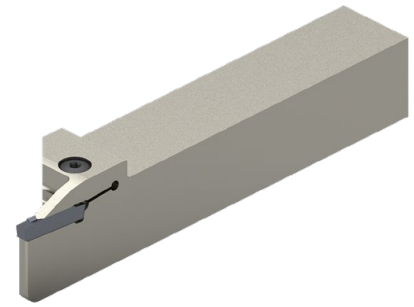
GX 24-1 E2..	T15 - IP	128
GX 24-2 E3..	T15 - IP	128

Suitable indexable inserts and cutting data can be found in the catalogue Cutting tools → **Chapter 11 – Grooving tools**

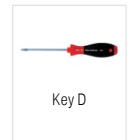
MonoClamp – Radial Monoholder GX 24



Illustrations show right-hand versions



Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	l _s mm	a mm	CDX mm	for grooving inserts	NEW	NEW
												Left-hand	Right-hand
E16 R/L 0021S2-1616K-S-GX24	16	16	2	15,2	22	125	39	40	4	21	GX 24-1 E2..	70 845 ...	70 845 ...
E16 R/L 0021S3-1616K-S-GX24	16	16	3	14,8	22	125	39	40	4	21	GX 24-2 E3..	21601	21600
E20 R/L 0021S2-2020K-S-GX24	20	20	2	19,2	26	125	40			21	GX 24-1 E2..	31601	31600
E20 R/L 0021S3-2020K-S-GX24	20	20	3	18,8	26	125	40			21	GX 24-2 E3..	22001	22000
												32001	32000



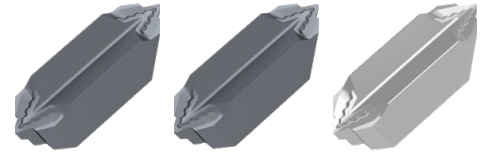
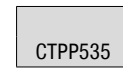
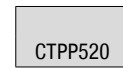
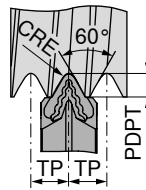
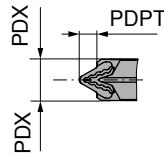
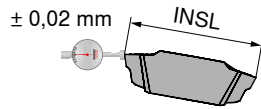
80 950 ...

**Spare parts
for grooving inserts**

GX 24-1 E2..	T15 - IP	128
GX 24-2 E3..	T15 - IP	128

i Suitable indexable inserts and cutting data can be found in the catalogue Cutting tools → Chapter 11 – Grooving tools

Threading inserts TC full profile – External thread 60°



70 357 ...	70 357 ...	70 357 ...
010	110	610
012	112	612
014	114	614
016	116	616
018	118	618
030	130	630
032	132	632
034	134	634
036	136	636



Designation	Size	TP mm	INSL mm	PDPT mm	PDX mm	CRE mm	for tool holder
TC 16-1 E 0.5 ISO	TC 16-1 ...	0,50	16	0,32	1,05	0,06	E.. R/L TC 16-1
TC 16-1 E 0.75 ISO	TC 16-1 ...	0,75	16	0,48	1,05	0,09	E.. R/L TC 16-1
TC 16-1 E 1.0 ISO	TC 16-1 ...	1,00	16	0,64	1,05	0,12	E.. R/L TC 16-1
TC 16-1 E 1.25 ISO	TC 16-1 ...	1,25	16	0,80	1,05	0,15	E.. R/L TC 16-1
TC 16-1 E 1.5 ISO	TC 16-1 ...	1,50	16	0,95	1,05	0,18	E.. R/L TC 16-1
TC 16-2 E 1.75 ISO	TC 16-2 ...	1,75	16	1,10	2,15	0,22	E.. R/L/N TC 16-2
TC 16-2 E 2.0 ISO	TC 16-2 ...	2,00	16	1,26	2,15	0,25	E.. R/L/N TC 16-2
TC 16-2 E 2.5 ISO	TC 16-2 ...	2,50	16	1,58	2,15	0,32	E.. R/L/N TC 16-2
TC 16-2 E 3.0 ISO	TC 16-2 ...	3,00	16	1,89	2,15	0,38	E.. R/L/N TC 16-2

P	●	●	
M	●	●	
K	●	●	●
N			●
S	○	●	
H	○		
O			○

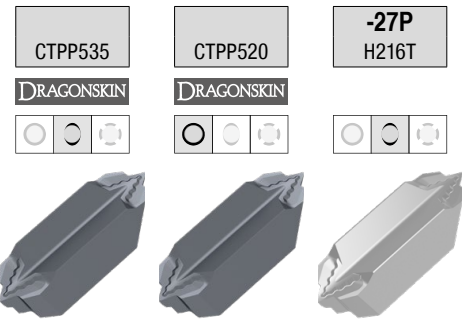
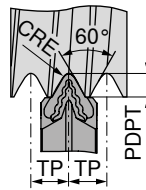
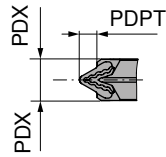
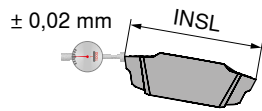
→ v_c Page 261
→ Application recommendation on page 269

Internal machining

External machining

							
		→ 251	→ 252				

Threading inserts TC full profile – Internal thread 60°



Designation	Size	TP mm	INSL mm	PDPT mm	PDX mm	CRE mm	for tool holder
TC 16-1 1.0 ISO	TC 16-1 ...	1,00	16	0,59	1,05	0,06	I32 R/L TC 16-1
TC 16-1 1.25 ISO	TC 16-1 ...	1,25	16	0,74	1,05	0,07	I32 R/L TC 16-1
TC 16-1 1.5 ISO	TC 16-1 ...	1,50	16	0,89	1,05	0,09	I32 R/L TC 16-1
TC 16-2 1.75 ISO	TC 16-2 ...	1,75	16	1,02	2,15	0,11	I32 R/L TC 16-2
TC 16-2 2.0 ISO	TC 16-2 ...	2,00	16	1,17	2,15	0,13	I32 R/L TC 16-2
TC 16-2 3.0 ISO	TC 16-2 ...	3,00	16	1,76	2,15	0,19	I32 R/L TC 16-2

70 358 ...	70 358 ...	70 358 ...
114	014	
118	016	618
	018	
	030	
132	032	
136	036	636

P	•	•	
M	•	•	
K	•	•	•
N			•
S	•	○	
H		○	
O			○

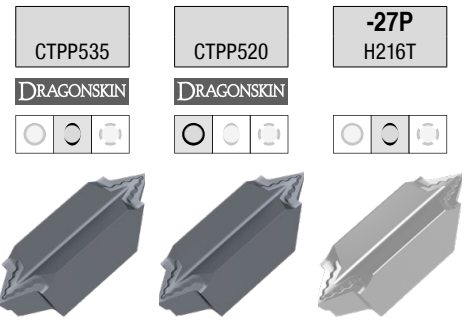
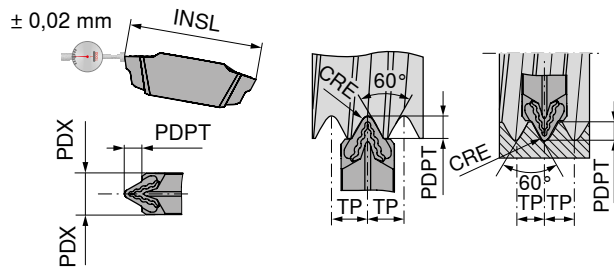
→ v_c Page 261
→ Application recommendation on page 269

Internal machining

External machining

→ 253								

Threading inserts TC partial profile 60°

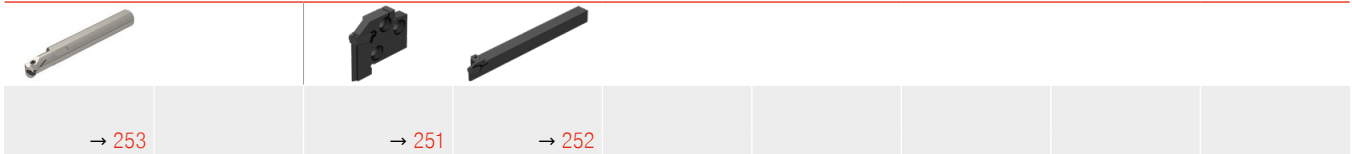


Designation	Size	TP mm	INSL mm	PDPT mm	PDX mm	CRE mm	for tool holder	70 355 ...	70 355 ...	70 355 ...
TC 16-1 EI A 60	TC 16-1 ...	0,5 - 1,5	16	1,27	1,05	0,03	E/l.. R/L TC 16-1	110	010	610
TC 16-2 EI AG 60	TC 16-2 ...	0,5 - 3,0	16	2,57	2,15	0,03	E/l.. R/L/N TC 16-2	132	032	632
TC 16-2 EI G 60	TC 16-2 ...	1,75 - 3,0	16	2,49	2,15	0,11	E/l.. R/L/N TC 16-2	130	030	630
P								●	●	
M								●	●	
K								●	●	●
N										●
S								●	○	
H									○	
O										○

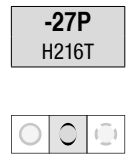
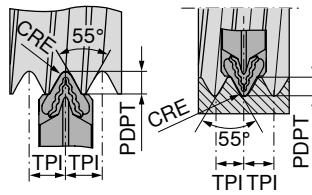
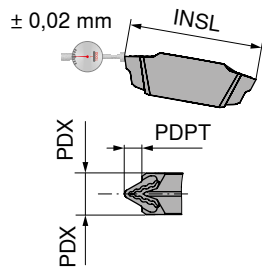
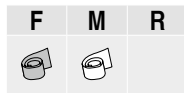
→ v_c Page 261
→ Application recommendation on page 269

Internal machining

External machining



Threading inserts TC full profile 55°



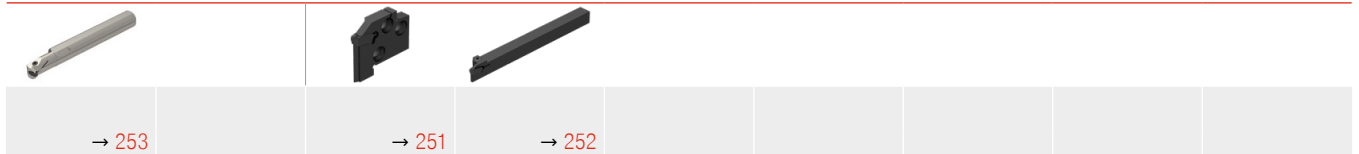
Designation	Size	TPI 1/"	INSL mm	PDPT mm	PDX mm	CRE mm	for tool holder	70 359 ...	70 359 ...	70 359 ...
TC 16-1 EI 28 W	TC 16-1 ...	28	16	0,60	1,05	0,12	E/l.. R/L TC 16-1	010	110	
TC 16-1 EI 20 W	TC 16-1 ...	20	16	0,84	1,05	0,17	E/l.. R/L TC 16-1	016		
TC 16-1 EI 19 W	TC 16-1 ...	19	16	0,88	1,05	0,17	E/l.. R/L TC 16-1	018	118	618
TC 16-1 EI 16 W	TC 16-1 ...	16	16	1,05	1,05	0,21	E/l.. R/L TC 16-1	022		
TC 16-2 EI 14 W	TC 16-2 ...	14	16	1,20	2,15	0,23	E/l.. R/L/N TC 16-2	030	130	630
TC 16-2 EI 12 W	TC 16-2 ...	12	16	1,40	2,15	0,27	E/l.. R/L/N TC 16-2		132	
TC 16-2 EI 11 W	TC 16-2 ...	11	16	1,53	2,15	0,30	E/l.. R/L/N TC 16-2	034	134	634
P								●	●	
M								●	●	
K								●	●	●
N										●
S								○	●	
H								○		
O										○

→ v_c Page 261

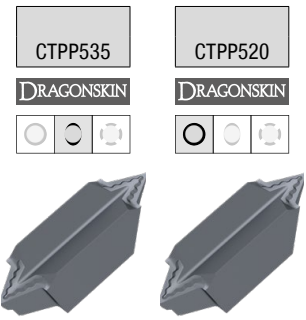
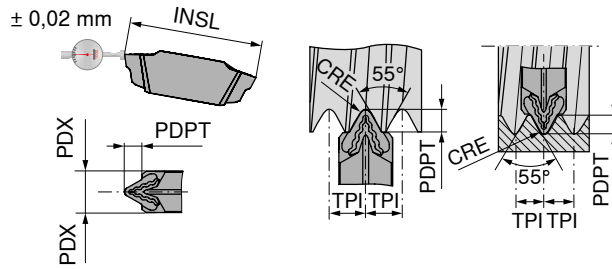
→ Application recommendation on page 269

Internal machining

External machining



Threading inserts TC partial profile 55°



Designation	Size	TPI 1/''	INSL mm	PDPT mm	PDX mm	CRE mm	for tool holder
TC 16-1 EI A 55	TC 16-1 ...	28 - 16	16	1,39	1,05	0,12	E/l.. R/L TC 16-1
TC 16-2 EI AG 55	TC 16-2 ...	28 - 8	16	2,91	2,15	0,12	E/l.. R/L/N TC 16-2
TC 16-2 EI G 55	TC 16-2 ...	14 - 8	16	2,78	2,15	0,23	E/l.. R/L/N TC 16-2

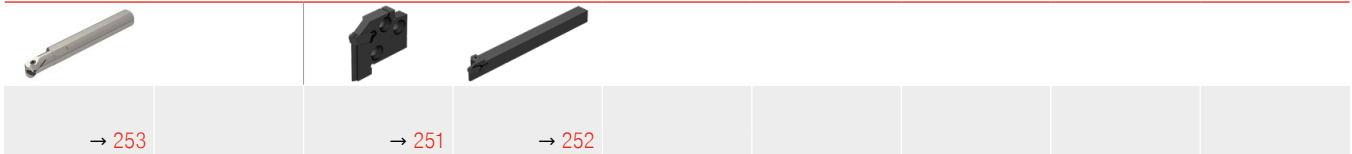
70 356 ...	70 356 ...
110	010
132	032
130	030

P	●	●
M	●	●
K	●	●
N		
S	●	○
H		○
O		

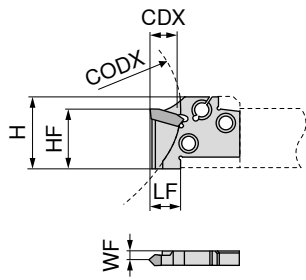
→ v_c Page 261
→ Application recommendation on page 269

Internal machining

External machining

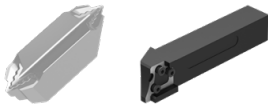


ModularClamp MSS – Threading module TC for external threads



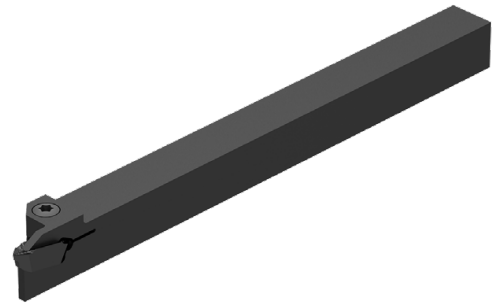
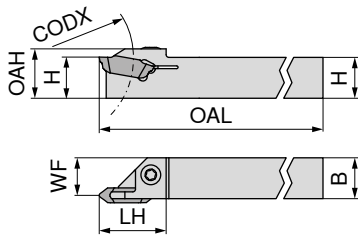
Illustrations show right-hand versions

Designation	TP mm	TPI 1/"	WF mm	HF mm	LF mm	H mm	CODX mm	CDX mm	for grooving inserts	Left-hand	Neutral	Right-hand
										70 872 ...	70 872 ...	70 872 ...
E20 R/L TC 16-1	0,5 - 1,5	28 - 16	3,45	13	20	24	60	8	TC 16-1 ...	120		020
E20 N TC 16-2	1,75 - 3,0	14 - 8	2,20	13	20	24		12	TC 16-2 ...		220	



→ 246-250	→ 259+260											
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MonoClamp – Monoholder TC – external thread



Illustrations show right-hand versions

Designation	TP mm	TPI 1/"	H mm	B mm	OAL mm	LH mm	OAH mm	WF mm	CODX mm	for grooving inserts	Left-hand	Right-hand
											70 883 ...	70 882 ...
E12 R/L 00-1212 TC16	0,5 - 3	28 - 8	12	12	150	20	14,5	11	30	TC16-1/2..	012	012

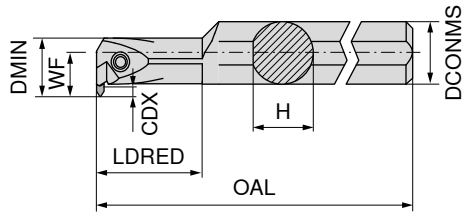
Spare parts
for grooving inserts
TC16-1/2..

	Key D	Clamping screw
	80 950 ...	70 950 ...
T15	113	M4x11
		442



→ 246-250										
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MonoClamp – Monobloc boring bar TC – internal thread



Illustrations show right-hand versions

Designation	WF mm	DCONMS mm	H mm	OAL mm	LDRED mm	CDX mm	DMIN mm	for grooving inserts	Left-hand	Right-hand
									70 857 ...	70 856 ...
I16 L 90-2D TC16	14,0	20	18	180	32	4	20	TC16-1/2..	016	
I20 R/L 90-2D TC16	17,5	25	23	200	40	5	25	TC16-..	020	020

**Spare parts
for Article no.**

Article no.	Key D	Clamping screw
70 857 016	T15	M4x14
70 857 020 / 70 856 020		M5x18



Key D



Clamping screw

80 950 ...

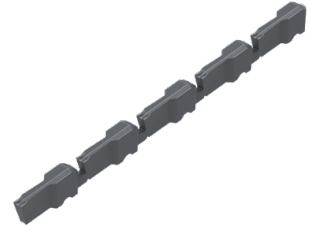
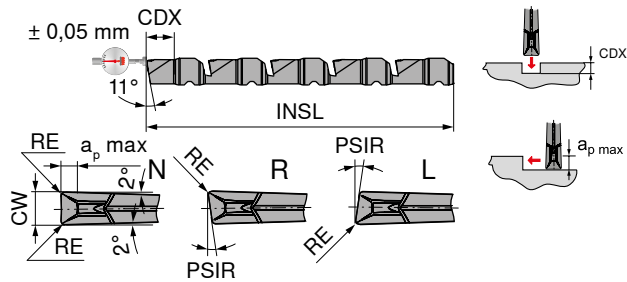
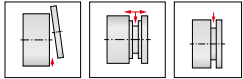
70 950 ...



→ 246-250

MaxiClick - Insert - cutting depth 5 mm

▲ 5 cutting edges



70 338 ...

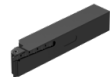
Designation	IH	CW mm	RE mm	PSIR	INSL mm	a _{p max} mm	CDX mm	for tool holder	
MC 05-5-1.00 L 07-F2	L	1,0	0,1	7°	59,2		5	MC 05 R/L	250
MC 05-5-1.50 L 07-F2	L	1,5	0,1	7°	59,2		5	MC 05 R/L	260
MC 05-5-1.00 N 0.10-F2	N	1,0	0,1		59,2	0,5	5	MC 05 R/L	210
MC 05-5-1.50 N 0.10-F2	N	1,5	0,1		59,2	1,0	5	MC 05 R/L	220
MC 05-5-1.00 R 07-F2	R	1,0	0,1	7°	59,2		5	MC 05 R/L	230
MC 05-5-1.50 R 07-F2	R	1,5	0,1	7°	59,2		5	MC 05 R/L	240

P	●
M	●
K	●
N	○
S	●
H	
O	○

→ v_c Page 261
→ Application recommendation on page 265

Internal machining

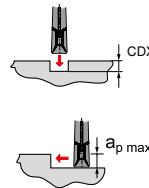
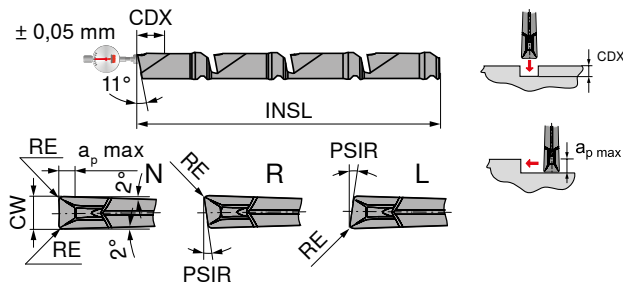
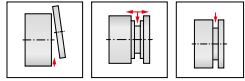
External machining



→ 257

MaxiClick - Insert - cutting depth 10 mm

▲ 4 cutting edges



70 339 ...

Designation	IH	CW mm	RE mm	PSIR	INSL mm	a _{p max} mm	CDX mm	for tool holder	
MC 10-4-1.50 L 07-F2	L	1,5	0,1	7°	59,2		10	MC 10 R/L	270
MC 10-4-2.00 L 07-F2	L	2,0	0,1	7°	59,2		10	MC 10 R/L	280
MC 10-4-2.50 L 07-F2	L	2,5	0,1	7°	59,2		10	MC 10 R/L	290
MC 10-4-1.50 N 0.10-F2	N	1,5	0,1		59,2	1,0	10	MC 10 R/L	210
MC 10-4-2.00 N 0.10-F2	N	2,0	0,1		59,2	1,5	10	MC 10 R/L	220
MC 10-4-2.50 N 0.10-F2	N	2,5	0,1		59,2	2,0	10	MC 10 R/L	230
MC 10-4-1.50 R 07-F2	R	1,5	0,1	7°	59,2		10	MC 10 R/L	240
MC 10-4-2.00 R 07-F2	R	2,0	0,1	7°	59,2		10	MC 10 R/L	250
MC 10-4-2.50 R 07-F2	R	2,5	0,1	7°	59,2		10	MC 10 R/L	260

P	●
M	●
K	●
N	○
S	●
H	
O	○

→ v_c Page 261
→ Application recommendation on page 265

Internal machining

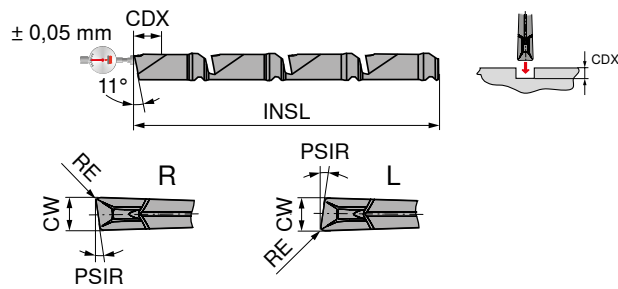
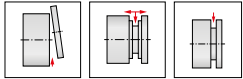
External machining



→ 258

MaxiClick - Insert - cutting depth 10 mm

▲ 4 cutting edges



70 340 ...

Designation	IH	CW mm	RE mm	PSIR	INSL mm	CDX mm	for tool holder	
MC 10-4-1.50 L 12-F3	L	1,5	0,1	12°	59,2	10	MC 10 R/L	270
MC 10-4-2.00 L 12-F3	L	2,0	0,1	12°	59,2	10	MC 10 R/L	280
MC 10-4-2.50 L 12-F3	L	2,5	0,1	12°	59,2	10	MC 10 R/L	290
MC 10-4-1.50 R 12-F3	R	1,5	0,1	12°	59,2	10	MC 10 R/L	240
MC 10-4-2.00 R 12-F3	R	2,0	0,1	12°	59,2	10	MC 10 R/L	250
MC 10-4-2.50 R 12-F3	R	2,5	0,1	12°	59,2	10	MC 10 R/L	260

P	●
M	●
K	●
N	○
S	●
H	
O	○

→ v_c Page 261
→ Application recommendation on page 265

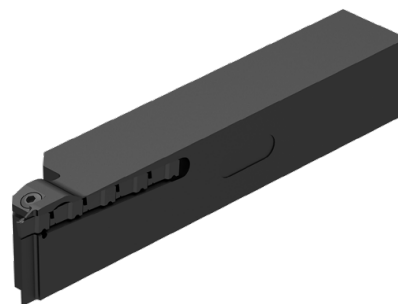
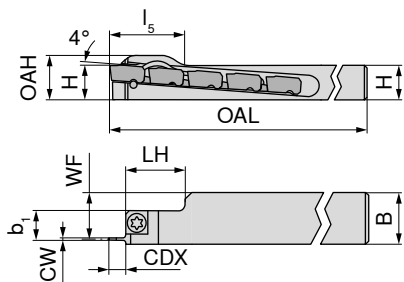
Internal machining

External machining



→ 258

MaxiClick - Toolholder - cutting depth 5 mm



Illustrations show right-hand versions

Designation	H mm	OAH mm	B mm	CW mm	CDX mm	WF mm	OAL mm	LH mm	l ₅ mm	for grooving inserts	Left-hand	Right-hand
											70 873 ...	70 873 ...
MC 05 R/L -1010K	10	13	10	1,00 - 1,50	5	8,5	125	23	27	MC 05	210	110
MC 05 R/L -1212K	12	15	12	1,00 - 1,50	5	10,5	125	23	27	MC 05	212	112
MC 05 R/L -1616K	16	19	16	1,00 - 1,50	5	14,5	125	23	20	MC 05	216	116
MC 05 R/L -2020K	20	23	20	1,00 - 1,50	5	18,8	125	23	20	MC 05	220	120

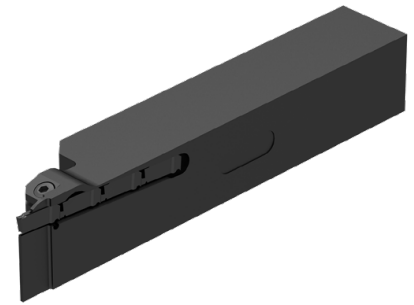
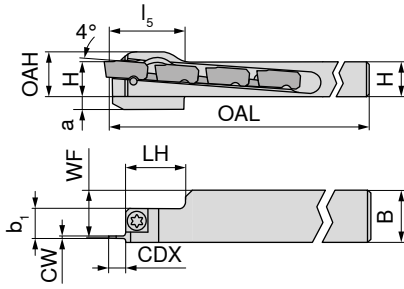
Spare parts
for grooving inserts
MC 05

	Key-T	Clamping screw
	70 950 ...	70 950 ...
T15	738	M4x11
		174



→ 254

MaxiClick - Toolholder - cutting depth 10 mm



Illustrations show right-hand versions

Designation	H mm	OAH mm	B mm	a mm	CW mm	CDX mm	WF mm	OAL mm	LH mm	l ₅ mm	for grooving inserts	Left-hand	Right-hand
												70 874 ...	70 874 ...
MC 10 R/L -1010K	10	13	10		1,50 - 2,50	10	8,5	125	28		MC 10	210	110
MC 10 R/L -1010K-S	10	13	10	6	1,50 - 2,50	10	8,5	125	28	27	MC 10	410 ¹⁾	310 ¹⁾
MC 10 R/L -1212K	12	15	12		1,50 - 2,50	10	10,5	125	28		MC 10	212	112
MC 10 R/L -1212K-S	12	15	12	4	1,50 - 2,50	10	10,5	125	28	27	MC 10	412 ¹⁾	312 ¹⁾
MC 10 R -1616K	16	19	16		1,50 - 2,50	10	14,5	125	28	20	MC 10		116
MC 10 R/L -2020K	20	23	20		1,50 - 2,50	10	18,8	125	28	20	MC 10	220	120

1) -S = strengthened variant

Spare parts for grooving inserts

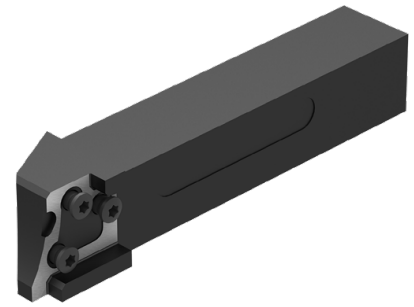
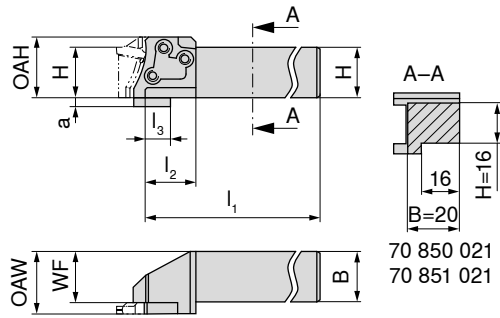
MC 10

	Key-T	Clamping screw
	70 950 ...	70 950 ...
	738	174
	M4x11	



→ 255+256									
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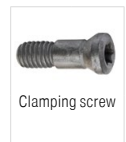
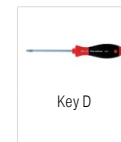
ModularClamp MSS - Tool holder 0°



Illustrations show right-hand versions

Designation	H mm	B mm	OAW mm	OAH mm	WF mm	l ₁ mm	l ₂ mm	for modules	Left-hand	Right-hand
									70 851 ...	70 850 ...
E12 R/L 00-1212E	12	12	15,25	14,5	11,75	70	12	E12 R/L ...	012	012
E16 R/L 00-1616G	16	16	19,25	19,5	15,75	90	16	E16 R/L ...	016	016
E20 R/L 00-1620G	16	20	24,25	24,0	20,15	90	20	E20 R/L ...	021 ¹⁾	021 ¹⁾
E20 R/L 00-2020J	20	20	24,25	24,0	20,15	110	20	E20 R/L ...	020	020

1) see view A-A



Spare parts for Article no.

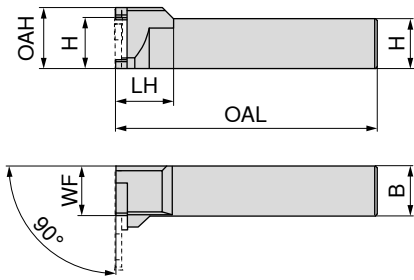
Article no.	Key D	Clamping screw
70 851 012 / 70 850 012	T08	M2,5x10
70 851 016 / 70 850 016	T15	M3,5x12,5
70 851 021 / 70 850 021	T15	M4x14
70 851 020 / 70 850 020	T15	M4x14

Module Overview

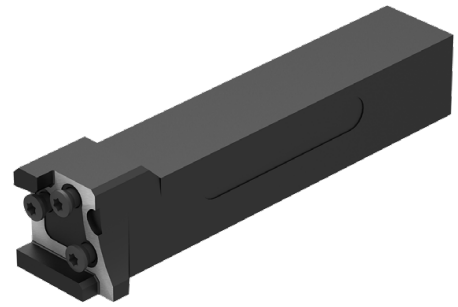


→ 206+207									
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ModularClamp MSS - Tool holder 90°



Illustrations show right-hand versions



Designation	H mm	B mm	OAH mm	WF mm	OAL mm	LH mm	for modules	Left-hand		Right-hand	
								70 855 ...	020	70 854 ...	020
E20 R/L 90-2020J	20	20	24	20	110	20	E20 R/L ...				

i For right hand holder → left hand module only
For left hand holder → right hand module only

Spare parts for Article no.	T15	Key D		Clamping screw	
		80 950 ...	113	70 950 ...	403
70 855 020 / 70 854 020			M4x14		

Module Overview



→ 206+207									
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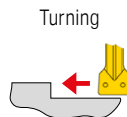
Cutting data values for grooving inserts GX/LX/FX/SX/AX/TC/MaxiClick

	DRAGONSKIN CTCP325	DRAGONSKIN CTCP335	DRAGONSKIN CTPP345	DRAGONSKIN CTPP520	DRAGONSKIN CTPP535	DRAGONSKIN CTP1340	H216T (SX/FX/GX)	H216T (TC)	
Index	v _c in m/min.								
P.1.1	220	184	135	236	180	177			
P.1.2	194	160	119	204	152	149			
P.1.3	171	138	105	174	126	123			
P.1.4	163	131	100	165	118	115			
P.1.5	151	120	93	150	105	102			
P.2.1	198	164	122	209	157	153			
P.2.2	161	129	99	162	116	112			
P.2.3	151	120	93	150	105	102			
P.2.4	121	92	74	113	73	70			
P.3.1	149	127	101	185	119	112			
P.3.2	96	89	80	131	88	76			
P.3.3	44	51	59	76	58	39			
P.4.1	149	127	101	185	119	112			
P.4.2	123	108	90	158	103	94			
M.1.1	149	127	101	185	119	112			
M.2.1	96	89	80	131	88	76			
M.3.1	133	116	94	169	109	102			
K.1.1	170	135		140	165	150	140	140	
K.1.2	150	115		115	150	125	115	115	
K.2.1	160	130		180	145	140	150	150	
K.2.2	145	105		115	155	120	110	110	
K.3.1	210	150		130	190	170	170	170	
K.3.2	140	115		110	145	120	140	140	
N.1.1						300	400	450	
N.1.2						200	100	450	
N.2.1						300	450	300	
N.2.2						200	450	300	
N.2.3						150	500	225	
N.3.1						300	425	190	
N.3.2						300	400	290	
N.3.3						200	275	290	
N.4.1						200	225	290	
S.1.1	35			40	30	35	38		
S.1.2	30		30	30	25	30	28		
S.2.1	20		25	20	15	20	28		
S.2.2	15			15	15	15	24		
S.2.3	15			18	15	15	20		
S.3.1				125	85	85	90		
S.3.2				50	35	40	55		
S.3.3				35	25	30	40		
H.1.1				30					
H.1.2				25					
H.1.3									
H.1.4									
H.2.1				25					
H.3.1				40					
O.1.1						130	130	290	
O.1.2									
O.2.1						105	105	290	
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.

GX – Depths of cut and feed rates

GX Standard / GX-E

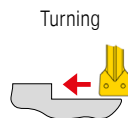


GX Standard / GX-E	Depth of Cut a_p , in mm						
	0,5	1,0	1,5	2,0	2,5	3,0	3,5
Cutting width in mm	Feed rate f in mm/rev.						
2	0,10-0,15	0,05-0,15	0,05-0,12	0,05-0,10			
3	0,10-0,17	0,05-0,17	0,05-0,17	0,05-0,15	0,05-0,12		
4	0,10-0,20	0,07-0,20	0,07-0,20	0,07-0,20	0,07-0,17	0,07-0,15	
5	0,10-0,25	0,10-0,25	0,07-0,25	0,07-0,25	0,07-0,22	0,07-0,20	
6	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,25	0,15-0,22

GX Standard / GX-E
Feed rate f in mm/rev.
0,05-0,20
0,10-0,25
0,10-0,25
0,10-0,30
0,15-0,35

When axial grooving reduce feed by 40%.

GX-F2

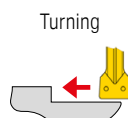


GX-F2	Depth of Cut a_p , in mm								
	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50
Cutting width in mm	Feed rate f in mm/rev.								
2	0,03-0,15	0,03-0,15	0,03-0,15	0,03-0,10					
3	0,04-0,17	0,04-0,17	0,04-0,17	0,04-0,15	0,04-0,13	0,04-0,12			
4	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,17	0,05-0,15		
5	0,07-0,20	0,07-0,20	0,07-0,20	0,07-0,20	0,07-0,20	0,07-0,20	0,07-0,17	0,07-0,15	
6	0,10-0,23	0,10-0,23	0,10-0,23	0,10-0,23	0,10-0,23	0,10-0,23	0,10-0,23	0,10-0,19	0,10-0,15

GX-F2
Feed rate f in mm/rev.
0,05-0,15
0,075-0,20
0,10-0,25
0,10-0,30
0,15-0,325

When axial grooving reduce feed by 40%.

