





Drilling

HSS drilling

Solid carbide drilling

Reamers

1

Threading

HSS taps

Circular and Thread Milling

Thread turning

2

Turning

Turning Tools

EcoCut

Grooving Tools

Miniature turning tools

3

Milling

Solid Carbide milling cutters

4

Clamping

5

Material examples and
article no. index

6

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WNT MASTERTOOL PERFORMANCE

Premium quality tools for high performance.

The premium quality tools from the **WNT Mastertool 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 MASTERTOOL STANDARD

Quality tools for standard applications.

The quality tools of the **WNT Mastertool Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide.

Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Overview

ISO turning



WNT Toolfinder → 3

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

VertiClamp/System 25 & 45



WNT Toolfinder → 52

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

TriClamp/VCGT system



WNT Toolfinder → 109

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

SOGX system



Overview → 119

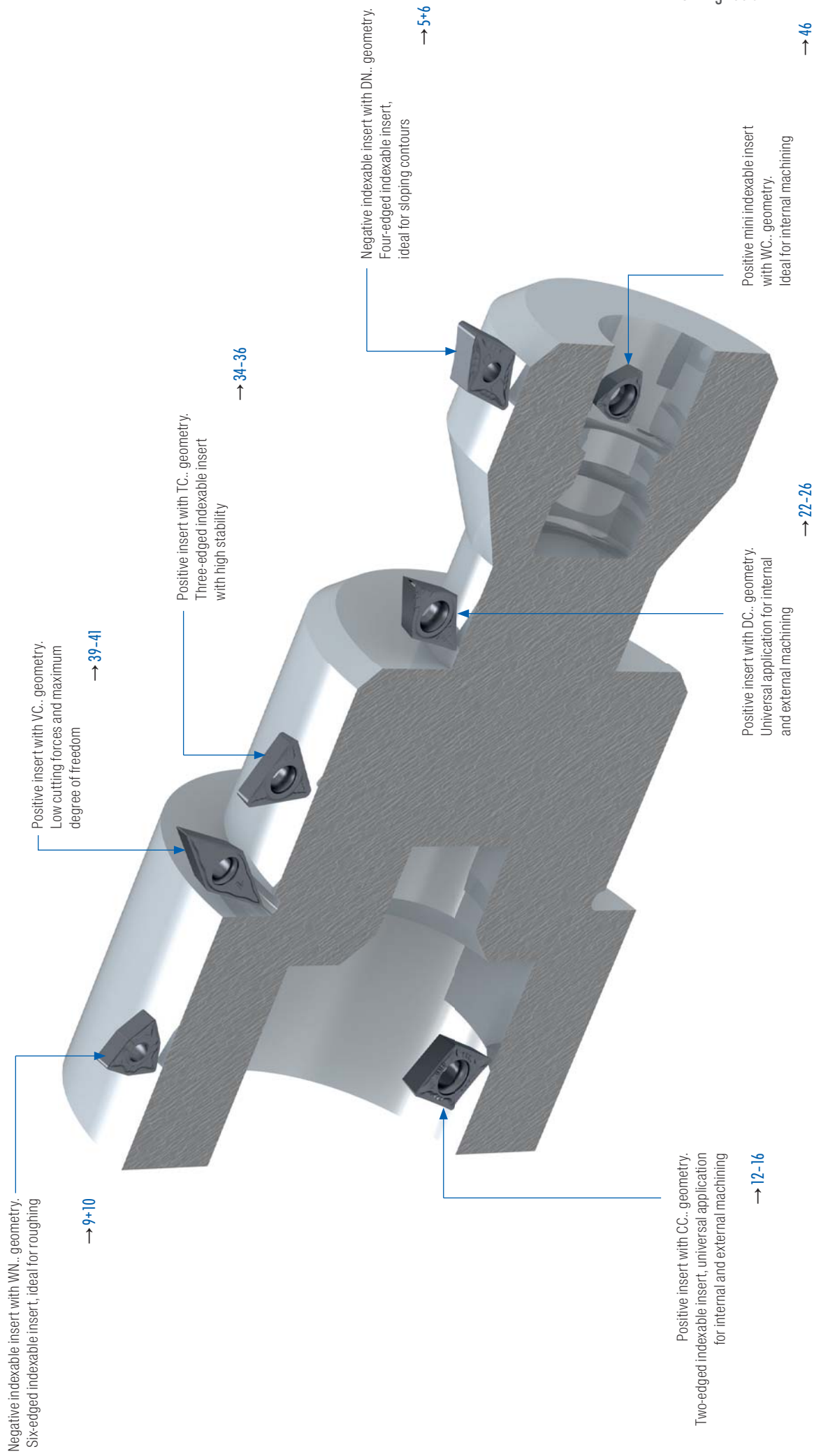
Tangential indexable insert system specially developed for sliding head lathes with four cutting edges.

XheadClamp



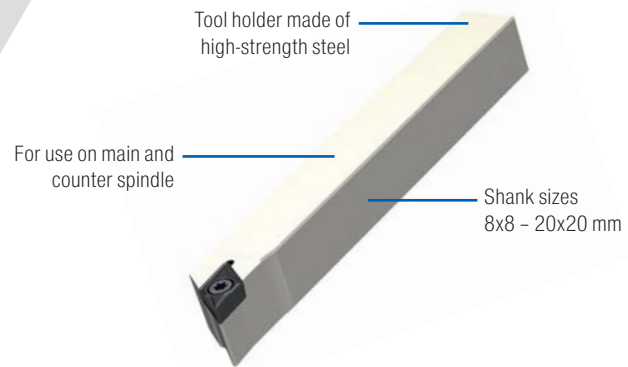
Overview → 48

Exchangeable head system for standard turning and grooving operations.



Highlights

- ISO turning inserts in many geometries
Wide range for every application
- Tailored carbide grades
Machining of all main material groups
- Wide range of chip breakers
Effective chip control
- Innovative Dragonskin coatings
Suitable layer system for all materials
- Tool holders with various setting angles
Can be perfectly tailored to the component



Overview

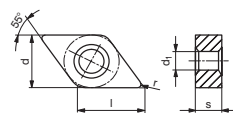
		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometries	
							DN..	WN..
sharp stable	-F32	●	●	●	○	●	5	
	-NF23	○	●				5	9
	-NF15	●	○	○		○	5	9
	-NM23	○	●				5	9
	-NM15	●	○	○		○	5	9
	-NM26	○	●			○		9
	-M42	○	●				5	10
	-M52		○	○	○	●		10
	-NM19	●	●	○		●	6	10
Suitable tool holders							7+8	11

		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometries				
							CC..	DC..	TC..	VC..	WC..
sharp stable	-F23		●	○	○	●	12	22		39	
	-PF23	○	●				12	22	34		
	-F43	○	●			●	12	22	34		
	-ZF	●	●	○		●	13	23	34	39	46
	-23P			○	●	○	13	23			
	-SMF	●	○	○		○	13	23	34	39	
	-PF26	○	●				14	23	34		
	-FM37	●	●	●	●	○		24			
	-SMQ							24			
	-25P	○	○	○	●	○	14	24		39	
	-25Q	○	○	○	●	○	14	24		40	
	-ZM	●	●	○		●	15	25	34		
	-AL	○	○	○	●	○	15	25	35	40	
	-M81		●		○		15	25			
Suitable tool holders							17-21	27-33	37+38	42-45	47

Diamond		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometries			
							CC..	DC..	TC..	VC..
	-CB1				●		16	26	36	41
	-CB2				●		16	26	36	41
Suitable tool holders							17-21	27-33	37+38	42-45

DNGU / DNMG

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
DN.. 1104..	11.6	4.76	3.81	9.52



DNGU / DNMG

F	M	R

-F32	-F32	-NF23	-NF15	-NF15	-NF15
WUU 7630	TiAlN	HCN 2125	HCX 1115	HCX 1125	HCR 1135
DNGU	DNGU	DNMG	DNMG	DNMG	DNMG

ISO	r RE mm	NEW Article no. 72 401 ...	Article no. 72 494 ...	Article no. 75 013 ...	NEW Article no. 76 134 ...	NEW Article no. 76 134 ...	NEW Article no. 76 134 ...
1104008FN	0.08	638	108				
1104015FN	0.15	645	115				
110402EN	0.2						
110404EN	0.4			204	302	502	702
110408EN	0.8			206	304	504	704
					306	506	706
Steel		●	●	○	●	●	●
Stainless steel		●	●	●	○	○	○
Cast iron			●		○	○	
Non ferrous metals		○	●				
Heat resistant alloys		○	○				○

DNMG

F	M	R

-NM23	-NM15	-NM15	-NM15	-M42
HCN 2125	HCX 1115	HCX 1125	HCR 1135	CWN 2135
DNMG	DNMG	DNMG	DNMG	DNMG

ISO	r RE mm	Article no. 75 014 ...	Article no. 76 136 ...	Article no. 76 136 ...	Article no. 76 136 ...	Article no. 70 158 ...
110404EN	0.4		304	504	704	600
110408EN	0.8	206	306	506	706	602
Steel		○	●	●	●	○
Stainless steel		●	○	○	○	●
Cast iron			○	○		
Non ferrous metals						
Heat resistant alloys		○			○	●

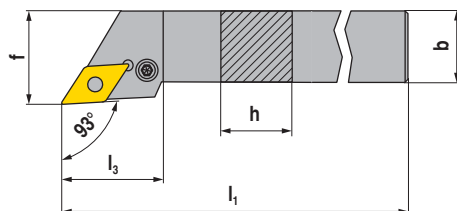
DNMG

F	M	R

-NM19	-NM19	-NM19	-NM19
HCX 1115	HCX 1125	HCR 1135	CWN 2135
Article no. 76 263 ...	Article no. 76 263 ...	Article no. 76 263 ...	Article no. 70 263 ...
306	506	706	406

ISO	r RE mm				
110408EN	0.8				
Steel		●	●	●	○
Stainless steel		○	○	○	●
Cast iron		○	○		
Non ferrous metals					
Heat resistant alloys				○	●

IsoClamp – PDJN 93° – Toolholder with lever clamping



Illustrations show right-hand versions

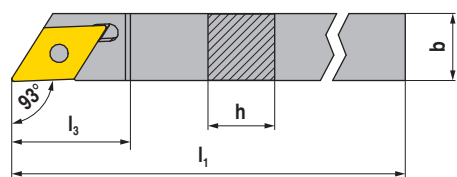


ISO designation	h	b	l ₁	l ₃	f	Insert	Left-hand Article no. 70 541 ...	Right-hand Article no. 70 540 ...
	H mm	B mm	OAL mm	LH mm	WF mm			
PDJN R/L 1616 H11	16	16	100	30	20	DN.. 1104	116	116
PDJN R/L 2020 K11	20	20	125	30	25	DN.. 1104	120	120
PDJN R/L 2525 M11	25	25	150	30	32	DN.. 1104	125	125

Spare parts for Article no.

70 540 116 / 70 541 116	SW2,5	175	122	191	121	208	120
70 540 120 / 70 541 120	SW2,5	175	122	191	121	208	120
70 540 125 / 70 541 125	SW2,5	175	122	191	121	208	120

IsoClamp – SDJN 93° – Toolholder with screw clamping



Illustrations show right-hand versions



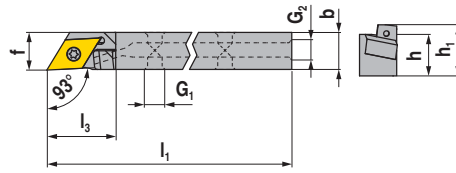
ISO designation	h	b	l ₁	l ₃	Insert	Left-hand Article no. 70 699 ...	Right-hand Article no. 70 698 ...
	H mm	B mm	OAL mm	LH mm			
SDJN R/L 1012 H11	10	12	100	21.3	DNGU 1104	010	010
SDJN R/L 1212 H11	12	12	100	21.3	DNGU 1104	012	012
SDJN R/L 1616 K11	16	16	125	21.3	DNGU 1104	016	016
SDJN R/L 2020 K11	20	20	125	21.3	DNGU 1104	020	020
SDJN R/L 2525 M11	25	25	150	21.3	DNGU 1104	025	025

Spare parts for Article no.

70 698 010 / 70 699 010	T15 - IP	128	M4x11	007
70 698 012 / 70 699 012	T15 - IP	128	M4x11	007
70 698 016 / 70 699 016	T15 - IP	128	M4x11	007
70 698 020 / 70 699 020	T15 - IP	128	M4x11	007
70 698 025 / 70 699 025	T15 - IP	128	M4x11	007

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

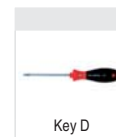
■ for sliding head lathes



Illustrations show right-hand versions



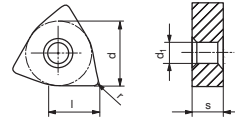
ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	h ₁ OAH mm	G ₁	G ₂	Insert	Left-hand		Right-hand	
										NEW Article no. 72 359 ...		NEW Article no. 72 358 ...	
SDJN R/L 1012 H11 IC	10	12	100	22	12	16.5	M5	M5	DNGU 1104	010		010	
SDJN R/L 1212 H11 IC	12	12	100	22	12	18.5	M5	M5	DNGU 1104	012		012	
SDJN R/L 1616 K11 IC	16	16	125	22	16	22.5	M5	G1/8"	DNGU 1104	016		016	
SDJN R/L 2020 K11 IC	20	20	125	22	20	26.5	M5	G1/8"	DNGU 1104	020		020	
SDJN R/L 2525 K11 IC	25	25	125	22	25	31.5	M5	G1/8"	DNGU 1104	025		025	



Spare parts for Article no.	Article no. 72 950 ...		Article no. 72 950 ...		Article no. 80 950 ...		Article no. 72 950 ...	
72 358 010 / 72 359 010			M5x4	011	T15 - IP	128	M4x11	007
72 358 012 / 72 359 012			M5x4	011	T15 - IP	128	M4x11	007
72 358 016 / 72 359 016	G1/8"	010	M5x4	011	T15 - IP	128	M4x11	007
72 358 020 / 72 359 020	G1/8"	010	M5x4	011	T15 - IP	128	M4x11	007
72 358 025 / 72 359 025	G1/8"	010	M5x4	011	T15 - IP	128	M4x11	007

WNMG

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
WNMG 0604..	6.5	4.76	3.81	9.52



WNMG

F	M	R

ISO	r RE mm				
		-NF23	-NF15	-NF15	-NF15
		HCN 2125	HCX 1115	HCX 1125	HCR 1135
		WNMG	WNMG	WNMG	WNMG
		Article no. 75 024 ...	NEW Article no. 76 157 ...	NEW Article no. 76 157 ...	NEW Article no. 76 157 ...
060404EN	0.4	204	304	504	704
060408EN	0.8	206	306	506	706
Steel		○	●	●	●
Stainless steel		●	○	○	○
Cast iron			○	○	
Non ferrous metals					
Heat resistant alloys					○

WNMG

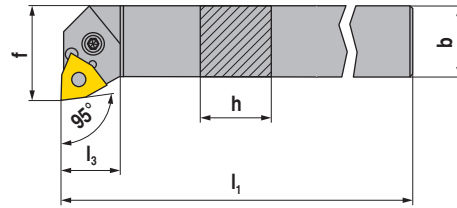
F	M	R

ISO	r RE mm					
		-NM23	-NM15	-NM15	-NM15	-NM26
		HCN 2125	HCX 1115	HCX 1125	HCR 1135	HCN 2125
		WNMG	WNMG	WNMG	WNMG	WNMG
		Article no. 75 025 ...	Article no. 76 139 ...	Article no. 76 139 ...	Article no. 76 139 ...	Article no. 75 026 ...
060404EN	0.4		304	504	704	
060408EN	0.8	206	306	506	706	206
Steel		○	●	●	●	○
Stainless steel		●	○	○	○	●
Cast iron			○	○		
Non ferrous metals						
Heat resistant alloys		○			○	○

WNMG

		F	M	R						
						-M52	-M42	-NM19	-NM19	-NM19
						CCN 2120	CWN 2135	HCX 1115	HCX 1125	HCR 1135
						WNMG	WNMG	WNMG	WNMG	WNMG
ISO	r RE mm					Article no. 70 179 ...	Article no. 70 178 ...	Article no. 76 273 ...	Article no. 76 273 ...	Article no. 76 273 ...
060404EN	0.4					604	400			
060408EN	0.8					608	402	306	506	706
Steel							○	●	●	●
Stainless steel						○	●	○	○	○
Cast iron						○		○	○	
Non ferrous metals						○				
Heat resistant alloys						●	●			○

IsoClamp – PWLN 95° – Toolholder with lever clamping



Illustrations show right-hand versions

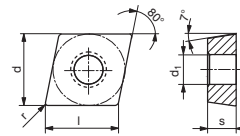


ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand	Right-hand
							Article no. 70 543 ...	Article no. 70 542 ...
PWLN R/L 1616 H06	16	16	100	20	20	WNMG 0604	116	116
PWLN R/L 2020 K06	20	20	125	25	25	WNMG 0604	120	120
PWLN R/L 2525 M06	25	25	150	25	32	WNMG 0604	125	125

Spare parts for Article no.	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide Seat W
	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
70 542 116 / 70 543 116		175	122	191	185	208
70 542 120 / 70 543 120		175	122	191	185	208
70 542 125 / 70 543 125		175	122	191	185	208

CCGT / CCMT / CCXT

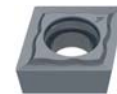
Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
CC.T 0602..	6.4	2.38	2.8	6.35
CC.T 09T3..	9.7	3.97	4.4	9.52



CCGT / CCMT

F	M	R

-F23

CCN
2120


-PF23

HCN
2125


-F43

CWN
2135


CCGT

CCMT

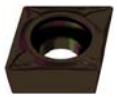
CCMT

ISO	r RE mm	Article no. 70 191 ...	Article no. 75 210 ...	Article no. 70 185 ...
060200FN	0.0	600		
060201FN	0.1	602		
060204EN	0.4		204	
09T300FN	0.0	604		
09T301FN	0.1	606		
09T304EN	0.4		216	460
09T308EN	0.8		218	462
Steel			○	○
Stainless steel		●	●	●
Cast iron		○		
Non ferrous metals		○		
Heat resistant alloys		●		●

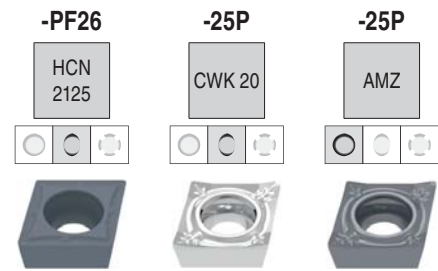
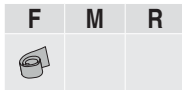
CCMT / CCGT

		F	M	R							
											
						-ZF	-ZF	-ZF	-ZF	-ZF	-ZF
						HCX 1115	HCX 1125	HCX 1125	HCR 1135	HCR 1135	CWN 2135
											
											
											
						CCMT	CCGT	CCMT	CCGT	CCMT	CCMT
ISO	r	Article no.		Article no.		Article no.		Article no.		Article no.	
	RE	76 253 ...		76 251 ...		76 253 ...		76 251 ...		76 253 ...	
	mm										
060202EN	0.2			502				702			
060204EN	0.4	304				504				704	
										460	
09T304EN	0.4	316				516				716	
09T308EN	0.8	318				518					
										464	
Steel		●		●		●		●		●	
Stainless steel		○		○		○		○		○	
Cast iron		○		○		○		○		○	
Non ferrous metals											
Heat resistant alloys								○		○	

CCGT / CCMT

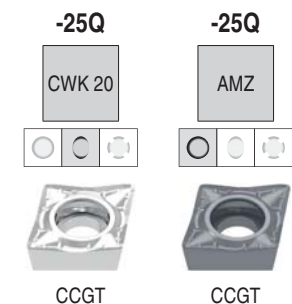
		F	M	R					
									
						-23P	-SMF	-SMF	-SMF
						CWK 26	HCX 1115	HCX 1125	HCR 1135
									
									
						CCGT	 CCMT	 CCMT	 CCMT
ISO	r RE mm	Article no. 70 255 ...		Article no. 76 249 ...		Article no. 76 249 ...		Article no. 76 249 ...	
060202FN	0.2	652							
060204EN	0.4					504		704	
060204FN	0.4	654						506	
060208EN	0.8								
09T304EN	0.4			316		516		716	
09T304FN	0.4	656							
09T308EN	0.8			318		518			
09T308FN	0.8	658							
Steel				●		●		●	
Stainless steel				○		○		○	
Cast iron				○		○		○	
Non ferrous metals		●							
Heat resistant alloys		○						○	

CCMT / CCGT



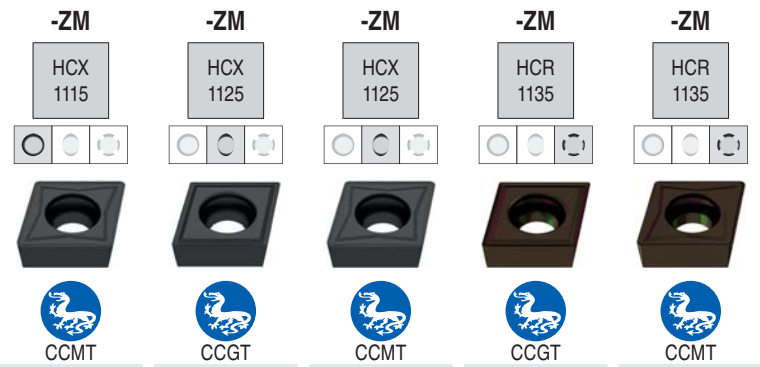
ISO	r RE mm	CCMT	CCGT	CCGT
		Article no. 75 211 ...	Article no. 70 248 ...	Article no. 70 248 ...
060202FN	0.2		636	556
060204EN	0.4	204		
060204FN	0.4		638	558
09T302FN	0.2		639	539
09T304EN	0.4	216		
09T304FN	0.4		640	560
09T308EN	0.8	218		
09T308FN	0.8		641	541
Steel		○		○
Stainless steel		●		○
Cast iron			○	○
Non ferrous metals			●	●
Heat resistant alloys			○	

CCGT



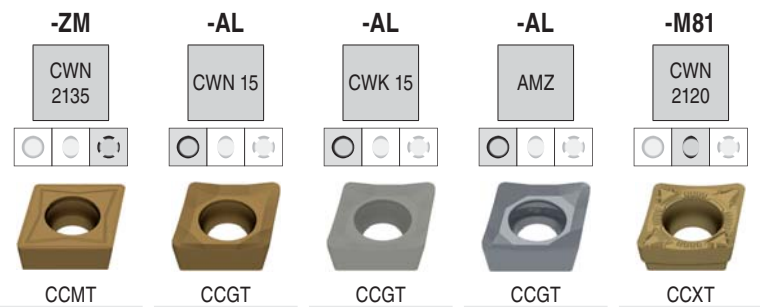
ISO	r RE mm	CCGT	CCGT
		Article no. 70 248 ...	Article no. 70 248 ...
060204FN	0.4	678	618
09T304FN	0.4	680	620
09T308FN	0.8	681	621
Steel			○
Stainless steel			○
Cast iron		○	○
Non ferrous metals		●	●
Heat resistant alloys		○	

CCMT / CCGT



ISO	r RE mm	Article no. 76 252 ...	Article no. 76 250 ...	Article no. 76 252 ...	Article no. 76 250 ...	Article no. 76 252 ...
060202EN	0.2		502		702	
060204EN	0.4	304		504		704
060208EN	0.8	306				706
09T304EN	0.4	316		516		716
09T308EN	0.8	318		518		718
Steel		●	●	●	●	●
Stainless steel		○	○	○	○	○
Cast iron		○	○	○		
Non ferrous metals						
Heat resistant alloys					○	○

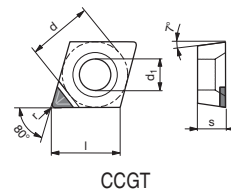
CCMT / CCGT / CCXT



ISO	r RE mm	Article no. 70 252 ...	Article no. 70 254 ...	Article no. 70 254 ...	Article no. 70 254 ...	Article no. 70 254 ...
060202FN	0.2		300	600	450	100
060204EN	0.4	670	302	602	452	102
060204FN	0.4					
09T302FN	0.2		304	604	454	104
09T304EN	0.4	674	306	606	456	106
09T304FN	0.4					
09T308EN	0.8	676	308	608	458	108
09T308FN	0.8					
Steel		○			○	
Stainless steel		●	○		○	●
Cast iron				○	○	
Non ferrous metals			●	●	●	○
Heat resistant alloys		●		○		

CCGT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
CCGT 0602..	6.45	2.38	2.8	6.35
CCGT 09T3..	9.70	3.97	4.4	9.52



CCGT

F	M	R

ISO	r RE mm		
060202	0.2		
060204	0.4		
09T302	0.2		
09T304	0.4		
09T308	0.8		

Steel		
Stainless steel		
Cast iron		
Non ferrous metals	•	•
Heat resistant alloys		

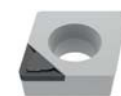
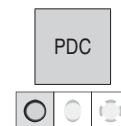
CCGT

F	M	R

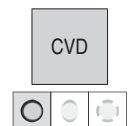
ISO	r RE mm		
060202	0.2		
060204	0.4		
060208	0.8		
09T302	0.2		
09T304	0.4		
09T308	0.8		

Steel		
Stainless steel		
Cast iron		
Non ferrous metals	•	•
Heat resistant alloys	○	

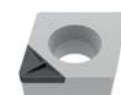
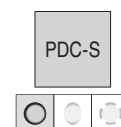
-CB1

DIAMOND
CCGTArticle no.
71 300 ...102
104
112
114
118

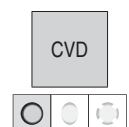
-CB1

DIAMOND
CCGTArticle no.
71 300 ...302
304
314

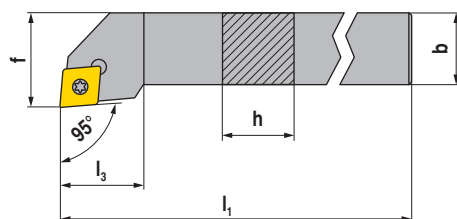
-CB2

DIAMOND
CCGTArticle no.
71 301 ...202
204
208
212
214
218

-CB2

DIAMOND
CCGTArticle no.
71 301 ...304
314

IsoClamp – SCLC 95° – Toolholder with screw clamping



Illustrations show right-hand versions



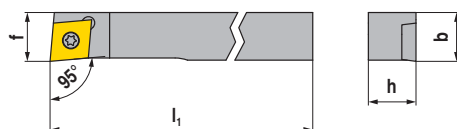
ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand	Right-hand
							Article no. 70 653 ...	Article no. 70 652 ...
SCLC R/L 0808 D06	8	8	60	9	10	CC.. 0602	008	008
SCLC R/L 1010 E06	10	10	70	9	12	CC.. 0602	010	010
SCLC R/L 1212 F09	12	12	80	15	16	CC.. 09T3	012	012
SCLC R/L 1616 H09	16	16	100	17	20	CC.. 09T3	016	016
SCLC R/L 2020 K09	20	20	125	17	25	CC.. 09T3	020	020

Spare parts
for Article no.

	Key D	Combination Key	Clamping screw	Carbide type C	Threaded sleeve
Article no.	80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
70 652 008 / 70 653 008	110		112		
70 652 010 / 70 653 010	110		112		
70 652 012 / 70 653 012	113		113		
70 652 016 / 70 653 016		398	113	165	171
70 652 020 / 70 653 020		398	113	165	171

IsoClamp – SCLC 95° – Toolholder with screw clamping

■ for sliding head lathes



Illustrations show right-hand versions



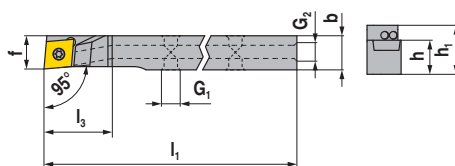
ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	Insert	Left-hand	Right-hand
						NEW Article no. 72 353 ...	NEW Article no. 72 352 ...
SCLC R/L 0808 H06	8	8	100	8	CC.. 0602	008	008
SCLC R/L 1010 H06	10	10	100	10	CC.. 0602	010	010
SCLC R/L 1212 H09	12	12	100	12	CC.. 09T3	012	012

Spare parts
for Article no.

	Key D	Clamping screw
Article no.	80 950 ...	Article no. 70 950 ...
72 352 008 / 72 353 008	T08	110 M2,5x6
72 352 010 / 72 353 010	T08	110 M2,5x6
72 352 012 / 72 353 012	T15	113 M3,5x11

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

■ for sliding head lathes



Illustrations show right-hand versions

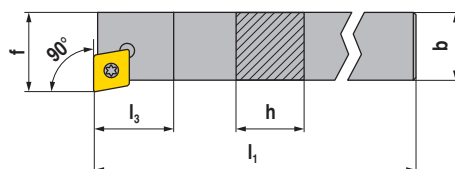


ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	h ₁ OAH mm	G ₁	G ₂	Insert	Left-hand		Right-hand	
										NEW Article no. 72 351 ...		NEW Article no. 72 350 ...	
SCLC R/L 0808 H06 IC	8	8	100	16	8	11.5	M5	M5	CC.. 0602		008		008
SCLC R/L 1010 H06 IC	10	10	100	16	10	13.5	M5	M5	CC.. 0602		010		010
SCLC R/L 1212 H09 IC	12	12	100	19	12	15.5	M5	M5	CC.. 09T3		012		012
SCLC R/L 1616 K09 IC	16	16	125	19	16	19.5	M5	M5	CC.. 09T3		016		016

Spare parts
for Article no.

72 350 008 / 72 351 008	M5x4	011	T08	110	M2,5x6	112
72 350 010 / 72 351 010	M5x4	011	T08	110	M2,5x6	112
72 350 012 / 72 351 012	M5x4	011	T15	113	M3,5x11	113
72 350 016 / 72 351 016	M5x4	011	T15	113	M3,5x11	113

IsoClamp – SCFC 90° – Toolholder with screw clamping



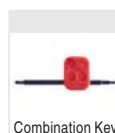
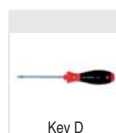
Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand		Right-hand	
							Article no. 70 761 ...		Article no. 70 760 ...	
SCFC R/L 0808 D06	8	8	60	10	10	CC.. 0602		008		008
SCFC R/L 1010 E06	10	10	70	10	12	CC.. 0602		010		010
SCFC R/L 1212 F09	12	12	80	13	16	CC.. 09T3		012		012
SCFC R/L 1616 H09	16	16	100	13	20	CC.. 09T3		016		016

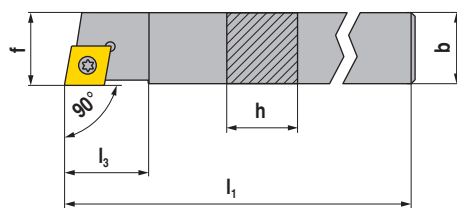
Spare parts
for Article no.

	Article no. 80 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...	
70 760 008 / 70 761 008		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



IsoClamp – SCAC 90° – Toolholder with screw clamping

■ for sliding head lathes



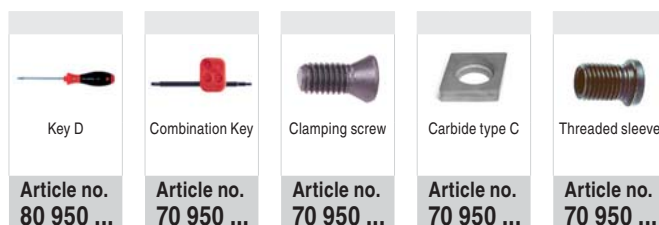
Illustrations show right-hand versions



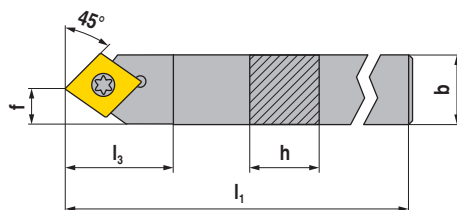
ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand Article no. 70 757 ...	Right-hand Article no. 70 756 ...
SCAC R/L 0808 K06	8	8	125	9	8	CC.. 0602	108	108
SCAC R/L 0808 D06	8	8	60	9	8	CC.. 0602	008	008
SCAC R/L 1010 M06	10	10	150	9	10	CC.. 0602	110	110
SCAC R/L 1010 E06	10	10	70	9	10	CC.. 0602	010	010
SCAC R/L 1212 M09	12	12	150	13	12	CC.. 09T3	112	112
SCAC R/L 1212 F09	12	12	80	13	12	CC.. 09T3	012	012
SCAC R/L 1414 M09	14	14	150	13	14	CC.. 09T3	114	114
SCAC R/L 1616 H09	16	16	100	13	16	CC.. 09T3	116	116

Spare parts
for Article no.

	Key D	Combination Key	Clamping screw	Carbide type C	Threaded sleeve
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



IsoClamp – SCDC 45° – Toolholder with screw clamping



ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Neutral Article no. 70 752 ...
SCDC L 0808 K06	8	8	125	13	4	CC.. 0602	008
SCDC L 1010 M06	10	10	150	13	5	CC.. 0602	010
SCDC L 1212 M09	12	12	150	18	6	CC.. 09T3	012
SCDC L 1414 M09	14	14	150	18	7	CC.. 09T3	014

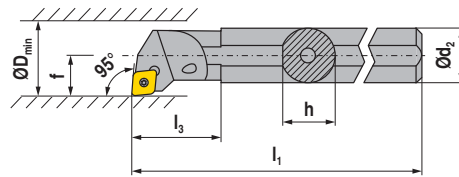
Spare parts
for Article no.

	Key D	Clamping screw
70 752 008	110	112
70 752 010	110	112
70 752 012	113	113
70 752 014	113	113



IsoClamp – SCLC 95° – Boring bar with screw clamping

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



Illustrations show right-hand versions



ISO designation	d ₂ DCONMS mm	h H mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	D _{min} DAXN mm	Insert	Left-hand		Right-hand	
								Article no. 70 717 ...		Article no. 70 716 ...	
S08H SCLC R/L 06	8	7.2	100		5	11	CC.. 0602	008		008	
A08F SCLC R/L 06	8	7.6	80		5	11	CC.. 0602	208		208	
A10H SCLC R/L 06	10	9.5	100	10	7	13	CC.. 0602	210		210	
S10K SCLC R/L 06	10	9.0	125	10	7	13	CC.. 0602	010		010	
A12K SCLC R/L 06	12	11.5	125	10	9	16	CC.. 0602	212		212	
S12Q SCLC R/L 06	12	11.0	180	10	9	16	CC.. 0602	012		012	
A16M SCLC R/L 06	16	14.0	150	50	9	18	CC.. 0602	116		116	
S16R SCLC R/L 09	16	14.5	200	16	11	20	CC.. 09T3	016		016	
A16M SCLC R/L 09	16	15.0	150	16	11	20	CC.. 09T3	216		216	
A20Q SCLC R/L 09	20	18.5	180	16	13	25	CC.. 09T3	220		220	
S20S SCLC R/L 09	20	18.0	250	16	13	25	CC.. 09T3	020		020	
S25T SCLC R/L 09	25	23.0	300	16	17	32	CC.. 09T3	025		025	
A25R SCLC R/L 09	25	23.0	200	16	17	32	CC.. 09T3	225		225	



Key D

Article no.
80 950 ...

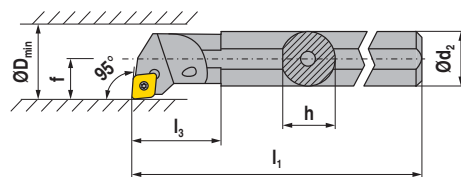
Clamping screw

Article no.
70 950 ...Spare parts
for Article no.

70 716 008 / 70 717 008	110	116
70 716 208 / 70 717 208	110	116
70 716 210 / 70 717 210	110	116
70 716 010 / 70 717 010	110	116
70 716 212 / 70 717 212	110	116
70 716 012 / 70 717 012	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
70 716 220 / 70 717 220	113	304
70 716 020 / 70 717 020	113	110
70 716 025 / 70 717 025	113	113
70 716 225 / 70 717 225	113	304

IsoClamp – SCLC 95° – Boring bar with screw clamping

- Type: Solid carbide



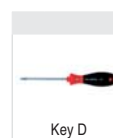
Illustrations show right-hand versions



Illustrations show right-hand versions								Left-hand	Right-hand
ISO designation	d ₂ DCONMS mm	h H mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	D _{min} DAXN mm	Insert	Article no. 70 719 ...	Article no. 70 718 ...
E08H SCLC R/L 06	8	7.6	100		5	11	CC.. 0602	008	008
E10K SCLC R/L 06	10	9.0	125	10	7	13	CC.. 0602	010	010
E12Q SCLC R/L 06	12	11.5	180	10	9	16	CC.. 0602	012	012
E16R SCLC R/L 09	16	15.0	200	16	11	20	CC.. 09T3	016	016
E20S SCLC R/L 09	20	18.5	250	16	13	25	CC.. 09T3	020	020
E25T SCLC R/L 09	25	23.0	300	16	17	32	CC.. 09T3	025	025

**Spare parts
for Article no.**

70 718 008 / 70 719 008	110	116
70 718 010 / 70 719 010	110	116
70 718 012 / 70 719 012	110	116
70 718 016 / 70 719 016	113	110
70 718 020 / 70 719 020	113	304
70 718 025 / 70 719 025	113	113



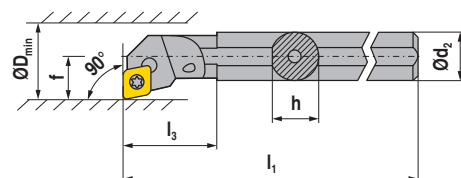
Key D



Clamping screw

Article no. 80 950 ...	Article no. 70 950 ..
---------------------------	--------------------------

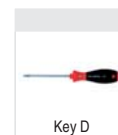
IsoClamp – SCFC 90° – Boring bar with screw clamping



Illustrations show right-hand versions



Illustrations show right-hand versions								Left-hand	Right-hand
ISO designation	d ₂ DCONMS mm	h H mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	D _{min} DAXN mm	Insert	Article no. 70 793 ...	Article no. 70 792 ...
A08F SCFC R/L 06	8	7.6	80		5	11	CC.. 0602	208	208
A10H SCFC R/L 06	10	9.5	100	9	7	13	CC.. 0602	210	210
A12K SCFC R/L 06	12	11.5	125	14	9	16	CC.. 0602	212	212



Key D

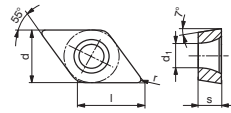


Clamping screw

Spare parts for Article no.		Article no.	Article no.
		80 950 ...	70 950 ...
70 792 208 / 70 793 208	T08	110	116
70 792 210 / 70 793 210	T08	110	116
70 792 212 / 70 793 212	T08	110	116

DCGT / DCMT / DCXT

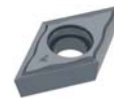
Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
DC.T 0702..	7.75	2.38	2.8	6.35
DC.T 11T3..	11.60	3.97	4.4	9.52



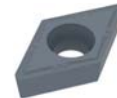
DCGT / DCMT

F	M	R

-F23

CCN
2120


-PF23

HCN
2125


-F43

CWN
2135


DCGT

DCMT

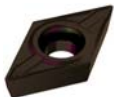
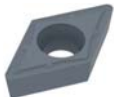
DCMT

ISO	r RE mm	Article no. 70 192 ...	Article no. 75 213 ...	Article no. 70 186 ...
070200FN	0.0	600		
070201FN	0.1	602		
070202EN	0.2		202	400
070204EN	0.4		204	402
11T300FN	0.0	604		
11T301FN	0.1	606		
11T302EN	0.2		214	404
11T304EN	0.4		216	406
11T308EN	0.8		218	408
Steel			○	○
Stainless steel		●	●	●
Cast iron		○		
Non ferrous metals		○		
Heat resistant alloys		●		●

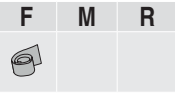
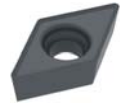
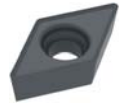
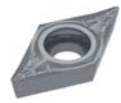
DCMT / DCGT

		F	M	R							
											
						-ZF	-ZF	-ZF	-ZF	-ZF	-ZF
						HCX 1115	HCX 1125	HCX 1125	HCR 1135	CWN 2135	CWN 2135
											
											
											
											
											
											
											
						DCMT	DCGT	DCMT	DCMT	DCGT	DCMT
						Article no. 76 259 ...	Article no. 76 257 ...	Article no. 76 259 ...	Article no. 76 259 ...	Article no. 70 257 ...	Article no. 70 259 ...
ISO	r RE mm										
070202EN	0.2						502			440	
070204EN	0.4					304		504	704		440
11T304EN	0.4					316		516	716		444
11T308EN	0.8					318		518	718		446
Steel						●	●	●	●	○	○
Stainless steel						○	○	○	○	●	●
Cast iron						○	○	○			
Non ferrous metals											
Heat resistant alloys									○	●	●

DCGT / DCMT

		F	M	R						
										
						-23P	-SMF	-SMF	-SMF	-PF26
						CWK 26	HCX 1115	HCX 1125	HCR 1135	HCN 2125
										
										
						DCGT				
						Article no. 70 261 ...	Article no. 76 265 ...	Article no. 76 265 ...	Article no. 76 265 ...	Article no. 75 214 ...
070204EN	0.4							504	704	204
070204FN	0.4					654				
070208EN	0.8								706	206
11T304EN	0.4						316	516	716	216
11T304FN	0.4					664				
11T308EN	0.8						318	518	718	218
11T308FN	0.8					666				
Steel							●	●	●	○
Stainless steel							○	○	○	●
Cast iron						○	○	○		
Non ferrous metals						●				
Heat resistant alloys						○			○	

DCGT / DCMT

F M R			-FM37		-FM37		-FM37		-SMQ		-SMQ		-25P		-25P		
			WUU 7610		WPU 7610		WPU 7620		HCX 1115		HCX 1125		CWK 20		AMZ		
																	
																	
																	
			DCGT		DCGT		DCGT		DCMT		DCMT		DCGT		DCGT		
			NEW		NEW		NEW										
			Article no. 72 400 ...		Article no. 72 400 ...		Article no. 72 400 ...		Article no. 76 195 ...		Article no. 76 195 ...		Article no. 70 263 ...		Article no. 70 263 ...		
ISO	r																
	RE																
	mm																
0702006FN	0.06		006		706		506										
0702015FN	0.15		015		715		515										
070202FN	0.2												632		552		
0702035FN	0.35		035		735		535										
070204EN	0.4							304		504							
070204FN	0.4												634		554		
11T3008FN	0.08		038		738		538										
11T3015FN	0.15		045		745												
11T302FN	0.2												635		535		
11T3035FN	0.35		065		765		565										
11T304EL	0.4									516							
11T304EN	0.4									515							
11T304ER	0.4									517							
11T304FN	0.4												636		556		
11T308EN	0.8									518							
11T308FN	0.8												638		558		
Steel									●			●			○		
Stainless steel						○			●			○			○		
Cast iron						●			○			○			○		
Non ferrous metals			●			●			●						●		
Heat resistant alloys			●			●			○						○		

DCGT

F

M

R

</

DCMT / DCGT



		-ZM	-ZM	-ZM	-ZM	-ZM	-ZM
		HCX 1115	HCX 1125	HCX 1125	HCR 1135	HCR 1135	CWN 2135
		DCMT	DCGT	DCMT	DCGT	DCMT	DCMT
ISO	r RE mm	Article no. 76 258 ...	Article no. 76 256 ...	Article no. 76 258 ...	Article no. 76 256 ...	Article no. 76 258 ...	Article no. 70 258 ...
070202EN	0.2		502		702		
070204EN	0.4	304		504		704	440
070208EN	0.8	306		506		706	442
11T304EN	0.4	316		516		716	444
11T308EN	0.8	318		518		718	448
11T312EN	1.2			520			
Steel		●	●	●	●	●	○
Stainless steel		○	○	○	○	○	●
Cast iron		○	○	○			
Non ferrous metals							
Heat resistant alloys					○	○	●

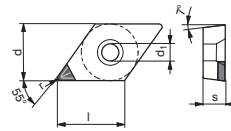
DCGT / DCXT



		-AL	-AL	-AL	-M81
		CWK 15	CWN 15	AMZ	CWN 2120
		DCGT	DCGT	DCGT	DCXT
ISO	r RE mm	Article no. 70 260 ...	Article no. 70 260 ...	Article no. 70 260 ...	Article no. 70 260 ...
070202FN	0.2	600	300	450	100
070204FN	0.4	602	302	452	102
11T302FN	0.2	604	304	454	104
11T304FN	0.4	606	306	456	106
11T308FN	0.8	608	308	458	108
Steel				○	
Stainless steel			○	○	●
Cast iron		○		○	
Non ferrous metals		●	●	●	○
Heat resistant alloys		○			

DCGT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
DCGT 0702..	7.75	2.38	2.8	6.35
DCGT 11T3..	11.60	3.97	4.4	9.52



DCGT

DCGT

F	M	R

-CB1	-CB1	-CB1
PDC	PDC-S	CVD
DIAMOND DCGT	DIAMOND DCGT	DIAMOND DCGT
Article no. 71 310 ...	Article no. 71 310 ...	Article no. 71 310 ...
102	202	302
104	204	304
108		
112	212	
114	214	314
118	218	318

ISO	r RE mm			
070202	0.2			
070204	0.4			
070208	0.8			
11T302	0.2			
11T304	0.4			
11T308	0.8			
Steel				
Stainless steel				
Cast iron				
Non ferrous metals		•	•	•
Heat resistant alloys			○	

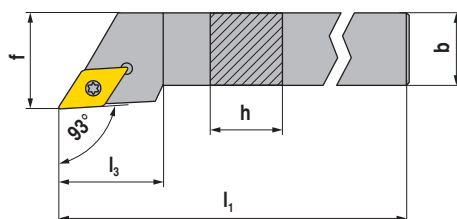
DCGT

F	M	R

-CB2	-CB2
PDC-S	CVD
DIAMOND DCGT	DIAMOND DCGT
Article no. 71 311 ...	Article no. 71 311 ...
202	
204	304
208	308
212	
214	314
218	318

ISO	r RE mm		
070202	0.2		
070204	0.4		
070208	0.8		
11T302	0.2		
11T304	0.4		
11T308	0.8		
Steel			
Stainless steel			
Cast iron			
Non ferrous metals		•	•
Heat resistant alloys		○	

IsoClamp – SDJC 93° – Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	Insert	Left-hand Article no. 70 685 ...	Right-hand Article no. 70 684 ...
	H mm	B mm	OAL mm	LH mm	WF mm			
SDJC R/L 0808 D07	8	8	60	13.0	10	DC.. 0702	008	008
SDJC R/L 1010 E07	10	10	70	13.0	12	DC.. 0702	010	010
SDJC R/L 1212 F07	12	12	80	14.5	16	DC.. 0702	012	012
SDJC R/L 1616 H11	16	16	100	20.0	20	DC.. 11T3	016	016
SDJC R/L 2020 K11	20	20	125	20.5	25	DC.. 11T3	020	020
SDJC R/L 2525 M11	25	25	150	21.5	32	DC.. 11T3	025	025

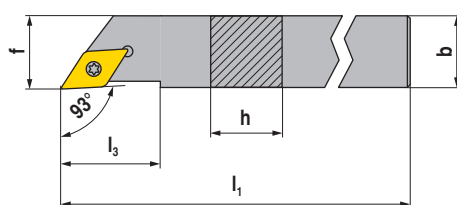
Spare parts Insert

DC.. 0702	110				
DC.. 11T3		398	112	106	171

				
Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve
Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...

IsoClamp – SDJC 93° – Toolholder with screw clamping

■ for sliding head lathes



Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	Insert	Left-hand Article no. 70 685 ...	Right-hand Article no. 70 684 ...
	H mm	B mm	OAL mm	LH mm	WF mm			
SDJC R/L 0808 H07	8	8	100	13.0	8	DC.. 0702	108	108
SDJC R/L 1010 H07	10	10	100	13.0	10	DC.. 0702	110	110
SDJC R/L 1212 H07	12	12	100	14.5	12	DC.. 0702	112	112
SDJC R/L 1616 K07	16	16	125	33.0	16	DC.. 0702	116	116
SDJC R/L 1212 H11	12	12	100	22.0	12	DC.. 11T3	212	212
SDJC R/L 1616 K11	16	16	125	33.0	16	DC.. 11T3	216	216
SDJC R/L 2020 K11	20	20	125		20	DC.. 11T3	220	220

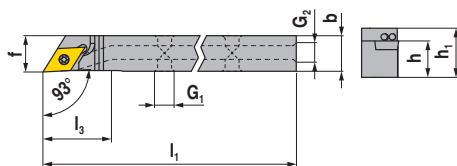
Spare parts Insert

DC.. 0702	T08	110	002
DC.. 11T3	T15	113	006

	
Key D	Clamping screw
Article no. 80 950 ...	Article no. 72 950 ...

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

■ for sliding head lathes



Illustrations show right-hand versions

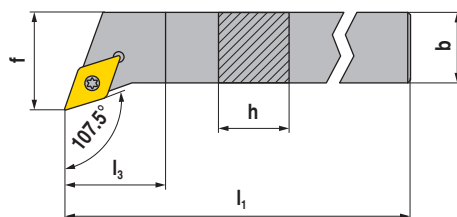


ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	h ₁ OAH mm	G ₁	G ₂	Insert	Left-hand NEW Article no. 72 357 ...		Right-hand NEW Article no. 72 356 ...	
SDJC L 0808 H07 IC	8	8	100	17	8	11.5	M5	M5	DC.. 0702		008		
SDJC R/L 1010 H07 IC	10	10	100	17	10	13.5	M5	M5	DC.. 0702		010		010
SDJC R/L 1212 H07 IC	12	12	100	17	12	15.5	M5	M5	DC.. 0702		012		012
SDJC R/L 1616 K07 IC	16	16	125	17	16	15.5	M5	G1/8"	DC.. 0702		016		016
SDJC R/L 1010 H11 IC	10	10	100	22	10	13.5	M5	M5	DC.. 11T3		110		110
SDJC R/L 1212 H11 IC	12	12	100	22	12	15.5	M5	M5	DC.. 11T3		112		112
SDJC R/L 1616 K11 IC	16	16	125	22	16	19.5	M5	G1/8"	DC.. 11T3		116		116
SDJC R/L 2020 K11 IC	20	20	125	22	20	23.5	M5	G1/8"	DC.. 11T3		120		120

Spare parts
for Article no.

	Cylindrical screw Article no. 72 950 ...		Cylindrical screw Article no. 72 950 ...		Key D Article no. 80 950 ...		Clamping screw Article no. 72 950 ...	
72 357 008		M5x4	011	T08	110		002	
72 356 010 / 72 357 010		M5x4	011	T08	110		002	
72 356 012 / 72 357 012		M5x4	011	T08	110		002	
72 356 016 / 72 357 016	G1/8"	M5x4	011	T08	110		002	
72 356 110 / 72 357 110		M5x4	011	T15	113		006	
72 356 112 / 72 357 112		M5x4	011	T15	113		006	
72 356 116 / 72 357 116	G1/8"	M5x4	011	T15	113		006	
72 356 120 / 72 357 120	G1/8"	M5x4	011	T15	113		006	

IsoClamp – SDHC 107.5° – Toolholder with screw clamping



Illustrations show right-hand versions



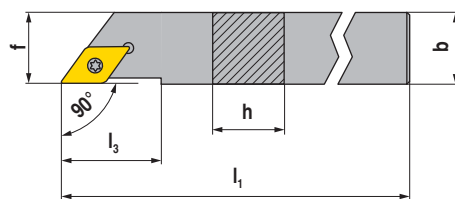
ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand Article no. 70 689 ...		Right-hand Article no. 70 688 ...	
SDHC R/L 1010 E07	10	10	70	5.5	12	DC.. 0702		010		010
SDHC R/L 1212 F07	12	12	80	12.0	16	DC.. 0702		012		012
SDHC R/L 1616 H11	16	16	100	10.4	20	DC.. 11T3		016		016
SDHC R/L 2020 K11	20	20	125	14.0	32	DC.. 11T3		020		020
SDHC R/L 2525 M11	25	25	150	20.0	32	DC.. 11T3		025		025

Spare parts
for Article no.

	Key D Article no. 80 950 ...		Combination Key Article no. 70 950 ...		Clamping screw Article no. 70 950 ...		Solid Carbide Seat D Article no. 70 950 ...		Threaded sleeve Article no. 70 950 ...	
70 688 010 / 70 689 010		110				112				
70 688 012 / 70 689 012		110				112				
70 688 016 / 70 689 016			398			113	106		171	
70 688 020 / 70 689 020			398			113	106		171	
70 688 025 / 70 689 025			398			113	106		171	

IsoClamp – SDAC 90° – Toolholder with screw clamping

■ for sliding head lathes



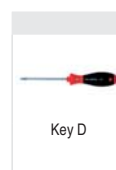
Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	Insert	Left-hand Article no. 70 789 ...	Right-hand Article no. 70 788 ...
	H mm	B mm	OAL mm	LH mm	WF mm			
SDAC R/L 0808 K07	8	8	125	14	8	DC.. 0702	008	008
SDAC R/L 1010 M07	10	10	150	14	10	DC.. 0702	010	010
SDAC R/L 1212 M07	12	12	150	14	12	DC.. 0702	012	012
SDAC R/L 1414 M11	14	14	150	21	14	DC.. 11T3	014	014

Spare parts
for Article no.

		Article no. 80 950 ...	Article no. 70 950 ...
70 788 008 / 70 789 008	T08	110	112
70 788 010 / 70 789 010	T08	110	112
70 788 012 / 70 789 012	T08	110	112
70 788 014 / 70 789 014	T15	113	113

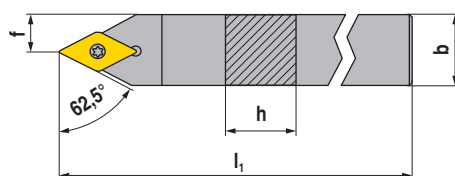


Key D



Clamping screw

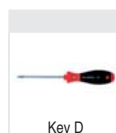
IsoClamp – SDNC 62.5° – Toolholder with screw clamping



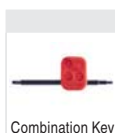
ISO designation	h	b	l ₁	f	Insert	Neutral Article no. 70 680 ...
	H mm	B mm	OAL mm	WF mm		
SDNC N 0808 D07	8	8	60	4.0	DC.. 0702	008
SDNC N 1010 E07	10	10	70	5.0	DC.. 0702	010
SDNC N 1212 F07	12	12	80	6.0	DC.. 0702	012
SDNC N 1616 H11	16	16	100	8.0	DC.. 11T3	016
SDNC N 2020 K11	20	20	125	10.0	DC.. 11T3	020
SDNC N 2525 M11	25	25	150	12.5	DC.. 11T3	025

Spare parts
for Article no.

	Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 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

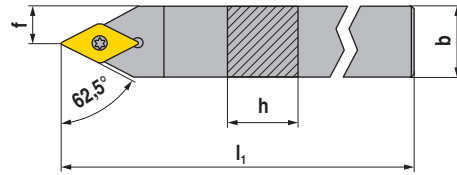


Clamping screw

Solid Carbide
Seat D

Threaded sleeve

IsoClamp – SDNC 62.5° – Toolholder with screw clamping



Neutral

ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	Insert	Article no. 70 784 ...	
SDNC N 0808 K07	8	8	125	4	DC.. 0702		008
SDNC N 1010 M07	10	10	150	5	DC.. 0702		010
SDNC N 1212 M07	12	12	150	6	DC.. 0702		012
SDNC N 1414 M11	14	14	150	7	DC.. 11T3		014

Spare parts for Article no.

for Article no.		Article no. 80 950 ...		Article no. 70 950 ...	
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	



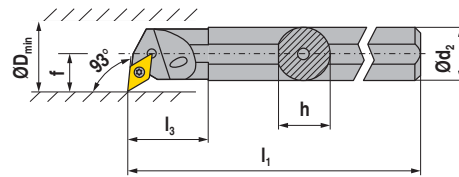
Key D



Clamping screw

IsoClamp – SDUC 93° – Boring bar with screw clamping

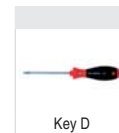
- A... = with thro' coolant
- S... = without thro' coolant



Illustrations show right-hand versions



ISO designation	d ₂ DCONMS mm	h H mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	D _{min} DAXN mm	Insert	Left-hand	Right-hand
								Article no. 70 737 ...	Article no. 70 736 ...
S12Q SDUC R/L 07	12	11.0	180	12.5	9	17	DC.. 0702	012	012
A12K SDUC R/L 07	12	11.5	125	12.5	9	16	DC.. 0702	212	212
S16R SDUC R/L 07	16	15.0	200	16.5	11	21	DC.. 0702	016	016
A16M SDUC R/L 07	16	15.0	150	16.5	11	20	DC.. 0702	216	216
S20S SDUC R 07	20	18.0	250	20.5	13	25	DC.. 0702		020
A20Q SDUC R/L 07	20	18.5	180	20.5	13	25	DC.. 0702	220	220
S20S SDUC R 11	20	18.0	250	21.0	13	25	DC.. 11T3		120
A20Q SDUC R/L 11	20	18.5	180	21.0	13	25	DC.. 11T3	320	320



Key D



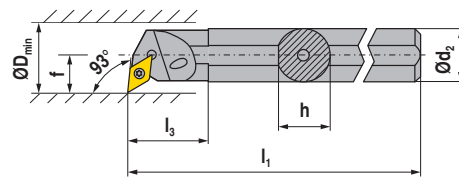
Clamping screw

Spare parts for Article no.

70 736 012 / 70 737 012	110	112
70 736 212 / 70 737 212	110	112
70 736 016 / 70 737 016	110	112
70 736 216 / 70 737 216	110	112
70 736 020	110	112
70 736 220 / 70 737 220	110	112
70 736 120	113	110
70 736 320 / 70 737 320	113	110

IsoClamp - SDUC 93° - Boring bar with screw clamping

■ Type: Solid carbide



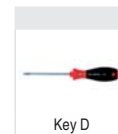
Illustrations show right-hand versions



ISO designation	d_2	h	l_1	l_3	f	D_{min}	Insert	Left-hand	Right-hand
	DCONMS mm	H mm	OAL mm	LH mm	WF mm	DAXN mm		Article no. 70 739 ...	Article no. 70 738 ...
E12Q SDUC R/L 07	12	11.5	180	12.5	9	16	DC.. 0702	012	012
E16R SDUC R/L 07	16	15.0	200	16.5	11	20	DC.. 0702	016	016
E20S SDUC R/L 11	20	18.5	250	16.0	13	25	DC.. 11T3	120	120
E25T SDUC R/L 11	25	23.0	300	26.0	17	32	DC.. 11T3	125	125

Spare parts
for Article no.

		Article no. 80 950 ...	Article no. 70 950 ...
70 738 012 / 70 739 012	T08	110	112
70 738 016 / 70 739 016	T08	110	112
70 738 120 / 70 739 120	T15	113	304
70 738 125 / 70 739 125	T15	113	113

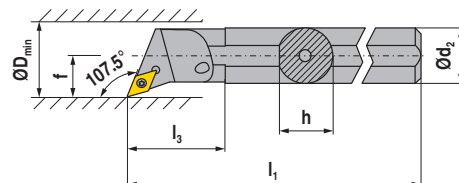


Key D



Clamping screw

IsoClamp - SDQC 107.5° - Boring bar with screw clamping



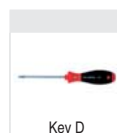
Illustrations show right-hand versions



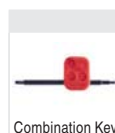
ISO designation	d_2	h	l_1	l_3	f	D_{min}	Insert	Left-hand	Right-hand
	DCONMS mm	H mm	OAL mm	LH mm	WF mm	DAXN mm		Article no. 70 741 ...	Article no. 70 740 ...
A10H SDQC R/L 07	10	9.0	100	22.0	7	12.5	DC.. 0702	210	210
A12K SDQC R/L 07	12	11.5	125	12.5	9	16.0	DC.. 0702	212	212
A16M SDQC R/L 07	16	15.0	150	16.5	11	20.0	DC.. 0702	216	216
A20Q SDQC R/L 07	20	18.5	180	20.5	13	25.0	DC.. 0702	220	220
A25R SDQC R/L 11	25	23.0	200	26.5	17	32.0	DC.. 11T3	225	225

Spare parts
for Article no.

	Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 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	106	171



Key D



Combination Key



Clamping screw

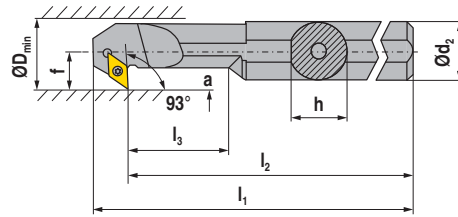


Solid Carbide
Seat D



Threaded sleeve

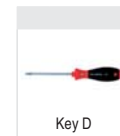
IsoClamp – SDXC 93° – Boring bar with screw clamping



Illustrations show right-hand versions



ISO designation	d ₂ DCONMS mm	h H mm	l ₂ LF mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	D _{min} DAXN mm	a mm	Insert	Left-hand	Right-hand
										Article no. 70 733 ...	Article no. 70 732 ...
A12K SDXC R/L 07	12	11.5	125	137.0	24	9	16	4.5	DC.. 0702	212	212
A16M SDXC R/L 07	16	15.0	150	162.0	32	11	20	4.5	DC.. 0702	216	216
A20Q SDXC R/L 11	20	18.5	180	196.5	40	13	25	6.5	DC.. 11T3	220	220
A25R SDXC R/L 11	25	23.0	200	216.8	50	17	32	9.5	DC.. 11T3	225	225



Key D

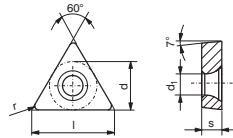


Clamping screw

Spare parts for Article no.		Article no. 80 950 ...		Article no. 70 950 ...
70 732 212 / 70 733 212	T08	110	M2,5x6	112
70 732 216 / 70 733 216	T08	110	M2,5x6	112
70 732 220 / 70 733 220	T15	113	M3,5x8,6	304
70 732 225 / 70 733 225	T15	113	M3,5x8,6	304

TCMT / TCGT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
TCMT 0902..	9.6	2.38	2.5	5.56
TC.T 1102..	11.0	2.38	2.8	6.35



TCMT

		F	M	R							
											

TCMT / TCGT

		F	M	R						
										
										
										
						TCMT	TCMT	TCGT	TCMT	TCMT
ISO	r RE mm					Article no. 76 274 ...	Article no. 76 274 ...	Article no. 76 270 ...	Article no. 76 274 ...	Article no. 70 274 ...
090204EN	0.4						504		704	398
110202EN	0.2							714		
110204EN	0.4					316	516		716	402
110208EN	0.8					318			718	
Steel						●	●	●	●	○
Stainless steel						○	○	○	○	●
Cast iron						○	○			
Non ferrous metals										
Heat resistant alloys								○	○	●

TCGT

F	M	R
		

-AL

CWN 15





TCGT

Article no.
70 276 ...

300
302

-AL

CWK 15





TCGT

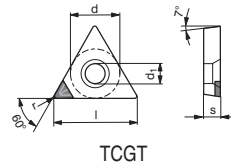
Article no.
70 276 ...

600
602

ISO	r RE mm		
110202FN	0.2		
110204FN	0.4		
Steel			
Stainless steel		○	
Cast iron			○
Non ferrous metals		●	●
Heat resistant alloys			○

TCGT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
TCGT 0902..	9.6	2.38	2.5	5.56
TCGT 1102..	11.0	2.38	2.8	6.35



TCGT

F	M	R

-CB1

PDC

DIAMOND
TCGTArticle no.
71 325 ...

ISO	r RE mm		
090202	0.2		112
090204	0.4		114
110202	0.2		122
110204	0.4		124
Steel			
Stainless steel			
Cast iron			
Non ferrous metals			
Heat resistant alloys			

TCGT

F	M	R

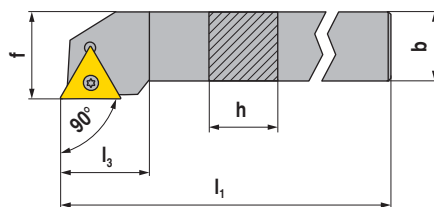
-CB2

PDC-S

DIAMOND
TCGTArticle no.
71 326 ...

ISO	r RE mm		
090202	0.2		212
090204	0.4		214
110202	0.2		222
110204	0.4		224
Steel			
Stainless steel			
Cast iron			
Non ferrous metals			
Heat resistant alloys			

IsoClamp – STGC 90° – Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand Article no. 70 677 ...	Right-hand Article no. 70 676 ...
STGC R/L 1010 E09	10	10	70	12	12	TC.. 0902	010	010
STGC R/L 1212 F11	12	12	80	15	16	TC.. 1102	012	012

Spare parts
for Article no.

70 676 012 / 70 677 012

Key D

Article no.
80 950 ...

Clamping screw

Article no.
70 950 ...

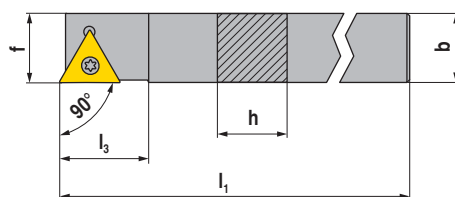
T08

110 M2,5x6

112

IsoClamp – STAC 90° – Toolholder with screw clamping

■ for sliding head lathes



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand Article no. 70 769 ...	Right-hand Article no. 70 768 ...
STAC R/L 1010 K09	10	10	125	12	10	TC.. 0902	010	010
STAC R/L 1212 K11	12	12	125	15	12	TC.. 1102	012	012
STAC R 1414 K11	14	14	125	15	14	TC.. 1102		014

Spare parts
for Article no.

70 768 012 / 70 769 012

70 768 014

Key D

Article no.
80 950 ...

Clamping screw

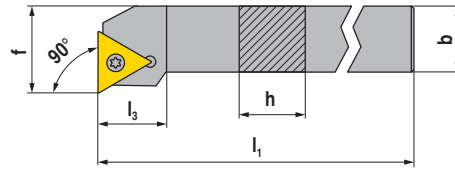
Article no.
70 950 ...

T08

110 M2,5x6

112

IsoClamp – STFC 90° – Toolholder with screw clamping



Illustrations show right-hand versions



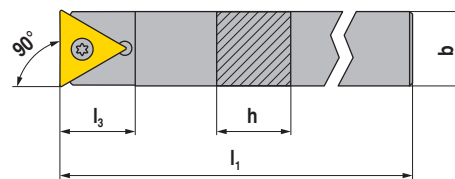
ISO designation	h	b	l ₁	l ₃	f	Insert		
	H mm	B mm	OAL mm	LH mm	WF mm		Left-hand Article no. 70 673 ...	Right-hand Article no. 70 672 ...
STFC R/L 1212 F11	12	12	80	15	16	TC.. 1102	012	012

Spare parts
for Article no.

70 672 012 / 70 673 012

Key D	Clamping screw
Article no. 80 950 ...	Article no. 70 950 ...
110	112

IsoClamp – STCC 90° – Toolholder with screw clamping



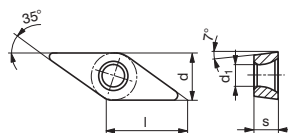
ISO designation	h	b	l ₁	l ₃	Insert		
	H mm	B mm	OAL mm	LH mm		Neutral Article no. 70 782 ...	
STCC N 0808 K09	8	8	125	11	TC.. 0902		008
STCC N 1010 K11	10	10	125	15	TC.. 1102		010
STCC N 1212 K11	12	12	125	15	TC.. 1102		012
STCC N 1414 K11	14	14	125	21	TC.. 1102		014
STCC N 1616 K11	16	16	125	24	TC.. 1102		016

Spare parts
for Article no.

Article no.	Key D	Clamping screw
70 782 010	T08	M2,5x6
70 782 012	T08	M2,5x6
70 782 014	T08	M2,5x6
70 782 016	T08	M2,5x6

VCGT / VCMT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
VC.T 1103..	11.1	3.18	2.9	6.35



VCGT

F	M	R

		-F23	-ZF	-ZF	-ZF	-ZF
		CCN 2120	HCX 1115	HCX 1125	HCR 1135	CWN 2135
		VCMT	VCMT	VCMT	VCMT	VCMT
		Article no. 70 193 ...	Article no. 76 277 ...	Article no. 76 277 ...	Article no. 76 277 ...	Article no. 70 277 ...
		600 602	314 316 318	514 516 518	714 716 718	444 446
ISO	r RE mm					
110300FN	0.0					
110301FN	0.1					
110302EN	0.2					
110304EN	0.4					
110308EN	0.8					
Steel		●	●	●	●	○
Stainless steel		○	○	○	○	●
Cast iron		○	○	○	○	
Non ferrous metals		○				
Heat resistant alloys		●			○	●

VCMT / VCGT

F	M	R

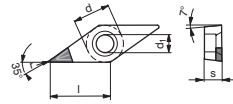
		-SMF	-SMF	-SMF	-SMF	-25P	-25P
		HCX 1115	HCX 1125	HCR 1135	HCR 1135	CWK 20	AMZ
		VCMT	VCMT	VCGT	VCMT	VCGT	VCGT
		Article no. 76 288 ...	Article no. 76 288 ...	Article no. 76 285 ...	Article no. 76 288 ...	Article no. 70 282 ...	Article no. 70 282 ...
		316	516	714	716	638 640	538 540
ISO	r RE mm						
110302EN	0.2						
110302FN	0.2						
110304EN	0.4						
110304FN	0.4						
Steel		●	●	●	●		○
Stainless steel		○	○	○	○		○
Cast iron		○	○			○	○
Non ferrous metals						●	●
Heat resistant alloys				○	○	○	

VCGT

		F	M	R						
										
						-25Q	-25Q	-AL	-AL	-AL
										
										
										
						VCGT	VCGT	VCGT	VCGT	VCGT
ISO	r RE mm					Article no. 70 282 ...	Article no. 70 282 ...	Article no. 70 280 ...	Article no. 70 280 ...	Article no. 70 280 ...
110302FN	0.2							306	606	456
110304FL	0.4					670	620			
110304FN	0.4							308	608	458
110304FR	0.4					680	630			
110308FN	0.8							310	610	
Steel							○			○
Stainless steel							○	○		○
Cast iron						○	○		○	○
Non ferrous metals						●	●	●	●	●
Heat resistant alloys						○			○	

VCGT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
VCGT 0702..	6.9	2.38	2.2	3.97
VCGT 1103..	11.1	3.18	2.9	6.35



VCGT

VCGT

F	M	R

ISO	r RE mm	-CB1 PDC 	-CB1 PDC-S 	-CB1 CVD
070202	0.2			
070204	0.4			
110302	0.2			
110304	0.4			
Steel				
Stainless steel				
Cast iron				
Non ferrous metals		•	•	•
Heat resistant alloys			○	

-CB1 PDC 	-CB1 PDC-S 	-CB1 CVD
DIAMOND VCGT Article no. 71 330 ...	DIAMOND VCGT Article no. 71 330 ...	DIAMOND VCGT Article no. 71 330 ...
102 104		
112 114	214	312 314

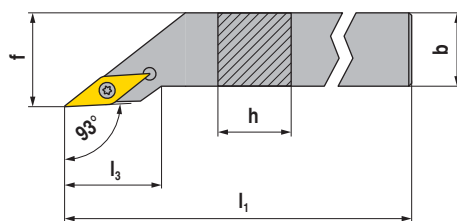
VCGT

F	M	R

ISO	r RE mm	-CB2 PDC-S 	-CB2 CVD
110302	0.2		
110304	0.4		
Steel			
Stainless steel			
Cast iron			
Non ferrous metals		•	•
Heat resistant alloys		○	

-CB2 PDC-S 	-CB2 CVD
DIAMOND VCGT Article no. 71 331 ...	DIAMOND VCGT Article no. 71 331 ...
212 214	312 314

IsoClamp – SVJC 93° – Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h	b	l ₁	f	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	WF mm		Article no. 70 697 ...		Article no. 70 696 ...	
SVJC R/L 0808 H11	8	8	100	8	VC.. 1103	008		008	
SVJC R/L 1010 H11	10	10	100	10	VC.. 1103	010		010	
SVJC R/L 1212 H11	12	12	100	12	VC.. 1103	112		112	
SVJC R/L 1616 K11	16	16	125	16	VC.. 1103	116		116	

Spare parts for Article no.

70 696 008 / 70 697 008	T08	110	M2,5x6	112
70 696 010 / 70 697 010	T08	110	M2,5x6	112
70 696 112 / 70 697 112	T08	110	M2,5x6	112
70 696 116 / 70 697 116	T08	110	M2,5x6	112

Key D

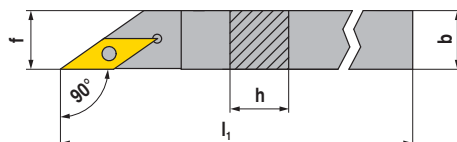
Clamping screw

Article no.
80 950 ...

Article no.
70 950 ...

IsoClamp – SVAC 90° – Toolholder with screw clamping

■ for sliding head lathes



Illustrations show right-hand versions



ISO designation	h	b	l ₁	f	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	WF mm		Article no. 70 695 ...		Article no. 70 694 ...	
SVAC R/L 0808 H11	8	8	100	8	VC.. 1103	008		008	
SVAC R/L 1010 H11	10	10	100	10	VC.. 1103	010		010	
SVAC R/L 1212 H11	12	12	100	12	VC.. 1103	012		012	

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

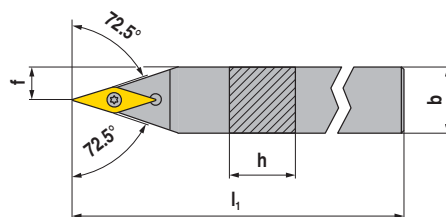
Key D

Clamping screw

Article no.
80 950 ...

Article no.
70 950 ...

IsoClamp – SVVC 72.5° – Toolholder with screw clamping



Neutral

ISO designation	h	b	l ₁	f	Insert	Article no. 70 692 ...
	H mm	B mm	OAL mm	WF mm		
SVVC N 1212 F11	12	12	80	6	VC.. 1103	012
SVVC N 1616 H11	16	16	100	8	VC.. 1103	016
SVVC N 2020 K11	20	20	125	10	VC.. 1103	020

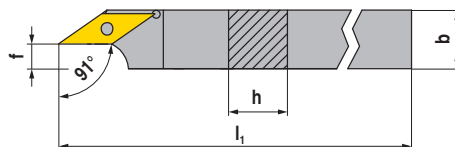
Spare parts
for Article no.

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

Article no.
80 950 ...Article no.
70 950 ...

IsoClamp – SVXC 91° – Toolholder with screw clamping

■ for sliding head lathes



Illustrations show right-hand versions



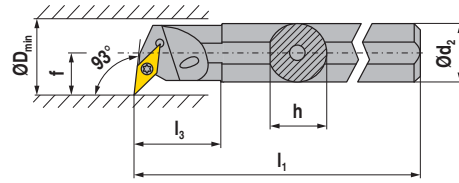
ISO designation	h	b	l ₁	f	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	WF mm		Article no. 70 691 ...		Article no. 70 690 ...	
SVXC R/L 1010 H11	10	10	100	3.4	VC.. 1103	010		010	
SVXC R/L 1212 H11	12	12	100	5.4	VC.. 1103	012		012	
SVXC R/L 1616 K11	16	16	125	8.9	VC.. 1103	016		016	

Spare parts
for Article no.

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

Article no.
80 950 ...Article no.
70 950 ...

IsoClamp - SVUC 93° - Boring bar with screw clamping



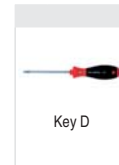
Illustrations show right-hand versions



ISO designation	d_2	h	l_1	l_3	f	D_{min}	Insert	Left-hand	Right-hand
	DCONMS mm	H mm	OAL mm	LH mm	WF mm	DAXN mm		Article no. 70 745 ...	Article no. 70 744 ...
A16M SVUC R/L 11	16	15.0	150	29	11	20	VC.. 1103	216	216
A20Q SVUC R/L 11	20	18.5	180	32	13	25	VC.. 1103	220	220
A25R SVUC R/L 11	25	23.0	200	36	17	32	VC.. 1103	225	225

Spare parts for Article no.

70 744 216 / 70 745 216	T08	110	M2,5x6	112
70 744 220 / 70 745 220	T08	110	M2,5x6	112
70 744 225 / 70 745 225	T08	110	M2,5x6	112



Key D

Article no.
80 950 ...

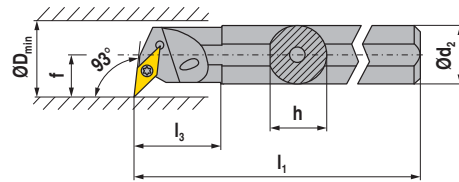


Clamping screw

Article no.
70 950 ...

IsoClamp - SVUC 93° - Boring bar with screw clamping

■ Type: Solid carbide



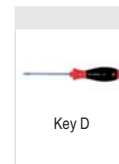
Illustrations show right-hand versions



ISO designation	d_2	h	l_1	l_3	f	D_{min}	Insert	Left-hand	Right-hand
	DCONMS mm	H mm	OAL mm	LH mm	WF mm	DAXN mm		Article no. 70 747 ...	Article no. 70 746 ...
E16R SVUC R/L 11	16	15.0	200	16.5	11	20	VC.. 1103	016	016
E20S SVUC R/L 11	20	18.5	250	20.5	13	25	VC.. 1103	020	020
E25T SVUC R 11	25	23.0	300	25.5	17	32	VC.. 1103		025

Spare parts for Article no.

70 746 016 / 70 747 016	T08	110	M2,5x6	112
70 746 020 / 70 747 020	T08	110	M2,5x6	112
70 746 025	T08	110	M2,5x6	112



Key D

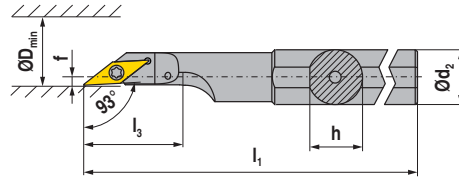
Article no.
80 950 ...



Clamping screw

Article no.
70 950 ...

IsoClamp – SVJC 93° – Boring bar with screw clamping



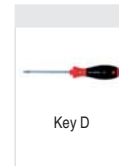
Illustrations show right-hand versions



ISO designation	d_2	h	l_1	l_3	f	D_{min}	Insert	Left-hand		Right-hand	
	DCONMS mm	H mm	OAL mm	LH mm	WF mm	DAXN mm		NEW Article no. 70 727 ...		NEW Article no. 70 726 ...	
A16M SVJC R/L 11	16	15	150	30	2	22	VC.. 1103		216		216
A20M SVJC R/L 11	20	19	150	38	2	25	VC.. 1103		220		220

Spare parts for Article no.

70 726 216 / 70 727 216	T08	110	M2,5x6	112
70 726 220 / 70 727 220	T08	110	M2,5x6	112



Key D

Article no.
80 950 ...

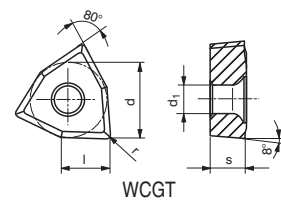
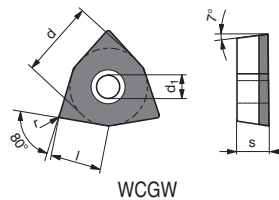


Clamping screw

Article no.
70 950 ...

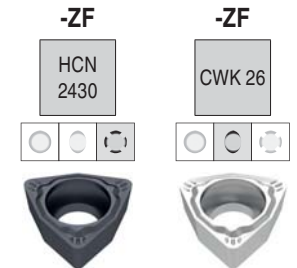
WCGT / WCGW

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
WCGW 0201..	2.70	1.58	2.3	3.97
WCGT 0201..	2.71	1.59	2.1	3.97



WCGT

F	M	R



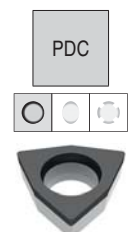
WCGT

WCGT

ISO	r RE mm	NEW Article no. 70 287 ...	Article no. 70 287 ...
020102EN	0.2	450	600
020104EN	0.4	452	602
Steel		●	
Stainless steel		●	
Cast iron		○	○
Non ferrous metals		○	●
Heat resistant alloys		●	○

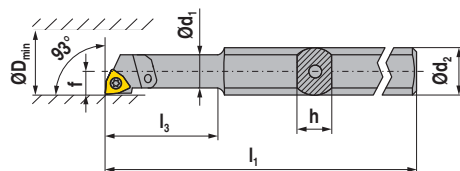
WCGW

F	M	R


DIAMOND
WCGW

ISO	r RE mm	Article no. 71 154 ...
020102	0.2	100
020104	0.4	102
Steel		
Stainless steel		
Cast iron		
Non ferrous metals		●
Heat resistant alloys		

IsoClamp - SWUC 93° - Boring bar with screw clamping



Illustrations show right-hand versions



ISO designation	h H mm	d ₁ mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	d ₂ DCONMS mm	D _{min} DAXN mm	Insert	Left-hand	Right-hand
									Article no. 70 731 ...	Article no. 70 730 ...
A0508H SWUC R/L 02	7	5	100	24	2.9	8	5.8	WC.. 0201..	005	005
A0608H SWUC R/L 02	7	6	100	24	3.9	8	7.8	WC.. 0201..	006	006
SET								WC.. 0201..	999	999

Key D

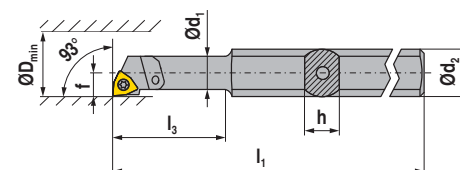
Clamping screw

Spare parts
for Article no.

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

IsoClamp - SWUC 93° - Boring bar with screw clamping

■ with carbide core



Illustrations show right-hand versions



ISO designation	h mm	d ₁ mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	d ₂ DCONMS mm	D _{min} DAXN mm	Insert	Left-hand	Right-hand
									NEW Article no. 70 743 ...	NEW Article no. 70 742 ...
E-A0508H SWUC R/L 02	7	5	100	24	2.9	8	5.8	WC.. 0201..	005	005
E-A0608H SWUC R/L 02	7	6	100	24	3.9	8	7.8	WC.. 0201..	006	006
SET								WC.. 0201..	999	999

Key D

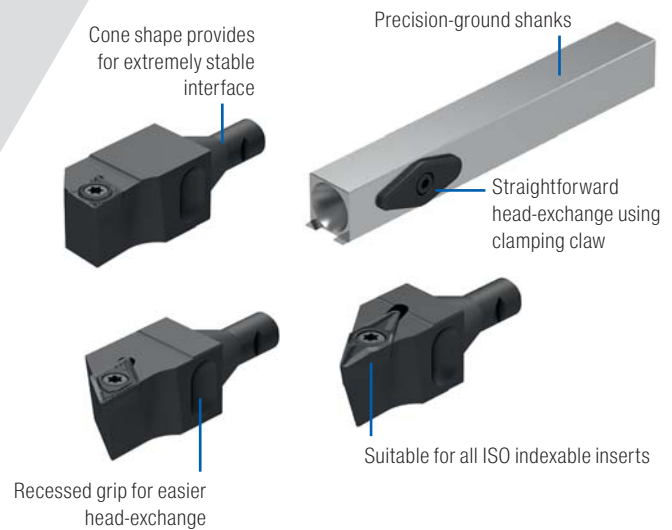
Clamping screw

Spare parts
for Article no.

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

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	GX grooving	
				
SCLC 95°	SDJC 93°	SVJC 93°	GX09	GX16
49	49	50	50	50

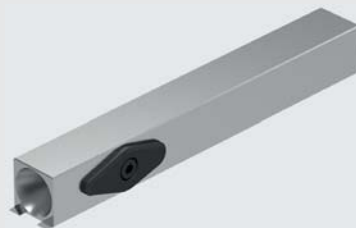
Basic holder

BH 12: $l_1 = 63 \text{ mm}$

BH 16: $l_1 = 63 \text{ mm}$

BH 12: $l_1 = 93 \text{ mm}$

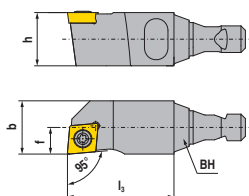
BH 16: $l_1 = 89 \text{ mm}$



51

51

XheadClamp – SCLC 95° exchangeable head turning tool



ISO designation	System dimen- sions BH	b B mm	h H mm	l ₃ LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 809 ...		NEW Article no. 72 808 ...	
SCLC R/L 06 BH12	12	12	12	24	6	CC.. 0602	221		221	
SCLC R/L 09 BH12	12	16	12	24	6	CC.. 09T3	222		222	
SCLC R/L 06 BH16	16	16	16	28	8	CC.. 0602	621		621	
SCLC R/L 09 BH16	16	16	16	28	8	CC.. 09T3	622		622	

Spare parts
Insert

CC.. 0602	T08	110							M2,5x6	112
CC.. 09T3					T15/SW	398			M3,5x11	113



Suitable indexable inserts can be found on → Page 12-16.

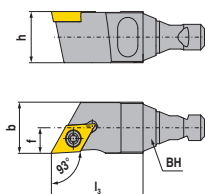
Key D

Combination Key

Clamping screw

Article no.
80 950 ...Article no.
70 950 ...Article no.
70 950 ...

XheadClamp – SDJC 93° exchangeable head turning tool



ISO designation	System dimen- sions BH	b B mm	h H mm	l ₃ LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 811 ...		NEW Article no. 72 810 ...	
SDJC R/L 07-BH12	12	12	12	24	6	DC.. 0702	230		230	
SDJC R/L 11-BH12	12	14	12	24	6	DC.. 11T3	231		231	
SDJC R/L 07-BH16	16	16	16	28	8	DC.. 0702	630		630	
SDJC R/L 11-BH16	16	16	16	28	8	DC.. 11T3	631		631	

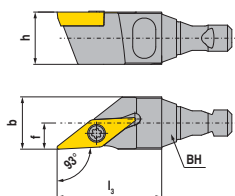
Spare parts
Insert

DC.. 0702	T08	110							M2,5x6	112
DC.. 11T3					T15/SW	398			M3,5x11	113



Suitable indexable inserts can be found on → Page 22-26.

XheadClamp – SVJC 93° exchangeable head turning tool



ISO designation	System dimensions BH	b B mm	h H mm	l ₃ LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 813 ...		NEW Article no. 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

VC.. 1103

T08

Article no.
80 950 ...

110

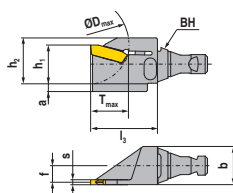
M2,5x6

Article no.
70 950 ...

112

i Suitable indexable inserts can be found on → **Page 39-41.**

XheadClamp – GX 09/16 exchangeable head grooving tool holder



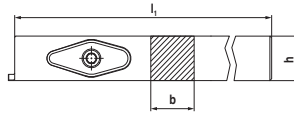
Designation	System dimensions BH	b B mm	h = h ₁ H mm	h ₂ OAH mm	l ₃ LH mm	T _{max} CDX mm	D _{max} DAXX mm	f WF mm	s mm	a mm	for grooving inserts	Left-hand		Right-hand	
												NEW Article no. 72 801 ...		NEW Article no. 72 800 ...	
GX09-1 R/L -BH12	12	12	12	15	24	12.5	25	5.5	0,60-2,50	4.0	GX 09-1	112		112	
GX09-2 R/L -BH12	12	12	12	15	24	12.5	25	5.0	0,60-3,00	4.0	GX 09-2	212		212	
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	
GX16-2 R/L -BH12	12	12	12	15	24	12.5	25	5.0	0,60-3,50	4.0	GX 16-2	712		712	
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 -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 -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 -BH16	16	16	16	19	28	16.0	32	7.0	0,60-3,50	3.5	GX 16-2	716		716	

Spare parts
System dimensions BH

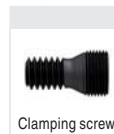
12	T15	113	M4x11	174
16	T15	113	M4x11	174

i Suitable indexable inserts can be found in the grooving tools section on → **Page 204-210.**

XheadClamp – Base holder



ISO designation	System dimensions BH	b B mm	h H mm	l ₁ OAL mm	For exchangeable heads	Left-hand		Right-hand	
						NEW Article no. 72 841 ...		NEW Article no. 72 840 ...	
BHSH.12X63	12	12	12	63	BH12		263		263
BHSH.12X93	12	12	12	93	BH12		293		293
BHSH.16X63	16	16	16	63	BH16		663		663
BHSH.16X89	16	16	16	89	BH16		693		693



Article no.
72 950 ...



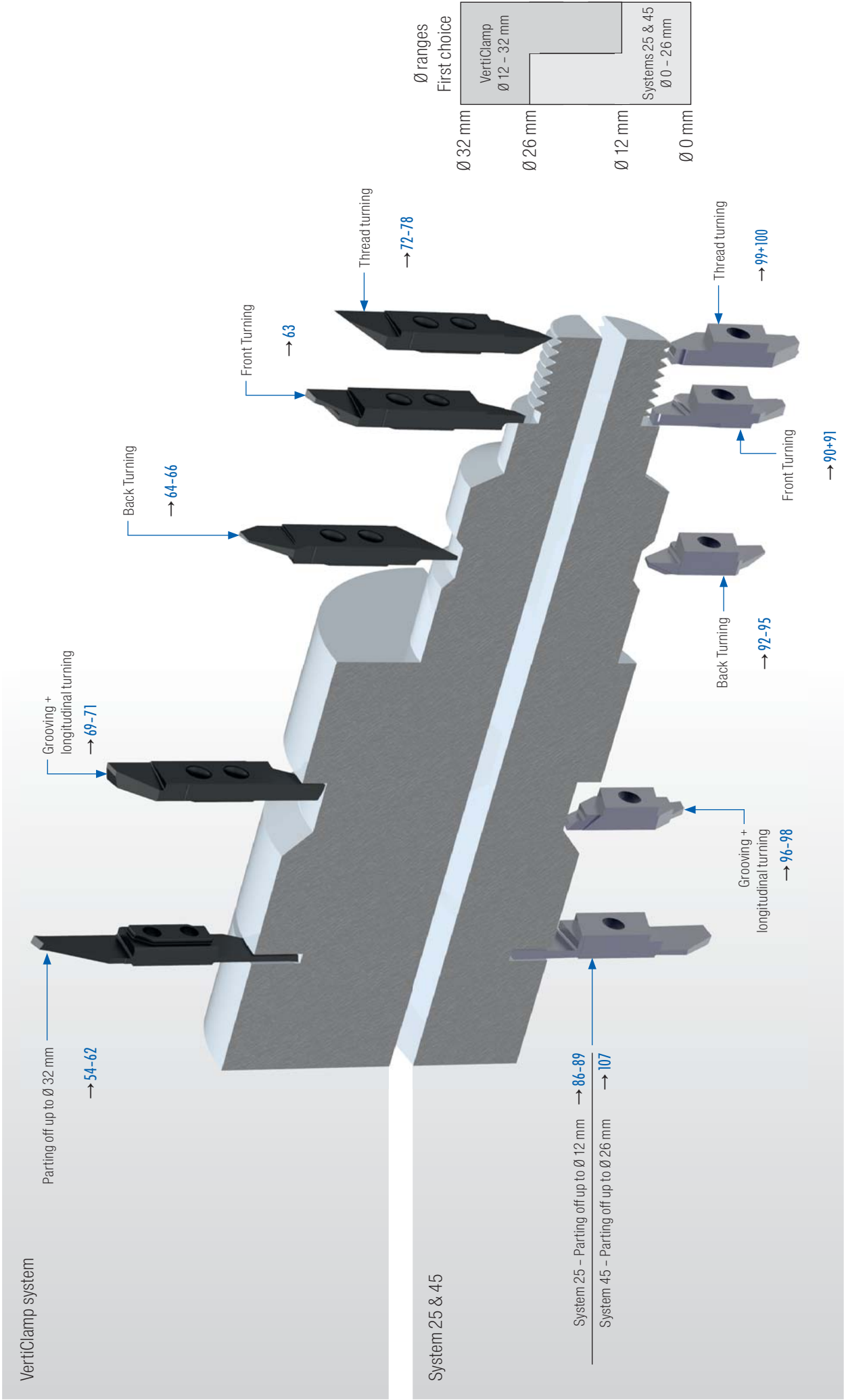
Article no.
72 950 ...



Article no.
70 950 ...

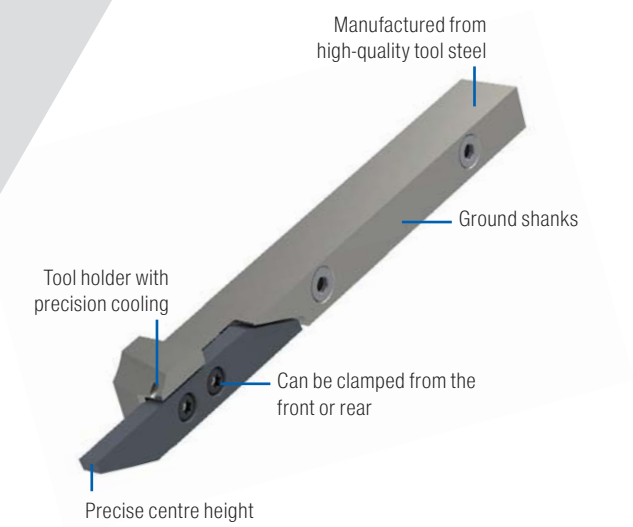
Spare parts System dimensions BH

12	SR.BHSH.12	801	PR.BHSH.12	800	SW2,5	175
16	SR.BHSH.16	803	PR.BHSH.16	802	SW03	176



Highlights

- 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

3

	Parting	Front Turning	Back Turning	Grooving + longitudinal turning
WNT MASTERTOOL PERFORMANCE	54-62	63	64-66	67-71
WNT MASTERTOOL STANDARD	System 25 86-89 System 45 107	90+91	92-95	96-98

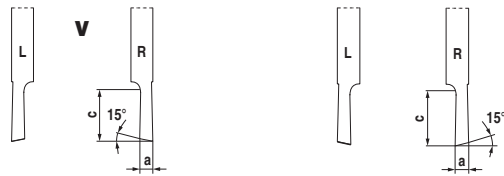
	Thread turning	Radius Grooving	Chamfers
WNT MASTERTOOL PERFORMANCE	72-78	79+80	81
WNT MASTERTOOL STANDARD	99+100		

Tool holder

	Standard tool holders	Offset tool holders	Contra tool holders
WNT MASTERTOOL PERFORMANCE	normal 82 with through coolant 82	83+84 83+84	85
WNT MASTERTOOL STANDARD	normal 101+102 + 108 with through coolant 102+103	101+108	104 105

3002 L / 3002 LV / 3002 R / 3002 RV

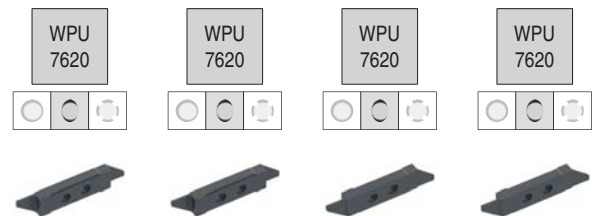
Designation	a CW mm	c PDPT mm
3002-0,8-6	0.8	6
3002-0,8-10	0.8	10
3002-1,0-6	1.0	6
3002-1,0-13	1.0	13
3002-1,2-6	1.2	6
3002-1,5-8	1.5	8
3002-1,5-16	1.5	16
3002-1,8-8	1.8	8
3002-2,0-10	2.0	10
3002-2,0-16	2.0	16
3002-2,5-13	2.5	13
3002-2,5-16	2.5	16
3002-3,0-16	3.0	16



3002 L / 3002 LV / 3002 R / 3002 RV

■ for parting off

F	M	R

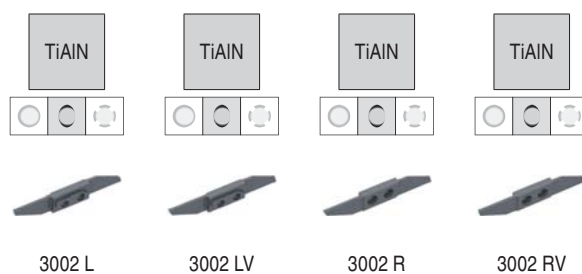
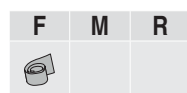


ISO	3002 L	3002 LV	3002 R	3002 RV
	NEW Article no. 72 420 ...	NEW Article no. 72 422 ...	NEW Article no. 72 416 ...	NEW Article no. 72 418 ...
3002-0,8-6	510	510	510	510
3002-0,8-10	530	530	530	530
3002-1,0-6	512	512	512	512
3002-1,0-13	532	532	532	532
3002-1,2-6	514	514	514	514
3002-1,5-8	516	516	516	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⁾
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron	●	●	●	●
Non ferrous metals	●	●	●	●
Heat resistant alloys	●	●	●	●

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

3002 L / 3002 LV / 3002 R / 3002 RV

■ for parting off

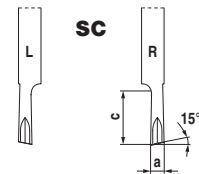
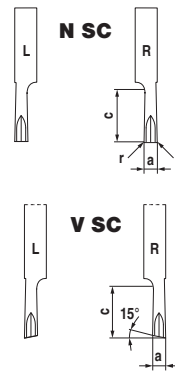


ISO	3002 L	3002 LV	3002 R	3002 RV
	Article no. 72 420 ...	Article no. 72 422 ...	Article no. 72 416 ...	Article no. 72 418 ...
3002-0,8-6	110	110	110	110
3002-0,8-10	130	130	130	130
3002-1,0-6	112	112	112	112
3002-1,0-13	132	132	132	132
3002-1,2-6	114	114	114	114
3002-1,5-8	116	116	116	116
3002-1,5-16	136	136	136	136
3002-1,8-8	118	118	118	118
3002-2,0-10	120	120	120	120
3002-2,0-16	140	140	140	140
3002-2,5-13	122 ¹⁾	122 ¹⁾	122 ¹⁾	122 ¹⁾
3002-2,5-16	142 ¹⁾	142 ¹⁾	142 ¹⁾	142 ¹⁾
3002-3,0-16	124 ¹⁾	124 ¹⁾	124 ¹⁾	124 ¹⁾
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron				
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

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	a CW mm	c PDPT mm	r CRE mm
3002-1,5-8	1.5	8	-
3002-1,5-10	1.5	10	0.08
3002-1,5-16	1.5	16	0.08
3002-1,5-16	1.5	16	-
3002-2,0-10	2.0	10	0.08
3002-2,0-10	2.0	10	-
3002-2,0-16	2.0	16	-
3002-2,0-16	2.0	16	0.08
3002-2,5-13	2.5	13	0.08
3002-2,5-13	2.5	13	-
3002-2,5-16	2.5	16	-
3002-2,5-16	2.5	16	0.08
3002-3,0-16	3.0	16	0.08
3002-3,0-16	3.0	16	-



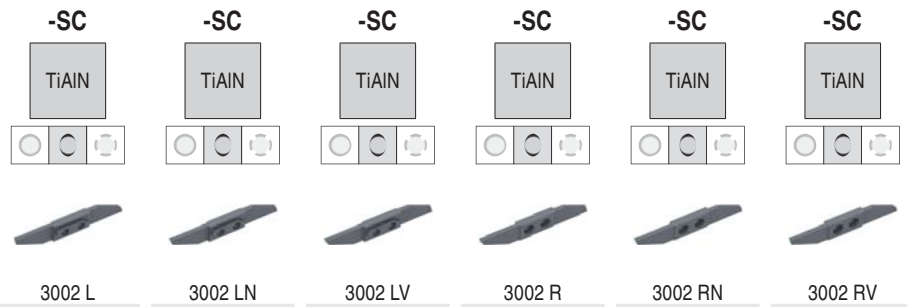
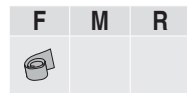
3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

■ for parting off

	F	M	R							

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

■ for parting off

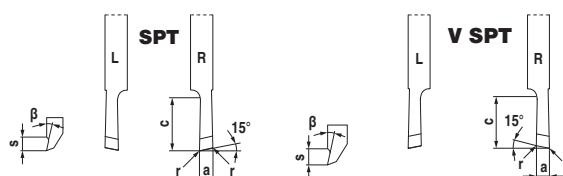


ISO	3002 L Article no. 72 432 ...	3002 LN Article no. 72 426 ...	3002 LV Article no. 72 434 ...	3002 R Article no. 72 428 ...	3002 RN Article no. 72 424 ...	3002 RV Article no. 72 430 ...
3002-1,5-8	108		108	108		108
3002-1,5-10		110			110	
3002-1,5-16	128	130	128	128	130	128
3002-2,0-10	110	112	110	110	112	110
3002-2,0-16	130	132	130	130	132	130
3002-2,5-13	112 ¹⁾	114 ¹⁾	112 ¹⁾	112 ¹⁾	114 ¹⁾	112 ¹⁾
3002-2,5-16	132 ¹⁾	134 ¹⁾	132 ¹⁾	132 ¹⁾	134 ¹⁾	132 ¹⁾
3002-3,0-16	114 ¹⁾	116 ¹⁾	114 ¹⁾	114 ¹⁾	116 ¹⁾	114 ¹⁾
Steel	●	●	●	●	●	●
Stainless steel	●	●	●	●	●	●
Cast iron						
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys	○	○	○	○	○	○

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

3002 L / 3002 LV / 3002 R / 3002 RV

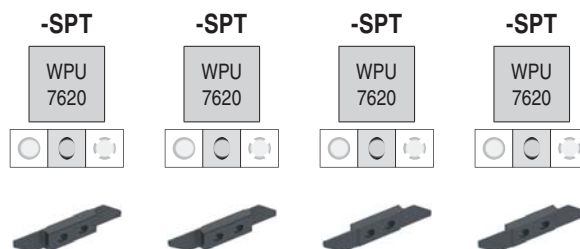
Designation	a CW mm	c PDPT mm	r CRE mm	β°	s mm
3002-0,8-10	0.8	10	-	20	2
3002-1,0-13	1.0	13	-	20	2
3002-1,5-8-06	1.5	8	0.05	6	2
3002-1,5-8-12	1.5	8	0.05	12	2
3002-1,5-8	1.5	8	-	20	2
3002-1,5-16	1.5	16	-	20	2
3002-2,0-10-06	2.0	10	0.05	6	2
3002-2,0-10-12	2.0	10	0.05	12	2
3002-2,0-10	2.0	10	-	20	2
3002-2,0-16-06	2.0	16	0.05	6	2
3002-2,0-16-12	2.0	16	0.05	12	2
3002-2,0-16	2.0	16	-	20	2
3002-2,5-13-06	2.5	13	0.05	6	2
3002-2,5-13-12	2.5	13	0.05	12	2
3002-2,5-13	2.5	13	-	20	2
3002-2,5-16-06	2.5	16	0.05	6	2
3002-2,5-16-12	2.5	16	0.05	12	2
3002-2,5-16	2.5	16	-	20	2
3002-3,0-16-06	3.0	16	0.05	6	2
3002-3,0-16-12	3.0	16	0.05	12	2
3002-3,0-16	3.0	16	-	20	2



3002 L / 3002 LV / 3002 R / 3002 RV

■ for parting off

F	M	R



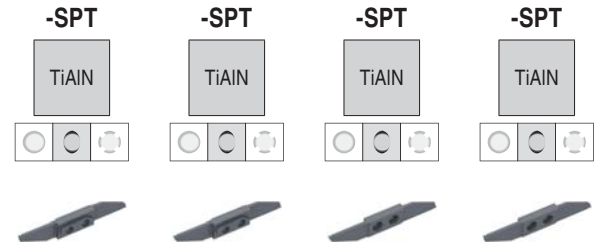
ISO

	3002 L NEW Article no. 72 440 ...	3002 LV NEW Article no. 72 442 ...	3002 R NEW Article no. 72 436 ...	3002 RV NEW Article no. 72 438 ...
3002-1,5-8-06	540	540	540	540
3002-1,5-8-12	570	570	570	570
3002-2,0-10-06	572	572	572	572
3002-2,0-10-12	582	582	582	582
3002-2,0-16-06	552	552	552	552
3002-2,0-16-12	592	592	592	592
3002-2,5-13-06	554	554	554	554
3002-2,5-13-12	584	584	584	584
3002-2,5-16-06	574	574	574	574
3002-2,5-16-12	594	594	594	594
3002-3,0-16-06	556	556	556	556
3002-3,0-16-12	586	586	586	586
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

3002 L / 3002 LV / 3002 R / 3002 RV

■ for parting off

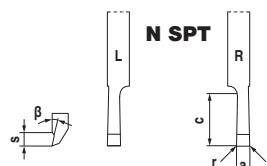
F	M	R
		



ISO	3002 L	3002 LV	3002 R	3002 RV
	Article no. 72 440 ...	Article no. 72 442 ...	Article no. 72 436 ...	Article no. 72 438 ...
3002-0,8-10	106	106	106	106
3002-1,0-13	128	128	128	128
3002-1,5-8	110	110	110	110
3002-1,5-16	130	130	130	130
3002-2,0-10	112	112	112	112
3002-2,0-16	132	132	132	132
3002-2,5-13	114	114	114	114
3002-2,5-16	134	134	134	134
3002-3,0-16	136	136	136	136
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron				
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

3002 LN / 3002 RN

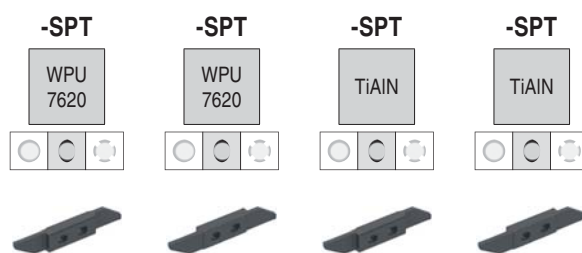
Designation	a CW mm	c PDPT mm	r CRE mm	β°	s mm
3002-1,0-10	1.0	10	0.05	20	2
3002-1,5-10-06	1.5	10	0.05	6	2
3002-1,5-10-12	1.5	10	0.05	12	2
3002-1,5-10	1.5	10	0.05	20	2
3002-1,5-16	1.5	16	0.05	20	2
3002-2,0-10-06	2.0	10	0.05	6	2
3002-2,0-10-12	2.0	10	0.05	12	2
3002-2,0-10	2.0	10	0.05	20	2
3002-2,0-16-06	2.0	16	0.05	6	2
3002-2,0-16-12	2.0	16	0.05	12	2
3002-2,0-16	2.0	16	0.05	20	2
3002-2,5-13-06	2.5	13	0.05	6	2
3002-2,5-13-12	2.5	13	0.05	12	2
3002-2,5-13	2.5	13	0.05	20	2
3002-2,5-16-06	2.5	16	0.05	6	2
3002-2,5-16-12	2.5	16	0.05	12	2
3002-2,5-16	2.5	16	0.05	20	2
3002-3,0-16-06	3.0	16	0.05	6	2
3002-3,0-16-12	3.0	16	0.05	12	2
3002-3,0-16	3.0	16	0.05	20	2



3002 LN / 3002 RN

▪ for parting off

F	M	R

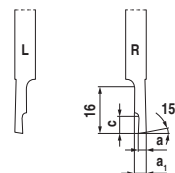
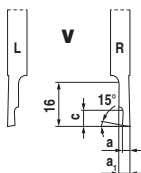


ISO

	3002 LN NEW Article no. 72 515 ...	3002 RN NEW Article no. 72 514 ...	3002 LN NEW Article no. 72 515 ...	3002 RN NEW Article no. 72 514 ...
3002-1,0-10			108	108
3002-1,5-10			120	120
3002-1,5-10-06	550	550		
3002-1,5-10-12	580	580		
3002-1,5-16			130	130
3002-2,0-10			112	112
3002-2,0-10-06	572	572		
3002-2,0-10-12	582	582		
3002-2,0-16			132	132
3002-2,0-16-06	552	552		
3002-2,0-16-12	592	592		
3002-2,5-13			114	114
3002-2,5-13-06	554	554		
3002-2,5-13-12	584	584		
3002-2,5-16			134	134
3002-2,5-16-06	574	574		
3002-2,5-16-12	594	594		
3002-3,0-16			136	136
3002-3,0-16-06	556	556		
3002-3,0-16-12	586	586		
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron	●	●	●	●
Non ferrous metals	●	●	○	○
Heat resistant alloys	●	●	○	○

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

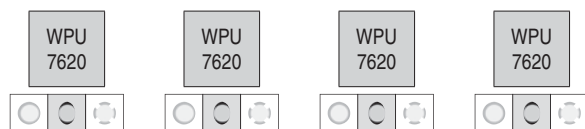
Designation	a CW mm	c PDPT mm
3002-0,8-...	0.8	6
3002-1,0-...	1.0	6
3002-1,2-...	1.2	6



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

■ For parting off with pick-up spindle

F	M	R



ISO

	3002 L-16 NEW Article no. 72 497 ...	3002 LV-16 NEW Article no. 72 499 ...	3002 R-16 NEW Article no. 72 496 ...	3002 RV-16 NEW Article no. 72 498 ...
3002-0,8-6-16	510	510	510	510
3002-1,2-6-16	514	514	514	514

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

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

■ For parting off with pick-up spindle

F	M	R



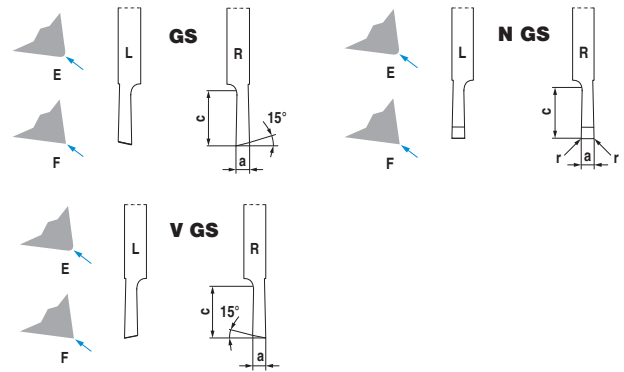
ISO

	3002 L-16 NEW Article no. 72 497 ...	3002 LV-16 NEW Article no. 72 499 ...	3002 R-16 NEW Article no. 72 496 ...	3002 RV-16 NEW Article no. 72 498 ...
3002-0,8-6-16	110	110	110	110
3002-1,0-6-16	112	112	112	112
3002-1,2-6-16	114	114	114	114

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

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

Designation	a CW mm	c PDPT mm	r CRE mm
3002-2,0-10..	2	10	0.2



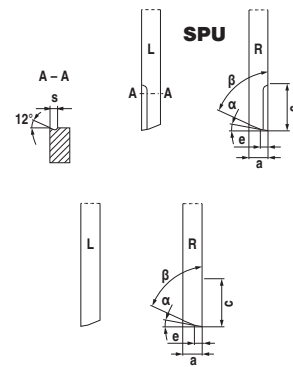
3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

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

	F	M	R								
				-GS	-GS	-GS	-GS	-GS	-GS	-GS	-GS
				WPU 7620	WPU 7620	WPU 7620	WPU 7620	WPU 7620	WPU 7620	WPU 7620	WPU 7620
				3002 L	3002 LN	3002 LV	3002 R	3002 RN	3002 RV		
				NEW	NEW	NEW	NEW	NEW	NEW		
				Article no.	Article no.	Article no.	Article no.	Article no.	Article no.		
				72 501 ...	72 505 ...	72 507 ...	72 500 ...	72 504 ...	72 506 ...		
ISO											
3002-2,0-10 E				512	512	512	512	512	512		
3002-2,0-10 F				552	552	552	552	552	552		
Steel				•	•	•	•	•	•		
Stainless steel				•	•	•	•	•	•		
Cast iron				•	•	•	•	•	•		
Non ferrous metals				•	•	•	•	•	•		
Heat resistant alloys				•	•	•	•	•	•		

3003 L / 3003 R

Designation	a CW mm	e CF mm	c PDPT mm	s mm	α°	β°
3003-3,4-...	3.4	0.2	8	1.2	1	82
3003-3,4-...	3.4	1.0	8	-	3	82



3003 L / 3003 R

for front turning

F	M	R

	WPU 7620	WPU 7620	-SPU WPU 7620	-SPU WPU 7620
	3003 L	3003 R	3003 L	3003 R
	NEW	NEW	NEW	NEW
	Article no. 72 446 ...	Article no. 72 444 ...	Article no. 72 521 ...	Article no. 72 520 ...
	510	510	510	510

ISO

3003-3,4-8

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

3003 L / 3003 R

for front turning

F	M	R

	TiAlN	TiAlN	-SPU TiAlN	-SPU TiAlN
	3003 L	3003 R	3003 L	3003 R
	Article no. 72 446 ...	Article no. 72 444 ...	Article no. 72 450 ...	Article no. 72 448 ...
	110	110	110	110

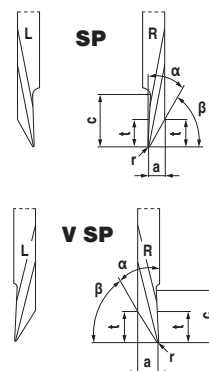
ISO

3003-3,4-8

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

3004 L / 3004 LV / 3004 R / 3004 RV

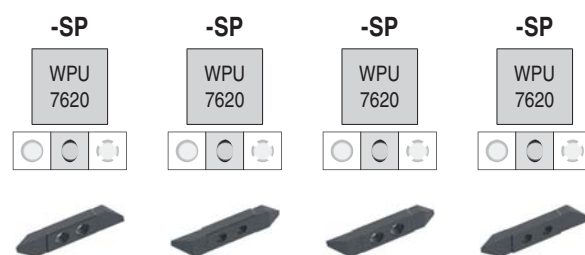
Designation	r CRE mm	a CW mm	c PDPT mm	t mm	α° PNA	β°
3004-3,2-6 29075	0.75	3.2	11	5	29	61
3004-3,2-6 29035	0.35	3.2	11	5	29	61
3004-3,2-6 29015	0.15	3.2	11	5	29	61
3004-3,2-6 29008	0.08	3.2	11	5	29	61
3004-3,2-5 35035	0.35	3.2	11	4	35	55
3004-3,2-5 35015	0.15	3.2	11	4	35	55



3004 L / 3004 LV / 3004 R / 3004 RV

■ for back turning

F	M	R



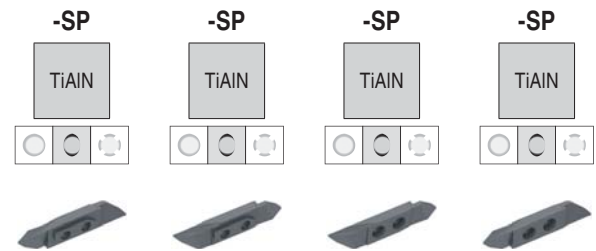
ISO

	3004 L NEW Article no. 72 562 ...	3004 LV NEW Article no. 72 563 ...	3004 R NEW Article no. 72 560 ...	3004 RV NEW Article no. 72 561 ...
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
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

3004 L / 3004 LV / 3004 R / 3004 RV

■ for back turning

F	M	R
		

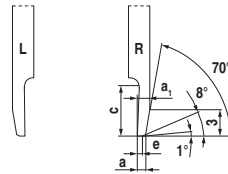


ISO

	3004 L	3004 LV	3004 R	3004 RV
	Article no. 72 562 ...	Article no. 72 563 ...	Article no. 72 560 ...	Article no. 72 561 ...
3004-3,2-5 35015	114		114	
3004-3,2-5 35035	116		116	
3004-3,2-6 29008	108	108	108	108
3004-3,2-6 29015	110	110	110	110
3004-3,2-6 29035	112	112	112	112
3004-3,2-6 29075	115	115	115	115
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron				
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

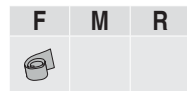
3004 L / 3004 R

Designation	a CW mm	e CF mm	a ₁ mm	c PDPT mm
3004-0,8-...	0.8	0.5	2.0	6
3004-1,0-...	1.0	0.5	2.2	6
3004-1,2-...	1.2	0.5	2.4	8
3004-1,5-...	1.5	0.5	2.7	8
3004-1,8-...	1.8	0.5	3.0	8



3004 L / 3004 R

▪ for back turning

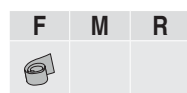


ISO

	3004 L NEW Article no. 72 457 ...	3004 R NEW Article no. 72 456 ...
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
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

3004 L / 3004 R

▪ for back turning

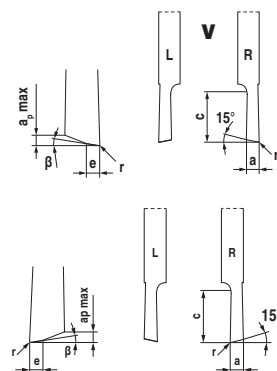


ISO

	3004 L Article no. 72 454 ...	3004 R Article no. 72 452 ...
3004-0,8-6	110	110
3004-1,0-6	112	112
3004-1,2-8	114	114
3004-1,5-8	116	116
3004-1,8-8	118	118
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	○	○
Heat resistant alloys	○	○

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

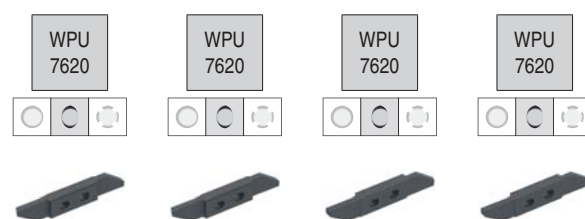
Designation	a CW mm	e CF mm	c PDPT mm	r CRE mm	β°	$a_{p\max}$ mm
3002-015-..	2	0.3	10	0.15	1.5	0.45



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

■ For turning and parting off

F	M	R



ISO

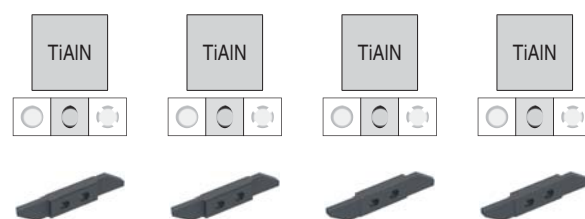
3002-015-2,0-10

	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

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

■ For turning and parting off

F	M	R



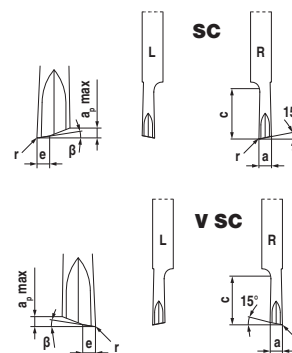
ISO

3002-015-2,0-10

	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

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

Designation	a CW mm	e CF mm	c PDPT mm	r CRE mm	β°	$a_{p\max}$ mm
3002-015-..	2	0.3	10	0.15	1.5	0.45



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

■ For turning and parting off

F	M	R

ISO

3002-015-2,0-10

	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

-SC	-SC	-SC	-SC
WPU 7620	WPU 7620	WPU 7620	WPU 7620
3002-015 L NEW Article no. 72 511 ...	3002-015 LV NEW Article no. 72 513 ...	3002-015 R NEW Article no. 72 510 ...	3002-015 RV NEW Article no. 72 512 ...
510	510	510	510

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

■ For turning and parting off

F	M	R

ISO

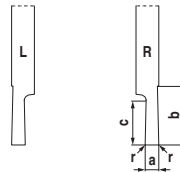
3002-015-2,0-10

	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○

-SC	-SC	-SC	-SC
TiAlN	TiAlN	TiAlN	TiAlN
3002-015 L NEW Article no. 72 511 ...	3002-015 LV NEW Article no. 72 513 ...	3002-015 R NEW Article no. 72 510 ...	3002-015 RV NEW Article no. 72 512 ...
110	110	110	110

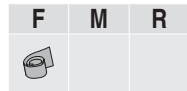
3005 L / 3005 R

Designation	a CW mm	c PDPT mm	r CRE mm	b mm
3005-1,0-...	1.0	2.5	0.05	8
3005-1,5-...	1.5	3.0	0.05	8
3005-2,0-...	2.0	4.0	0.05	8
3005-2,5-...	2.5	5.0	0.05	8
3005-3,0-...	3.0	6.0	0.05	8



3005 L / 3005 R

▪ for grooving and turning

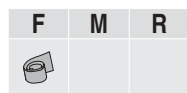


ISO

	3005 L NEW Article no. 72 466 ...	3005 R NEW Article no. 72 464 ...
3005-1,0-2,5	518	518
3005-1,5-3	510	510
3005-2,0-4	512	512
3005-2,5-5	514	514
3005-3,0-6	516	516
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

3005 L / 3005 R

▪ for grooving and turning

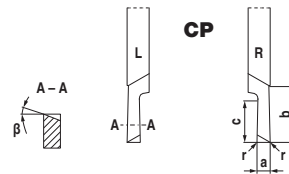


ISO

	3005 L Article no. 72 466 ...	3005 R Article no. 72 464 ...
3005-1,0-2,5	108	108
3005-1,5-3	110	110
3005-2,0-4	112	112
3005-2,5-5	114	114
3005-3,0-6	116	116
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	○	○
Heat resistant alloys	○	○

3005 L / 3005 R

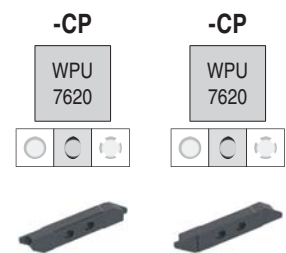
Designation	a CW mm	c PDPT mm	r CRE mm	b mm	β°
3005-0,8-2,5	0.8	2.5	-	8	10
3005-1,0-3,5	1.0	3.5	-	8	10
3005-1,5-4	1.5	4.0	-	8	10
3005-1,5-4 R08	1.5	4.0	0.08	8	10
3005-2,0-5	2.0	5.0	-	8	10
3005-2,0-5 R08	2.0	5.0	0.08	8	10
3005-2,0-5 R15	2.0	5.0	0.15	8	10
3005-2,5-6	2.5	6.0	-	8	10
3005-2,5-6 R08	2.5	6.0	0.08	8	10
3005-2,5-6 R15	2.5	6.0	0.15	8	10
3005-3,0-6	3.0	6.0	-	8	10
3005-3,0-6 R08	3.0	6.0	0.08	8	10
3005-3,0-6 R15	3.0	6.0	0.15	8	10



3005 L / 3005 R

■ for grooving and turning

F	M	R



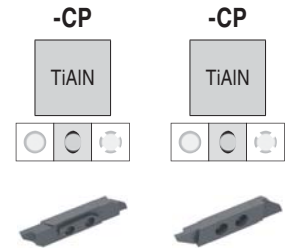
ISO

	3005 L NEW Article no. 72 470 ...	3005 R NEW Article no. 72 468 ...
3005-0,8-2,5	508	508
3005-1,0-3,5	518	518
3005-1,5-4	510	528
3005-1,5-4 R08	519	519
3005-2,0-5	512	512
3005-2,0-5 R08	522	522
3005-2,0-5 R15	532	532
3005-2,5-6	514	514
3005-2,5-6 R08	524	524
3005-2,5-6 R15	534	534
3005-3,0-6	516	516
3005-3,0-6 R08	526	526
3005-3,0-6 R15	536	536
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

3005 L / 3005 R

■ for grooving and turning

F	M	R
		

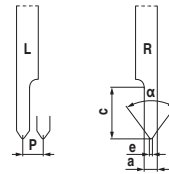


ISO

	Article no. 72 470 ...	Article no. 72 468 ...
3005-0,8-2,5	106	106
3005-1,0-3,5	108	108
3005-1,5-4	110	110
3005-1,5-4 R08	119	119
3005-2,0-5	112	112
3005-2,0-5 R08	122	122
3005-2,0-5 R15	132	132
3005-2,5-6	114	114
3005-2,5-6 R08	124	124
3005-2,5-6 R15	134	134
3005-3,0-6	116	116
3005-3,0-6 R08	126	126
3005-3,0-6 R15	136	136
Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○

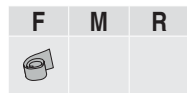
3006 L / 3006 R

Designation	Pitch TP mm	a CW mm	c PDPT mm	α° PNA	e 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

- For thread turning (partial profile)

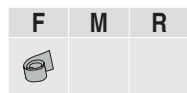


ISO

3006-2-6-60	510	510
3006-3-10-60	512	512
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

3006 L / 3006 R

- For thread turning (partial profile)

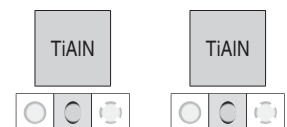


ISO

3006-2-6-60	110	110
3006-3-10-60	112	112
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	○	○
Heat resistant alloys	○	○



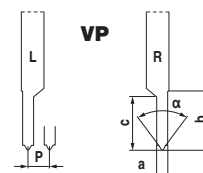
3006 L	3006 R
NEW	NEW
Article no. 72 478 ...	Article no. 72 476 ...
510	510
512	512



3006 L	3006 R
Article no. 72 478 ...	Article no. 72 476 ...
110	110
112	112

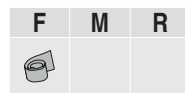
3006 VP L / 3006 VP R

Designation	Pitch TP mm	Thread	a CW mm	c PDPT mm	b mm	α° PNA
3006-0,15..	0.15	M0,6	0.16	-	8	60
3006-0,25..	0.25	M1 - M1,2	0.28	-	8	60
3006-0,35..	0.35	M1,6 - M1,8	0.38	-	8	60
3006-0,4..	0.40	M2	0.44	-	8	60
3006-0,45..	0.45	M2,2 - M2,5	0.50	-	8	60
3006-0,5..	0.50	M3	0.70	1.4	8	60
3006-0,6..	0.60	M3,5	0.80	1.4	8	60
3006-0,7..	0.70	M4	0.90	1.8	8	60
3006-0,75..	0.75	M4,5	0.90	1.9	8	60
3006-0,8..	0.80	M5	1.00	2	8	60
3006-1,0..	1.00	M6 - M7	1.10	2.4	8	60
3006-1,25..	1.25	M8 - M9	1.46	2.9	8	60
3006-1,5..	1.50	M10 - M11	1.74	3.4	8	60
3006-1,75..	1.75	M12	1.96	3.9	8	60
3006-2,0..	2.00	M14 - M16	2.20	4	8	60



3006 VP L / 3006 VP R

■ For thread turning (full profile)

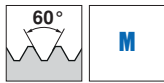
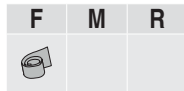


ISO

	3006 VP L NEW Article no. 72 474 ...	3006 VP R NEW Article no. 72 472 ...
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
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

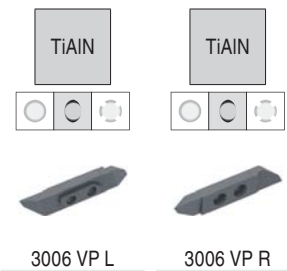
3006 VP L / 3006 VP R

- For thread turning (full profile)



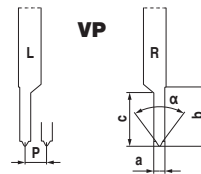
ISO

	3006 VP L Article no. 72 474 ...	3006 VP R Article no. 72 472 ...
3006-0,15-10-60 VP	108	108
3006-0,25-10-60 VP	110	110
3006-0,35-10-60 VP	112	112
3006-0,4-10-60 VP	114	114
3006-0,45-10-60 VP	116	116
3006-0,5-10-60 VP	118	118
3006-0,6-10-60 VP	120	120
3006-0,7-10-60 VP	122	122
3006-0,75-10-60 VP	124	124
3006-0,8-10-60 VP	126	126
3006-1,0-10-60 VP	128	128
3006-1,25-10-60 VP	130	130
3006-1,5-10-60 VP	132	132
3006-1,75-10-60 VP	134	134
3006-2,0-10-60 VP		136
Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○



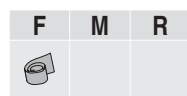
3006 VP L / 3006 VP R

Designation	Thread TDIN	Pitch TP mm	a CW mm	c PDPT mm	α° PNA	b mm
3006-03-4..	Nr. 3-48	0.529	0.70	1.4	60	8
3006-04-4..	Nr. 4-40	0.635	0.80	1.8	60	8
3006-05-4..	Nr. 5-40	0.635	0.80	1.8	60	8
3006-06-3..	Nr. 6-32	0.794	1.00	2.0	60	8
3006-08-3..	Nr. 8-32	0.794	1.00	2.0	60	8
3006-1/2-..	1/2-13	1.954	2.40	4.2	60	8
3006-1/4-..	1/4-20	1.270	1.46	2.9	60	8
3006-10-2..	Nr. 10-24	1.058	1.20	2.4	60	8
3006-12-2..	Nr. 12-24	1.058	1.20	2.4	60	8
3006-3/8-..	3/8-16	1.588	1.80	3.6	60	8
3006-5/16-..	5/16-18	1.411	1.60	3.4	60	8
3006-7/16-..	7/16-14	1.814	2.20	3.9	60	8



3006 VP L / 3006 VP R

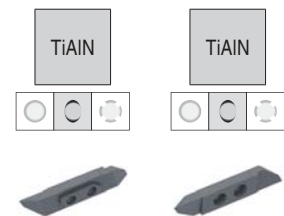
- For thread turning (full profile)



ISO

3006-03-48 UNC 10-60 VP
3006-04-40 UNC 10-60 VP
3006-05-40 UNC 10-60 VP
3006-06-32 UNC 10-60 VP
3006-08-32 UNC 10-60 VP
3006-1/2-13 UNC 10-60 VP
3006-1/4-20 UNC 10-60 VP
3006-10-24 UNC 10-60 VP
3006-12-24 UNC 10-60 VP
3006-3/8-16 UNC 10-60 VP
3006-5/16-18 UNC 10-60 VP
3006-7/16-14 UNC 10-60 VP

Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○



3006 VP L

3006 VP R

NEW

Article no.
72 523 ...

NEW

Article no.
72 522 ...

110

110

112

112

114

114

116

116

118

118

132

132

124

124

120

120

122

122

128

128

126

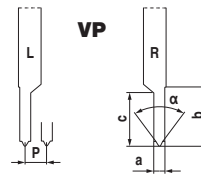
126

130

130

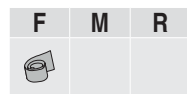
3006 VP L / 3006 VP R

Designation	Thread TDIN	Pitch TP mm	a CW mm	c PDPT mm	α° PNA	b mm
3006-04-4..	Nr. 4-48	0.529	0.70	1.4	60	8
3006-05-4..	Nr. 5-44	0.577	0.80	1.4	60	8
3006-06-4..	Nr. 6-40	0.635	0.80	1.8	60	8
3006-08-3..	Nr. 8-36	0.705	0.90	1.8	60	8
3006-1/2-..	1/2-20	1.270	1.44	2.9	60	8
3006-1/4-..	1/4-28	0.907	1.20	2.2	60	8
3006-10-3..	Nr. 10-32	0.794	1.00	2.0	60	8
3006-12-2..	Nr. 12-28	0.907	1.20	2.2	60	8
3006-3/8-..	3/8-24	1.058	1.20	2.4	60	8
3006-5/16-..	5/16-24	1.058	1.20	2.4	60	8
3006-7/16-..	7/16-20	1.270	1.44	2.4	60	8



3006 VP L / 3006 VP R

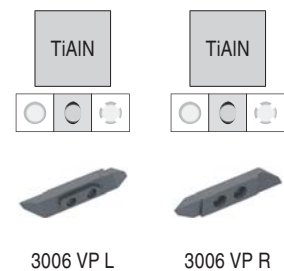
■ For thread turning (full profile)



ISO

3006-04-48 UNF 10-60 VP
3006-05-44 UNF 10-60 VP
3006-06-40 UNF 10-60 VP
3006-08-36 UNF 10-60 VP
3006-1/2-20 UNF 10-60 VP
3006-1/4-28 UNF 10-60 VP
3006-10-32 UNF 10-60 VP
3006-12-28 UNF 10-60 VP
3006-3/8-24 UNF 10-60 VP
3006-5/16-24 UNF 10-60 VP
3006-7/16-20 UNF 10-60 VP

Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○



NEW

Article no.
72 525 ...

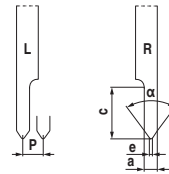
NEW

Article no.
72 524 ...

150	150
152	152
154	154
156	156
170	170
162	162
158	158
160	160
166	166
164	164
168	168

3006 L / 3006 R

Designation	Pitch TP mm	a CW mm	c PDPT mm	α° PNA	e 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

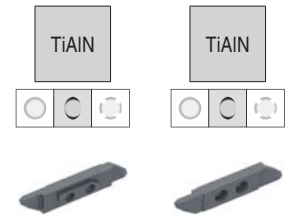
- For thread turning (partial profile)

F	M	R



ISO

	3006 L	3006 R
	NEW	NEW
Article no.	72 527 ...	72 526 ...
3006-2-6-55	100	100
3006-3-10-55	102	102
Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○



3006 L

3006 R

NEW

Article no.

72 527 ...

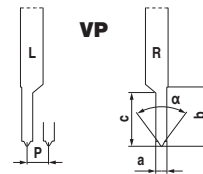
NEW

Article no.

72 526 ...

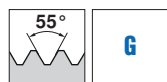
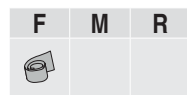
3006 VP L / 3006 VP R

Designation	Pitch TP mm	Thread	a CW mm	c PDPT mm	α° PNA	b mm
3006-G11-..	2.309	1-11 - 6-11	2.54	5.0	55	8
3006-G14-..	1.814	1/2-14 - 7/8-14	2.00	4.5	55	8
3006-G19-..	1.337	1/4-19 - 3/8-19	1.48	3.3	55	8
3006-G28-..	0.907	1/8-28 - 1/16-28	1.00	2.3	55	8



3006 VP L / 3006 VP R

- For thread turning (full profile)

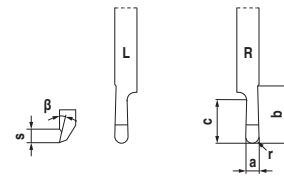


ISO

	3006 VP L NEW Article no. 72 529 ...	3006 VP R NEW Article no. 72 528 ...
3006-G11-10-55 VP	111	111
3006-G14-10-55 VP	114	114
3006-G19-10-55 VP	119	119
3006-G28-10-55 VP	128	128
Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○

3007 L / 3007 R

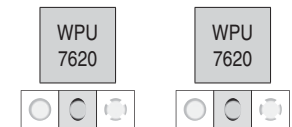
Designation	a CW mm	b mm	c PDPT mm	β°	r CRE mm	s mm
3007-R0,25-2-..	0.5	12	2.0	6	0.25	2
3007-R0,5-2,5-..	1.0	12	2.5	6	0.50	2
3007-R0,6-2,5-..	1.2	12	2.5	6	0.60	2
3007-R0,75-3-..	1.5	12	3.0	6	0.75	2
3007-R0,8-3-1-..	1.6	12	3.0	6	0.80	2
3007-R1,0-10	2.0	12	10.0	6	1.00	2
3007-R1,5-10	3.0	12	10.0	6	1.50	2
3007-R1,5-16	3.0	17	16.0	6	1.50	2



3007 L / 3007 R

■ for radius turning

F	M	R



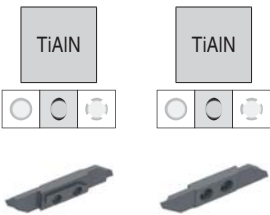
ISO

	3007 L NEW Article no. 72 482 ...	3007 R NEW Article no. 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
Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	○	○
Heat resistant alloys	○	○

3007 L / 3007 R

▪ for radius turning

F	M	R
		

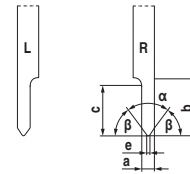


ISO

	3007 L Article no. 72 482 ...	3007 R Article no. 72 480 ...
3007-R0,25-2-10	110	110
3007-R0,5-2,5-10	112	112
3007-R0,6-2,5-10	114	114
3007-R0,75-3-10	116	116
3007-R0,8-3-10	118	118
3007-R1,0-10	120	120
3007-R1,5-10	122	122
3007-R1,5-16	124	124
Steel	○	○
Stainless steel	○	○
Cast iron		
Non ferrous metals	●	●
Heat resistant alloys	○	○

3012 L / 3012 R

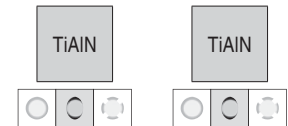
Designation	a CW mm	c PDPT mm	b mm	β°	α° PNA	e CF mm
3012-2-6-...	2	2	10	60	60	0.035
3012-2-10-...	2	10	12	45	90	-



3012 L / 3012 R

■ for chamfering

F	M	R



3012 L

3012 R

Article no.
72 486 ...

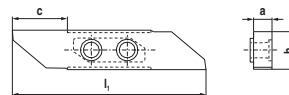
Article no.
72 484 ...

ISO

3012-2-6-60	110	110
3012-2-10-45	112	112
Steel	○	○
Stainless steel	○	○
Cast iron	○	○
Non ferrous metals	●	●
Heat resistant alloys	○	○

3001 L / 3001 R

Designation	a CW mm	c PDPT mm	h S1 mm	l_1 INSL mm
3001-3,5-...	3.5	11	8	40.5
3001-3,6-...	3.6	17	8	51.5



3001 L / 3001 R

■ Blank

WUU
7630

WUU
7630



3001 L

3001 R

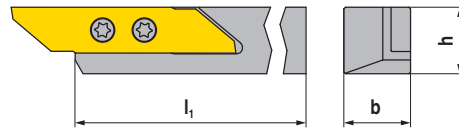
Article no.
72 414 ...

Article no.
72 412 ...

ISO

3001-3,5-10	010	010
3001-3,6-17	030	030

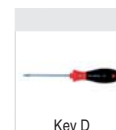
VertiClamp – Standard tool holder



Illustrations show right-hand versions



ISO designation	h	b	l ₁	Insert	Left-hand	Right-hand
	H mm	B mm	OAL mm		Article no. 72 302 ...	Article no. 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	



Key D

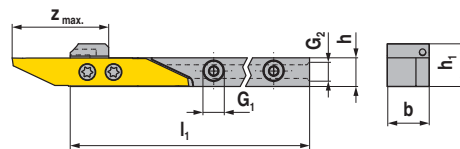


Clamping screw

Spare parts
for Article no.

Article no.	Article no.	Article no.	Article no.
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
72 300 016 / 72 302 016	T08	110	005
72 300 020 / 72 302 020	T08	110	005

VertiClamp – Standard holder with thro' coolant



Illustrations show right-hand versions



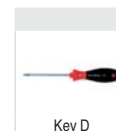
ISO designation	h	b	l ₁	h ₁	z _{max}	G ₁	G ₂	Insert	Left-hand	Right-hand
	H mm	B mm	OAL mm	OA mm	mm				NEW Article no. 72 311 ...	NEW Article no. 72 310 ...
3000-08x100 .IC	8	12	100	12.2	26	M5	M5	30..	008	008
3000-10x100 .IC	10	12	100	14.0	26	M5	M5	30..	010	010
3000-12x100 .IC	12	12	100	16.0	26	M5	M5	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



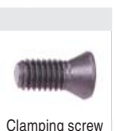
Cylindrical screw



Cylindrical screw



Key D

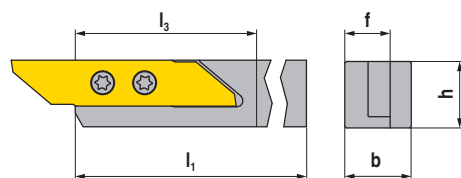


Clamping screw

Spare parts
for Article no.

Article no.	Article no.	Article no.	Article no.
72 310 008 / 72 311 008	M5x4	011	T08
72 310 010 / 72 311 010	M5x4	011	T08
72 310 012 / 72 311 012	M5x4	011	T08
72 310 016 / 72 311 016	G1/8"	010	M5x4
72 310 020 / 72 311 020	G1/8"	010	M5x4
72 310 025 / 72 311 025	G1/8"	010	M5x4

VertiClamp - Offset tool holder



Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	Insert	Left-hand	Right-hand
	H mm	B mm	OAL mm	LH mm	WF mm		Article no. 72 309 ...	Article no. 72 308 ...
3000-10x100 .A	10	10	100	37	8	30..	006	006
3000-12x100 .A	12	12	100	37	8	30..	008	008
3000-16x125 .A	16	16	125	37	8	30..	010	010

Spare parts
for Article no.

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



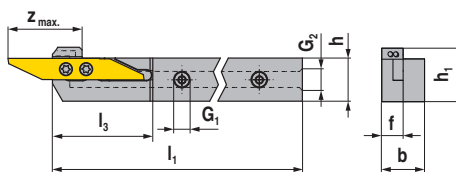
Key D



Clamping screw

Article no.
80 950 ...Article no.
72 950 ...

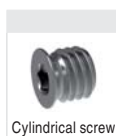
VertiClamp - Offset holder with thro' coolant



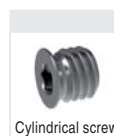
Illustrations show right-hand versions



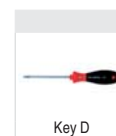
ISO designation	h	b	l ₁	f	l ₃	h ₁	z _{max.}	G ₁	G ₂	Insert	Left-hand	Right-hand
	H mm	B mm	OAL mm	WF mm	LH mm	OAH mm	mm				Article no. 72 315 ...	Article no. 72 314 ...
3000-16x125 .A IC	16	16	125	8	37	20	27	M5	G1/8"	30..	016	016



Cylindrical screw



Cylindrical screw



Key D

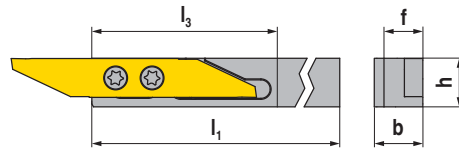


Clamping screw

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 H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 317 ...		NEW Article no. 72 316 ...	
3000-10x100 .AV	10	10	100	28	8	30..		010		010
3000-12x100 .AV	12	12	100	28	8	30..		012		012
3000-16x125 .AV	16	16	125	28	8	30..		016		016



Key D

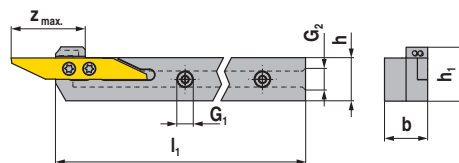


Clamping screw

Spare parts
for Article no.

Spare parts for Article no.		Left-hand		Right-hand	
		Article no. 80 950 ...		Article no. 72 950 ...	
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 H mm	b B mm	l ₁ OAL mm	h ₁ OAH mm	z _{max.} mm	G ₁	G ₂	Insert	Left-hand		Right-hand	
									NEW Article no. 72 313 ...		NEW Article no. 72 312 ...	
3000-16x125 .AV IC	16	16	125	20	27	M5	G1/8"	30..		016		016



Cylindrical screw



Cylindrical screw



Key D

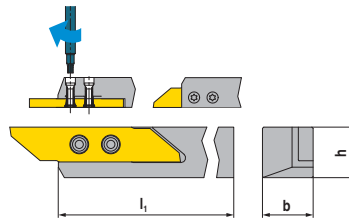


Clamping screw

Spare parts
for Article no.

Spare parts for Article no.		Left-hand		Right-hand	
		Article no. 72 950 ...		Article no. 72 950 ...	
72 312 016 / 72 313 016	G1/8"	010	M5x4	011	T08
				110	
					004

VertiClamp – Combi tool holder



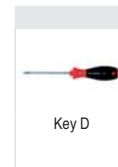
Illustrations show right-hand versions



ISO designation	h	b	l ₁	Insert	Left-hand	Right-hand
	H mm	B mm	OAL mm		Article no. 72 306 ...	Article no. 72 304 ...
3000-08x100 .C	8	8	100	30..	008	008
3000-10x100 .C	10	10	100	30..	010	010
3000-12x100 .C	12	12	100	30..	012	012
3000-16x125 .C	16	16	125	30..	016	016
3000-20x125 .C	20	20	125	30..	020	020

Spare parts
for Article no.

		Article no. 80 950 ...	Article no. 72 950 ...	Article no. 72 950 ...
72 304 008 / 72 306 008	T08	110	003	008
72 304 010 / 72 306 010	T08	110	003	008
72 304 012 / 72 306 012	T08	110	003	008
72 304 016 / 72 306 016	T08	110	003	008
72 304 020 / 72 306 020	T08	110	003	008



Key D



Clamping screw



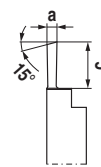
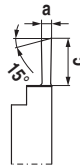
Threaded sleeve

25L COIL / 25R COIL

Designation	a CW mm	c PDPT mm
25. COI. 0,8	0.8	3.0
25. COI. 1,0	1.0	4.5
25. COI. 1,5	1.5	6.2
25. COI. 2,0	2.0	6.2



L COIL



R COIL

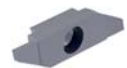


25L COIL / 25R COIL

- for parting off

ISO

25. COI. 0,8		
25. COI. 1,0		
25. COI. 1,5		
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

WPX
7615WPX
7615

25L COIL

25R COIL

NEW

Article no.
72 607 ...

NEW

Article no.
72 600 ...

210

215

208

210

215

25L COIL / 25R COIL

- for parting off

ISO

25. COI. 0,8		
25. COI. 1,0		
25. COI. 2,0		
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

WUX
7620WUX
7620

25L COIL

25R COIL

NEW

Article no.
72 607 ...

NEW

Article no.
72 600 ...

120

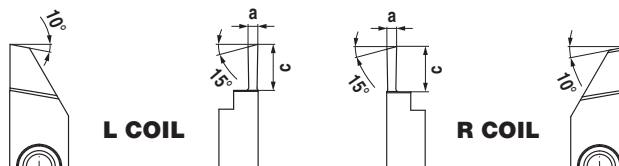
108

110

120

25CL COIL / 25CR COIL

Designation	a CW mm	c PDPT mm
25C. COI. 0,8	0.8	3.0
25C. COI. 1,0	1.0	4.5
25C. COI. 1,5	1.5	6.2
25C. COI. 2,0	2.0	6.2



25CL COIL / 25CR COIL

- For parting off
- Contra version

ISO

	25CL COIL NEW Article no. 72 637 ...	25CR COIL NEW Article no. 72 628 ...
25C. COI. 0,8		208
25C. COI. 1,0	210	210
25C. COI. 1,5	215	215
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

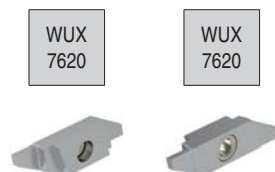


25CL COIL / 25CR COIL

- For parting off
- Contra version

ISO

	25CL COIL NEW Article no. 72 637 ...	25CR COIL NEW Article no. 72 628 ...
25C. COI. 0,8		108
25C. COI. 1,0		110
25C. COI. 2,0	120	120
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•



25L COIL / 25L COIN / 25L COIR / 25R COIL / 25R COIN

Designation	a CW mm	c PDPT mm					
25. COI. 0,8	0.8	3.0					
25. COI. 1,0	1.0	4.5					
25. COI. 1,5	1.5	6.2					
25. COI. 2,0	2.0	6.2					

25L COIL / 25L COIN / 25L COIR / 25R COIL / 25R COIN

▪ for parting off

	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615
	25L COIL	25L COIN	25L COIR	25R COIL	25R COIN
ISO	NEW Article no. 72 601 ...	NEW Article no. 72 605 ...	NEW Article no. 72 603 ...	NEW Article no. 72 602 ...	NEW Article no. 72 604 ...
25. COI. 0,8	208		208	208	
25. COI. 1,0	210	210			210
25. COI. 1,5	215	215		215	215
25. COI. 2,0	220			220	220
Steel	•	•	•	•	•
Stainless steel	•	•	•	•	•
Cast iron	•	•	•	•	•
Non ferrous metals	•	•	•	•	•
Heat resistant alloys	•	•	•	•	•

25L COIL / 25L COIR / 25R COIL / 25R COIN

▪ for parting off

	-SPT WUX 7620	-SPT WUX 7620	-SPT WUX 7620	-SPT WUX 7620
	25L COIL	25L COIR	25R COIL	25R COIN
ISO	NEW Article no. 72 601 ...	NEW Article no. 72 603 ...	NEW Article no. 72 602 ...	NEW Article no. 72 604 ...
25. COI. 0,8		108	108	
25. COI. 1,0				110
25. COI. 1,5	115		115	115
25. COI. 2,0				120
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

25CL COIL / 25CR COIN / 25CL COIR / 25CR COIL / 25CL COIN

Designation	a CW mm	c PDPT mm		L COIL SPT		L COIN SPT		L COIR SPT		R COIL SPT		R COIN SPT
25C. COIL 0,8	0.8	3.0										
25C. COIL 1,0	1.0	4.5										
25C. COIL 1,5	1.5	6.2										
25C. COIL 2,0	2.0	6.2										

25CL COIL / 25CL COIN / 25CL COIR / 25CR COIL / 25CR COIN

- For parting off
- Contra version

	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615
ISO	25CL COIL NEW Article no. 72 635 ...	25CL COIN NEW Article no. 72 633 ...	25CL COIR NEW Article no. 72 631 ...	25CR COIL NEW Article no. 72 630 ...	25CR COIN NEW Article no. 72 632 ...
25C. COIL 0,8	208		208	208	
25C. COIL 1,0	210	210			210
25C. COIL 1,5	215	215		215	215
25C. COIL 2,0	220			220	220
Steel	•	•	•	•	•
Stainless steel	•	•	•	•	•
Cast iron	•	•	•	•	•
Non ferrous metals	•	•	•	•	•
Heat resistant alloys	•	•	•	•	•

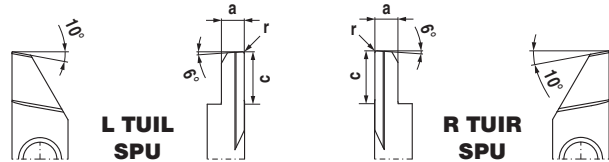
25CL COIL / 25CL COIR / 25CR COIL / 25CR COIN

- For parting off
- Contra version

	-SPT WUX 7620	-SPT WUX 7620	-SPT WUX 7620	-SPT WUX 7620
ISO	25CL COIL NEW Article no. 72 635 ...	25CL COIR NEW Article no. 72 631 ...	25CR COIL NEW Article no. 72 630 ...	25CR COIN NEW Article no. 72 632 ...
25C. COIL 0,8		108	108	
25C. COIL 1,0				110
25C. COIL 1,5	115		115	115
25C. COIL 2,0				120
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

25L TUIL / 25R TUIR / 25CL TUIL / 25CR TUIR

Designation	a CW mm	c PDPT mm	r mm
25. TUI. 2,5	2.5	5.2	0.0
25. TUI. 2,5-0,2	2.5	5.2	0.2



25L TUIL / 25R TUIR

- for front turning

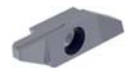
ISO

25. TUI. 2,5	200	200
25. TUI. 2,5-0,2	202	202
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

-SPU

WPX
7615

-SPU

WPX
7615

25L TUIL

25R TUIR

NEW

Article no.
72 627 ...

NEW

Article no.
72 626 ...

25CL TUIL / 25CR TUIR

- For front turning
- Contra version

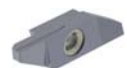
ISO

25C. TUI. 2,5	200	200
25C. TUI. 2,5-0,2	202	202
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

-SPU

WPX
7615

-SPU

WPX
7615

25CL TUIL

25CR TUIR

NEW

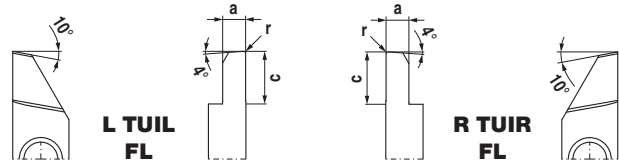
Article no.
72 659 ...

NEW

Article no.
72 658 ...

25L TUIL / 25R TUIR / 25CL TUIL / 25CR TUIR

Designation	a CW mm	c PDPT mm	r mm
25. TUI. 2,5	2.5	5.2	0.0
25. TUI. 2,5-0,2	2.5	5.2	0.2



25L TUIL / 25R TUIR

- for front turning

ISO

	25L TUIL NEW Article no. 72 625 ...	25R TUIR NEW Article no. 72 624 ...
25. TUI. 2,5	200	200
25. TUI. 2,5-0,2	202	202
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

25CL TUIL / 25CR TUIR

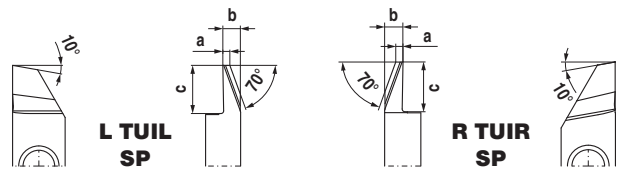
- For front turning
- Contra version

ISO

	25CL TUIL NEW Article no. 72 657 ...	25CR TUIR NEW Article no. 72 656 ...
25C. TUI. 2,5	200	200
25C. TUI. 2,5-0,2	202	202
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

25L TUIL / 25R TUIR

Designation	a CW mm	c PDPT mm	b mm
25. TUI. 2,0	0.8	5	2



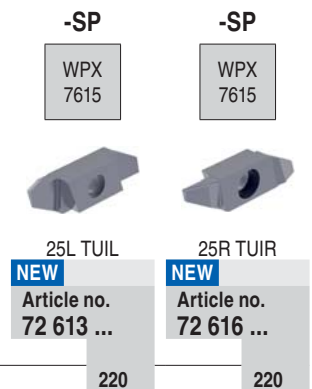
25L TUIL / 25R TUIR

- for back turning

ISO

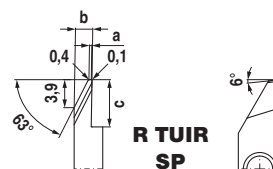
25. TUI. 2,0

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•



25R TUIR

Designation	a CW mm	c PDPT mm	b mm
25. TUI. 2,5	0.5	6.2	2.5



25R TUIR

- for grooving and turning

ISO

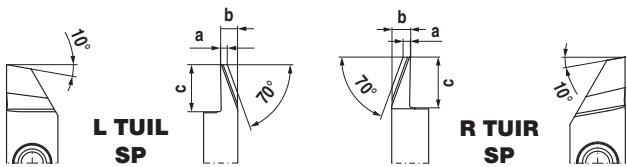
25. TUI. 2,5

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•



25CL TUIL / 25CR TUIR

Designation	a CW mm	c PDPT mm	b mm
25C. TUI. 2,0	0.8	5	2



25CL TUIL / 25CR TUIR

- For back turning
- Contra version

ISO

25C. TUI. 2,0

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

-SP

WPX 7615



25CL TUIL

NEW

Article no. 72 649 ...

220

-SP

WPX 7615



25CR TUIR

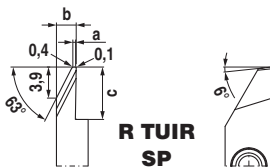
NEW

Article no. 72 648 ...

220

25CR TUIR

Designation	a CW mm	c PDPT mm	b mm
25C. TUI. 2,5	0.5	6.2	2.5



25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO

25C. TUI. 2,5

Steel	•
Stainless steel	•
Cast iron	
Non ferrous metals	
Heat resistant alloys	

-SP

WPX 7630



25CR TUIR

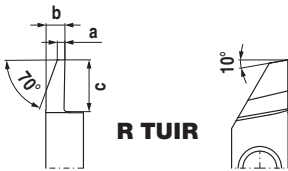
NEW

Article no. 72 644 ...

305

25R TUIR

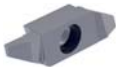
Designation	a CW mm	c PDPT mm	b mm
25. TUI. 2,0	0.8	5	2



25R TUIR

- for back turning

WPX
7615



25R TUIR

NEW

Article no.
72 614 ...

ISO

25. TUI. 2,0

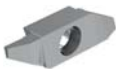
220

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•

25R TUIR

- for grooving and turning

WUX
7620



25R TUIR

NEW

Article no.
72 614 ...

ISO

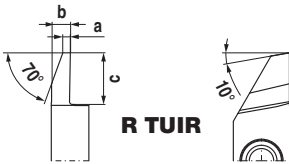
25. TUI. 2,0

120

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•

25CR TUIR

Designation	a CW mm	c PDPT mm	b mm
25C. TUI. 2,0	0.8	5	2



25CR TUIR

- For back turning
- Contra version

WPX
7615



25CR TUIR

NEW

Article no.
72 646 ...

ISO

25C. TUI. 2,0

220

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•

25CR TUIR

- For back turning
- Contra version

WUX
7620



25CR TUIR

NEW

Article no.
72 646 ...

ISO

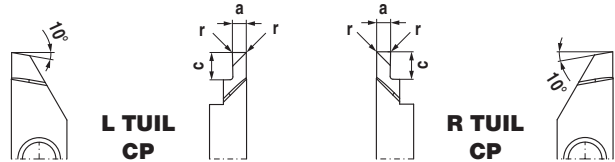
25C. TUI. 2,0

120

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•

25L TUIL / 25R TUIR

Designation	a CW mm	c PDPT mm	r mm
25. TUI. 1,0	1.0	2.5	0.00
25. TUI. 1,5	1.5	2.5	0.00
25. TUI. 1,5-0,08	1.5	2.5	0.08
25. TUI. 2,0	2.0	3.0	0.00
25. TUI. 2,0-0,08	2.0	3.0	0.08



25L TUIL / 25R TUIR

▪ for grooving and turning

ISO	-CP	
	WPX 7615	WPX 7615
		
	25L TUIL	25R TUIR
	NEW	NEW
	Article no. 72 609 ...	Article no. 72 608 ...
25. TUI. 1,0	210	210
25. TUI. 1,5	215	215
25. TUI. 1,5-0,08		217
25. TUI. 2,0	220	220
25. TUI. 2,0-0,08		222
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

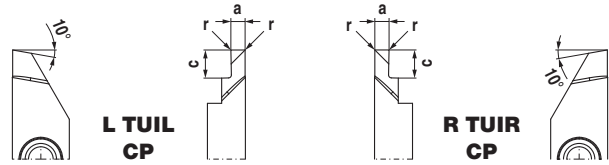
25L TUIL / 25R TUIR

▪ for grooving and turning

ISO	-CP	
	WUX 7620	WUX 7620
		
	25L TUIL	25R TUIR
	NEW	NEW
	Article no. 72 609 ...	Article no. 72 608 ...
25. TUI. 1,0	110	110
25. TUI. 1,5		115
25. TUI. 2,0	120	120
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

25CL TUIL / 25CR TUIR

Designation	a CW mm	c PDPT mm	r mm
25C. TUI. 1,0	1.0	2.5	0.00
25C. TUI. 1,5	1.5	2.5	0.00
25C. TUI. 1,5-0,08	1.5	2.5	0.08
25C. TUI. 2,0	2.0	3.0	0.00
25C. TUI. 2,0-0,08	2.0	3.0	0.08



25CL TUIL / 25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO

25C. TUI. 1,0	210	210
25C. TUI. 1,5	215	215
25C. TUI. 1,5-0,08		217
25C. TUI. 2,0	220	220
25C. TUI. 2,0-0,08		222
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

25CL TUIL / 25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO

25C. TUI. 1,0	110	110
25C. TUI. 1,5		115
25C. TUI. 2,0	120	120
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

-CP

WPX
7615



25CL TUIL

NEW

Article no.
72 639 ...

-CP

WPX
7615



25CR TUIR

NEW

Article no.
72 638 ...

-CP

WUX
7620



25CL TUIL

NEW

Article no.
72 639 ...

-CP

WUX
7620



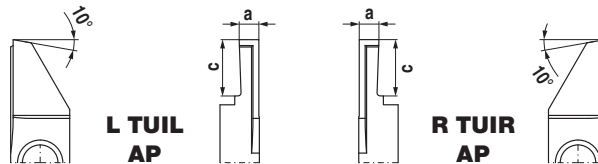
25CR TUIR

NEW

Article no.
72 638 ...

25L TUIL / 25R TUIR / 25CL TUIL / 25CR TUIR

Designation	a CW mm	c PDPT mm
25. TUI. 2,0	2	3



25L TUIL / 25R TUIR

- for grooving and turning

ISO

25. TUI. 2,0

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•



25CL TUIL / 25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO

25C. TUI. 2,0

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

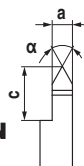


25L THIN / 25R THIN / 25CL THIN / 25CR THIN

Designation	a CW mm	c PDPT mm	α° PNA	Pitch TP mm
25. THIN-0,5-0,8/60	2.5	6.2	60	0,5 - 0,8
25. THIN-1,0-1,5/60	2.5	6.2	60	1,0 - 1,5



L THIN



R THIN



25L THIN / 25R THIN

- For thread turning (partial profile)



ISO

	25L THIN NEW Article no. 72 619 ...	25R THIN NEW Article no. 72 618 ...
25. THIN-0,5-0,8/60	305	305
25. THIN-1,0-1,5/60	310	310
Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●

25CL THIN / 25CR THIN

- For thread turning (partial profile)
- Contra version



ISO

	25CL THIN NEW Article no. 72 651 ...	25CR THIN NEW Article no. 72 650 ...
25C. THIN-0,5-0,8/60	305	305
25C. THIN-1,0-1,5/60	310	310
Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●



25L THIN

25R THIN

NEW

NEW

Article no.

Article no.

72 619 ...

72 618 ...

305

305

310

310

●

●

●

●

○

○

○

○

●

●



25CL THIN

25CR THIN

NEW

NEW

Article no.

Article no.

72 651 ...

72 650 ...

305

305

310

310

●

●

●

●

○

○

○

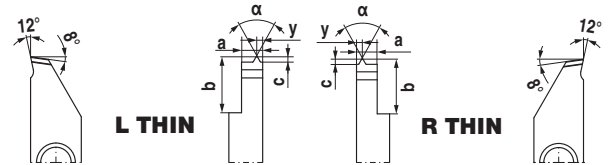
○

●

●

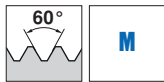
25L THIN / 25R THIN / 25CL THIN / 25CR THIN

Designation	a CW mm	c PDPT mm	α° PNA	Pitch TP mm	y PDX mm	b mm
25. THIN-0,5/60	2.5	0.31	60	0.50	0.4	6.2
25. THIN-0,7/60	2.5	0.43	60	0.70	0.6	6.2
25. THIN-0,75/60	2.5	0.46	60	0.75	0.6	6.2
25. THIN-0,8/60	2.5	0.49	60	0.80	0.6	6.2
25. THIN-1,0/60	2.5	0.61	60	1.00	0.7	6.2
25. THIN-1,25/60	2.5	0.77	60	1.25	0.9	6.2
25. THIN-1,5/60	2.5	0.92	60	1.50	1.0	6.2



25L THIN / 25R THIN

- For thread turning (full profile)



ISO

25. THIN-0,5/60
25. THIN-0,7/60
25. THIN-0,75/60
25. THIN-0,8/60
25. THIN-1,0/60
25. THIN-1,25/60
25. THIN-1,5/60

Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●

WPX
7630WPX
7630

25L THIN

25R THIN

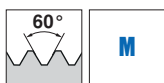
NEW
Article no.
72 623 ...NEW
Article no.
72 622 ...

305
307
317
308
310
312
315

305
307
317
308
310
312
315

25CL THIN / 25CR THIN

- For thread turning (full profile)
- Contra version



ISO

25C. THIN-0,5/60
25C. THIN-0,7/60
25C. THIN-0,75/60
25C. THIN-0,8/60
25C. THIN-1,0/60
25C. THIN-1,25/60
25C. THIN-1,5/60

Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●

WPX
7630WPX
7630

25CL THIN

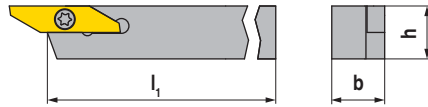
25CR THIN

NEW
Article no.
72 655 ...NEW
Article no.
72 654 ...

305
307
317
308
310
312
315

305
307
317
308
310
312
315

SH 25 – Turning tool holder



Illustrations show right-hand versions



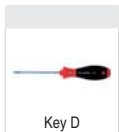
ISO designation	h H mm	b B mm	l ₁ OAL mm	Insert	Left-hand		Right-hand	
					NEW Article no. 72 001 ...		NEW Article no. 72 000 ...	
SH R/L 08-25	8	8	140	25 R/L...		008		008
SH R/L 10-25	10	10	140	25 R/L...		010		010
SH R/L 12-25	12	12	140	25 R/L...		012		012
SH R/L 16-25	16	16	125	25 R/L...		016		016
SH R 20-25	25	20	125	25 R...				020

Spare parts
for Article no.

72 000 008 / 72 001 008	M3x8-30°	501	T08	110
72 000 010 / 72 001 010	M3x8-30°	501	T08	110
72 000 012 / 72 001 012	M3x8-30°	501	T08	110
72 000 016 / 72 001 016	M3x8-30°	501	T08	110
72 000 020	M3x8-30°	501	T08	110



TORX® Screws

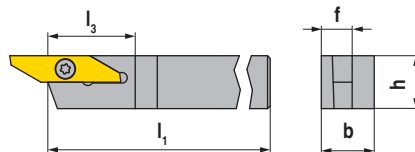
Article no.
72 950 ...

Key D

Article no.
80 950 ...

SH 25 A – Offset turning tool holder

■ For parting off with pick-up spindle



Illustrations show right-hand versions



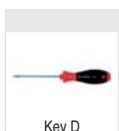
ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	l ₃ LH mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 009 ...		NEW Article no. 72 008 ...	
SH R/L 10-25 A	10	10	140	7	22	25 R/L...		010		010
SH R/L 12-25 A	12	12	140	7	22	25 R/L...		012		012
SH R/L 16-25 A	16	16	125	7	22	25 R/L...		016		016

Spare parts
for Article no.

72 008 010 / 72 009 010	M3x7-30°	504	T08	110
72 008 012 / 72 009 012	M3x7-30°	504	T08	110
72 008 016 / 72 009 016	M3x7-30°	504	T08	110



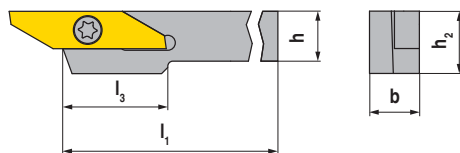
TORX® Screws

Article no.
72 950 ...

Key D

Article no.
80 950 ...

SH 25 RH - Reinforced turning tool holder



Illustrations show right-hand versions



ISO designation	h	b	l ₁	h ₂	l ₃	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	HF mm	LH mm		NEW Article no. 72 003 ...	008	NEW Article no. 72 002 ...	008
SH R/L 08-25 RH	8	8	140	10	17	25 R/L...				

Spare parts
for Article no.

72 002 008 / 72 003 008

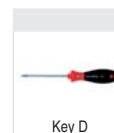


TORX® Screws

Article no.
72 950 ...

M3x8-30°

501 T08

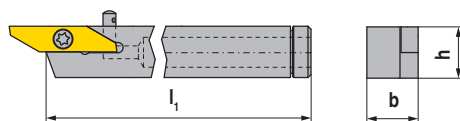


Key D

Article no.
80 950 ...

110

SH 25 DC - Turning tool holder with rear coolant supply



ISO designation	h	b	l ₁	Insert	Right-hand	
	H mm	B mm	OAL mm		NEW Article no. 72 004 ...	010
SH R 10-25 DC	10	10	110	25 R...		

Spare parts
for Article no.

72 004 010



Coolant nozzle

Article no.
72 950 ...

505

M6x1



Coolant connection

Article no.
72 950 ...

507

SW2,5



Clamping screw for CN

Article no.
72 950 ...

506

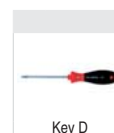


TORX® Screws

Article no.
72 950 ...

501

T08



Key D

Article no.
80 950 ...

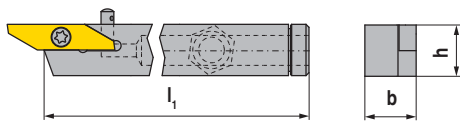
110

for Article no.

72 004 010

M3x8-30°

SH 25 DC-L – Turning tool holder with side and rear coolant supply



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	Insert
SH R/L 12-25 DC-L	12	12	95	25 R/L...

Left-hand	Right-hand
NEW Article no. 72 007 ...	NEW Article no. 72 006 ...
012	012

Spare parts
for Article no.

72 006 012 / 72 007 012	T08	Article no. 80 950 ... 110	Article no. 72 950 ... 505	M8x1	Article no. 72 950 ... 510	SW2,5	Article no. 72 950 ... 508
-------------------------	-----	----------------------------------	----------------------------------	------	----------------------------------	-------	----------------------------------



Key D



Coolant nozzle



Coolant con-
nection



Clamping screw
for CN



Protection plugs



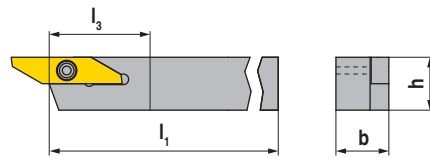
TORX® Screws

for Article no.

72 006 012 / 72 007 012	M8x1	Article no. 72 950 ... 509	M3x8-30°	Article no. 72 950 ... 501
-------------------------	------	----------------------------------	----------	----------------------------------

SHC 25 – Tool holder - Contra version

- With offset insert seat for simplified changing of the indexable insert without removing the holder



Illustrations show right-hand versions



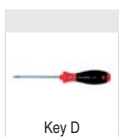
ISO designation	h	b	l ₁	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm		NEW Article no. 72 011 ...		NEW Article no. 72 010 ...	
SH R/L C 08-25	8	8	140	25C R/L...	008		008	
SH R/L C 10-25	10	10	140	25C R/L...	010		010	
SH R/L C 12-25	12	12	140	25C R/L...	012		012	
SH R/L C 16-25	16	16	125	25C R/L...	016		016	
SH R C 20-25	20	20	125	25C R...			020	

Spare parts
for Article no.

72 010 008 / 72 011 008	M3x8	500	T09	111
72 010 010 / 72 011 010	M3x8	500	T09	111
72 010 012 / 72 011 012	M3x8	500	T09	111
72 010 016 / 72 011 016	M3x8	500	T09	111
72 010 020	M3x8	500	T09	111



TORX® Screws

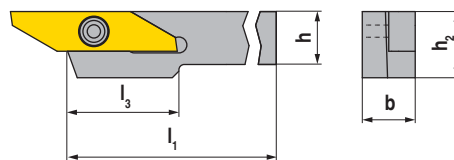
Article no.
72 950 ...

Key D

Article no.
80 950 ...

SHC 25 RH – Reinforced turning tool holder - Contra version

- With offset insert seat for simplified changing of the indexable insert without removing the holder



Illustrations show right-hand versions



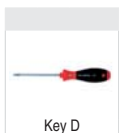
ISO designation	h	b	l ₁	h ₂	l ₃	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	HF mm	LH mm		NEW Article no. 72 013 ...		NEW Article no. 72 012 ...	
SH R/L C 08-25 RH	8	8	140	10	17	25C R/L...	008		008	

Spare parts
for Article no.

72 012 008 / 72 013 008	M3x8	500	T09	111
-------------------------	------	-----	-----	-----



TORX® Screws

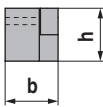
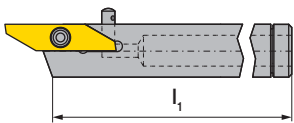
Article no.
72 950 ...

Key D

Article no.
80 950 ...

SHC 25 DC - Turning tool holder with rear coolant supply - Contra version

- With offset insert seat for simplified changing of the indexable insert without removing the holder



Right-hand

NEW

Article no.
72 014 ...

010

ISO designation	h H mm	b B mm	l ₁ OAL mm	Insert
SH R C 10-25 DC	10	10	110	25C R...

Spare parts
for Article no.

72 014 010



Coolant nozzle

Article no.
72 950 ...

505



Coolant con-
nection

Article no.
72 950 ...

507



Clamping screw
for CN

Article no.
72 950 ...

506

M6x1

SW2,5



TORX® Screws

Article no.
72 950 ...

500



Key D

Article no.
80 950 ...

111

for Article no.

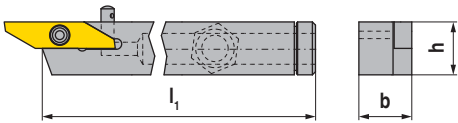
72 014 010

M3x8

T09

SHC 25 DC-L – Turning tool with side and rear coolant supply - Contra version

- With offset insert seat for simplified changing of the indexable insert without removing the holder



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	Insert
SH R/L C 12-25 DC-L	12	12	95	25C R/L...

Left-hand NEW Article no. 72 017 ...	Right-hand NEW Article no. 72 016 ...
012	012

Spare parts
for Article no.

72 016 012 / 72 017 012

 Key D Article no. 80 950 ...	 Coolant nozzle Article no. 72 950 ...	 Coolant con- nection Article no. 72 950 ...	 Clamping screw for CN Article no. 72 950 ...
111	505	510	508

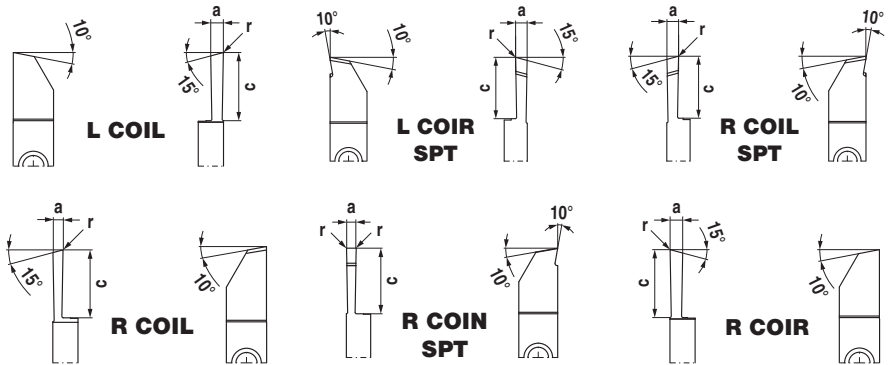
for Article no.

72 016 012 / 72 017 012

 Protection plugs Article no. 72 950 ...	 TORX® Screws Article no. 72 950 ...
509	500

45L COIL / 45R COIL / 45R COIR / 45L COIR / 45R COIN

Designation	a CW mm	c PDPT mm	r mm
45. COI. 2,0	2.0	13	0.00
45. COI. 2,0-0,08	2.0	13	0.08
45. COI. 2,5	2.5	13	0.00



45L COIL / 45R COIL / 45R COIR

▪ for parting off

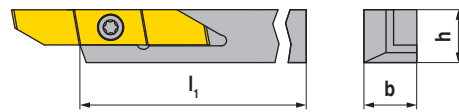
ISO	WPX 7615		
	45L COIL	45R COIL	45R COIR
	NEW	NEW	NEW
	Article no. 72 667 ...	Article no. 72 673 ...	Article no. 72 666 ...
45. COI. 2,0	220	220	
45. COI. 2,5	225	225	225
Steel	•	•	•
Stainless steel	•	•	•
Cast iron	•	•	•
Non ferrous metals	•	•	•
Heat resistant alloys	•	•	•

45L COIR / 45R COIL / 45R COIN

▪ for parting off

ISO	-SPT WPX 7615		
	45L COIR	45R COIL	45R COIN
	NEW	NEW	NEW
	Article no. 72 662 ...	Article no. 72 663 ...	Article no. 72 615 ...
45. COI. 2,0-0,08			208
45. COI. 2,5	225	225	
Steel	•	•	•
Stainless steel	•	•	•
Cast iron	•	•	•
Non ferrous metals	•	•	•
Heat resistant alloys	•	•	•

SH 45 – Turning tool holder



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	Insert	Left-hand		Right-hand	
					NEW Article no. 72 019 ...		NEW Article no. 72 018 ...	
SH R/L 12-45	12	12	140	45 R/L...	012		012	
SH R/L 16-45	16	16	125	45 R/L...	016		016	
SH R/L 20-45	20	20	125	45 R/L...	020		020	



TORX® Screws



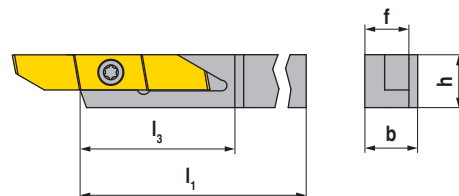
Key D

Spare parts
for Article no.

Spare parts for Article no.		Article no. 72 950 ...		Article no. 80 950 ...
72 018 012 / 72 019 012	M4x11,5	513	T15	113
72 018 016 / 72 019 016	M4x11,5	513	T15	113
72 018 020 / 72 019 020	M4x11,5	513	T15	113

SH 45 A – Offset turning tool holder

- For parting off with pick-up spindle



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	l ₃ LH mm	Insert	Left-hand		Right-hand	
							NEW Article no. 72 021 ...		NEW Article no. 72 020 ...	
SH R/L 12-45 A	12	12	140	10	38	45 R/L...	012		012	
SH R/L 16-45 A	16	16	125	10	38	45 R/L...	016		016	
SH R/L 20-45 A	20	20	125	10	38	45 R/L...	020		020	



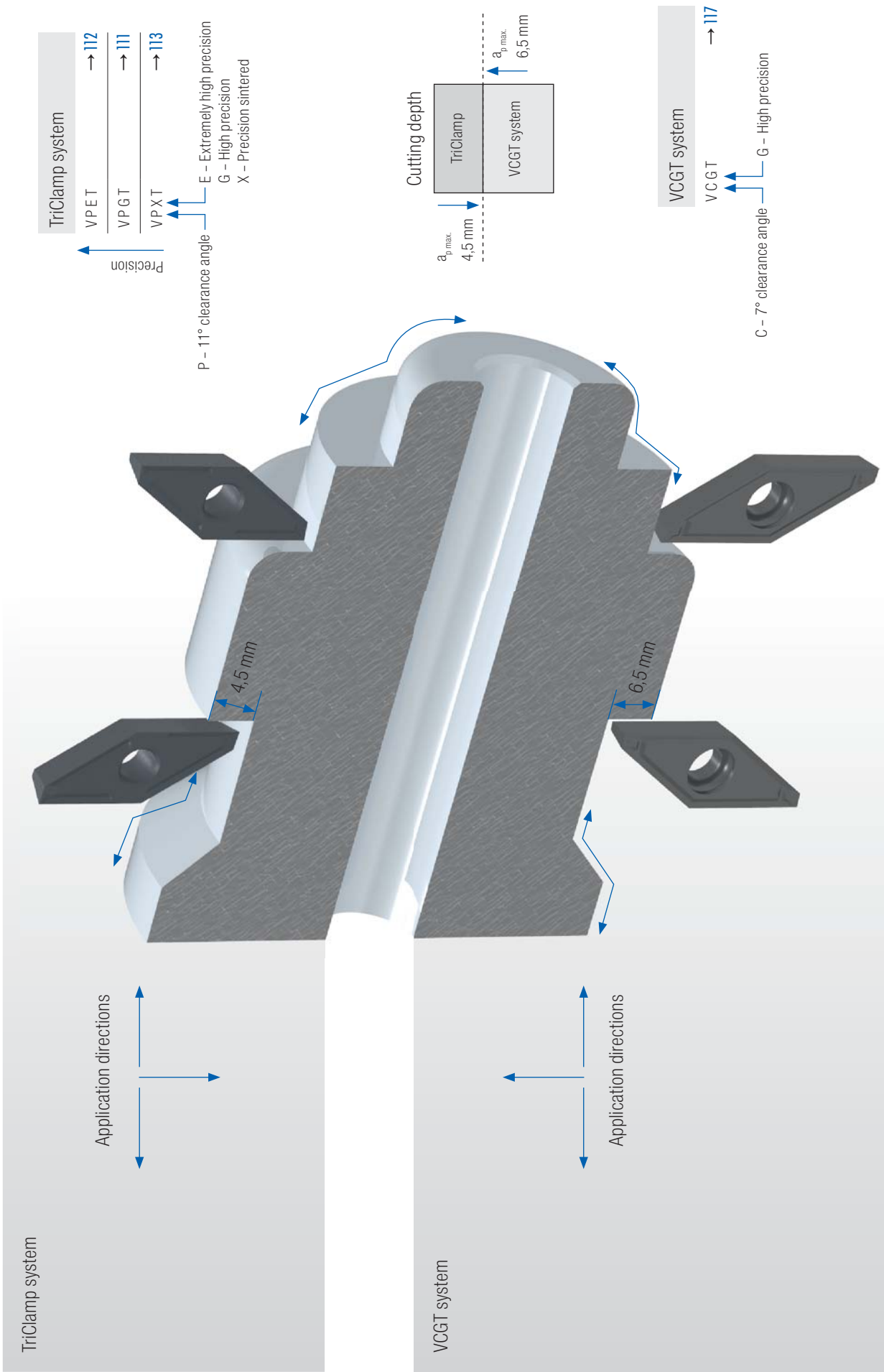
TORX® Screws



Key D

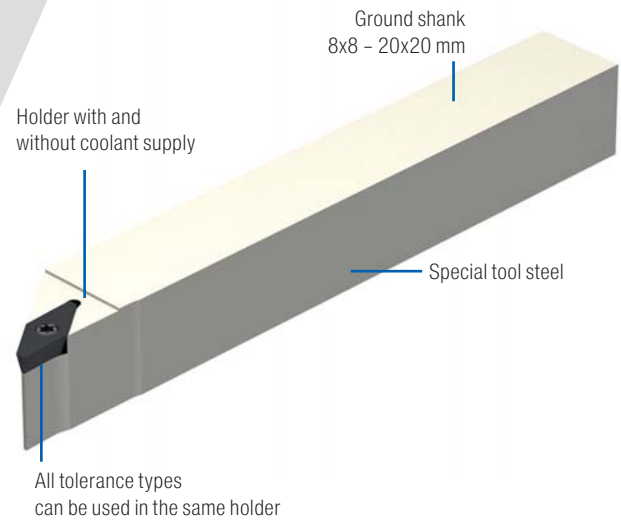
Spare parts
for Article no.