GX-M40

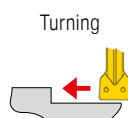


GX-M40	Depth of Cut a_p , in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,10-0,20	0,05-0,20	0,05-0,17	0,05-0,15				
3	0,10-0,22	0,10-0,22	0,10-0,21	0,10-0,20	0,10-0,17			
4	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,22	0,10-0,17		
5	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,27	0,10-0,23	0,10-0,20	
6	0,10-0,35	0,10-0,35	0,10-0,35	0,10-0,35	0,10-0,32	0,10-0,27	0,10-0,23	0,10-0,20

GX-M40
Feed rate f in mm/rev.
0,05-0,15
0,075-0,20
0,10-0,25
0,10-0,30
0,15-0,325

When axial grooving reduce feed by 40%.

GX-27P



GX-27P	Depth of Cut a_p , in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,05-0,23	0,05-0,23	0,05-0,23	0,05-0,20				
3	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,20			
4	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,25		
5	0,10-0,35	0,10-0,35	0,10-0,35	0,10-0,35	0,10-0,35	0,10-0,32	0,10-0,30	
6	0,10-0,40	0,10-0,40	0,10-0,40	0,10-0,40	0,10-0,40	0,10-0,36	0,10-0,33	0,10-0,30

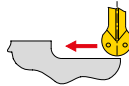
GX-27P
Feed rate f in mm/rev.
0,05-0,20
0,05-0,25
0,05-0,30
0,10-0,35
0,10-0,40

When axial grooving reduce feed by 40%.

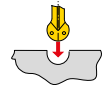
GX – Depths of cut and feed rates

GX-M3

Turning



Parting / Grooving

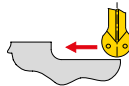


GX-M3	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius RE in mm	Feed rate f in mm/rev.							
1,5	0,15-0,35	0,15-0,35	0,15-0,30					
2	0,15-0,40	0,15-0,40	0,15-0,40	0,15-0,30				
2,5	0,15-0,50	0,15-0,50	0,15-0,50	0,15-0,40	0,15-0,35			
3	0,20-0,70	0,20-0,70	0,20-0,70	0,20-0,60	0,20-0,50	0,20-0,40		

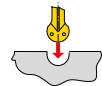
GX-M3	Feed rate f in mm/rev.
	0,05-0,20
	0,10-0,25
	0,10-0,25
	0,10-0,35

GX-27P Full Radius

Turning



Parting / Grooving



GX-27P Full Radius	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius RE in mm	Feed rate f in mm/rev.							
1,5	0,10-0,45	0,05-0,45	0,05-0,40					
2	0,15-0,50	0,10-0,50	0,10-0,50	0,10-0,40				
2,5	0,15-0,60	0,10-0,60	0,10-0,60	0,10-0,50	0,10-0,45			
3	0,25-0,70	0,20-0,70	0,15-0,70	0,15-0,70	0,15-0,65	0,15-0,60	0,15-0,55	
4	0,25-0,80	0,20-0,80	0,15-0,80	0,15-0,80	0,15-0,80	0,15-0,80	0,15-0,75	0,15-0,70

GX-27P Full Radius	Feed rate f in mm/rev.
	0,05-0,15
	0,075-0,20
	0,10-0,25
	0,10-0,30
	0,15-0,35

GX-M1

Parting / Grooving



GX-M1	Feed rate f in mm/rev.
Cutting width in mm	
2	0,05-0,15
3	0,10-0,20
4	0,10-0,25

GX Radius grooving inserts

Parting / Grooving



GX Radius grooving insert	Feed rate f in mm/rev.
Radius RE in mm	
0,80	0,05-0,10
1,00	0,05-0,15
1,20	0,05-0,15

GX circlip grooving

Grooving



GX circlip grooves	Feed rate f in mm/rev.
Cutting width in mm	
0,60-1,70	0,02-0,09
1,95-2,25	0,05-0,10
2,75-3,25	0,05-0,12

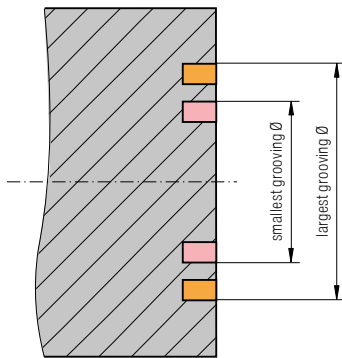
Feed guide and machining instructions for axial grooving and face turning with GX 24 axial

Approximate feed rates

GX

Designation	f in mm/rev.		a _{p,max} mm
	Diagram 1	Diagram 2	
GX 24-2 E 3.00 ..	0,05-0,15	0,05-0,20	2,5
GX 24-3 E 4.00 ..	0,05-0,15	0,05-0,25	3,0
GX 24-3 E 5.00 ..	0,05-0,15	0,10-0,25	3,0
GX 24-4 E 6.00 ..	0,05-0,20	0,10-0,30	3,5

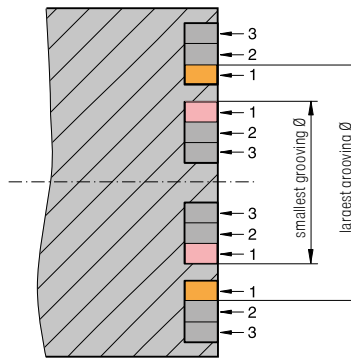
Axial grooving



It is only possible to plunge within the fixed diameter range of the axial grooving module or monoholder (e.g. 50 – 70 mm).

Important: The indicated diameter range is always valid for the external diameter of the groove!

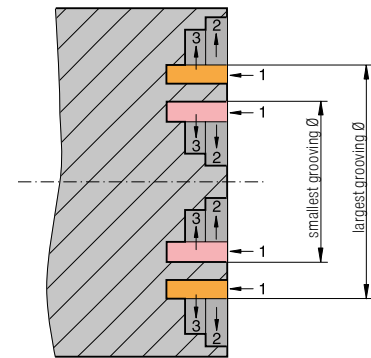
Axial grooving – Groove widening



In case of face turning it is possible to widen the groove above and below the diameter range indicated on the Axial grooving module or monoholder.

Important: Only the first groove must lie within the diameter range of the axial grooving module or axial monoholder. The depth of the widening groove must not be larger than the depth of the original groove.

Axial grooving and face turning

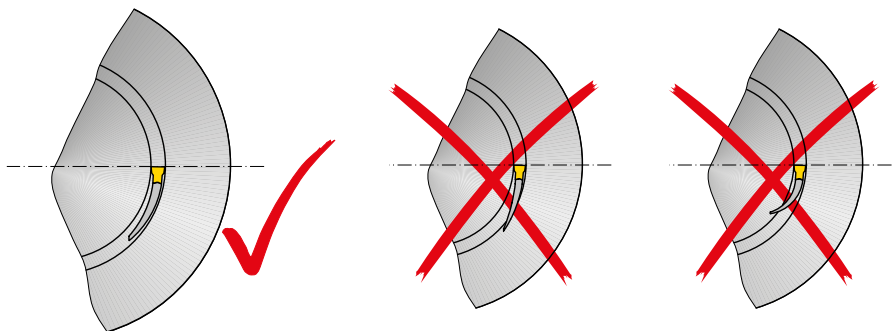


Groove widening by face turning in the diameter range above and below the values specified for the Axial grooving module and Axial monoholder are possible.

Important: Only the first groove must lie within the diameter range of the module.



Attention: The diameter of face grooves must lie within the diameter range indicated on the axial grooving module and axial monoholder. Not following this range will result in the tool being damaged or destroyed.



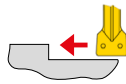
Correct Axial mono holder

Incorrect Axial mono holder

MaxiClick – Depths of cut and feed rates

MaxiClick 05

Turning



Depth of Cut a_p in mm

MaxiClick 05	0,25	0,50	0,75
Cutting width in mm	Feed rate f in mm/rev.		
1	0,02–0,15	0,02–0,10	
1,5	0,02–0,20	0,02–0,20	0,02–0,14

Parting / Grooving



MaxiClick 05

Feed rate f in mm/rev.
0,03–0,10
0,03–0,11

MaxiClick 10

Turning



Depth of Cut a_p in mm

MaxiClick 10	0,50	0,75	1,00	1,25	1,50
Cutting width in mm	Feed rate f in mm/rev.				
1,5	0,02–0,20	0,02–0,15	0,02–0,10		
2	0,02–0,20	0,02–0,20	0,02–0,14	0,02–0,10	
2,5	0,02–0,20	0,02–0,20	0,02–0,17	0,02–0,13	0,02–0,10

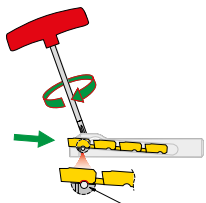
Parting / Grooving



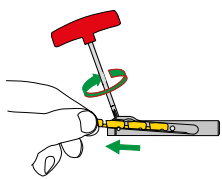
MaxiClick 10

Feed rate f in mm/rev.
0,03–0,11
0,03–0,12
0,03–0,15

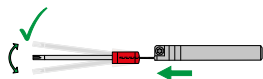
MaxiClick – System function



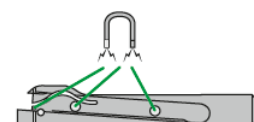
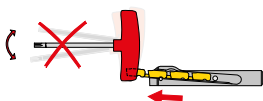
correct insert location in the seat



Withdraw cutting insert



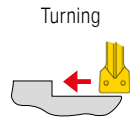
Worn-out cutting edge is broken off towards the left or right side



Magnets prevent the cutting insert from falling out of the tool holder during positioning

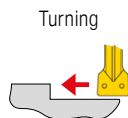
SX – Depths of cut and feed rates

SX-F2



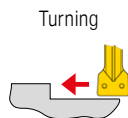
SX-F2	Depth of Cut a_p in mm									SX-F2
	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50	
Cutting width in mm	Feed rate f in mm/rev.									Feed rate f in mm/rev.
2	0,03-0,15	0,03-0,15	0,03-0,15	0,03-0,10						0,05-0,15
3	0,04-0,17	0,04-0,17	0,04-0,17	0,04-0,15	0,04-0,13	0,04-0,12				0,075-0,20
4	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,20	0,05-0,17	0,05-0,15			0,10-0,25

SX-M2



SX-M2	Depth of Cut a_p in mm								SX-M2
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	
Cutting width in mm	Feed rate f in mm/rev.								Feed rate f in mm/rev.
2	0,05-0,17	0,05-0,13	0,05-0,10						0,05-0,15
3	0,07-0,20	0,07-0,20	0,07-0,18	0,07-0,15					0,075-0,20
4	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,22	0,10-0,18				0,10-0,25
5	0,12-0,27	0,12-0,27	0,12-0,27	0,12-0,25	0,12-0,22				0,10-0,30
6	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,30	0,15-0,25	0,15-0,20			0,15-0,35

SX-27P



SX-27P	Depth of Cut a_p in mm								SX-27P
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	
Cutting width in mm	Feed rate f in mm/rev.								Feed rate f in mm/rev.
2	0,05-0,23	0,05-0,23	0,05-0,23	0,05-0,20					0,05-0,20
3	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,20				0,05-0,25
4	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,30	0,10-0,25			0,05-0,30

SX/LX – Depths of cut and feed rates

SX-M1

Parting / Grooving



SX-M1	
Cutting width in mm	Feed rate f in mm/rev.
2	0,05–0,15
3	0,10–0,20
4	0,10–0,25
5	0,15–0,30
6	0,15–0,35

SX-M3

Turning



SX-M3	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius in mm	Feed rate f in mm/rev.							
1,5	0,15–0,35	0,15–0,35	0,15–0,30					
2	0,15–0,40	0,15–0,40	0,15–0,40	0,15–0,30				
2,5	0,15–0,50	0,15–0,50	0,15–0,50	0,15–0,40	0,15–0,35			
3	0,20–0,70	0,20–0,70	0,20–0,70	0,20–0,60	0,20–0,50	0,20–0,40		

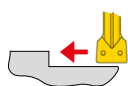
Parting / Grooving



SX-M3	
Feed rate f in mm/rev.	
0,05–0,20	
0,10–0,25	
0,10–0,25	
0,10–0,35	

LX-M2

Turning



LX-M2	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
8	0,17–0,45	0,17–0,45	0,17–0,45	0,17–0,45	0,17–0,40	0,17–0,37	0,17–0,35	
10	0,20–0,50	0,20–0,50	0,20–0,50	0,20–0,50	0,20–0,46	0,20–0,42	0,20–0,38	0,20–0,35

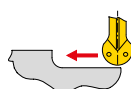
Parting / Grooving



LX-M2	
Feed rate f in mm/rev.	
0,20–0,50	
0,20–0,50	

LX-M3

Turning



LX-M3	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius in mm	Feed rate f in mm/rev.							
4	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,70	0,25–0,60	0,25–0,50

Parting / Grooving

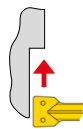


LX-M3	
Feed rate f in mm/rev.	
0,15–0,35	

AX/FX – Depths of cut and feed rates

AX-F50

Face turning



Axial grooving



AX-F50	Depth of Cut a_p in mm			
	0,5	1,0	1,5	2,3
Size	Feed rate f in mm/rev.			
AX 05	0,03–0,10	0,03–0,10		
AX 10	0,03–0,13	0,03–0,13	0,03–0,135	
AX 15	0,03–0,15	0,03–0,15	0,03–0,15	0,03–0,15

1. Plunging	
Feed rate f in mm/rev.	Feed rate f in mm/rev.
0,025–0,080	0,025–0,20
0,025–0,065	0,05–0,25
0,025–0,050	0,05–0,30

FX-F1

Parting / Grooving



FX-F1	Feed rate f in mm/rev.
Cutting width in mm	
2,2	0,025–0,10
3,1	0,05–0,15
4,1	0,05–0,20

FX-M1

Parting / Grooving



FX-M1	Feed rate f in mm/rev.
Cutting width in mm	
2,20	0,05–0,15
3,10	0,08–0,18
4,10	0,10–0,20
5,10	0,15–0,28
6,50	0,15–0,33
8,20	0,20–0,40
9,70	0,20–0,40

FX-27P

Parting / Grooving



FX-27P	Feed rate f in mm/rev.
Cutting width in mm	
2,20	0,01–0,10
3,10	0,015–0,125
4,10	0,05–0,15

FX-R2

Grooving



FX-R2	Feed rate f in mm/rev.
Cutting width in mm	
3,10	0,10–0,275
4,10	0,15–0,35

TC – Reference values for profile depth and number of passes



All listed values are guide values for steel machining

Metric ISO 60° external thread

Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	4-8	5-9	6-10	7-11	8-12	9-14	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,32	0,48	0,64	0,8	0,95	1,10	1,26	1,58	1,89	2,21	2,53	2,84	3,16

Metric ISO 60° internal thread

Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	4-8	5-9	6-10	7-11	8-12	9-14	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,30	0,45	0,59	0,74	0,89	1,02	1,17	1,46	1,76	2,02	2,35	2,64	2,93

Whitworth 55° external and internal thread

TPI	28	26	24	20	19	18	16	14	12	11	10	9	8	7	6	5
Number/cuts	5-8	5-8	5-9	5-9	6-10	6-10	7-11	8-12	9-14	9-14	10-17	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,60	0,65	0,70	0,84	0,88	0,93	1,05	1,20	1,40	1,53	1,68	1,87	2,11	2,41	2,81	3,37

Partial profile 60° external and internal thread

External	TC 16-2EI-AG60																
	TC 16-1EI-A60								TC 16-2EI-G60				TC 16-3EI-N60				
Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	5-9	6-10	7-11	8-12	9-14	10-15	12-19	8-12	9-14	10-15	12-20	12-20	13-21	14-22	14-22
Thread profile depth in mm	0,33	0,52	0,71	0,90	1,09	1,28	1,47	1,84	2,22	1,23	1,42	1,79	2,17	2,45	2,83	3,21	3,59

Internal	TC 16-2EI-AG60																
	TC 16-1EI-A60								TC 16-2EI-G60				TC 16-3EI-N60				
Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	5-9	6-10	7-11	8-12	9-14	10-15	12-19	8-12	9-14	10-15	12-20	12-20	13-21	14-22	14-22
Thread profile depth in mm	0,27	0,44	0,60	0,76	0,92	1,09	1,25	1,57	1,90	1,04	1,20	1,52	1,85	2,07	2,40	2,72	3,05

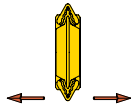
Partial profile 55° external and internal thread

External	TC 16-2EI-AG55													
	TC 16-1EI-A55													
TPI	28	26	24	20	19	18	16	14	12	11	10	9	8	
Number/cuts	5-8	5-8	6-9	6-9	7-12	7-12	8-14	9-14	10-16	10-16	11-18	12-20	12-20	
Thread profile depth in mm	0,66	0,72	0,79	0,95	1,01	1,07	1,21	1,39	1,63	1,79	1,97	2,20	2,48	

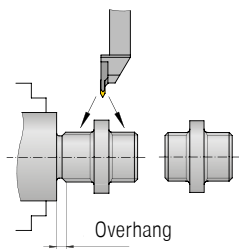
Internal	TC 16-2EI-G55							TC 16-3EI-N55		
	TPI	14	12	11	10	9	8	7	6	5
Number/cuts	8-12	9-14	10-15	11-18	12-20	12-20	12-20	12-20	14-22	
Thread profile depth in mm	1,22	1,46	1,56	1,80	2,03	2,31	2,40	2,89	3,56	

Comparison threading system with TC and conventional

TC

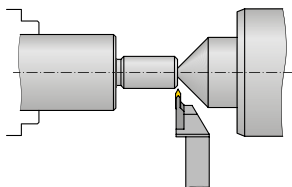


- ▲ Neutral configuration of insert makes operation in both directions possible
- ▲ Only one threading insert per pitch for partial profile and Whitworth thread; only two threading inserts (internal – external) per pitch for ISO threads
- ▲ Reduced stock holding
- ▲ good chip formation due to chip breaker with rake angle + 10 °

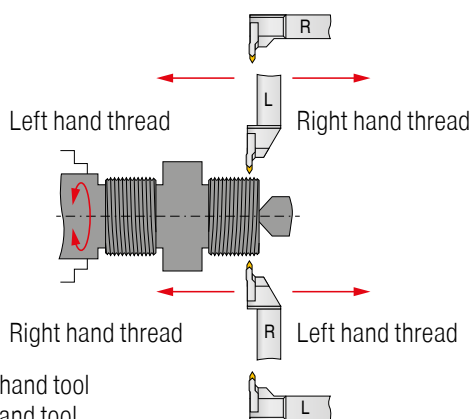


Greater efficiency through:

- ▲ shorter operating time
- ▲ Less tool changing
- ▲ High stability with small overhang
- ▲ Material saving
- ▲ Thread turning between shoulders
- ▲ Fewer tools and indexable inserts



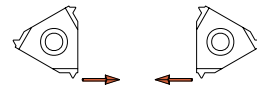
- ▲ Very good access to workpiece, therefore use of tailstock also possible with small thread diameters



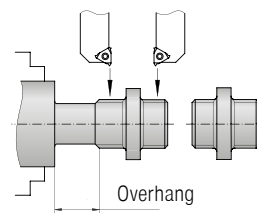
R = Right hand tool
L = Left hand tool

- ▲ ease of use, as the tools have no pitch angle correction they can be used in both directions

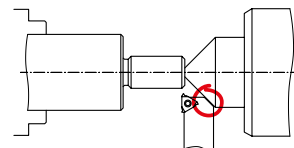
Conventional



- ▲ Right-hand and left-hand version of indexable insert, therefore operation only in one direction
- ▲ For every pitch 4 threading inserts are necessary (right – left, internal – external)



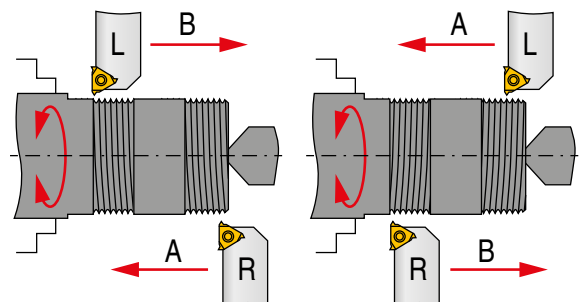
- ▲ For this machining method 2 tools are required
- ▲ additional material and stability loss with large overhang



- ▲ poor accessibility
- ▲ Collision danger

Right hand thread

Left hand thread

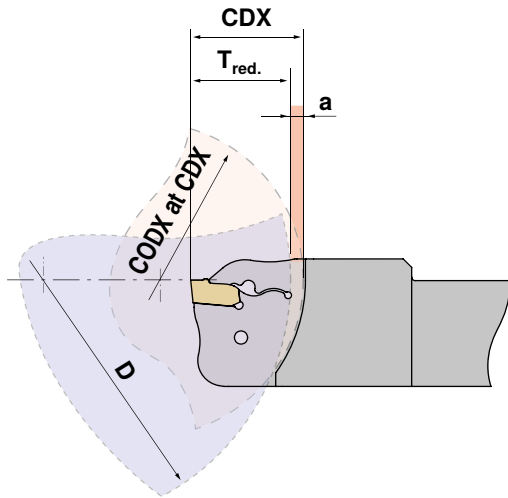


- ▲ With conventional thread turning the correction of the helix angle is necessary, therefore a high degree of application know-how is required
- ▲ Can only be operated in one direction

ModularClamp



The ModularClamp grooving modules are matched according to size on a particular workpiece diameter CODX. If the diameter of the workpiece is greater than CODX of the grooving Modules, this reduces the achievable penetration depth by the dimension „a“. The extent of reduction can be determined with the following table.



- CDX** maximum plunge depth in mm
- CODX** maximum workpiece Ø with full penetration depth in mm
- a** Reduction amount in mm

$$T_{red.} = CDX - a$$

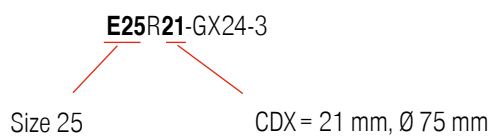
Grooving depth reduction

Size	Reduction a (mm) of the maximum grooving depth (CDX)																
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5	8,0	
E12	35	40	45	60	75	115	>250										
E16	50	55	60	70	80	100	130	200	>420								
E20	60	65	70	75	85	95	110	130	165	220	>330						
E25	75	80	85	90	100	110	125	140	160	190	240	320	>500				
E32	95	100	105	110	120	125	135	145	160	180	200	225	270	320	400	530	>800

Workpiece diameter D (mm)

Maximum workpiece diameter (CODX) with full penetration depth (CDX) in mm

Calculation example:

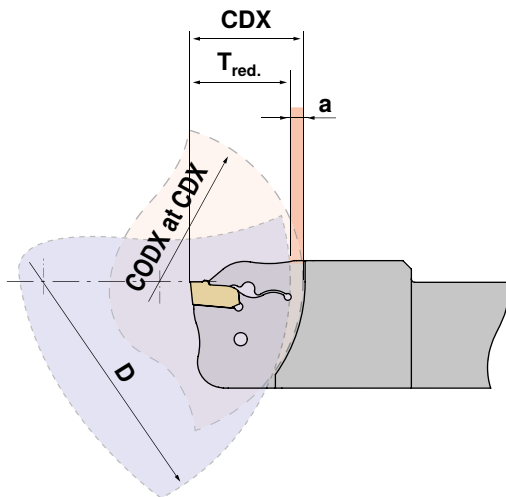


$$D = \text{Ø } 100 \text{ mm} \qquad CDX - a = T_{red.}$$

$$21 - 2 = 19 \text{ mm}$$

MonoClamp

SX



Depending on the groove width and shank size, the MonoClamp tools are designed for use with a specific workpiece diameter CODX. If the workpiece diameter is larger than the CODX of the grooving module, the achievable groove depth is reduced by the dimension „a“. The extent of the reduction is determined using the following table.

- CDX** maximum plunge depth in mm
- CODX** maximum workpiece Ø with full penetration depth in mm
- a** Reduction amount in mm

$$T_{red.} = CDX - a$$

Grooving depth reduction

Shank	Reduction a (mm) of the maximum grooving depth (CDX)																	
	0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	
E12R/L0022...	44	70	80	95	115	150	225	>450										
E16R/L0026...	52	90	105	125	155	210	305	>600										
E20R/L0026...	52	110	125	140	160	195	240	320	475	>950								
E20R/L0033...	66	110	125	140	160	195	240	320	475	>950								
E25R/L0026...	52	140	160	190	235	310	465	>930										
E25R/L0033...	66	155	175	200	230	275	340	450	675	>1350								
E25R/L0040...	80	155	175	200	230	275	340	450	675	>1350								

Workpiece diameter D (mm)

Maximum workpiece diameter (CODX) with full penetration depth (CDX) in mm

Calculation example:

E25R0033...

CDX = 33 mm, Ø 66 mm

$$D = \text{Ø } 200 \text{ mm} \qquad CDX - a = T_{red.} \\ 33 - 1,5 = 31,5 \text{ mm}$$

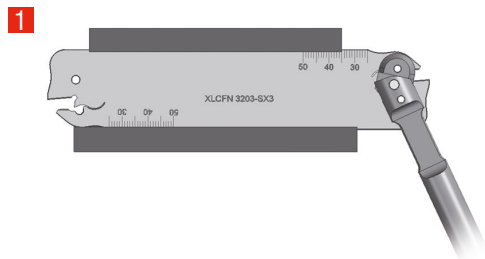
Clamping Method – SX-System

System function – inserting and removing the cutting inserts

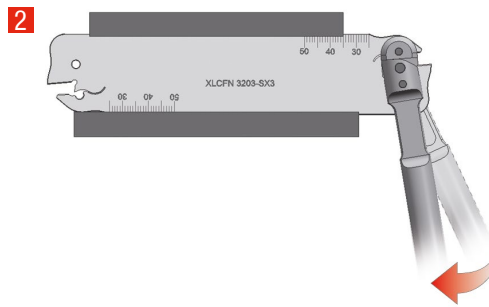
Precision system for internal and external grooving.

The key has been designed in such a way that it will not stress the material beyond its 'elastic limit'.

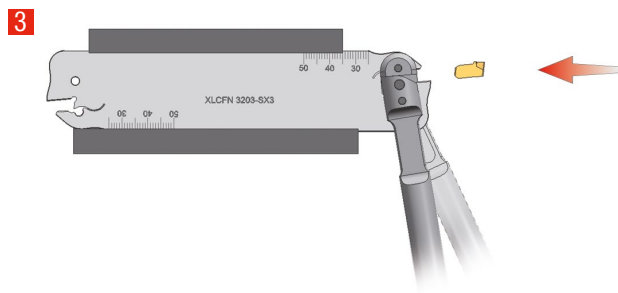
With this alternate system the material always remains in its flexible range and provides a substantial increase in tool life.



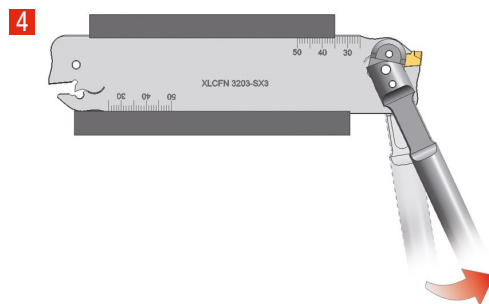
1 Locate wrench into blade with pins located in two holes



2 Movement of the fitting key in the direction of the insert seat opens the tool.



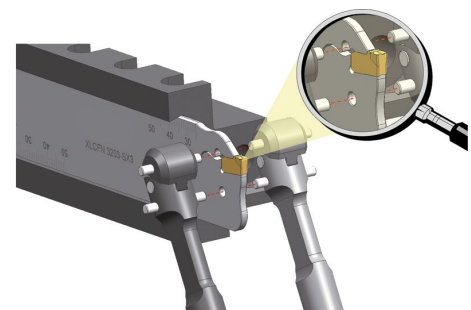
3 Load the grooving insert into position and press against the seat.



4 Moving the key forward causes the insert seat to close and clamp the insert.

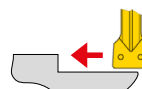
i When changing the inserts, always maintain tension on the key!

The clamp is designed so that the wrench can be inserted from both sides of the blade according to the accessibility.



Maximum blade projection when turning

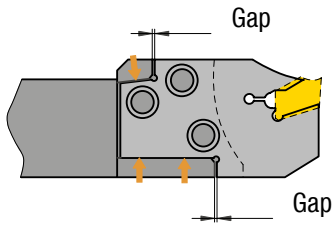
Blade	max. overhang
SX 2 – SX 3	25 mm
SX 4 – SX 5	30 mm
SX 6	35 mm



3

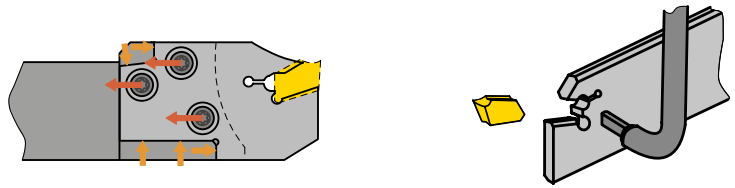
Clamping function – ModularClamp-Module

Module unclamped

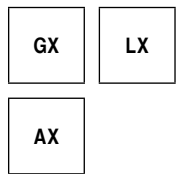


▲ Gap between module and support face for axial clamping

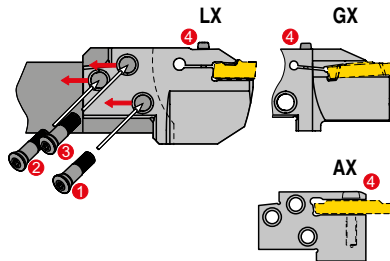
Module clamped



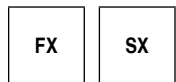
▲ Axial clamping with support face
▲ Connection free from play, therefore maximum stability



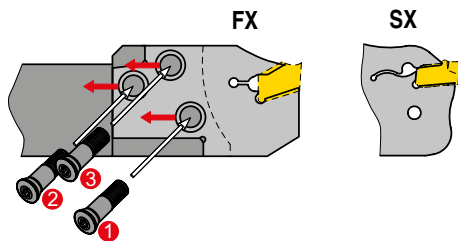
Active insert clamping



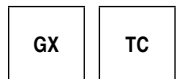
Clamping screws 1, 2 and 3 are used to clamp the modules.
The insert is clamped in the module via the additional screw 4.



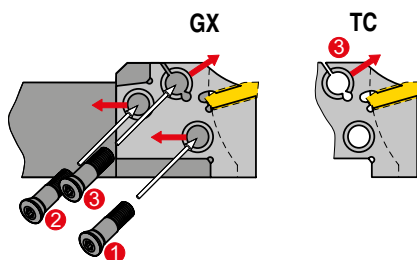
Self clamping of the insert



Clamping screws 1, 2 and 3 are used for clamping the module.
The insert is self-clamping.



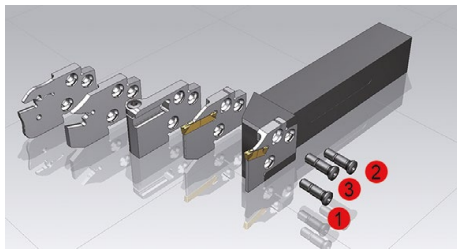
Active insert clamping



Clamping screws 1 and 2 are used for clamping the module.
Important: first tighten clamp screws 1 and 2.
Then clamp the insert with screw 3.

Torque Moment ModularClamp Module Screws

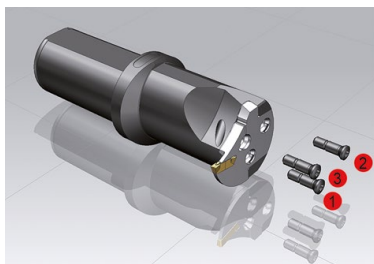
ModularClamp – Tool holder



1 Tighten screws to the correct Torque moment in this order.

ModularClamp – Tool holder	Screw	Torx	Torque moment	
			Nm	in.lbs
E12..	M2,5x10	T08	1,2	10,6
E16..	M3,5x12,5	T15	3,2	28,3
E20..	M4x14	T15	4,0	35,4
E25..	M5x18	T20	5,0	44,3
E32..	M6x20	T25	6,0	53,1

ModularClamp – Boring bar



1 Tighten screws to the correct Torque moment in this order.

ModularClamp – Boring bar	Screw	Torx	Torque moment	
			Nm	in.lbs
I16..	M2,5x10	T08	1,2	10,6
I20..	M3x11	T10	2,0	17,7
I25..	M3,5x12,5	T15	3,2	28,3
I32..	M4,5x17	T20	4,0	35,4
I40..	M5x18	T20	5,0	44,3

Tightening torque for the insert clamping

Recommended tightening torque

Grooving systems	Screw	Torx	Torque moment	
			Nm	in.lbs
GX / AX / LX	M3,5	T15	3,2	28,3
	M4,0	T15/T20	4,0	35,4
	M5,0	T20	5,0	44,3

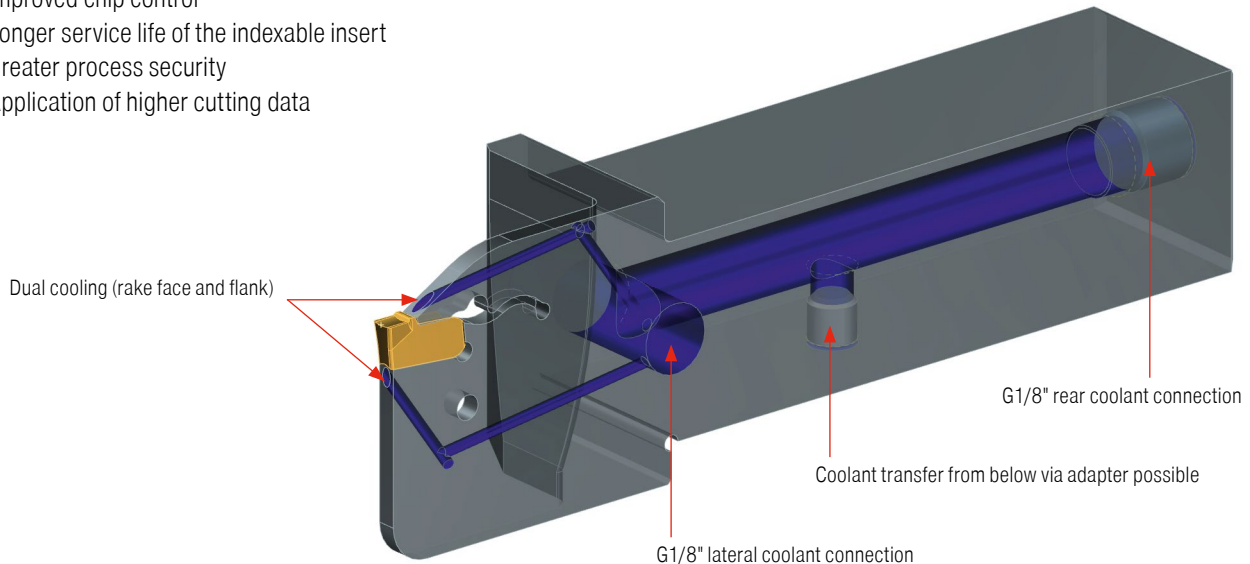
Advantages due to DirectCooling

Internal coolant supply with groove machining has a decisively positive effect on your turning process. In our CERATIZIT grooving range, the following grooving systems have an internal coolant supply:

- ▲ **SX** Grooving holder (single tool)
- ▲ **GX** Grooving holder (single tool)

Advantages due to DirectCooling

- ▲ Improved chip control
- ▲ Longer service life of the indexable insert
- ▲ Greater process security
- ▲ Application of higher cutting data



Advantages of the trochoidal turning strategy

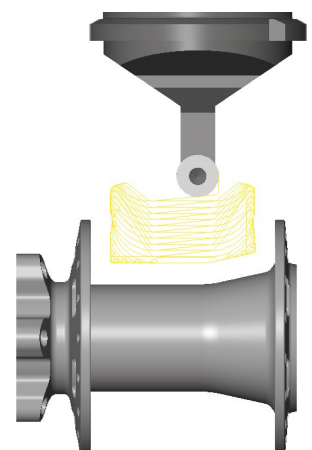
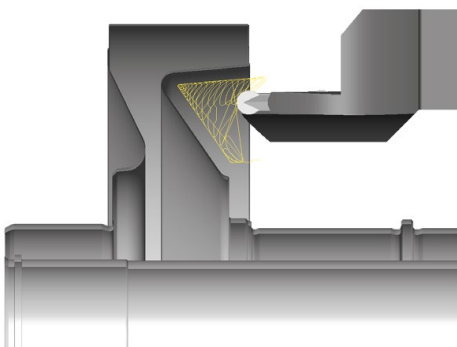
- ▲ Less wear and longer tool life due to softer entry and exit
- ▲ Smaller angle of engagement = less vibration
- ▲ Up to 40% higher feed rate values possible
- ▲ Broad field of application in austenitic steels, heat-resistant steels, Inconel and nickel-base alloys as well as long-chipping ductile materials
- ▲ Savings on tools

Trochoidal turning with support of the following CAM systems:

- ▲ hyperMill – High-performance turning
- ▲ Esprit CAM – ProfitTurning
- ▲ SolidCAM – Turning
- ▲ EdgeCAM – Waveform turning
- ▲ MasterCAM – Dynamic turning

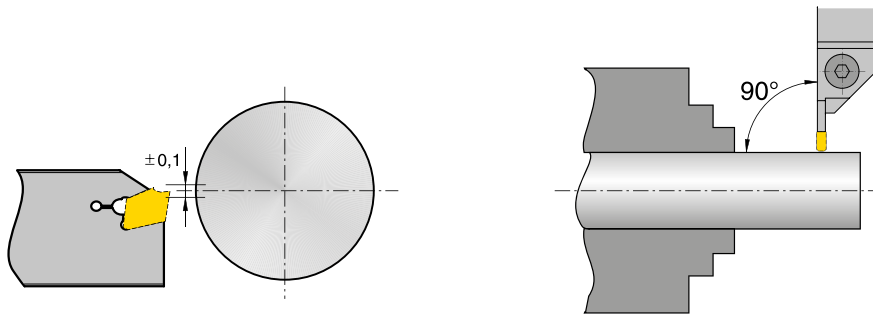
Possible applications

- ▲ Radial and axial recesses and grooves
- ▲ Rough machining – high-speed turning with button insert

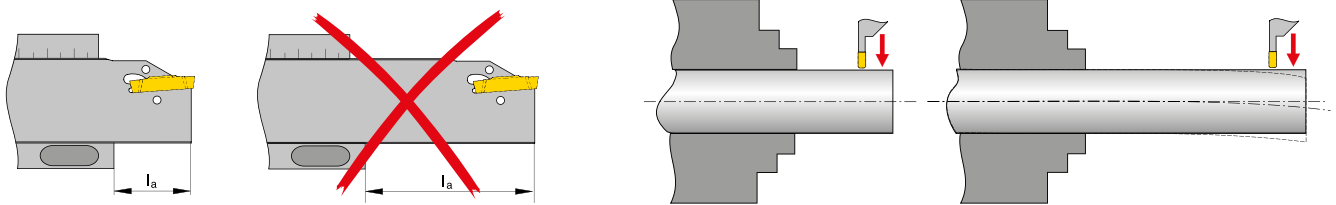


General references

Tool position

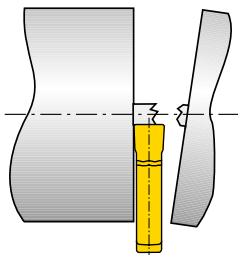


Tool overhang

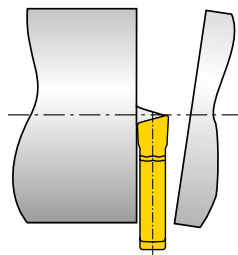


i As a rule of thumb: Overhang l_a should not be greater than 8 x s (Groove width).

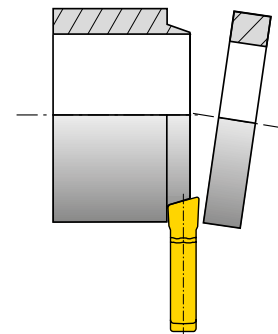
References for Parting off



From \varnothing 5 mm on, reduce feed "f" by approx. 50%. No parting across centre (risk of breakage).

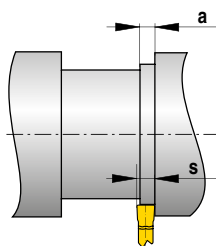


For parting pip-free, use R or L inserts. In order to minimize lateral deflection reduce feed by approx. 20–50 %.

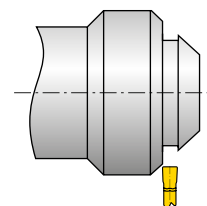


In order to prevent ring formation, use R or L inserts. Reduce feed "f" because of lateral deflection by approx. 20 % - 50%.

References for grooving



When grooving with an axial displacement the width „a“ should amount to at least 70 % of the grooving width „s“.



When grooving oblique surfaces the feed should be reduced by approx. 20 % - 50 % until fully engaged.

Trouble shooting guide for grooving FX/SX/GX/LX

Type of problem													
Type of wear				Work piece problems				Swarf control					
Edge breakage	Built-up edge	Wear on clearance face	Plastic deformation	Vibration	Formation of pits and burrs	Chattered surface	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)				
	↑	↓	↓	↓			↑	↓		Cutting speed	Cutting data	Remedy measures	
↓			↓	↑		↓	↓	↑	↓	Feed rate			
↓		↓	↓		↓	↓	↓			Feed rate at centre			-R -F -M ↑ ↓
↑	↓		⤿	⤿	↓	↓	↓	↓	↑	Chip groove			
					●					R/L execution	Insert selection		
↑		↑	↑	↓	↓	↓	↑			Corner radius			larger ↑ smaller ↓
↓		↑	↑							Tool Material			Wear resistance ↑ toughness ↓
				↓		↑	↑			Groove width	General criteria		
⤿				⤿		⤿	⤿			Tool clamping			
⤿				⤿		⤿	⤿			Work piece clamping			
⤿				⤿			↓			Overhang			
⤿		⤿		⤿	⤿		⤿			Tip height			
	●	●	●		●		●	●		Cooling lubricant			

↑ raise, increase large influence
↑ raise, increase small influence

↓ avoid, reduce large influence
↓ avoid, reduce small influence

⤿ check, optimise
● use

Trouble shooting guide for TC threading

Type of problem														
Type of wear			Workpiece				Swarf control							
Wear on clearance face	Break out cut	Plastic deformation	Built-up edge	Formation of a shoulder at the external thread Ø	Profile	Surface quality	Chatter marks, vibrations	Chip too thick	Chip too thin	Chip shape (snarl chip)				
↓		↓	↑			↑	↓				Cutting speed	Cutting data	Remedy measures	
a, b	a, b		a, b	a, b		a, b	a, b	a, b		a, b	Feed			a – over the flanks b – Alternating flanks
↑	↓	↓		↓	↓	↓	↓	↓	↑	↔	Feed (Cutting depth)			
↓	↑	↑		↔	↔	↑	↔	↑	↓	↓	Number of passes	Indexable insert selection	Remedy measures	
				●	●	●					Spring cut (Air cut)			
			●			●	●			●	Chip groove			
↑	↓	↑									Tool Material	Various criteria	Remedy measures	
				●	●	●					Full profile			Wear resistance ↑ toughness ↓
											Partial profile			
	↔					↔	↔				Stable tool holder / insert	Various criteria	Remedy measures	
	↔					↔	↔				Stable workpiece			
	↓					↓	↓				Overhang			
↔	↔	↔			↔	↔	↔				Tip height	Various criteria	Remedy measures	
●	●	●	●	●		●					Cooling lubricant			

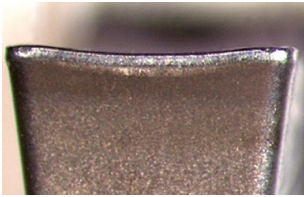
↑ raise, increase large influence
↑ raise, increase small influence

↓ avoid, reduce large influence
↓ avoid, reduce small influence

↔ check, optimise
● use

Wear causes

Wear on clearance face



Abrasion on the flank, normal wear after a given operation time

Cause

- ▲ cutting speed too high
- ▲ grade with too low wear resistance
- ▲ insufficient coolant

Remedy

- ▲ Reduce the cutting speed
- ▲ select a more wear resistant grade
- ▲ Improve/check coolant feed

Edge chipping



Excessive mechanical stress on the cutting edge causing carbide particles to break out.

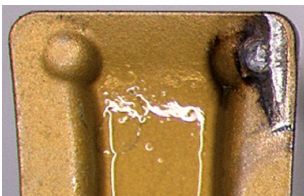
Cause

- ▲ too hard grade
- ▲ vibration
- ▲ too high feed and depth of cut
- ▲ chip impact

Remedy

- ▲ use tougher grade
- ▲ use negative geometry with chip breaker
- ▲ reduce overhang, check center height
- ▲ stabilize the cutting edge

Cratering



The outgoing hot chip causes cratering of the insert on the clamping surface.

Cause

- ▲ too high cutting speed, feed, or both
- ▲ too low rake angle
- ▲ grade with too low wear resistance
- ▲ incorrectly supplied cooling

Remedy

- ▲ Reduce cutting speed and / or feed
- ▲ Check coolant flow and / or increase pressure
- ▲ Use harder grade

Plastic deformation



Large mechanical load produces high temperature machining, this can lead to plastic deformation.

Cause

- ▲ too high operating temperature, thus softening the base material
- ▲ unsuitable grade
- ▲ inadequate coolant supply

Remedy

- ▲ Reduce the cutting speed
- ▲ select a more wear resistant grade
- ▲ use coolant

Built-up edge



Weld deposits of material on the cutting edge occurs when the chip does not flow caused by low average temperature.

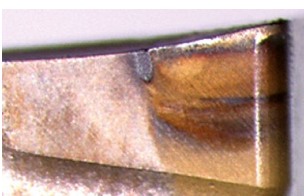
Cause

- ▲ too low cutting speed
- ▲ too low rake angle
- ▲ Incorrect grade
- ▲ lack of cooling / lubrication

Remedy

- ▲ Increase the cutting speed
- ▲ Increase rake angle
- ▲ Use TiN coating
- ▲ increase coolant strength

Notch wear



Contraction at maximum cutting depth.

Cause




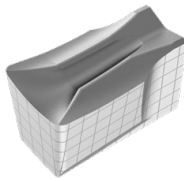
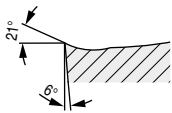
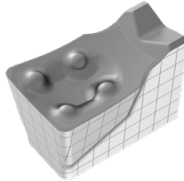
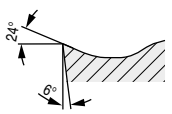
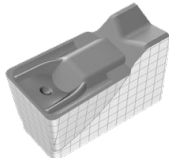
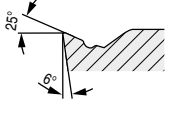
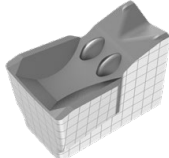
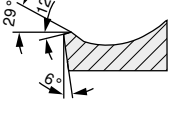
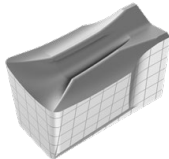
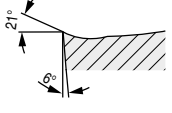
- ▲ Oxidation at the cutting edge
- ▲ Too high a temperature at the edge

Remedy

- ▲ Use different cutting depths
- ▲ Reduce cutting speed
- ▲ Improve/check coolant feed




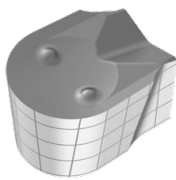
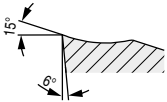
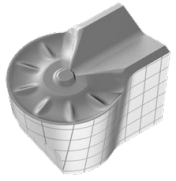
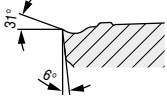
Chip breakers / Applications

System GX

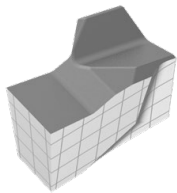
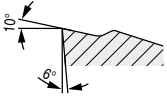
		Smooth cut	irregular cut	interrupted cut	Model	f in mm/rev.
						
-F2 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ first choice for stainless materials		CTCP325	CTP1340	CTPP345		0,05–0,15
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTP1340			
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
		CTP1340	CTP1340			
-Standard / -E ▲ positive geometry ▲ low-medium feed rates ▲ low cutting forces ▲ universal application ▲ first choice for axial grooving		CTCP325	CTCP335/CTP1340	CTPP345		0,05–0,17
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP335/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
		CTP1340	CTP1340			
-M40 ▲ stable geometry ▲ medium feed rates ▲ universal application ▲ good chip control		CTCP325	CTP1340	CTPP345		0,075–0,20
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
		CTP1340	CTP1340			
-M1 ▲ very stable cutting edge ▲ medium-high feed rates ▲ for interrupted cut ▲ for high tensile materials ▲ first choice for parting off		CTCP325	CTP1340	CTPP345		0,1–0,20
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
		CTP1340	CTP1340			
-27P ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals						0,05–0,25
		H216T	H216T	H216T		
		H216T	H216T	H216T		
		H216T	H216T			
		H216T				
		H216T				
		H216T				

Chip breakers / Applications





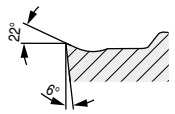

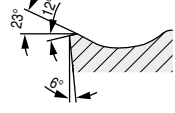

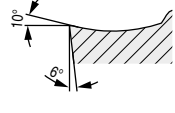
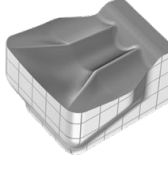
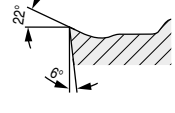
System GX

		Smooth cut	irregular cut	interrupted cut	Model	f in mm/rev.
						
Standard – Radius ▲ positive geometry ▲ honed cutting edge ▲ low-medium feed rates ▲ low cutting forces ▲ Radius grooving/copy turning		CTCP325	CTCP325/CTP1340	CTP1340		0,05–0,20
		CTP1340	CTP1340	CTP1340		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340			
		CTCP325				
		CTP1340	CTP1340			
-M3 – Radius ▲ stable geometry ▲ medium-high feed rates ▲ high surface quality ▲ Radius grooving/copy turning		CTCP325	CTCP325/CTCP335	CTCP335		0,07–0,20
		CTCP335	CTCP335			
		CTCP325	CTCP325/CTCP335	CTCP335		
		CTCP325				
		CTCP325				

Circlip grooving




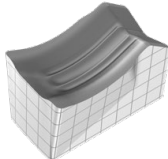
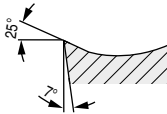
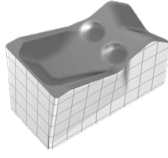
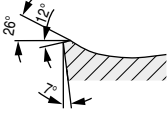
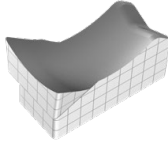
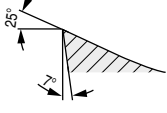
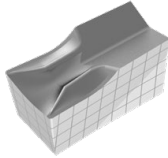
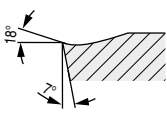
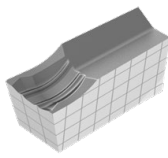
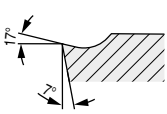
Standard ▲ positive geometry ▲ honed cutting edge ▲ low feed rates ▲ small corner radius ▲ Circlip grooves		CTP1340	CTP1340	CTP1340		0,05–0,30
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340			

Chip breakers / Applications

System SX		Smooth cut	irregular cut	interrupted cut	Model	f in mm/rev.
						
<p>-F2</p> <ul style="list-style-type: none"> ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ first choice for stainless materials 		CTCP325	CTCP325/CTP1340	CTPP345		0,05-0,15
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
<p>-M1</p> <ul style="list-style-type: none"> ▲ very stable cutting edge ▲ medium-high feed rates ▲ for interrupted cut ▲ for high tensile materials ▲ first choice for parting off 		CTCP325	CTCP335/CTP1340	CTPP345		0,10-0,20
		CTP1340	CTP1340	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
<p>-M2</p> <ul style="list-style-type: none"> ▲ stable geometry ▲ medium feed rates ▲ universal application ▲ good chip control 		CTCP325	CTCP335/CTP1340	CTPP345		0,075-0,20
		CTP1340	CTP1340	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
<p>-27P</p> <ul style="list-style-type: none"> ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals 						0,05-0,25
		H216T	H216T	H216T		
		H216T	H216T	H216T		
		H216T	H216T	H216T		
		H216T				

3

Chip breakers / Applications

System FX		Smooth cut	irregular cut	interrupted cut	Model	f in mm/rev.
						
-F1 ▲ very positive geometry ▲ low-medium feed rates ▲ low cutting forces ▲ good chip control ▲ low cutting edge build up		CTCP325	CTCP325/CTP1340	CTPP345		0,05–0,15
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
-M1 ▲ very stable cutting edge ▲ medium-high feed rates ▲ for interrupted cut ▲ for high tensile materials ▲ first choice for parting off		CTCP325	CTCP335/CTP1340	CTPP345		0,08–0,20
		CTP1340	CTP1340/CTPP345	CTPP345		
		CTCP325	CTCP325/CTP1340	CTP1340		
		CTP1340	CTP1340	CTPP345		
		CTCP325				
		CTP1340	CTP1340			
-27P ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals						0,03–0,13
		H216T	H216T	H216T		
		H216T	H216T	H216T		
		H216T	H216T			
		H216T				
-F2 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ first choice for stainless materials		CTP1340	CTP1340	CTP1340		0,05–0,10
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340			
-F3 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ reduced burrs / edge build up		CTP1340	CTP1340	CTP1340		0,02–0,06
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340	CTP1340		
		CTP1340	CTP1340			

Example of Coding Grooving Tools

Grooving insert

GX	16	E	2	3.00	N	0.50
Grooving system (GX)	Insert length (16 mm)	Type of insert, application	Width class of the holder / module or support surface (2 mm)	Groove width (3.0 mm)	Insert seat N=Neutral L=Left Handed R=Right Handed	Corner radius size (0.5 mm)

Module

E	25	12	R	GX	16	2
Application E = external I = internal	Size (25 mm)	Maximum groove depth (12 mm)	Module version R=Right Handed L=Left Handed	Grooving system (GX)	Insert size (16 mm)	Width class 2

Basic holder

E	25	00	R	2525	L
Application E = external I = internal	Size (25 mm)	Approach angle 0°	Holder version R=Right Handed L=Left Handed	Shank type 25x25mm	Shank length L = (sh. ISO)

GX mono holder (old)

E	25	R	00	2525	M	GX24-3
----------	-----------	----------	-----------	-------------	----------	---------------

GX mono holder (new)

E	25	R	00	2525	M	GX24
----------	-----------	----------	-----------	-------------	----------	-------------

GX mono holder (new with DC)

E	25	R	00	2525	M	GX24
----------	-----------	----------	-----------	-------------	----------	-------------



Compilation

Basic holder

Module

Grooving insert

E25 R 00 – 2525L

E25 R 12 – GX 16-2

GX 16-2 E3.00 N 0.50

NEW

S

Insert clamping screw

NEW

S

Insert clamping screw

NEW

DC

DirectCooling

Grades Overview

CTCP325
DRAGONSKIN

- ▲ Carbide, TiCN-Al₂O₃-coated
- ▲ ISO | **P25** | M20 | **K30** | S25
- ▲ The wear-resistant solution for steel and cast iron materials at high cutting speeds

CTCP335
DRAGONSKIN

- ▲ Carbide, TiCN-Al₂O₃-coated
- ▲ ISO | **P35** | M30 | **K35**
- ▲ The reliable choice for machining steel and cast iron materials

CTPP345
DRAGONSKIN

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P45** | **M40** | S40
- ▲ The reliable solution for steel materials and austenitic steels under unstable conditions

CTP1340
DRAGONSKIN

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P30** | **M25** | **K30** | N30 | **S30** | O30
- ▲ The universal high-performance grade for steel materials, austenitic steel, cast iron materials and heat-resistant alloys

CTPP520
DRAGONSKIN

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P20** | **M15** | **K25** | S25 | H5
- ▲ The wear-resistant grade for wet machining of steels

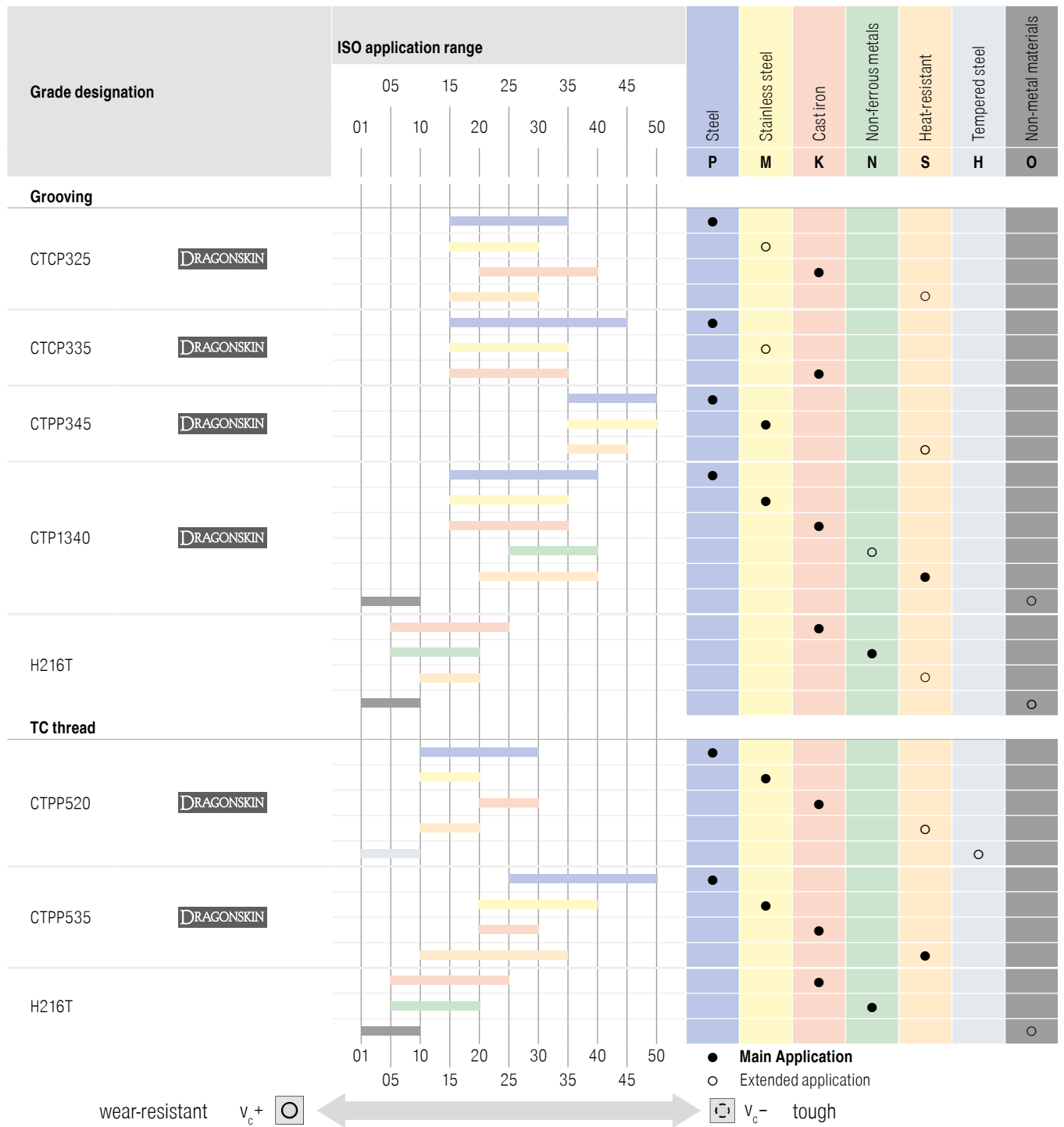
CTPP535
DRAGONSKIN

- ▲ Carbide, AlTiN-coated
- ▲ ISO | **P35** | **M30** | **K25** | **S30**
- ▲ The tough thread turning grade for universal application

H216T

- ▲ Carbide, uncoated
- ▲ ISO | **K15** | **N15** | S15 | O5
- ▲ The uncoated carbide grade for machining aluminium and other non-ferrous metals
- ▲ Also highly suitable for HSC machining

Application



3

Table of contents

System overview	289
Toolfinder	288+289
Product programme	
UltraMini	290-320
MiniCut	321-337
Technical Information	
Cutting Data	338-341
Symbol explanation, coatings and thread types	342

WNT \ Performance

Premium quality tools for high performance.

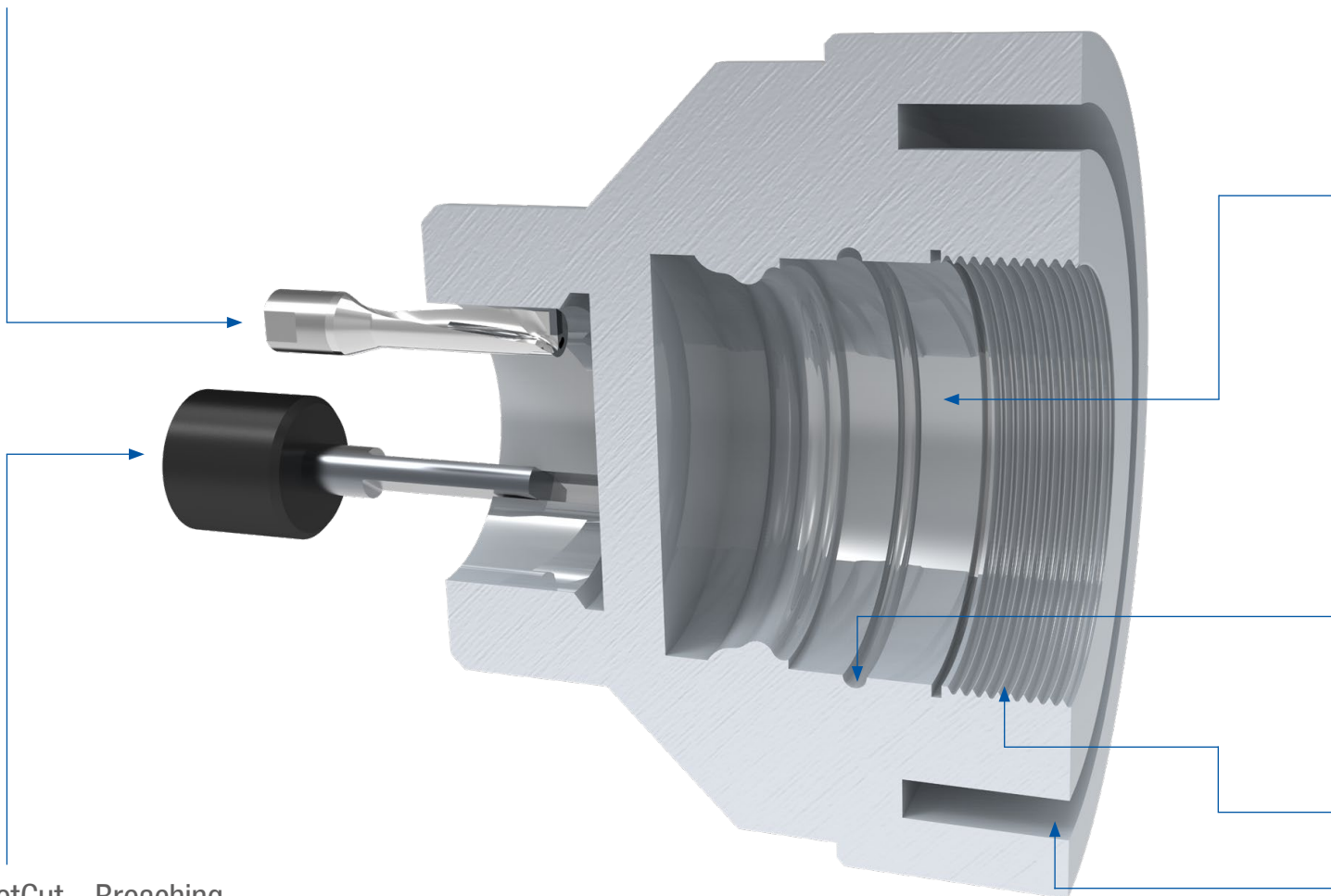
The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools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

Toolfinder

EcoCut Mini

From Ø 2 mm

Inserts and tool holders can be found in → **Chapter 10 – EcoCut**



SlotCut – Broaching

Inserts + Holder DIN138



Products and product information can be found in our main catalogue and online shop.