Spare parts for Article no.		Article no. 72 950 ...		Article no. 80 950 ...
72 020 012 / 72 021 012	M4x9,5	503	T15	113
72 020 016 / 72 021 016	M4x9,5	503	T15	113
72 020 020 / 72 021 020	M4x9,5	503	T15	113



Highlights

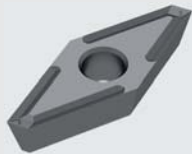
- Indexable inserts with ground wiper geometry
Improves surface quality or increases feed rate
- Turning in all three contour directions
Maximum flexibility without changing the tool
- Smallest corner radii 0.0–0.2 mm
Generates sharp edges
- Perfect chip control
Reduces downtime
- High cutting depths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



Overview

Inserts

VPGT 10

WNT MASTERTOOL
PERFORMANCE

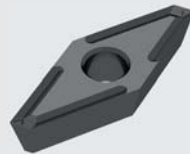
111

VPXT 10



113

VPET 10



112

VCGT 13

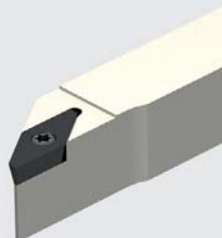


117

WNT MASTERTOOL
STANDARD /

Tool holder

90°

WNT MASTERTOOL
PERFORMANCE

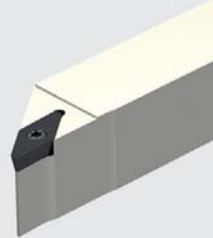
114

91°



115

93°



114–116

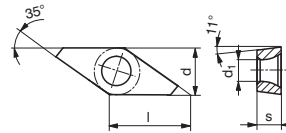
WNT MASTERTOOL
STANDARD /

118

118

VPGT / VPET / VPXT

Designation	l DC mm	s S mm	d ₁ D1 mm	d IC mm
VP.T 1003..	10	3.18	4.4	6.35



VPGT

F	M	R

	-FL	-FR	-FL	-FR
	WPU 7610	WPU 7610	TiAlN	TiAlN
	VPGT	VPGT	VPGT	VPGT
NEW	NEW	NEW		
Article no.	Article no.	Article no.	Article no.	Article no.
72 405 ...	72 404 ...	72 493 ...	72 492 ...	
760 ²⁾	760 ¹⁾	200 ²⁾	200 ¹⁾	
728 ²⁾	728 ¹⁾	208 ²⁾	208 ¹⁾	
735 ²⁾	735 ¹⁾	215 ²⁾	215 ¹⁾	

ISO	r RE mm
1003ZZ	0.0
1003008	0.08
1003015	0.15

Steel			●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals	●	●	●	●
Heat resistant alloys	●	●	○	○

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

VPGT

F	M	R

	-FL	-FR	-FL	-FR
	TiAlN+	TiAlN+		
	VPGT	VPGT	VPGT	VPGT
Article no.	Article no.	Article no.	Article no.	Article no.
72 493 ...	72 492 ...	72 493 ...	72 492 ...	
500 ²⁾	500 ¹⁾	000 ²⁾	000 ¹⁾	
508 ²⁾	508 ¹⁾	008 ²⁾	008 ¹⁾	
515 ²⁾	515 ¹⁾	015 ²⁾	015 ¹⁾	

ISO	r RE mm
1003ZZ	0.0
1003008	0.08
1003015	0.15

Steel	●	●		
Stainless steel	●	●		
Cast iron	●	●		
Non ferrous metals	●	●	●	●
Heat resistant alloys	○	○	●	●

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

VPET

		F	M	R					
									
					-FL	-FL	-FL	-FL	-FL
					WUU 7610	WUU 7630	WPU 7610	WPU 7620	TiAlN
									
									
					VPET	VPET	VPET	VPET	VPET
					NEW	NEW	NEW	NEW	NEW
					Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...
ISO	r RE mm								
1003ZZ	0.0								
1003008	0.08								
1003015	0.15								
		060	1)	660	1)	760	1)	560	1)
		028	1)	628	1)	728	1)	528	1)
		035	1)	635	1)	735	1)	535	1)
Steel									
Stainless steel									
Cast iron									
Non ferrous metals									
Heat resistant alloys									

1) Note ! Left hand insert for left hand holder

VPET

		F	M	R					
									
					-FR	-FR	-FR	-FR	-FR
					WUU 7610	WUU 7630	WPU 7610	WPU 7620	TiAlN
									
									
					VPET	VPET	VPET	VPET	VPET
					NEW	NEW	NEW	NEW	NEW
					Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...
ISO	r RE mm								
1003ZZ	0.0								
1003008	0.08								
1003015	0.15								
		060	1)	660	1)	760	1)	560	1)
		028	1)	628	1)	728	1)	528	1)
		035	1)	635	1)	735	1)	535	1)
Steel									
Stainless steel									
Cast iron									
Non ferrous metals									
Heat resistant alloys									

1) Note ! Right hand insert for right hand holder

VPXT

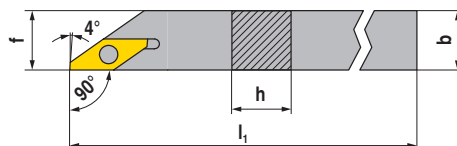
F	M	R
		

-EL	-ER
	
	
	
VPXT	VPXT
Article no. 72 493 ...	Article no. 72 492 ...
615 ²⁾	615 ¹⁾
635 ²⁾	635 ¹⁾

ISO	r RE mm		
1003015	0.15		
1003035	0.35		
Steel		●	●
Stainless steel		●	●
Cast iron		●	●
Non ferrous metals		●	●
Heat resistant alloys		○	○

- 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 H mm	b B mm	l ₁ OAL mm	f 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

Spare parts
Insert

VP.. 1003

Left-hand	Right-hand
Article no. 72 382 ...	Article no. 72 380 ...
008	008
010	010
012	012



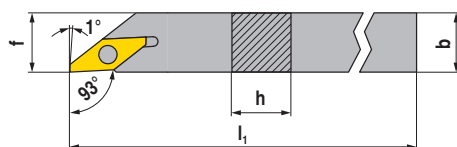
Key D



Clamping screw

Article no. 80 950 ...	Article no. 72 950 ...
T08	110
	002

TriClamp – SVJP 93° – Toolholder with screw clamping



Illustrations show right-hand versions

ISO designation	h H mm	b B mm	l ₁ OAL mm	f 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

Spare parts
Insert

VP.. 1003

Left-hand	Right-hand
Article no. 72 386 ...	Article no. 72 384 ...
008	008
010	010
012	012
016	016



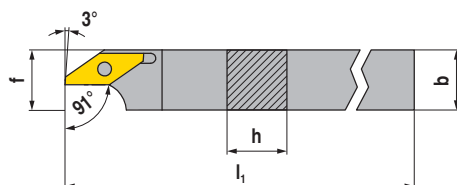
Key D



Clamping screw

Article no. 80 950 ...	Article no. 72 950 ...
T08	110
	002

TriClamp – SVXP 91° – Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	Insert	Left-hand Article no. 72 390 ...	Right-hand Article no. 72 388 ...
SVXP R/L 0808 H10	8	8	100	8	VP.. 1003	008	008
SVXP R/L 1010 H10	10	10	100	10	VP.. 1003	010	010
SVXP R/L 1212 H10	12	12	100	12	VP.. 1003	012	012
SVXP R/L 1616 K10	16	16	125	16	VP.. 1003	016	016

Spare parts
Insert

VP.. 1003

T08

110

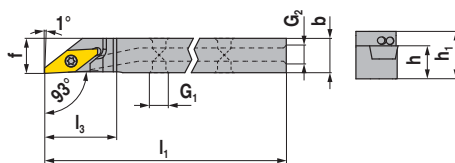
002

Key D

Clamping screw

Article no.
80 950 ...Article no.
72 950 ...

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



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	f WF mm	h ₁ OAH mm	G ₁	G ₂	Insert	Left-hand NEW Article no. 72 361 ...	Right-hand NEW Article no. 72 360 ...
SVJP R/L 0810 H10 IC	8	10	100	21	10	11.5	M5	M5	VP.. 1003	008	008
SVJP R/L 1010 H10 IC	10	10	100	21	10	13.5	M5	M5	VP.. 1003	010	010
SVJP R/L 1212 H10 IC	12	12	100	21	12	15.5	M5	M5	VP.. 1003	012	012
SVJP R/L 1616 K10 IC	16	16	125	21	16	19.5	M5	G1/8"	VP.. 1003	016	016
SVJP R/L 2020 K10 IC	20	20	125	21	20	23.5	M5	G1/8"	VP.. 1003	020	020

Spare parts
for Article no.

72 360 008 / 72 361 008

72 360 010 / 72 361 010

72 360 012 / 72 361 012

72 360 016 / 72 361 016

72 360 020 / 72 361 020

Cylindrical screw

Cylindrical screw

Key D

Clamping screw

Article no.
72 950 ...Article no.
72 950 ...Article no.
80 950 ...Article no.
72 950 ...

M5x4

011

T08

110

002

M5x4

011

T08

110

002

M5x4

011

T08

110

002

M5x4

011

T08

110

002

M5x4

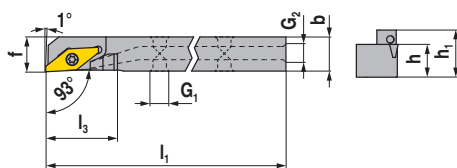
011

T08

110

002

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



Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	h ₁	G ₁	G ₂	Insert	Left-hand NEW Article no. 72 363 ...	Right-hand NEW Article no. 72 362 ...
	H mm	B mm	OAL mm	LH mm	WF mm	OAH mm					
SVJP R/L 0810 H10 VIC	8	10	100	21	10	11.5	M5	M5	VP.. 1003	008	008
SVJP R/L 1010 H10 VIC	10	10	100	21	10	13.5	M5	M5	VP.. 1003	010	010
SVJP R/L 1212 H10 VIC	12	12	100	21	12	15.5	M5	M5	VP.. 1003	012	012

Spare parts
Insert

VP.. 1003



Cylindrical screw

Article no.
72 950 ...

Key D

Article no.
80 950 ...

Clamping screw

Article no.
72 950 ...

M5x4

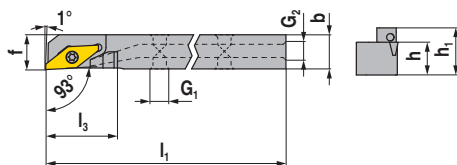
011

T08

110

002

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



Illustrations show right-hand versions



ISO designation	h	b	l ₁	l ₃	f	h ₁	G ₁	G ₂	Insert	Left-hand NEW Article no. 72 365 ...	Right-hand NEW Article no. 72 364 ...
	H mm	B mm	OAL mm	LH mm	WF mm	OAH mm					
SVJP R/L 1616 K10 VIC	16	16	125	21	16	19.5	M5	G1/8"	VP.. 1003	016	016
SVJP R/L 2020 K10 VIC	20	20	125	21	20	23.5	M5	G1/8"	VP.. 1003	020	020

Spare parts
Insert

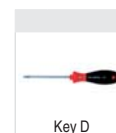
VP.. 1003



Cylindrical screw

Article no.
72 950 ...

Cylindrical screw

Article no.
72 950 ...

Key D

Article no.
80 950 ...

Clamping screw

Article no.
72 950 ...

G1/8"

010

M5x4

011

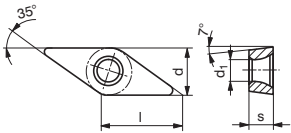
T08

110

002

VCGT

Designation	l L mm	s S mm	d IC mm
VCGT 1303..	13.84	3.18	7.94



VCGT

ISO	r RE mm		
130300	0.0		
130301	0.1		
Steel		•	•
Stainless steel		•	○
Cast iron		•	•
Non ferrous metals		•	
Heat resistant alloys			
hardened materials			

-FN

TiCN

VCGT

NEW

Article no.
72 668 ...

400

401

-FN

CERMET

VCGT

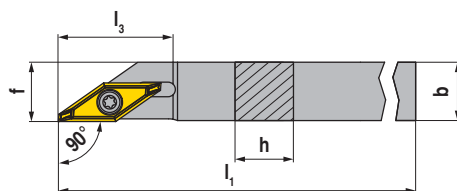
NEW

Article no.
72 668 ...

500

501

SVAC 90° – Toolholder with screw clamping



Right-hand

NEW

Article no.
72 030 ...

ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	l ₃ LH mm	Insert	
SVAC R 0808 L13	8	8	140	10	25	VCGT 1303..	008
SVAC R 1010 L13	10	10	140	10		VCGT 1303..	010
SVAC R 1212 L13	12	12	140	12		VCGT 1303..	012
SVAC R 1616 M13	16	16	125	16		VCGT 1303..	016
SVAC R 2020 M13	20	20	125	20		VCGT 1303..	020



TORX® Screws

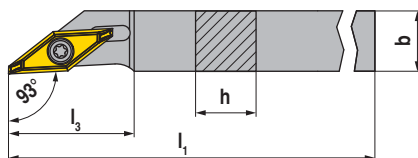


Key D

Spare parts
for Article no.Article no.
72 950 ...Article no.
80 950 ...

72 030 008	M3x7,2	502	T09	111
72 030 010	M3x7,2	502	T09	111
72 030 012	M3x7,2	502	T09	111
72 030 016	M3x7,2	502	T09	111
72 030 020	M3x7,2	502	T09	111

SVJC 93° – Toolholder with screw clamping



Right-hand

NEW

Article no.
72 032 ...

ISO designation	h H mm	b B mm	l ₁ OAL mm	f WF mm	l ₃ LH mm	Insert	
SVJC R 0808 L13	8	8	140	10	25	VCGT 1303..	008
SVJC R 1010 L13	10	10	140	10		VCGT 1303..	010
SVJC R 1212 L13	12	12	140	12		VCGT 1303..	012
SVJC R 1616 M13	16	16	125	16		VCGT 1303..	016
SVJC R 2020 M13	20	20	125	20		VCGT 1303..	020



TORX® Screws



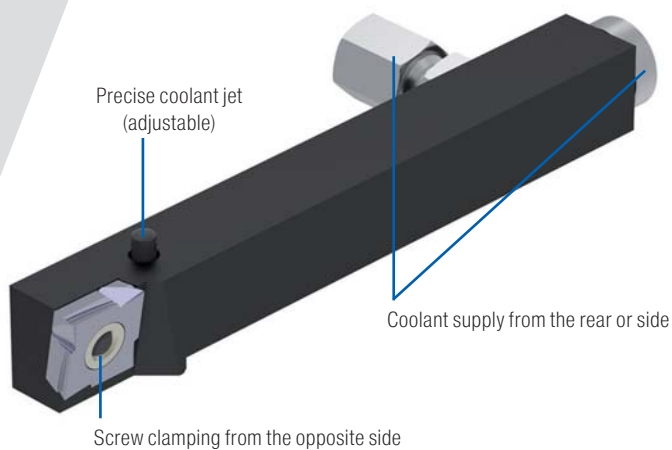
Key D

Spare parts
for Article no.Article no.
72 950 ...Article no.
80 950 ...

72 032 008	M3x7,2	502	T09	111
72 032 010	M3x7,2	502	T09	111
72 032 012	M3x7,2	502	T09	111
72 032 016	M3x7,2	502	T09	111
72 032 020	M3x7,2	502	T09	111

Highlights

- Tangential installation position
Significantly increases stability
- Four useable cutting edges
Increases cost-effectiveness
- Sharp-ground cutting edges
Reduced cutting pressure and maximum precision
- 90° shoulders can be achieved
No rework required
- High cutting depths
Reduced machining time due to fewer retractions
- Universal carbides
Maximum flexibility



Overview

Inserts

SOGX 07



120

WPX 7620



120

SOGX 11



120

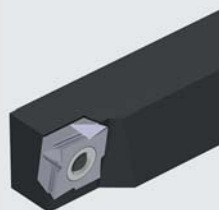
WPX 7620



120

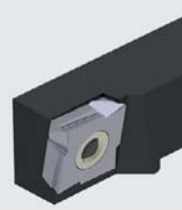
Tool holder

SSAO 07



121

SSAO 11



121

122

normal

with through
coolant

SOGX

Designation	a CW mm	s W1 mm	d IC mm
SOGX 0703..	1.3	3.5	7.5
SOGX 1104..	1.6	4.0	11.5

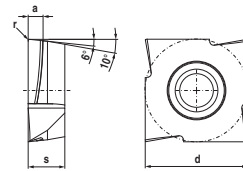


Diagram shows right hand version

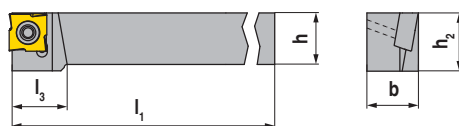
SOGX

ISO	r mm	-FL		-FR	
		WPX 7615	WPX 7615	WUX 7620	WUX 7620
					
					
		SOGX	SOGX	SOGX	SOGX
		NEW	NEW	NEW	NEW
		Article no. 72 671 ...	Article no. 72 670 ...	Article no. 72 671 ...	Article no. 72 670 ...
070300	0.0	200	200	100	100
070302	0.2	202	202	102	102
070304	0.4	204	204	104	104
Steel		•	•	•	•
Stainless steel		•	•	•	•
Cast iron		•	•	•	•
Non ferrous metals		•	•	•	•
Heat resistant alloys		•	•	•	•

SOGX

ISO	r mm	-FL		-FR	
		WPX 7615	WPX 7615	WUX 7620	WUX 7620
					
					
		SOGX	SOGX	SOGX	SOGX
		NEW	NEW	NEW	NEW
		Article no. 72 669 ...	Article no. 72 668 ...	Article no. 72 669 ...	Article no. 72 668 ...
110400	0.0	200	200	100	100
110402	0.2	202	202	102	102
110404	0.4	204	204	104	104
Steel		•	•	•	•
Stainless steel		•	•	•	•
Cast iron		•	•	•	•
Non ferrous metals		•	•	•	•
Heat resistant alloys		•	•	•	•

SSAO – Tangential tool holder



Illustrations show right-hand versions



ISO designation	h	b	l ₁	h ₂	l ₃	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	HF mm	LH mm		NEW Article no. 72 029 ...		NEW Article no. 72 028 ...	
SSAO R/L 0808 Y07	8	8	120	10	12	SOGX 0703..		008		008
SSAO R/L 1010 L07	10	10	140	10		SOGX 0703..		010		010
SSAO R 1212 L07	12	12	140	12		SOGX 0703..				012

Spare parts
for Article no.

72 028 008 / 72 029 008	M3x7,2	502	T09	111
72 028 010 / 72 029 010	M3x7,2	502	T09	111
72 028 012	M3x7,2	502	T09	111



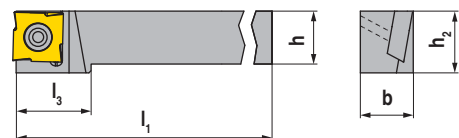
TORX® Screws

Article no.
72 950 ...

Key D

Article no.
80 950 ...

SSAO – Tangential tool holder



Illustrations show right-hand versions



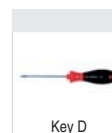
ISO designation	h	b	l ₁	h ₂	l ₃	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	HF mm	LH mm		NEW Article no. 72 025 ...		NEW Article no. 72 024 ...	
SSAO R/L 1212 L11	12	12	140	14	17	SOGX 1104..		012		012
SSAO R/L 1616 K11	16	16	125	16		SOGX 1104..		016		016
SSAO R 2020 K11	20	20	125	20		SOGX 1104..				020

Spare parts
for Article no.

72 024 012 / 72 025 012	M4x9,5	503	T15	113
72 024 016 / 72 025 016	M4x9,5	503	T15	113
72 024 020	M4x9,5	503	T15	113



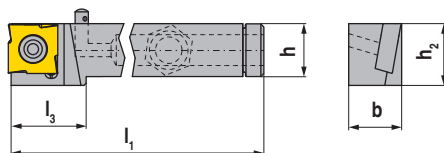
TORX® Screws

Article no.
72 950 ...

Key D

Article no.
80 950 ...

SSAO – Tangential tool holder with thro' coolant



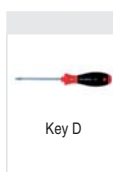
Right-hand

NEWArticle no.
72 026 ...

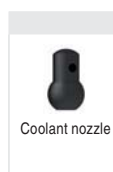
ISO designation	h H mm	b B mm	l ₁ OAL mm	h ₂ HF mm	l ₃ LH mm	Insert	
SSAO R 1212 L11 DC-L	12	12	140	14	17	SOGX 1104..	012
SSAO R 1616 K11 DC-L	16	16	125	16		SOGX 1104..	016
SSAO R 2020 K11 DC-L	20	20	125	20		SOGX 1104..	020

Spare parts
for Article no.

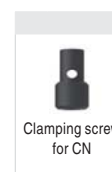
72 026 012	T15	113	505	M8x1	510	SW2,5	508
72 026 016	T15	113	505	M8x1	510	SW2,5	511
72 026 020	T15	113	505	M8x1	510	SW2,5	511



Key D



Coolant nozzle

Coolant con-
nectionClamping screw
for CN

Protection plugs



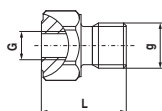
TORX® Screws

for Article no.

72 026 012	M8x1	509	M4x9,5	503
72 026 016	M10x1	512	M4x9,5	503
72 026 020	M10x1	512	M4x9,5	503

Reducer fitting

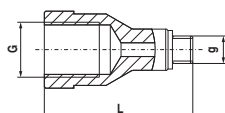
- Max. 200 bar/2900 psi
- No sealing ring required



Designation	G	g	L	NEW Article no. 72 301 ...
			mm	
RV.100.G1/8-M5	M5	G1/8"	15	006
RV.100.M10x1-M5	M5	M10x1	15	007
RV.100.M6-M5	M5	M6	18	002
RV.100.M8x1-M5	M5	M8x1	15	008

Reducer fitting

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



Designation	G	g	L	NEW Article no. 72 301 ...
			mm	
RV.100.M5-G1/8	G1/8"	M5	27	004
RV.100.M5-M10x1	M10x1	M5	27	005
RV.100.M5-M6	M6	M5	15	001
RV.100.M5-M8x1	M8x1	M5	23	003

Spare parts for Article no.

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



Sealing ring

Article no.
72 950 ...

Hose (connecting piece/connecting piece)

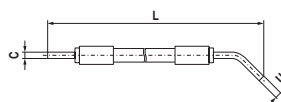
- Max. 200 bar/2900 psi



Designation	C	U	L	NEW Article no. 72 305 ...
	mm	mm	mm	
HDKS.150.3-3	3	3	150	001
HDKS.150.4-4	4	4	150	003
HDKS.150.5-5	5	5	150	007
HDKS.150.6-4	6	4	150	008
HDKS.200.3-3	3	3	200	012
HDKS.200.4-4	4	4	200	014
HDKS.200.5-5	5	5	200	018
HDKS.200.6-4	6	4	200	019
HDKS.300.3-3	3	3	300	023
HDKS.300.4-4	4	4	300	025
HDKS.300.4-6	4	6	300	028
HDKS.300.5-5	5	5	300	030
HDKS.300.6-4	6	4	300	031
HDKS.500.3-3	3	3	500	035
HDKS.500.4-4	4	4	500	037
HDKS.500.4-6	4	6	500	040
HDKS.500.5-5	5	5	500	043

Hose (connecting piece/45° connecting piece)

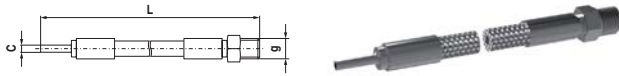
- Max. 200 bar/2900 psi



Designation	C	U	L	NEW Article no. 72 305 ...
	mm	mm	mm	
HDKS.150.3-45-3	3	3	150	002
HDKS.150.4-45-4	4	4	150	004
HDKS.150.4-45-6	4	6	150	005
HDKS.150.5-45-5	5	5	150	006
HDKS.200.3-45-3	3	3	200	013
HDKS.200.4-45-4	4	4	200	015
HDKS.200.4-45-6	4	6	200	016
HDKS.200.5-45-5	5	5	200	017
HDKS.300.3-45-3	3	3	300	024
HDKS.300.4-45-4	4	4	300	026
HDKS.300.4-45-6	4	6	300	027
HDKS.300.5-45-5	5	5	300	029
HDKS.500.3-45-3	3	3	500	036
HDKS.500.4-45-4	4	4	500	038
HDKS.500.4-45-6	4	6	500	039
HDKS.500.5-45-5	5	5	500	042

Hose (connecting piece/thread)

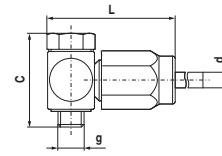
- Max. 200 bar/2900 psi
- No sealing ring required



Designation	C	g	L	Article no. 72 305 ...
	mm		mm	
HDKS.150.M5-3	3	M5	150	009
HDKS.150.M5-4	4	M5	150	010
HDKS.150.M5-5	5	M5	150	011
HDKS.200.M5-3	3	M5	200	020
HDKS.200.M5-4	4	M5	200	021
HDKS.200.M5-5	5	M5	200	022
HDKS.300.M5-3	3	M5	300	032
HDKS.300.M5-4	4	M5	300	033
HDKS.300.M5-5	5	M5	300	034
HDKS.500.M5-3	3	M5	500	044
HDKS.500.M5-4	4	M5	500	045
HDKS.500.M5-5	5	M5	500	046

Swivel fitting

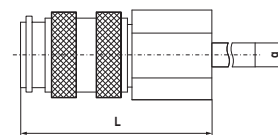
- Max. 200 bar/2900 psi



Designation	d	U	g	L	Article no. 72 307 ...
	mm	mm		mm	
KA.SV.G1/8-4	4	30	G1/8"	37	012
KA.SV.G1/8-5	5	30	G1/8"	37	013
KA.SV.G1/8-6	6	30	G1/8"	37	014
KA.SV.G1/8-8	8	30	G1/8"	37	015
KA.SV.M5-3	3	21	M5	28	016
KA.SV.M5-4	4	21	M5	28	017
KA.SV.M5-5	5	21	M5	28	018

Quick connection (coupling)

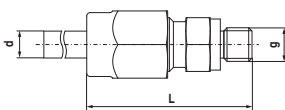
- Max. 200 bar/2900 psi



Designation	g	L	Article no. 72 319 ...
		mm	
KIG.M5	M5	26	001

Straight fitting

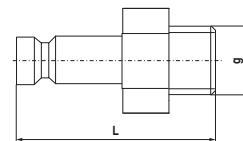
- Max. 200 bar/2900 psi



Designation	d	g	L	Article no. 72 307 ...
	mm		mm	
KA. G1/8-2	2	G1/8"	25	001
KA. G1/8-3	3	G1/8"	26	002
KA. G1/8-4	4	G1/8"	32	003
KA. G1/8-5	5	G1/8"	32	004
KA. G1/8-6	6	G1/8"	32	005
KA. G1/8-8	8	G1/8"	34	006
KA. M5-2	2	M5	19	007
KA. M5-3	3	M5	21	008
KA. M5-4	4	M5	27	009
KA. M5-5	5	M5	27	010
KA. M5-6	6	M5	27	011

Quick connection (connector)

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



Designation	g	L	Article no. 72 320 ...
		mm	
SAG.M5	M5	20	001

Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5 - 10% Si	< 400 N/mm ²	3.2315	A - G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10 - 15% Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values for fine machining (F) - (M)



Strategy: F - M chip breaker: -F32, -NF23 // -F23, -PF23, -F43, -ZF, SMF, -PF26, -SMQ, -FM37

	HGX1115	HGX1125	HCR1135	CCN2120	HCN2125	CWN2135	HCN2430	WUU7610	WUU7630	WPU7610	WPU7620	TiAlN
Index	v_c in m/min											
1.1	260-350	200-270	180-220		120-260	170-220	120-220		50-100		180-260	50-220
1.2	280-360	230-280	190-240		130-220	190-230	120-250		50-100		180-260	50-220
1.3	220-350	240-290	170-210		130-250	160-200	80-180		50-100		180-260	50-220
1.4	240-320	200-270	180-220		130-220	170-230	60-160		40-90		100-220	50-200
1.5	230-300	220-260	160-210		100-180	150-200	80-180		50-100		180-260	50-220
1.6	210-270	210-250	170-230		100-180	160-220	60-160		50-100		180-260	50-220
1.7	240-320	210-280	170-210		60-180	150-200	80-180		40-90		100-220	50-200
1.8	200-280	190-240	150-190		60-180	140-180	60-130		30-80		90-180	50-180
1.9	200-300	170-240	170-200		80-180	170-200	80-180		50-100		180-260	50-220
1.10	220-280	180-240	150-200		100-180	140-170	60-170		40-90		100-220	50-200
1.11	200-270	170-240	140-180		100-180	140-180	80-150		30-80		90-180	50-180
1.12	210-300	200-270	160-200		80-180	160-200	60-150		30-80		90-180	50-180
1.13	180-270	170-240	140-190		60-180	130-180	60-150		40-90		100-220	50-200
1.14	180-250	180-230	130-180		80-180	130-180			40-90		100-220	50-200
1.15	160-250	150-230	120-160		80-150	120-160	60-150		30-80		90-180	50-180
1.16	150-240	140-220	120-170		80-150	110-160	60-150		30-80		90-180	50-180
2.1	200-280	200-280	160-210	190-260	200-280	160-240	50-160		30-80	50-220	110-200	40-180
2.2	200-280	200-280	160-210	200-250	200-280	180-250	50-180		30-80	50-220	110-200	40-180
2.3	190-260	190-260	130-200	190-240	190-260	150-240	50-150		20-40	50-130	90-150	40-90
2.4	190-240	190-240	120-200	140-210	190-240	160-230	50-160		20-40	50-130	90-150	40-90
2.5			100-150	110-190	100-220	150-230	50-130		20-40	50-130	90-150	40-90
2.6			60-80	80-160	100-220	120-170	50-120		30-80	50-220	110-200	40-180
2.7			60-80	80-140	40-100	120-160	50-120		20-40	50-130	90-150	40-90
3.1	220-280	200-260		140-180			120-200			90-150	90-150	90-150
3.2	200-270	190-250		110-170			100-180			90-150	90-150	90-150
3.3	180-250	170-240		130-180			120-200			90-150	90-150	90-150
3.4	180-260	140-190		160-240			100-180			90-150	90-120	90-150
3.5	260-320	240-290		160-230			90-160			90-120	90-120	90-120
3.6	200-320	170-290		130-190			70-150			90-120	90-120	90-120
3.7	240-320	240-290		150-220			90-160			90-120	90-120	90-120
3.8	210-320	170-290		140-180			70-150			90-120	90-120	90-120
4.1				100-600			100-2000	120-2500	60-1500	160-3000		80-3000
4.2				100-600			100-1500	120-2500	60-1500	160-3000		80-3000
4.3				100-400			100-1500	120-2500	60-1500	160-3000		80-3000
4.4				100-400			100-1300	120-2500	60-1500	160-3000		80-3000
4.5				100-400			100-600	120-2500	60-1500	160-3000		80-3000
4.6				100-400			100-300			90-150	90-120	90-150
4.7				100-400			100-500			90-120	90-120	90-120
4.8				100-400			100-500			90-120	90-120	90-120
4.9				100-400			100-500			90-120	90-120	90-120
4.10				100-400			100-500			90-120	90-120	90-120
4.11							100-500	100-500	50-160	100-750		
4.12							100-290	100-500	50-160	100-750		
4.13							90-200					
4.14							60-160					
4.15							50-140					
4.16												
4.17												
4.18												
4.19												
5.1			20-40	15-30		20-40	20-90			25-70		
5.2			20-40	15-40		20-40	20-90			25-100		
5.3			8-25	20-35		15-35	20-80			30-80		
5.4			8-25	13-30		15-35	20-80			15-30		
5.5			4-15	15-35		8-25	20-80					
5.6			4-15	15-35		4-15	20-90					
5.7			4-15	60-100		4-15	20-80					
5.8			4-12	20-40		4-15	20-80					
5.9			80-130	80-140		80-130	40-100	50-80	25-70	50-150	60-140	40-120
5.10			15-35	25-45		15-35	30-90	50-80	25-70	50-150	60-140	40-120
5.11			15-35	25-45		15-35		50-80	25-70	50-150	60-140	40-120
6.1										25-35		
6.2												
6.3												
6.4												
6.5												

i 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 medium machining (M) - (R)



Strategy: M - R chip breaker: -NM23, -NM15, -NM26, -M42, -M52, -NM19, -M81 // -ZM

	HCX1115	HCX1125	HCR1135	CCN2120	HCN2125	CWN2135	CWN2120
Index	v _c in m/min						
1.1	250-340	200-260	170-210		120-250	170-210	
1.2	270-350	230-280	180-230		120-220	180-230	
1.3	220-350	240-290	160-200		120-250	150-220	
1.4	240-310	200-250	170-210		130-200	170-210	
1.5	230-300	210-250	150-200		100-170	150-200	
1.6	210-270	190-240	160-220		100-170	150-210	
1.7	240-300	200-270	160-200		50-160	150-200	
1.8	190-270	180-230	140-180		50-160	130-170	
1.9	190-280	160-220	160-190		60-160	160-190	
1.10	200-260	180-230	140-190		100-180	130-170	
1.11	180-260	170-240	130-170		80-180	130-170	
1.12	200-280	190-260	150-200		70-170	150-190	
1.13	180-250	170-230	130-180		60-170	120-180	
1.14	170-230	170-210	120-160		70-160	120-170	
1.15	150-240	130-220	110-150		60-120	100-150	
1.16	130-220	130-220	110-150		60-120	100-150	
2.1	200-280	200-280	150-210	180-240	120-280	150-230	130-200
2.2	200-280	200-280	150-200	180-230	120-280	170-250	120-220
2.3	190-260	190-260	120-200	170-220	120-260	140-220	100-160
2.4	190-240	190-240	110-190	130-210	120-240	140-210	80-180
2.5			90-150	100-180	100-220	120-210	90-140
2.6			60-80	70-140	100-220	100-140	80-150
2.7			60-80	70-110	40-100	100-140	80-120
3.1	140-240	120-210		120-170			
3.2	160-250	160-200		100-150			
3.3	150-220	150-200		120-170			
3.4	140-200	130-190		150-240			
3.5	200-260	160-230		150-220			
3.6	180-240	150-210		110-170			
3.7	180-280	160-230		140-220			
3.8	160-260	150-210		120-170			
4.1				100-600			400-2000
4.2				100-600			400-2000
4.3				100-400			400-2000
4.4				100-400			200-1200
4.5				100-400			200-1000
4.6				100-400			250-1000
4.7				100-400			250-1000
4.8				100-400			250-1000
4.9				100-400			250-1000
4.10				100-400			250-1000
4.11							150-800
4.12							150-800
4.13							
4.14							
4.15							
4.16							
4.17							
4.18							
4.19							
5.1			20-40	15-30		20-40	
5.2			20-40	15-40		20-40	
5.3			8-25	20-35		15-35	
5.4			8-25	13-30		15-35	
5.5			4-15	15-35		8-25	
5.6			4-15	15-35		4-15	
5.7			4-15	60-100		4-15	
5.8			4-12	20-40		4-15	
5.9			80-130	80-140	80-130	80-130	
5.10			15-35	25-45	25-45	15-35	
5.11			15-35	25-45		15-35	
6.1							
6.2							
6.3							
6.4							
6.5							

i 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 values for aluminum chip breakers

Chip breakers: -23P -25P -25Q -AL

	CWK15	CWK20	CWK26	AMZ	CWN15
Index	v _c in m/min				
1.1				90-140	
1.2				110-160	
1.3				90-130	
1.4				80-120	
1.5				80-120	
1.6				90-110	
1.7				90-110	
1.8				70-90	
1.9				90-110	
1.10				70-90	
1.11				70-90	
1.12				70-110	
1.13				150-200	
1.14					
1.15				70-110	
1.16				70-110	
2.1				100-150	80-140
2.2					80-140
2.3					70-120
2.4					40-60
2.5					60-100
2.6				90-140	40-60
2.7					40-60
3.1	120-160	140-200	120-160	180-220	
3.2	90-140	100-160	90-140	140-180	
3.3	130-170	160-200	130-170	160-220	
3.4	90-130	110-150	90-130	120-180	
3.5	140-200	160-220	140-200	180-240	
3.6	120-160	140-180	120-160	160-200	
3.7	140-200	160-220	140-200	180-240	
3.8	120-160	140-180	120-160	160-200	
4.1	300-2500	300-3200	300-2500	300-3200	300-3200
4.2	200-2500	400-1500	200-2000	200-2800	200-2800
4.3	400-2000	300-1000	400-1500	400-2000	400-2000
4.4	400-1800	200-500	400-1500	40-2000	40-2000
4.5	200-1000	200-500	200-800	200-1200	200-1200
4.6	150-300	150-400	150-300	250-1000	250-1000
4.7	250-600	250-800	150-400	200-1000	200-1000
4.8	150-400	250-800	150-400	200-1000	200-1000
4.9	150-400	250-800	150-400	200-1000	200-1000
4.10	150-400	250-800	150-400	200-1000	200-1000
4.11	150-300	200-800	200-600	150-800	150-800
4.12	130-350	150-400	150-400	150-500	150-500
4.13	100-200	80-320	100-200	100-250	100-250
4.14	80-180	80-320	80-180	80-200	80-200
4.15	60-150	80-200	60-150	80-220	80-220
4.16					
4.17					
4.18	60-140				
4.19		100-140	100-140		
5.1		25-40	30-45		
5.2		25-40	20-35		
5.3		25-40	20-35		
5.4		20-30	15-25		
5.5		25-40	15-25		
5.6		20-30	15-25		
5.7		20-30	15-25		
5.8		15-25	15-25		
5.9	60-120	80-140	60-120		
5.10	30-80	40-100	30-80		
5.11	30-80	40-100	30-80		
6.1					
6.2					
6.3					
6.4					
6.5					

i 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 for machining non ferrous metals with carbide inserts

	Material group	Material examples			Machinability of aluminium alloys	Comments	Cutting speed v_c in m/min			
					*					
N	Pure aluminium	non hardenable	Al 99,5	W7	5	▪ Snarl chips ▪ Possibly bad surface ▪ Excessive built-up edge ▪ Long tool life ▪ Use coolant emulsion	300–3200			
			Al 99,5	F13	4					
			Al 99	W8	5					
			Al 99	F14	4					
	Aluminium wrought alloys	non hardenable	Al Mn	W10	5	▪ Snarl, continuous or fragmented chip ▪ Large feed rates necessary for good swarf control ▪ Built-up edge ▪ Long tool life ▪ Emulsion coolant is advantageous	300–2500			
			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	▪ Good swarf control with higher feed rates	200–2000			
			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	▪ Very good swarf control ▪ No built up edge ▪ Very good surface quality				
			Al Cu Si Pb	F28-37	1					
			Al Cu Mg Pb	F34-37	1					
			Al Cu Mg 1	W	3	▪ Good swarf control ▪ Good surface quality ▪ Little built-up edge				
			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	▪ Good swarf control ▪ Built-up edge ▪ Higher Si content results in lower tool life	Si content < 12 %
					G-Al Si 10 Mg			3		400–1500
					G-Al Si 5 Mg			2		Si content ~ 12.5 %
					G-Al Si 7 Mg (9 Mg)			2		300–1000
	G-Al Si Cu 3				2	▪ high wear of the carbide	Si content > 13 %			
	G-Al Si 6 Cu 4				2		200–500			
	G-Al Mg 3 (Mg 5)				2	▪ Good swarf control ▪ Good surface quality ▪ Long tool life	200–1500			
	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				300–1200				
		Cu As								
		Cu Cd								
		Cu Cd Sn								
		Cu Mg								
		Cu Mn								
		Cu Zn Al					300–1000			
	brass	Cu Sn				300–800				
		Cu Sn Zn								
		Cu Ni								
		Cu Ni Fe								
		Cu Al								
Non metal materials	Duroplastics					80–320				
	Fibre-reinforced plastics									
	hard rubber									

* 1 = good machinability, 5 = bad machinability



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 values for polycrystalline diamond PCD / PCD-S /CVD

Material group	$a_p = 0,04-0,4 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10		$a_p = 0,4-1,0 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10		$a_p = 0,4-2,5 \text{ mm}$ Surface roughness R_z in μm 2,5-5,0 5,0-10	
Aluminium wrought alloys without Si $f=0.05-0.5 \text{ mm/rev.}$	 Tap Material v_c in m/min	PDC / CVD 400-2500	PDC / CVD 400-2500	PDC / CVD 400-2000	PDC / CVD 400-2000	PDC / CVD 400-1600
	 Tap Material v_c in m/min		PDC / CVD 400-2500		PDC / CVD 400-2000	PDC / CVD 400-1600
	 Tap Material v_c in m/min	PDC / CVD 400-2500	PDC / CVD 400-2500	PDC / CVD 400-2000	PDC / CVD 400-2000	PDC / CVD 400-1600
Aluminium cast alloys Si=2-12% $f=0.05-0.5 \text{ mm/rev.}$	 Tap Material v_c in m/min	PDC-S / CVD 600-2000	PDC-S / CVD 600-2200	PDC-S / CVD 600-1800	PDC-S / CVD 600-2000	PDC-S / CVD 600-1500
	 Tap Material v_c in m/min	PDC / CVD 400-2000	PDC-S / CVD 400-2200	PDC / CVD 400-1800	PDC-S / CVD 600-2000	PDC / CVD 400-1500
	 Tap Material v_c in m/min	PDC-S / CVD 600-2000	PDC-S / CVD 600-2200	PDC-S / CVD 600-1800	PDC-S / CVD 600-2000	PDC-S / CVD 600-1500
Aluminium cast alloys Si=12-20% $f=0.05-0.5 \text{ mm/rev.}$	 Tap Material v_c in m/min	PDC-S / CVD 800-1200	PDC-S / CVD 400-1800	PDC-S / CVD 700-1000	PDC-S / CVD 400-1500	PDC-S / CVD 600-900
	 Tap Material v_c in m/min		PDC-S / CVD 600-1800		PDC-S / CVD 600-1500	PDC-S / CVD 600-1200
	 Tap Material v_c in m/min		PDC-S / CVD 600-1800		PDC-S / CVD 600-1500	
Copper and copper wrought alloys $f=0.05-0.5 \text{ mm/rev.}$	 Tap Material v_c in m/min	PDC / CVD 400-1800	PDC / CVD 300-1600	PDC / CVD 400-1600	PDC-S / CVD 300-1600	PDC / CVD 400-1400
	 Tap Material v_c in m/min		PDC / CVD 300-1500	PDC / CVD 400-1600	PDC-S / CVD 300-1500	PDC / CVD 400-1500
	 Tap Material v_c in m/min		PDC / CVD 300-1800		PDC-S / CVD 300-1700	PDC / CVD 300-1600
Plastic materials without reinforcement (acrylic glass) $f=0.05-0.7 \text{ mm/rev.}$	 Tap Material v_c in m/min		PDC / CVD 400-1200		PDC / CVD 300-1000	PDC / CVD 200-1000
	 Tap Material v_c in m/min		PDC / CVD 300-1200		PDC / CVD 200-1000	PDC-S / CVD 200-900
	 Tap Material v_c in m/min		PDC / CVD 400-1200		PDC / CVD 300-1000	PDC / CVD 200-1000
Plastic materials with reinforcement (glass-fibre, carbon-fibre reinforced) $f=0.05-0.7 \text{ mm/rev.}$	 Tap Material v_c in m/min	PDC-S / CVD 500-1000		PDC-S / CVD 400-900	PDC-S / CVD 300-900	PDC-S / CVD 300-800
	 Tap Material v_c in m/min	PDC-S / CVD 400-900		PDC-S / CVD 300-800	PDC-S / CVD 200-900	PDC-S / CVD 200-800
	 Tap Material v_c in m/min	PDC-S / CVD 500-1000		PDC-S / CVD 400-800	PDC-S / CVD 300-1000	PDC-S / CVD 300-800
 Smooth cut		 Irregular cutting depth		 Interrupted cut		

Approximate cutting data values for machining non-ferrous metals

Polycrystalline Diamond PCD / PCD-S



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

CB1:

- 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

Polycrystalline Diamond PCD / PCD-S



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

CB2:

- 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

i For internal machining up to Ø 60 mm positive indexable inserts should be used. For applications where chip flow cannot be maintained, as a special production a chip developer can be eroded into the insert.

Cutting data standard values – VertiClamp system

Index			Parting					Turning					
			WPU7620	TiAIN	Fine	Medium	Rough	WPU7620	TiAIN		Fine	Medium	Rough
			v _c in m/min	v _c in m/min	F	F	F	v _c in m/min	v _c in m/min	a _p in mm	F	F	F
1.1	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.2	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.3	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.4	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25	100-220	50-200	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.5	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.6	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.7	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25	100-220	50-200	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.8	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25	90-180	50-180	<2,5	0,005-0,08	0,02-0,15	0,1-0,25
1.9	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25	180-260	50-220	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.10	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25	100-220	50-200	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.11	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25	90-180	50-180	<2,5	0,005-0,08	0,02-0,15	0,1-0,25
1.12	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25	90-180	50-180	<2,5	0,005-0,08	0,02-0,15	0,1-0,25
1.13	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25	100-220	50-200	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.14	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25	100-220	50-200	<3	0,005-0,08	0,02-0,15	0,1-0,25
1.15	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25	90-180	50-180	<2,5	0,005-0,08	0,02-0,15	0,1-0,25
1.16	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25	90-180	50-180	<2,5	0,005-0,08	0,02-0,15	0,1-0,25
2.1	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2	110-200	40-180	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.2	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2	110-200	40-180	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.3	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2	90-150	40-90	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.4	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2	90-150	40-90	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.5	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2	90-150	40-90	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.6	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2	110-200	40-180	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
2.7	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2	90-150	40-90	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.1	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2	90-150		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.2	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2	90-150		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.3	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2	90-150		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.4	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2	90-120		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.5	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2	90-120		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.6	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2	90-120		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.7	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2	90-120		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
3.8	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2	90-120		<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.1	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3		80-3000	<3	0,05-0,2	0,02-0,25	0,1-0,3
4.2	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3		80-3000	<3	0,05-0,2	0,02-0,25	0,1-0,3
4.3	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3		80-3000	<3	0,05-0,2	0,02-0,25	0,1-0,3
4.4	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3		80-3000	<3	0,05-0,2	0,02-0,25	0,1-0,3
4.5	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3		80-3000	<3	0,05-0,2	0,02-0,25	0,1-0,3
4.6	x	x	60-100	60-100				60-100	60-100	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.7	x	x	60-100	60-100				60-100	60-100	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.8	x	x	60-100	60-100				60-100	60-100	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.9	x	x	60-100	60-100				60-100	60-100	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.10	x	x	60-100	60-100				60-100	60-100	<2,5	0,005-0,08	0,01-0,12	0,1-0,2
4.11	x				0,005-0,1	0,02-0,15	0,1-0,3			<3	0,005-0,1	0,02-0,15	0,1-0,3
4.12	x				0,005-0,1	0,02-0,15	0,1-0,3			<3	0,005-0,1	0,02-0,15	0,1-0,3
4.13										<2,5			
4.14													
4.15													
4.16													
4.17													
4.18													
4.19													
5.1	x												
5.2	x												
5.3	x												
5.4	x												
5.5	x												
5.6	x												
5.7	x												
5.8	x												
5.9	x		60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	60-140	40-120	<2,5	0,005-0,06	0,02-0,08	0,1-0,25
5.10	x		60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	60-140	40-120	<2,5	0,005-0,06	0,02-0,08	0,1-0,25
5.11	x		60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	60-140	40-120	<2,5	0,005-0,06	0,02-0,08	0,1-0,25
6.1	x												
6.2													
6.3													
6.4													
6.5													

i 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	TiAlN	Fine	Medium	Rough	WUU7610	WUU7630	WPU7610	WPU7620 TiAlN+	TiAlN		
			v_c in m/min	v_c in m/min	F	F	F	v_c in m/min	v_c in m/min	v_c in m/min	v_c in m/min	v_c in m/min	F	a_p in mm
1.1	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.2	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.3	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.4	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25		40-90		100-220	50-200		
1.5	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.6	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.7	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25		40-90		100-220	50-200		
1.8	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25		30-80		90-180	50-180		
1.9	x	x	180-260	50-220	0,005-0,08	0,02-0,15	0,1-0,25		50-100		180-260	50-220		
1.10	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25		40-90		100-220	50-200		
1.11	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25		30-80		90-180	50-180		
1.12	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25		30-80		90-180	50-180		
1.13	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25		40-90		100-220	50-200		
1.14	x	x	100-220	50-200	0,005-0,08	0,02-0,15	0,1-0,25		40-90		100-220	50-200		
1.15	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25		30-80		90-180	50-180		
1.16	x	x	90-180	50-180	0,005-0,08	0,02-0,15	0,1-0,25		30-80		90-180	50-180		
2.1	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2		30-80	50-220	110-200	40-180		
2.2	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2		30-80	50-220	110-200	40-180		
2.3	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2		20-40	50-130	90-150	40-90		
2.4	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2		20-40	50-130	90-150	40-90		
2.5	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2		20-40	50-130	90-150	40-90		
2.6	x	x	110-200	40-180	0,005-0,08	0,01-0,12	0,1-0,2		30-80	50-220	110-200	40-180		
2.7	x	x	90-150	40-90	0,005-0,08	0,01-0,12	0,1-0,2		20-40	50-130	90-150	40-90		
3.1	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2			90-150	90-150	90-150	0,005-0,08	<2,5
3.2	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2			90-150	90-150	90-150	0,005-0,08	<2,5
3.3	x	x	90-150		0,005-0,08	0,01-0,12	0,1-0,2			90-150	90-150	90-150	0,005-0,08	<2,5
3.4	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2			90-150	90-120	90-150	0,005-0,08	<2,5
3.5	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
3.6	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
3.7	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
3.8	x	x	90-120		0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
4.1	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3	120-2500	60-1500	160-3000		80-3000		
4.2	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3	120-2500	60-1500	160-3000		80-3000		
4.3	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3	120-2500	60-1500	160-3000		80-3000		
4.4	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3	120-2500	60-1500	160-3000		80-3000		
4.5	x	x		80-3000	0,05-0,2	0,02-0,25	0,1-0,3	120-2500	60-1500	160-3000		80-3000		
4.6	x	x	90-120	90-120	0,005-0,08	0,01-0,12	0,1-0,2			90-150	90-120	90-150	0,005-0,08	<2,5
4.7	x	x	90-120	90-120	0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
4.8	x	x	90-120	90-120	0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
4.9	x	x	90-120	90-120	0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
4.10	x	x	90-120	90-120	0,005-0,08	0,01-0,12	0,1-0,2			90-120	90-120	90-120	0,005-0,08	<2,5
4.11	x	x			0,005-0,1	0,02-0,15	0,1-0,3	100-500	50-160	100-750				
4.12	x	x			0,005-0,1	0,02-0,15	0,1-0,3	100-500	50-160	100-750				
4.13														
4.14														
4.15														
4.16														
4.17														
4.18														
4.19														
5.1	x	x								25-70			0,01	0,1-0,5
5.2	x	x								25-100			0,02	0,1-0,5
5.3	x	x								30-80			0,008	0,1-0,5
5.4	x	x								15-30			0,07	0,1-0,5
5.5	x	x								-				
5.6	x	x								-				
5.7	x	x								-				
5.8	x	x								-				
5.9	x	x	60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	50-80	25-70	50-150	60-140	40-120		
5.10	x	x	60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	50-80	25-70	50-150	60-140	40-120		
5.11	x	x	60-140	40-120	0,005-0,06	0,02-0,08	0,1-0,25	50-80	25-70	50-150	60-140	40-120		
6.1	x	x								25-35			0,008	0,02-0,05
6.2														
6.3														
6.4														
6.5														

i 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 - System 25 and System 45

Index			Parting					Turning					
			WPX7615	WUX7620	Fine	Medium	Rough	WPX7615	WPX7630	WUX7620	Fine	Medium	Rough
			v_c in m/min	v_c in m/min	F	F	F	v_c in m/min	v_c in m/min	v_c in m/min	F	F	F
1.1		x	70-100	35-85	0,01	0,025	0,04	50-120	30-80	30-80	0,04	0,1	0,17
1.2		x	80-140	50-100	0,02	0,04	0,08	70-160	40-100	40-100	0,04	0,1	0,18
1.3		x	70-110	50-80	0,01	0,025	0,035	50-100	40-80	40-80	0,02	0,04	0,1
1.4		x	50-100	30-80	0,01	0,02	0,03	40-90	30-80	40-80	0,02	0,04	0,08
1.5		x	70-120	40-80	0,01	0,02	0,04	40-90	30-80	30-70	0,02	0,04	0,08
1.6		x	60-110	25-70	0,007	0,01	0,02	35-80	30-70	30-70	0,02	0,04	0,08
1.7		x	50-100	30-80	0,007	0,01	0,02	35-80	30-70	30-70	0,01	0,03	0,07
1.8		x	20-50	15-50	0,005	0,01	0,02	25-60	25-50	25-50	0,01	0,03	0,05
1.9		x	30-50	20-40	0,007	0,02	0,04	30-50	25-50	25-50	0,02	0,04	0,1
1.10		x	25-45	20-40	0,007	0,015	0,03	30-50	25-50	20-40	0,02	0,04	0,05
1.11			25-45	20-40	0,005	0,01	0,02	25-45	20-40	20-40	0,01	0,03	0,08
1.12			30-80	40-70	0,005	0,01	0,02	60-80	30-70	30-70	0,01	0,03	0,08
1.13			30-70	20-50	0,005	0,01	0,02	30-80	30-70	20-60	0,01	0,03	0,08
1.14			25-45	15-30	0,005	0,01	0,02	20-50	20-40	15-35	0,01	0,03	0,08
1.15			30-80	30-70	0,007	0,015	0,025	40-80	30-70	15-35	0,01	0,03	0,06
1.16			40-80	30-70	0,005	0,01	0,02	40-80	30-70	15-35	0,01	0,03	0,06
2.1		x	40-100	30-80	0,02	0,04	0,06	50-100	30-70	30-80	0,02	0,05	0,1
2.2		x	40-130	30-80	0,02	0,04	0,06	50-130	30-70	30-80	0,03	0,06	0,15
2.3			25-60	25-70	0,005	0,01	0,015	25-80	25-70	25-70	0,01	0,03	0,08
2.4			25-60	20-40	0,005	0,01	0,015	25-80	25-70	20-40	0,01	0,03	0,08
2.5		x	40-120	30-50	0,01	0,03	0,05	50-130	30-70	30-50	0,02	0,04	0,1
2.6		x	40-120	30-50	0,01	0,03	0,05	50-130	30-70	30-50	0,02	0,04	0,1
2.7		x	30-60	25-50	0,005	0,01	0,02	30-60	25-70	25-50	0,01	0,03	0,06
3.1	x		70-200	50-180	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,25
3.2	x		70-150	50-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,25
3.3	x		70-200	40-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
3.4	x		70-180	40-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
3.5	x		70-200	30-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
3.6	x		70-200	30-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
3.7	x		70-200	30-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
3.8	x		70-200	30-120	0,01	0,03	0,05	70-200		40-120	0,03	0,1	0,3
4.1		x	80-300	80-250	0,02	0,08	0,15	80-300		60-200	0,03	0,15	0,35
4.2		x	80-250	80-250	0,03	0,06	0,1	80-250		60-200	0,03	0,12	0,3
4.3		x	80-250	80-200	0,02	0,04	0,1	80-250		60-200	0,03	0,12	0,3
4.4		x	80-250	60-200	0,02	0,04	0,08	80-250		60-200	0,03	0,12	0,3
4.5		x	80-200	60-150	0,015	0,035	0,07	80-250		60-200	0,03	0,12	0,3
4.6		x		50-200	0,02	0,04	0,1	80-250		100-200	0,03	0,12	0,3
4.7			100-200	80-180	0,02	0,035	0,08	80-250		100-200	0,03	0,12	0,3
4.8													
4.9													
4.10													
4.11		x		120-300	0,03	0,1	0,3			150-300	0,05	0,15	0,35
4.12		x	80-200		0,02	0,05	0,1			100-300	0,03	0,12	0,25
4.13	x			100-800	0,1	0,2	0,3			80-180	0,05	0,2	0,4
4.14	x			100-500	0,1	0,2	0,3			80-180	0,05	0,2	0,4
4.15		x											
4.16		x	80-300	80-250	0,03	0,1	0,2	80-300			0,05	0,15	0,35
4.17													
4.18													
4.19													
5.1													
5.2													
5.3													
5.4													
5.5													
5.6													
5.7													
5.8													
5.9		x	20-60		0,01	0,03	0,045			30-80	0,01	0,05	0,1
5.10		x		30-80	0,01	0,03	0,045			40-100	0,015	0,05	0,15
5.11		x	25-45		0,01	0,03	0,045			40-80	0,01	0,05	0,1
6.1													
6.2													
6.3													
6.4													
6.5													

i 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 – System 25 and System 45