System overview

UltraMini



- ▲ from Ø 0.5 mm
- ▲ flexible system
- ▲ ground inserts
- ▲ high repeatability
- ▲ coolant supply to the cutting edge

MiniCut

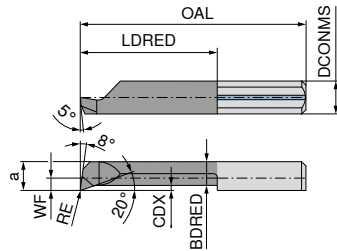
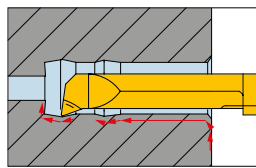


- ▲ from Ø 7.8 mm
- ▲ stable three-rib interface
- ▲ easy handling
- ▲ coolant supply to the cutting edge
- ▲ precise cutting edge position

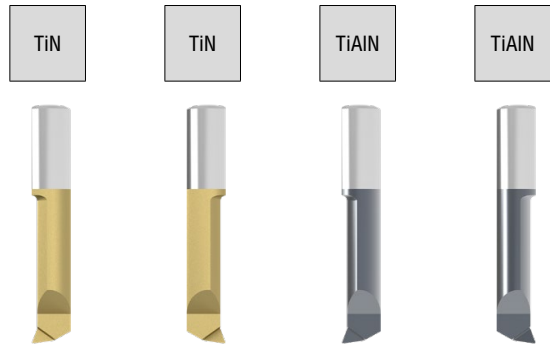
Hole diameter in mm	UltraMini										MiniCut						
	≥ 0,5	≥ 2	≥ 2,4	≥ 2,8	≥ 3	≥ 4	≥ 5	≥ 6	≥ 8	≥ 16	≥ 8	≥ 9	≥ 11	≥ 14	≥ 16		
Internal turning and profiling		290-293	290-293	290-293	290-293		290-293	290-293	290-293				321	321	321	321	
Internal turning and profiling – hard turning																	
High-feed turning		295			295	295	295	295									
Turning and profile turning – super alloys		294		294		294	294	294									
Internal turning					296	296	296						322	322	322	322	
Back boring						297	297	297	297				323	323	323	323	
Turning and chamfering							298	298					323	323	323	323	
Pre-parting and chamfering						298	298	298					324	324	324	324	
Groove turning		299-301			299-301	299-301	299-301	299-301					325+326	325+326	325+326	325+326	
Internal Undercuts		302		302		302	302	302					327	327	327	327	
Groove and profile turning						303	303	303					328	328	328	328	
Internal thread turning			304-306			304-306	304-306	304-306					329-331	329-331	329-331	329-331	
Axial grooving							309-314	309-314	309-314	309-314			332+333	332+333	332+333	332+333	
suitable holder						315-320							334-337				
Sets																	

UltraMini – Inserts for internal turning and profiling

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions

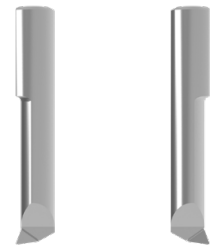
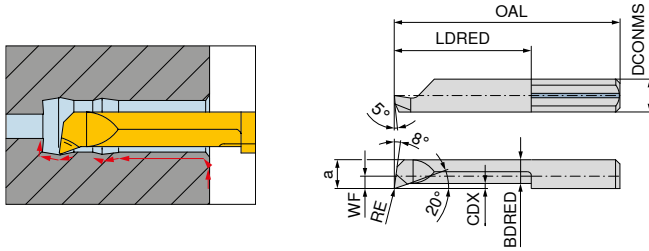


Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	Left-hand		Right-hand	
											73 005 ...	73 004 ...	73 005 ...	73 004 ...
R/L 050.05-2	4		0,5	0,4	20	2	0,03	0,32	0,02	645.00...D	500		500	
R/L 050.06-2	4		0,6	0,5	20	2	0,05	0,40	0,04	645.00...D	510		510	
R/L 050.06-3	4		0,6	0,5	20	3	0,05	0,40	0,04	645.00...D	511		511	
R/L 050.08-4	4		0,8	0,7	20	4	0,05	0,60	0,04	645.00...D			812	812
R/L 050.1-8	4		1,0	0,9	22	8	0,10	0,75	0,05	645.00...D			813	813
R/L 050.15-5	4		1,5	1,3	19	5	0,10	1,15	0,05	645.00...D	515		515	
R/L 050.15-10	4		1,5	1,3	24	10	0,10	1,15	0,05	645.00...D	516		516	
R/L 050.15-12	4		1,5	1,3	26	12	0,10	1,15	0,05	645.00...D			818	818
R/L 050.2-5	4		2,0	1,7	19	5	0,10	1,50	0,05	645.00...D	520		520	
R/L 050.2-10	4		2,0	1,7	24	10	0,10	1,50	0,05	645.00...D	521		521	
R/L 050.2-15	4		2,0	1,7	29	15	0,10	1,50	0,05	645.00...D	522		522	
R/L 050.3-10	4	0,6	2,8	2,6	24	10	0,20	2,30	0,10	645.00...D	531		531	
R/L 050.3-16	4	0,6	2,8	2,6	30	16	0,20	2,30	0,10	645.00...D	530		530	
R/L 050.3-20	4	0,6	2,8	2,6	34	20	0,20	2,30	0,10	645.00...D	532		532	
R/L 050.35-10	4	1,1	3,5	3,1	24	10	0,25	2,80	0,10	645.00...D			835	835
R/L 050.35-16	4	1,1	3,5	3,1	30	16	0,25	2,80	0,10	645.00...D			836	836
R/L 050.35-20	4	1,1	3,5	3,1	34	20	0,25	2,80	0,10	645.00...D			837	837
R/L 050.35-24	4	1,1	3,5	3,1	38	24	0,25	2,80	0,10	645.00...D			838	838
R/L 050.4-10	4	1,5	4,0	3,5	24	10	0,30	3,00	0,10	645.00...D	541		541	
R/L 050.4-16	4	1,5	4,0	3,5	30	16	0,30	3,00	0,10	645.00...D	540		540	
R/L 050.4-20	4	1,5	4,0	3,5	34	20	0,30	3,00	0,10	645.00...D	542		542	
R/L 050.4-24	4	1,5	4,0	3,5	38	24	0,30	3,00	0,10	645.00...D	545		545	
R/L 050.4-28	4	1,5	4,0	3,5	42	28	0,30	3,00	0,10	645.00...D	546		546	
R/L 050.5-10	5	1,9	5,0	4,4	25	10	0,50	3,80	0,15	645.00...D	551		551	
R/L 050.5-15	5	1,9	5,0	4,4	30	15	0,50	3,80	0,15	645.00...D	552		552	
R/L 050.5-20	5	1,9	5,0	4,4	35	20	0,50	3,80	0,15	645.00...D	550		550	
R/L 050.5-25	5	1,9	5,0	4,4	40	25	0,50	3,80	0,15	645.00...D	553		553	
R/L 050.5-30	5	1,9	5,0	4,4	45	30	0,50	3,80	0,15	645.00...D	554		554	
R/L 050.5-35	5	1,9	5,0	4,4	50	35	0,50	3,80	0,15	645.00...D	556		556	
R/L 050.5-40	5	1,9	5,0	4,4	55	40	0,50	3,80	0,15	645.00...D			857	857
R/L 050.6-15	6	2,3	6,0	5,3	30	15	0,50	4,50	0,15	676.00...D	561		561	
R/L 050.6-22	6	2,3	6,0	5,3	37	22	0,50	4,50	0,15	676.00...D	560		560	
R/L 050.6-25	6	2,3	6,0	5,3	40	25	0,50	4,50	0,15	676.00...D	562		562	
R/L 050.6-30	6	2,3	6,0	5,3	45	30	0,50	4,50	0,15	676.00...D	563		563	
R/L 050.6-35	6	2,3	6,0	5,3	50	35	0,50	4,50	0,15	676.00...D	564		564	
R/L 050.6-42	6	2,3	6,0	5,3	57	42	0,50	4,50	0,15	676.00...D	565		565	
R/L 050.7-20	7	2,8	6,8	6,3	35	20	0,60	5,50	0,15	676.00...D	572		572	
R/L 050.7-25	7	2,8	6,8	6,3	40	25	0,60	5,50	0,15	676.00...D	573		573	
R/L 050.7-30	7	2,8	6,8	6,3	45	30	0,60	5,50	0,15	676.00...D	574		574	
R/L 050.7-35	7	2,8	7,0	6,3	50	35	0,60	5,50	0,15	676.00...D	575		575	
R/L 050.7-40	7	2,8	7,0	6,3	55	40	0,60	5,50	0,15	676.00...D	576		576	
R/L 050.7-45	7	2,8	7,0	6,3	60	45	0,60	5,50	0,15	676.00...D	577		577	
R/L 050.7-50	7	2,8	7,0	6,3	65	50	0,60	5,50	0,15	676.00...D	578		578	

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	○	○	●	●
H	○	○	●	●
O	●	●	●	●

UltraMini – Inserts for internal turning and profiling

▲ CDX = Maximum depth of cut when turning outwards



Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	Left-hand		Right-hand	
											73 005 ...		73 004 ...	
R/L 050.2-5	4		2,0	1,7	19	5	0,1	1,5	0,05	645.00..D	020		020	
R/L 050.2-10	4		2,0	1,7	24	10	0,1	1,5	0,05	645.00..D	021		021	
R/L 050.2-15	4		2,0	1,7	29	15	0,1	1,5	0,05	645.00..D	022		022	
R/L 050.3-10	4	0,6	2,8	2,6	24	10	0,2	2,3	0,10	645.00..D	031		031	
R/L 050.3-16	4	0,6	2,8	2,6	30	16	0,2	2,3	0,10	645.00..D	030		030	
R/L 050.3-20	4	0,6	2,8	2,6	34	20	0,2	2,3	0,10	645.00..D	032		032	
R/L 050.4-10	4	1,5	4,0	3,5	24	10	0,3	3,0	0,10	645.00..D	041		041	
R/L 050.4-16	4	1,5	4,0	3,5	30	16	0,3	3,0	0,10	645.00..D	040		040	
R/L 050.4-20	4	1,5	4,0	3,5	34	20	0,3	3,0	0,10	645.00..D	042		042	
R/L 050.5-10	5	1,9	5,0	4,4	25	10	0,5	3,8	0,15	645.00..D	051		051	
R/L 050.5-15	5	1,9	5,0	4,4	30	15	0,5	3,8	0,15	645.00..D	052		052	
R/L 050.5-20	5	1,9	5,0	4,4	35	20	0,5	3,8	0,15	645.00..D	050		050	
R/L 050.5-25	5	1,9	5,0	4,4	40	25	0,5	3,8	0,15	645.00..D	053		053	
R 050.5-30	5	1,9	5,0	4,4	45	30	0,5	3,8	0,05	645.00..D			054	
L 050.5-30	5	1,9	5,0	4,4	45	30	0,5	3,8	0,15	645.00..D	054			
R/L 050.6-15	6	2,3	6,0	5,3	30	15	0,5	4,5	0,15	676.00..D	061		061	
R/L 050.6-22	6	2,3	6,0	5,3	37	22	0,5	4,5	0,15	676.00..D	060		060	
R/L 050.6-25	6	2,3	6,0	5,3	40	25	0,5	4,5	0,15	676.00..D	062		062	
R/L 050.6-30	6	2,3	6,0	5,3	45	30	0,5	4,5	0,15	676.00..D	063		063	
R/L 050.7-20	7	2,8	6,8	6,3	35	20	0,6	5,5	0,15	676.00..D	072		072	
R/L 050.7-25	7	2,8	6,8	6,3	40	25	0,6	5,5	0,15	676.00..D	073		073	
R/L 050.7-30	7	2,8	6,8	6,3	45	30	0,6	5,5	0,15	676.00..D	074		074	

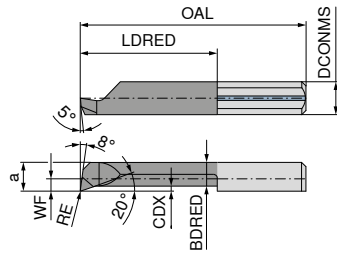
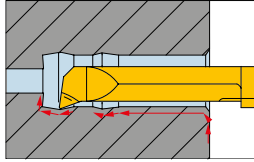
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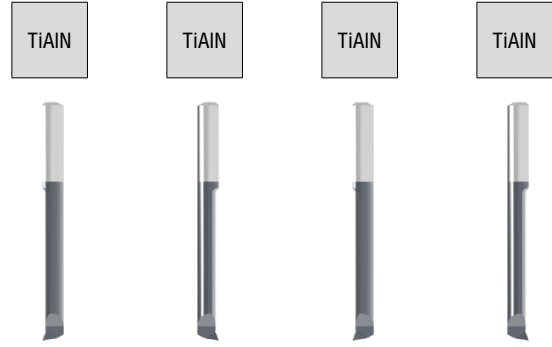
UltraMini – Inserts for internal turning and profiling

▲ with corner radius ≤ 0.05 mm

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions

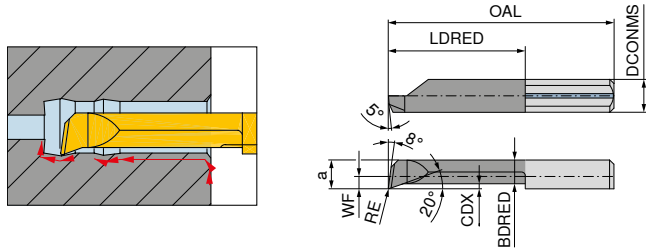


Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											73 021 ...	73 020 ...	73 023 ...	73 022 ...
R/L 053.3-10	4	0,6	2,8	2,6	24	10	0,2	2,3	0,03	645.00...D	310		310	
R/L 053.3-16	4	0,6	2,8	2,6	30	16	0,2	2,3	0,03	645.00...D	316		316	
R/L 053.3-20	4	0,6	2,8	2,6	34	20	0,2	2,3	0,03	645.00...D	320		320	
R/L 053.4-10	4	1,5	4,0	3,5	24	10	0,3	3,0	0,03	645.00...D	410		410	
R/L 053.4-16	4	1,5	4,0	3,5	30	16	0,3	3,0	0,03	645.00...D	416		416	
R/L 053.4-20	4	1,5	4,0	3,5	34	20	0,3	3,0	0,03	645.00...D	420		420	
R/L 053.4-24	4	1,5	4,0	3,5	38	24	0,3	3,0	0,03	645.00...D	424		424	
R/L 053.4-28	4	1,5	4,0	3,5	42	28	0,3	3,0	0,03	645.00...D	428		428	
R/L 055.2-10	4		2,0	1,7	24	10	0,1	1,5	0,05	645.00...D			210	210
R/L 055.2-15	4		2,0	1,7	29	15	0,1	1,5	0,05	645.00...D			215	215
R/L 055.2-5	4		2,0	1,7	19	5	0,1	1,5	0,05	645.00...D			205	205
R/L 055.3-10	4	0,6	2,8	2,6	24	10	0,2	2,3	0,05	645.00...D			310	310
R/L 055.3-16	4	0,6	2,8	2,6	30	16	0,2	2,3	0,05	645.00...D			316	316
R/L 055.3-20	4	0,6	2,8	2,6	34	20	0,2	2,3	0,05	645.00...D			320	320
R/L 055.4-10	4	1,5	4,0	3,5	24	10	0,3	3,0	0,05	645.00...D			410	410
R/L 055.4-16	4	1,5	4,0	3,5	30	16	0,3	3,0	0,05	645.00...D			416	416
R/L 055.4-20	4	1,5	4,0	3,5	34	20	0,3	3,0	0,05	645.00...D			420	420
R/L 055.4-24	4	1,5	4,0	3,5	38	24	0,3	3,0	0,05	645.00...D			424	424
R/L 055.4-28	4	1,5	4,0	3,5	42	28	0,3	3,0	0,05	645.00...D			428	428
R/L 055.5-10	5	1,9	5,0	4,4	25	10	0,5	3,8	0,05	645.00...D			510	510
R/L 055.5-15	5	1,9	5,0	4,4	30	15	0,5	3,8	0,05	645.00...D			515	515
R/L 055.5-20	5	1,9	5,0	4,4	35	20	0,5	3,8	0,05	645.00...D			520	520
R/L 055.5-25	5	1,9	5,0	4,4	40	25	0,5	3,8	0,05	645.00...D			525	525
R/L 055.5-30	5	1,9	5,0	4,4	45	30	0,5	3,8	0,05	645.00...D			530	530
R/L 055.5-35	5	1,9	5,0	4,4	50	35	0,5	3,8	0,05	645.00...D			535	535
R/L 055.6-15	6	2,3	6,0	5,3	30	15	0,5	4,5	0,05	676.00...D			615	615
R/L 055.6-22	6	2,3	6,0	5,3	37	22	0,5	4,5	0,05	676.00...D			622	622
R/L 055.6-25	6	2,3	6,0	5,3	40	25	0,5	4,5	0,05	676.00...D			625	625
R/L 055.6-30	6	2,3	6,0	5,3	45	30	0,5	4,5	0,05	676.00...D			630	630
R/L 055.6-35	6	2,3	6,0	5,3	50	35	0,5	4,5	0,05	676.00...D			635	635
R/L 055.6-42	6	2,3	6,0	5,3	57	42	0,5	4,5	0,05	676.00...D			642	642
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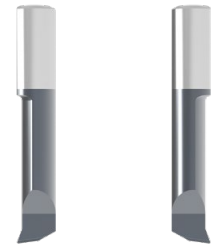
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UltraMini – Inserts for internal turning and profiling

▲ with chip former



Illustrations show right-hand versions



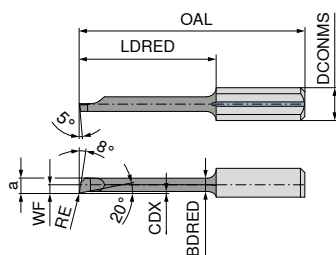
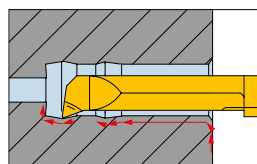
Left-hand Right-hand

Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	TiAlN	
											73 017 ...	73 016 ...
R/L 050.4-10C	4	1,5	4	3,5	24	10	0,3	3,0	0,2	645.00..-D	410	410
R/L 050.4-16C	4	1,5	4	3,5	30	16	0,3	3,0	0,2	645.00..-D	416	416
R/L 050.4-20C	4	1,5	4	3,5	34	20	0,3	3,0	0,2	645.00..-D	420	420
R/L 050.4-24C	4	1,5	4	3,5	38	24	0,3	3,0	0,2	645.00..-D	424	424
R/L 050.4-28C	4	1,5	4	3,5	42	28	0,3	3,0	0,2	645.00..-D	428	428
R/L 050.5-10C	5	1,9	5	4,4	25	10	0,5	3,8	0,2	645.00..-D	510	510
R/L 050.5-15C	5	1,9	5	4,4	30	15	0,5	3,8	0,2	645.00..-D	515	515
R/L 050.5-20C	5	1,9	5	4,4	35	20	0,5	3,8	0,2	645.00..-D	520	520
R/L 050.5-25C	5	1,9	5	4,4	40	25	0,5	3,8	0,2	645.00..-D	525	525
R/L 050.5-30C	5	1,9	5	4,4	45	30	0,5	3,8	0,2	645.00..-D	530	530
R/L 050.5-35C	5	1,9	5	4,4	50	35	0,5	3,8	0,2	645.00..-D	535	535
R/L 050.6-15C	6	2,3	6	5,3	30	15	0,5	4,5	0,2	676.00..-D	615	615
R/L 050.6-22C	6	2,3	6	5,3	37	22	0,5	4,5	0,2	676.00..-D	622	622
R/L 050.6-25C	6	2,3	6	5,3	40	25	0,5	4,5	0,2	676.00..-D	625	625
R/L 050.6-30C	6	2,3	6	5,3	45	30	0,5	4,5	0,2	676.00..-D	630	630
R/L 050.6-35C	6	2,3	6	5,3	50	35	0,5	4,5	0,2	676.00..-D	635	635
R/L 050.6-42C	6	2,3	6	5,3	57	42	0,5	4,5	0,2	676.00..-D	642	642
R/L 050.7-20C	7	2,8	7	6,3	35	20	0,6	5,5	0,2	676.00..-D	720	720
R/L 050.7-25C	7	2,8	7	6,3	40	25	0,6	5,5	0,2	676.00..-D	725	725
R/L 050.7-30C	7	2,8	7	6,3	45	30	0,6	5,5	0,2	676.00..-D	730	730
R/L 050.7-35C	7	2,8	7	6,3	50	35	0,6	5,5	0,2	676.00..-D	735	735
R/L 050.7-40C	7	2,8	7	6,3	55	40	0,6	5,5	0,2	676.00..-D	740	740
R/L 050.7-45C	7	2,8	7	6,3	60	45	0,6	5,5	0,2	676.00..-D	745	745
R/L 050.7-50C	7	2,8	7	6,3	65	50	0,6	5,5	0,2	676.00..-D	750	750
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UltraMini – Inserts for internal turning and profiling

- ▲ Specially designed for super alloys
- ▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



Left-hand **73 027 ...** Right-hand **73 026 ...**

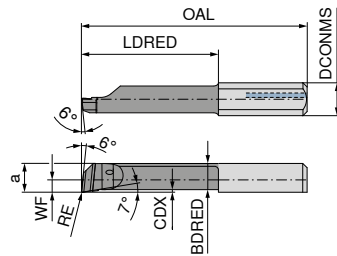
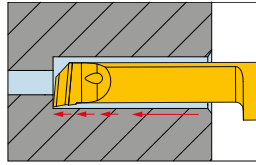
Designation	DCONMS _{HS} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder
R/L M050.05-2	4	0,20	0,5	0,40	20	2	0,02	0,02	0,02	645.00..-D
R/L M050.08-4	4	0,35	0,8	0,70	20	4	0,08	0,03	0,02	645.00..-D
R/L M050.1-5	4	0,40	1,0	0,90	20	5	0,05	0,05	0,02	645.00..-D
R/L M050.1-7	4	0,40	1,0	0,90	22	7	0,05	0,05	0,02	645.00..-D
R/L M050.15-5	4	0,60	1,5	1,15	19	5	0,08	0,08	0,02	645.00..-D
R/L M050.15-10	4	0,60	1,5	1,15	24	10	0,08	0,08	0,02	645.00..-D
R/L M050.2-5	4	0,80	2,0	1,70	19	5	0,08	0,08	0,02	645.00..-D
R/L M050.2-10	4	0,80	2,0	1,70	24	10	0,08	0,08	0,02	645.00..-D
R/L M050.25-5	4	0,20	2,5	2,20	19	5	0,10	0,10	0,02	645.00..-D
R/L M050.25-10	4	0,20	2,5	2,20	24	10	0,10	0,10	0,02	645.00..-D
R/L M050.3-10	4	0,60	3,0	2,60	24	10	0,15	0,15	0,02	645.00..-D
R/L M050.3-16	4	0,60	3,0	2,60	30	16	0,15	0,15	0,02	645.00..-D
R/L M050.35-10	4	1,10	3,5	3,10	24	10	0,17	0,17	0,02	645.00..-D
R/L M050.35-16	4	1,10	3,5	3,10	30	16	0,17	0,17	0,02	645.00..-D
R/L M050.35-20	4	1,10	3,5	3,10	34	20	0,17	0,17	0,02	645.00..-D
R/L M050.4-10	4	1,50	4,0	3,50	24	10	0,20	0,20	0,02	645.00..-D
R/L M050.4-16	4	1,50	4,0	3,50	30	16	0,20	0,20	0,02	645.00..-D
R/L M050.4-20	4	1,50	4,0	3,50	34	20	0,20	0,20	0,02	645.00..-D
R/L M050.4-24	4	1,50	4,0	3,50	38	24	0,20	0,20	0,02	645.00..-D

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H	○	○
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UltraMini – Inserts for internal turning

- ▲ with chip former
- ▲ High-feed internal turning



Illustrations show right-hand versions



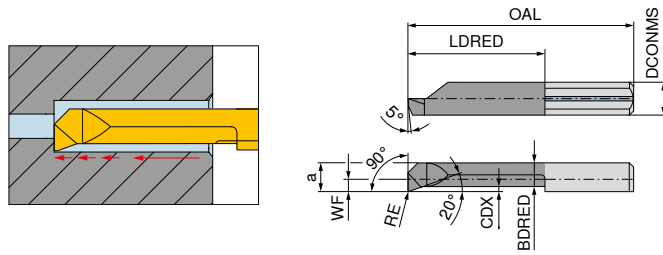
Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	Left-hand 73 001 ...		Right-hand 73 000 ...	
R/L X050.1-5	4		1,0	0,90	20	5	0,03	0,85	0,05	645.00..-D	121		121	
R/L X050.15-7	4		1,5	1,35	22	7	0,05	1,25	0,10	645.00..-D	233		233	
R/L X050.2-5	4		2,0	1,80	19	5	0,10	1,60	0,15	645.00..-D	245		245	
R/L X050.2-10	4		2,0	1,80	24	10	0,10	1,60	0,05	645.00..-D	215		215	
R/L X050.2-10	4		2,0	1,80	24	10	0,10	1,60	0,15	645.00..-D	241		241	
R/L X050.3-10	4	0,7	3,0	2,70	24	10	0,15	2,55	0,05	645.00..-D	341		341	
R/L X050.3-10	4	0,7	3,0	2,70	24	10	0,15	2,55	0,20	645.00..-D	347		347	
R/L X050.3-16	4	0,7	3,0	2,70	30	16	0,15	2,55	0,05	645.00..-D	371		371	
R/L X050.3-16	4	0,7	3,0	2,70	30	16	0,15	2,55	0,10	645.00..-D	373		373	
R/L X050.3-16	4	0,7	3,0	2,70	30	16	0,15	2,55	0,20	645.00..-D	377		377	
R/L X050.4-10	4	1,6	4,0	3,60	24	10	0,20	3,20	0,10	645.00..-D	403		403	
R/L X050.4-10	4	1,6	4,0	3,60	24	10	0,20	3,20	0,20	645.00..-D	407		407	
R/L X050.4-16	4	1,6	4,0	3,60	30	16	0,20	3,20	0,05	645.00..-D	431		431	
R/L X050.4-16	4	1,6	4,0	3,60	30	16	0,20	3,20	0,10	645.00..-D	433		433	
R/L X050.4-16	4	1,6	4,0	3,60	30	16	0,20	3,20	0,20	645.00..-D	437		437	
R/L X050.4-24	4	1,6	4,0	3,60	38	24	0,20	3,20	0,10	645.00..-D	463		463	
R/L X050.4-24	4	1,6	4,0	3,60	38	24	0,20	3,20	0,20	645.00..-D	467		467	
R/L X050.5-15	5	2,1	5,0	4,60	30	15	0,30	4,05	0,05	645.00..-D	511		511	
R/L X050.5-15	5	2,1	5,0	4,60	30	15	0,30	4,05	0,10	645.00..-D	513		513	
R/L X050.5-15	5	2,1	5,0	4,60	30	15	0,30	4,05	0,20	645.00..-D	517		517	
R/L X050.5-25	5	2,1	5,0	4,60	40	25	0,30	4,05	0,10	645.00..-D	543		543	
R/L X050.5-25	5	2,1	5,0	4,60	40	25	0,30	4,05	0,20	645.00..-D	547		547	
R/L X050.5-30	5	2,1	5,0	4,60	45	30	0,30	4,05	0,10	645.00..-D	553		553	
R/L X050.5-30	5	2,1	5,0	4,60	45	30	0,30	4,05	0,20	645.00..-D	557		557	
R/L X050.6-15	6	2,5	6,0	5,50	30	15	0,40	4,90	0,05	676.00..-D	611		611	
R/L X050.6-15	6	2,5	6,0	5,50	30	15	0,40	4,90	0,10	676.00..-D	613		613	
R/L X050.6-15	6	2,5	6,0	5,50	30	15	0,40	4,90	0,20	676.00..-D	617		617	
R/L X050.6-22	6	2,5	6,0	5,50	37	22	0,40	4,90	0,20	676.00..-D	637		637	
R/L X050.6-30	6	2,5	6,0	5,50	45	30	0,40	4,90	0,20	676.00..-D	657		657	
R/L X050.6-35	6	2,5	6,0	5,50	50	35	0,40	4,90	0,20	676.00..-D	667		667	
R/L X050.6-50	6	2,5	6,0	5,50	65	50	0,40	4,90	0,20	676.00..-D	697		697	
R/L X050.7-25	7	3,0	7,0	6,50	40	25	0,50	5,90	0,20	676.00..-D	747		747	
R/L X050.7-30	7	3,0	7,0	6,50	45	30	0,50	5,90	0,20	676.00..-D	757		757	

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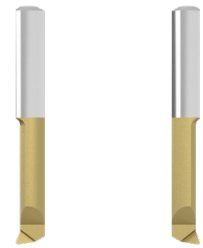
→ v_c Page 340+341

UltraMini – Inserts for internal turning

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



Left-hand Right-hand

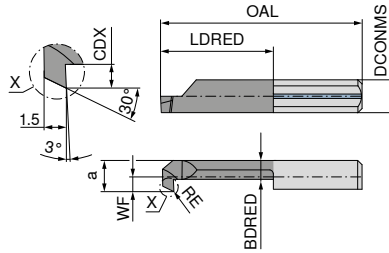
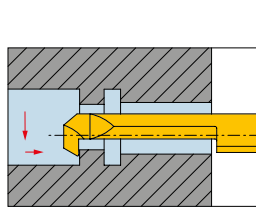
Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	73 015 ...		73 014 ...	
											Left-hand	Right-hand	Left-hand	Right-hand
R/L 090.3-10	4	0,6	2,8	2,6	24	10	0,2	2,3	0,2	645.00..-D	541		541	
R/L 090.3-16	4	0,6	2,8	2,6	30	16	0,2	2,3	0,2	645.00..-D	542		542	
R/L 090.4-10	4	1,5	4,0	3,5	24	10	0,3	3,0	0,2	645.00..-D	545		545	
R/L 090.4-16	4	1,5	4,0	3,5	30	16	0,3	3,0	0,2	645.00..-D	546		546	
R/L 090.5-10	5	1,9	5,0	4,4	25	10	0,5	3,8	0,2	645.00..-D	550		550	
R/L 090.5-15	5	1,9	5,0	4,4	30	15	0,5	3,8	0,2	645.00..-D	551		551	
R/L 090.5-20	5	1,9	5,0	4,4	35	20	0,5	3,8	0,2	645.00..-D	552		552	

P		●	●
M		●	●
K		●	●
N		●	●
S		○	○
H		○	○
O		●	●

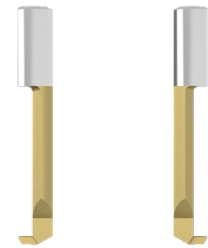
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UltraMini – Inserts for back boring

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



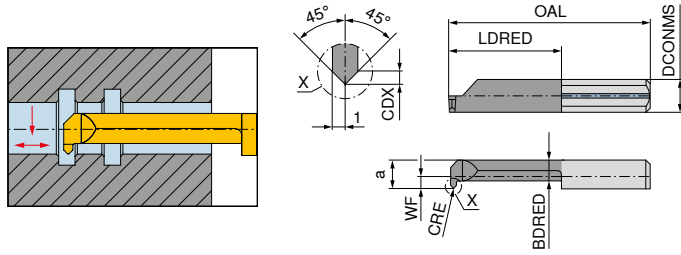
Left-hand Right-hand

Designation	DCONMS _{ns} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	RE mm	Standard tool holder	TiN	
											73 013 ...	73 012 ...
R/L 080.0003-15	4	0,6	3	2,6	29	15	0,5	2,0	0,10	645.00..-D	542	542
R/L 080.0003-20	4	0,6	3	2,6	34	20	0,5	2,0	0,10	645.00..-D	544	544
R/L 080.0004-15	4	1,5	4	3,5	29	15	0,8	2,4	0,15	645.00..-D	546	546
R/L 080.0004-25	4	1,5	4	3,5	39	25	0,8	2,4	0,15	645.00..-D	548	548
R/L 080.0005-20	5	1,9	5	4,4	35	20	1,0	3,3	0,20	645.00..-D	554	554
R/L 080.0005-30	5	1,9	5	4,4	45	30	1,0	3,3	0,20	645.00..-D	558	558
R/L 080.0006-20	6	2,3	6	5,3	35	20	1,8	3,4	0,20	676.00..-D	564	564
R/L 080.0006-30	6	2,3	6	5,3	45	30	1,8	3,4	0,20	676.00..-D	568	568
R/L 080.0007-20	7	2,7	7	6,3	35	20	2,5	3,8	0,20	676.00..-D	574	574
R/L 080.0007-30	7	2,7	7	6,3	45	30	2,5	3,8	0,20	676.00..-D	578	578
P											●	●
M											●	●
K											●	●
N											●	●
S											○	○
H											○	○
O											●	●

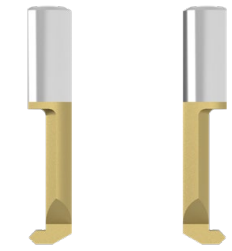
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UltraMini – Inserts for internal turning and chamfering

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



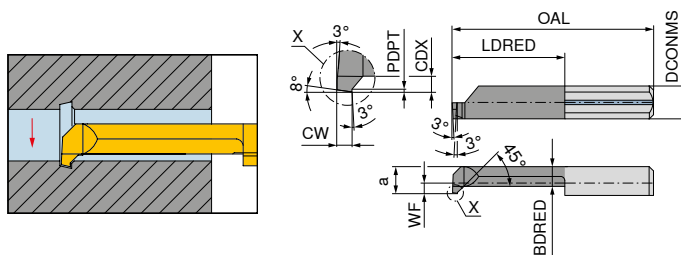
Left-hand **73 007 ...** Right-hand **73 006 ...**

Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	CRE mm	Standard tool holder	Left-hand	Right-hand
R/L 060.5-15	5	1,9	5,0	4,4	30	15	0,7	3,3	0,2	645.00...D	551	551
R/L 060.5-20	5	1,9	5,0	4,4	35	20	0,7	3,3	0,2	645.00...D	550	550
R/L 060.7-20	7	2,7	6,8	6,3	35	20	0,7	3,8	0,2	676.00...D	570	570
P											●	●
M											●	●
K											●	●
N											●	●
S											○	○
H											○	○
O											●	●

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UltraMini – Inserts for internal chamfering for subsequent parting off

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



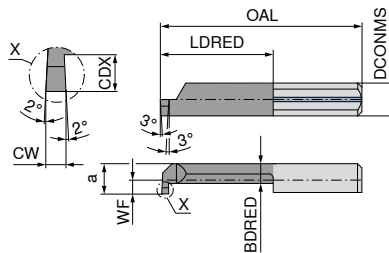
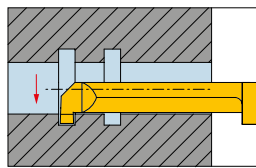
Left-hand **73 009 ...** Right-hand **73 008 ...**

Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	CW mm	PDPT mm	Standard tool holder	Left-hand	Right-hand
R/L 070.4-10	4	1,5	4	3,5	25	10	0,8	2,4	1	0,2	645.00...D	410	410
R/L 070.4-16	4	1,5	4	3,5	30	16	0,8	2,4	1	0,2	645.00...D	416	416
R/L 070.5-15	5	1,9	5	4,4	30	15	1,0	3,3	1	0,2	645.00...D	551	551
R/L 070.5-20	5	1,9	5	4,4	35	20	1,0	3,3	1	0,2	645.00...D	550	550
R/L 070.5-30	5	1,9	5	4,4	45	30	1,0	3,3	1	0,2	645.00...D	530	530
R/L 070.6-30	6	2,3	6	5,3	45	30	1,0	4,2	1	0,2	676.00...D	630	630
R/L 070.6-42	6	2,3	6	5,3	57	42	1,0	4,2	1	0,2	676.00...D	642	642
P												●	●
M												●	●
K												●	●
N												●	●
S												○	○
H												○	○
O												●	●

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UltraMini – Inserts for Internal Grooving

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions

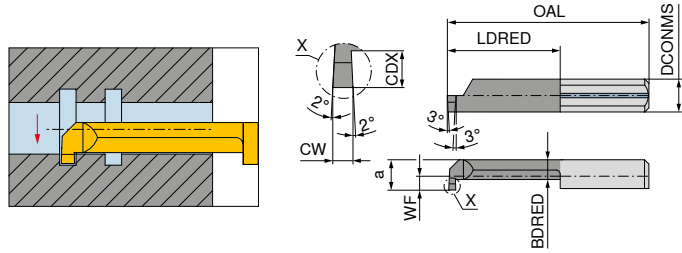


Designation	DCONMS _{HB} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRD mm	CW mm	Standard tool holder	Left-hand		Right-hand	
											73 003 ...	73 002 ...	73 003 ...	73 002 ...
R/L 004.0100-10	4	1,5	4,0	3,5	24	10	0,8	2,4	1,0	645.00..-D	040	040	540	540
R/L 004.0100-16	4	1,5	4,0	3,5	30	16	0,8	2,4	1,0	645.00..-D	041	041	541	541
R/L 004.0100-20	4	1,5	4,0	3,5	34	20	0,8	2,4	1,0	645.00..-D	042	042	542	542
R/L 005.0100-10	5	1,9	5,0	4,4	25	10	1,0	3,3	1,0	645.00..-D	150	150	650	650
R/L 005.0150-10	5	1,9	5,0	4,4	25	10	1,0	3,3	1,5	645.00..-D	154	154	654	654
R/L 005.0200-10	5	1,9	5,0	4,4	25	10	1,0	3,3	2,0	645.00..-D	158	158	658	658
R/L 005.0100-15	5	1,9	5,0	4,4	30	15	1,0	3,3	1,0	645.00..-D	151	151	651	651
R/L 005.0150-15	5	1,9	5,0	4,4	30	15	1,0	3,3	1,5	645.00..-D	155	155	655	655
R/L 005.0200-15	5	1,9	5,0	4,4	30	15	1,0	3,3	2,0	645.00..-D	159	159	659	659
R/L 005.0100-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,0	645.00..-D	051	051	551	551
R/L 005.0150-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,5	645.00..-D	052	052	552	552
R/L 005.0200-20	5	1,9	5,0	4,4	35	20	1,0	3,3	2,0	645.00..-D	053	053	553	553
R/L 005.0100-25	5	1,9	5,0	4,4	40	25	1,0	3,3	1,0	645.00..-D	152	152	652	652
R/L 005.0150-25	5	1,9	5,0	4,4	40	25	1,0	3,3	1,5	645.00..-D	156	156	656	656
R/L 005.0200-25	5	1,9	5,0	4,4	40	25	1,0	3,3	2,0	645.00..-D	250	250	750	750
R/L 005.0100-30	5	1,9	5,0	4,4	45	30	1,0	3,3	1,0	645.00..-D	153	153	653	653
R/L 005.0150-30	5	1,9	5,0	4,4	45	30	1,0	3,3	1,5	645.00..-D	157	157	657	657
R/L 005.0200-30	5	1,9	5,0	4,4	45	30	1,0	3,3	2,0	645.00..-D	251	251	751	751
R/L 005.0100-35	5	1,9	5,0	4,4	50	35	1,0	3,3	1,0	645.00..-D			680	680
R/L 006.0100-10	6	2,3	6,0	5,3	25	10	1,8	3,4	1,0	676.00..-D	160	160	660	660
R/L 006.0150-10	6	2,3	6,0	5,3	25	10	1,8	3,4	1,5	676.00..-D	164	164	664	664
R/L 006.0200-10	6	2,3	6,0	5,3	25	10	1,8	3,4	2,0	676.00..-D	168	168	668	668
R/L 006.0100-15	6	2,3	6,0	5,3	30	15	1,8	3,4	1,0	676.00..-D	161	161	661	661
R/L 006.0150-15	6	2,3	6,0	5,3	30	15	1,8	3,4	1,5	676.00..-D	165	165	665	665
R/L 006.0200-15	6	2,3	6,0	5,3	30	15	1,8	3,4	2,0	676.00..-D	169	169	669	669
R/L 006.0100-22	6	2,3	6,0	5,3	37	22	1,8	3,4	1,0	676.00..-D	061	061	561	561
R/L 006.0150-22	6	2,3	6,0	5,3	37	22	1,8	3,4	1,5	676.00..-D	062	062	562	562
R/L 006.0200-22	6	2,3	6,0	5,3	37	22	1,8	3,4	2,0	676.00..-D	063	063	563	563
R/L 006.0100-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,0	676.00..-D	162	162	662	662
R/L 006.0150-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,5	676.00..-D	166	166	666	666
R/L 006.0200-25	6	2,3	6,0	5,3	40	25	1,8	3,4	2,0	676.00..-D	260	260	760	760
R/L 006.0100-30	6	2,3	6,0	5,3	45	30	1,8	3,4	1,0	676.00..-D	163	163	663	663
R/L 006.0150-30	6	2,3	6,0	5,3	45	30	1,8	3,4	1,5	676.00..-D	167	167	667	667
R/L 006.0200-30	6	2,3	6,0	5,3	45	30	1,8	3,4	2,0	676.00..-D	261	261	761	761
R/L 006.0100-35	6	2,3	6,0	5,3	50	35	1,8	3,4	1,0	676.00..-D			682	682
R/L 006.0150-35	6	2,3	6,0	5,3	50	35	1,8	3,4	1,5	676.00..-D			684	684
R/L 006.0100-42	6	2,3	6,0	5,3	57	42	1,8	3,4	1,0	676.00..-D			685	685
R/L 007.0100-10	7	2,7	6,8	6,3	25	10	2,5	3,8	1,0	676.00..-D	070	070	570	570
R/L 007.0150-10	7	2,7	6,8	6,3	25	10	2,5	3,8	1,5	676.00..-D	075	075	575	575
R/L 007.0200-10	7	2,7	6,8	6,3	25	10	2,5	3,8	2,0	676.00..-D	170	170	670	670
R/L 007.0100-15	7	2,7	6,8	6,3	30	15	2,5	3,8	1,0	676.00..-D	071	071	571	571
R/L 007.0150-15	7	2,7	6,8	6,3	30	15	2,5	3,8	1,5	676.00..-D	076	076	576	576
R/L 007.0200-15	7	2,7	6,8	6,3	30	15	2,5	3,8	2,0	676.00..-D	171	171	671	671
R/L 007.0100-22	7	2,7	6,8	6,3	37	22	2,5	3,8	1,0	676.00..-D	072	072	572	572
R/L 007.0150-22	7	2,7	6,8	6,3	37	22	2,5	3,8	1,5	676.00..-D	077	077	577	577
R/L 007.0200-22	7	2,7	6,8	6,3	37	22	2,5	3,8	2,0	676.00..-D	172	172	672	672
R/L 007.0100-25	7	2,7	6,8	6,3	40	25	2,5	3,8	1,0	676.00..-D	073	073	573	573
R/L 007.0150-25	7	2,7	6,8	6,3	40	25	2,5	3,8	1,5	676.00..-D	078	078	578	578
R/L 007.0200-25	7	2,7	6,8	6,3	40	25	2,5	3,8	2,0	676.00..-D	173	173	673	673
R/L 007.0100-30	7	2,7	6,8	6,3	45	30	2,5	3,8	1,0	676.00..-D	074	074	574	574
R/L 007.0150-30	7	2,7	6,8	6,3	45	30	2,5	3,8	1,5	676.00..-D	079	079	579	579
R/L 007.0200-30	7	2,7	6,8	6,3	45	30	2,5	3,8	2,0	676.00..-D	174	174	674	674
R/L 007.0100-35	7	2,7	7,0	6,3	50	35	2,5	3,8	1,0	676.00..-D			688	688
R/L 007.0150-35	7	2,7	7,0	6,3	50	35	2,5	3,8	1,5	676.00..-D			690	690
R/L 007.0200-35	7	2,7	7,0	6,3	50	35	2,5	3,8	2,0	676.00..-D			692	692
R/L 007.0100-40	7	2,7	7,0	6,3	55	40	2,5	3,8	1,0	676.00..-D			700	700
R/L 007.0150-40	7	2,7	7,0	6,3	55	40	2,5	3,8	1,5	676.00..-D			702	702
R/L 007.0100-45	7	2,7	7,0	6,3	60	45	2,5	3,8	1,0	676.00..-D			712	712
R/L 007.0100-50	7	2,7	7,0	6,3	65	50	2,5	3,8	1,0	676.00..-D			714	714

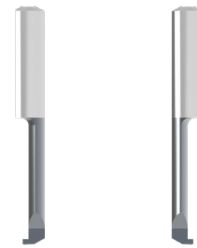
P			●	●
M			●	●
K			●	●
N			●	●
S	○	○	○	○
H			○	○
O	●	●	●	●

UltraMini – Inserts for Internal Grooving

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



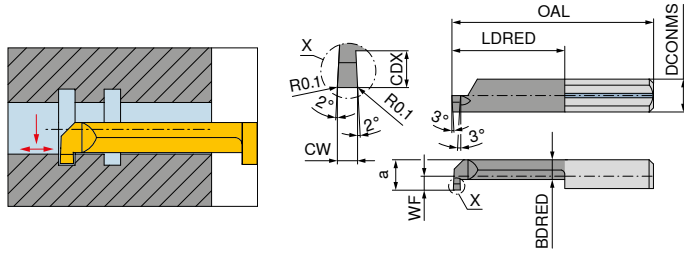
Left-hand Right-hand

Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	CW mm	Standard tool holder	73 003 ...		73 002 ...	
											Left-hand	Right-hand	Left-hand	Right-hand
R/L 002.0050-5	4		2	1,8	19	5	0,4	1,2	0,5	645.00..-D	820		820	
R/L 002.0050-10	4		2	1,8	24	10	0,4	1,2	0,5	645.00..-D	821		821	
R/L 002.0050-15	4		2	1,8	29	15	0,4	1,2	0,5	645.00..-D	822		822	
R/L 003.0070-5	4	0,7	3	2,7	19	5	0,6	1,9	0,7	645.00..-D	830		830	
R/L 003.0070-10	4	0,7	3	2,7	24	10	0,6	1,9	0,7	645.00..-D	831		831	
R/L 003.0070-16	4	0,7	3	2,7	30	16	0,6	1,9	0,7	645.00..-D	832		832	
P											●		●	
M											●		●	
K											●		●	
N											●		●	
S											●		●	
H											●		●	
O											●		●	

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UltraMini – Inserts for Internal Grooving

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



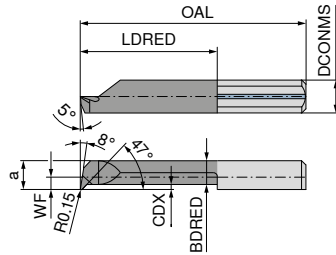
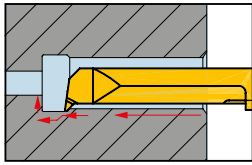
Left-hand Right-hand

Designation	DCONMS _{ns} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRD mm	CW mm	Standard tool holder	73 203 ...		73 202 ...	
											Left-hand	Right-hand	Left-hand	Right-hand
R/L 004M0100-10	4	1,5	4,0	3,5	24	10	0,8	2,4	1,0	645.00..-D	800		800	
R/L 004M0100-16	4	1,5	4,0	3,5	30	16	0,8	2,4	1,0	645.00..-D	802		802	
R/L 004M0100-20	4	1,5	4,0	3,5	34	20	0,8	2,4	1,0	645.00..-D	804		804	
R/L 005M0100-10	5	1,9	5,0	4,4	25	10	1,0	3,3	1,0	645.00..-D	806		806	
R/L 005M0150-10	5	1,9	5,0	4,4	25	10	1,0	3,3	1,5	645.00..-D	816		816	
R/L 005M0200-10	5	1,9	5,0	4,4	25	10	1,0	3,3	2,0	645.00..-D	826		826	
R/L 005M0100-15	5	1,9	5,0	4,4	30	15	1,0	3,3	1,0	645.00..-D	808		808	
R/L 005M0150-15	5	1,9	5,0	4,4	30	15	1,0	3,3	1,5	645.00..-D	818		818	
R/L 005M0200-15	5	1,9	5,0	4,4	30	15	1,0	3,3	2,0	645.00..-D	828		828	
R/L 005M0100-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,0	645.00..-D	810		810	
R/L 005M0150-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,5	645.00..-D	820		820	
R/L 005M0200-20	5	1,9	5,0	4,4	35	20	1,0	3,3	2,0	645.00..-D	830		830	
R/L 005M0100-25	5	1,9	5,0	4,4	40	25	1,0	3,3	1,0	645.00..-D	812		812	
R/L 005M0150-25	5	1,9	5,0	4,4	40	25	1,0	3,3	1,5	645.00..-D	822		822	
R/L 005M0200-25	5	1,9	5,0	4,4	40	25	1,0	3,3	2,0	645.00..-D	832		832	
R/L 005M0100-30	5	1,9	5,0	4,4	45	30	1,0	3,3	1,0	645.00..-D	814		814	
R/L 005M0150-30	5	1,9	5,0	4,4	45	30	1,0	3,3	1,5	645.00..-D	824		824	
R/L 005M0200-30	5	1,9	5,0	4,4	45	30	1,0	3,3	2,0	645.00..-D	834		834	
R/L 006M0100-10	6	2,3	6,0	5,3	25	10	1,8	3,4	1,0	676.00..-D	836		836	
R/L 006M0150-10	6	2,3	6,0	5,3	25	10	1,8	3,4	1,5	676.00..-D	846		846	
R/L 006M0200-10	6	2,3	6,0	5,3	25	10	1,8	3,4	2,0	676.00..-D	856		856	
R/L 006M0100-15	6	2,3	6,0	5,3	30	15	1,8	3,4	1,0	676.00..-D	838		838	
R/L 006M0150-15	6	2,3	6,0	5,3	30	15	1,8	3,4	1,5	676.00..-D	848		848	
R/L 006M0200-15	6	2,3	6,0	5,3	30	15	1,8	3,4	2,0	676.00..-D	858		858	
R/L 006M0100-20	6	2,3	6,0	5,3	35	22	1,8	3,4	1,0	676.00..-D	840		840	
R/L 006M0150-20	6	2,3	6,0	5,3	37	22	1,8	3,4	1,5	676.00..-D	850		850	
R/L 006M0200-20	6	2,3	6,0	5,3	37	22	1,8	3,4	2,0	676.00..-D	860		860	
R/L 006M0100-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,0	676.00..-D	842		842	
R/L 006M0150-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,5	676.00..-D	852		852	
R/L 006M0200-25	6	2,3	6,0	5,3	40	25	1,8	3,4	2,0	676.00..-D	862		862	
R/L 006M0100-30	6	2,3	6,0	5,3	45	30	1,8	3,4	1,0	676.00..-D	844		844	
R/L 006M0150-30	6	2,3	6,0	5,3	45	30	1,8	3,4	1,5	676.00..-D	854		854	
R/L 006M0200-30	6	2,3	6,0	5,3	45	30	1,8	3,4	2,0	676.00..-D	864		864	
R/L 007M0100-10	7	2,7	6,8	6,3	25	10	2,5	3,7	1,0	676.00..-D	866		866	
R/L 007M0150-10	7	2,7	6,8	6,3	25	10	2,5	3,7	1,5	676.00..-D	876		876	
R/L 007M0200-10	7	2,7	6,8	6,3	25	10	2,5	3,7	2,0	676.00..-D	886		886	
R/L 007M0100-15	7	2,7	6,8	6,3	30	15	2,5	3,7	1,0	676.00..-D	868		868	
R/L 007M0150-15	7	2,7	6,8	6,3	30	15	2,5	3,7	1,5	676.00..-D	878		878	
R/L 007M0200-15	7	2,7	6,8	6,3	30	15	2,5	3,7	2,0	676.00..-D	888		888	
R/L 007M0100-22	7	2,7	6,8	6,3	37	22	2,5	3,7	1,0	676.00..-D	870		870	
R/L 007M0150-22	7	2,7	6,8	6,3	37	22	2,5	3,7	1,5	676.00..-D	880		880	
R/L 007M0200-22	7	2,7	6,8	6,3	37	22	2,5	3,7	2,0	676.00..-D	890		890	
R/L 007M0100-25	7	2,7	6,8	6,3	40	25	2,5	3,7	1,0	676.00..-D	872		872	
R/L 007M0150-25	7	2,7	6,8	6,3	40	25	2,5	3,7	1,5	676.00..-D	882		882	
R/L 007M0200-25	7	2,7	6,8	6,3	40	25	2,5	3,7	2,0	676.00..-D	892		892	
R/L 007M0100-30	7	2,7	6,8	6,3	45	30	2,5	3,7	1,0	676.00..-D	874		874	
R/L 007M0150-30	7	2,7	6,8	6,3	45	30	2,5	3,7	1,5	676.00..-D	884		884	
R/L 007M0200-30	7	2,7	6,8	6,3	45	30	2,5	3,7	2,0	676.00..-D	894		894	

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

UltraMini – Inserts for internal undercuts

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions



Designation	DCONMS _{h6}	WF	DMIN	a	OAL	LDRED	CDX	BDRED	Standard tool holder
	mm	mm	mm	mm	mm	mm	mm	mm	
R/L 047.2-10	4		2,0	1,7	24	10	0,4	1,2	645.00.-D
R/L 047.3-15	4	0,6	2,8	2,6	29	15	0,6	1,9	645.00.-D
R/L 047.4-10	4	1,5	4,0	3,5	24	10	0,6	2,8	645.00.-D
R/L 047.T4-20	4	1,5	4,0	3,5	34	20	0,6	2,8	645.00.-D
R/L 047.4-20	4	1,5	4,0	3,5	34	20	0,3	3,0	645.00.-D
R/L 047.5-15	5	1,9	5,0	4,4	30	15	0,8	3,5	645.00.-D
R/L 047.T5-25	5	1,9	5,0	4,4	40	25	0,8	3,5	645.00.-D
R/L 047.5-25	5	1,9	5,0	4,4	40	25	0,5	3,8	645.00.-D
R/L 047.T6-22	6	2,3	6,0	5,3	37	22	1,8	3,4	676.00.-D
R/L 047.T6-30	6	2,3	6,0	5,3	45	30	1,8	3,4	676.00.-D
R/L 047.6-30	6	2,3	6,0	5,3	45	30	0,5	4,5	676.00.-D

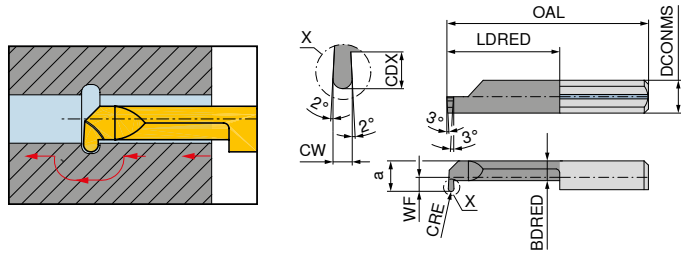
Left-hand 73 011 ...	Right-hand 73 010 ...	Left-hand 73 011 ...	Right-hand 73 010 ...
		221	221
		231	231
		241	241
		242	242
542	542		
		251	251
		252	252
552	552		
		262	262
		263	263
562	562		

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	○	○	●	●
H	○	○	●	●
O	●	●	●	●

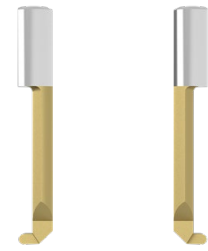
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UltraMini – Inserts for internal grooving and turning

▲ CDX = Maximum depth of cut when turning outwards



Illustrations show right-hand versions

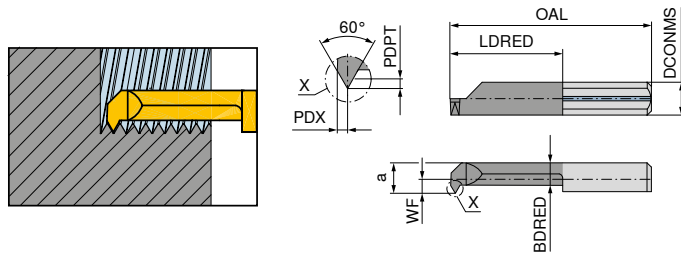


Left-hand Right-hand

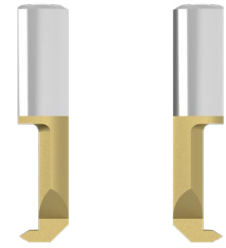
Designation	DCONMS _{h6} mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	CDX mm	BDRED mm	CW mm	CRE mm	Standard tool holder	TiN	
												73 019 ...	73 018 ...
R/L 006-0.75-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,5	0,75	676.00..-D	564	564
R/L 004-0.50-16	4	1,5	4,0	3,5	30	16	0,8	2,4	1,0	0,50	645.00..-D	541	541
R/L 005-0.50-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,0	0,50	645.00..-D	552	552
R/L 005-0.75-20	5	1,9	5,0	4,4	35	20	1,0	3,3	1,5	0,75	645.00..-D	554	554
R/L 005-1.00-20	5	1,9	5,0	4,4	35	20	1,0	3,3	2,0	1,00	645.00..-D	556	556
R/L 006-0.50-25	6	2,3	6,0	5,3	40	25	1,8	3,4	1,0	0,50	676.00..-D	562	562
R/L 006-1.00-25	6	2,3	6,0	5,3	40	25	1,8	3,4	2,0	1,00	676.00..-D	566	566
R/L 007-0.50-30	7	2,7	6,8	6,3	45	30	2,5	3,8	1,0	0,50	676.00..-D	572	572
R/L 007-0.75-30	7	2,7	6,8	6,3	45	30	2,5	3,8	1,5	0,75	676.00..-D	574	574
R/L 007-1.00-30	7	2,7	6,8	6,3	45	30	2,5	3,8	2,0	1,00	676.00..-D	576	576
P												●	●
M												●	●
K												●	●
N												●	●
S												○	○
H												○	○
O												●	●

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UltraMini – Inserts for internal threading (Partial profile)



Illustrations show right-hand versions



Left-hand Right-hand

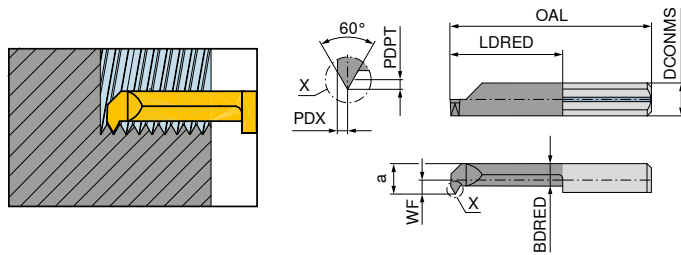
Designation	DCONMS _{ns} mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	Standard tool holder
R/L 005.0510-15	5	1 - 1,25	1,9	4,8	4,4	30	15	3,3	0,55	0,55	645.00..-D
R/L 005.0510-20	5	1 - 1,25	1,9	4,8	4,4	35	20	3,3	0,55	0,55	645.00..-D
R/L 006.0612-15	6	1,25 - 1,5	2,3	6,0	5,3	30	15	3,4	0,68	0,65	676.00..-D
R/L 006.0612-22	6	1,25 - 1,5	2,3	6,0	5,3	37	22	3,4	0,68	0,65	676.00..-D
R/L 006.0815-15	6	1,5 - 1,75	2,3	6,0	5,3	30	15	3,4	0,81	0,75	676.00..-D
R/L 006.0815-22	6	1,5 - 1,75	2,3	6,0	5,3	37	22	3,4	0,81	0,75	676.00..-D
R/L 007.0815-15	7	1,5 - 1,75	2,7	7,0	6,3	30	15	3,8	0,81	0,75	676.00..-D

73 101 ...	73 100 ...
545	545
544	544
547	547
546	546
549	549
548	548
550	550

P	●	●
M	●	●
K	●	●
N	●	●
S	○	○
H	○	○
O	●	●

→ v_c Page 339

UltraMini – Inserts for internal threading (Partial profile)



Illustrations show right-hand versions



Left-hand Right-hand

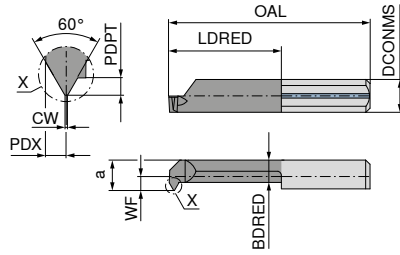
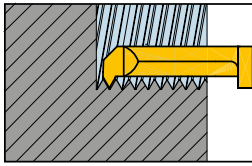
Designation	DCONMS _{ns} mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	Standard tool holder
R/L 003.0105-8	4	0,5 - 0,7	0,30	2,4	2,3	22	8	1,8	0,27	0,33	645.00..-D
R/L 004.0408-15	4	0,8 - 1	1,75	4,0	3,5	30	15	2,4	0,43	0,45	645.00..-D

73 101 ...	73 100 ...
551	551
552	552

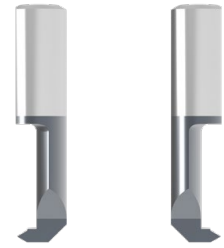
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●
O	●	●

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UltraMini – Inserts for Internal thread turning (Full profile)



Illustrations show right-hand versions

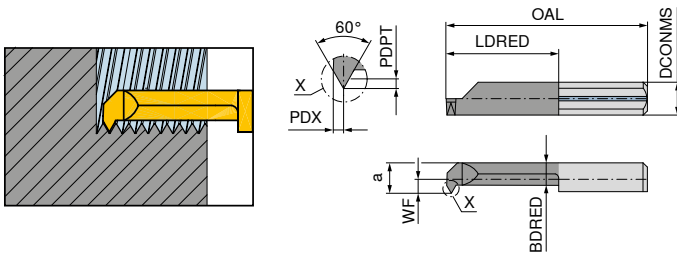


Left-hand Right-hand

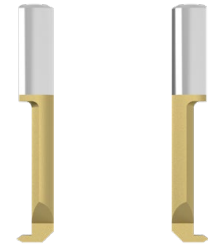
Designation	DCONMS _{h6} mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	CW mm	Standard tool holder	73 209 ...		73 208 ...	
													Left-hand	Right-hand	Left-hand	Right-hand
R/L 105.0408-15	5	0,80	1,9	4,8	4,4	30	15	3,3	0,43	0,50	0,10	645.00.-D	799		799	
R/L 105.510-15	5	1,00	1,9	4,8	4,4	30	15	3,3	0,54	0,55	0,12	645.00.-D	800		800	
R/L 106.612-15	6	1,25	2,3	6,0	5,3	30	15	3,4	0,67	0,65	0,15	676.00.-D	802		802	
R/L 106.815-15	6	1,50	2,3	6,0	5,3	30	15	3,4	0,81	0,75	0,18	676.00.-D	804		804	
R/L 106.815-15	7	1,50	2,7	7,0	6,3	30	15	3,8	0,81	0,75	0,18	676.00.-D	806		806	
P													•		•	
M													•		•	
K													•		•	
N													•		•	
S													•		•	
H													•		•	
O													•		•	

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UltraMini – Inserts for internal thread turning (Partial profile)



Illustrations show right-hand versions

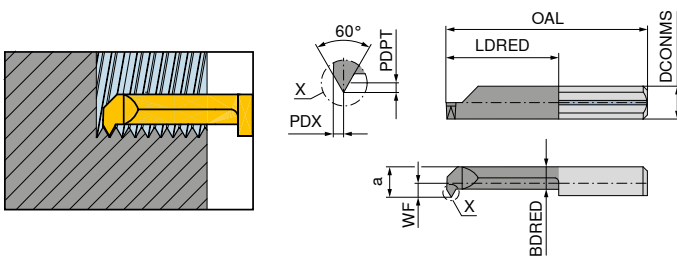


Left-hand Right-hand

Designation	DCONMS ₁₆ mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	Standard tool holder	TiN	
												73 103 ...	73 102 ...
R/L 004.0205-15	4	0,5 - 0,75	1,5	4	3,5	30	15	2,4	0,27	0,35	645.00..-D	510	510
R/L 005.0205-20	5	0,5 - 0,75	1,9	5	4,4	35	20	3,3	0,27	0,35	645.00..-D	540	540
R/L 005.0205-15	5	0,5 - 0,75	1,9	5	4,4	30	15	3,3	0,27	0,35	645.00..-D	539	539
L 005.0407-15	5	0,75 - 1	1,9	5	4,4	30	15	3,3	0,40	0,45	645.00..-D	541	541
R/L 005.0407-20	5	0,75 - 1	1,9	5	4,4	35	20	3,3	0,40	0,45	645.00..-D	542	542
R 005.0407-15	5	0,75 - 1	1,9	5	4,4	30	15	3,3	0,40	0,45	645.00..-D	541	541
R/L 006.0510-22	6	1 - 1,25	2,3	6	5,3	37	22	3,4	0,55	0,55	676.00..-D	544	544
R/L 006.0510-15	6	1 - 1,25	2,3	6	5,3	30	15	3,4	0,55	0,55	676.00..-D	543	543
P												●	●
M												●	●
K												●	●
N												●	●
S												○	○
H												○	○
O												●	●

→ v_c Page 339

UltraMini – Inserts for internal thread turning (Partial profile)



Illustrations show right-hand versions

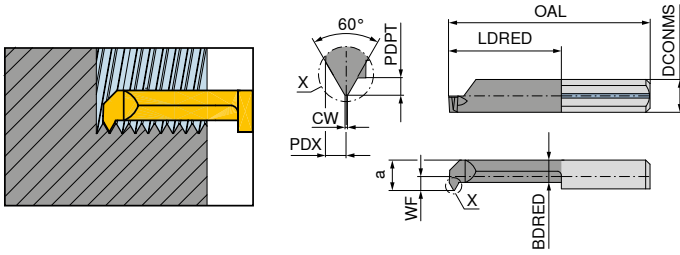


Left-hand Right-hand

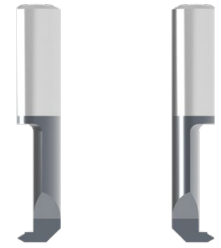
Designation	DCONMS ₁₆ mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	Standard tool holder	TiAlN	
												73 103 ...	73 102 ...
R/L 004.0105-10	4	0,5 - 0,75	1	3,2	3	24	10	2,3	0,27	0,44	645.00..-D	509	509
P												●	●
M												●	●
K												●	●
N												●	●
S												○	○
H												○	○
O												●	●

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UltraMini – Inserts for Internal thread turning (Full profile)



Illustrations show right-hand versions

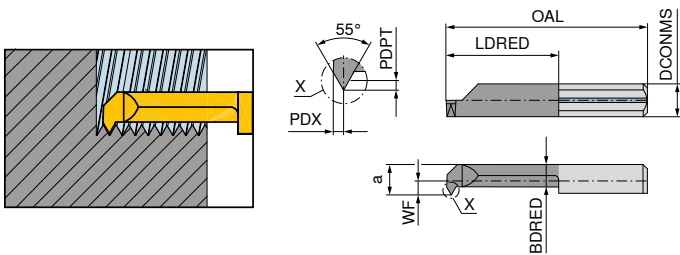


Left-hand Right-hand

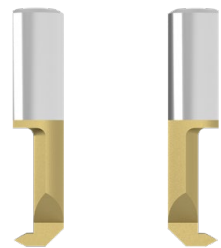
Designation	DCONMS _{h6} mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRD mm	PDPT mm	PDX mm	CW mm	Standard tool holder	73 207 ...	73 206 ...
R/L 104.0205-15	5	0,50	1,5	4	3,5	30	15	2,4	0,27	0,35	0,06	645.00..-D	800	800
R/L 105.0205-15	5	0,50	1,9	5	4,4	30	15	3,3	0,27	0,35	0,06	645.00..-D	802	802
R/L 105.0407-15	5	0,75	1,9	5	4,4	30	15	3,3	0,40	0,45	0,09	645.00..-D	804	804
R/L 106.0510-15	6	1,00	2,3	6	5,3	30	15	3,4	0,54	0,55	0,12	676.00..-D	806	806
P													●	●
M													●	●
K													●	●
N													●	●
S													●	●
H													●	●
O													●	●

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UltraMini – Inserts for internal thread turning (Partial profile)



Illustrations show right-hand versions



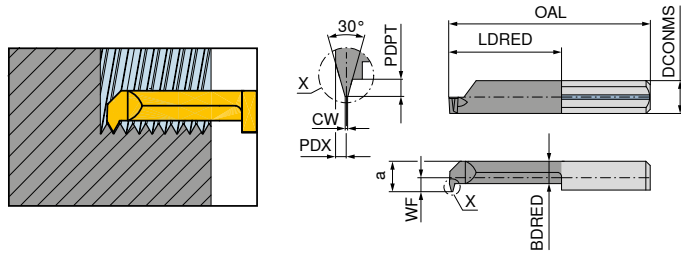
Left-hand Right-hand

Designation	DCONMS _{h6} mm	TPI 1/"	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRD mm	PDPT mm	PDX mm	Standard tool holder	73 105 ...	73 104 ...
R/L 005.5548-15	5	48 - 24	1,9	4,8	4,4	30	15	3,3	0,40	0,45	645.00..-D	552	552
R/L 006.5548-15	6	48 - 24	2,3	6,0	5,3	30	15	3,4	0,40	0,45	676.00..-D	562	562
R/L 006.5524-15	6	24 - 16	2,3	6,0	5,3	30	15	3,4	0,81	0,75	676.00..-D	563	563
R/L 007.5524-15	7	24 - 16	2,7	7,0	6,3	30	15	3,8	0,81	0,75	676.00..-D	572	572
P												●	●
M												●	●
K												●	●
N												●	●
S												○	○
H												○	○
O												●	●

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UltraMini – Inserts for internal thread turning (Partial profile)

▲ Trapezoidal thread DIN 103



Illustrations show right-hand versions

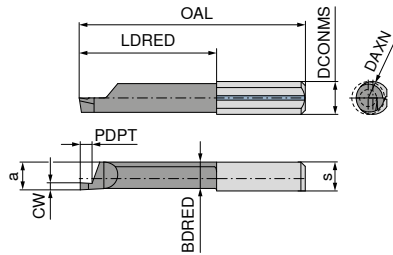
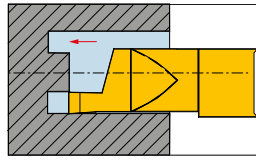


Left-hand Right-hand

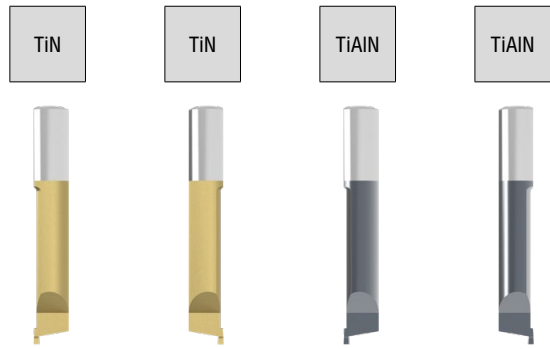
Designation	DCONMS _{h6} mm	TP mm	WF mm	DMIN mm	a mm	OAL mm	LDRED mm	BDRED mm	PDPT mm	PDX mm	CW mm	Standard tool holder	73 211 ...	
													Left-hand	Right-hand
R/L 007.1220-22	7	2	2,8	7	6,3	37	22	3,8	1,25	0,75	0,6	676.00.-D	222	222
R/L 007.1220-30	7	2	2,8	7	6,3	45	30	3,8	1,25	0,75	0,6	676.00.-D	230	230
R/L 007.1730-22	7	3	2,8	7	6,3	37	22	3,8	1,75	1,10	1,0	676.00.-D	322	322
R/L 007.1730-30	7	3	2,8	7	6,3	45	30	3,8	1,75	1,10	1,0	676.00.-D	330	330
P													●	●
M													●	●
K													●	●
N													●	●
S													●	●
H													●	●
O													●	●

→ v_c Page 339

UltraMini – Inserts for axial grooving



Illustrations show right-hand versions



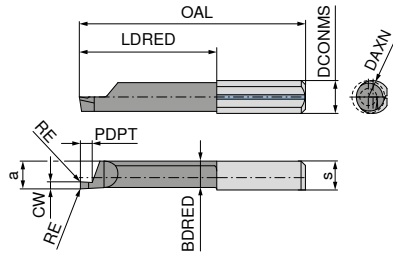
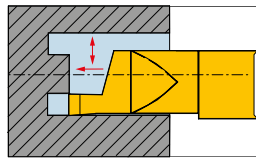
Designation	DCONMS _{ns} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	BDRED mm	CW mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											73 051 ...	73 050 ...	73 053 ...	73 052 ...
R/L 010.1006-10	6	5,2	6	5,3	26	11	1,5	4,9	1,0	676.00.-D	561	561	561	561
R/L 010.1506-10	6	5,2	6	5,3	26	11	2,0	4,9	1,5	676.00.-D	563	563	563	563
R/L 010.1008-10	7	5,9	8	6,3	26	11	1,5	5,6	1,0	676.00.-D	571	571	571	571
R/L 010.1008-20	7	5,9	8	6,3	35	20	1,5	5,6	1,0	676.00.-D	671	671	671	671
R/L 010.1008-30	7	5,9	8	6,3	45	30	1,5	5,6	1,0	676.00.-D	771	771	771	771
R/L 010.1508-10	7	5,9	8	6,3	26	11	2,5	5,6	1,5	676.00.-D	573	573	573	573
R/L 010.1508-20	7	5,9	8	6,3	35	20	2,5	5,6	1,5	676.00.-D	673	673	673	673
R/L 010.1508-30	7	5,9	8	6,3	45	30	2,5	5,6	1,5	676.00.-D	773	773	773	773
R/L 010.2008-10	7	5,9	8	6,3	26	11	3,0	5,6	2,0	676.00.-D	575	575	575	575
R/L 010.2008-20	7	5,9	8	6,3	35	20	3,0	5,6	2,0	676.00.-D	675	675	675	675
R/L 010.2008-30	7	5,9	8	6,3	45	30	3,0	5,6	2,0	676.00.-D	775	775	775	775
R/L 010.2508-10	7	5,9	8	6,3	26	11	3,5	5,6	2,5	676.00.-D	577	577	577	577
R/L 010.2508-20	7	5,9	8	6,3	35	20	3,5	5,6	2,5	676.00.-D	677	677	677	677
R/L 010.2508-30	7	5,9	8	6,3	45	30	3,5	5,6	2,5	676.00.-D	777	777	777	777
R/L 010.3008-10	7	5,9	8	6,3	26	11	3,5	5,6	3,0	676.00.-D	579	579	579	579
R/L 010.3008-20	7	5,9	8	6,3	35	20	3,5	5,6	3,0	676.00.-D	679	679	679	679
R/L 010.3008-30	7	5,9	8	6,3	45	30	3,5	5,6	3,0	676.00.-D	779	779	779	779
P											●	●	●	●
M											●	●	●	●
K											●	●	●	●
N											●	●	●	●
S											○	○	○	○
H											○	○	●	●
O											●	●	●	●