Index			Grooving					Threading
			WPX7615	WUX7620	Fine	Medium	Rough	WPX7630
			v_c in m/min	v_c in m/min	F	F	F	v_c in m/min
1.1		x	70–100	35–85	0,01	0,025	0,04	15–65
1.2		x	80–140	50–100	0,02	0,05	0,1	20–70
1.3		x	70–110	50–80	0,01	0,025	0,04	20–60
1.4		x	50–100	30–80	0,01	0,02	0,04	15–65
1.5		x	70–120	40–80	0,01	0,025	0,04	20–70
1.6		x	60–110	25–70	0,007	0,01	0,025	20–60
1.7		x	50–100	30–80	0,007	0,01	0,02	15–65
1.8		x	20–50	15–50	0,005	0,01	0,02	15–50
1.9		x	30–50	20–40	0,007	0,02	0,04	15–40
1.10		x	25–45	20–40	0,007	0,015	0,03	15–35
1.11			25–45	20–40	0,005	0,01	0,03	15–35
1.12			60–80	40–70	0,005	0,01	0,03	15–50
1.13			30–70	20–50	0,005	0,01	0,03	15–40
1.14			25–45	15–30	0,005	0,01	0,03	15–35
1.15			60–80	30–70	0,007	0,015	0,03	20–60
1.16			50–80	30–70	0,007	0,015	0,03	20–60
2.1		x	40–100	30–80	0,02	0,04	0,08	15–35
2.2		x	40–130	30–80	0,02	0,04	0,08	15–40
2.3			25–80	25–70	0,015	0,012	0,02	15–35
2.4			25–80	20–40	0,005	0,012	0,02	15–35
2.5		x	40–120	30–50	0,008	0,012	0,025	15–40
2.6		x	40–120	30–50	0,01	0,04	0,08	15–40
2.7		x	30–60	25–50	0,01	0,02	0,04	15–35
3.1	x		70–200	50–180	0,01	0,03	0,08	20–90
3.2	x		70–150	50–120	0,01	0,035	0,08	20–90
3.3	x		70–200	40–120	0,01	0,035	0,08	20–90
3.4	x		70–180	40–120	0,01	0,035	0,08	20–90
3.5	x		70–200	30–120	0,01	0,035	0,08	20–90
3.6	x		70–200	30–120	0,01	0,035	0,08	20–90
3.7	x		70–200	30–120	0,01	0,035	0,08	20–90
3.8	x		70–200	30–120	0,01	0,035	0,08	20–90
4.1		x	80–300	80–250	0,03	0,08	0,15	35–100
4.2		x	80–250	80–250	0,03	0,05	0,1	35–80
4.3		x	80–250	80–200	0,02	0,04	0,1	35–80
4.4		x	80–250	60–200	0,02	0,04	0,08	35–80
4.5		x	80–200	60–150	0,015	0,035	0,07	35–80
4.6		x		50–200	0,02	0,04	0,08	30–70
4.7			100–200	80–180	0,02	0,035	0,08	30–70
4.8								
4.9								
4.10								
4.11		x		120–300	0,03	0,1	0,2	35–80
4.12		x	80–200		0,02	0,05	0,1	30–70
4.13	x			100–800	0,1	0,2	0,3	50–150
4.14	x			100–500	0,1	0,2	0,3	50–150
4.15		x						
4.16		x	80–300	80–250	0,03	0,1	0,2	35–80
4.17								
4.18								
4.19								
5.1								
5.2								
5.3								
5.4								
5.5								
5.6								
5.7								
5.8								
5.9		x	20–60		0,01	0,03	0,05	15–30
5.10		x		30–80	0,01	0,03	0,045	15–30
5.11		x	25–45		0,01	0,03	0,045	15–30
6.1								
6.2								
6.3								
6.4								
6.5								

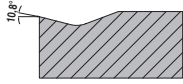
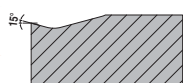
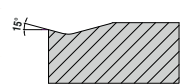
i The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values - VCGT system and SOGX system

Index			VCGT system				SOGX system			
			TiCN	Cermet			WPX7615	WUX7620		
			v_c in m/min	v_c in m/min	F		v_c in m/min	v_c in m/min	F	
1.1		x	80-180	100-380	0,05-0,3		35-100	35-85	0,03-0,1	
1.2		x	100-220	100-380	0,05-0,35		50-120	50-100	0,03-0,2	
1.3		x	80-180	80-350	0,05-0,2		50-100	50-80	0,03-0,18	
1.4		x	70-180	50-330	0,05-0,2		30-100	30-80	0,03-0,12	
1.5		x	50-150	80-330	0,05-0,2		50-120	40-80	0,03-0,12	
1.6		x	50-120	80-330	0,05-0,2		25-80	25-70	0,03-0,15	
1.7		x	50-100	50-300	0,05-0,2		25-80	30-80	0,03-0,15	
1.8		x	30-100	50-300	0,05-0,15		25-80	15-50	0,03-0,1	
1.9		x	80-200	60-200	0,05-0,2		50-150	20-40	0,03-0,15	
1.10		x	80-150	50-200	0,05-0,15		50-120	20-40	0,03-0,12	
1.11			80-150	50-200	0,05-0,15		50-120	20-40	0,03-0,12	
1.12			50-150	50-200	0,05-0,15		50-120	40-70	0,03-0,15	
1.13			40-120	40-180	0,05-0,15		35-100	20-50	0,03-0,15	
1.14			40-120		0,05-0,15		35-80	15-30	0,03-0,12	
1.15			30-100	40-170	0,05-0,15		40-80	30-70	0,03-0,12	
1.16			30-100	40-170	0,05-0,15		40-80	30-70	0,03-0,1	
2.1		x	80-150	80-240	0,05-0,3		40-130	30-80	0,03-0,2	
2.2		x	100-220	80-200	0,05-0,3		40-130	30-80	0,03-0,2	
2.3			40-80	50-100	0,05-0,25		2570	25-70	0,03-0,18	
2.4			30-80	50-100	0,05-0,25		25-60	20-40	0,03-0,18	
2.5		x	70-180	80-240	0,05-0,3		50-130	30-50	0,03-0,2	
2.6		x	70-180	80-240	0,05-0,3		50-130	30-50	0,03-0,18	
2.7		x	50-130	50-100	0,05-0,2		30-100	25-50	0,03-0,15	
3.1	x		100-250	80-300	0,05-0,4		70-200	50-180	0,03-0,3	
3.2	x		80-200	80-250	0,05-0,4		70-180	50-120	0,03-0,3	
3.3	x		80-200	80-300	0,05-0,4		70-170	40-120	0,03-0,3	
3.4	x		80-200	80-300	0,05-0,4		7-170	40-120	0,03-0,3	
3.5	x		100-200	80-300	0,05-0,4		70-180	30-120	0,03-0,3	
3.6	x		80-130	80-300	0,05-0,4		7-180	30-120	0,03-0,3	
3.7	x		80-180	80-300	0,05-0,4		7-130	30-120	0,03-0,3	
3.8	x		80-130	80-300	0,05-0,4		70-100	30-120	0,03-0,3	
4.1		x	150-350		0,05-0,4		80-200	80-200	0,03-0,3	
4.2		x	150-350		0,05-0,4		80-200	80-200	0,03-0,3	
4.3		x	150-300		0,05-0,3		80-200	80-200	0,03-0,3	
4.4		x	100-300		0,05-0,3		80-200	80-200	0,03-0,3	
4.5		x	100-300		0,05-0,3		80-200	80-200	0,03-0,3	
4.6		x					80-200	80-200	0,03-0,3	
4.7							80-200	80-200	0,03-0,3	
4.8										
4.9										
4.10										
4.11		x						80-200	0,03-0,4	
4.12		x					80-180	80-150	0,03-0,25	
4.13	x							100-400	0,03-0,3	
4.14	x							100-400	0,03-0,3	
4.15		x								
4.16		x					80-300	80-250	0,03-0,25	
4.17										
4.18										
4.19										
5.1										
5.2										
5.3										
5.4										
5.5										
5.6										
5.7										
5.8										
5.9		x						25-50	0,08	
5.10		x						25-80	0,15	
5.11		x					25-80	25-50	0,1	
6.1										
6.2										
6.3										
6.4										
6.5										

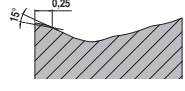
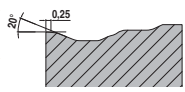
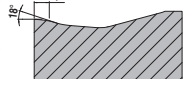
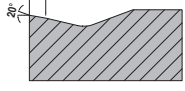
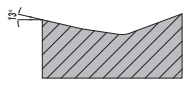
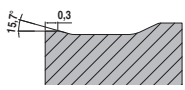
i The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Chip breakers / Applications

Negative – Fine	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry	
					a _p mm	f mm		
-F32 - For finishing stainless steel - Also by application on general steels and superalloys		CCN2120	CCN2120			0,05–4,0	0,05–0,25	DN.. WN..
		CCN2120	CCN2120					
		CCN2120						
-NF23 - Finishing of stainless steels - Continuous cut - High surface quality - Good swarf control		HCN2125	HCN2125			0,08–2,5	0,10–0,35	DN.. WN..
		HCN2125	HCN2125					
-NF15 - Chip breaker for fine machining - Steel and stainless steels - Excellent chip control - High surface quality		HGX1115	HGX1125	HCR1135		0,50–5,00	0,10–0,60	DN.. WN..
		HGX1115	HGX1125	HCR1135				

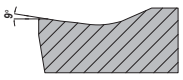
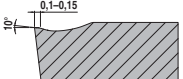
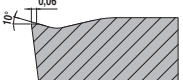
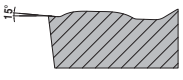
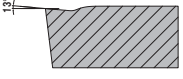
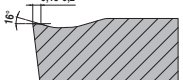
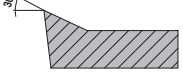
i Sectional drawings and models correspond to CNMG120408

Chip breakers / Applications

Negative – Medium	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry	
					a _p mm	f mm		
-NM23 - Option for stainless steel machining - Good swarf control - Little edg build up - Low cutting forces - Little built-up edge - Applicable on unstable machines		HCN2125	HCN2125			1,00-4,50	0,15-0,40	DN.. WN..
		HCN2125	HCN2125					
-NM15 - Medium machining - First choice for steel machining - Universal application - Wide range of applications		HCX1115 / HCX1125	HCX1115 / HCX1125	HCX1125		0,50-5,00	0,12-0,40	DN.. WN..
		HCX1125	HCX1125					
		HCX1115 / HCX1125	HCX1115 / HCX1125	HCX1125				
-NM26 - Light to medium roughing - Stable cutting edge - Interrupted cut - Forged skin and cast crust		HCN2125	HCN2125	HCN2125		1,50-6,00	0,25-0,50	DN.. WN..
		HCN2125	HCN2125	HCN2125				
			HCN2125	HCN2125				
-M42 - For medium machining of stainless steels - Also by application on general steels and superalloys						1,00-4,00	0,20-0,40	DN.. WN..
		CCN2120	CWN2135	CWN2135				
		CCN2120						
-M52 - Universal geometry for the machining of stainless steels - Also applicable for super alloys						1,50-4,00	0,20-0,38	DN.. WN..
		CCN2120	CCN2120					
		CCN2120						
-NM19 - Light to medium rough machining - Cast crust and forging skin - Stable cutting edge - Interrupted cut - Raw materials and forgings		HCX1115	HCX1125 / HCX1115	HCX1125 / HCR1135		1,50-4,50	0,20-0,80	DN.. WN..
		HCX1125						
				HCX1125				
		HCX1125						

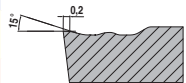
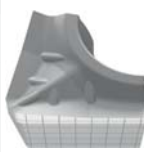
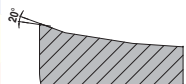
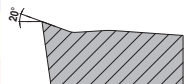
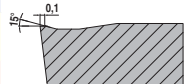
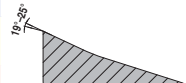
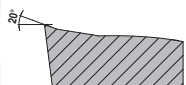
 Sectional drawings and models correspond to CNMG120408

Chip breakers / Applications

Positive – Fine	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry
					a_p mm	f mm	
-F23 - Fine finishing (ground edge) - Very high surface quality - High repeatability - Low depths of cut		CCN2120	CCN2120			0,10–2,00 0,06–0,13	CC.. DC.. VC..
		CCN2120					
		CCN2120					
		CCN2120					
-PF23 - First choice for medium machining of stainless steels - High surface quality - Little built-up edge		HCN2125	HCN2125			0,40–3,20 0,10–0,30	CC.. DC.. TC.. VC..
		HCN2125	HCN2125				
-F43 For the light to medium machining of all stainless steels, general steels and superalloys		CWN2135	CWN2135	CWN2135		0,50–2,50 0,05–0,25	CC.. DC.. TC..
-ZF - Finishing / contour turning - Good swarf control - High surface quality - Low cutting forces		HCX1115	HCX1125	HCX1125 / HCR1135		0,05–2,50 0,05–0,25	CC.. DC.. TC.. VC.. WC..
		HCX1125	CWN2135	CWN2135			
			HCX1125	HCX1125			
		HCX1125	CWN2135				
-SMF - Finishing to medium machining - Low cutting forces - Good swarf control - High surface quality		HCX1115	HCX1125	HCX1125 / HCR1135		0,10–2,50 0,08–0,30	CC.. DC.. TC.. VC..
		HCX1125	HCR1135	HCR1135			
		HCX1115					
		HCX1125					
-PF26 - First choice for medium machining to roughing of stainless steels - Smooth to lightly interrupted cut - Good swarf control - Stable cutting edge		HCN2125	HCN2125	HCN2125		0,40–4,80 0,06–0,35	CC.. DC.. TC.. VC..
		HCN2125	HCN2125	HCN2125			
			HCN2125				
-FM37 - Universal geometry for all materials - Low cutting forces - Ground radii - Low built-up edge formation		WPU7620	WPU7620	WPU7620		0,25–7,00 0,025–0,2	DC..
		WPU7610	WPU 7610 / WPU7620	WPU7620			
		WPU7610	WPU 7610 / WPU7620	WPU7620			
		WUU 7610 / WPU7610	WUU 7610 / WPU7610	WUU 7610 / WPU7620			
		WUU 7610 / WPU7610	WUU 7610 / WPU7610	WPU7620			

i Sectional drawings and models correspond to CCMT 09T304

Chip breakers / Applications

Positive – Fine	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry	
					a _p mm	f mm		
-SMQ - Positive wiper geometry - Finishing to medium machining - Very high feedrate - High surface quality		HCX1115	HCX1125			1,00–4,00	0,15–0,45	CC.. DC..
		HCX1115	HCX1125					
		HCX1125 / HCX1115	HCX1125					
-25P - Sharp cutting edge - Good swarf control on soft aluminium alloys - Low adhesion		AMZ	AMZ			0,50–4,50	0,05–0,60	CC.. DC.. VC..
		AMZ	AMZ					
		AMZ	AMZ					
		CWK26	CWK26	CWK26				
		AMZ	AMZ					
Positive – Medium								
-25Q - Wiper geometry - High feed rates - High surface quality - Good swarf control on soft aluminium alloys - Low adhesion						0,05–6,50	0,05–0,60	CC.. DC.. VC..
		CWK20 / AMZ	CWK20 / AMZ					
		CWK20 / AMZ	CWK20 / AMZ					
		CWK20 / AMZ	CWK20 / AMZ	CWK20 / AMZ				
		CWK20 / AMZ	CWK20 / AMZ					
-ZM - Medium machining - Universal application - Stable cutting edge - Varying depths of cut - Wide range of applications		HCX1115 / HCX1125	HCX1125 / HCR1135 HCX1115	HCX1125 / HCR1135		0,05–5,00	0,15–0,45	CC.. DC.. TC.. VC..
		HCX1125						
		HCX1115	HCX1125					
		HCX1115 / HCX1125						
-AL - The universal Alu geometry - Sharp cutting edge - Extremely positive rake angle - Low adhesion - High feed rates		AMZ	AMZ			1,00–10,00	0,10–0,75	CC.. DC.. TC.. VC..
		AMZ	AMZ					
		AMZ	AMZ	CWK26				
		CWK15	CWK15	CWK15				
-M81 - Dircetly pressed insert - Positive rake angle - Good swarf control - For medium to rough machining						1,00–6,00	0,25–0,60	CC.. DC.. VC..
		CWN2120						
		CWN2120	CWN2120	CWN2120				

i Sectional drawings and models correspond to CCMT 09T304

Functional principle – Wiper geometry

Relationship of feed rate to surface roughness

Improved Surface Quality

With the same feed rate an insert with wiper cutting edge reaches a roughness value R_t which is many times better than a conventional insert.



Shorter machining time

To achieve the same R_t -value as with a standard insert, double the feed rate can be applied for the insert with wiper cutting edge (**= shorter production time per component!**)



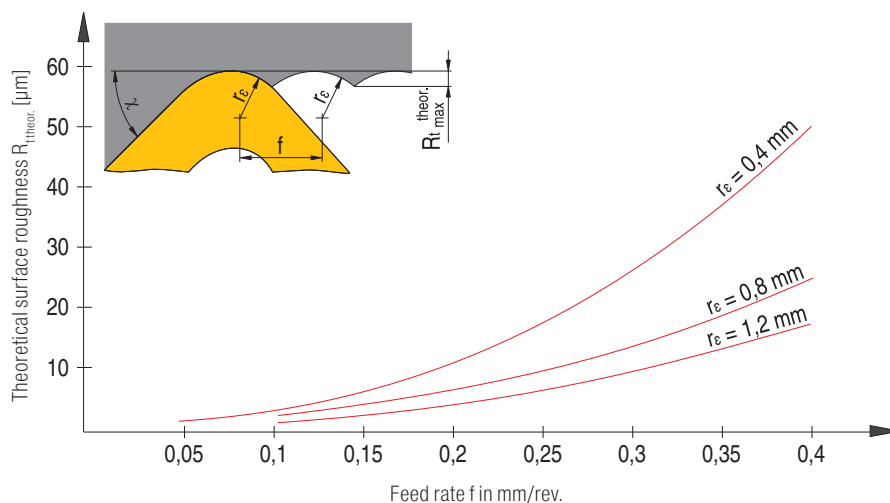
Theoretical Surface Quality

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

or approximately:

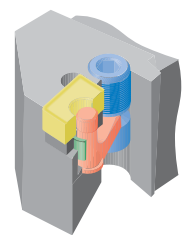
$$R_{t, \text{theor.}} = \left(r_\epsilon - \sqrt{r_\epsilon^2 - \frac{f^2}{4}} \right) \cdot 1000$$

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



Spare parts and torque values for holders for negative inserts

IsoClamp – Holder with lever clamping



Indexable Insert	Carbide seat	Elbow lever	Clamping Screw	Shim	Installation tool	Key	Torque moment
DN.. 1104	without	70950125	70950126			SW2,5 70950175	3,0 Nm
DN.. 1104	70950120	70950121	70950208	70950122	70950191	SW2,5 70950175	3,0 Nm
WN.. 0604	without	70950129	70950217			SW02 70950177	2,2 Nm
WN.. 0604	70950127	70950185	70950208	70950122	70950191	SW2,5 70950175	3,0 Nm

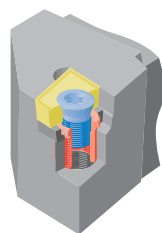
IsoClamp – Holder with screw clamping



Indexable Insert	Clamping Screw	Torx key	Torque moment
DNGU 1104	M4x11 IP 72950007	T15IP 80950128	4,0 Nm

Spare parts and torque values for holders for positive inserts

IsoClamp – Holder with screw clamping

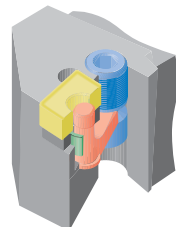


Indexable Insert	Carbide seat	Threaded sleeve	Clamping Screw	Combi key	Torque moment
CC.. 0602			M2,5x6 70950112	T08 80950110	1,2 Nm
CC.. 09T3	without		M3,5x11 70950113*	T15 80950113	3,2 Nm
CC.. 09T3	70950165	70950171	M3x5x11 70950113	T15/SW 70950398	3,2 Nm
DC.. 0702			M2,5x6 70950112	T08 80950110	1,2 Nm
DC.. 11T3	without		M3,5x11 70950113**	T15 80950113	3,2 Nm
DC.. 11T3	70950106	70950171	M3,5x11 70950113	T15/SW 70950398	3,2 Nm
TC.. 0902			M2,5x5 70950111	T07 80950109	1,0 Nm
TC.. 1102			M2,5x6 70950112	T08 80950110	1,2 Nm
VC.. 1103			M2,5x6 70950112	T08 80950110	1,2 Nm
WC.. 0201			M1,8x3,4 70950334	T06 80950108	0,4 Nm

i * For boring bars with CC .. 09T3 without carbide seat and d2 = 16 mm or 20 mm, there are different lengths of clamping screws. Details can be found on the product page.

** For boring bars with DC .. 11T3 without carbide seat and d2 = 20 mm, there are different lengths of clamping screws. Details can be found on the product page.

IsoClamp – Holder with lever clamping

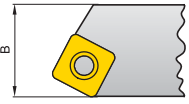
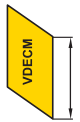
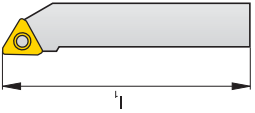
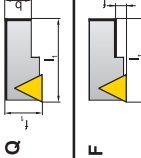
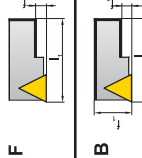
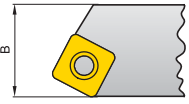
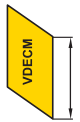
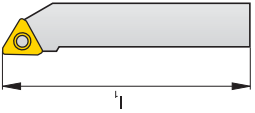
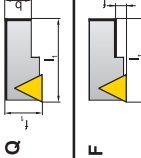
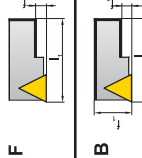


Carbide seat	Elbow lever	Clamping Screw	Shim	Installation tool	Key	Torque moment
70950215	70950178	70950208	70950197	70950191	SW2,5 70950175	3,0 Nm
70950384	70950387	70950390	70950169	70950192	SW0,3 70950176	4,0 Nm

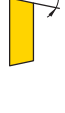
ISO designation system for inserts

Insert shape		Clearance angle		Tolerances		Characteristics		Cutting length		Insert thickness		Corner radius		Cutting edge		Direction of cut	
Included angle	35°	Included angle	3°	d ±	m ±	s ±	N	06	16	1/16	01	RN	00	F	R	90° A	9
	55°		5°														
Included angle	75°	Included angle	7°	0.013	0.013	0.013	F	08	20	3/32	02	RC	02	E	L	85° A	8
	80°		8°														
Other shapes	86°	Other shapes	15°	0.013	0.013	0.013	A	10	25	1/8	03	T	03	S	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	M	12	32	5/32	04	K	04	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	B	14	40	3/8	05	H	05	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	C	16	48	7/16	06	J	06	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	D	18	54	1/2	07	X	07	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	E	20	60	5/8	08	X	08	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	F	22	66	3/4	09	X	09	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	G	24	72	7/8	10	X	10	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	H	26	78	1 1/8	11	X	11	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	I	28	84	1 1/4	12	X	12	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	J	30	90	1 1/2	13	X	13	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	K	32	96	1 3/4	14	X	14	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	L	34	102	1 7/8	15	X	15	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	M	36	108	2	16	X	16	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	N	38	114	2 1/4	17	X	17	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	O	40	120	2 1/2	18	X	18	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	P	42	126	2 3/4	19	X	19	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	Q	44	132	3	20	X	20	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	R	46	138	3 1/4	21	X	21	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	S	48	144	3 1/2	22	X	22	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	T	50	150	3 3/4	23	X	23	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	U	52	156	4	24	X	24	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	V	54	162	4 1/4	25	X	25	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	W	56	168	4 1/2	26	X	26	P	N	90° P	10
	86°		20°														
Other shapes	86°	Other shapes	20°	0.013	0.013	0.013	X	58	174	4 3/4	27	X	27				

ISO designation system for tool holders

 D  S Retained from above and via bore Retained via centre screw <td colspan="2">  M  C Retained from above and via bore Retained from above </td><td colspan="2">  P X Special version Retained via the bore Special version </td><td colspan="2"> Clamping method </td><td colspan="2"> Direction of cut  R  L  N </td><td colspan="2"> Style <table><tr><td></td><td></td><td></td><td></td><td></td><td>60°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>75°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>75°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>60°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>85°</td></tr></table> </td><td colspan="2"> Shank width  </td><td colspan="2"> Cutting length           </td><td colspan="2"> Shank height  Tool holder  Cartridge Round shank 00 </td><td colspan="2"> Cartridge 1. Position: C = own version 2. Position: A = ISO 5611 </td><td colspan="2"> Tool length <table><tr><th>I₁ mm</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>H</th><th>J</th><th>K</th><th>L</th><th>M</th><th>N</th><th>P</th><th>Q</th><th>R</th><th>S</th><th>T</th><th>U</th><th>V</th><th>W</th><th>Y</th><th>Special version</th></tr><tr><td>32</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td><td>100</td><td>110</td><td>125</td><td>140</td><td>150</td><td></td><td>160</td><td>170</td><td>180</td><td>200</td><td>250</td><td>300</td><td>350</td><td>400</td><td>450</td><td>500</td><td></td></tr></table>  </td><td colspan="2"> Special version Qualified high-precision tools  Q  F  B </td>		 M  C Retained from above and via bore Retained from above		 P X Special version Retained via the bore Special version		Clamping method		Direction of cut  R  L  N		Style <table><tr><td></td><td></td><td></td><td></td><td></td><td>60°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>75°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>75°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>60°</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>85°</td></tr></table>							60°						75°						75°						60°						85°	Shank width 		Cutting length          		Shank height  Tool holder  Cartridge Round shank 00		Cartridge 1. Position: C = own version 2. Position: A = ISO 5611		Tool length <table><tr><th>I₁ mm</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>H</th><th>J</th><th>K</th><th>L</th><th>M</th><th>N</th><th>P</th><th>Q</th><th>R</th><th>S</th><th>T</th><th>U</th><th>V</th><th>W</th><th>Y</th><th>Special version</th></tr><tr><td>32</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td><td>100</td><td>110</td><td>125</td><td>140</td><td>150</td><td></td><td>160</td><td>170</td><td>180</td><td>200</td><td>250</td><td>300</td><td>350</td><td>400</td><td>450</td><td>500</td><td></td></tr></table> 		I ₁ mm	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	Y	Special version	32	40	50	60	70	80	90	100	110	125	140	150		160	170	180	200	250	300	350	400	450	500		Special version Qualified high-precision tools  Q  F  B	
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32	40	50	60	70	80	90	100	110	125	140	150		160	170	180	200	250	300	350	400	450	500																																																																															

Clearance angle



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

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

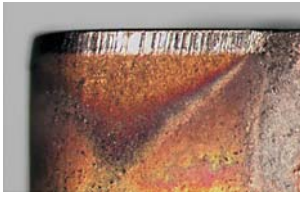
O

ISO designation system for boring bars

[illegible]

Types of wear

Wear on clearance face



Abrasion on flank: normal wear after a certain machining time

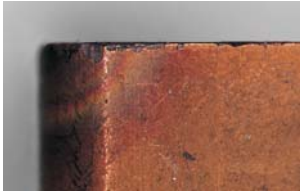
Cause

- 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.

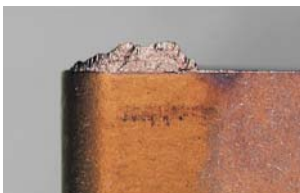
Cause

- 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

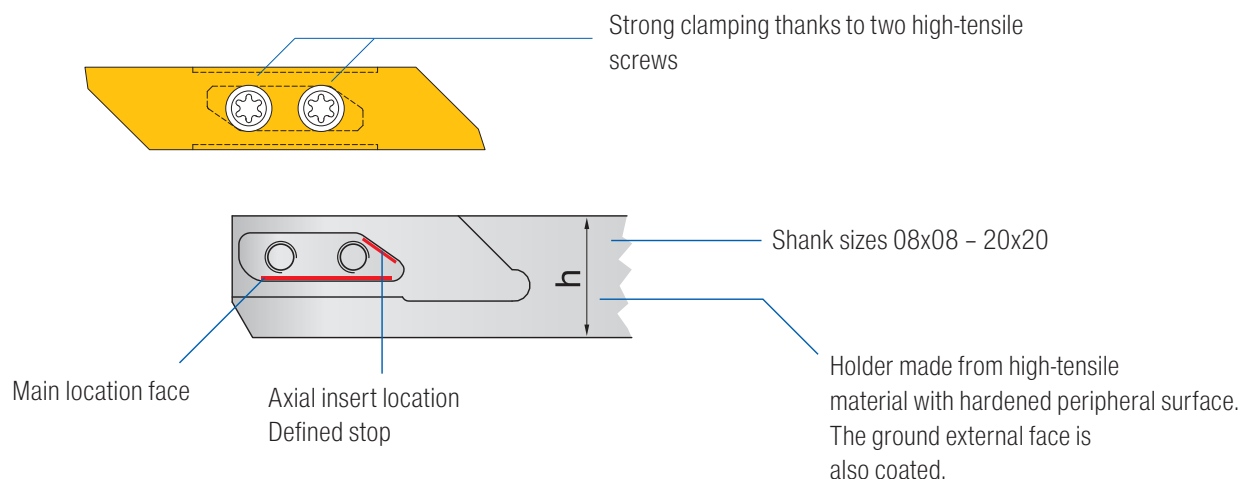
- Use tougher grade
- Use protective edge chamfer
- Increase edge hone
- Use geometry with higher stability

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 pips and burrs	Chattered surface	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)					
⬇️	⬇️		⬇️		⬇️	⬇️			⬆️	⬇️		Cutting speed		Cutting data	Remedy measures	
🌀		⬇️	⬇️	⬇️		⬆️		⬇️	⬇️	⬆️	⬇️	Feed rate				
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		⬆️	🌀		⬇️	🌀	⬇️	⬇️	⬇️	⬇️	⬆️	Chip groove		⬆️		Insert selection
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		🌀		🌀		🌀		🌀	🌀			Tool clamping				General criteria
		🌀		🌀		🌀		🌀	🌀			Work piece clamping				
		🌀		🌀		🌀			⬇️			Overhang				
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●	🌀		●		●		●		●	●		Cooling lubricant				
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VertiClamp

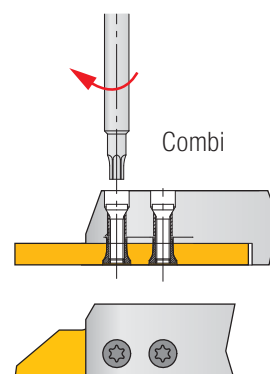
Features



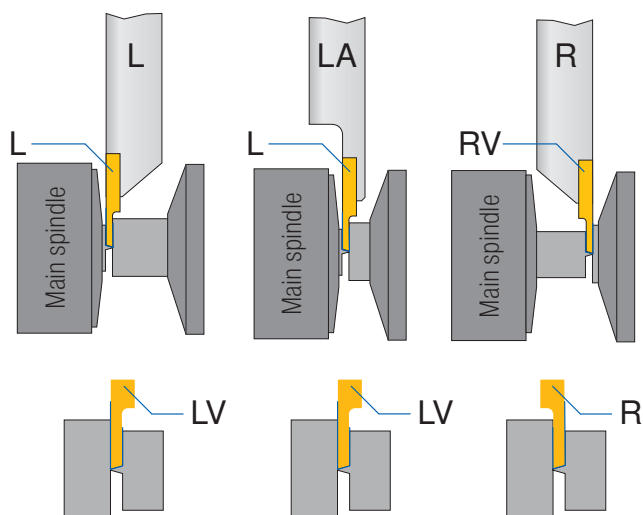
Advantages

- 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

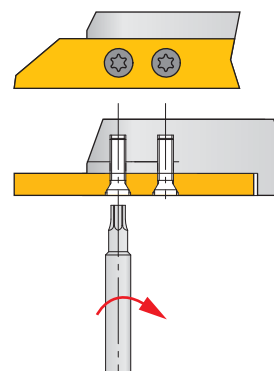
Clamping of cutting edge With combi holders



Turning away from the spindle



Clamping of cutting edge With standard holders

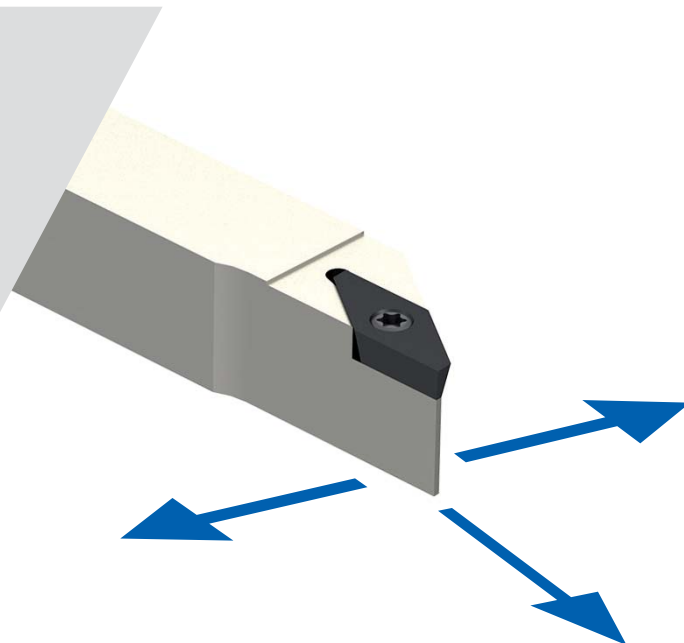


TriClamp

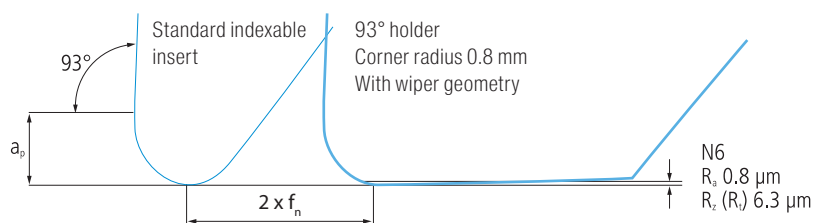
The feed rate can be doubled through the use of the TriClamp system with wiper geometry and 93° holder. This in turn allows machining times to be reduced considerably with no impact on quality, or the surface quality can be improved whilst retaining the same machining time. The ability to machine in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

Advantages

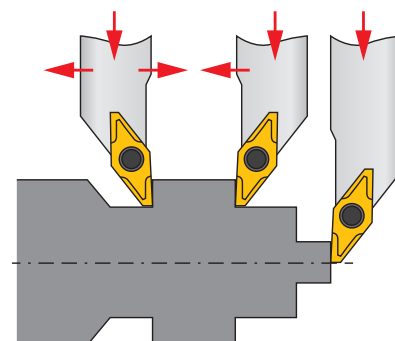
- Expansion of the ISO range
- Turning in three directions
- All cutting edges can easily be replaced
- Sharp positive cutting edges with 11° clearance angle
- Small corner radii 0.08 mm and 0.2 mm
- Perfect chip control
- Special holders for sliding head lathes (Cross-sections 8x8 mm to 16x16 mm)



Wiper geometry in detail:

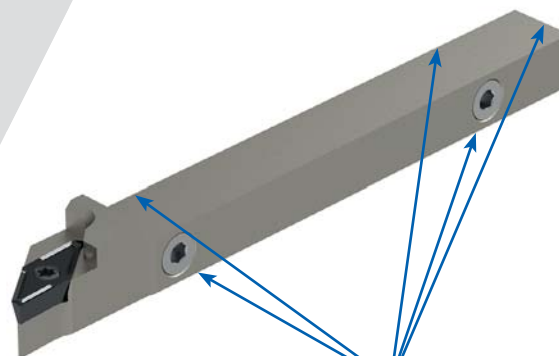


Applications:



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. WNT 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



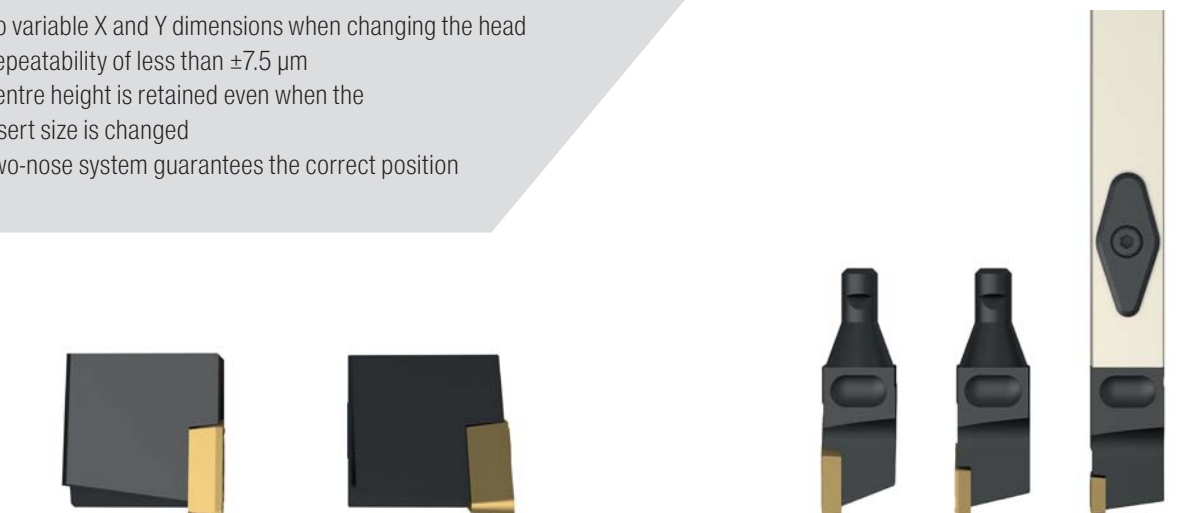
Versatility

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

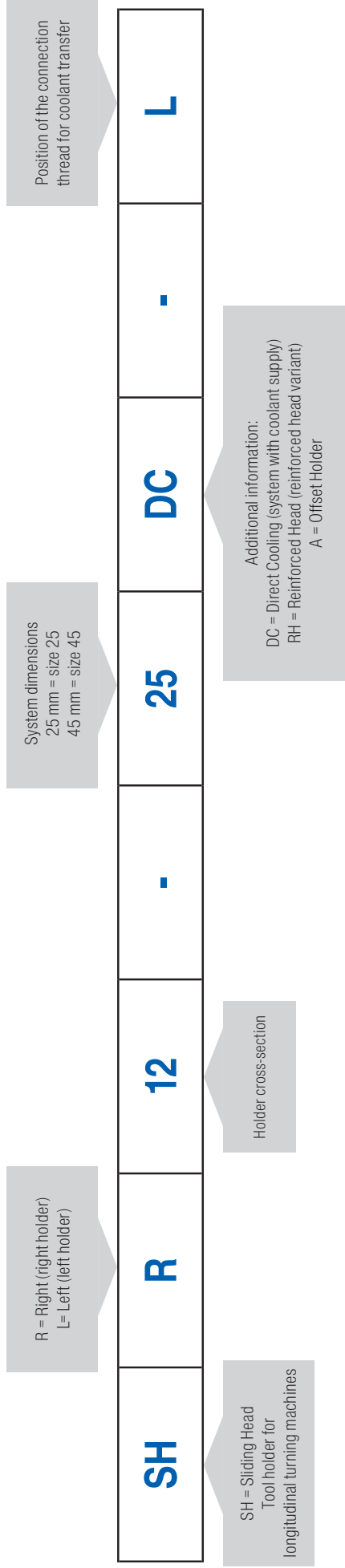


Accuracy

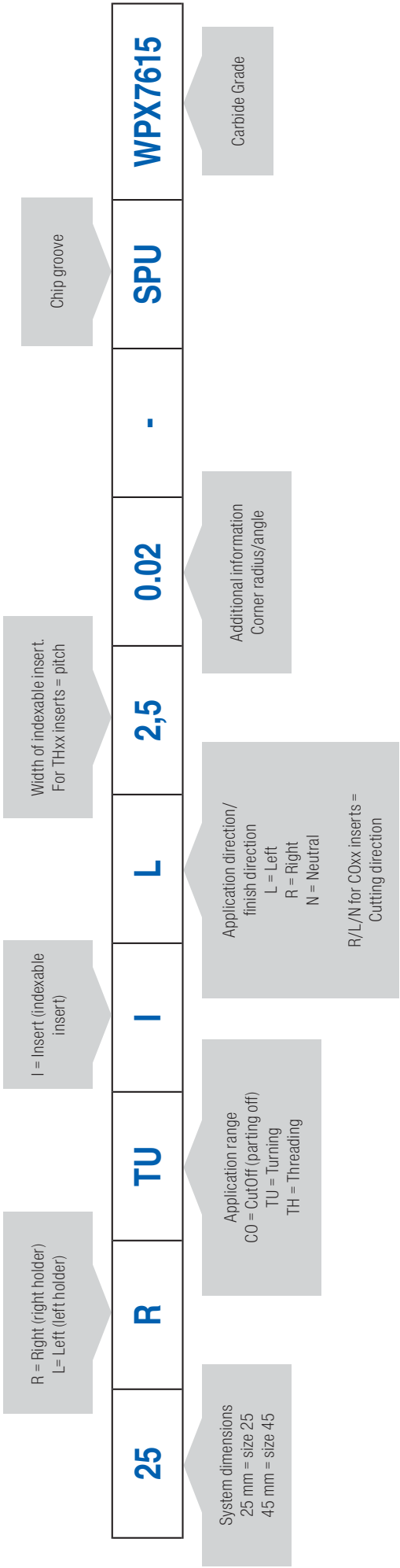
- No variable X and Y dimensions when changing the head
- Repeatability of less than $\pm 7.5 \mu\text{m}$
- Centre height is retained even when the insert size is changed
- Two-nose system guarantees the correct position



System 25 and System 45 tool holder naming convention



System 25 and System 45 indexable insert naming convention



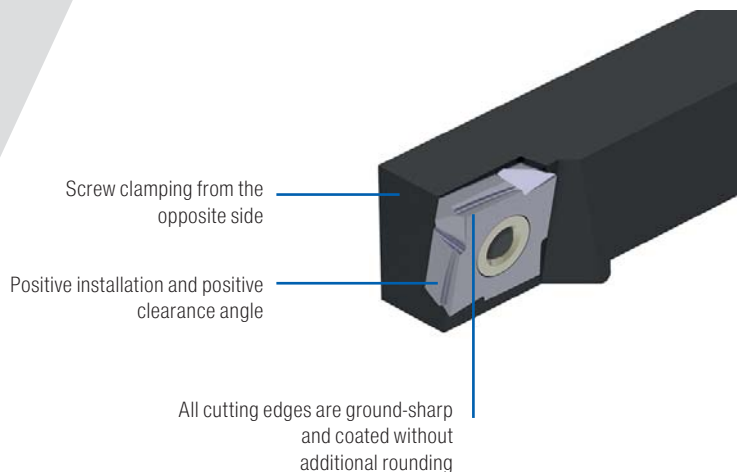
SOGX system

The SOGX indexable insert system is based on a tangential indexable insert arrangement. As a result, there is a higher volume of solid carbide underneath the cutting edge, which increases stability. The force cross-section is more stable.

The SOGX system not only impresses with a tangential arrangement, but also with an extremely sharp cutting edge. Cutting pressures are therefore reduced further, improving the machining process. Indexable insert sizes 07 and 11 are available for various applications using four-edged indexable inserts, with the option of producing 90° shoulders.

Advantages

- Easy changing of indexable inserts in the machine
- High cutting depths can be achieved
- Available in a coated or uncoated grade (e.g. titanium coating)



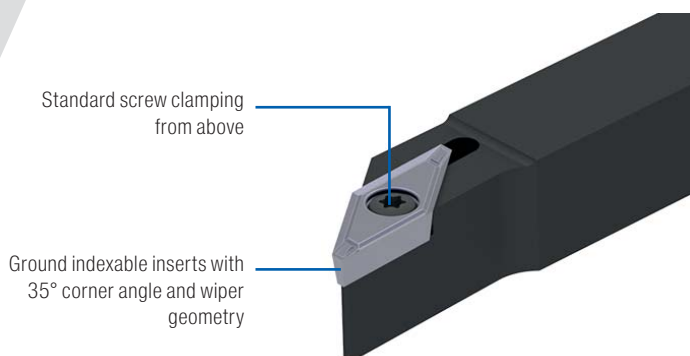
VCGT system

The VCGT system produces an excellent surface quality with an extremely sharp cutting edge, thanks to the wiper geometry.

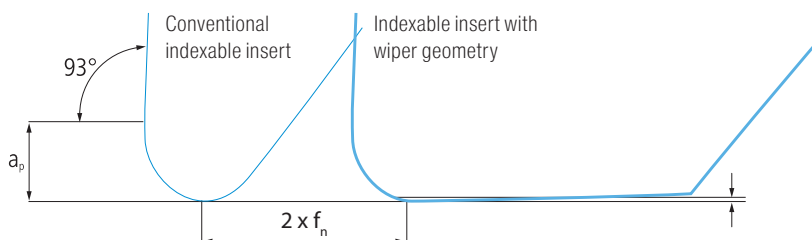
Feeds can be increased two-fold during the process (this decreases the surface quality to the value of a standard indexable insert due to complete utilisation of the wiper geometry width).

Advantages

- Cutting depths of up to 6.5 mm improve chip removal rate
- Excellent surface quality after the first cut reduces number of work steps
- Excellent chip control reduces machine downtime or workpiece damage



The following example explains the principle in detail:



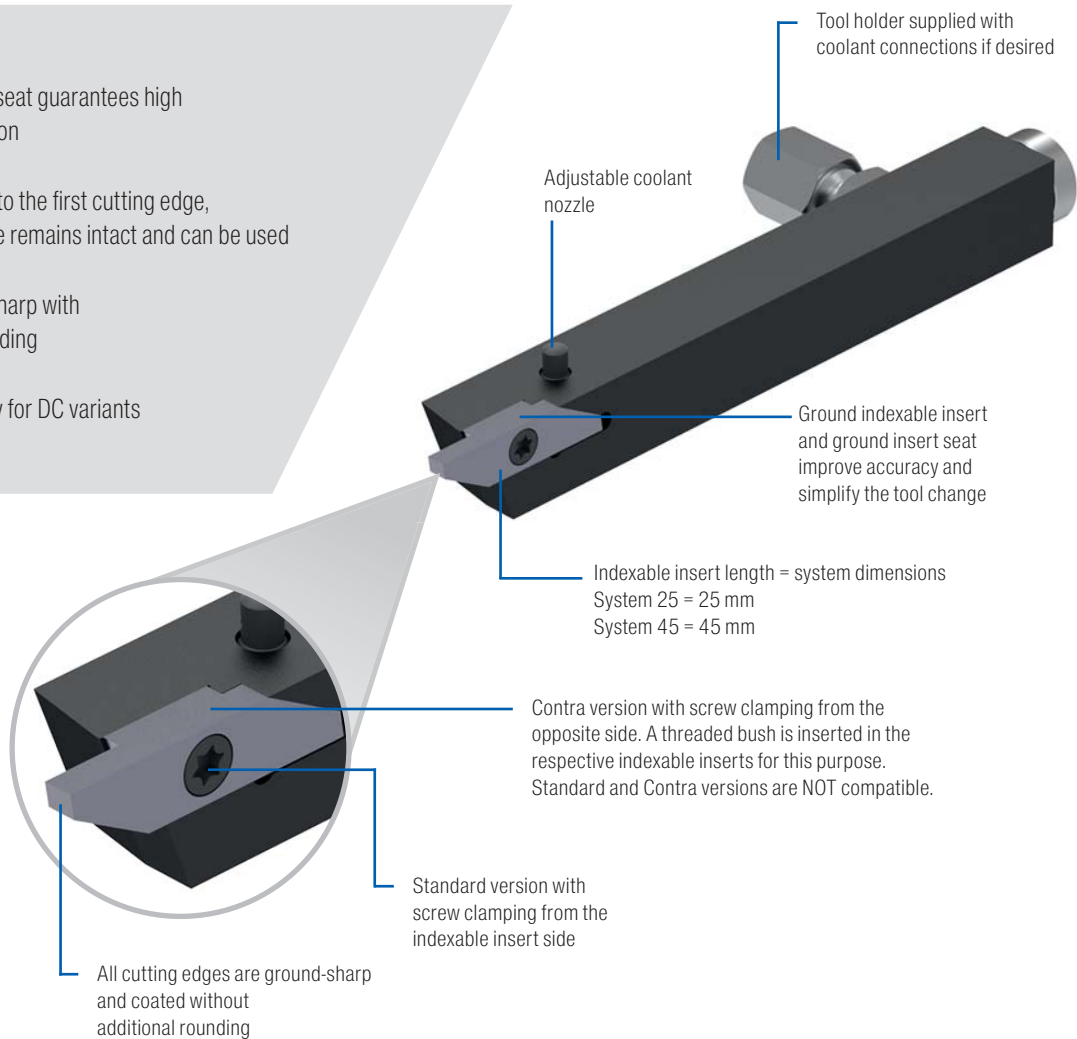
System 25 and System 45

System

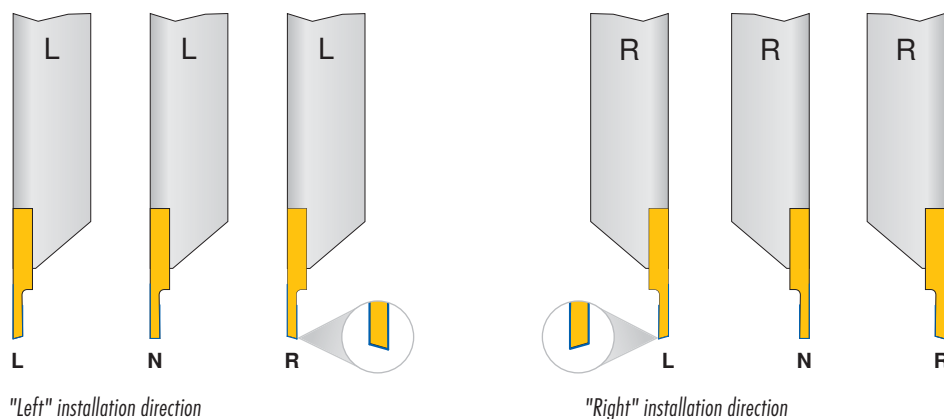
Systems 25 and 45 feature a tangential indexable insert tool holder. This clamping technology ensures that the cutting edge is almost in line with the external surface of the tool holder. The indexable insert can be turned in three directions, meaning that it can be used for machining in a radial direction and in both axial directions. All cutting edges on both System 25 and System 45 are sharpened. System 25 is ideal for small and extremely small diameters.

Advantages

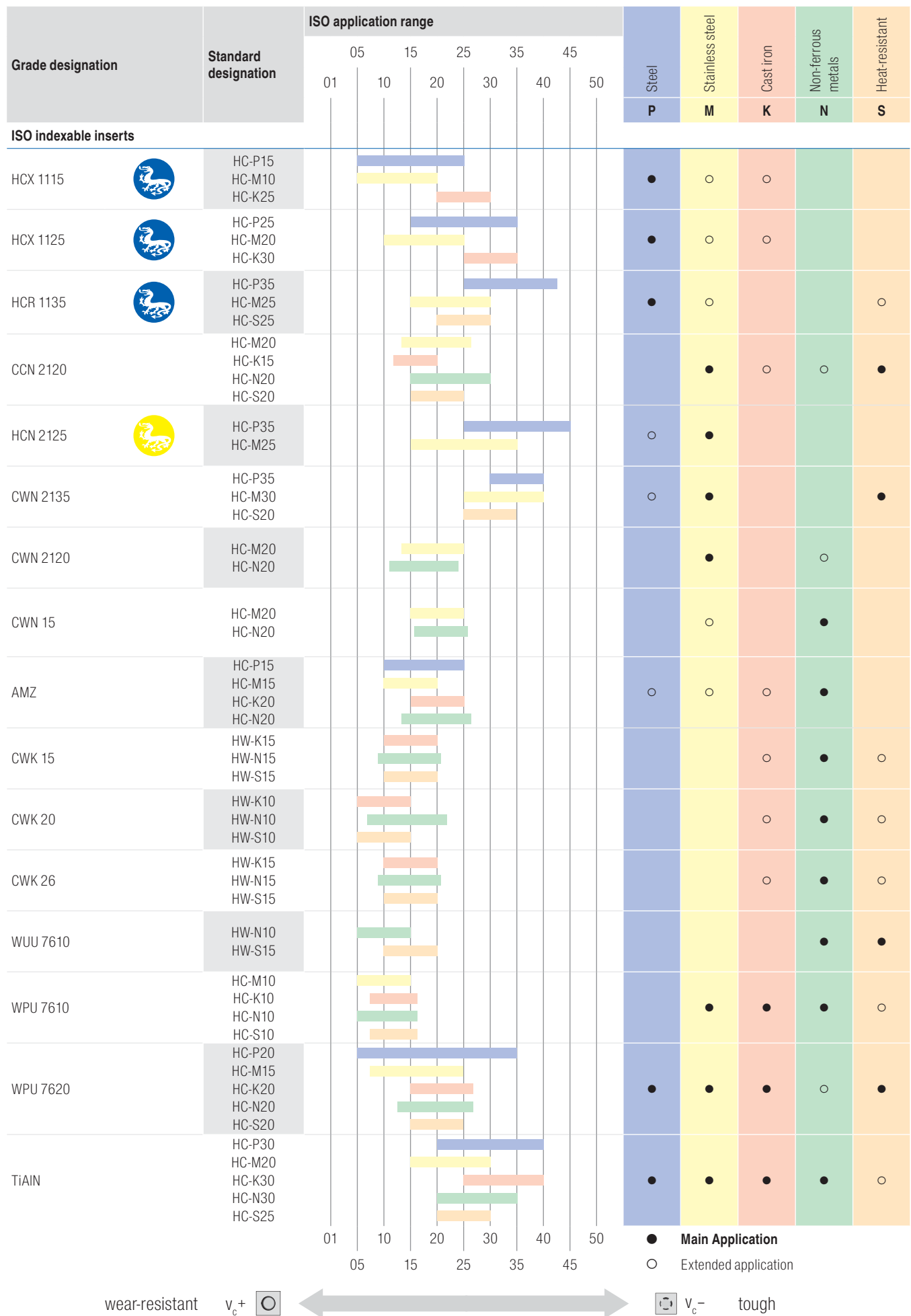
- Ground rhombic insert seat guarantees high tool changeover precision
- In the event of damage to the first cutting edge, the second cutting edge remains intact and can be used
- All inserts are ground-sharp with no additional edge rounding
- Targeted coolant supply for DC variants in all pressure ranges



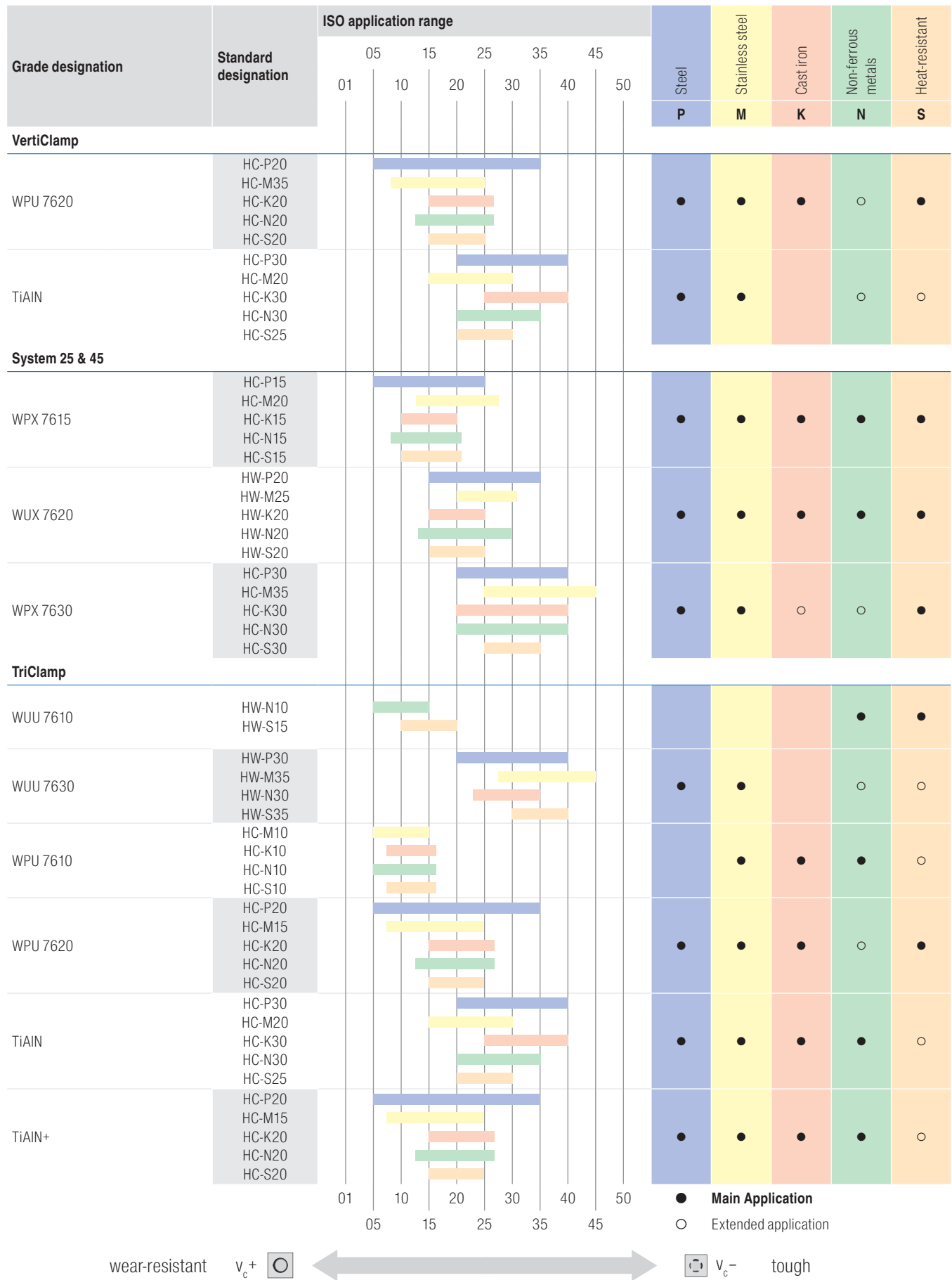
Useable directions



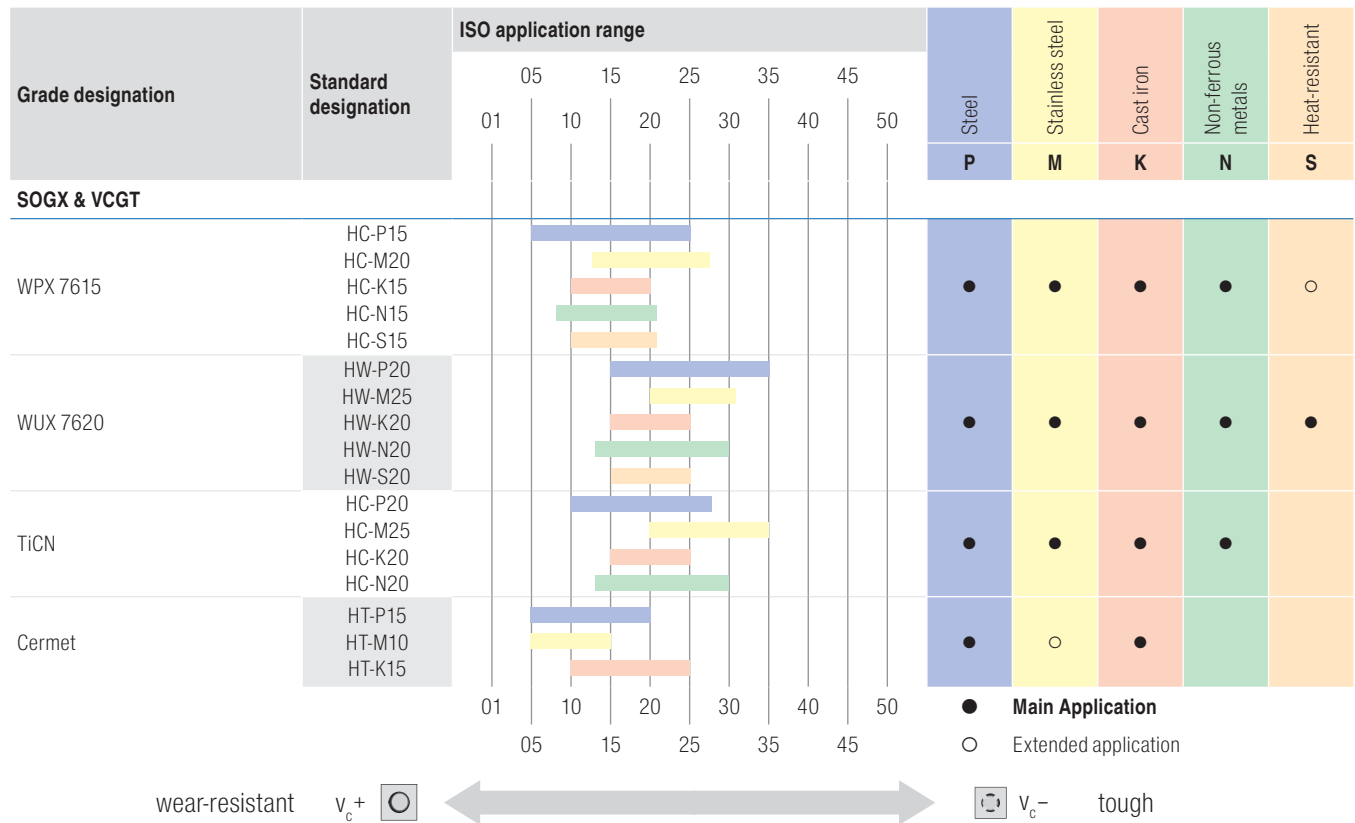
Grades Overview



Grades Overview



Grades Overview



Grade designation

HCX 1115	Carbide, Dragonskin coating, ISO – P15 with stable conditions and continuous cut	AMZ	Carbide, TiAlN coating, ISO – K20 Multi-purpose grade, stainless steel and aluminium finishing
HCX 1125	Carbide, Dragonskin coating, ISO – P25 universal, usable with a wide range of applications	WUU 7610	Carbide, ISO – K10, uncoated Tailored for non-ferrous metals
HCR 1135	Carbide, Dragonskin coating, ISO – P35 with unstable and difficult conditions	WPU 7610	Carbide, ISO – K10 / M10, PVD-AiTIN For stainless steels and super alloys
CCN 2120	Carbide, TiAlN coating, ISO – M20 for stainless steel and super alloys	WUU 7630	Carbide, ISO – K30 / M20, uncoated Universal, main application non-ferrous metals
CWN 2120	Carbide, TiN coating, ISO – K20 for stainless steel High performance for aluminium	WPU 7620	Carbide, ISO – P20 / M20, PVD-AiTIN For steels and stainless steels
HCN 2125	Carbide, Dragonskin coating, ISO – M25 Universal for stainless	TiAlN	Carbide, ISO – K30 / M20, PVD-TiAlN Universal grade for all materials
CWN 2135	Carbide, Al ₂ O ₃ -TiN-coating, ISO – M35 for stainless steel	TiAlN+	Carbide, ISO – K20 / M20, PVD-TiAlN Universal grade for all materials
CWK 15	Carbide, uncoated, ISO – K15 Roughing of aluminium	WPX 7615	Carbide, ISO – P/M/K15, PVD-TiAlN Universal grade for all materials
CWK 20	Carbide, uncoated, ISO – K20 high cutting speed	WPX 7630	Carbide, ISO – P/M/K30, PVD-TiN Universal with high toughness reserve
CWK 26	Carbide, uncoated, ISO – K20 Multi-purpose grade	WUX 7620	Carbide, ISO – P/M/K20, uncoated Universal application
CWN 15	Carbide, TiN coating, ISO – K15 for abrasive aluminium alloys	TiCN	Carbide, ISO – P/M/K15, PVD-TiCN Ideal for difficult-to-machine materials
HCN 2430	Carbide, Dragonskin coating, ISO – M25 Multi-use grade	Cermet	Cermet, ISO – P10, uncoated For steels

Grade designation

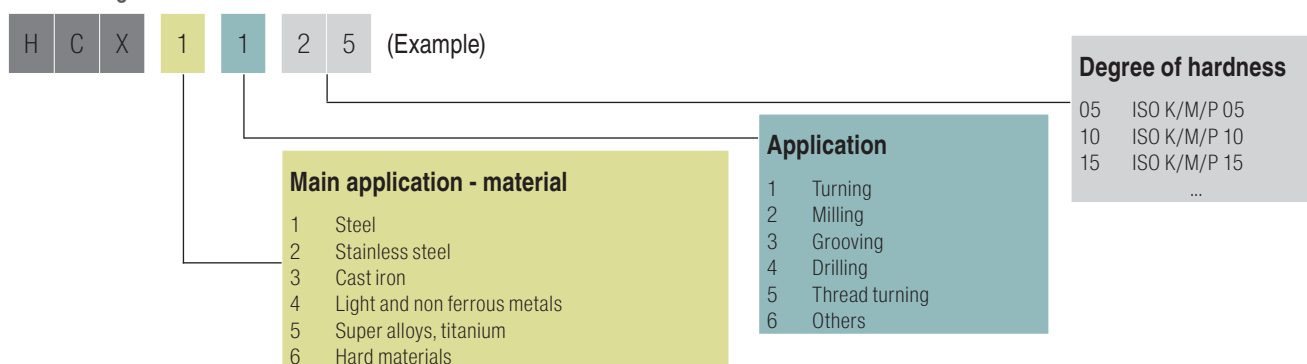


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WNT MASTERTOOL
PERFORMANCE

Premium quality tools for high performance.