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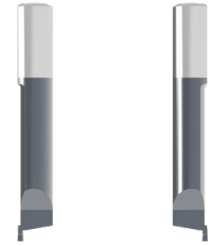
3

UltraMini – Inserts for axial grooving

▲ with corner radius



Illustrations show right-hand versions

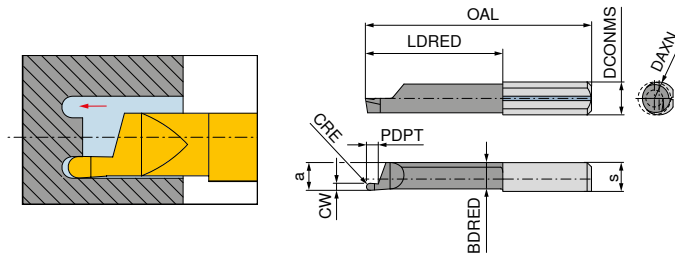


Left-hand **73 253 ...** Right-hand **73 252 ...**

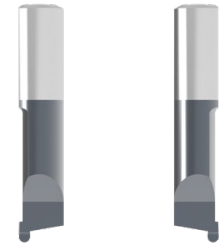
Designation	DCONMS ₁₆ mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	BDRED mm	CW mm	RE mm	Standard tool holder	Left-hand 73 253 ...	Right-hand 73 252 ...
R/L 510M1008-10	5	4,3	5	6,3	26	11	2	4,0	1,0	0,05	645.00..-D	510	510
R/L 510M1008-20	5	4,3	5	6,3	35	20	2	4,0	1,0	0,05	645.00..-D	610	610
R/L 510M1508-10	5	4,3	5	6,3	26	11	3	4,0	1,5	0,05	645.00..-D	515	515
R/L 510M1508-20	5	4,3	5	6,3	35	20	3	4,0	1,5	0,05	645.00..-D	615	615
R/L 510M2008-10	5	4,3	5	6,3	26	11	4	4,0	2,0	0,05	645.00..-D	520	520
R/L 510M2008-20	5	4,3	5	6,3	35	20	4	4,0	2,0	0,05	645.00..-D	620	620
R/L 010M1008-10	7	5,9	8	6,3	26	11	2	5,6	1,0	0,10	676.00..-D	800	800
R/L 010M1008-20	7	5,9	8	6,3	35	20	2	5,6	1,0	0,10	676.00..-D	810	810
R/L 010M1008-30	7	5,9	8	6,3	45	30	2	5,6	1,0	0,10	676.00..-D	820	820
R/L 010M1508-10	7	5,9	8	6,3	26	11	3	5,6	1,5	0,10	676.00..-D	802	802
R/L 010M1508-20	7	5,9	8	6,3	35	20	3	5,6	1,5	0,10	676.00..-D	812	812
R/L 010M1508-30	7	5,9	8	6,3	45	30	3	5,6	1,5	0,10	676.00..-D	822	822
R/L 010M2008-10	7	5,9	8	6,3	26	11	4	5,6	2,0	0,10	676.00..-D	804	804
R/L 010M2008-20	7	5,9	8	6,3	35	20	4	5,6	2,0	0,10	676.00..-D	814	814
R/L 010M2008-30	7	5,9	8	6,3	45	30	4	5,6	2,0	0,10	676.00..-D	824	824
R/L 010M2508-10	7	5,9	8	6,3	26	11	5	5,6	2,5	0,10	676.00..-D	806	806
R/L 010M2508-20	7	5,9	8	6,3	35	20	5	5,6	2,5	0,10	676.00..-D	816	816
R/L 010M2508-30	7	5,9	8	6,3	45	30	5	5,6	2,5	0,10	676.00..-D	826	826
R/L 010M3008-10	7	5,9	8	6,3	26	11	6	5,6	3,0	0,10	676.00..-D	808	808
R/L 010M3008-20	7	5,9	8	6,3	35	20	6	5,6	3,0	0,10	676.00..-D	818	818
R/L 010M3008-30	7	5,9	8	6,3	45	30	6	5,6	3,0	0,10	676.00..-D	828	828
P												●	●
M												●	●
K												●	●
N												●	●
S												●	●
H												●	●
O												●	●

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UltraMini – Inserts for axial grooving (Full radius)



Illustrations show right-hand versions



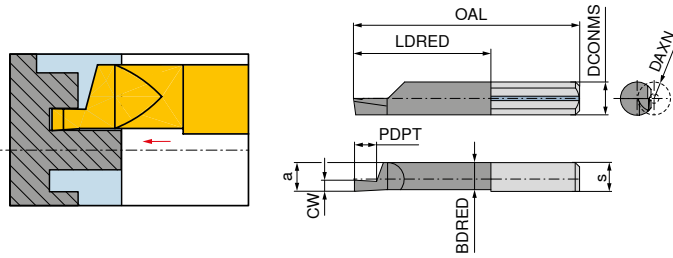
Left-hand Right-hand

Designation	DCONMS _{h6} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	BDRED mm	CW mm	CRE mm	Standard tool holder	TiAlN	
												73 059 ...	73 058 ...
R/L 610.1005-10	6	5,2	6	5,3	26	11	2	4,9	1,0	0,50	676.00.-D	071	071
R/L 610.1005-20	6	5,2	6	5,3	35	20	2	4,9	1,0	0,50	676.00.-D	171	171
R/L 610.1608-10	6	5,2	6	5,3	26	11	3	4,9	1,6	0,80	676.00.-D	073	073
R/L 610.1608-20	6	5,2	6	5,3	35	20	3	4,9	1,6	0,80	676.00.-D	173	173
R/L 610.2010-10	6	5,2	6	5,3	26	11	4	4,9	2,0	1,00	676.00.-D	075	075
R/L 610.2010-20	6	5,2	6	5,3	35	20	4	4,9	2,0	1,00	676.00.-D	175	175
R/L 610.2512-10	6	5,2	6	5,3	26	11	5	4,9	2,5	1,25	676.00.-D	077	077
R/L 610.2512-20	6	5,2	6	5,3	35	20	5	4,9	2,5	1,25	676.00.-D	177	177
R/L 610.3015-10	6	5,2	6	5,3	26	11	6	4,9	3,0	1,50	676.00.-D	079	079
R/L 610.3015-20	6	5,2	6	5,3	35	20	6	4,9	3,0	1,50	676.00.-D	179	179
R/L 010.1005-10	7	5,9	8	6,3	26	11	2	5,6	1,0	0,50	676.00.-D	571	571
R/L 010.1005-20	7	5,9	8	6,3	35	20	2	5,6	1,0	0,50	676.00.-D	671	671
R/L 010.1608-10	7	5,9	8	6,3	26	11	3	5,6	1,6	0,80	676.00.-D	573	573
R/L 010.1608-20	7	5,9	8	6,3	35	20	3	5,6	1,6	0,80	676.00.-D	673	673
R/L 010.2010-10	7	5,9	8	6,3	26	11	4	5,6	2,0	1,00	676.00.-D	575	575
R/L 010.2010-20	7	5,9	8	6,3	35	20	4	5,6	2,0	1,00	676.00.-D	675	675
R/L 010.2512-10	7	5,9	8	6,3	26	11	5	5,6	2,5	1,25	676.00.-D	577	577
R/L 010.2512-20	7	5,9	8	6,3	35	20	5	5,6	2,5	1,25	676.00.-D	677	677
R/L 010.3015-10	7	5,9	8	6,3	26	11	6	5,6	3,0	1,50	676.00.-D	579	579
R/L 010.3015-20	7	5,9	8	6,3	35	20	6	5,6	3,0	1,50	676.00.-D	679	679
P												•	•
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3

UltraMini – Inserts for axial grooving over a spigot



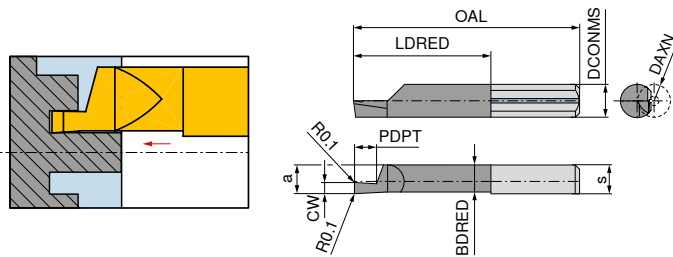
Illustrations show right-hand versions

Designation	DCONMS _{hg} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	BDRED mm	CW mm	Standard tool holder	TiAlN	
											Left-hand	Right-hand
R/L 620.1006-20	6	5,2	6	5,3	35	20	2	4,9	1,0	676.00..-D	73 061 ...	73 060 ...
R/L 620.1506-20	6	5,2	6	5,3	35	20	3	4,9	1,5	676.00..-D	561	561
R/L 620.2006-20	6	5,2	6	5,3	35	20	4	4,9	2,0	676.00..-D	563	563
R/L 620.2506-20	6	5,2	6	5,3	35	20	5	4,9	2,5	676.00..-D	565	565
R/L 620.3006-20	6	5,2	6	5,3	35	20	6	4,9	3,0	676.00..-D	567	567
P											•	•
M											•	•
K											•	•
N											•	•
S											•	•
H											•	•
O											•	•

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UltraMini – Inserts for axial grooving over a spigot

▲ with corner radius



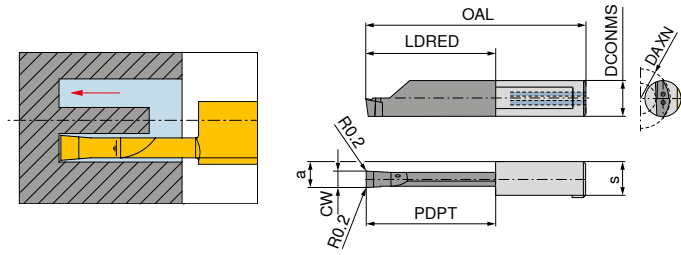
Illustrations show right-hand versions

Designation	DCONMS _{hg} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	BDRED mm	CW mm	Standard tool holder	TiAlN	
											Left-hand	Right-hand
R/L 620M1006-20	6	5,2	6	5,3	35	20	2	4,9	1,0	676.00..-D	73 261 ...	73 260 ...
R/L 620M1506-20	6	5,2	6	5,3	35	20	3	4,9	1,5	676.00..-D	800	800
R/L 620M2006-20	6	5,2	6	5,3	35	20	4	4,9	2,0	676.00..-D	802	802
R/L 620M2506-20	6	5,2	6	5,3	35	20	5	4,9	2,5	676.00..-D	804	804
R/L 620M3006-20	6	5,2	6	5,3	35	20	6	4,9	3,0	676.00..-D	806	806
P											•	•
M											•	•
K											•	•
N											•	•
S											•	•
H											•	•
O											•	•

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UltraMini – Inserts for axial grooving

- ▲ up to 70 bar
- ▲ dual cooling channel



Illustrations show right-hand versions

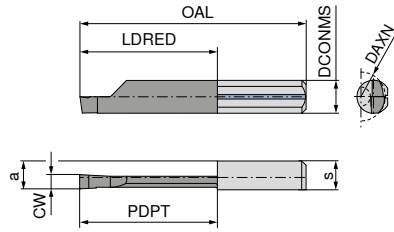
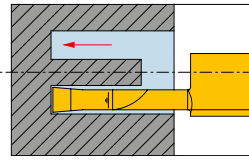


Left-hand Right-hand

Designation	DCONMS _{hg} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	CW mm	Standard tool holder	73 263 ...		73 262 ...	
										Left-hand	Right-hand	Left-hand	Right-hand
R/L 012.0200-10	8	5,00	12	7,3	30	10	10	2,0	687.00..-D	700		700	
R/L 012.0200-15	8	5,00	12	7,3	35	15	15	2,0	687.00..-D	702		702	
R/L 012.0250-10	8	5,25	12	7,3	30	10	10	2,5	687.00..-D	704		704	
R/L 012.0250-20	8	5,25	12	7,3	40	20	20	2,5	687.00..-D	706		706	
R/L 016.0300-10	8	5,50	16	7,3	30	10	10	3,0	687.00..-D	800		800	
R/L 016.0300-20	8	5,50	16	7,3	40	20	20	3,0	687.00..-D	802		802	
R/L 020.0300-25	8	5,50	20	7,3	45	25	25	3,0	687.00..-D	804		804	
R/L 020.0300-30	8	5,50	20	7,3	50	30	30	3,0	687.00..-D	806		806	
R/L 020.0300-35	8	5,50	20	7,3	55	35	35	3,0	687.00..-D	808		808	
R/L 020.0300-40	8	5,50	20	7,3	60	40	40	3,0	687.00..-D	810		810	
R/L 016.0400-10	8	6,00	16	7,3	30	10	10	4,0	687.00..-D	812		812	
R/L 016.0400-20	8	6,00	16	7,3	40	20	20	4,0	687.00..-D	814		814	
R/L 020.0400-25	8	6,00	20	7,3	45	25	25	4,0	687.00..-D	816		816	
R/L 020.0400-30	8	6,00	20	7,3	50	30	30	4,0	687.00..-D	818		818	
R/L 020.0400-35	8	6,00	20	7,3	55	35	35	4,0	687.00..-D	820		820	
R/L 020.0400-40	8	6,00	20	7,3	60	40	40	4,0	687.00..-D	822		822	
R/L 020.0500.20	8	6,50	20	7,3	40	20	20	5,0	687.00..-D	824		824	
R/L 020.0500.25	8	6,50	20	7,3	45	25	25	5,0	687.00..-D	826		826	
R/L 020.0500.30	8	6,50	20	7,3	50	30	30	5,0	687.00..-D	828		828	
R/L 020.0500.35	8	6,50	20	7,3	55	35	35	5,0	687.00..-D	830		830	
R/L 020.0500.40	8	6,50	20	7,3	60	40	40	5,0	687.00..-D	832		832	
P										•		•	
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O										•		•	

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UltraMini – Inserts for axial grooving



Illustrations show right-hand versions



	Left-hand 73 055 ...	Right-hand 73 054 ...	Left-hand 73 057 ...	Right-hand 73 056 ...
Designation				
R/L 015.2515-20	572	572	572	572
R/L 015.3015-20	574	574	574	574
R/L 015.3015-30	674	674	674	674

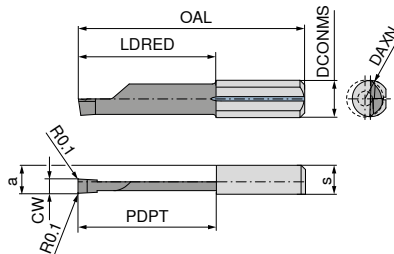
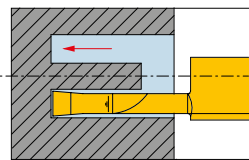
Designation	DCONMS _{ns} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	CW mm	Standard tool holder
R/L 015.2515-20	7	5,9	15	6,3	35	20	20	2,5	676.00..-D
R/L 015.3015-20	7	5,9	15	6,3	35	20	20	3,0	676.00..-D
R/L 015.3015-30	7	5,9	15	6,3	45	30	30	3,0	676.00..-D

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	○	○	●	●
H	○	○	●	●
O	●	●	●	●

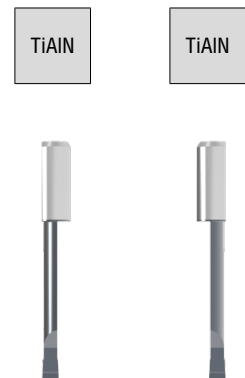
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UltraMini – Inserts for axial grooving

▲ with corner radius



Illustrations show right-hand versions



Designation	DCONMS _{ns} mm	a mm	DAXN mm	s mm	OAL mm	LDRED mm	PDPT mm	CW mm	Standard tool holder
R/L 015M2515-20	7	5,9	8	6,3	35	20	20	2,5	676.00..-D
R/L 015M3015-20	7	5,9	8	6,3	35	20	20	3,0	676.00..-D
R/L 015M3015-30	7	5,9	8	6,3	45	30	30	3,0	676.00..-D

P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●
O	●	●

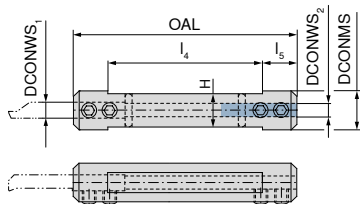
→ v_c Page 339

UltraMini – Standard tool holder for cutting inserts

- ▲ double ended
- ▲ Machining diameter from $\varnothing 0.5$ mm

Scope of supply:

Tool holder with allen key



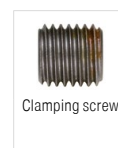
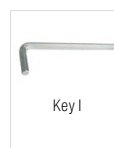
Designation	DCONWS ₁ mm	DCONWS ₂ mm	DCONMS mm	OAL mm	l ₄ mm	l ₅ mm	H mm
645.0012-D	4	5	12,00	75	55	10	10,3
645.0016-D	4	5	16,00	75	55	10	14,0
645.001905-D	4	5	19,05	90	70	10	17,2
645.0020-D	4	5	20,00	90	70	10	18,0
645.0022-D	4	5	22,00	90	70	10	20,0
645.00254-D	4	5	25,40	95	75	10	23,4
676.0016-D	6	7	16,00	75	55	10	14,0
676.001905-D	6	7	19,05	90	70	10	17,2
676.0020-D	6	7	20,00	90	70	10	18,0
676.0022-D	6	7	22,00	90	70	10	20,0
676.00254-D	6	7	25,40	95	75	10	23,4
687.0016-D	7	8	16,00	75	55	10	14,0
687.0020-D	7	8	20,00	90	70	10	18,0

73 080 ...

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168
169



70 950 ...

73 082 ...

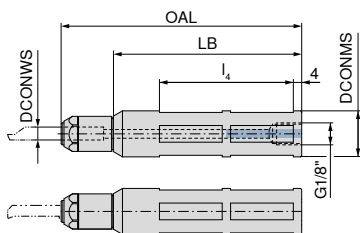
Spare parts for Article no.

73 080 169	SW2,5	175	M6x6	014
73 080 163	SW2,5	175	M5x4	013
73 080 164	SW2,5	175	M5x6	001
73 080 165	SW2,5	175	M5x8	008
73 080 166	SW2,5	175	M5x6	001
73 080 167	SW2,5	175	M5x8	008
73 080 168	SW2,5	175	M6x6	014
73 080 170	SW2,5	175	M5x6	001
73 080 171	SW2,5	175	M5x8	008
73 080 172	SW2,5	175	M5x8	008
73 080 173	SW2,5	175	M5x6	001
73 080 174	SW2,5	175	M5x8	008
73 080 175	SW2,5	175	M5x8	008

UltraMini – Quick change tool holder for cutting inserts

Scope of supply:

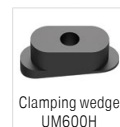
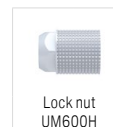
Tool holder, lock nut and clamping wedge



73 089 ...

Designation	DCONWS mm	DCONMS _{g6} mm	OAL mm	LB mm	l _s mm	
UM600H.0012.4	4	12,00	115	90	64	124
UM600H.0016.4	4	16,00	115	90	64	164
UM600H.001905.4	4	19,05	115	90	64	194
UM600H.0020.4	4	20,00	115	90	64	204
UM600H.0022.4	4	22,00	115	90	64	224
UM600H.0025.4	4	25,00	115	90	64	254
UM600H.00254.4	4	25,40	115	90	64	264
UM600H.0028.4	4	28,00	115	90	64	284
UM600H.0012.5	5	12,00	115	90	64	125
UM600H.0016.5	5	16,00	115	90	64	165
UM600H.001905.5	5	19,05	115	90	64	195
UM600H.0020.5	5	20,00	115	90	64	205
UM600H.0022.5	5	22,00	115	90	64	225
UM600H.0025.5	5	25,00	115	90	64	255
UM600H.00254.5	5	25,40	115	90	64	265
UM600H.0028.5	5	28,00	115	90	64	285
UM600H.0012.6	6	12,00	115	90	64	126
UM600H.0016.6	6	16,00	115	90	64	166
UM600H.001905.6	6	19,05	115	90	64	196
UM600H.0020.6	6	20,00	115	90	64	206
UM600H.0022.6	6	22,00	115	90	64	226
UM600H.0025.6	6	25,00	115	90	64	256
UM600H.00254.6	6	25,40	115	90	64	266
UM600H.0028.6	6	28,00	115	90	64	286
UM600H.0012.7	7	12,00	115	90	64	127
UM600H.0016.7	7	16,00	115	90	64	167
UM600H.001905.7	7	19,05	115	90	64	197
UM600H.0020.7	7	20,00	115	90	64	207
UM600H.0022.7	7	22,00	115	90	64	227
UM600H.0025.7	7	25,00	115	90	64	257
UM600H.00254.7	7	25,40	115	90	64	267
UM600H.0028.7	7	28,00	115	90	64	287

Avoid pulling cuts. Ensure a suitable clamping force is used when using thro' coolant supply. Can be tightened using a key.



73 950 ...

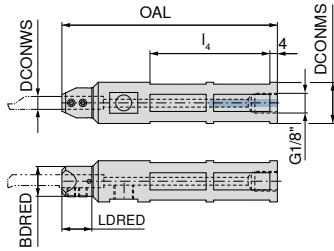
73 950 ...

Spare parts

DCONWS			
4	M4	104	111
5	M5	105	111
6	M6	106	111
7	M7	107	111

UltraMini – Toolholder for inserts

▲ Tool holder suitable for high coolant pressures

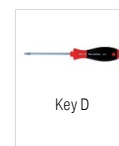


73 088 ...

Designation	DCONWS	BDRED	DCONMS ₉₀	OAL	LDRED	l ₄	
	mm	mm	mm	mm	mm	mm	
UMST.0016.4	4	16	16,00	115	24	42	164
UMST.001905.4	4	16	19,05	115	24	42	194
UMST.0020.4	4	16	20,00	115	24	42	204
UMST.0022.4	4	16	22,00	115	24	42	224
UMST.00254.4	4	16	25,40	115	24	42	264
UMST.0028.4	4	16	28,00	115	24	42	284
UMST.0016.5	5	16	16,00	115	24	42	165
UMST.001905.5	5	16	19,05	115	24	42	195
UMST.0020.5	5	16	20,00	115	24	42	205
UMST.0022.5	5	16	22,00	115	24	42	225
UMST.00254.5	5	16	25,40	115	24	42	265
UMST.0028.5	5	16	28,00	115	24	42	285
UMST.0016.6	6	16	16,00	115	24	42	166
UMST.001905.6	6	16	19,05	115	24	42	196
UMST.0020.6	6	16	20,00	115	24	42	206
UMST.0022.6	6	16	22,00	115	24	42	226
UMST.00254.6	6	16	25,40	115	24	42	266
UMST.0028.6	6	16	28,00	115	24	42	286
UMST.0016.7	7	16	16,00	115	24	42	167
UMST.001905.7	7	16	19,05	115	24	42	197
UMST.0020.7	7	16	20,00	115	24	42	207
UMST.0022.7	7	16	22,00	115	24	42	227
UMST.00254.7	7	16	25,40	115	24	42	267
UMST.0028.7	7	16	28,00	115	24	42	287
UMST.0016.8	8	16	16,00	115	24	42	168
UMST.001905.8	8	16	19,05	115	24	42	198
UMST.0020.8	8	16	20,00	115	24	42	208
UMST.0022.8	8	16	22,00	115	24	42	228
UMST.00254.8	8	16	25,40	115	24	42	268
UMST.0028.8	8	16	28,00	115	24	42	288

3

up to 150 bar



80 950 ...

73 950 ...

Spare parts
DCONWS

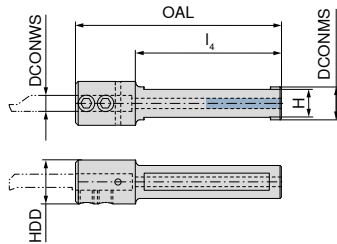
4	T10	104	M5x0,5x6T10	050
5	T10	104	M5x0,5x6T10	050
6	T10	104	M5x0,5x6T10	050
7	T10	104	M5x0,5x6T10	050
8	T10	104	M5x0,5x6T10	050

UltraMini – Toolholder for inserts

▲ single ended

Scope of supply:

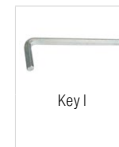
Tool holder with allen key



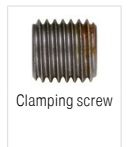
73 081 ...

Designation	DCONWS mm	HDD mm	DCONMS mm	OAL mm	l ₄ mm	H mm
640.0012-D	4	16	12	75	53	10,2
650.0012-D	5	16	12	75	53	10,2
660.0012-D	6	16	12	75	53	10,2
670.0012-D	7	16	12	75	53	10,2
680.0012-D	8	16	12	75	53	10,2

264
265
266
267
268



70 950 ...



73 082 ...

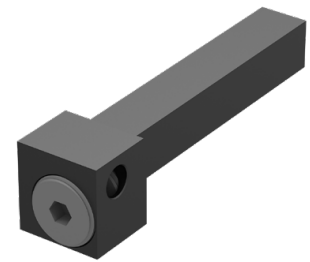
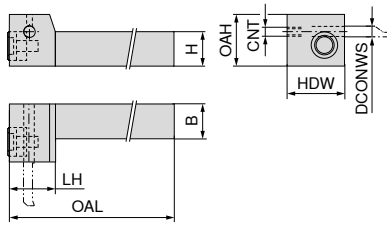
Spare parts

DCONWS				
4	SW2,5	175	M5x0,5x6	010
5	SW2,5	175	M5x0,5x6	010
6	SW2,5	175	M5x0,5x6	010
7	SW2,5	175	M5x0,5x6	010
8	SW2,5	175	M5x0,5x6	010

UltraMini – Toolholder for inserts

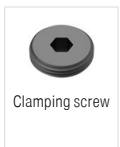
Scope of supply:

Tool holder with allen key



Designation	DCONWS mm	OAL mm	LH mm	B mm	HDW mm	H mm	OAH mm	CNT	Left-hand		Right-hand	
									73 083 ...		73 084 ...	
R/L .IK.UHCM.1212.4	4	90	17	12	20	12	18	M5	124		124	
R/L .IK.UHCM.1212.5	5	90	17	12	20	12	18	M5	125		125	
R/L .IK.UHCM.1212.6	6	90	17	12	20	12	21	M5	126		126	
R/L .IK.UHCM.1212.7	7	90	17	12	20	12	21	M5	127		127	

Suitable coolant connections can be found on → page 131+132



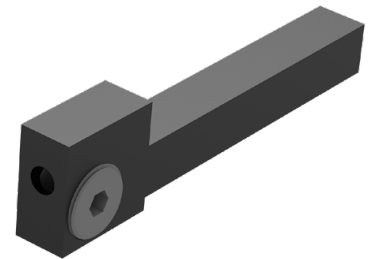
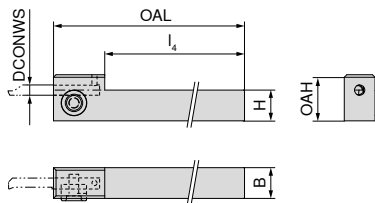
Spare parts

DCONWS	UM 12	011
4	UM 12	011
5	UM 16	012
6	UM 16	012

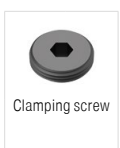
UltraMini – Toolholder for inserts

Scope of supply:

Tool holder with allen key



Designation	DCONWS mm	OAL mm	l ₄ mm	B mm	H mm	OAH mm	73 086 ...	
							104	126
UM.1010.4	4	100	75	10	10	20	104	124
UM.1212.4	4	100	75	12	12	22	105	125
UM.1010.5	5	100	75	10	10	20	125	126
UM.1212.5	5	100	75	12	12	22		
UM.1212.6	6	100	75	12	12	22		



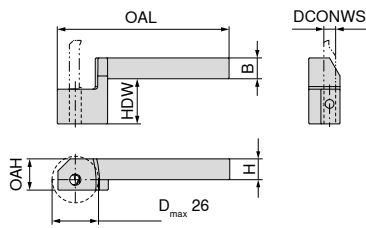
Spare parts

DCONWS	UM 12	011
4	UM 12	011
5	UM 16	012
6	UM 16	012

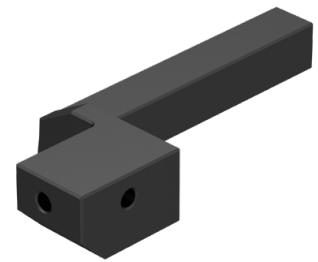
UltraMini – Toolholder for inserts

Scope of supply:

Tool holder with allen key



Illustrations show right-hand versions



Designation	DCONWS mm	OAL mm	B mm	HDW mm	H mm	OAH mm
R/L UM.18.1010.4	4	99	10	38	10	16
R/L UM.28.1010.4	4	99	10	48	10	16
R/L UM.18.1212.4	4	99	12	38	12	18
R/L UM.28.1212.4	4	99	12	48	12	18
R/L UM.18.1010.5	5	99	10	38	10	16
R/L UM.28.1010.5	5	99	10	48	10	16
R/L UM.18.1212.5	5	99	12	38	12	18
R/L UM.28.1212.5	5	99	12	48	12	18
R/L UM.18.1010.6	6	99	10	38	10	16
R/L UM.28.1010.6	6	99	10	48	10	16
R/L UM.18.1212.6	6	99	12	38	12	18
R/L UM.28.1212.6	6	99	12	48	12	18
R/L UM.18.1010.7	7	99	10	38	10	16
R/L UM.28.1010.7	7	99	10	48	10	16
R/L UM.18.1212.7	7	99	12	38	12	18
R/L UM.28.1212.7	7	99	12	48	12	18

Left-hand 73 091 ...	Right-hand 73 090 ...
104	104
204	204
124	124
224	224
105	105
205	205
125	125
225	225
106	106
206	206
126	126
226	226
107	107
207	207
127	127
227	227

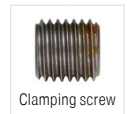
Spare parts

DCONWS

DCONWS	Key I	70 950 ...	Clamping screw	73 082 ...
4	SW2,5	175	M5x8	008
5	SW2,5	175	M5x8	008
6	SW2,5	175	M5x8	008
7	SW2,5	175	M5x8	008

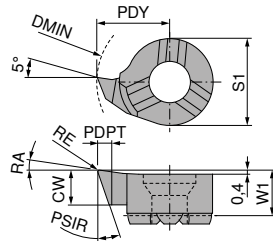
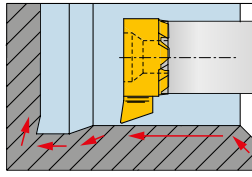


Key I



Clamping screw

MiniCut – Insert for turning and profiling



Illustrations show right-hand versions

Size	Designation	DMIN mm	CW mm	W1 mm	PDY mm	S1 mm	RE mm	PDPT mm	PSIR °	RA °
08	8,00. R/L .3,30.18°	7,8	3,3	3,5	4,65	6,0	0,20	0,6	18	8
	8,00. R/L .3,50.18°	7,8	3,5	3,5	4,65	6,0	0,05	0,6	18	8
	8,00. R/L .3,50.20°	7,8	3,5	3,5	4,65	6,0	0,20	0,6	20	20
09	9,00. R/L .3,60.18°	9,0	3,6	3,6	5,50	6,2	0,20	0,8	18	8
	9,00. R/L .3,60.20°	9,0	3,6	3,6	5,50	6,2	0,20	0,8	20	20
11	9,80. R/L .3,90.18°	9,8	3,9	4,2	5,50	8,0	0,20	1,0	18	8
	11,00. R/L .3,90.18°	11,0	3,9	4,2	6,70	8,0	0,20	1,0	18	8
	11,00. R/L .4,20.20°	11,0	4,2	4,2	6,70	8,0	0,20	1,0	20	20
14	14,00. R/L .5,00.18°	13,8	5,0	5,1	8,70	9,0	0,20	1,5	18	8
	14,00. R/L .5,30.20°	14,0	5,3	5,3	8,70	9,0	0,20	1,5	20	20

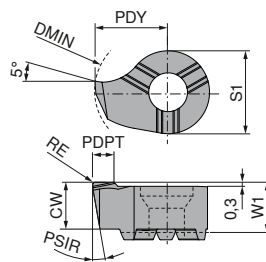
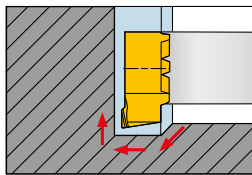
Left-hand	Right-hand
73 324 ...	73 322 ...
033	033
035	035
135	135
136	136
236	236
139	139
339	339
342	342
550	550
553	553

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

→ v_c Page 339

MiniCut – Insert for copy turning

▲ with chip breaker



Illustrations show right-hand versions

Size	Designation	DMIN mm	CW mm	W1 mm	PDY mm	S1 mm	RE mm	PDPT mm	PSIR °
08	8,00. R/L .3,40.10°	8	3,4	3,5	4,65	6,0	0,2	0,5	10
09	9,00. R/L .3,50.10°	9	3,5	3,6	5,50	6,2	0,2	0,5	10
11	11,00. R .4,10.10°	11	4,1	4,2	6,70	8,0	0,2	0,5	10

Left-hand	Right-hand
73 388 ...	73 386 ...
13400	13400
136	136
14100	14100

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

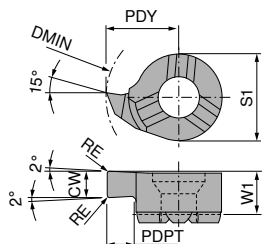
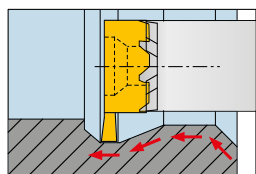
→ v_c Page 339

MiniCut – Internal turning insert

▲ CDX = $a_{p_{max}}$ (material dependant)

CWX500

CWX500



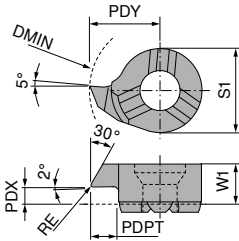
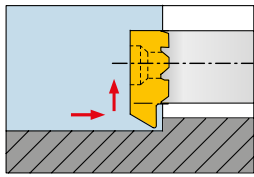
Illustrations show right-hand versions

Size	Designation	DMIN mm	CW ^{+0.05} mm	PDPT mm	W1 mm	PDY mm	S1 mm	RE mm	CDX mm	Left-hand		Right-hand	
										73 316 ...	73 314 ...	73 316 ...	73 314 ...
08	8,00. R/L .1,50.1,0	8	1,5	1,0	3,3	4,8	6,0	0,2	0,2	015		015	
	8,00. R/L .2,00.1,0	8	2,0	1,0	3,3	4,8	6,0	0,2	0,2	020		020	
09	9,00. R/L .1,50.2,0	9	1,5	2,0	3,6	5,5	6,2	0,2	0,2	115		115	
	9,00. R/L .1,50.3,0	10	1,5	3,0	3,6	6,5	6,2	0,2	0,2	121		121	
	9,00. R/L .2,00.2,0	9	2,0	2,0	3,6	5,5	6,2	0,2	0,2	120		120	
	9,00. R/L .2,00.3,0	10	2,0	3,0	3,6	6,5	6,2	0,2	0,2	122		122	
11	11,00. R/L .1,50.2,3	11	1,5	2,3	4,2	6,7	8,0	0,2	0,2	315		315	
	11,00. R/L .2,00.2,3	11	2,0	2,3	4,2	6,7	8,0	0,2	0,2	320		320	
14	14,00. R/L .1,50.4,0	14	1,5	4,0	5,3	9,0	9,0	0,2	0,2	515		515	
	14,00. R/L .1,50.5,5	16	1,5	5,5	5,2	10,5	9,0	0,2	0,2	516		516	
	14,00. R/L .1,50.6,5	17	1,5	6,5	5,2	11,5	9,0	0,2	0,2	517		517	
	14,00. R/L .2,00.4,0	14	2,0	4,0	5,3	9,0	9,0	0,2	0,2	520		520	
	14,00. R/L .2,00.5,5	16	2,0	5,5	5,2	10,5	9,0	0,2	0,2	521		521	
	14,00. R/L .2,00.6,5	17	2,0	6,5	5,2	11,5	9,0	0,2	0,2	522		522	
	14,00. R/L .2,50.5,5	16	2,5	5,5	5,2	10,5	9,0	0,2	0,2	525		525	
	14,00. R/L .2,50.6,5	17	2,5	6,5	5,2	11,5	9,0	0,2	0,2	526		526	
	14,00. R/L .3,00.5,5	16	3,0	5,5	5,2	10,5	9,0	0,2	0,2	530		530	
	14,00. R/L .3,00.6,5	17	3,0	6,5	5,2	11,5	9,0	0,2	0,2	531		531	
P										●		●	
M										●		●	
K										●		●	
N										●		●	
S										●		●	
H										●		●	
O										●		●	

→ v_c Page 339

MiniCut – Back boring insert

▲ CDX = $a_{p_{max}}$ (material dependant)



CWX500

CWX500



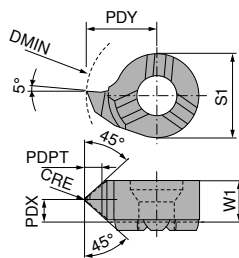
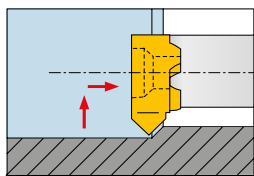
Illustrations show right-hand versions

Size	Designation	DMIN mm	PDPT mm	W1 mm	PDX mm	PDY mm	S1 mm	RE mm	CDX mm	Left-hand	Right-hand
										73 332 ...	73 330 ...
08	8,00. R/L .30°1,3	7,8	1,3	3,50	1,0	4,65	6,0	0,2	0,6	013	013
09	9,00. R/L .30°1,7	9,0	1,7	3,55	1,2	5,50	6,2	0,2	0,8	117	117
	9,00. R/L .30°2,3	10,0	2,3	3,55	1,2	6,50	6,2	0,2	0,8	123	123
11	11,00. R/L .30°2,3	11,0	2,3	4,30	1,6	6,70	8,0	0,2	1,0	323	323
14	14,00. R/L .30°3,5	13,8	3,5	5,40	2,4	8,70	9,0	0,2	1,5	535	535
P										●	●
M										●	●
K										●	●
N										●	●
S										●	●
H										●	●
O										●	●

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MiniCut – Internal turning and chamfering insert

▲ CDX = $a_{p_{max}}$ (material dependant)



CWX500

CWX500

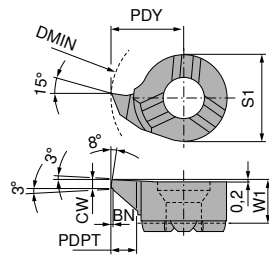
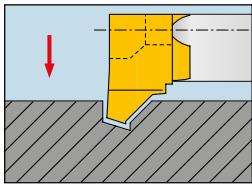


Illustrations show right-hand versions

Size	Designation	DMIN mm	PDPT mm	W1 mm	PDX mm	PDY mm	S1 mm	CRE mm	CDX mm	Left-hand	Right-hand
										73 336 ...	73 334 ...
08	8,00. R/L .45°1,4	8	1,4	3,50	1,8	4,8	6,0	0,2	0,6	010	010
09	9,00. R/L .45°1,3	9	1,3	3,55	1,8	5,5	6,2	0,2	0,8	110	110
	11,00. R/L .45°1,5	11	1,5	4,30	2,2	6,7	8,0	0,2	1,0	310	310
14	14,00. R/L .45°1,5	14	1,5	5,40	2,8	9,0	9,0	0,2	1,2	510	510
P										●	●
M										●	●
K										●	●
N										●	●
S										●	●
H										●	●
O										●	●

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MiniCut – Insert for pregrooving and chamfering

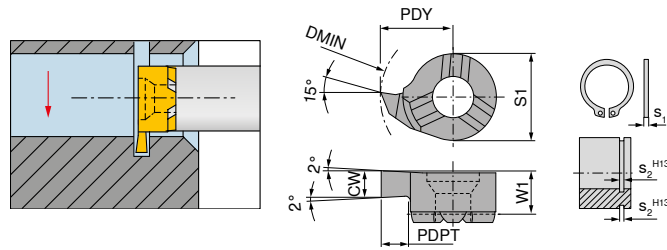


Illustrations show right-hand versions

Size	Designation	DMIN mm	CW mm	PDPT mm	W1 mm	PDY mm	S1 mm	BN mm	Left-hand		Right-hand	
									73 340 ...	73 338 ...	73 340 ...	73 338 ...
08	8,00. R/L .1,00.45°	8	1	1,0	3,3	4,8	6,0	0,2	100		100	
09	9,00. R/L .1,00.45°	9	1	1,5	3,6	5,5	6,2	0,2	215		215	
11	11,00. R/L .1,00.45°	11	1	1,5	4,2	6,7	8,0	0,2	315		315	
14	14,00. R/L .1,00.45°	14	1	1,5	5,3	9,0	9,0	0,2	515		515	
P									●		●	
M									●		●	
K									●		●	
N									●		●	
S									●		●	
H									●		●	
O									●		●	

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MiniCut – Grooving insert



Illustrations show right-hand versions

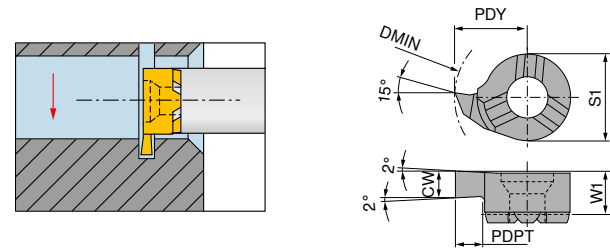
Size	Designation	DMIN mm	CW mm	PDPT mm	W1 mm	S1 mm	S2 H13 mm	PDY mm	S1 mm	Left-hand	Right-hand
										73 312 ...	73 310 ...
08	8,00. R/L .073.1,0	8	0,73	1,0	3,3	0,6	0,7	4,8	6,0	073	073
	8,00. R/L .083.1,0	8	0,83	1,0	3,3	0,7	0,8	4,8	6,0	083	083
	8,00. R/L .093.1,0	8	0,93	1,0	3,3	0,8	0,9	4,8	6,0	093	093
	8,00. R/L .1,00.1,0	8	1,00	1,0	3,3			4,8	6,0	110	110
	8,00. R/L .1,20.1,0	8	1,20	1,0	3,3	1,0	1,1	4,8	6,0	112	112
	8,00. R/L .1,40.1,0	8	1,40	1,0	3,3	1,2	1,3	4,8	6,0	114	114
	8,00. R/L .1,50.1,0	8	1,50	1,0	3,3			4,8	6,0	115	115
	8,00. R/L .1,70.1,0	8	1,70	1,0	3,3	1,5	1,6	4,8	6,0	117	117
	8,00. R/L .2,00.1,0	8	2,00	1,0	3,3			4,8	6,0	120	120
09	9,00. R/L .073.1,2	9	0,73	1,2	3,6	0,6	0,7	5,5	6,2	173	173
	9,00. R/L .083.1,3	9	0,83	1,3	3,6	0,7	0,8	5,5	6,2	183	183
	9,00. R/L .093.1,5	9	0,93	1,5	3,6	0,8	0,9	5,5	6,2	193	193
	9,00. R/L .1,00.1,8	9	1,00	1,8	3,6			5,5	6,2	210	210
	9,00. R/L .1,20.1,8	9	1,20	1,8	3,6	1,0	1,1	5,5	6,2	212	212
	9,00. R/L .1,40.1,8	9	1,40	1,8	3,6	1,2	1,3	5,5	6,2	214	214
	9,00. R/L .1,50.1,8	9	1,50	1,8	3,6			5,5	6,2	215	215
	9,00. R/L .1,70.1,8	9	1,70	1,8	3,6	1,5	1,6	5,5	6,2	217	217
	9,00. R/L .2,00.1,8	9	2,00	1,8	3,6			5,5	6,2	220	220
	9,00. R/L .2,50.1,8	9	2,50	1,8	3,6			5,5	6,2	225	225
9,00. R/L .3,00.1,8	9	3,00	1,8	3,6			5,5	6,2	230	230	
11	11,00. R/L .073.1,2	11	0,73	1,2	4,2	0,6	0,7	6,7	8,0	373	373
	11,00. R/L .083.1,3	11	0,83	1,3	4,2	0,7	0,8	6,7	8,0	383	383
	11,00. R .093.1,5	11	0,93	1,5	4,2	0,9	0,9	6,7	8,0	393	393
	11,00. L .093.1,5	11	0,93	1,5	4,2	0,8	0,9	6,7	8,0		
	11,00. R/L .1,00.2,3	11	1,00	2,3	4,2			6,7	8,0	310	310
	11,00. R/L .1,20.2,3	11	1,20	2,3	4,2	1,0	1,1	6,7	8,0	312	312
	11,00. R/L .1,40.2,3	11	1,40	2,3	4,2	1,2	1,3	6,7	8,0	314	314
	11,00. R/L .1,50.2,3	11	1,50	2,3	4,2			6,7	8,0	315	315
	11,00. R/L .1,70.2,3	11	1,70	2,3	4,2	1,5	1,6	6,7	8,0	317	317
	11,00. R/L .2,00.2,3	11	2,00	2,3	4,2			6,7	8,0	320	320
	11,00. R/L .2,50.2,3	11	2,50	2,3	4,2			6,7	8,0	325	325
11,00. R/L .3,00.2,3	11	3,00	2,3	4,2			6,7	8,0	330	330	
14	14,00. R/L .073.1,2	14	0,73	1,2	5,3	0,6	0,7	9,0	9,0	573	573
	14,00. R/L .083.1,3	14	0,83	1,3	5,3	0,7	0,8	9,0	9,0	583	583
	14,00. R/L .093.1,5	14	0,93	1,5	5,3	0,8	0,9	9,0	9,0	593	593
	14,00. R/L .1,20.4,0	14	1,20	4,0	5,3	1,0	1,1	9,0	9,0	512	512
	14,00. R/L .1,40.4,0	14	1,40	4,0	5,3	1,2	1,3	9,0	9,0	514	514
	14,00. R/L .1,50.4,0	14	1,50	4,0	5,3			9,0	9,0	515	515
	14,00. R/L .1,70.4,0	14	1,70	4,0	5,3	1,5	1,6	9,0	9,0	517	517
	14,00. R/L .2,00.4,0	14	2,00	4,0	5,3			9,0	9,0	520	520
	14,00. R/L .2,50.4,0	14	2,50	4,0	5,3			9,0	9,0	525	525
	14,00. R/L .3,00.4,0	14	3,00	4,0	5,3			9,0	9,0	530	530
	P										●
M										●	●
K										●	●
N										●	●
S										●	●
H										●	●
O										●	●

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3

MiniCut – Grooving insert

▲ large groove depth (T_{max} 5.5 mm)



Illustrations show right-hand versions

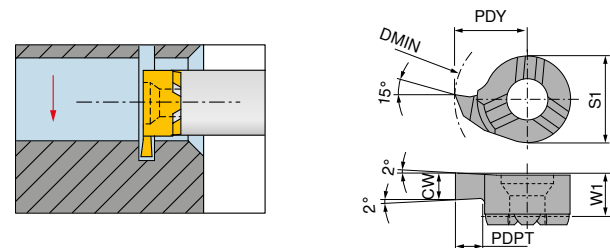
Size	Designation	DMIN mm	CW ^{-0.03} mm	PDPT mm	W1 mm	PDY mm	S1 mm
14	14,00. R/L .1,50.5,5	16	1,5	5,5	5,2	10,5	9
	14,00. R/L .2,00.5,5	16	2,0	5,5	5,2	10,5	9
	14,00. R/L .2,50.5,5	16	2,5	5,5	5,2	10,5	9
	14,00. R/L .3,00.5,5	16	3,0	5,5	5,2	10,5	9

	Left-hand 73 372 ...	Right-hand 73 370 ...
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●
O	●	●

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MiniCut – Grooving insert

▲ large groove depth (T_{max} 6.5 mm)



Illustrations show right-hand versions

Size	Designation	DMIN mm	CW ^{-0.03} mm	PDPT mm	W1 mm	PDY mm	S1 mm
14	14,00. R/L .1,50.6,5	17	1,5	6,5	5,2	11,5	9
	14,00. R/L .2,00.6,5	17	2,0	6,5	5,2	11,5	9
	14,00. R/L .2,50.6,5	17	2,5	6,5	5,2	11,5	9
	14,00. R/L .3,00.6,5	17	3,0	6,5	5,2	11,5	9

	Left-hand 73 384 ...	Right-hand 73 382 ...
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●
O	●	●

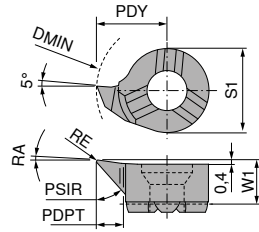
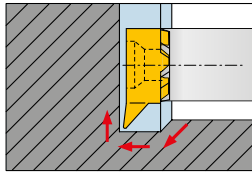
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MiniCut – Internal undercut insert

▲ CDX = $a_{p_{max}}$ (material dependant)

CWX500

CWX500



Illustrations show right-hand versions

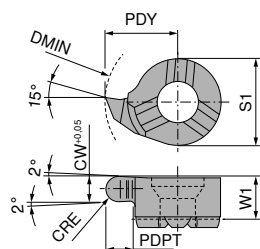
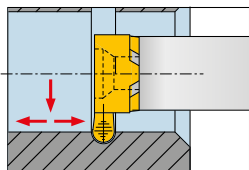
Size	Designation	DMIN mm	PDPT mm	W1 mm	PDY mm	S1 mm	RE mm	CDX mm	PSIR °	RA °	Left-hand	Right-hand
											73 328 ...	73 326 ...
08	8,00. R/L .30°:1,0	7,8	1,0	3,5	4,65	6,0	0,2	0,4	30	3	010	010
	8,00. R/L .47°:1,2	7,8	1,2	3,5	4,65	6,0	0,2	0,4	47	3	012	012
09	9,00. R/L .47°:1,5	9,0	1,5	3,6	5,50	6,2	0,2	0,5	47	3	115	115
11	11,00. R/L .30°:2,3	11,0	2,3	4,2	6,70	8,0	0,2	0,6	30	3	423	423
	11,00. R/L .47°:2,3	11,0	2,3	4,2	6,70	8,0	0,2	0,6	47	3	323	323
14	13,70. R/L .47°:3,0	13,7	3,0	5,3	8,70	9,0	0,2	0,8	47	3	530	530
	13,70. R/L .30°:4,0	13,7	4,0	5,3	8,70	9,0	0,2	0,8	30	3	540	540
P											•	•
M											•	•
K											•	•
N											•	•
S											•	•
H											•	•
O											•	•

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MiniCut – Full radius grooving and turning insert

CWX500

CWX500

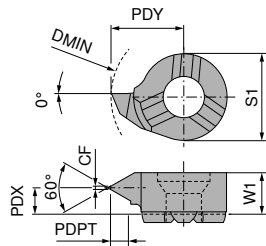
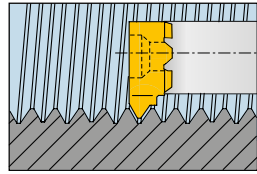


Illustrations show right-hand versions

Size	Designation	DMIN mm	CW mm	PDPT mm	W1 mm	PDY mm	S1 mm	CRE mm	Left-hand	Right-hand
									73 320 ...	73 318 ...
08	8,00. R/L .0,80.1,0	8	0,8	1,0	3,3	4,8	6,0	0,4	008	008
	8,00. R/L .1,20.1,0	8	1,2	1,0	3,3	4,8	6,0	0,6	012	012
	8,00. R/L .1,80.1,0	8	1,8	1,0	3,3	4,8	6,0	0,9	018	018
	8,00. R/L .2,00.1,0	8	2,0	1,0	3,3	4,8	6,0	1,0	020	020
09	9,00. R/L .0,80.1,6	9	0,8	1,6	3,6	5,5	6,2	0,4	108	108
	9,00. R/L .1,20.1,6	9	1,2	1,6	3,6	5,5	6,2	0,6	112	112
	9,00. R/L .1,80.1,6	9	1,8	1,6	3,6	5,5	6,2	0,9	118	118
	9,00. R/L .2,00.1,6	9	2,0	1,6	3,6	5,5	6,2	1,0	120	120
11	11,00. R/L .0,80.2,3	11	0,8	2,3	4,2	6,7	8,0	0,4	308	308
	11,00. R/L .1,20.2,3	11	1,2	2,3	4,2	6,7	8,0	0,6	312	312
	11,00. R/L .1,60.2,3	11	1,6	2,3	4,2	6,7	8,0	0,8	316	316
	11,00. R/L .1,80.2,3	11	1,8	2,3	4,2	6,7	8,0	0,9	318	318
	11,00. R/L .2,00.2,3	11	2,0	2,3	4,2	6,7	8,0	1,0	320	320
	11,00. R/L .2,40.2,3	11	2,4	2,3	4,2	6,7	8,0	1,2	324	324
14	14,00. R/L .0,80.4,0	14	0,8	4,0	5,3	9,0	9,0	0,4	508	508
	14,00. R/L .1,20.4,0	14	1,2	4,0	5,3	9,0	9,0	0,6	512	512
	14,00. R/L .1,80.4,0	14	1,8	4,0	5,3	9,0	9,0	0,9	518	518
	14,00. R/L .2,00.4,0	14	2,0	4,0	5,3	9,0	9,0	1,0	520	520
	14,00. R/L .2,20.4,0	14	2,2	4,0	5,3	9,0	9,0	1,1	522	522
	14,00. R/L .3,00.4,0	14	3,0	4,0	5,3	9,0	9,0	1,5	530	530
P									●	●
M									●	●
K									●	●
N									●	●
S									●	●
H									●	●
O									●	●

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MiniCut - Threading insert (Partial profile)



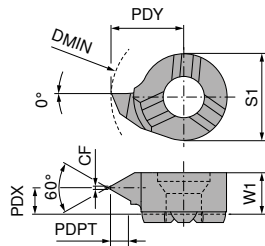
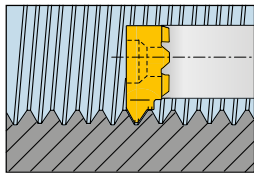
Illustrations show right-hand versions

Size	Designation	DMIN mm	TP mm	CF mm	PDPT mm	W1 mm	PDX mm	PDY mm	S1 mm	Left-hand	Right-hand
										73 344 ...	73 342 ...
08	8,00. R/L .0,5/0,75.60°	8	0,5 - 0,75	0,06	0,43	3,50	2,7	4,8	6,0	012	012
	8,00. R/L .1,0/1,25.60°	8	1,0 - 1,25	0,12	0,70	3,50	2,7	4,8	6,0	014	014
	8,00. R/L .1,5/1,75.60°	8	1,5 - 1,75	0,18	0,95	3,50	2,5	4,8	6,0	010	010
09	9,00. R/L .0,5/0,75.60°	9	0,5 - 0,75	0,06	0,27	3,55	3,2	5,5	6,2	112	112
	9,00. R/L .1,0/1,25.60°	9	1,0 - 1,25	0,12	0,54	3,55	3,0	5,5	6,2	114	114
	9,00. R/L .1,5/1,75.60°	9	1,5 - 1,75	0,18	0,81	3,55	2,8	5,5	6,2	116	116
	9,00. R/L .1,75/2,0.60°	9	1,75 - 2,0	0,20	0,95	3,55	2,6	5,5	6,2	118	118
	9,00. R/L .2,0/2,5.60°	9	2,0 - 2,5	0,25	1,08	3,55	2,5	5,5	6,2	120	120
	9,00. R/L .2,5/3,0.60°	9	2,5 - 3,0	0,31	1,35	3,55	2,1	5,5	6,2	122	122
11	11,00. R/L .0,5/0,75.60°	11	0,5 - 0,75	0,06	0,75	4,30	3,5	6,7	8,0	312	312
	11,00. R/L .1,0/1,25.60°	11	1,0 - 1,25	0,12	0,55	4,30	3,5	6,7	8,0	314	314
	11,00. R/L .1,5/1,75.60°	11	1,5 - 1,75	0,18	0,81	4,30	3,5	6,7	8,0	316	316
	11,00. R/L .2,0/2,5.60°	11	2,0 - 2,5	0,25	1,08	4,30	3,0	6,7	8,0	310	310
	11,00. R/L .2,5/3,0.60°	11	2,5 - 3,0	0,31	1,35	4,30	3,0	6,7	8,0	320	320
14	14,00. R/L .1,0/1,25.60°	14	1,0 - 1,25	0,12	0,55	5,40	4,7	9,0	9,0	512	512
	14,00. R/L .1,5/1,75.60°	14	1,5 - 1,75	0,18	0,81	5,40	4,5	9,0	9,0	514	514
	14,00. R/L .2,0/2,5.60°	14	2,0 - 2,5	0,25	1,08	5,40	4,2	9,0	9,0	510	510
	14,00. R/L .2,5/3,0.60°	14	2,5 - 3,0	0,31	1,35	5,40	4,7	9,0	9,0	520	520

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

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MiniCut – Threading insert (Full profile)

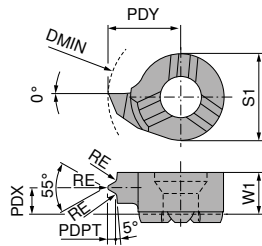
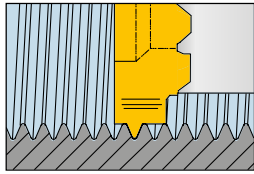


Illustrations show right-hand versions

Size	Designation	DMIN mm	TP mm	CF mm	PDPT mm	W1 mm	PDX mm	PDY mm	S1 mm	Left-hand	Right-hand
										73 348 ...	73 346 ...
09	9,00. R/L .0,5.60°	9	0,50	0,06	0,27	3,55	3,25	5,5	6,2	405	405
	9,00. R/L .1,0.60°	9	1,00	0,12	0,54	3,55	3,00	5,5	6,2	410	410
	9,00. R/L .1,5.60°	9	1,50	0,18	0,81	3,55	2,80	5,5	6,2	415	415
	9,00. R/L .1,75.60°	9	1,75	0,20	0,95	3,55	2,70	5,5	6,2	418	418
	9,00. R/L .2,0.60°	9	2,00	0,25	1,08	3,55	2,60	5,5	6,2	420	420
	9,00. R/L .2,5.60°	9	2,50	0,31	1,35	3,55	2,50	5,5	6,2	425	425
	9,00. R/L .3,0.60°	9	3,00	0,37	1,62	3,55	2,20	5,5	6,2	430	430
11	11,00. R/L .1,0.60°	11	1,00	0,12	0,54	4,30	3,50	6,7	8,0	314	314
	11,00. R/L .1,5.60°	11	1,50	0,18	0,81	4,30	3,50	6,7	8,0	316	316
	11,00. R/L .2,0.60°	11	2,00	0,25	1,08	4,30	3,20	6,7	8,0	310	310
	11,00. R/L .2,5.60°	11	2,50	0,31	1,35	4,30	3,00	6,7	8,0	320	320
	11,00. R/L .3,0.60°	11	3,00	0,37	1,62	4,30	2,90	6,7	8,0	330	330
14	14,00. R/L .0,5.60°	14	0,50	0,06	0,27	5,40	3,50	9,0	9,0	510	510
	14,00. R/L .1,0.60°	14	1,00	0,12	0,54	5,40	3,50	9,0	9,0	512	512
	14,00. R/L .1,5.60°	14	1,50	0,18	0,81	5,40	3,30	9,0	9,0	514	514
	14,00. R/L .2,0.60°	14	2,00	0,25	1,08	5,40	4,20	9,0	9,0	610	610
	14,00. R/L .2,5.60°	14	2,50	0,31	1,35	5,40	4,70	9,0	9,0	520	520
P										•	•
M										•	•
K										•	•
N										•	•
S										•	•
H										•	•
O										•	•

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MiniCut - Threading insert (Full profile)

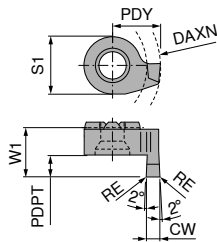
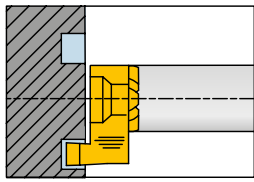


Illustrations show right-hand versions

Size	Designation	DMIN mm	TP mm	TPI 1/"	PDPT mm	W1 mm	PDX mm	PDY mm	S1 mm	RE mm	Left-hand		Right-hand	
											73 352 ...	73 350 ...	73 352 ...	73 350 ...
11	11,00. R/L .1,814.55°	11	1,814	14	1,16	4,30	3,0	6,7	8	0,24	306		306	
	11,00. R/L .1,337.55°	11	1,337	19	0,85	4,30	2,7	6,7	8	0,18	304		304	
14	14,00. R/L .1,814.55°	14	1,814	14	1,16	5,35	3,6	9,0	9	0,24	506		506	
	14,00. R/L .1,337.55°	14	1,337	19	0,85	5,35	3,8	9,0	9	0,18	504		504	
P											•		•	
M											•		•	
K											•		•	
N											•		•	
S											•		•	
H											•		•	
O											•		•	

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MiniCut – Axial grooving insert



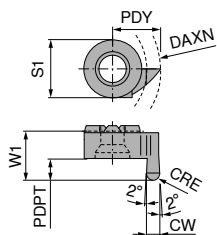
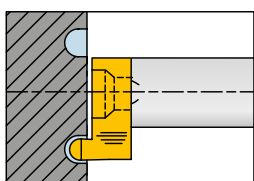
Illustrations show right-hand versions

Size	Designation	DAXN mm	CW mm	PDPT mm	W1 mm	PDY mm	RE mm	S1 mm	Left-hand	Right-hand
									73 364 ...	73 362 ...
14	14,00. R/L .1,0,1,5	14	1,0	1,5	8,3	9		9	510	510
	14,00. R/L .1,5,2,5	14	1,5	2,5	8,3	9	0,2	9	515	515
	14,00. R/L .2,0,3,0	14	2,0	3,0	8,3	9	0,2	9	520	520
	14,00. R/L .2,0,5,0	14	2,0	5,0	10,3	9	0,2	9	620	620
	14,00. R/L .2,5,3,0	14	2,5	3,0	8,3	9	0,2	9	525	525
	14,00. R/L .2,5,5,0	14	2,5	5,0	10,3	9	0,2	9	625	625
	14,00. R/L .3,0,3,0	14	3,0	3,0	8,3	9	0,2	9	530	530
	14,00. R/L .3,0,5,0	14	3,0	5,0	10,3	9	0,2	9	630	630

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

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MiniCut – Full radius axial grooving insert



Illustrations show right-hand versions

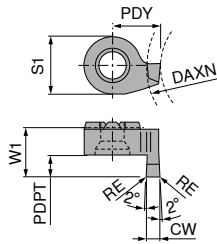
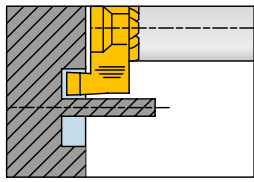
Size	Designation	DAXN mm	CW mm	PDPT mm	W1 mm	PDY mm	CRE mm	S1 mm	Left-hand	Right-hand
									73 376 ...	73 374 ...
14	14,00. R/L . 1,0,1,5	14	1,0	1,5	8,3	9	0,5	9	510	510
	14,00. R/L . 1,6,2,5	14	1,6	2,5	8,3	9	0,8	9	516	516
	14,00. R/L . 2,0,3,0	14	2,0	3,0	8,3	9	1,0	9	520	520
	14,00. R/L . 2,5,3,0	14	2,5	3,0	8,3	9	1,2	9	525	525
	14,00. R/L . 3,0,3,0	14	3,0	3,0	8,3	9	1,5	9	530	530

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	•	•
O	•	•

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MiniCut – Axial grooving insert over a spigot

CWX500 CWX500



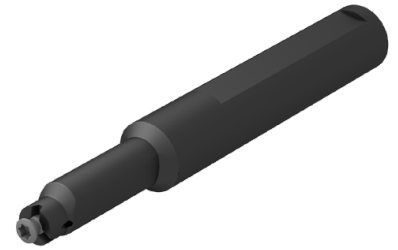
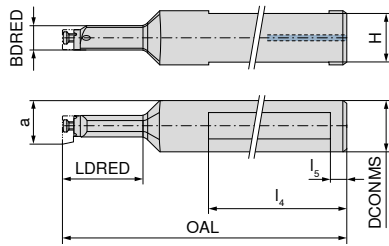
Illustrations show right-hand versions

Size	Designation	DAXN mm	CW mm	PDPT mm	W1 mm	PDY mm	RE mm	S1 mm	Left-hand	Right-hand
									73 360 ...	73 358 ...
14	14/12. R/L .1.0.1,5	12	1,0	1,5	8,3	7,0		9	310	310
	14/12. R/L .1.5.2,5	12	1,5	2,5	8,3	7,5	0,2	9	315	315
	14/12. R/L .2.0.3,0	12	2,0	3,0	8,3	8,0	0,2	9	320	320
	14/12. R/L .2.0.5,0	12	2,0	5,0	10,3	8,0	0,2	9	420	420
	14/12. R/L .2.5.3,0	12	2,5	3,0	8,3	8,5	0,2	9	325	325
	14/12. R/L .2.5.5,0	12	2,5	5,0	10,3	8,5	0,2	9	425	425
	14/12. R/L .3.0.3,0	12	3,0	3,0	8,3	9,0	0,2	9	330	330
	14/12. R/L .3.0.5,0	12	3,0	5,0	10,3	9,0	0,2	9	430	430
P									•	•
M									•	•
K									•	•
N									•	•
S									•	•
H									•	•
O									•	•

→ v_c Page 339

3

MiniCut – Steel Tool holder



73 522 ...

Size	Designation	a mm	DCONMS ₁₇ mm	OAL mm	l ₄ mm	LDRED mm	BDRED mm	H mm	l ₅ mm
08	8,00/16.N.12.1,0	7,8	16	80	60	12	6,0	15,0	5
	8,00/16.N.22.1,0	7,8	16	90	60	22	6,0	15,0	5
09	9,00/16.N.14.1,8	8,6	16	95	60	14	7,4	15,0	5
	9,00/16.N.25.1,8	8,6	16	105	60	25	7,4	15,0	5
11	11,00/16.N.16.2,3	10,7	16	97	60	16	8,0	14,5	5
	11,00/16.N.29.2,3	10,7	16	110	60	29	8,0	14,5	5
14	14,00/16.N.18.4,0	13,8	16	100	60	18	11,0	14,5	5
	14,00/16.N.38.4,0	13,8	16	120	60	38	11,0	14,5	5

012

122

014

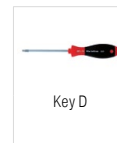
125

016

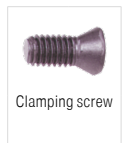
129

018

138



Key D



Clamping screw

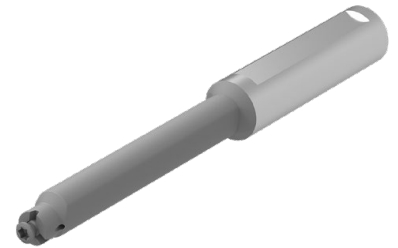
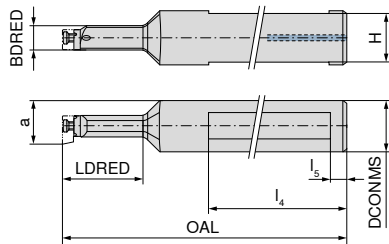
80 950 ...

73 082 ...

Spare parts
Size

08	T08	110	M2,6	002
09	T08	110	M2,6	002
11	T10	112	M3,5	003
14	T15	113	M4	004

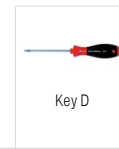
MiniCut – Solid Carbide Tool holder – vibration damped



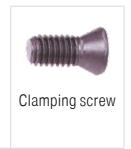
73 520 ...