The premium quality tools from the **WNT Mastertool 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.

System overview

EcoCut Mini



Drilling into solid material and subsequent turning from a bore diameter of 4.0 mm and a maximum depth of 4xD.

→ 162+163

EcoCut Classic



Full functionality as an indexable insert tool for diameters ranging from 8.0 mm to 16.0 mm at depths of 1.5xD, 2.25xD and 3xD.

→ 165-167

EcoCut ProfileMaster



Also possible to perform grooving and undercut turning from 10.0 mm to 16.0 mm at depths of 1.5xD and 2.25xD.

→ 169+170

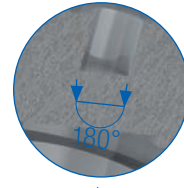
EcoCut Classic

Longitudinal and face turning



EcoCut ProfileMaster

Drilling with flat bottom hole and groove turning



EcoCut Mini

Drilling with flat bottom hole

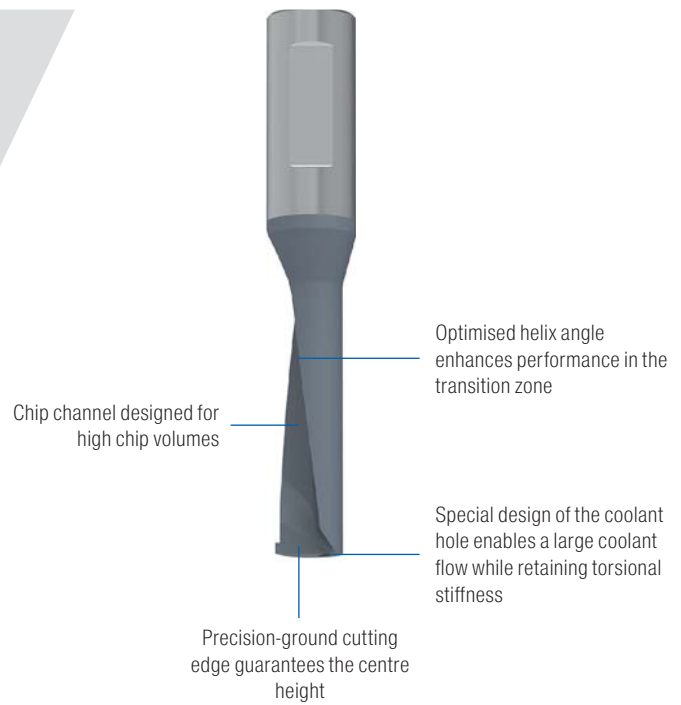


Turning
EcoCut – Toolfinder

i All applications can be performed by every EcoCut tool.

Highlights

- Drilling into solid material with flat bottom hole
Reduced costs as no secondary operation required
- Internal and longitudinal turning
Turning can take place straight after drilling, with high material removal rates
- Internal and contour turning
To create chamfers
- External and longitudinal turning
Production of external diameter
- External and face turning
Fewer tools required
- Drilling from centre
Reduces investment costs for tools with a fixed diameter



Overview

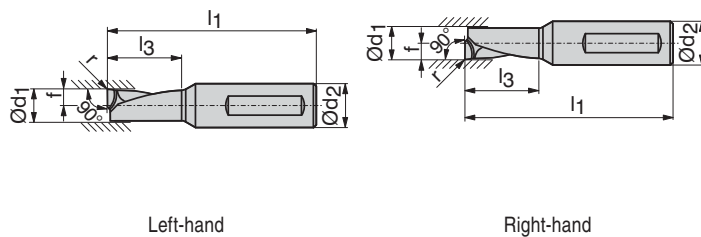
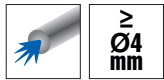
	Tool design			Applications				Pages
	Dimension	Hole Ø mm	max. bore depth	Drilling into full material	Turning	Face turning	Groove turning	
EcoCut Mini		2,25xD	4–8	18	✓	✓	✓	162+163
		4,0xD	4–8	32	✓	✓	✓	162+163
EcoCut Classic		1,5xD	8–16	24,0	✓	✓	✓	165
		2,25xD	8–16	36,0	✓	✓	✓	166
		3,0xD	8–16	48,0	✓	✓	✓	167
EcoCut Profilmaster		1,5xD	10–16	24,0	✓	✓	✓	169
		2,25xD	10–16	36,0	✓	✓	✓	170

Overview EcoCut Mini and EcoCut Inserts

Type	Smooth cut	Irregular cutting depth	Interrupted cut	Grade	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Tempered steel	Radius r in mm	coated	uncoated	Pages
EcoCut Mini														
				HCN 1435	●	●	○	○	○	○	0,2	■		162
				CWK 4425			○	●	○		0,2		□	162
EcoCut Classic														
				HCR 1425	●	○	○	○	○	○	0,2-0,4	■		164
				HCR 1435	●	○	○	○	○	○	0,2-0,4	■		164
				HCN 2430	●	●	○	○	○	○	0,2-0,4	■		164
				CWK 26			○	●	○		0,2-0,4		□	164
				CWK 20			○	●	○		0,2-0,4		□	164
EcoCut ProfileMaster														
				HCN 2430	●	●	○	○	○	○	0,4	■		168
● = Main Application ○ = Extended application														

EcoCut – Mini

■ Drilling and turning tool for small diameters



Left-hand

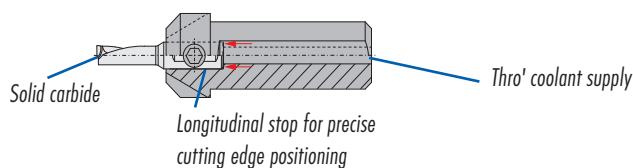
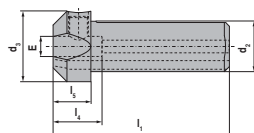
Right-hand

HCN
1435Solid carbide
Left-handHCN
1435Solid carbide
Right-handCWK
4425Solid carbide
Left-handCWK
4425Solid carbide
Right-hand

Designation	d ₁ DC mm	d ₂ DCONMS mm	l ₁ OAL mm	l ₃ LU mm	f WF mm	r RE mm	Article no. 70 805 ...	Article no. 70 804 ...	Article no. 70 805 ...	Article no. 70 804 ...
ECM 04 R/L 2,25D	4	6	35	9.00	2.0	0.2	300	300		
ECM 04 R/L 2,25D AL	4	6	35	9.00	2.0	0.2			450	450
ECM 04 R/L 4,00D	4	6	41	16.00	2.0	0.2	301	301		
ECM 04 R/L 4,00D AL	4	6	41	16.00	2.0	0.2			451	451
ECM 05 R/L 2,25D	5	6	37	11.25	2.5	0.2	302	302		
ECM 05 R/L 2,25D AL	5	6	37	11.25	2.5	0.2			452	452
ECM 05 R/L 4,00D	5	6	45	20.00	2.5	0.2	303	303		
ECM 05 R/L 4,00D AL	5	6	45	20.00	2.5	0.2			453	453
ECM 06 R/L 2,25D	6	8	38	13.50	3.0	0.2	306	306		
ECM 06 R/L 2,25D AL	6	8	38	13.50	3.0	0.2			456	456
ECM 06 R/L 4,00D	6	8	49	24.00	3.0	0.2	312	312		
ECM 06 R/L 4,00D AL	6	8	49	24.00	3.0	0.2			462	462
ECM 07 R/L 2,25D	7	8	42	15.75	3.5	0.2	308	308		
ECM 07 R/L 2,25D AL	7	8	42	15.75	3.5	0.2			458	458
ECM 07 R/L 4,00D	7	8	53	28.00	3.5	0.2	314	314		
ECM 07 R/L 4,00D AL	7	8	53	28.00	3.5	0.2			464	464
ECM 08 R/L 2,25D	8	8	45	18.00	4.0	0.2	310	310		
ECM 08 R/L 2,25D AL	8	8	45	18.00	4.0	0.2			460	460
ECM 08 R/L 4,00D	8	8	57	32.00	4.0	0.2	316	316		
ECM 08 R/L 4,00D AL	8	8	57	32.00	4.0	0.2			466	466
Steel							●	●		
Stainless steel							●	●		
Cast iron							○	○	○	○
Non ferrous metals							○	○	●	●
Heat resistant alloys							●	●	○	○

→ v_c Page 177

EcoCut – Adapter Mini



Designation	E DCONWS mm	d ₂ DCONMS mm	d ₃ BD mm	l ₁ OAL mm	l ₅ LFSF mm	l ₄ LSC mm	Article no. 70 800 ...
EC-ADX16-06	6	16.00	22	59.0	14	18	976
EC-ADX12-06-E 3/4"	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 3/4"	8	19.05	25	63.5	14	18	988
EC-ADX20-08	8	20.00	25	64.0	14	18	998

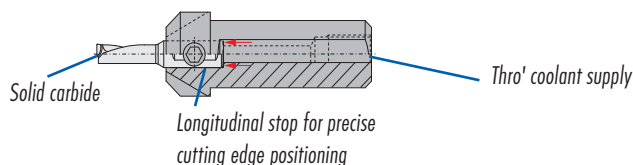
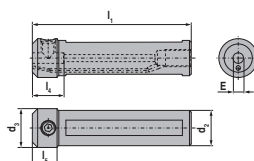


Clamping screw

Spare parts
for Article no.

Article no.	70 950 ...
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 direct coolant connection thread



Designation	E DCONWS mm	d ₂ DCONMS mm	d ₃ BD mm	l ₁ OAL mm	l ₅ LFSF mm	l ₄ LSC mm	Thread	Article no. 70 801 ...
ECA 16-06	6	16.00	22.0	75	14	18	G 1/8	816
ECA 0750-06 3/4"	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	22.0	110		18	G 1/8	822
ECA 25-06	6	25.00	25.0	110		18	G 1/8	825
ECA 1000-06 1/1"	6	25.40	25.4	110		18	G 1/8	826
ECA 16-08	8	16.00	22.0	75	14	18	G 1/8	916
ECA 0750-08 3/4"	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	22.0	110		18	G 1/8	922
ECA 25-08	8	25.00	25.0	110		18	G 1/8	925
ECA 1000-08 1/1"	8	25.40	25.4	110		18	G 1/8	926



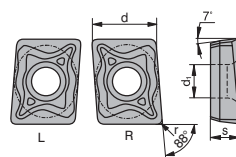
Clamping screw

Spare parts
for Article no.

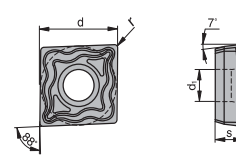
Article no.	70 950 ...
70 801 816	M8x1x8 - SW4 123
70 801 819	M8x1x8 - SW4 123
70 801 820	M8x1x8 - SW4 123
70 801 822	M8x1x8 - SW4 123
70 801 825	M8x1x8 - SW4 123
70 801 826	M8x1x8 - SW4 123
70 801 916	M8x1x8 - SW4 123
70 801 919	M8x1x8 - SW4 123
70 801 920	M8x1x8 - SW4 123
70 801 922	M8x1x8 - SW4 123
70 801 925	M8x1x8 - SW4 123
70 801 926	M8x1x8 - SW4 123

XCNT / XCET

Designation	s S mm	d ₁ D1 mm	d 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

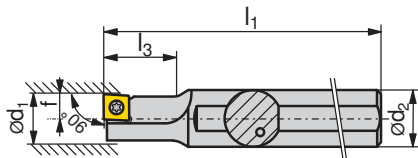
		-M50Q		-ALP		-ALQ	
		HCR 1425	HCR 1425	HCR 1435	HCN 2430	CWK 26	CWK 20
		XCNT	XCNT	XCNT	XCNT	XCET	XCET
ISO	r RE mm	Article no. 70 386 ...	Article no. 70 386 ...	Article no. 70 386 ...	Article no. 70 386 ...	Article no. 70 286 ...	Article no. 70 286 ...
040102EL	0.2	720		820	920		
040102ER	0.2	722		822	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
Steel		●	●	●	●		
Stainless steel		○	○	○	●		
Cast iron		●	●	○	○	○	○
Non ferrous metals					○	●	●
Heat resistant alloys					●		

EcoCut – Classic 1.5xD

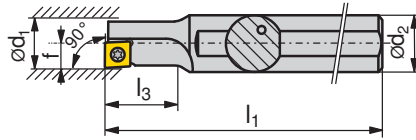
- Drilling and turning tool

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver



Left-hand



Right-hand



Left-hand

Right-hand

Designation	d ₁ DC mm	d ₂ DCONMS mm	l ₁ OAL mm	l ₃ LU mm	f WF mm	Insert	Article no. 70 805 ...	Article no. 70 804 ...
ECC 08 L 1,5D 04	8	12	80	12	4	XC.T 0401..EL	008 ²⁾	
ECC 08 R 1,5D 04	8	12	80	12	4	XC.T 0401..ER		008 ¹⁾
ECC 10 R/L 1,5D 05	10	12	90	15	5	XC.T 0502..	010	010
ECC 12 R/L 1,5D 06	12	16	100	18	6	XC.T 0602..	012	012
ECC 14 R/L 1,5D 07	14	16	110	21	7	XC.T 0703..	014	014
ECC 16 R/L 1,5D 08	16	20	125	24	8	XC.T 0803..	016	016

1) Note! right hand insert on right hand tool → **Page 181**

2) Note! left hand insert on left hand tool → **Page 181**



Key D



Clamping screw

Spare parts
for Article no.

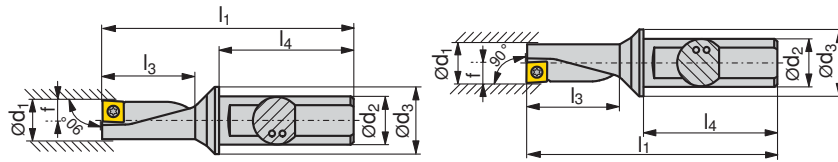
	Article no. 80 950 ...	Article no. 70 950 ...
70 805 008	T06 - IP 123	M1,8x3,6 - IP 862
70 804 008	T06 - IP 123	M1,8x3,6 - IP 862
70 805 010 / 70 804 010	T06 - IP 123	M2x4,3 - IP 863
70 805 012 / 70 804 012	T07 - IP 124	M2,2x5 - IP 856
70 805 014 / 70 804 014	T08 - IP 125	M2,5x6 - IP 857
70 805 016 /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



Left-hand

Right-hand



Left-hand

Right-hand

Designation	d ₁ DC mm	d ₂ DCONMS mm	d ₃ DF mm	l ₁ OAL mm	l ₃ LU mm	l ₄ LS mm	f WF mm	Insert	Article no. 70 805 ...	Article no. 70 804 ...
ECC 08 L 2,25D 04	8	10	12	60.0	18.0	38	4	XC.T 0401..EL	108 ²⁾	
ECC 08 R 2,25D 04	8	10	12	60.0	18.0	38	4	XC.T 0401..ER		108 ¹⁾
ECC 10 R/L 2,25D 05	10	12	16	69.5	22.5	42	5	XC.T 0502..	110	110
ECC 12 R/L 2,25D 06	12	16	20	78.0	27.0	45	6	XC.T 0602..	112	112
ECC 14 R/L 2,25D 07	14	16	20	83.5	31.5	45	7	XC.T 0703..	114	114
ECC 16 R/L 2,25D 08	16	20	25	94.0	36.0	50	8	XC.T 0803..	116	116

1) Note! right hand insert on right hand tool → **Page 181**2) Note! left hand insert on left hand tool → **Page 181**Spare parts
for Article no.

		Article no. 80 950 ...	Article no. 70 950 ...
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



Key D



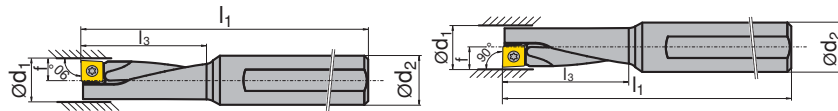
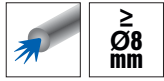
Clamping screw

EcoCut – Classic 3xD – Heavy metal

- Drilling and turning tool
- vibration-damped

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver



Left-hand

Right-hand



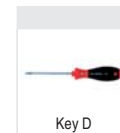
Left-hand

Right-hand

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

1) Note! right hand insert on right hand tool → **Page 181**2) Note! left hand insert on left hand tool → **Page 181**Spare parts
for Article no.

		Article no. 80 950 ...		Article no. 70 950 ...
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



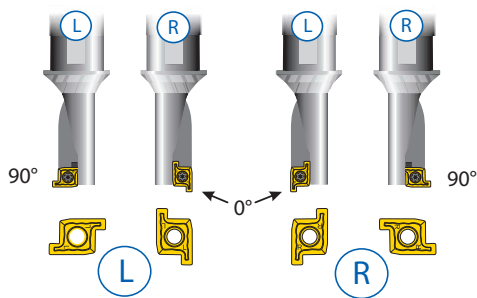
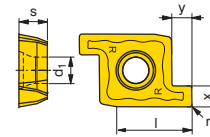
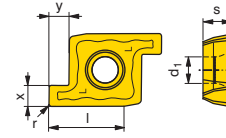
Key D



Clamping screw

PM-L / PM-R

Designation	x CW mm	y PDPT mm	l L mm	s S mm	d ₁ D1 mm	r RE mm
PM 10 G 201504	2.0	1.5	5	2.10	2.1	0.4
PM 12 G 201804	2.0	1.8	6	2.30	2.5	0.4
PM 16 G 252004	2.5	2.0	8	2.80	3.4	0.4



PM-L / PM-R



ISO	r RE mm	PM-L NEW Article no. 70 289 ...	PM-R NEW Article no. 70 289 ...
PM 10 G 201504	0.4	510	511
PM 12 G 201804	0.4	515	516
PM 16 G 252004	0.4	520	521
Steel		●	●
Stainless steel		●	●
Cast iron		○	○
Non ferrous metals		○	○
Heat resistant alloys		●	●

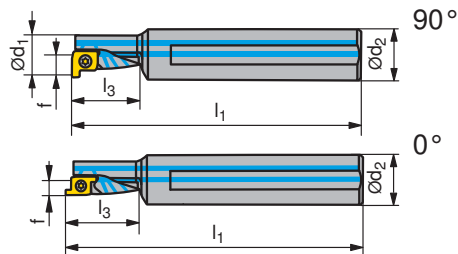
→ v_c Page 177

EcoCut – ProfileMaster 1.5xD

- Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver

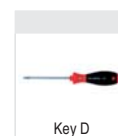


Diagrams show right hand versions



Designation	d ₁ DC mm	d ₂ DCONMS mm	l ₁ (90°) OAL mm	l ₃ (90°) LU mm	f (90°) DC mm	l ₁ (0°) OAL mm	l ₃ (0°) LU mm	f (0°) WF mm	Insert	Left-hand	Right-hand
										NEW Article no. 70 821 ...	NEW Article no. 70 820 ...
PMC 10 R/L 1,5D	10	12	80	15	5				PM 10R/L	010 ¹⁾	010 ¹⁾
PMC 12 R/L 1,5D	12	16	90	18	6				PM 12R/L	012 ¹⁾	012 ¹⁾
PMC 16 R/L 1,5D	16	20	125	24	8	127.3	26.3	5.7	PM 16R/L	016	016

1) only usable as 90° version



Key D



Clamping screw

Spare parts
for Article no.

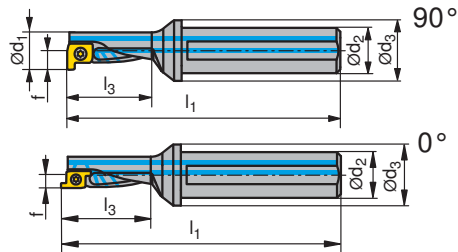
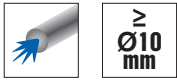
		Article no. 80 950 ...		Article no. 70 950 ...
70 820 010 / 70 821 010	T06 - IP	123	M1,8x3,6 - IP	862
70 820 012 / 70 821 012	T07 - IP	124	M2,2x4,2 - IP	137
70 820 016 / 70 821 016	T09 - IP	126	M3x5,7 - IP	008

EcoCut – ProfileMaster 2.25xD

- Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver



Diagrams show right hand versions



Designation	d ₁ DC mm	d ₂ DCONMS mm	d ₃ DF mm	l ₁ (90°) OAL mm	l ₃ (90°) LU mm	f (90°) DC mm	l ₁ (0°) OAL mm	l ₃ (0°) LU mm	f (0°) WF mm	Insert	Left-hand	Right-hand
											NEW Article no. 70 821 ...	NEW Article no. 70 820 ...
PMC 10 R/L 2,25D	10	12	18	72.4	22.5	5				PM 10R/L	110 ¹⁾	110 ¹⁾
PMC 12 R/L 2,25D	12	16	22	78.0	27.0	6				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	PM 16R/L	116	116

1) only usable as 90° version



Key D



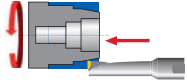
Clamping screw

Spare parts for Article no.

		Article no. 80 950 ...		Article no. 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

Depth of Cut and Feedrate for EcoCut Mini

Turning 2.25xD

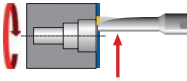


EcoCut Mini Size	Depth of Cut a_p in mm							
	0,5	1	1,5	2	2,5	3	3,5	4
	Feed rate f in mm/rev.							
ECM 04..	0,04-0,1	0,04-0,1	0,03-0,07	0,01-0,05				
ECM 05..	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04			
ECM 06..	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04		
ECM 07..	0,04-0,1	0,04-0,1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

4.0xD

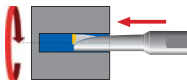
EcoCut Mini Size	Depth of Cut a_p in mm							
	0,5	1	1,5	2	2,5	3	3,5	4
	Feed rate f in mm/rev.							
ECM 04..	0,04-0,1	0,03-0,08	0,01-0,05					
ECM 05..	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04				
ECM 06..	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04				
ECM 07..	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04			
ECM 08..	0,04-0,1	0,04-0,1	0,04-0,095	0,03-0,8	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 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

Drilling Feed rate



EcoCut Mini Size	2,25xD	4xD
	f in mm/rev.	f in mm/rev.
ECM 04..	0,005-0,030	0,005-0,020
ECM 05..	0,005-0,030	0,005-0,020
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

Maximum hole depth

EcoCut Mini Size	2,25xD	4xD
	Max. hole depth in mm	Max. hole depth in mm
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				

i Feed f may be increased by 50-75 % when using M50Q and ALQ.

2.25xD

EcoCut Classic Size	Depth of Cut a_p in mm										
	1	2	2,5	3	3,5	4	4,5	5	5,5	6	7
	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					

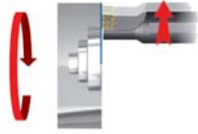
i Feed f may be increased by 50-75 % when using M50Q and ALQ.

3.0xD

EcoCut Classic Size	Depth of Cut a_p in mm							
	1	2	2,5	3	3,5	4	5	6
	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				

Depth of Cut and Feedrate for EcoCut Classic

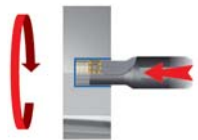
Face turning



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

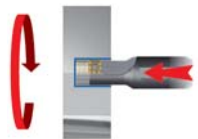
Drilling

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

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

Depth of Cut and Feedrate for EcoCut ProfileMaster 90°

Turning 1,5xD

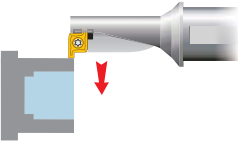


EcoCut ProfileMaster Size	Depth of Cut a_p in mm							
	1	2	3	4	5	6	7	8
	Feed rate f in mm/rev.							
EC-PM 10	0,07-0,20	0,05-0,17	0,02-0,12					
EC-PM 12	0,07-0,20	0,05-0,17	0,02-0,12					
EC-PM 16	0,10-0,25	0,07-0,23	0,05-0,21	0,02-0,17				

2,25xD

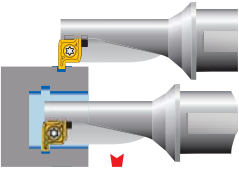
EcoCut ProfileMaster Size	Depth of Cut a_p in mm							
	1	2	3	4	5	6	7	8
	Feed rate f in mm/rev.							
EC-PM 10	0,07-0,19	0,02-0,13						
EC-PM 12	0,07-0,19	0,02-0,13						
EC-PM 16	0,10-0,25	0,07-0,21	0,02-0,13					

Face turning 1,5xD and 2,25xD



EcoCut ProfileMaster Size	Depth of Cut a_p in mm					
	1	1,5	2	2,5	3	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			

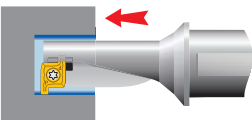
Internal + external - radial grooving



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

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

Drilling Feed and max. hole depth



EcoCut ProfileMaster Size	1,5xD	
	f in mm/rev.	Max. hole depth in mm
EC-PM 10	0,01-0,05	15,0
EC-PM 12	0,01-0,06	18,0
EC-PM 16	0,02-0,09	24,0

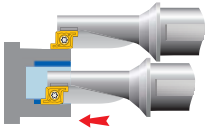
EcoCut ProfileMaster Size	2,25xD	
	f in mm/rev.	Max. hole depth in mm
EC-PM 10	0,01-0,05	22,5
EC-PM 12	0,01-0,06	27,0
EC-PM 16	0,02-0,09	36,0

Depth of Cut and Feedrate for EcoCut ProfileMaster 0°

i EcoCut ProfileMaster sizes 10 and 12 cannot be used as a 0° version.

Turning

1,5xD



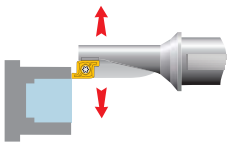
EcoCut ProfileMaster Size	Depth of cut a_p in mm					
	1	1,5	2	2,5	3	3,5
	Feed rate f in mm/rev.					
EC-PM 16	0,04–0,20	0,04–0,20	0,04–0,20			

2,25xD

EcoCut ProfileMaster Size	Depth of cut a_p in mm					
	1	1,5	2	2,5	3	3,5
	Feed rate f in mm/rev.					
EC-PM 16	0,04–0,20	0,04–0,20	0,04–0,20			

Face turning

1,5xD

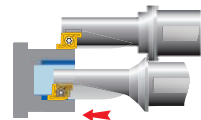


EcoCut ProfileMaster Size	Depth of cut a_p in mm						
	1	1,5	2	2,5	3	3,5	4,0
	Feed rate f in mm/rev.						
EC-PM 16	0,05–0,20	0,05–0,20	0,05–0,20				

2,25xD

EcoCut ProfileMaster Size	Depth of cut a_p in mm						
	1	1,5	2	2,5	3	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				

Axial grooving external + internal



EcoCut ProfileMaster Size	1,5xD
	Max. hole depth in mm
EC-PM 16	0,02–0,12

EcoCut ProfileMaster Size	2,25xD
	Max. hole depth in mm
EC-PM 16	0,02–0,12

Material examples referring to the WNT cutting data tables

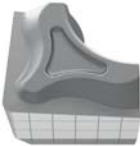
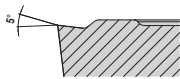
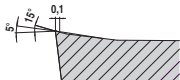
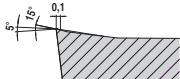
	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5 - 10% Si	< 400 N/mm ²	3.2315	A - G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10 - 15% Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-A11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data approximate values

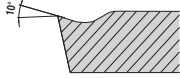
	EcoCut Mini CWK4425	EcoCut Mini HCN1435	EcoCut Classic HCR1425	EcoCut Classic HCR1435	EcoCut Classic HCN2430	EcoCut Classic CWK20	EcoCut Classic CWK26	EcoCut ProfileMaster HCN 2430
Index	v_c in m/min							
1.1		80-160	120-250	120-240	120-220			120-220
1.2		80-230	150-300	150-300	120-250			120-250
1.3		80-230	120-220	120-220	80-180			80-180
1.4		80-230	100-200	100-180	60-160			60-160
1.5		60-130	120-220	110-200	80-180			80-180
1.6		60-120	100-180	100-180	60-160			60-160
1.7		60-120	120-200	100-180	80-180			80-180
1.8		50-100	80-150	70-140	60-130			60-130
1.9		60-120	110-190	80-150	80-180			80-180
1.10		50-150	100-180	100-180	60-170			60-170
1.11		50-150	80-150	50-150	80-150			80-150
1.12		80-140	90-150	80-150	60-150			60-150
1.13		60-120	70-150	60-140	60-150			60-150
1.14								
1.15		50-150	80-150	80-150	60-150			60-150
1.16		50-150	80-150	80-150	60-150			60-150
2.1		50-200	100-200	100-180	50-160			50-160
2.2		50-180	120-220	100-200	50-180			50-180
2.3		50-180	120-200	100-200	50-150			50-150
2.4		50-180	100-200	100-180	50-160			50-160
2.5		50-100			50-130			50-130
2.6		50-80			50-120			50-120
2.7		50-80			50-120			50-120
3.1	100-150	100-170	130-280	120-250	120-200	140-200	100-150	120-200
3.2	100-150	100-170	130-280	120-250	100-180	100-160	100-150	100-180
3.3	100-140	100-160	120-280	110-250	120-200	160-200	100-140	120-200
3.4	100-140	100-160	120-280	110-250	100-180	110-150	100-140	100-180
3.5	100-160	100-180	110-280	100-250	90-160	160-220	100-160	90-160
3.6	100-160	100-170	110-280	100-250	70-150	140-180	100-160	70-150
3.7	100-160	100-170	110-280	100-250	90-160	160-220	100-160	90-160
3.8	100-160	100-170	110-280	100-250	70-150	140-180	100-160	70-150
4.1	100-2000	100-2000			100-2000	300-3000	100-500	100-2000
4.2	100-1500	100-1500			100-1500	200-2500	100-500	100-1500
4.3	100-1500	100-1500			100-1500	400-2000	100-300	100-1500
4.4	100-1300	100-1300			100-1300	200-1000	100-300	100-1300
4.5	100-600	100-600			100-600	250-800	100-300	100-600
4.6	100-300	100-300			100-300	150-400	100-300	100-300
4.7	100-500	100-500			100-500	200-400	100-500	100-500
4.8	100-500	100-500			100-500	150-400	100-300	100-500
4.9	100-500	100-500			100-500	150-400	100-300	100-500
4.10	100-500	100-500			100-500	150-400	100-300	100-500
4.11	100-500	100-500			100-500	200-800	100-500	100-500
4.12	100-290	100-290			100-290	150-600	100-300	100-290
4.13	90-200	90-200			90-200	150-280	120-200	90-200
4.14	60-160	60-160			60-160	100-220	80-180	60-160
4.15	50-140	50-140			50-140	80-200	60-150	50-140
4.16								
4.17								
4.18								
4.19								
5.1		20-50			20-90			20-90
5.2		15-25			20-90			20-90
5.3		15-25			20-80			20-80
5.4		10-20			20-80			20-80
5.5		10-20			20-80			20-80
5.6		10-20			20-90			20-90
5.7		10-20			20-80			20-80
5.8		10-20			20-80			20-80
5.9	15-120	50-120			40-100			40-100
5.10	30-50	30-50			30-90			30-90
5.11	30-50	30-50						
6.1	 The cutting data depends largely on the external conditions, e.g. stability of the tools 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.							
6.2								
6.3								
6.4								
6.5								

Chip Breakers Overview

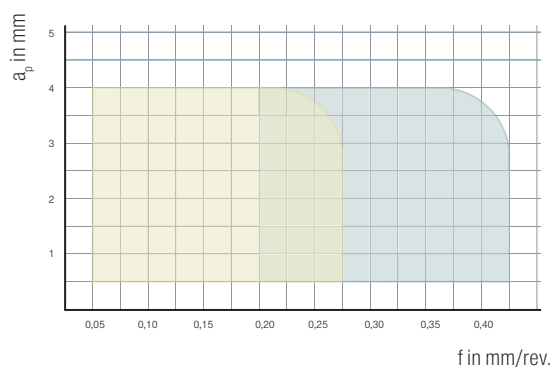
EcoCut Classic

Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration	
				f mm	
-EN		HCR1425	HCR1435	HCN2430	 0,05–0,75
		HCR1435	HCN2430	HCN2430	
		HCR1425	HCR1435		
		HCN2430	HCN2430	HCN2430	
-M50Q		HCR1425	HCR1425		 0,2–0,425
		HCR1425			
		HCR1425	HCR1425		
-ALP					 0,1–0,4
			CWK 26		
-ALQ					 0,2–0,5
			CWK 20		

EcoCut ProfileMaster

-M20		HCN2430	HCN2430	HCN2430	 0,05–0,25
		HCN2430	HCN2430	HCN2430	
		HCN2430	HCN2430	HCN2430	
		HCN2430	HCN2430	HCN2430	
		HCN2430	HCN2430	HCN2430	

Application area of -EN and -M50Q chip breakers



EcoCut Classic 2.25xD – ECC16 – XCNT 080304

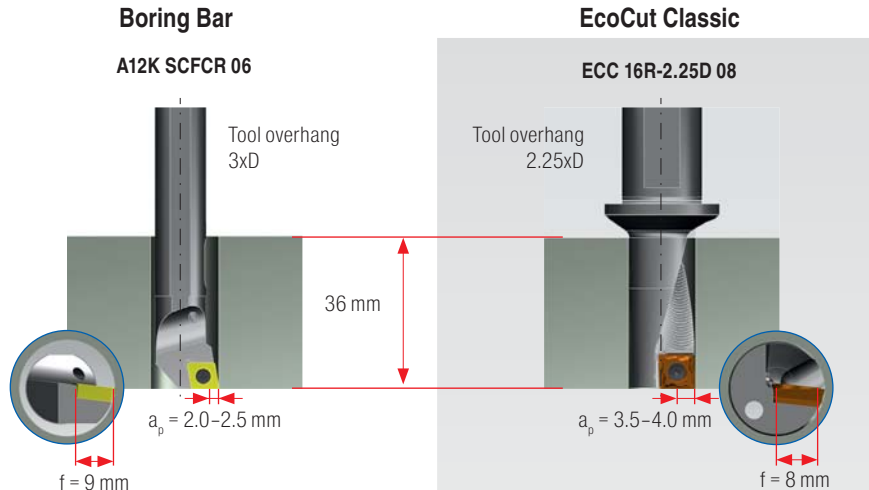
■ = -M50Q
■ = Standard

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

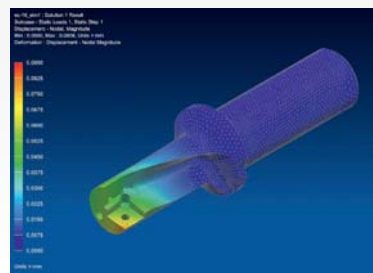
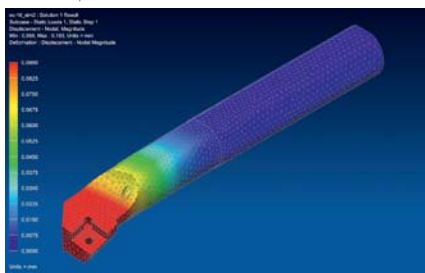
Benefits

- Reduction in machining time
- Increased productivity
- Reduced tooling costs

Stability Comparison

Calculation using FEM

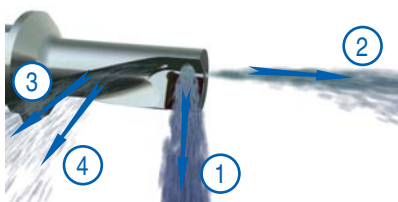
A load of 1000 N on the insert seat corresponds to an approx. a_p of 2.0 mm and f 0.2 mm



Practical experience shows:

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

Innovative chip removal – Chip-Booster



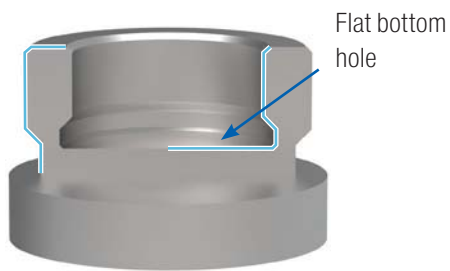
EcoCut tools are equipped with a unique coolant and chip removal system.

- 1 Cooling of the indexable insert
- 2 General coolant stream

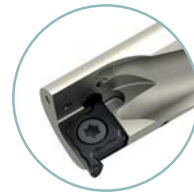
- 3 Chip booster for improved chip transport
- 4 Chip booster prevents chips from getting stuck between tool and workpiece

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

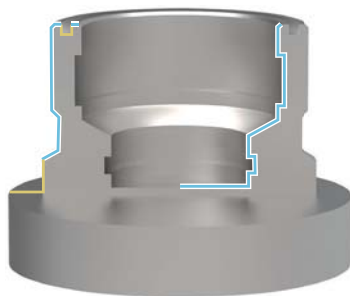
EcoCut ProfileMaster – the highlight with regard to efficiency



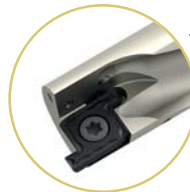
Right hand tools



Right hand insert



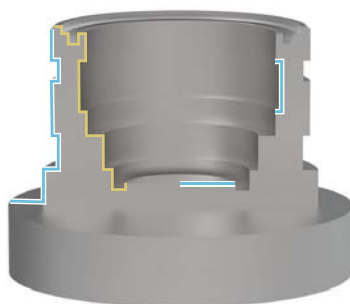
Right hand tools



Left hand insert



Right hand insert



Left hand tool

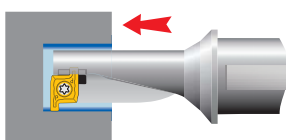


Right hand tools



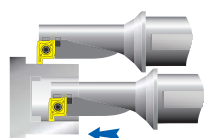
Right hand insert

Version 90°



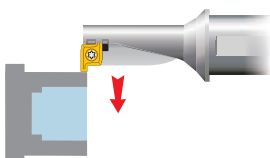
Drilling into solid material with flat bottom hole

Drilling

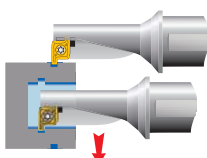


Turning External Diameters

Turning Internal Diameters



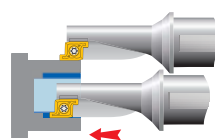
Turning Profiles



External radial grooving

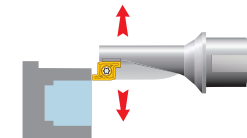
Internal radial grooving

Version 0°

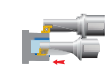


Turning External Diameters

Turning Internal Diameters



Turning Profiles



Axial grooving external



Axial grooving internal

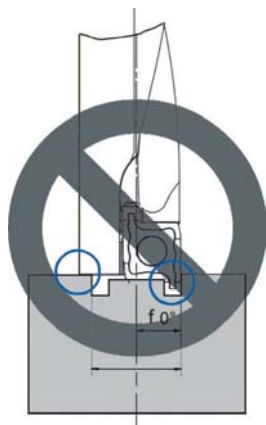
i For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

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 $\varnothing$, can be achieved (see adjacent table).



ProfileMaster 0°
Not suitable for drilling!

EcoCut Mini	Tool nominal- $\varnothing$	Work piece bore $\varnothing$	
	D in mm	D _{min.} in mm	D _{max.} in mm
ECM 04 R/L - 2,25D	4	3,90	4,20
ECM 05 R/L - 2,25D	5	4,90	5,20
ECM 06 R/L - 2,25D	6	5,90	6,20
ECM 07 R/L - 2,25D	7	6,90	7,20
ECM 08 R/L - 2,25D	8	7,90	8,20

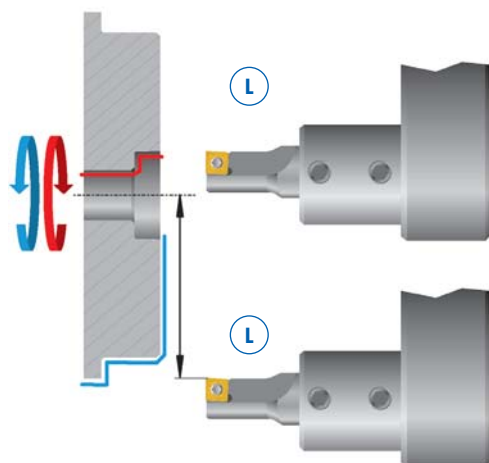
EcoCut Classic	Tool nominal- $\varnothing$	Work piece bore $\varnothing$	
	D in mm	D _{min.} in mm	D _{max.} in mm
ECC 08 R/L - ... 04	8	7,85	8,30
ECC 10 R/L - ... 05	10	9,85	10,50
ECC 12 R/L - ... 06	12	11,85	12,50
ECC 14 R/L - ... 07	14	13,85	14,50
ECC 16 R/L - ... 08	16	15,85	16,50

EcoCut ProfileMaster	Tool nominal- $\varnothing$	Work piece bore $\varnothing$	
	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

Machining over centre

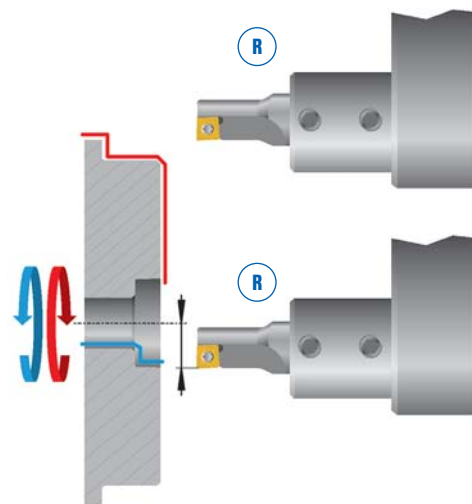
Problem

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.

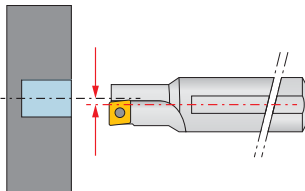


Application Tips

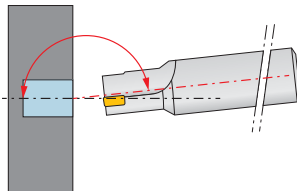
With axial displacement there is the danger of collision!

Problems

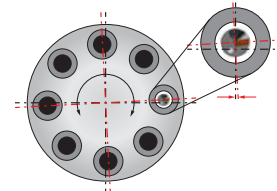
Displacement in x-direction:



Angular error:



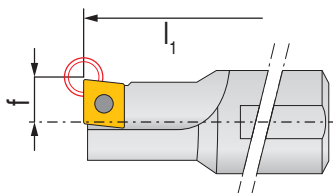
Turret position error:



Remedy

When pre-setting the tool:

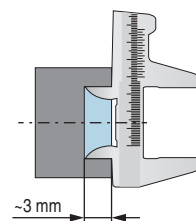
- Definition as an internal turning tool for programming



- 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

Clamping torque for EcoCut Classic and EcoCut ProfileMaster

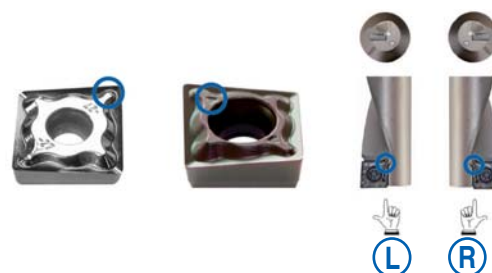
Clamping Screw	Torx	Torque settings	
		Nm	in. lbs
M1,8	T06IP	0,4	3,6
M2,0	T06IP	0,7	6,2
M2,2	T07IP	1,0	8,9
M2,5	T08IP	1,2	10,6
M3,0	T09IP	2,2	19,5

Mounting of the insert for EcoCut Classic

For $\varnothing$ 8 mm tools, right-hand and left-hand indexable inserts are required.
Neutral indexable inserts are used from $\varnothing$ 10–16 mm.

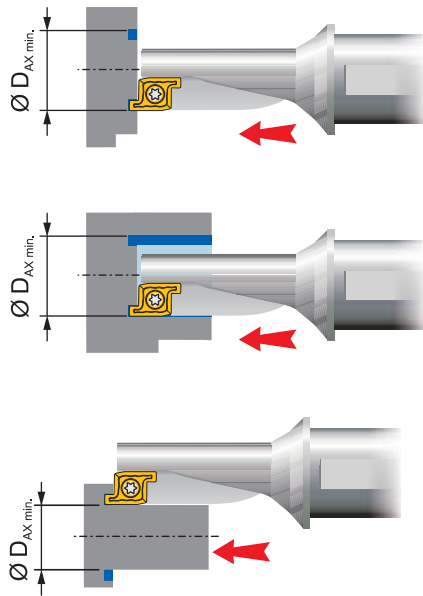
Caution!

Ensure correct orientation upon installation.

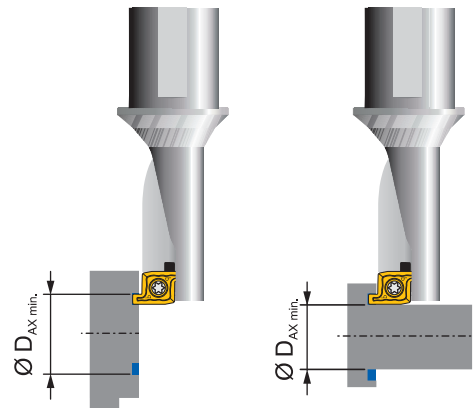


EcoCut ProfileMaster – Axial Grooving

0° (from Ø 16 mm)

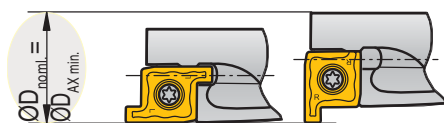


90°

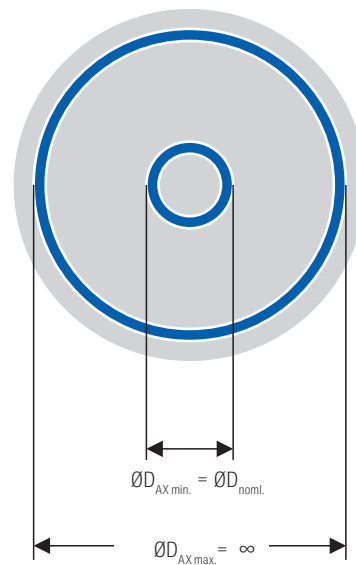


EcoCut ProfileMaster	ØD _{noml.} mm	ØD _{AX min.} mm	ØD _{AX max.} mm
PM 10R/L 1,5D	10	10	> 10
PM 10R/L 2,25D	10	10	> 10
PM 12R/L 1,5D	12	12	> 12
PM 12R/L 2,25D	12	12	> 12
PM 16R/L 1,5D	16	16	> 16
PM 16R/L 2,25D	16	16	> 16

$$\text{ØD}_{\text{AX min.}} = \text{ØD}_{\text{noml.}}$$



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



Application Tips

Recommendation for Optimum Results

Type of problem										
Type of wear				Work piece problems		Swarf control		Remedy measures	Cutting data	
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 speed	
↓		~	↓	↑	↓	↑	↓		Feed rate	
↑		↑	↑	↓	↑				Insert selection	Corner radius
↓		↑	↑							larger ↑ smaller ↓
		↑	↑						Tap Material	wear resistance ↑ toughness ↓
~				~	~					
~				~	~				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

control, optimize
 use

Application and Grade Comparison

EcoCut Classic

HCR
1425Carbide, Ti+AL₂O₃ coated, ISO-P25
Hard grade for ideal conditionsHCR
1435Carbide, Ti+AL₂O₃-TiN coated, ISO-P35
1st choice in steel even in tough conditionsHCN
2430Carbide, TiALN-coated, universal grade, ISO-M25
1st choice for stainless and heat resistant materials,
including steel and cast ironCWK
20Carbide, uncoated, ISO-K10
More wear-resistant grade for non-ferrous metalsCWK
26Carbide, uncoated, ISO-K20
1st Choice for non-ferrous metals at high v_c

EcoCut Mini

HCN
1435Carbide, TiALN-coated, ISO-P35
Wear resistant universal grade, ideal for steel, stainless steel and
all other materials.CWK
4425CWK4425 – uncoated and sharp geometry for aluminium and
non-ferrous metals

EcoCut ProfileMaster

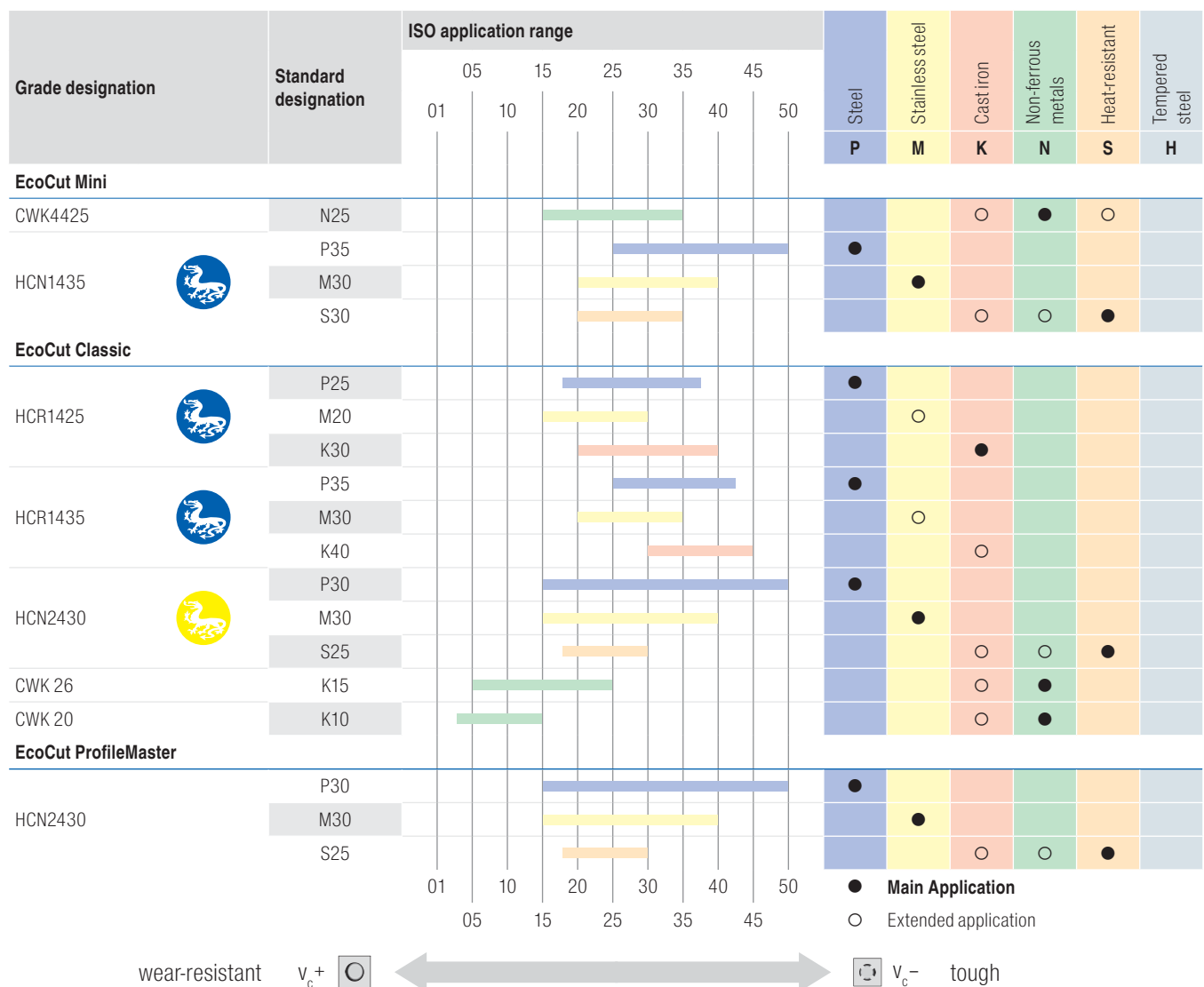
HCN
2430Carbide, TiALN-coated, universal grade, ISO-M25
1st choice for stainless and heat resistant materials,
including steel and cast iron

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System SX	190–195
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System GX	204–224
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WNT MASTERTOOL PERFORMANCE

Premium quality tools for high performance.

The premium quality tools from the **WNT Mastertool 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.

System overview

System SX

SX



High-performance, single-edged grooving system with extremely stable indexable insert clamping. Ideal for parting off. Copy turning is a secondary application.

System FX

FX



Conventional single-edged grooving system for parting off and grooving. The speed at which the indexable insert can be changed and the system's high flexibility set it apart.

System GX

GX



Double-edged grooving system demonstrating maximum flexibility during parting off, grooving and groove turning. Available in three system sizes for maximum flexibility.

System TC

TC



Double-edged thread turning system with unique advantages. Can be used on shoulders without having to correct the approach angle. Perfect chip control.

MaxiClick system

Maxi
Click



Five-edged grooving system with special cutting edge change feature. Grooving and parting off from a groove width of 1.0 mm. Can be used on all materials.