Size	Designation	a mm	DCONMS _{r7} mm	OAL mm	l ₄ mm	LDRED mm	BDRED mm	H mm	l ₅ mm	
08	8,00/12.N.21.1,0 HM	7,8	12	80	48	21	6,0	11,0	5	021
	8,00/12.N.30.1,0 HM	7,8	12	90	48	30	6,0	11,0	5	030
	8,00/12.N.42.1,0 HM	7,8	12	100	48	42	6,0	11,0	5	042
	8,00/12.N.50.1,0 HM	7,8	12	115	48	50	6,0	11,0	5	050
09	9,00/12.N.22.1,0 HM	8,6	12	90	60	22	7,4	11,0	5	222
	9,00/12.N.30.2,0 HM	8,6	12	98	60	30	7,4	11,0	5	230
	9,00/12.N.42.3,0 HM	8,6	12	110	60	42	7,4	11,0	5	242
	9,00/12.N.56.4,0 HM	8,6	12	122	60	56	7,4	11,0	5	256
11	11,00/12.N.29.2,3 HM	10,7	12	95	60	29	8,0	10,5	5	129
	11,00/12.N.42.2,3 HM	10,7	12	110	60	42	8,0	10,5	5	142
	11,00/12.N.56.2,3 HM	10,7	12	120	60	56	8,0	10,5	5	156
	11,00/12.N.64.2,3 HM	10,7	12	130	60	64	8,0	10,5	5	164
14	14,00/12.N.34.4,0 HM	13,8	12	100	60	34	11,0	10,5	5	234
	14,00/12.N.45.4,0 HM	13,8	12	110	60	45	11,0	10,5	5	245
	14,00/12.N.64.4,0 HM	13,8	12	130	60	64	11,0	10,5	5	264
	14,00/16.N.34.4,0 HM	13,8	16	100	60	34	11,0	14,5	5	334
	14,00/16.N.45.4,0 HM	13,8	16	110	60	45	11,0	14,5	5	345
	14,00/16.N.64.4,0 HM	13,8	16	130	60	64	11,0	14,5	5	364
	14,00/16.N.75.4,0 HM	13,8	16	145	60	75	11,0	14,5	5	375

3



Key D



Clamping screw

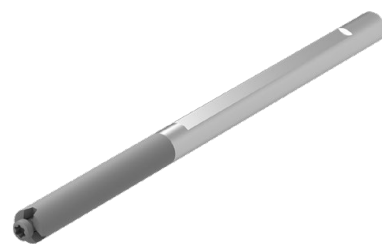
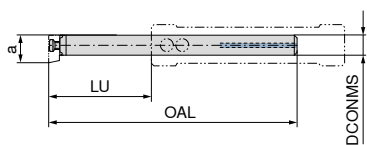
80 950 ...

73 082 ...

Spare parts

Size				
08	T08	110	M2,6	002
09	T08	110	M2,6	002
11	T10	112	M3,5	003
14	T15	113	M4	004

MiniCut – HM – Flexholder



Size	Designation	DCONMS mm	OAL mm	LU mm	a mm
08	8,0/6.N16/2	6	65	18	8
	8,0/6.N40/4	6	103	40	8
11	11,0/8.N20/2	8	79	20	11
	11,0/8.N50/4	8	129	50	11

73 525 ...

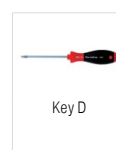
818

840

120 ¹⁾

150 ¹⁾

1) with thro' coolant



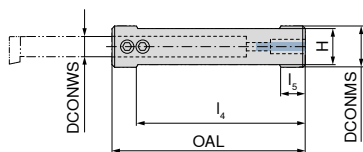
80 950 ...

73 082 ...

Spare parts

Size	T08	110	M2,6	002
08				
11	T10	112	M3,5	003

MiniCut – Base holder for solid carbide Flexholder



Size	Designation	DCONWS mm	DCONMS mm	H mm	OAL mm	l ₄ mm	l ₅ mm
08	8/16.75	6	16	14	75	55	10
	8/20.75	6	20	18	75	70	10
11	11/16.75	8	16	14	75	55	10
	11/20.75	8	20	18	75	70	10

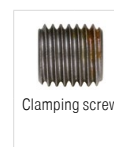
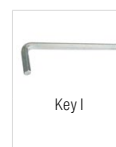
73 526 ...

816

820

116

120



70 950 ...

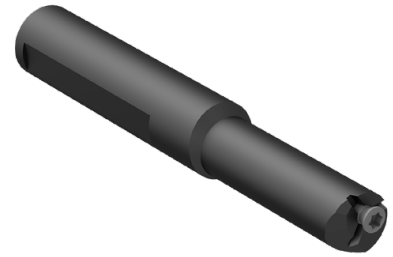
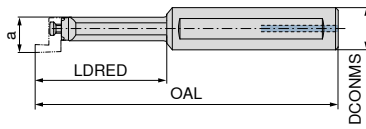
73 082 ...

Spare parts for Article no.

73 526 816	SW2,5	175	M5x0,5x6	010
73 526 820	SW2,5	175	M5x0,5x6	010
73 526 116	SW2,5	175	M5x0,5x4	009
73 526 120	SW2,5	175	M5x0,5x6	010

MiniCut – Steel holder

▲ for axial machining

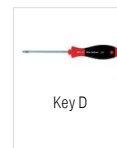


Size	Designation	a mm	DCONMS mm	OAL mm	LDRED mm	Left-hand		Right-hand	
						73 523 ...	025	73 524 ...	025
14	14,0/16. R/L .25.1,0	13,5	16	90	25	025		025	
	14,0/16. R/L .45.1,0	13,5	16	110	45	145		145	

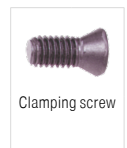
Spare parts

Size

14	T15	80 950 ...	113	M4	73 082 ...	004
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Key D



Clamping screw

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Tensile strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C Annealed	420 N/mm ² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C Annealed	640 N/mm ² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3	< 0,45 % C Tempered	840 N/mm ² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C Annealed	910 N/mm ² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5	< 0,75 % C Tempered	1010 N/mm ² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1	Annealed	610 N/mm ² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2	Tempered	930 N/mm ² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3	Tempered	1010 N/mm ² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4	Tempered	1200 N/mm ² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	680 N/mm ² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2	Hardened and tempered	1100 N/mm ² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3	Hardened and tempered	1300 N/mm ² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic Annealed	680 N/mm ² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic Tempered	1010 N/mm ² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic Quenched	610 N/mm ² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)	780 N/mm ² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic	350 N/mm ² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)	500 N/mm ² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic	540 N/mm ² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic	845 N/mm ² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic	440 N/mm ² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic	780 N/mm ² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable Age-hardened	340 N/mm ² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	250 N/mm ² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable Age-hardened	300 N/mm ² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable	440 N/mm ² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %	375 N/mm ² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn	300 N/mm ² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper	340 N/mm ² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn	
S	Heat-resistant alloys	S.1.1	Fe – basis Annealed	680 N/mm ² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2	Fe – basis Age-hardened	950 N/mm ² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis Annealed	840 N/mm ² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2	Ni or Co basis Age-hardened	1180 N/mm ² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3	Ni or Co basis Cast	1080 N/mm ² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium	400 N/mm ²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys Age-hardened	1050 N/mm ² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
S.3.3	Beta alloys	1400 N/mm ² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al		
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	≤ 150 N/mm ²				
		O.1.2	Plastics, thermoplastic	≤ 100 N/mm ²				
		O.2.1	Aramid fibre-reinforced	≤ 1000 N/mm ²				
		O.2.2	Glass/carbon-fibre reinforced	≤ 1000 N/mm ²				
		O.3.1	Graphite					

* Tensile strength

Cutting data standard values

Index	UltraMini K10F uncoated	UltraMini K10F-TiN	UltraMini K10-TiAlN	UltraMini DPX 57S	MiniCut CWX500	UltraMini TiAlN+	MiniCut CBN	UltraMini	MiniCut
	v _c in m/min							f in mm/rev.	
P.1.1		90	110	110	160	110			
P.1.2		80	100	100	140	100			
P.1.3		60	80	80	140	80			
P.1.4		60	80	80	110	80			
P.1.5		60	60	60	100	60			
P.2.1		60	80	80	110	80			
P.2.2		60	60	60	100	60			
P.2.3		50	60	60	90	60			
P.2.4		50	60	60	80	60			
P.3.1		50	60	60	80	60			
P.3.2		30	50	50	70	50			
P.3.3		30	30	30	50	30			
P.4.1		60	70	70	100	70			
P.4.2		50	60	60	90	60			
M.1.1		60	80	80	80	80			
M.2.1		50	60	60	70	60			
M.3.1		40	50	50	60	50			
K.1.1		80	100	100	90	100			
K.1.2		60	70	70	100	70			
K.2.1		60	60	60	80	60			
K.2.2		50	60	60	70	60			
K.3.1		80	100	100	120	100			
K.3.2		70	80	80	100	80			
N.1.1	100	200	230	230	290	230			
N.1.2	100	180	220	220	280	220			
N.2.1	90	160	190	190	240	190			
N.2.2	70	140	170	170	200	170			
N.2.3	50	80	100	100	120	100			
N.3.1	80	140	170	170	210	170			
N.3.2	70	120	140	140	180	140			
N.3.3	50	100	120	120	130	120			
N.4.1	50	100	120	120	100	120			
S.1.1		30	50	50	50	50			
S.1.2		30	30	30	30	30	30		
S.2.1		30	50	50	50	50	50		
S.2.2		30	30	30	40	30	30		
S.2.3			30	30	30	30	30		
S.3.1		30	50	50	50	50			
S.3.2		20	30	30	40	30			
S.3.3			20	20	30	20	20		
H.1.1		30	40	40	50	40	40		
H.1.2			30	30	40	30	30		
H.1.3				20		30	30		
H.1.4									
H.2.1									
H.3.1		20	30	30	40	30	30		
O.1.1	50	90	110	110	150	110			
O.1.2	50	100	120	120	150	120			
O.2.1		90	110	110	130	110			
O.2.2		60	80	80	100	80			
O.3.1	50	100	120	120	150	120			


	UltraMini	MiniCut
Internal turning and profiling	0,02–0,05	0,03–0,10
Internal turning and profiling – hard turning	0,02–0,06	0,03–0,10
Turning and profile turning – super alloys	0,02–0,08	
Internal turning	0,02–0,05	0,01–0,03
Back boring	0,02–0,04	0,03–0,10
Turning and chamfering	0,01–0,03	0,03–0,10
Pre-parting and chamfering	0,01–0,02	0,01–0,03
Groove turning	0,01–0,02	0,01–0,03
Internal Undercuts	0,01–0,03	0,03–0,08
Groove and profile turning	0,01–0,02	0,01–0,03
Axial grooving	0,02–0,05	0,02–0,05



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. $\pm 20\%$ according to the usage conditions.

Cutting data standard values – 73 000 .../ 73 001 ...

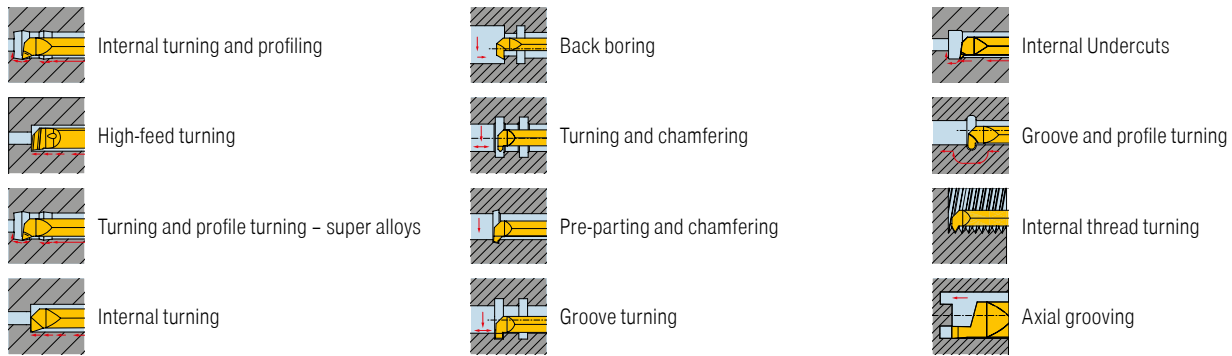
Index	UltraMini DPX77S v _c in m/min	Roughing										
		Ø ≤ 2 mm Corner radius in mm			Ø 2,5–4 mm Corner radius in mm				Ø ≥ 5 mm Corner radius in mm			
		0,05	0,1	0,15	0,05	0,1	0,15	0,2 / 0,4	0,05	0,1	0,15	0,2 / 0,4
		f in mm/rev.			f in mm/rev.				f in mm/rev.			
P.1.1	110	0,026–0,076	0,029–0,082	0,031–0,088	0,053–0,151	0,058–0,165	0,062–0,176	0,064–0,184	0,099–0,284	0,108–0,309	0,116–0,33	0,121–0,345
P.1.2	100	0,026–0,076	0,029–0,082	0,031–0,088	0,053–0,151	0,058–0,165	0,062–0,176	0,064–0,184	0,099–0,284	0,108–0,309	0,116–0,33	0,121–0,345
P.1.3	80	0,026–0,076	0,029–0,082	0,031–0,088	0,053–0,151	0,058–0,165	0,062–0,176	0,064–0,184	0,099–0,284	0,108–0,309	0,116–0,33	0,121–0,345
P.1.4	80	0,023–0,065	0,025–0,071	0,026–0,076	0,046–0,13	0,05–0,142	0,053–0,151	0,055–0,158	0,085–0,244	0,093–0,266	0,099–0,284	0,104–0,297
P.1.5	60	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
P.2.1	80	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
P.2.2	60	0,021–0,06	0,023–0,066	0,025–0,07	0,042–0,121	0,046–0,132	0,049–0,141	0,052–0,147	0,079–0,227	0,087–0,247	0,092–0,264	0,097–0,276
P.2.3	60	0,019–0,054	0,021–0,059	0,022–0,063	0,038–0,109	0,042–0,119	0,044–0,127	0,046–0,132	0,071–0,204	0,078–0,222	0,083–0,238	0,087–0,248
P.2.4	60	0,018–0,051	0,02–0,056	0,021–0,06	0,036–0,103	0,039–0,112	0,042–0,12	0,044–0,125	0,067–0,193	0,074–0,21	0,079–0,224	0,082–0,235
P.3.1	60	0,021–0,06	0,023–0,066	0,025–0,07	0,042–0,121	0,046–0,132	0,049–0,141	0,052–0,147	0,079–0,227	0,087–0,247	0,092–0,264	0,097–0,276
P.3.2	50	0,02–0,057	0,022–0,063	0,023–0,067	0,04–0,115	0,044–0,125	0,047–0,134	0,049–0,14	0,075–0,215	0,082–0,235	0,088–0,251	0,092–0,262
P.3.3	30	0,016–0,045	0,017–0,049	0,018–0,053	0,032–0,091	0,035–0,099	0,037–0,106	0,039–0,11	0,06–0,17	0,065–0,185	0,069–0,198	0,072–0,207
P.4.1	70	0,022–0,064	0,024–0,069	0,026–0,074	0,044–0,127	0,048–0,138	0,052–0,148	0,054–0,155	0,083–0,238	0,091–0,26	0,097–0,277	0,101–0,29
P.4.2	60	0,021–0,06	0,023–0,066	0,025–0,07	0,042–0,121	0,046–0,132	0,049–0,141	0,052–0,147	0,079–0,227	0,087–0,247	0,092–0,264	0,097–0,276
M.1.1	80	0,015–0,042	0,016–0,046	0,017–0,049	0,03–0,085	0,032–0,092	0,034–0,099	0,036–0,103	0,056–0,159	0,061–0,173	0,065–0,185	0,068–0,193
M.2.1	60	0,013–0,038	0,014–0,041	0,015–0,044	0,026–0,076	0,029–0,082	0,031–0,088	0,032–0,092	0,05–0,142	0,054–0,155	0,058–0,165	0,06–0,173
M.3.1	50	0,014–0,039	0,015–0,043	0,016–0,046	0,028–0,079	0,03–0,086	0,032–0,092	0,033–0,096	0,052–0,147	0,056–0,161	0,06–0,172	0,063–0,179
K.1.1	100	0,026–0,076	0,029–0,082	0,031–0,088	0,053–0,151	0,058–0,165	0,062–0,176	0,064–0,184	0,099–0,284	0,108–0,309	0,116–0,33	0,121–0,345
K.1.2	70	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
K.2.1	60	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
K.2.2	60	0,021–0,059	0,022–0,064	0,024–0,069	0,041–0,118	0,045–0,129	0,048–0,137	0,05–0,144	0,077–0,221	0,084–0,241	0,09–0,257	0,094–0,269
K.3.1	100	0,025–0,073	0,028–0,079	0,03–0,084	0,051–0,145	0,055–0,158	0,059–0,169	0,062–0,177	0,095–0,272	0,104–0,297	0,111–0,317	0,116–0,331
K.3.2	80	0,021–0,06	0,023–0,066	0,025–0,07	0,042–0,121	0,046–0,132	0,049–0,141	0,052–0,147	0,079–0,227	0,087–0,247	0,092–0,264	0,097–0,276
N.1.1	230	0,032–0,091	0,035–0,099	0,037–0,106	0,064–0,181	0,069–0,198	0,074–0,211	0,077–0,221	0,119–0,34	0,13–0,371	0,139–0,396	0,145–0,414
N.1.2	220	0,031–0,089	0,034–0,097	0,036–0,104	0,062–0,178	0,068–0,194	0,073–0,208	0,076–0,217	0,117–0,335	0,128–0,365	0,136–0,389	0,142–0,407
N.2.1	190	0,03–0,085	0,032–0,092	0,034–0,099	0,059–0,169	0,065–0,185	0,069–0,197	0,072–0,206	0,111–0,318	0,121–0,346	0,129–0,37	0,135–0,386
N.2.2	170	0,029–0,083	0,032–0,091	0,034–0,097	0,058–0,166	0,063–0,181	0,068–0,194	0,071–0,202	0,109–0,312	0,119–0,34	0,127–0,363	0,133–0,38
N.2.3	100	0,029–0,082	0,031–0,089	0,033–0,095	0,057–0,163	0,062–0,178	0,067–0,19	0,07–0,199	0,107–0,306	0,117–0,334	0,125–0,356	0,13–0,373
N.3.1	170	0,03–0,085	0,032–0,092	0,034–0,099	0,059–0,169	0,065–0,185	0,069–0,197	0,072–0,206	0,111–0,318	0,121–0,346	0,129–0,37	0,135–0,386
N.3.2	140	0,028–0,08	0,031–0,087	0,033–0,093	0,056–0,16	0,061–0,175	0,065–0,187	0,068–0,195	0,105–0,301	0,115–0,328	0,122–0,35	0,128–0,366
N.3.3	120	0,027–0,077	0,029–0,084	0,031–0,09	0,054–0,154	0,059–0,168	0,063–0,18	0,066–0,188	0,101–0,289	0,11–0,315	0,118–0,337	0,123–0,352
N.4.1	120	0,027–0,077	0,029–0,084	0,031–0,09	0,054–0,154	0,059–0,168	0,063–0,18	0,066–0,188	0,101–0,289	0,11–0,315	0,118–0,337	0,123–0,352
S.1.1	50	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
S.1.2	30	0,019–0,053	0,02–0,058	0,022–0,062	0,037–0,106	0,04–0,115	0,043–0,123	0,045–0,129	0,069–0,198	0,076–0,216	0,081–0,231	0,085–0,242
S.2.1	50	0,018–0,051	0,02–0,056	0,021–0,06	0,036–0,103	0,039–0,112	0,042–0,12	0,044–0,125	0,067–0,193	0,074–0,21	0,079–0,224	0,082–0,235
S.2.2	30	0,014–0,039	0,015–0,043	0,016–0,046	0,028–0,079	0,03–0,086	0,032–0,092	0,033–0,096	0,052–0,147	0,056–0,161	0,06–0,172	0,063–0,179
S.2.3	30	0,015–0,042	0,016–0,046	0,017–0,049	0,03–0,085	0,032–0,092	0,034–0,099	0,036–0,103	0,056–0,159	0,061–0,173	0,065–0,185	0,068–0,193
S.3.1	50	0,024–0,068	0,026–0,074	0,028–0,079	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166	0,089–0,255	0,097–0,278	0,104–0,297	0,109–0,311
S.3.2	30	0,019–0,054	0,021–0,059	0,022–0,063	0,038–0,109	0,042–0,119	0,044–0,127	0,046–0,132	0,071–0,204	0,078–0,222	0,083–0,238	0,087–0,248
S.3.3	20	0,013–0,038	0,014–0,041	0,015–0,044	0,026–0,076	0,029–0,082	0,031–0,088	0,032–0,092	0,05–0,142	0,054–0,155	0,058–0,165	0,06–0,173
H.1.1	40	0,013–0,038	0,014–0,041	0,015–0,044	0,026–0,076	0,029–0,082	0,031–0,088	0,032–0,092	0,05–0,142	0,054–0,155	0,058–0,165	0,06–0,173
H.1.2	30	0,011–0,03	0,012–0,033	0,012–0,035	0,021–0,06	0,023–0,066	0,025–0,07	0,026–0,074	0,036–0,102	0,039–0,111	0,042–0,119	0,043–0,124
H.1.3												
H.1.4												
H.2.1	30	0,014–0,041	0,016–0,044	0,017–0,048	0,029–0,082	0,031–0,089	0,033–0,095	0,035–0,099	0,054–0,153	0,058–0,167	0,062–0,178	0,065–0,186
H.3.1	30	0,013–0,036	0,014–0,04	0,015–0,042	0,025–0,073	0,028–0,079	0,03–0,084	0,031–0,088	0,048–0,136	0,052–0,148	0,055–0,158	0,058–0,166
O.1.1	110	0,031–0,089	0,034–0,097	0,036–0,104	0,062–0,178	0,068–0,194	0,073–0,208	0,076–0,217	0,117–0,335	0,128–0,365	0,136–0,389	0,142–0,407
O.1.2	120	0,028–0,079	0,03–0,086	0,032–0,092	0,055–0,157	0,06–0,171	0,064–0,183	0,067–0,191	0,103–0,295	0,112–0,321	0,12–0,343	0,126–0,359
O.2.1	110	0,017–0,05	0,019–0,054	0,02–0,058	0,035–0,1	0,038–0,109	0,041–0,116	0,043–0,121	0,065–0,187	0,071–0,204	0,076–0,218	0,08–0,228
O.2.2	80	0,017–0,048	0,018–0,053	0,02–0,056	0,034–0,097	0,037–0,105	0,039–0,113	0,041–0,118	0,064–0,181	0,069–0,198	0,074–0,211	0,077–0,221
O.3.1	120											

 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.

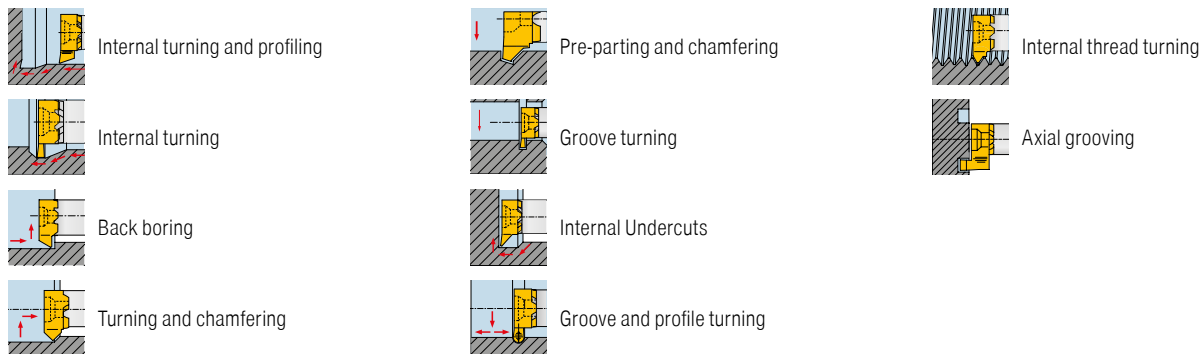
Finishing														
Index	Ø ≤ 2 mm Corner radius in mm			Ø 2,5–4 mm Corner radius in mm					Ø ≥ 5 mm Corner radius in mm					
	0,05	0,1	0,15	0,05	0,1	0,15	0,2	0,4	0,05	0,1	0,15	0,2	0,4	
	f in mm/rev.			f in mm/rev.					f in mm/rev.					
P.1.1	0,007-0,019	0,008-0,022	0,009-0,025	0,017-0,049	0,02-0,058	0,023-0,065	0,025-0,072	0,032-0,092	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
P.1.2	0,007-0,019	0,008-0,022	0,009-0,025	0,017-0,049	0,02-0,058	0,023-0,065	0,025-0,072	0,032-0,092	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
P.1.3	0,007-0,019	0,008-0,022	0,009-0,025	0,017-0,049	0,02-0,058	0,023-0,065	0,025-0,072	0,032-0,092	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
P.1.4	0,006-0,016	0,007-0,019	0,008-0,022	0,015-0,042	0,017-0,05	0,02-0,056	0,022-0,061	0,028-0,079	0,023-0,065	0,027-0,077	0,03-0,086	0,033-0,095	0,043-0,122	
P.1.5	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
P.2.1	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
P.2.2	0,005-0,015	0,006-0,018	0,007-0,02	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	0,021-0,061	0,025-0,071	0,028-0,08	0,031-0,088	0,04-0,114	
P.2.3	0,005-0,014	0,006-0,016	0,006-0,018	0,012-0,036	0,015-0,042	0,016-0,047	0,018-0,051	0,023-0,066	0,019-0,055	0,022-0,064	0,025-0,072	0,028-0,079	0,036-0,102	
P.2.4	0,005-0,013	0,005-0,015	0,006-0,017	0,012-0,034	0,014-0,039	0,015-0,044	0,017-0,049	0,022-0,063	0,018-0,052	0,021-0,061	0,024-0,068	0,026-0,075	0,034-0,097	
P.3.1	0,005-0,015	0,006-0,018	0,007-0,02	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	0,021-0,061	0,025-0,071	0,028-0,08	0,031-0,088	0,04-0,114	
P.3.2	0,005-0,014	0,006-0,017	0,007-0,019	0,013-0,038	0,015-0,044	0,017-0,049	0,019-0,054	0,025-0,07	0,02-0,058	0,024-0,068	0,027-0,076	0,029-0,084	0,038-0,108	
P.3.3	0,004-0,011	0,005-0,013	0,005-0,015	0,01-0,03	0,012-0,035	0,014-0,039	0,015-0,043	0,019-0,055	0,016-0,046	0,019-0,053	0,021-0,06	0,023-0,066	0,03-0,085	
P.4.1	0,006-0,016	0,007-0,019	0,007-0,021	0,015-0,041	0,017-0,049	0,019-0,055	0,021-0,06	0,027-0,078	0,022-0,064	0,026-0,075	0,029-0,084	0,032-0,092	0,042-0,119	
P.4.2	0,005-0,015	0,006-0,018	0,007-0,02	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	0,021-0,061	0,025-0,071	0,028-0,08	0,031-0,088	0,04-0,114	
M.1.1	0,004-0,011	0,004-0,012	0,005-0,014	0,01-0,028	0,011-0,032	0,013-0,036	0,014-0,04	0,018-0,052	0,015-0,043	0,017-0,05	0,02-0,056	0,022-0,062	0,028-0,08	
M.2.1	0,003-0,01	0,004-0,011	0,004-0,013	0,009-0,025	0,01-0,029	0,011-0,033	0,013-0,036	0,016-0,046	0,013-0,038	0,016-0,045	0,018-0,05	0,019-0,055	0,025-0,071	
M.3.1	0,003-0,01	0,004-0,012	0,005-0,013	0,009-0,026	0,011-0,03	0,012-0,034	0,013-0,037	0,017-0,048	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	
K.1.1	0,007-0,019	0,008-0,022	0,009-0,025	0,017-0,049	0,02-0,058	0,023-0,065	0,025-0,072	0,032-0,092	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
K.1.2	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
K.2.1	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
K.2.2	0,005-0,015	0,006-0,017	0,007-0,02	0,013-0,039	0,016-0,045	0,018-0,051	0,02-0,056	0,025-0,072	0,021-0,059	0,024-0,069	0,027-0,078	0,03-0,086	0,039-0,111	
K.3.1	0,006-0,018	0,007-0,021	0,008-0,024	0,017-0,047	0,019-0,056	0,022-0,062	0,024-0,069	0,031-0,089	0,026-0,073	0,03-0,085	0,034-0,096	0,037-0,106	0,048-0,136	
K.3.2	0,005-0,015	0,006-0,018	0,007-0,02	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	0,021-0,061	0,025-0,071	0,028-0,08	0,031-0,088	0,04-0,114	
N.1.1	0,008-0,023	0,009-0,027	0,011-0,03	0,02-0,058	0,024-0,068	0,027-0,077	0,03-0,084	0,038-0,109	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.1.2	0,008-0,022	0,009-0,026	0,01-0,03	0,02-0,058	0,024-0,068	0,027-0,077	0,03-0,084	0,038-0,109	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.2.1	0,007-0,021	0,009-0,025	0,01-0,028	0,019-0,055	0,023-0,065	0,025-0,073	0,028-0,08	0,036-0,103	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.2.2	0,007-0,021	0,009-0,024	0,01-0,028	0,019-0,054	0,022-0,064	0,025-0,072	0,028-0,079	0,036-0,102	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.2.3	0,007-0,021	0,008-0,024	0,009-0,027	0,019-0,053	0,022-0,062	0,025-0,07	0,027-0,077	0,035-0,1	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.3.1	0,007-0,021	0,009-0,025	0,01-0,028	0,019-0,055	0,023-0,065	0,025-0,073	0,028-0,08	0,036-0,103	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.3.2	0,007-0,02	0,008-0,024	0,009-0,027	0,018-0,052	0,021-0,061	0,024-0,069	0,027-0,076	0,034-0,098	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.3.3	0,007-0,019	0,008-0,023	0,009-0,026	0,018-0,05	0,021-0,059	0,023-0,066	0,026-0,073	0,033-0,094	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
N.4.1	0,007-0,019	0,008-0,023	0,009-0,026	0,018-0,05	0,021-0,059	0,023-0,066	0,026-0,073	0,033-0,094	0,027-0,078	0,032-0,091	0,036-0,102	0,039-0,112	0,051-0,145	
S.1.1	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
S.1.2	0,005-0,013	0,005-0,016	0,006-0,018	0,012-0,035	0,014-0,04	0,016-0,046	0,018-0,05	0,023-0,065	0,019-0,053	0,022-0,062	0,025-0,07	0,027-0,077	0,035-0,099	
S.2.1	0,005-0,013	0,005-0,015	0,006-0,017	0,012-0,034	0,014-0,039	0,015-0,044	0,017-0,049	0,022-0,063	0,018-0,052	0,021-0,061	0,024-0,068	0,026-0,075	0,034-0,097	
S.2.2	0,003-0,01	0,004-0,012	0,005-0,013	0,009-0,026	0,011-0,03	0,012-0,034	0,013-0,037	0,017-0,048	0,014-0,04	0,016-0,046	0,018-0,052	0,02-0,057	0,026-0,074	
S.2.3	0,004-0,011	0,004-0,012	0,005-0,014	0,01-0,028	0,011-0,032	0,013-0,036	0,014-0,04	0,018-0,052	0,015-0,043	0,017-0,05	0,02-0,056	0,022-0,062	0,028-0,08	
S.3.1	0,006-0,017	0,007-0,02	0,008-0,023	0,016-0,044	0,018-0,052	0,02-0,059	0,023-0,064	0,029-0,083	0,024-0,068	0,028-0,08	0,032-0,09	0,035-0,099	0,045-0,128	
S.3.2	0,005-0,014	0,006-0,016	0,006-0,018	0,012-0,036	0,015-0,042	0,016-0,047	0,018-0,051	0,023-0,066	0,019-0,055	0,022-0,064	0,025-0,072	0,028-0,079	0,036-0,102	
S.3.3	0,003-0,01	0,004-0,011	0,004-0,013	0,009-0,025	0,01-0,029	0,011-0,033	0,013-0,036	0,016-0,046	0,013-0,038	0,016-0,045	0,018-0,05	0,019-0,055	0,025-0,071	
H.1.1	0,003-0,01	0,004-0,011	0,004-0,013	0,009-0,025	0,01-0,029	0,011-0,033	0,013-0,036	0,016-0,046	0,013-0,038	0,016-0,045	0,018-0,05	0,019-0,055	0,025-0,071	
H.1.2	0,003-0,008	0,003-0,009	0,004-0,01	0,007-0,02	0,008-0,023	0,009-0,026	0,01-0,029	0,013-0,037	0,011-0,03	0,012-0,036	0,014-0,04	0,015-0,044	0,02-0,057	
H.1.3														
H.1.4														
H.2.1	0,004-0,01	0,004-0,012	0,005-0,014	0,009-0,027	0,011-0,031	0,012-0,035	0,014-0,039	0,017-0,05	0,014-0,041	0,017-0,048	0,019-0,054	0,021-0,059	0,027-0,077	
H.3.1	0,003-0,009	0,004-0,011	0,004-0,012	0,008-0,024	0,01-0,028	0,011-0,031	0,012-0,034	0,016-0,044	0,013-0,036	0,015-0,043	0,017-0,048	0,018-0,053	0,024-0,068	
O.1.1	0,008-0,022	0,009-0,026	0,01-0,03	0,02-0,058	0,024-0,068	0,027-0,077	0,03-0,084	0,038-0,109	0,027-0,076	0,031-0,089	0,035-0,1	0,039-0,11	0,05-0,142	
O.1.2	0,007-0,02	0,008-0,023	0,009-0,026	0,018-0,051	0,021-0,06	0,024-0,068	0,026-0,074	0,034-0,096	0,028-0,079	0,032-0,093	0,036-0,104	0,04-0,114	0,052-0,148	
O.2.1	0,004-0,013	0,005-0,015	0,006-0,017	0,011-0,033	0,013-0,038	0,015-0,043	0,017-0,047	0,021-0,061	0,018-0,05	0,021-0,059	0,023-0,066	0,025-0,073	0,033-0,094	
O.2.2	0,004-0,012	0,005-0,014	0,006-0,016	0,011-0,032	0,013-0,037	0,015-0,042	0,016-0,046	0,021-0,059	0,017-0,049	0,02-0,057	0,022-0,064	0,025-0,07	0,032-0,091	
O.3.1														

Symbol explanation

UltraMini



MiniCut



Coatings

TiN

- ▲ TiN coating
- ▲ Maximum application temperature: 450°C

DPX57S

- ▲ TiCrN coating
- ▲ Maximum application temperature: 900°C

DRAGONSKIN

TiAlN

- ▲ TiAlN multilayer coating
- ▲ Maximum application temperature: 900°C

DPX77S

- ▲ TiAlN+X-coating
- ▲ Maximum application temperature: 900°C

DRAGONSKIN

CWX500

- ▲ Carbide, TiAlN-coated
- ▲ The universal carbide grade for almost all materials

Thread types

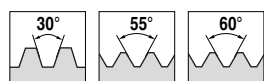
M Metric ISO standard thread

MF Metric ISO fine thread

G Whitworth thread

Tr Metric ISO trapezoidal fine thread

Thread flank angle



Cooling

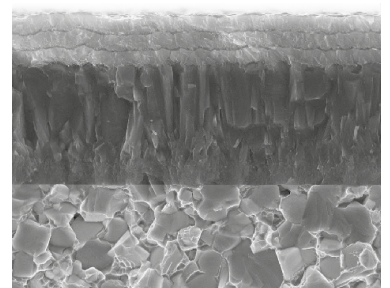


DRAGONSKIN



Machining without compromise

The product category Dragonskin is intended to help make tools easily recognizable and quick to find using CERATIZIT's high-performance coating technology. All products that are marked with the Dragonskin icon represent unmatched performance, maximum tool life and maximum process reliability.



Dragonskin Coating