Symbol explanation



F	M	R	
			F: Fine Machining M: Medium Machining R: Rough Machining

			Smooth cut Irregular cutting depth Interrupted cut
--	--	--	--

HCX 1125	Carbide Grade
-------------	---------------

Application



Parting



Axial Grooving and Turning



External metric thread



Internal metric thread

Internal and External
Whitworth thread

Circlip Grooves



Grooving



Grooving and Turning



Copy Turning



Grooving



Turning



Face turning



Axial grooving



Main Application



Extended application



Repeatability

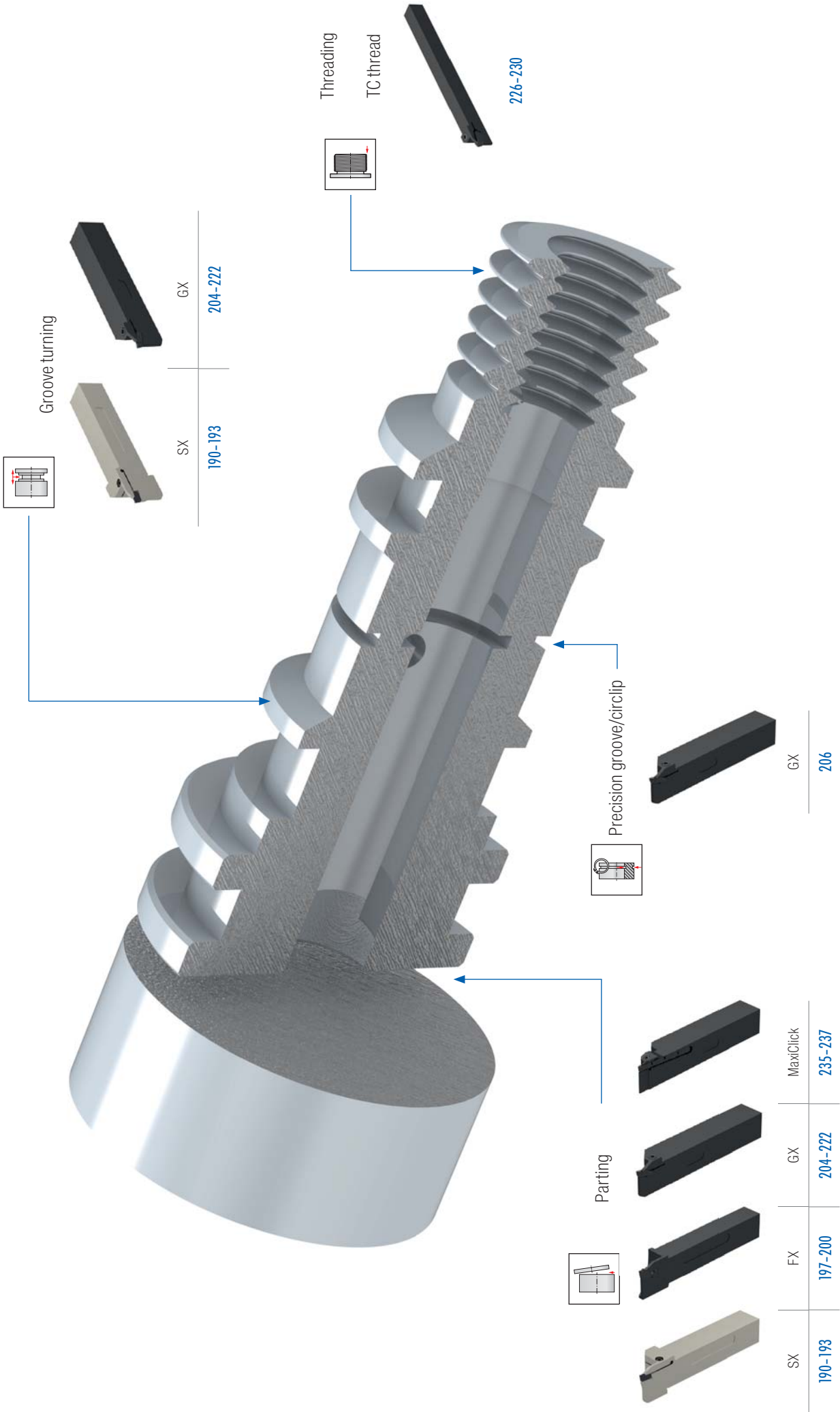
Coatings

HCR
1325Carbide, Dragonskin coating, ISO-P25
High performance grade for steel and cast ironHCR
1335Carbide Dragonskin Coating, IOS-P35
High-performance grade for steel and cast iron
materialsHCN
1345Carbide Dragonskin Coating, ISO-P45
For difficult conditions, steel and stainless steel
materialsDPX
1520Carbide, Dragonskin coating, ISO-P20/M15
High-performance grade specifically for steel and
stainless steelCWK
26Carbide, uncoated, ISO-N15
Multi-use grade for non-ferrous metals

AMZ

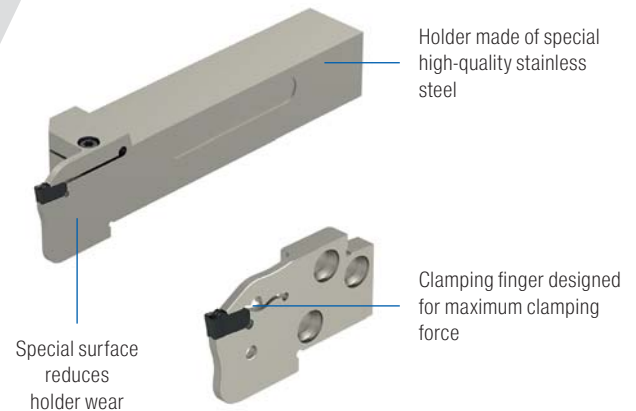
Carbide, TiAlN coating, ISO-N10
Multi-use grade for non-ferrous metalsCCN
1340Carbide, Dragonskin-coating, ISO-P40
Universal type for Steel, stainless steel,
non-ferrous metals and super alloysDPX
1535Carbide, Dragonskin coating, ISO-P35/M30
Universal grade for steel, stainless steel,
non-ferrous metals and super alloys

WNT Toolfinder - Grooving

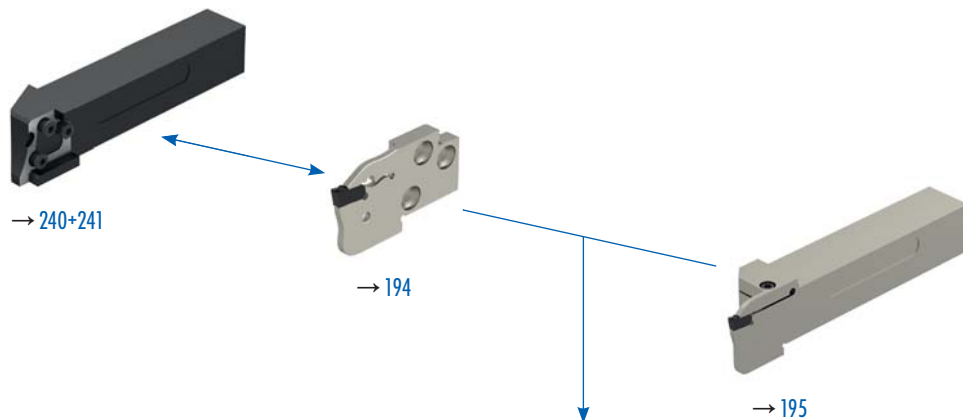


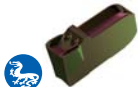
Highlights

- Extremely stable clamping of the indexable insert
High process security
- Universal grooving system
Can be used for a huge range of requirements
- Copy turning applications are possible
Reduces the number of tools
- High-quality holder material
Longer service life
- Excellent chip control
Prevents downtimes



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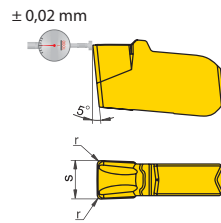
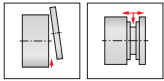
sharp ←						→ stable	
- ALP		- F2		- M2		- M1	
							
		   		   		   	
→ 190		→ 191		→ 192		→ 193	

Steel	•	•	•
Stainless steel	•	•	•
Cast iron	○	•	•
Non-ferrous metals	•	○	○
Heat-resistant	○	•	•

i Further dimensions can be found in our **main catalogue** → **Chapter 10 Grooving**

Insert SX -ALP

- Insert with highly positive cutting edge geometry and sharp cutting edge
- Specialist for aluminum and other soft long-chipping non-ferrous metals



CWK 26



Designation	s +/-0,02 CW mm	r +/-0,05 RER mm	for tool holder
SX E2.00 N 0.20	2	0.2	-SX2
SX E3.00 N 0.30	3	0.3	-SX3

Article no.
70 349 ...

122

123

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

→ v_c Page 243

→ Application recommendation on page 244

Internal machining

External machining

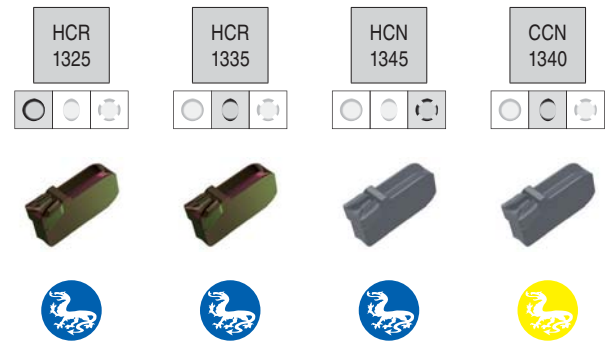
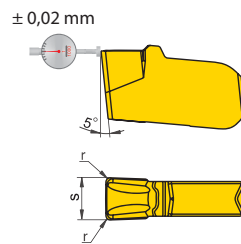
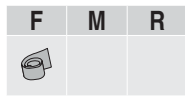
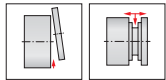


→ 194

→ 195

Insert SX -F2

- High Precision polished geometry



Designation	s +/-0,02 CW mm	r +/-0,05 RER mm	for tool holder	NEW Article no. 70 346 ...	Article no. 70 346 ...	Article no. 70 346 ...	Article no. 70 346 ...
SX E2.00 N 0.20	2	0.2	-SX2			822	622
SX E3.00 N 0.30	3	0.3	-SX3	923	523	823	623

Steel	●	●	●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals				○
Heat resistant alloys	○		●	●

→ v_c Page 243
→ Application recommendation on page 244

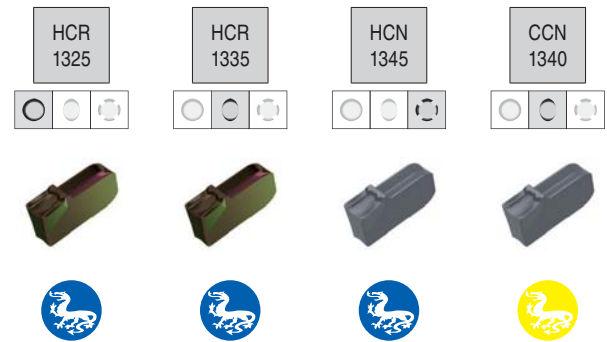
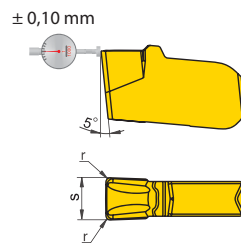
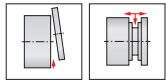
Internal machining

External machining

		→ 194	→ 195				

Insert SX-M2

- All purpose geometry for parting, grooving & turning.



Designation	s +/-0,05 CW mm	r +/-0,05 RER mm	for tool holder	NEW Article no. 70 343 ...	Article no. 70 343 ...	Article no. 70 343 ...	Article no. 70 343 ...
SX E2.00 N 0.20	2	0.2	-SX2	922	522	822	622
SX E3.00 N 0.30	3	0.3	-SX3	923	523	823	623

Steel	●	●	●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals				○
Heat resistant alloys	○		●	●

→ v_c Page 243
→ Application recommendation on page 244

Internal machining

External machining

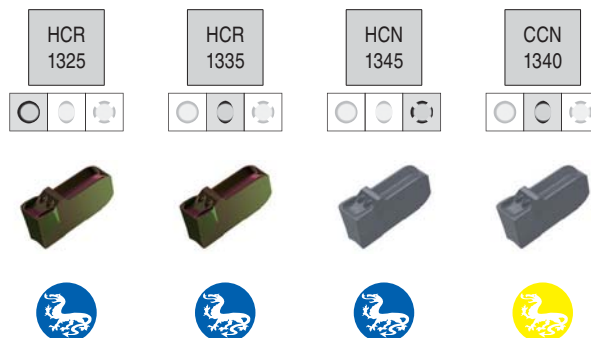
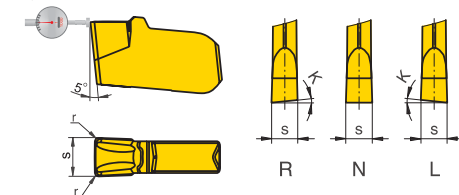
		→ 194	→ 195				

Insert SX -M1

- Specially developed geometry with negative edge-chamfers available in right, left and neutral types



± 0,10 mm



Designation	R/L/N IH	s +/-0,05 CW mm	K° KCHR	r +/-0,05 RER mm	for tool holder	NEW Article no. 70 342 ...	Article no. 70 342 ...	Article no. 70 342 ...	Article no. 70 342 ...
SX E2.00 L 6	L	2	6	0.2	-SX2				612
SX E3.00 L 6	L	3	6	0.2	-SX3	913			613
SX E2.00 N 0.20	N	2	0	0.2	-SX2	922			622
SX E3.00 N 0.20	N	3	0	0.2	-SX3	923	523	822 823	623
SX E2.00 R 6	R	2	6	0.2	-SX2				602
SX E3.00 R 6	R	3	6	0.2	-SX3	903			603

Steel	•	•	•	•
Stainless steel	○	○	•	•
Cast iron	•	•		
Non ferrous metals				○
Heat resistant alloys	○		•	•

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→ Application recommendation on page 244

Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

External machining

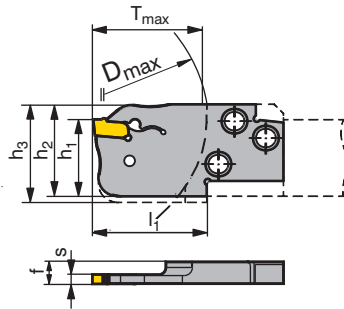


→ 194

→ 195

ModularClamp – Radial grooving module SX

- for parting, grooving and finish turning



Illustrations show right-hand versions



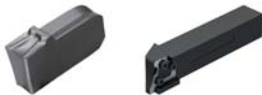
Designation	h ₁ HF mm	s CW mm	f WF mm	l ₁ LF mm	h ₂ H mm	h ₃ mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
										Article no. 70 897 ...	Article no. 70 896 ...
E20 R/L 20-SX2	20	2	4.82	22	24	27	60	20	SX .2..	020	020
E20 R/L 20-SX3	20	3	4.45	22	24	27	60	20	SX .3..	120	120



Ejector SX

Spare parts for grooving inserts

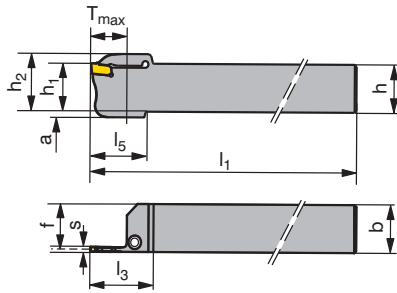
	Article no. 70 950 ...	
	SX 2-3	836
SX .2..	SX 2-3	836
SX .3..	SX 2-3	836



→ 190–193

→ 240+241

MonoClamp – Radial Monoholder SX



Illustrations show right-hand versions



Designation	h = h ₁ H mm	b B mm	s CW mm	f WF mm	l ₁ OAL mm	l ₃ LH mm	l ₅ mm	h ₂ OAH mm	T _{max} CDX mm	a mm	for grooving inserts	Left-hand	Right-hand
												Article no. 70 899 ...	Article no. 70 898 ...
E16 R/L 0016-1616K-SX2	16	16	2	15.2	125	31	25	21	16	7	SX .2..	216	216
E20 R/L 0016-2020K-SX2	20	20	2	19.2	125	31	25	25	16	3	SX .2..	220	220
E16 R/L 0020-1616K-SX3	16	16	3	14.8	125	36	30	21	20	7	SX .3..	316	316
E20 R/L 0020-2020K-SX3	20	20	3	18.8	125	38	30	25	20	3	SX .3..	320	320

Spare parts
for grooving inserts

SX .2..	T20	114	M4x18	204
SX .3..	T20	114	M4x18	204



Key D

Article no.
80 950 ...

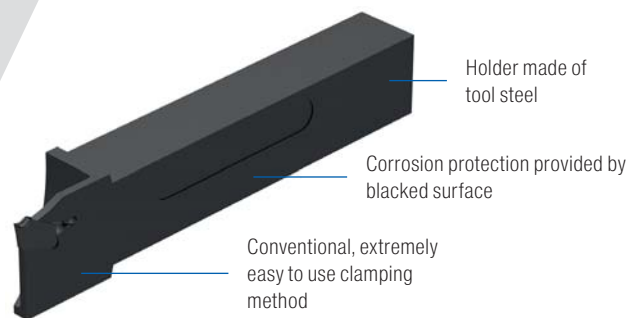
Clamping screw

Article no.
70 950 ...

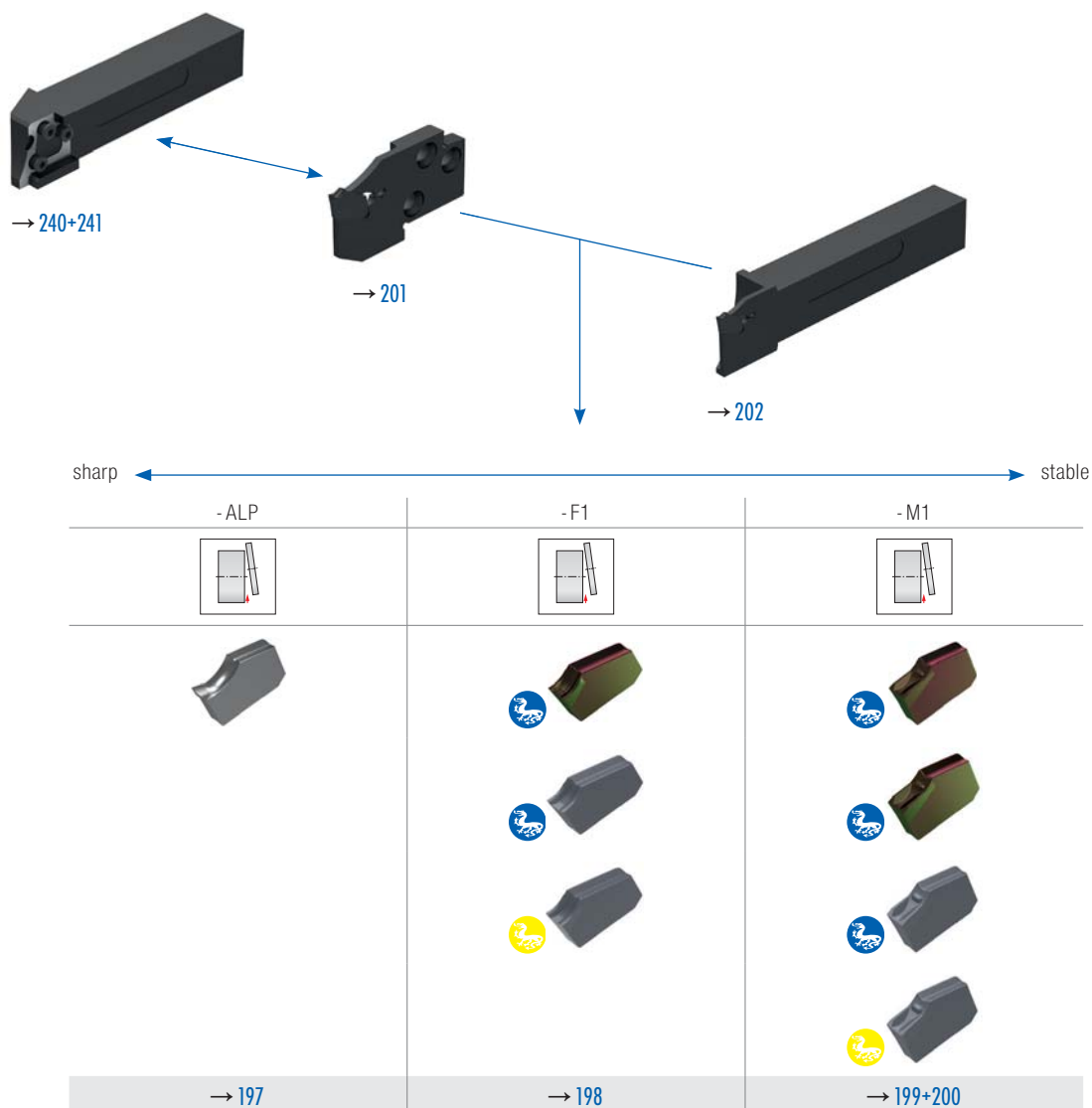
→ 190–193

Highlights

- Conventional, single-edged grooving system
Quick insert changing
- Extremely sharp cutting edges available
Low cutting forces
- Good chip control
High process security
- Self-clamping system
No clamping screws required
- Specialised chip geometries
For all material groups



List of contents



Steel	•	•
Stainless steel	•	•
Cast iron	○	•
Non-ferrous metals	•	○
Heat-resistant	○	•

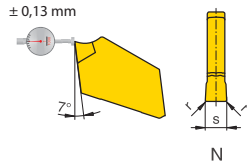
i Further dimensions can be found in our **main catalogue** → **Chapter 10 Grooving**

Insert FX -ALP

- Insert with highly positive cutting edge geometry and sharp cutting edge
- Reduced built-up edge



CWK 26



Designation R/L/N s $-0,1$ CW mm r $+/-0,05$ RER mm for tool holder

Article no.
70 334 ...

FX 2.2 N 0.10 N 2.2 0.10 E.. R/L ..-FX 2.2
FX 3.1 N 0.15 N 3.1 0.15 E.. R/L ..-FX 3.1

650
652

Steel	
Stainless steel	
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	○

→ v_c Page 243

→ Application recommendation on page 244

Internal machining

External machining

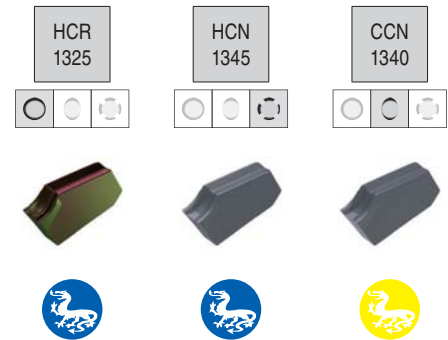
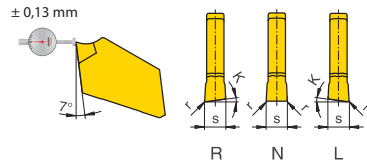
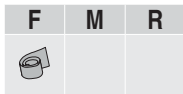


→ 201

→ 202

Insert FX-F1

- Excellent cutting geometry with low cutting forces
- Very good swarf control also with low feed rates
- Reduced built-up edge



Designation	R/L/N IH	s _{-0.1} CW mm	K° KCHR	r _{+/-0.05} RER mm	for tool holder	NEW Article no. 70 331 ...	Article no. 70 331 ...	Article no. 70 331 ...
FX 2.2 L 5-F1	L	2.2	5	0.15	E.. R/L ...-FX 2.2		847	647
FX 3.1 L 5-F1	L	3.1	5	0.20	E.. R/L ...-FX 3.1		851	651
FX 3.1 L 8-F1	L	3.1	8	0.20	E.. R/L ...-FX 3.1		855	
FX 2.2 N 0.15-F1	N	2.2	0	0.15	E.. R/L ...-FX 2.2	998	848	648
FX 3.1 N 0.20-F1	N	3.1	0	0.20	E.. R/L ...-FX 3.1	902	852	652
FX 3.1 N 0.40-F1	N	3.1	0	0.40	E.. R/L ...-FX 3.1	906	856	656
FX 2.2 R 5-F1	R	2.2	5	0.15	E.. R/L ...-FX 2.2		849	649
FX 3.1 R 5-F1	R	3.1	5	0.20	E.. R/L ...-FX 3.1		853	653
FX 3.1 R 8-F1	R	3.1	8	0.20	E.. R/L ...-FX 3.1		857	
Steel						●	●	●
Stainless steel						○	●	●
Cast iron						●		
Non ferrous metals								○
Heat resistant alloys						○	●	●

→ v_c Page 243

→ Application recommendation on page 244

Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

External machining

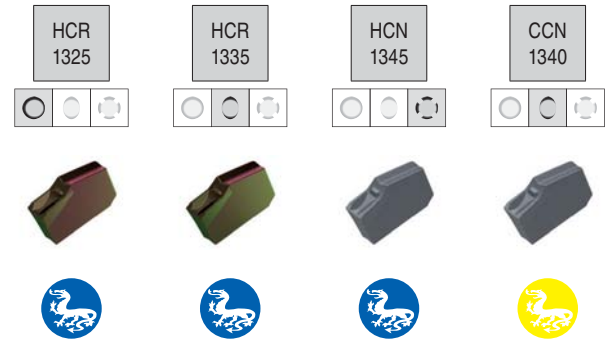
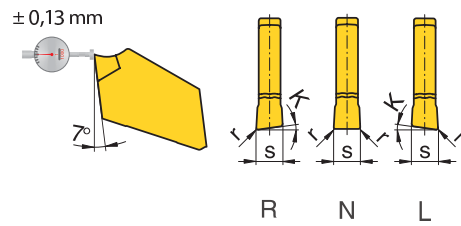


→ 201

→ 202

Insert FX -M1

■ narrow version



Designation	R/L/N IH	s -0,1 CW mm	K° KCHR	r +/-0,05 RER mm	for tool holder	NEW Article no. 70 330 ...	Article no. 70 330 ...	Article no. 70 330 ...	Article no. 70 330 ...
FX 2.2 L 4-M1	L	2.2	4	0.1	E.. R/L ...-FX 2.2		550	800	600
FX 2.2 N 0.10-M1	N	2.2	0	0.1	E.. R/L ...-FX 2.2	902	552	802	602
FX 2.2 R 4-M1	R	2.2	4	0.1	E.. R/L ...-FX 2.2		554	804	604

Steel	●	●	●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals				○
Heat resistant alloys	○		●	●

→ v_c Page 243

→ Application recommendation on page 244

Note: reduce feed rate by 20–50 % with R/L version!

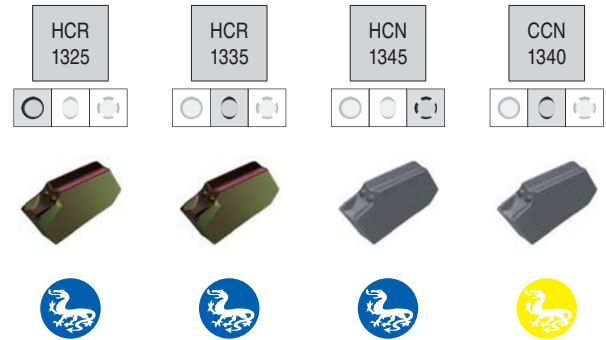
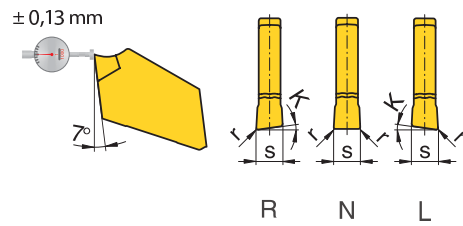
Internal machining

External machining

		→ 201	→ 202					

Insert FX-M1

■ wide version



Designation	R/L/N IH	s +/-0,05 CW mm	K° KCHR	r +/-0,05 RER mm	for tool holder	NEW Article no. 70 332 ...	Article no. 70 332 ...	Article no. 70 332 ...	Article no. 70 332 ...
FX 3.1 L 6-M1	L	3.1	6	0.15	E.. R/L ...-FX 3.1	900	550	800	600
FX 3.1 N 0.15-M1	N	3.1	0	0.15	E.. R/L ...-FX 3.1	902	552	802	602
FX 3.1 R 6-M1	R	3.1	6	0.15	E.. R/L ...-FX 3.1	904	554	804	604

Steel	●	●	●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	●	●

→ v_c Page 243

→ Application recommendation on page 244

Note: reduce feed rate by 20–50 % with R/L version!

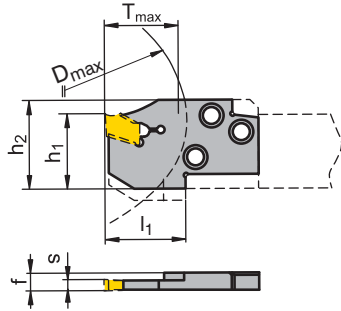
Internal machining

External machining

		→ 201	→ 202					

ModularClamp – Radial grooving module FX short/long

- For parting and grooving



Illustrations show right-hand versions



Designation	h ₁ HF mm	s CW mm	f WF mm	l ₁ LF mm	h ₂ H mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 876 ...	Article no. 70 875 ...
E20 R/L 20-FX 2.2	23	2.2	4.67	22	27	60	20	FX 2.2 ..	020	020
E20 R/L 20-FX 3.1	23	3.1	4.75	22	27	60	20	FX 3.1 ..	120	120

Spare parts for grooving inserts

FX 2.2 ..	375
FX 3.1 ..	376



Article no.
70 950 ...



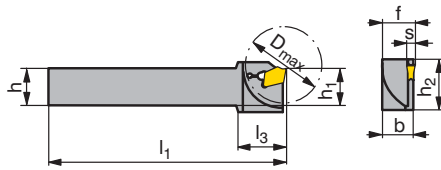
→ 197-200

→ 240+241

MonoClamp – Radial Monoholder FX

Scope of supply:

Blade and ejector



Illustrations show right-hand versions

Designation	h = h ₁ H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	h ₂ OAH mm	s CW mm	f WF mm	D _{max} DAXX mm	for grooving inserts	Left-hand	Right-hand
										Article no. 70 837 ...	Article no. 70 836 ...
XLCE R/L 1010 M-FX2.2	10	10	150	19.4	21	2.2	10.25	30	FX 2.2 ..	101	101
XLCE R/L 1212 F-FX2.2	12	12	80	21.0	21	2.2	12.25	30	FX 2.2 ..	102	102
XLCE R/L 1212 M-FX2.2	12	12	150	19.4	21	2.2	12.25	30	FX 2.2 ..	103	103
XLCE R/L 1414 M-FX2.2	14	14	150	19.4	21	2.2	14.25	30	FX 2.2 ..	104	104
XLCE R/L 1612 H-FX2.2	16	12	100	21.0	21	2.2	12.25	30	FX 2.2 ..	105	105
XLCE R/L 1612 H-FX3.1	16	12	100	21.4	25	3.1	12.35	35	FX 3.1 ..	106	106
XLCE R/L 2016 K-FX3.1	20	16	125	26.4	26	3.1	16.35	40	FX 3.1 ..	107	107



Spare parts for grooving inserts

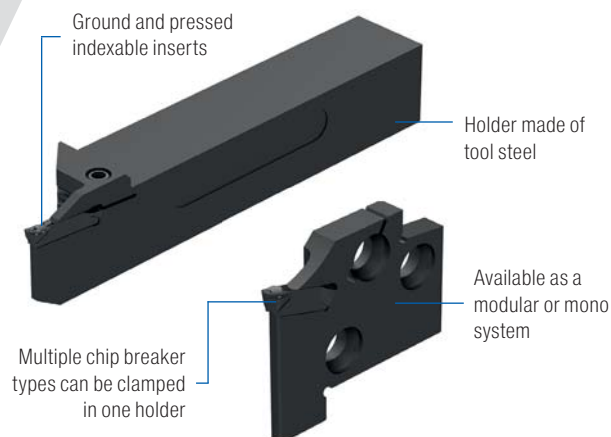
FX 2.2 ..	375
FX 3.1 ..	376



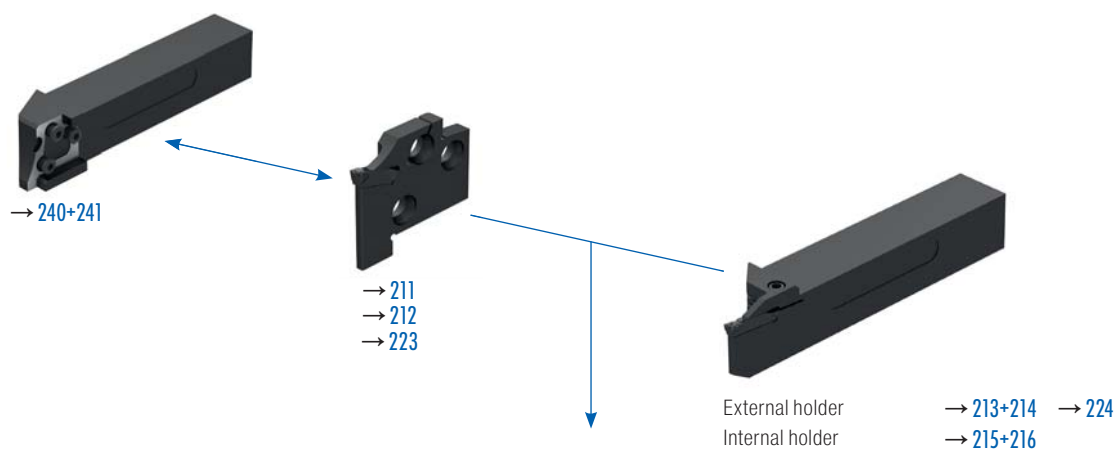
→ 197–200

Highlights

- Stable, double-edged grooving/turning system
Covers many component requirements
- Wide range of chip geometries
Can be ideally tailored to the application
- Good chip control
High process security
- Simple indexable insert changing
Minimal changing time required
- Available in three sizes
Tailored to the required groove depths



List of contents



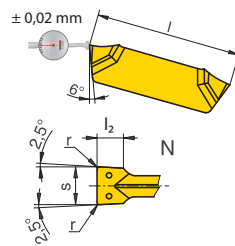
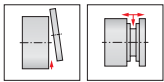
sharp								stable	
-ALP	-F2	-Standard (circlip)	-Radius	-Standard / -E	-M40	-M1	-M3		
GX 09	→ 205	→ 206	→ 207	→ 208	→ 209				
GX 16	→ 204	→ 205	→ 207	→ 208	→ 209	→ 210			
GX 24	→ 217	→ 218		→ 219	→ 220	→ 221	→ 222		

Steel	•	•	•	•	•	•	•
Stainless steel	•	•	•	•	•	•	•
Cast iron	•	•	•	•	•	•	•
Non-ferrous metals	•	•	•	•	•	•	•
Heat-resistant	•	•	•	•	•	•	•

i Further dimensions can be found in our **main catalogue** → **Chapter 10 Grooving**

Insert GX 16 -ALP

- Insert with highly positive cutting edge geometry and sharp cutting edge
- ground periphery



CWK 26



Designation

	l INSL mm	s +/-0.02 CW mm	r +/-0.05 RER mm	l ₂ PDPT mm	for tool holder	Article no. 70 350 ...
GX 16-1 E2.00 N 0.20	16	2	0.2	2.5	GX 16-1	650
GX 16-2 E3.00 N 0.30	16	3	0.3	3.0	GX 16-2	658

Steel	
Stainless steel	
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	○

→ v_c Page 243

→ Application recommendation on page 245

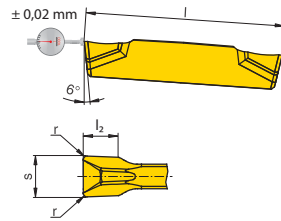
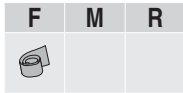
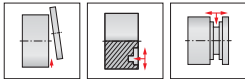
Internal machining

External machining

								
→ 216	→ 211+212	→ 213						

Insert GX 09/16 -F2

- Insert with ground periphery
- Suitable also for parting off tubes and thin-walled workpieces

CCN
1340

Designation	l INSL mm	s +/-0,02 CW mm	r +/-0,05 RER mm	l ₂ 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 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2

Article no.
70 360 ...

600

602

604

650

652

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	○
Heat resistant alloys	•

→ v_c Page 243

→ Application recommendation on page 245

Internal machining

External machining

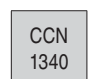
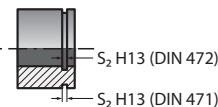
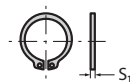
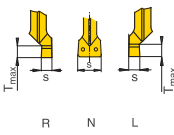
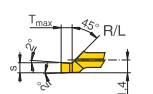
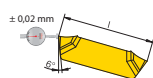
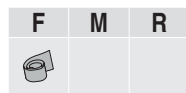


→ 215+216

→ 211+212

→ 213+214

Circlip groove insert GX 09/16 - Standard



Designation	R/L/N IH	I INSL mm	S ₁ mm	S ₂ mm	r +/-0,05 RER mm	s +/-0,02 CW mm	T _{max} PDPT mm	for tool holder	Article no. 70 352 ...	Article no. 70 352 ...
GX 09-1 S0.60 L	L	9	0.40	0.50	0.0	0.60	0.75	R 02-GX 09-1		679
GX 09-1 S0.80 L	L	9	0.60	0.70	0.0	0.80	0.94	R 02-GX 09-1		681
GX 09-1 S0.90 L	L	9	0.70	0.80	0.0	0.90	1.04	R 02-GX 09-1		683
GX 09-1 S1.00 L	L	9	0.80	0.90	0.0	1.00	1.14	R 02-GX 09-1		684
GX 09-1 S1.20 L	L	9	1.00	1.10	0.0	1.20	1.34	R 02-GX 09-1		686
GX 09-1 S1.40 L	L	9	1.20	1.30	0.0	1.40	1.53	R 02-GX 09-1		688
GX 09-1 S1.70 L	L	9	1.50	1.60	0.0	1.70	1.82	R 02-GX 09-1		690
GX 16-2 S0.60 L	L	16	0.40	0.50	0.0	0.60	0.75	R 03-GX 16-2		607
GX 16-2 S0.80 L	L	16	0.60	0.70	0.0	0.80	0.94	R 03-GX 16-2		609
GX 16-2 S0.90 L	L	16	0.70	0.80	0.0	0.90	1.04	R 03-GX 16-2		611
GX 16-2 S1.00 L	L	16	0.80	0.90	0.0	1.00	1.14	R 03-GX 16-2		612
GX 16-2 S1.20 L	L	16	1.00	1.10	0.0	1.20	1.34	R 03-GX 16-2		614
GX 16-2 S1.40 L	L	16	1.20	1.30	0.0	1.40	1.53	R 03-GX 16-2		616
GX 16-2 S1.70 L	L	16	1.50	1.60	0.0	1.70	1.82	R 03-GX 16-2		618
GX 16-2 S1.95 L	L	16	1.75	1.85	0.0	1.95	2.07	R 03-GX 16-2		620
GX 16-2 S2.25 L	L	16	2.00	2.15	0.0	2.25	2.36	R 03-GX 16-2		622
GX 09-1 S1.95 N	N	9	1.75	1.85	0.1	1.95		GX 09-1	692	
GX 09-1 S2.25 N	N	9	2.00	2.15	0.1	2.25		GX 09-1	694	
GX 09-2 S2.75 N	N	9	2.50	2.65	0.1	2.75		GX 09-2	696	
GX 09-2 S3.25 N	N	9	3.00	3.15	0.1	3.25		GX 09-2	698	
GX 16-2 S2.75 N	N	16	2.50	2.65	0.1	2.75		GX 16-2	624	
GX 16-2 S3.25 N	N	16	3.00	3.15	0.1	3.25		GX 16-2	626	
GX 09-1 S0.60 R	R	9	0.40	0.50	0.0	0.60	0.75	L 02-GX 09-1		670
GX 09-1 S0.80 R	R	9	0.60	0.70	0.0	0.80	0.94	L 02-GX 09-1		672
GX 09-1 S0.90 R	R	9	0.70	0.80	0.0	0.90	1.04	L 02-GX 09-1		674
GX 09-1 S1.00 R	R	9	0.80	0.90	0.0	1.00	1.14	L 02-GX 09-1		676
GX 09-1 S1.20 R	R	9	1.00	1.10	0.0	1.20	1.34	L 02-GX 09-1		678
GX 09-1 S1.40 R	R	9	1.20	1.30	0.0	1.40	1.53	L 02-GX 09-1		680
GX 09-1 S1.70 R	R	9	1.50	1.60	0.0	1.70	1.82	L 02-GX 09-1		682
GX 16-2 S0.60 R	R	16	0.40	0.50	0.0	0.60	0.75	L 03-GX 16-2		695
GX 16-2 S0.80 R	R	16	0.60	0.70	0.0	0.80	0.94	L 03-GX 16-2		697
GX 16-2 S0.90 R	R	16	0.70	0.80	0.0	0.90	1.04	L 03-GX 16-2		699
GX 16-2 S1.00 R	R	16	0.80	0.90	0.0	1.00	1.14	L 03-GX 16-2		600
GX 16-2 S1.20 R	R	16	1.00	1.10	0.0	1.20	1.34	L 03-GX 16-2		602
GX 16-2 S1.40 R	R	16	1.20	1.30	0.0	1.40	1.53	L 03-GX 16-2		604
GX 16-2 S1.70 R	R	16	1.50	1.60	0.0	1.70	1.82	L 03-GX 16-2		606
GX 16-2 S1.95 R	R	16	1.75	1.85	0.0	1.95	2.07	L 03-GX 16-2		608
GX 16-2 S2.25 R	R	16	2.00	2.15	0.0	2.25	2.36	L 03-GX 16-2		610

Steel	•	•
Stainless steel	•	•
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	•	•

→ v_c Page 243

→ Application recommendation on page 245

**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

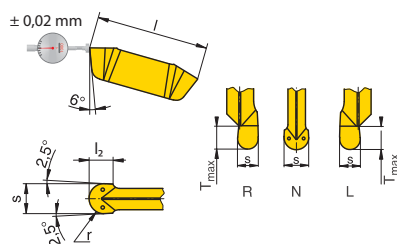


→ 215+216

→ 211+212

→ 213+214

Radius groove insert GX 09/16



Designation	R/L/N	I	s +/-0,02 mm	r +/-0,05 mm	l ₂ PDPT mm	T _{max} PDPT mm	for tool holder	NEW Article no. 70 354 ...	NEW Article no. 70 354 ...	Article no. 70 354 ...
GX 09-1 R0.80 L	L	9	1.6	0.8		1.78	R 02-GX 09-1	988		
GX 16-2 R0.80 L	L	16	1.6	0.8		1.78	R 03-GX 16-2	912		
GX 16-2 R1.00 L	L	16	2.0	1.0		2.18	R 03-GX 16-2	916		
GX 16-2 R1.20 L	L	16	2.4	1.2		2.58	R 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	L 02-GX 09-1	984		
GX 16-2 R0.80 R	R	16	1.6	0.8		1.78	L 03-GX 16-2	900		
GX 16-2 R1.00 R	R	16	2.0	1.0		2.18	L 03-GX 16-2	904		
GX 16-2 R1.20 R	R	16	2.4	1.2		2.58	L 03-GX 16-2	908		
Steel								●	●	●
Stainless steel								○	○	●
Cast iron								●	●	
Non ferrous metals										○
Heat resistant alloys								○	○	●

→ v_c Page 243

→ Application recommendation on page 245

i 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

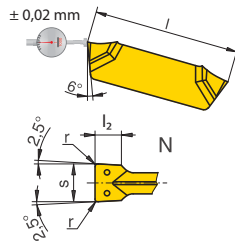
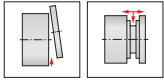
Internal machining

External machining

→ 215+216	→ 211+212	→ 213+214							

Insert GX 09/16 – Standard

- Suitable for parting thin-walled workpieces



Designation	l INSL mm	s +/-0.02 CW mm	r +/-0.05 RER mm	l ₂ PDPT mm	for tool holder	NEW Article no. 70 350 ...	Article no. 70 350 ...	Article no. 70 350 ...
GX 09-1 E2.00 N 0.20	9	2.0	0.2	1.5	GX 09-1	984		634
GX 09-1 E2.50 N 0.20	9	2.5	0.2	1.5	GX 09-1	988		638
GX 09-2 E3.00 N 0.30	9	3.0	0.3	2.0	GX 09-2	992		642
GX 16-1 E2.00 N 0.20	16	2.0	0.2	2.5	GX 16-1	900	500	600
GX 16-1 E2.50 N 0.20	16	2.5	0.2	2.5	GX 16-1	904	504	604
GX 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2	908	508	608
GX 16-2 E3.00 N 0.50	16	3.0	0.5	3.0	GX 16-2	910		
Steel						●	●	●
Stainless steel						○	○	●
Cast iron						●	●	
Non ferrous metals								○
Heat resistant alloys						○		●

→ v_c Page 243

→ Application recommendation on page 245

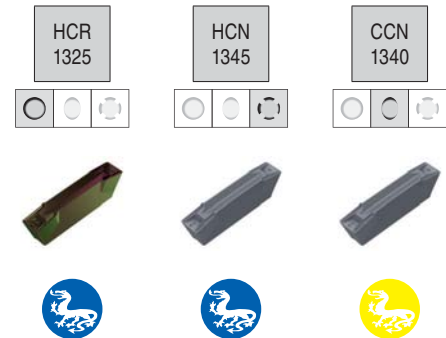
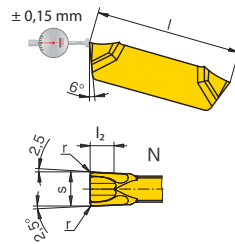
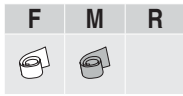
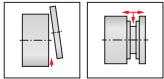
Internal machining

External machining

→ 215+216	→ 211+212	→ 213+214						

Insert GX 09/16 -M40

- Very good swarf control



Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 RER mm	l ₂ PDPT mm	for tool holder	NEW Article no. 70 351 ...	Article no. 70 351 ...	Article no. 70 351 ...
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
Steel						●	●	●
Stainless steel						○	●	●
Cast iron						●		
Non ferrous metals								○
Heat resistant alloys						○	●	●

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→ Application recommendation on page 245

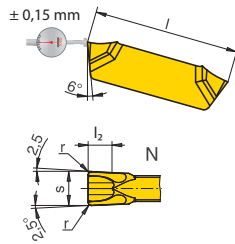
Internal machining

External machining

→ 215+216	→ 211+212	→ 213+214						

Insert GX 16 -M1

- Very good swarf control



Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 RER mm	l ₂ PDPT mm	for tool holder
GX 16-1 E2.00 N 0.20	16	2	0.2	2.0	GX 16-1
GX 16-2 E3.00 N 0.20	16	3	0.2	2.5	GX 16-2

HCR 1325	HCN 1345	CCN 1340
NEW Article no. 70 362 ...	Article no. 70 362 ...	Article no. 70 362 ...
902	800 802	600 602

Steel	•	•	•
Stainless steel	○	•	•
Cast iron	•		
Non ferrous metals			○
Heat resistant alloys	○	•	•

→ v_c Page 243
→ Application recommendation on page 245

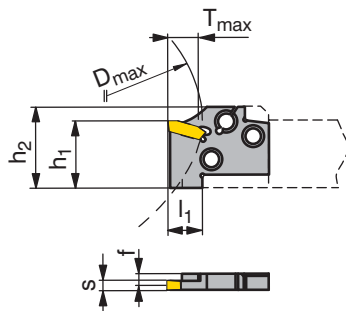
Internal machining

External machining

→ 216	→ 211+212	→ 213						

ModularClamp – Radial grooving module GX 09/16

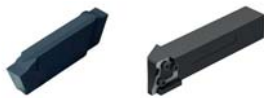
- For circlip grooves = 2,25 mm
- For radius grooves up to = 1,2 mm
- For external recessing



Illustrations show right-hand versions



Designation	s mm	f WF mm	l ₁ LF mm	h ₁ HF mm	h ₂ H mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 871 ...	Article no. 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

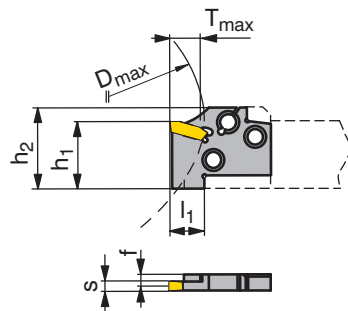


→ 206+207

→ 240+241

ModularClamp – 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



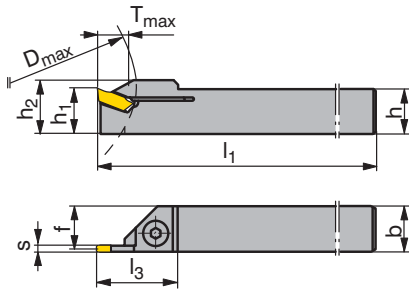
Designation	s mm	f WF mm	l ₁ LF mm	h ₁ HF mm	h ₂ H mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 866 ...	Article no. 70 865 ...
E12 R/L 07-GX 09-1	2,00 - 2,75	3.15	8	12	14.5	36	7	GX 09-1 ..N	012	012
E12 R/L 07-GX 09-2	2,76 - 3,75	2.80	8	12	14.5	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	2.80	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



→ 204–210

→ 240+241

MonoClamp – Radial Monoholder GX 09

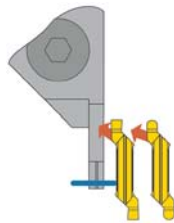


Illustrations show right-hand versions



Designation	h = h ₁ H mm	b B mm	s mm	f WF mm	h ₂ OAH mm	l ₁ OAL mm	l ₃ LH mm	D _{max} DAXX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
											Article no. 70 863 ...	Article no. 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

i When using 'R' or 'L' tools the tool must be modified at the end face to ensure cutting clearance.



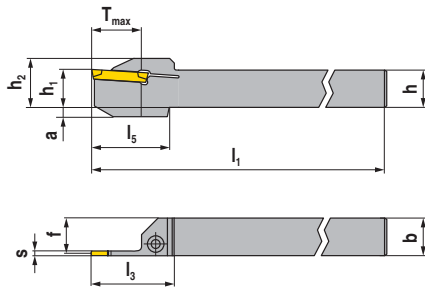
Spare parts
for grooving inserts

GX 09 ..	T15	Article no. 80 950 ... 113	Article no. 70 950 ... 442
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→ 205–209

MonoClamp – Radial Monoholder GX 16



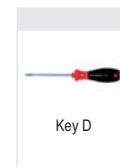
Illustrations show right-hand versions



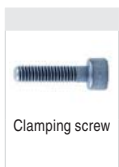
Designation	h = h ₁ H mm	b B mm	s mm	f WF mm	h ₂ OAH mm	l ₁ OAL mm	l ₃ LH mm	l ₅ mm	a mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
												Article no. 70 889 ...	Article no. 70 888 ...
E12 R/L 0012-1212K-GX16-1	12	12	2,00 - 2,75	11.35	17	125	26	24	4	12	GX 16-1	212	212
E12 R/L 0012-1212K-GX16-2	12	12	2,76 - 3,75	11.00	17	125	26	24	4	12	GX 16-2	312	312
E16 R/L 0012-1616K-GX16-1	16	16	2,00 - 2,75	15.35	21	125	26	24	4	12	GX 16-1	216	216
E16 R/L 0012-1616K-GX16-2	16	16	2,76 - 3,75	15.00	21	125	26	24	4	12	GX 16-2	316	316
E20 R/L 0012-2020K-GX16-1	20	20	2,00 - 2,75	19.35	25	125	26			12	GX 16-1	220	220
E20 R/L 0012-2020K-GX16-2	20	20	2,76 - 3,75	19.00	25	125	26			12	GX 16-2	320	320

Spare parts
for grooving inserts

GX 16-1	T15	113	M3,5x14	160
GX 16-2	T15	113	M3,5x14	160



Key D

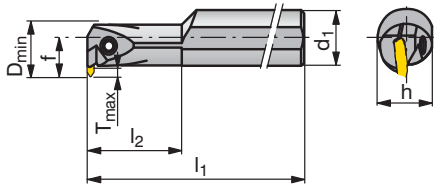
Article no.
80 950 ...

Clamping screw

Article no.
70 950 ...

→ 204–210

MonoClamp – Radial Mono-boring bars GX 09

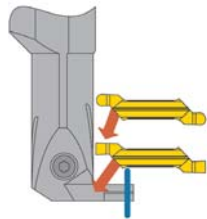


Illustrations show right-hand versions

Designation	f WF mm	d ₁ DCONMS mm	h H mm	l ₁ OAL mm	l ₂ LH mm	T _{max} CDX mm	D _{min} DAXN mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 859 ...	Article no. 70 858 ...
I12 R/L 90-2,5D-GX09	11	16	15.25	150	30	3	16	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.



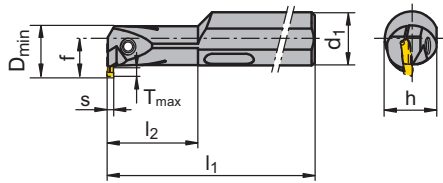
Spare parts
for grooving inserts
GX 09 ..

Key D	Article no. 80 950 ...	Clamping screw	Article no. 70 950 ...
T15	113	M3,5x12,5	441



→ 205–209

MonoClamp – Radial Mono-boring bars GX 16

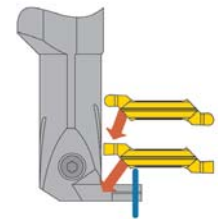


Illustrations show right-hand versions

Designation	h H mm	d ₁ D _{CONMS} mm	D _{min} D _{AXN} mm	s mm	T _{max} CDX mm	f WF mm	l ₁ OAL mm	l ₂ LH mm	for grooving inserts	Left-hand	Right-hand
										Article no. 70 893 ...	Article no. 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

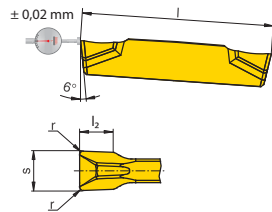
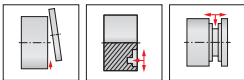
		Article no. 80 950 ...	Article no. 70 950 ...
GX 16-1	T15	113	403
GX 16-2	T15	113	403



→ 204-210

Insert GX 24 -ALP

- Insert with highly positive cutting edge geometry and sharp cutting edge
- ground periphery



CWK 26



Designation	l INSL mm	s +/-0.02 CW mm	r +/-0.05 RER mm	l ₂ PDPT mm	for tool holder
GX 24-2 E3.00 N 0.30	24	3	0.3	2.5	GX 24-2

Article no.
70 350 ...

682

Steel	
Stainless steel	
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	○

→ v_c Page 243
→ Application recommendation on page 245

Internal machining

External machining

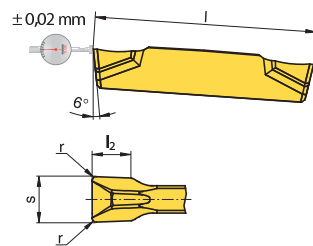
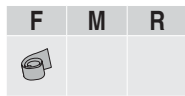
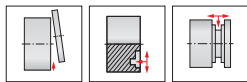


→ 223

→ 224

Insert GX 24 -F2

- Insert with ground periphery
- Suitable also for parting off tubes and thin-walled workpieces



Designation	l INSL mm	s +/-0,02 CW mm	r +/-0,05 RER mm	l ₂ PDPT mm	for tool holder	NEW Article no. 70 350 ...	Article no. 70 350 ...	Article no. 70 350 ...
GX 24-2 E3.00 N 0.30	24	3.0	0.3	2.5	GX 24-2	962	862	662
GX 24-2 E3.50 N 0.30	24	3.5	0.3	2.5	GX 24-2		864	

Steel	●	●	●
Stainless steel	○	●	●
Cast iron	●		
Non ferrous metals			○
Heat resistant alloys	○	●	●

→ v_c Page 243
→ Application recommendation on page 245

Internal machining

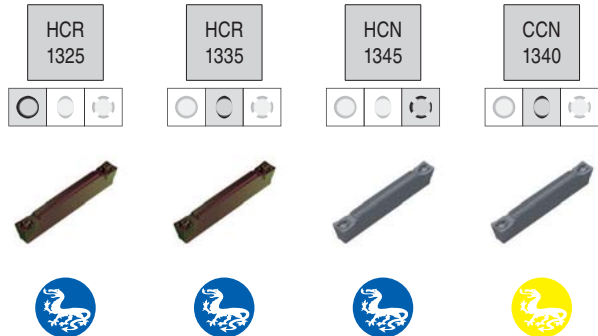
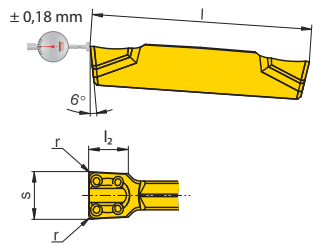
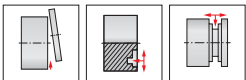
External machining



→ 223

→ 224

Insert GX 24 -E



Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 RER mm	l ₂ PDPT mm	for tool holder
GX 24-2 E3.00 N 0.30	24	3	0.3	2.5	GX 24-2

NEW	Article no. 70 350 ...	Article no. 70 350 ...	Article no. 70 350 ...	Article no. 70 350 ...
	932	532	832	632

Steel	●	●	●	●
Stainless steel	○	○	●	●
Cast iron	●	●	●	●
Non ferrous metals				○
Heat resistant alloys	○		●	●

→ v_c Page 243
→ Application recommendation on page 245

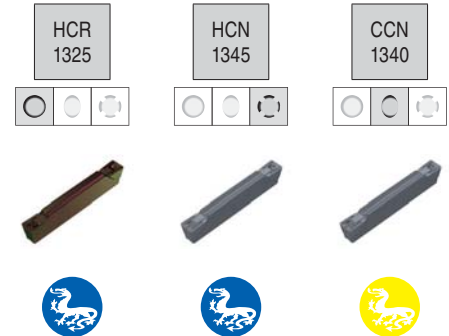
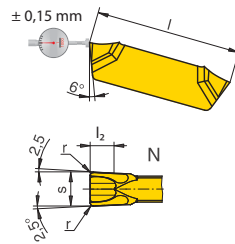
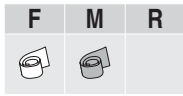
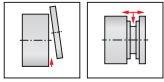
Internal machining

External machining

		→ 223	→ 224					

Insert GX 24 -M40

- Very good swarf control



Designation	l INSL mm	s +/-0.05 CW mm	r +/-0.05 RER mm	l ₂ PDPT mm	for tool holder
GX 24-2 E3.00 N 0.30	24	3	0.3	3.5	GX 24-2

NEW	Article no. 70 364 ...	Article no. 70 364 ...	Article no. 70 364 ...
	900	800	600

Steel	●	●	●
Stainless steel	○	●	●
Cast iron	●	●	●
Non ferrous metals			○
Heat resistant alloys	○	●	●

→ v_c Page 243
→ Application recommendation on page 245

Internal machining

External machining

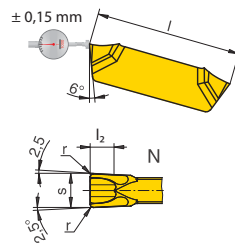


→ 223

→ 224

Insert GX 24 -M1

- Very good swarf control



Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 RER mm	l ₂ PDPT mm	for tool holder	NEW Article no. 70 363 ...	Article no. 70 363 ...	Article no. 70 363 ...
GX 24-1 E2.00 N 0.20	24	2	0.2	2.5	GX 24-1	900	800	600
GX 24-2 E3.00 N 0.20	24	3	0.2	2.5	GX 24-2	902	802	602

Steel	●	●	●
Stainless steel	○	●	●
Cast iron	●	●	●
Non ferrous metals	○	○	○
Heat resistant alloys	○	●	●

→ v_c Page 243
→ Application recommendation on page 245

Internal machining

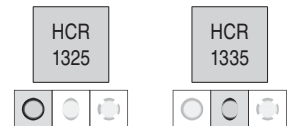
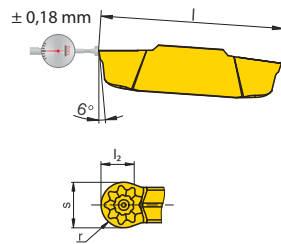
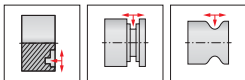
External machining



→ 223

→ 224

Radius groove insert GX 24 -M3



NEW	Article no. 70 354 ...	Article no. 70 354 ...
	952	552

Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 CRE mm	l ₂ PDPT mm	for tool holder
GX 24-2 R1.50 N	24.4	3	1.5	1.5	GX 24-2

Steel	●	●
Stainless steel	○	○
Cast iron	●	●
Non ferrous metals		
Heat resistant alloys	○	

→ v_c Page 243
→ Application recommendation on page 245

Internal machining

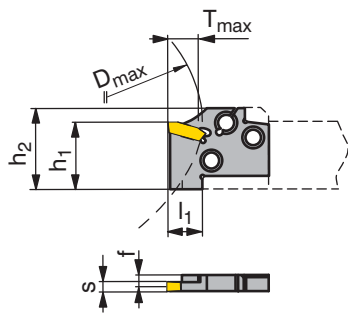
External machining



		→ 223	→ 224					
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ModularClamp – Radial grooving module GX 24

- For deep radial parting and grooving
- For turning



Illustrations show right-hand versions

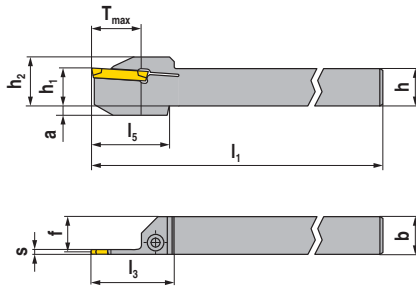


Designation	s mm	f WF mm	l ₁ LF mm	h ₁ HF mm	h ₂ H mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 868 ...	Article no. 70 867 ...
E20 R/L 21-GX 24-1	2,00 - 2,75	3.6	22	20	24	60	21	GX 24-1	020	020
E20 R/L 21-GX 24-2	3	3.4	22	20	24	60	21	GX 24-2	120	120



→ 217-221	→ 240+241									
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MonoClamp – Radial Monoholder GX 24



Illustrations show right-hand versions



Designation	h = h ₁ H mm	b B mm	s mm	f WF mm	h ₂ OAH mm	l ₁ OAL mm	l ₃ LH mm	l ₅ mm	a mm	T _{max.} CDX mm	for grooving inserts	Left-hand	Right-hand
												Article no. 70 863 ...	Article no. 70 862 ...
E16 R/L 0021-1616K-GX24-1	16	16	2,00 - 2,75	15.2	21	125	35	32	4	21	GX 24-1	160	160
E16 R/L 0021-1616K-GX24-2	16	16	2,76 - 3,75	15.0	21	125	35	32	4	21	GX 24-2	016	016
E20 R/L 0021-2020K-GX24-2	20	20	2,76 - 3,75	19.0	25	125	35			21	GX 24-2	020	020
E20 R/L 0021-2020K-GX24-1	20	20	2,00 - 2,75	19.2	25	125	35			21	GX 24-1	200	200

Spare parts
for grooving inserts

		Article no. 80 950 ...	Article no. 70 950 ...
GX 24-1	T20	114	204
GX 24-2	T20	114	204



Key D

Article no.
80 950 ...

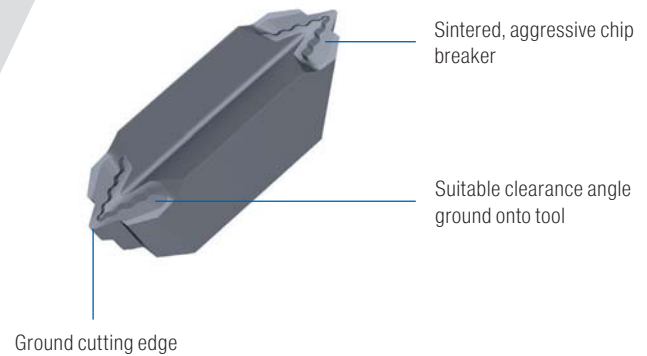
Clamping screw

Article no.
70 950 ...

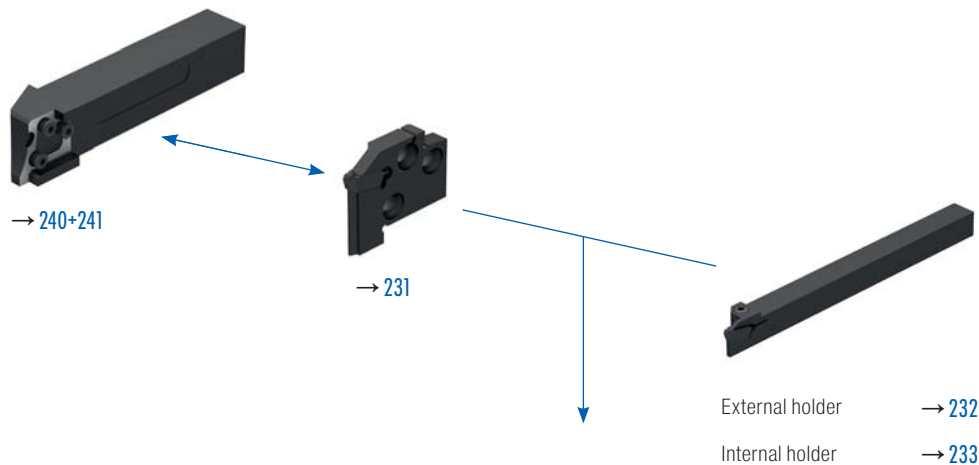
→ 217–221

Highlights

- Stable, double-edged thread turning system
Cost-effective production of threads
- Includes sintered chip breaker
Maximum chip control
- Ground cutting edges
Low cutting forces
- No approach angle correction required
Threads produced more quickly
- Thread in front of or behind a flange
Ideal for restricted spaces



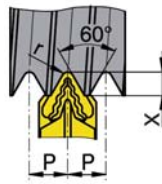
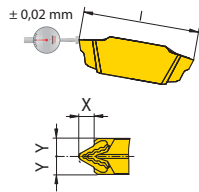
List of contents



	60° Full profile	60° Partial profile	55° Full profile	55° Partial profile
External thread	→ 226	→ 228	→ 229	→ 230
Internal thread	→ 227	→ 228	→ 229	→ 230
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron	○	○	○	○
Non-ferrous metals	●	●	●	●
Heat-resistant	●	●	●	●

i Further dimensions can be found in our **main catalogue** → **Chapter 10 Grooving**

Threading inserts TC full profile - External thread 60°

DPX
1520DPX
1535

CWK 26



Designation	Size	p TP mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW Article no. 70 357 ...	NEW Article no. 70 357 ...	Article no. 70 357 ...
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	010	110	610
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	012	112	612
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	014	114	614
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	016	116	616
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	018	118	618
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	030	130	630
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	032	132	632
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	034	134	634
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	036	136	636
Steel								●	●	
Stainless steel								●	●	
Cast iron								○		○
Non ferrous metals								●	○	●
Heat resistant alloys								○	●	○

→ v_c Page 243

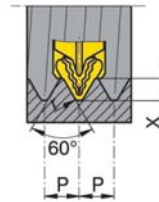
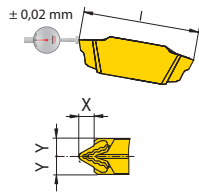
→ Application recommendation on page 247

Internal machining

External machining

									
		→ 231	→ 232						

Threading inserts TC full profile – Internal thread 60°

DPX
1520DPX
1535

CWK 26



Designation	Size	p TP mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW Article no. 70 358 ...	NEW Article no. 70 358 ...	Article no. 70 358 ...
TC 16-1 1.0 ISO	TC 16-1 ...	1.00	16	0.59	1.05	0.06	I32 R/L TC 16-1	014	114	
TC 16-1 1.25 ISO	TC 16-1 ...	1.25	16	0.74	1.05	0.07	I32 R/L TC 16-1	016		
TC 16-1 1.5 ISO	TC 16-1 ...	1.50	16	0.89	1.05	0.09	I32 R/L TC 16-1	018	118	618
TC 16-2 1.75 ISO	TC 16-2 ...	1.75	16	1.02	2.15	0.11	I32 R/L TC 16-2	030		
TC 16-2 2.0 ISO	TC 16-2 ...	2.00	16	1.17	2.15	0.13	I32 R/L TC 16-2	032	132	
TC 16-2 3.0 ISO	TC 16-2 ...	3.00	16	1.76	2.15	0.19	I32 R/L TC 16-2	036	136	636
Steel								●	●	
Stainless steel								●	●	
Cast iron										○
Non ferrous metals								●	○	●
Heat resistant alloys								○	●	○

→ v_c Page 243

→ Application recommendation on page 247

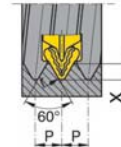
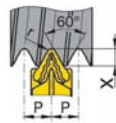
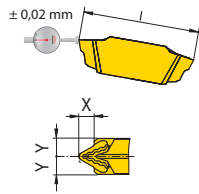
Internal machining

External machining



→ 233

Threading inserts TC partial profile 60°


DPX
1520

DPX
1535


CWK 26



Designation	Size	p mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW Article no. 70 355 ...	NEW Article no. 70 355 ...	Article no. 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	010	110	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	032	132	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	030	130	630

Steel	●	●	
Stainless steel	●	●	
Cast iron	○		○
Non ferrous metals	●	○	●
Heat resistant alloys	○	●	○

→ v_c Page 243

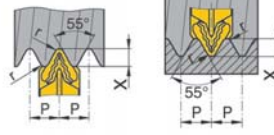
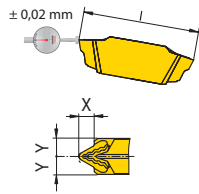
→ Application recommendation on page 247

Internal machining

External machining

→ 233	→ 231	→ 232						

Threading inserts TC full profile 55°

DPX
1520DPX
1535

CWK 26



Designation	Size	p TPI 1/"	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW Article no. 70 359 ...	NEW Article no. 70 359 ...	Article no. 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
Steel								•	•	
Stainless steel								•	•	
Cast iron										○
Non ferrous metals								•	○	•
Heat resistant alloys								○	•	○

→ v_c Page 243

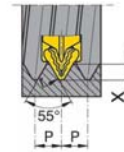
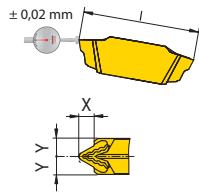
→ Application recommendation on page 247

Internal machining

External machining

→ 233	→ 231	→ 232						

Threading inserts TC partial profile 55°

DPX
1520DPX
1535

NEW

Article no.
70 356 ...

NEW

Article no.
70 356 ...

Designation	Size	p 1/8"	l INSL mm	X PDPT mm	Y PDX mm	r 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	010	110
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	032	132
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	030	130

Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	●	○
Heat resistant alloys	○	●

→ v_c Page 243

→ Application recommendation on page 247

Internal machining

External machining

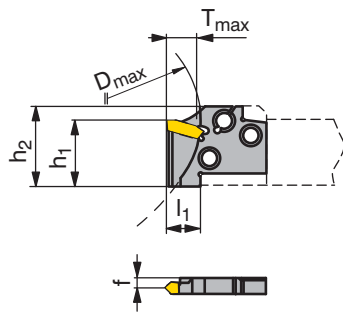


→ 233

→ 231

→ 232

ModularClamp – Threading module TC for external threads



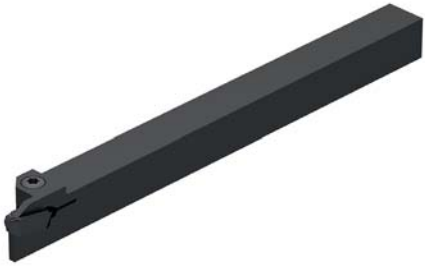
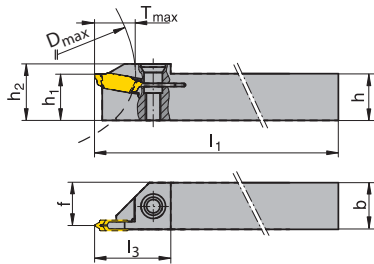
Illustrations show right-hand versions

Designation	p		f WF mm	h ₁ HF mm	l ₁ LF mm	h ₂ H mm	D _{max} CODX mm	T _{max} CDX mm	for grooving inserts	Left-hand	Neutral	Right-hand
	mm	1/8"								Article no. 70 872 ...	Article no. 70 872 ...	Article no. 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	



→ 226-230	→ 240-241											
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MonoClamp - Monobloc tool TC for external thread cutting



Illustrations show right-hand versions

Designation	p mm	p 1/"	h = h ₁ H mm	b B mm	l ₁ OAL mm	l ₃ LH mm	h ₂ OAH mm	f WF mm	D _{max} DAXX mm	for grooving inserts	Left-hand	Right-hand
											Article no. 70 883 ...	Article no. 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..	T15	Article no. 80 950 ... 113	M4x11	Article no. 70 950 ... 442
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Key D



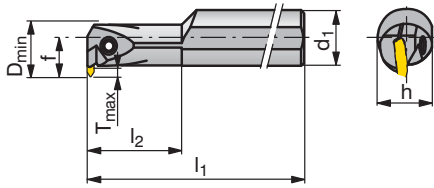
Clamping screw



→ 226-230

→ 240+241

MonoClamp – Monobloc Boring bar TC for internal thread cutting

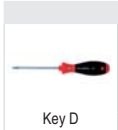


Illustrations show right-hand versions

Designation	f WF mm	d ₁ DCONMS mm	h H mm	l ₁ OAL mm	l ₂ LH mm	T _{max} CDX mm	D _{min} DAXN mm	for grooving inserts	Left-hand	Right-hand
									Article no. 70 857 ...	Article no. 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.

Spare parts for Article no.										
70 857 016										
70 856 020 / 70 857 020										



Key D



Clamping screw

Article no.
80 950 ...

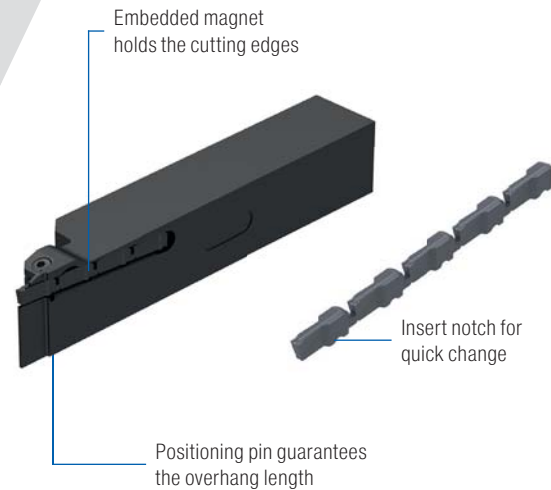
Article no.
70 950 ...



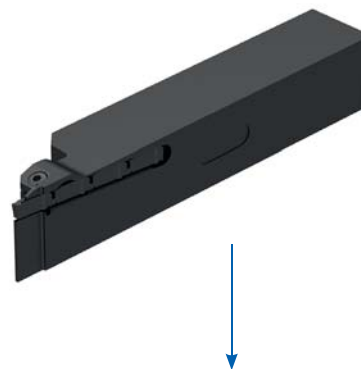
→ 226-230

Highlights

- Five- or four-edged grooving system
Cost-effective production of threads
- Unique cutting edge changing system
Quickest change guaranteed
- Groove width from 1.0 mm
Reduces material losses
- Excellent chip control
High process security
- Groove depths up to 10 mm
Ideal for small components



List of contents



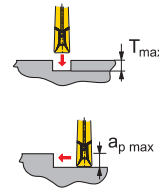
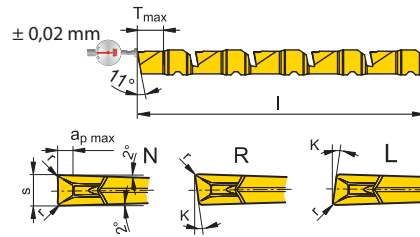
(5 mm groove depth) → [238](#)
(10 mm groove depth) → [239](#)

-F2 (5 mm groove depth)	-F2 (10 mm groove depth)	-F3 (10 mm groove depth)
		
→ 235	→ 236	→ 237

Steel	•	•	•
Stainless steel	•	•	•
Cast iron			
Non-ferrous metals	○	○	○
Heat-resistant	•	•	•

MaxiClick - Insert - cutting depth 5 mm -F2

■ 5 cutting edges

CCN
1340

Designation	R/L/N	s	l	r	K°	a _{p max}	T _{max}	for tool holder
	IH	CW mm	INSL mm	RER mm	KCHR	mm	PDPT mm	
MC 05-5-1.00 L 07-F2	L	1.0	59.2	0.1	7		5	MC 05 R/L
MC 05-5-1.50 L 07-F2	L	1.5	59.2	0.1	7		5	MC 05 R/L
MC 05-5-1.00 N 0.10-F2	N	1.0	59.2	0.1	0	0.5	5	MC 05 R/L
MC 05-5-1.50 N 0.10-F2	N	1.5	59.2	0.1	0	1.0	5	MC 05 R/L
MC 05-5-1.00 R 07-F2	R	1.0	59.2	0.1	7		5	MC 05 R/L
MC 05-5-1.50 R 07-F2	R	1.5	59.2	0.1	7		5	MC 05 R/L

Article no.
70 338 ...

250

260

210

220

230

240

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

→ v_c Page 243

→ Application recommendation on page 246

Internal machining

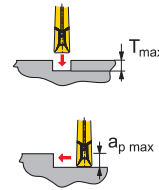
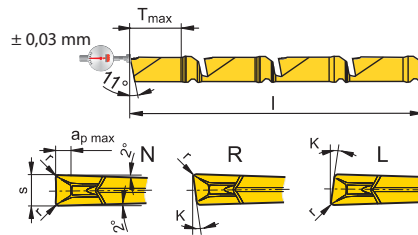
External machining



→ 238

MaxiClick - Insert - cutting depth 10 mm -F2

■ 4 cutting edges

CCN
1340

Designation	R/L/N IH	s CW mm	l INSL mm	r RER mm	K° KCHR	a _{p max} mm	T _{max} PDPT mm	for tool holder
MC 10-4-1.50 L 07-F2	L	1.5	59.2	0.1	7		10	MC 10 R/L
MC 10-4-2.00 L 07-F2	L	2.0	59.2	0.1	7		10	MC 10 R/L
MC 10-4-2.50 L 07-F2	L	2.5	59.2	0.1	7		10	MC 10 R/L
MC 10-4-1.50 N 0.10-F2	N	1.5	59.2	0.1	0	1.0	10	MC 10 R/L
MC 10-4-2.00 N 0.10-F2	N	2.0	59.2	0.1	0	1.5	10	MC 10 R/L
MC 10-4-2.50 N 0.10-F2	N	2.5	59.2	0.1	0	2.0	10	MC 10 R/L
MC 10-4-1.50 R 07-F2	R	1.5	59.2	0.1	7		10	MC 10 R/L
MC 10-4-2.00 R 07-F2	R	2.0	59.2	0.1	7		10	MC 10 R/L
MC 10-4-2.50 R 07-F2	R	2.5	59.2	0.1	7		10	MC 10 R/L

Article no.
70 339 ...

270

280

290

210

220

230

240

250

260

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

→ v_c Page 243

→ Application recommendation on page 246

Internal machining

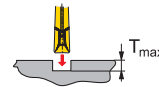
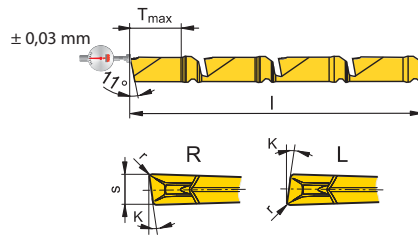
External machining



→ 239

MaxiClick - Insert - cutting depth 10 mm -F3

- 4 cutting edges

CCN
1340

Designation	R/L/N	s	l	r	K°	T _{max.}	for tool holder
	IH	CW mm	INSL mm	RER mm	KCHR	PDPT mm	
MC 10-4-1.50 L 12-F3	L	1.5	59.2	0.1	12	10	MC 10 R/L
MC 10-4-2.00 L 12-F3	L	2.0	59.2	0.1	12	10	MC 10 R/L
MC 10-4-2.50 L 12-F3	L	2.5	59.2	0.1	12	10	MC 10 R/L
MC 10-4-1.50 R 12-F3	R	1.5	59.2	0.1	12	10	MC 10 R/L
MC 10-4-2.00 R 12-F3	R	2.0	59.2	0.1	12	10	MC 10 R/L
MC 10-4-2.50 R 12-F3	R	2.5	59.2	0.1	12	10	MC 10 R/L

Article no.
70 340 ...

270

280

290

240

250

260

Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	○
Heat resistant alloys	•

→ v_c Page 243

→ Application recommendation on page 246

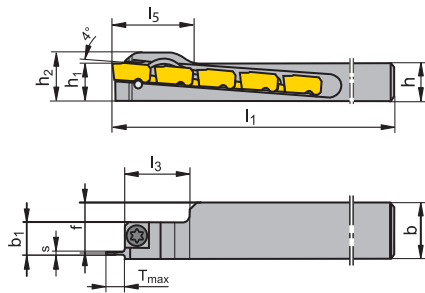
Internal machining

External machining



→ 239

MaxiClick - Toolholder - cutting depth 5 mm



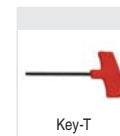
Illustrations show right-hand versions



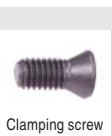
Designation	h = h ₁ H mm	h ₂ OAH mm	b B mm	b ₁ mm	s mm	T _{max} CDX mm	f WF mm	l ₁ OAL mm	l ₃ LH mm	l ₅ mm	for grooving inserts	Left-hand	Right-hand
												Article no. 70 873 ...	Article no. 70 873 ...
MC 05 R/L -1010K	10	13	10	10	1,00 - 1,50	5	8.5	125	23	27	MC 05	210	110
MC 05 R/L -1212K	12	15	12	12	1,00 - 1,50	5	10.5	125	23	27	MC 05	212	112
MC 05 R/L -1616K	16	19	16	12	1,00 - 1,50	5	14.5	125	23	20	MC 05	216	116
MC 05 R/L -2020K	20	23	20	12	1,00 - 1,50	5	18.8	125	23	20	MC 05	220	120

Spare parts for grooving inserts

MC 05	T15	Article no. 70 950 ... 738	M4x11	Article no. 70 950 ... 174
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Key-T

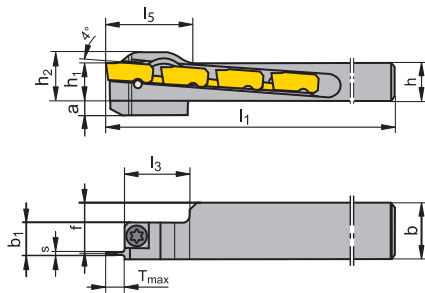


Clamping screw



→ 235

MaxiClick - Toolholder - cutting depth 10 mm



Illustrations show right-hand versions

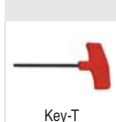


Designation	$h = h_1$ H mm	h_2 OAH mm	b B mm	b_1 mm	a mm	s mm	T_{max} CDX mm	f WF mm	l_1 OAL mm	l_3 LH mm	l_5 mm	for grooving inserts	Left-hand	Right-hand
													Article no. 70 874 ...	Article no. 70 874 ...
MC 10 R/L -1010K	10	13	10	10		1,50 - 2,50	10	8.5	125	28		MC 10	210	110
MC 10 R/L -1010K-S	10	13	10	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	12		1,50 - 2,50	10	10.5	125	28		MC 10	212	112
MC 10 R/L -1212K-S	12	15	12	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	12		1,50 - 2,50	10	14.5	125	28	20	MC 10		116
MC 10 R/L -2020K	20	23	20	12		1,50 - 2,50	10	18.8	125	28	20	MC 10	220	120

1) -S = strengthened variant

Spare parts
for grooving inserts

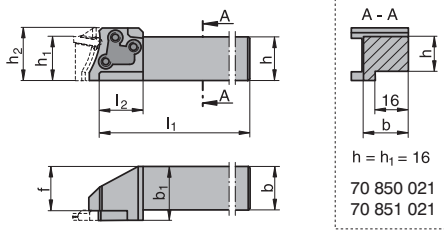
MC 10

 Key-T	 Clamping screw
Article no. 70 950 ...	Article no. 70 950 ...
738	174
T15	M4x11



→ 236-237

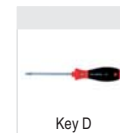
ModularClamp – Tool holder 0°



Illustrations show right-hand versions

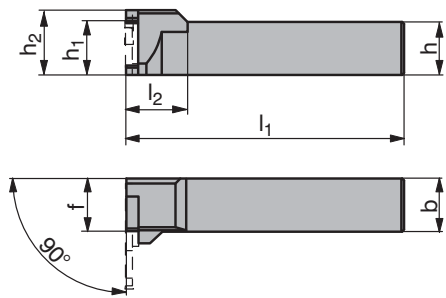
Designation	h = h ₁ H mm	b B mm	b ₁ OAW mm	h ₂ OAH mm	f WF mm	l ₁ mm	l ₂ mm	for modules	Left-hand	Right-hand
									Article no. 70 851 ...	Article no. 70 850 ...
E12 R/L 00-1212E	12	12	15.25	14.5	11.75	70	12	E12 R/L ...	012	012
E16 R/L 00-1616G	16	16	19.25	19.5	15.75	90	16	E16 R/L ...	016	016
E20 R/L 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. 80 950 ...		Article no. 70 950 ...
70 850 012 / 70 851 012	T08	110	M2,5x10	440
70 850 016 / 70 851 016	T15	113	M3,5x12,5	441
70 850 021 / 70 851 021	T15	113	M4x14	403
70 850 020 / 70 851 020	T15	113	M4x14	403

ModularClamp – Tool holder 90°



Illustrations show right-hand versions



Designation	$h = h_1$ H mm	b B mm	h_2 OAH mm	f WF mm	l_1 OAL mm	l_2 mm	for modules
E20 R/L 90-2020J	20	20	24	24.5	110	20	E20 R/L ...

Left-hand

Right-hand

Article no.
70 855 ...

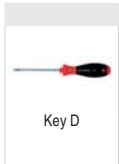
Article no.
70 854 ...

020

020

Spare parts
for Article no.

70 854 020 / 70 855 020



Key D

Article no.
80 950 ...



Clamping screw

Article no.
70 950 ...

T15

M4x14

113

403

Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5 - 10% Si	< 400 N/mm ²	3.2315	A - G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10 - 15% Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values for grooving inserts GX/FX/SX/TC



	HCR 1325	HCR 1335	HCN 1345	CCN 1340	DPX 1520	DPX 1535	CWK 26
Index	v _c in m/min.						
1.1	130-260	110-190	80-150	80-180	150-200	80-150	
1.2	150-300	130-250	110-190	120-250	150-240	110-170	
1.3	130-260	110-190	80-150	60-150	100-200	80-150	
1.4	140-240	80-170	70-140	120-200	130-180	70-130	
1.5	150-300	70-170	70-140	80-180	140-220	70-130	
1.6	130-200	70-170	60-180	60-150	100-160	60-170	
1.7	150-230	110-220	70-130	80-180	140-190	70-130	
1.8	100-180	90-210	60-110	50-120	100-150	60-110	
1.9	120-180	90-180	70-130	80-150	120-170	60-100	
1.10	120-180	70-160	60-110	50-120	120-170	70-120	
1.11	100-160	70-160	60-110	50-120	100-150	60-110	
1.12	100-160	70-160	60-110	50-120	100-150	60-110	
1.13	60-110					60-110	
1.14	60-110						
1.15	60-110	70-160	60-100	50-120	60-100	60-100	
1.16	60-110	70-160	60-100	50-120	60-100	60-100	
2.1	140-230	120-200	100-180	50-200	110-180	50-150	
2.2	140-230	120-190	100-180	50-180	110-180	50-140	
2.3	120-210	120-170	80-150	50-180	70-140	50-130	
2.4	60-110	60-90	60-90	50-80	70-100	50-80	
2.5	80-140	70-110	70-110	50-100	70-100	50-90	
2.6	80-140	70-110	70-110	50-100	70-100	50-90	
2.7	60-110	60-90	60-90	50-80		50-80	
3.1	120-210	90-180			180-220		110-180
3.2	100-170	80-150			140-180		90-150
3.3	130-210	100-160			160-200		110-180
3.4	100-170	70-140			120-180		80-140
3.5	120-250	100-200			180-240		100-200
3.6	90-190	80-150			160-200		70-160
3.7	120-240	100-200			180-240		100-200
3.8	90-190	80-150			160-200		70-160
4.1				100-500	100-1000	100-500	100-800
4.2				100-500	100-800	100-500	80-800
4.3				100-500	100-500	100-500	50-500
4.4				100-300	100-500	100-300	
4.5				100-200	100-350	100-300	
4.6				100-300		100-300	80-300
4.7				100-300		100-300	200-600
4.8				100-300		100-300	150-400
4.9				100-300		100-300	150-400
4.10				100-300		100-300	150-400
4.11				100-500	80-250	100-500	200-600
4.12				100-370		100-370	200-600
4.13							
4.14				80-180	80-500	80-180	80-500
4.15				60-150	80-200	60-150	60-150
4.16							
4.17							
4.18							
4.19							
5.1	25-50				25-45		
5.2	20-45		20-40	20-35	20-40	20-35	
5.3	15-25		20-30	20-40	15-25	20-40	
5.4	15-25		20-30	20-40	15-25	20-40	
5.5	10-20			15-25	10-20	15-25	
5.6	10-20			15-25	10-20	15-25	
5.7	10-20			10-20	10-20	10-20	
5.8	10-20			10-20	10-20	10-20	
5.9				50-120		50-120	90-140
5.10				30-50		30-50	30-60
5.11				30-50		30-50	30-60
6.1							
6.2							
6.3							
6.4							
6.5							

SX – Depths of cut and feed rates

SX-F2

Turning



	Depth of Cut a_p in mm			
SX-F2	0,50	0,75	1,00	1,25
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

Parting / Grooving



SX-F2	Feed rate f in mm/rev.
	0,05–0,15
	0,075–0,20

SX-M2

Turning



	Depth of Cut a_p in mm			
SX-M2	0,5	1,0	1,5	2,0
Cutting width in mm	Feed rate f in mm/rev.			
2	0,05–0,17	0,05–0,13	0,05–0,10	
3	0,07–0,20	0,07–0,20	0,07–0,18	0,07–0,15

Parting / Grooving



SX-M2	Feed rate f in mm/rev.
	0,05–0,15
	0,075–0,20

SX-ALP

Turning



	Depth of Cut a_p in mm				
SX-ALP	0,5	1,0	1,5	2,0	2,5
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

Parting / Grooving



SX-ALP	Feed rate f in mm/rev.
	0,05–0,20
	0,05–0,25

SX-M1

Parting / Grooving



SX-M1	Feed rate f in mm/rev.
Cutting width in mm	
2	0,05–0,15
3	0,10–0,20

FX – Cutting depths and feeds

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

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

FX-ALP

Parting / Grooving

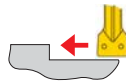


FX-ALP	Feed rate f in mm/rev.
Cutting width in mm	
2,20	0,01–0,10
3,10	0,015–0,125

GX - Depths of cut and feed rates

GX Standard / GX-E

Turning



	Depth of Cut a_p in mm				
GX Standard / GX-E	0,5	1,0	1,5	2,0	2,5
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

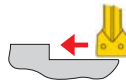
Parting / Grooving



GX Standard / GX-E
Feed rate f in mm/rev.
0,05-0,20
0,10-0,25

GX-F2

Turning



	Depth of Cut a_p in mm			
GX-F2	0,50	0,75	1,00	1,25
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

Parting / Grooving



GX-F2
Feed rate f in mm/rev.
0,05-0,15
0,075-0,20

GX-M40

Turning



	Depth of Cut a_p in mm				
GX-M40	0,5	1,0	1,5	2,0	2,5
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

Parting / Grooving



GX-M40
Feed rate f in mm/rev.
0,05-0,15
0,075-0,20

GX-ALP

Turning



	Depth of Cut a_p in mm				
GX-ALP	0,5	1,0	1,5	2,0	2,5
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

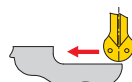
Parting / Grooving



GX-ALP
Feed rate f in mm/rev.
0,05-0,20
0,05-0,25

GX-M3

Turning



	Depth of Cut a_p in mm		
GX-M3	0,5	1,0	1,5
Radius r in mm	Feed rate f in mm/rev.		
1,5	0,15-0,35	0,15-0,35	0,15-0,30

Parting / Grooving



GX-M3
Feed rate f in mm/rev.
0,05-0,20

GX-M1

Parting / Grooving

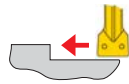


GX-M1	
Cutting width in mm	Feed rate f in mm/rev.
2	0,05-0,15
3	0,10-0,20

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



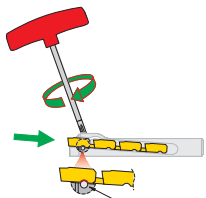
	Depth of Cut a_p in mm				
MaxiClick 10	0,50	0,75	1,00	1,25	1,50
Cutting width in mm	Feed rate f in mm/rev.				
1,5	0,02-0,20	0,02-0,15	0,02-0,10		
2	0,02-0,20	0,02-0,20	0,02-0,14	0,02-0,10	
2,5	0,02-0,20	0,02-0,20	0,02-0,17	0,02-0,13	0,02-0,10

Parting / Grooving

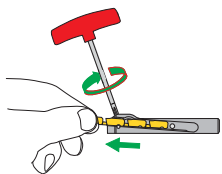


MaxiClick 10
Feed rate f in mm/rev.
0,03-0,11
0,03-0,12
0,03-0,15

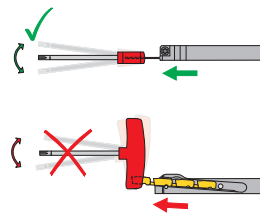
MaxiClick - System function



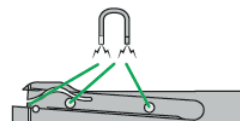
Correct insert location in the seat



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

TC – Reference values for profile depth and number of passes

i 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
Number/cuts	4–6	4–7	4–8	5–9	6–10	7–11	8–12	9–14	10–18
Thread profile depth in mm	0,32	0,48	0,64	0,8	0,95	1,10	1,26	1,58	1,89

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
Number/cuts	4–6	4–7	4–8	5–9	6–10	7–11	8–12	9–14	10–18
Thread profile depth in mm	0,30	0,45	0,59	0,74	0,89	1,02	1,17	1,46	1,76

Whitworth 55° external and internal thread

TPI	28	26	24	20	19	18	16	14	12	11	10	9	8
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
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

Partial profile 60° external and internal thread

External	TC 16-2EI-AG60												
	TC 16-1EI-A60									TC 16-2EI-G60			
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
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
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

Internal	TC 16-2EI-AG60												
	TC 16-1EI-A60									TC 16-2EI-G60			
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
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
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

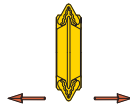
Partial profile 55° external and internal thread

External	TC 16-2EI-AG55												
	TC 16-1EI-A55												
TPI	28	26	24	20	19	18	16	14	12	11	10	9	8
Thread profile depth in mm	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

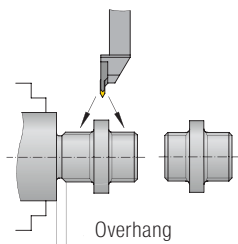
Internal	TC 16–2EI–G55						
	TPI	14	12	11	10	9	8
Number/cuts		8–12	9–14	10–15	11–18	12–20	12–20
Thread profile depth in mm		1,22	1,46	1,56	1,80	2,03	2,31

Comparison threading system with TC and conventional

TC

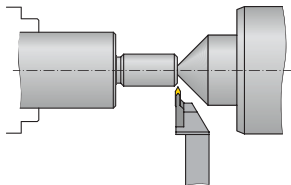


- Neutral configuration of insert makes operation in both directions possible
- Only one threading insert per pitch for partial profile and Whitworth thread; only two threading inserts (internal – external) per pitch for ISO threads
- Reduced stock holding
- good chip formation due to chip breaker with rake angle $+10^\circ$

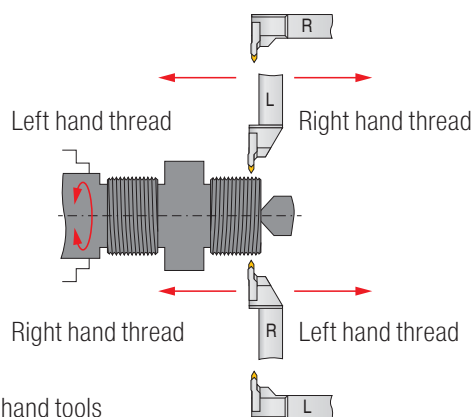


Greater efficiency through:

- shorter operating time
- Less tool changing
- High stability with small overhang
- Material saving
- Thread turning between shoulders
- Fewer tools and indexable inserts



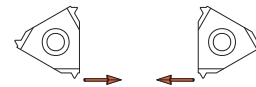
- Very good access to workpiece, therefore use of tailstock also possible with small thread diameters



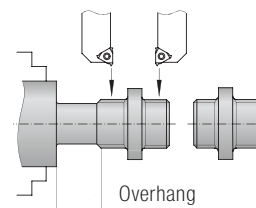
R = Right hand tools
L = Left hand tool

- ease of use, as the tools have no pitch angle correction they can be used in both directions

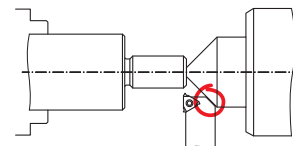
Conventional



- 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)



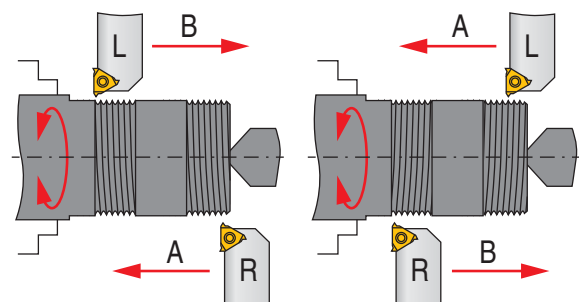
- For this machining method 2 tools are required
- additional material and stability loss with large overhang



- poor accessibility
- Collision danger

Right hand thread

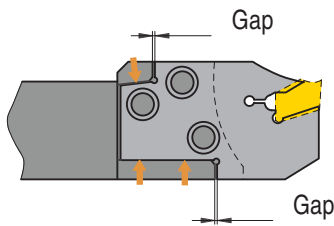
Left hand thread



- 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

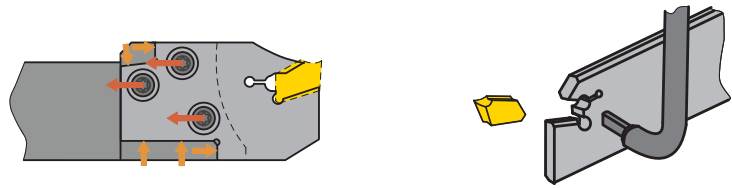
Clamping function – ModularClamp-Module

Module unclamped



- Gap between module and support face for axial clamping

Module clamped

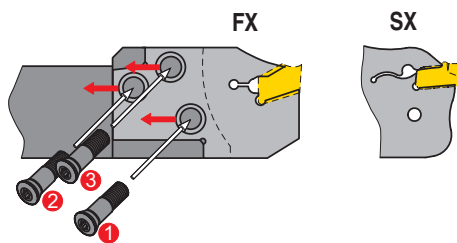


- Axial clamping with support face
- Connection free from play, therefore maximum stability

FX

SX

Self clamping of the insert

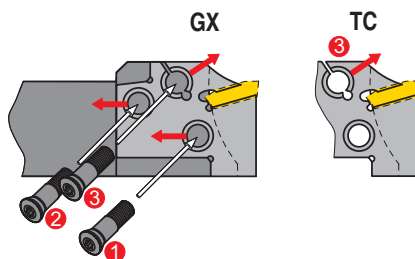


Clamping screws 1, 2 and 3 are used for clamping the module.
The insert is self-clamping.

GX

TC

Active insert clamping

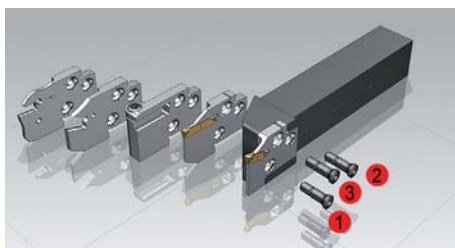


Clamping screws 1 and 2 are used for clamping the module.

Important: first tighten clamp screws 1 and 2.
Then clamp the insert with screw 3.

Torque Moment ModularClamp Module Screws

ModularClamp – Tool holder

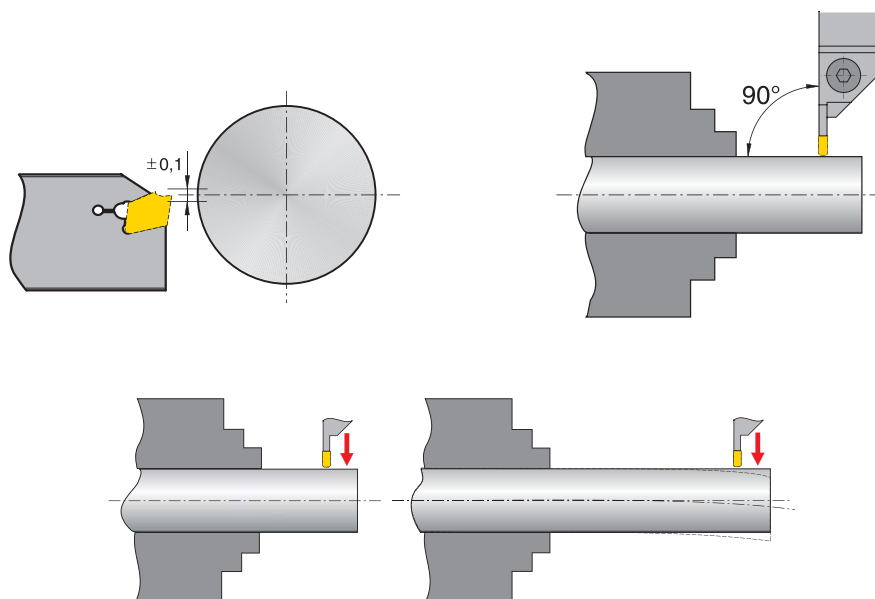


i Order for the pre-and tightening of the screws!

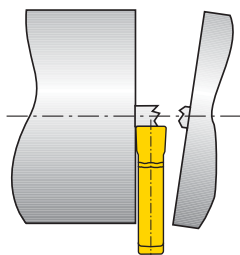
ModularClamp – Tool holder	Screw	Torx	Torque	
			Nm	in.lbs
E12..	M2,5x10	T08	1,2	10,6
E16..	M3,5x12,5	T15	3,2	28,3
E20..	M4x14	T15	4,0	35,4

General references

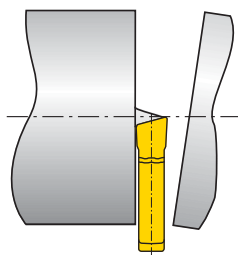
Tool position



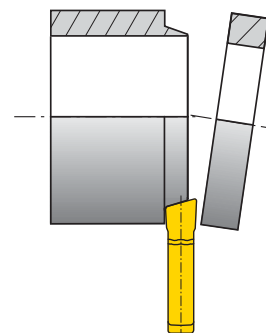
References for Parting off



From $\varnothing 5$ mm on, reduce feed “f” by approx. 50 %. No parting across centre (risk of breakage).

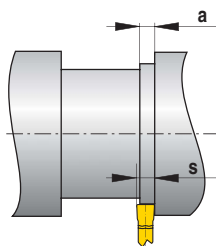


For parting pip-free, use R or L inserts. In order to minimize lateral deflection reduce feed by approx. 20–50 %.

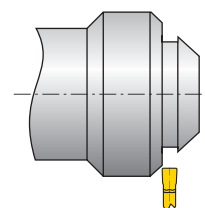


In order to prevent ring formation, use R or L inserts. Reduce feed “f” because of lateral deflection by approx. 20 %–50 %.

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.

Troubleshooting guide for grooving FX/SX/GX

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 pips 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	Insert selection	
					●					R/L execution		
↑		↑	↑	↓	↓	↓	↑			Corner radius ↑ larger ↓ smaller		
↓		↑	↑							Tap Material ↑ wear resistance ↑ toughness	General criteria	
				↓		↑	↑			Groove width		
↔				↔		↔	↔			Tool clamping		
↔				↔		↔	↔			Work piece clamping		
↔				↔			↓			Overhang		
↔		↔		↔	↔		↔			Tip height		
	●	●	●		●		●	●		Cooling lubricant		

raise, increase
large influenceraise, increase
small influenceavoid, reduce
large influenceavoid, reduce
small influence

check, optimise



use

Trouble shooting guide for TC threading

Type of problem												Remedy measures		
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	
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			
				●	●	●					Spring cut (Air cut)		Indexable insert selection	
			●			●	●			●	Chip groove			
↑	↓	↑									Tap Material ↑ wear resistance ↓ toughness			
				●	●	●					Full profile			
											Partial profile		Various criteria	
	↔					↔	↔				Stable tool holder / insert			
	↔					↔	↔				Stable workpiece			
	↓					↓	↓				Overhang			
↔	↔	↔			↔	↔	↔				Tip height			
●	●	●	●	●		●					Cooling lubricant			

↑ raise, increase
large influence

↑ raise, increase
small influence

↓ avoid, reduce
large influence

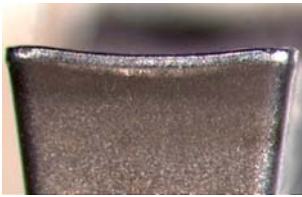
↓ avoid, reduce
small influence

↔ 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.

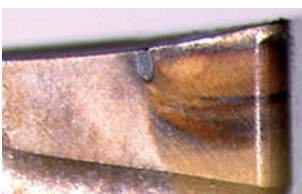
Cause

- 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

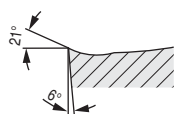
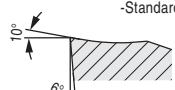
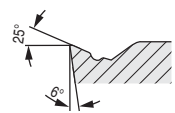
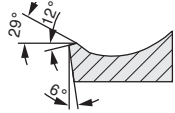
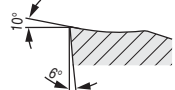
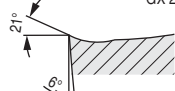
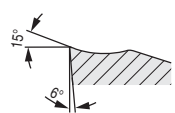
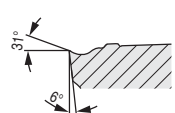
- Oxidation at the cutting edge
- Too high a temperature at the edge

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		HCR1325	CCN1340	HCN1345		0,05–0,15
		CCN1340	CCN1340/HCN1345	HCN1345		
		HCR1325	CCN1340			
		CCN1340	CCN1340/HCN1345			
-Standard / -E - positive geometry - low-medium feed rates - low cutting forces - universal application - first choice for axial grooving		HCR1325	HCR1335/CCN1340	HCN1345	 	0,05–0,17
		CCN1340	CCN1340/HCN1345	HCN1345		
		HCR1325	HCR1335/CCN1340	CCN1340		
		CCN1340	CCN1340	HCN1345		
-M40 - stable geometry - medium feed rates - universal application - good chip control		HCR1325	CCN1340	HCN1345		0,075–0,20
		CCN1340	CCN1340/HCN1345	HCN1345		
		HCR1325	HCR1335/CCN1340	CCN1340		
		CCN1340	CCN1340	HCN1345		
-M1 - very stable cutting edge - medium-high feed rates - for interrupted cut - for high tensile materials - first choice for parting off		HCR1325	CCN1340	HCN1345		0,1–0,20
		CCN1340	CCN1340/HCN1345	HCN1345		
		HCR1325	HCR1335/CCN1340	CCN1340		
		CCN1340	CCN1340	HCN1345		
-ALP - very positive geometry - ground periphery - sharp cutting edge - polished chip breaker - first choice for non-ferrous metals					 	0,05–0,25
		CWK26	CWK26	CWK26		
Standard – Radius - positive geometry - honed cutting edge - low-medium feed rates - low cutting forces - Radius grooving/copy turning		HCR1325	HCR1335/CCN1340	CCN1340		0,05–0,20
		CCN1340	CCN1340/HCN1345	CCN1340		
		HCR1325	HCR1325/CCN1340	CCN1340		
		CCN1340	CCN1340			
-M3 – Radius - stable geometry - medium-high feed rates - high surface quality - Radius grooving/copy turning		HCR1325	HCR1325/HCR1335	HCR1335		0,07–0,20
		HCR1335	HCR1335	HCR1345		
		HCR1325	HCR1325/HCR1335	HCR1335		

Chip breakers / Applications

Smooth cut	Irregular cut	Interrupted cut	Model	f in mm/rev.

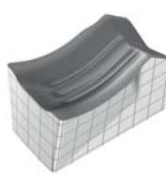
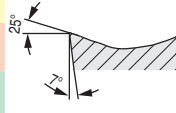
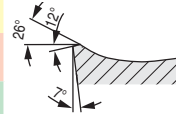
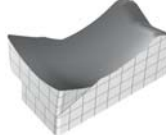
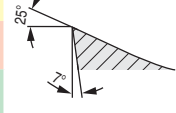
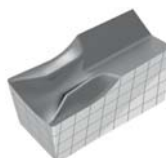
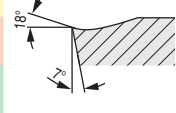
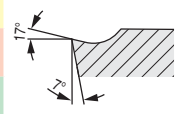
GX system – Circlip grooving

Standard - positive geometry - honed cutting edge - low feed rates - small corner radius - Circlip grooves		CCN1340	CCN1340			0,05–0,30
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			

System SX

-F2 - very positive geometry - honed cutting edge - low feed rates - low cutting forces - first choice for stainless materials		CCN1340	CCN1340	HCR1345		0,05–0,15
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	CCN1340			
		CCN1340	CCN1340/HCR1345			
-M1 - very stable cutting edge - medium-high feed rates - for interrupted cut - for high tensile materials - first choice for parting off		HCR1325	HCR 1335/CCN1340	HCR1345		0,10–0,20
		HCR 1335	CCN1340	HCR1345		
		HCR1325	HCR1325	HCR1325		
		CCN1340	CCN1340	HCR1345		
-M2 - stable geometry - medium feed rates - universal application - good chip control		HCR1325	HCR 1335/CCN1340	HCR1345		0,075–0,20
		HCR 1335	CCN1340	HCR1345		
		HCR1325	HCR1325	HCR 1335		
		CCN1340	CCN1340	CCN1340		
-ALP - very positive geometry - ground periphery - sharp cutting edge - polished chip breaker - first choice for non-ferrous metals						0,05–0,25
		CWK26	CWK26	CWK26		
-M3 – Radius - stable geometry - medium-high feed rates - high surface quality - Radius grooving / Copy turning		HCR1335	HCR 1335/CCN1340	CCN1340		0,05–0,20
		HCR1335	HCR 1335/CCN1340	CCN1340		
		HCR1325	HCR 1335/CCN1340	CCN1340		
		CCN1340	CCN1340	CCN1340		

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		HCR1325	CCN1340	HCR1345		0,05–0,15
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	HCR1325/CCN1340			
		CCN1340	CCN1340/HCR1345	HCR1345		
-M1 - very stable cutting edge - medium-high feed rates - for interrupted cut - for high tensile materials - first choice for parting off		HCR1325	HCR1335/CCN1340	HCR1345		0,08–0,20
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	HCR1325	HCR1335		
		CCN1340	CCN1340	HCR1345		
-ALP - very positive geometry - ground periphery - sharp cutting edge - polished chip breaker - first choice for non-ferrous metals						0,03–0,13
		CWK26	CWK26	CWK26		
MaxiClick system						
-F2 - very positive geometry - honed cutting edge - low feed rates - low cutting forces - first choice for stainless materials		CCN1340	CCN1340	CCN1340		0,05–0,10
		CCN1340	CCN1340	CCN1340		
		CCN1340	CCN1340	CCN1340		
		CCN1340	CCN1340			
-F3 - very positive geometry - honed cutting edge - low feed rates - low cutting forces - reduced burrs / edge build up		CCN1340	CCN1340			0,02–0,06
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			

Example of Coding Grooving Tools

Grooving insert						
GX	16	2	E	3.00	N	0.50
Grooving system (GX)	Insert length (16 mm)	Width class of the holder / module or support surface (2 mm)	Type of insert, application	Groove width (3.0 mm)	Insert seat N=Neutral L=Left Handed R=Right Handed	Corner radius size (0.5 mm)
Module						
E	25	R	12	GX	16	2
Application E = external I = internal	Size (25 mm)	Module version R=Right Handed L=Left Handed	Maximum groove depth (12 mm)	Grooving system (GX)	Insert size (16 mm)	Width class 2
Basic holder						
E	25	R	00	2525	L	
Application E = external I = internal	Size (25 mm)	Holder version R=Right Handed L=Left Handed	Approach angle 0°	Shank type 25x25 mm	Shank length L = (sh. ISO)	

» Compilation

Basic holderModuleGrooving insert

E25 R 00 - 2525LE25 R 12 - GX 16-2GX 16-2 E3.00 N 0.50

Grades Overview

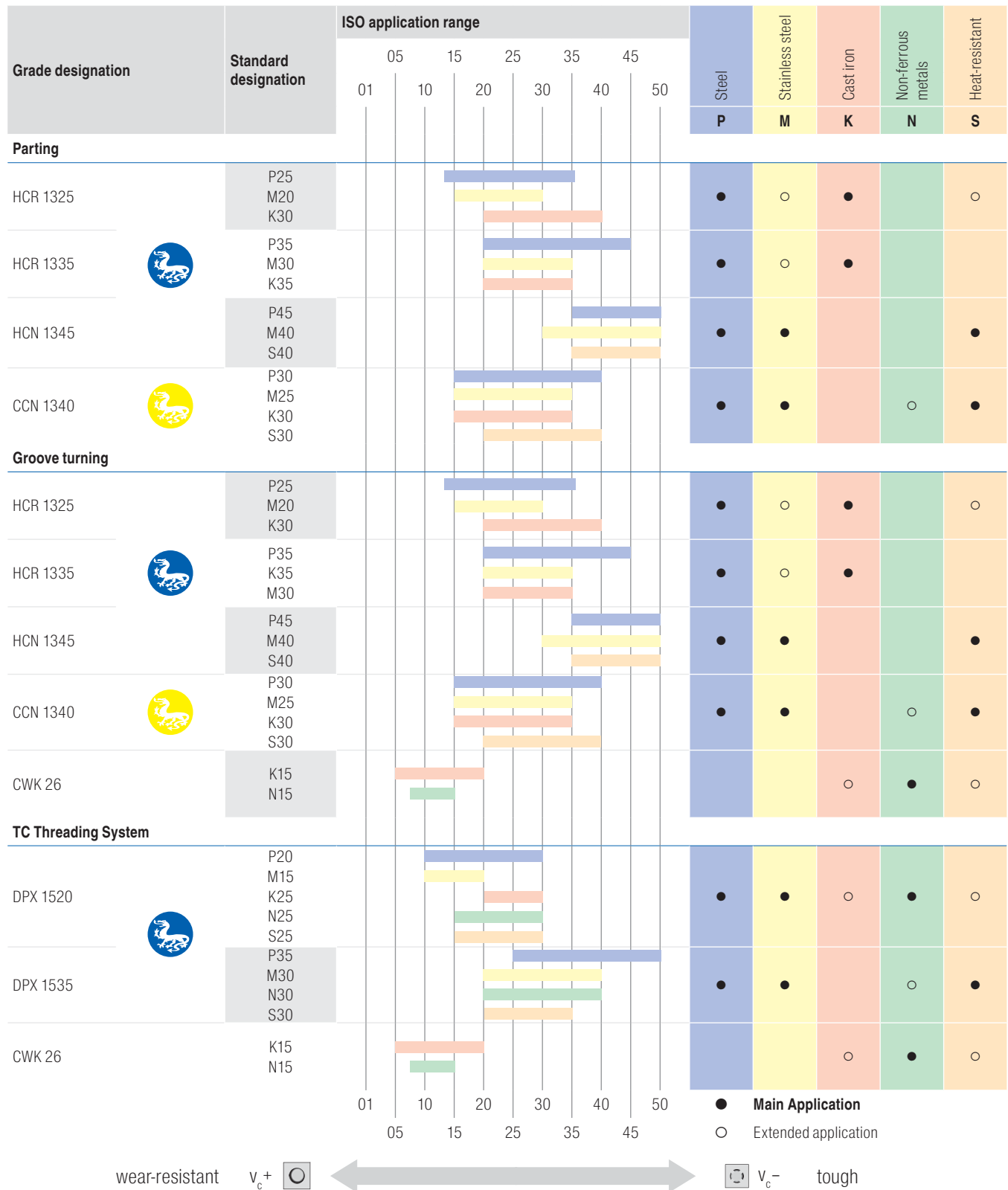




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WNT MASTERTOOL
PERFORMANCE

Premium quality tools for high performance.

The premium quality tools from the **WNT Mastertool 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.

System overview

UltraMini



Advantages / Benefits

- From a bore diameter of 0.5 mm
- Axial grooving to a depth of 40 mm
- Precision-ground shank
- Easy cutting insert assembly/removal
- Coolant supply directly to the cutting edge
- Optimum cutting insert location

MiniCut



Advantages / Benefits

- From a bore diameter of 7.8 mm
- Interchangeable inserts
- 3 rib insert location
- Precise cutting edge position
- Perfect power transmission
- Optimum stability
- Simple use
- Coolant directly to the cutting edge

Symbol explanation

UltraMini



Internal turning and profiling



High-feed turning



Turning and profile turning – super alloys



Internal turning



Back boring



Turning and chamfering



Pre-parting and chamfering



Groove turning



Internal Undercuts



Groove and profile turning



Internal thread turning



Axial grooving

MiniCut



Internal turning and profiling



Internal turning



Back boring



Turning and chamfering



Pre-parting and chamfering



Groove turning



Internal Undercuts



Groove and profile turning



Internal thread turning



Axial grooving

Coatings

TiAlN+

- Coating with an excellent hot hardness, resistance to oxidation and thermal insulating properties.

TiN

- Universal PVD TiN coating. This all-round grade is suitable for low and medium cutting speeds with limitations on non-ferrous metals.

TiAlN

- Universal TiAlN coating with high heat resistance with high hardness. Very well suited for non-ferrous metals.

CWX 500

- Universal grade that is distinguished by good toughness / hardness ratio.

DPX 77S

- Universal PVD-TiAlN+X coating (Dragonskin)
- Low coefficient of friction

DPX 57S

- Dragonskin coating for super alloys
- PVD-TiCrN coating with high temperature-resistance

Thread types

M

Metric ISO standard thread

MF

Metric ISO fine thread

G

Whitworth thread

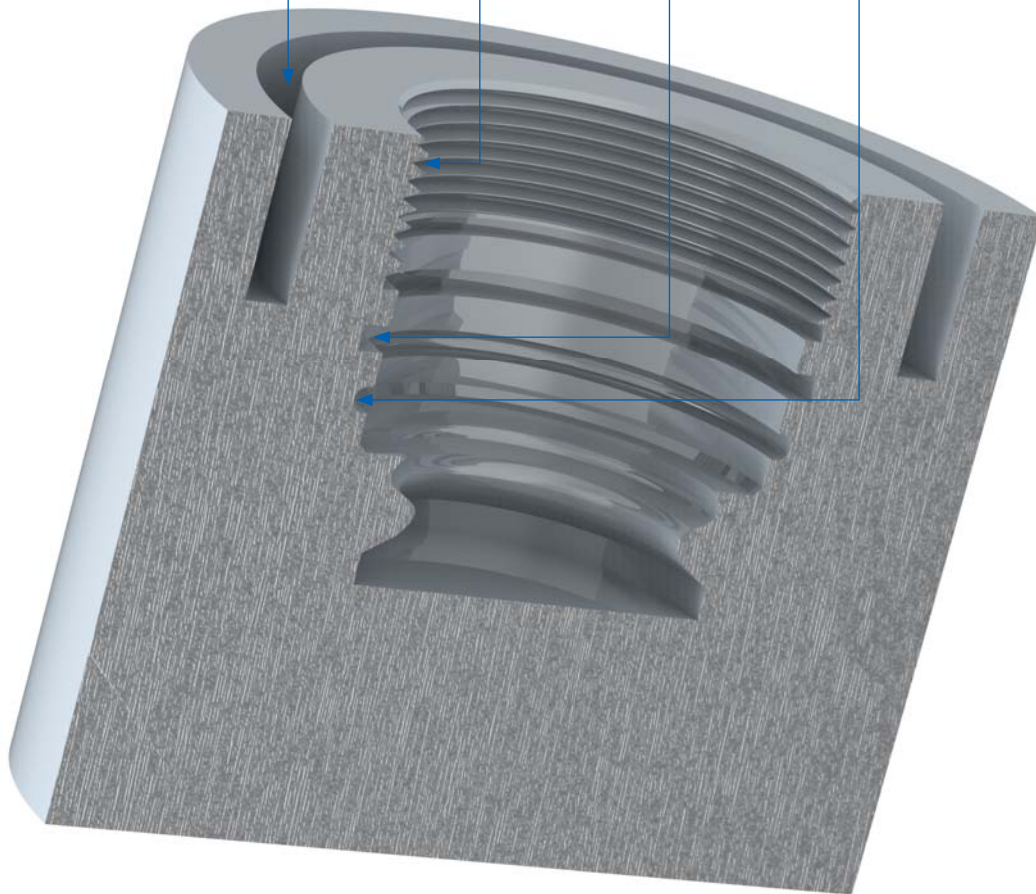
Thread flank angle



Coolant



with thro' coolant



UltraMini

Axial grooving



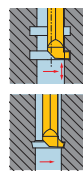
282-287

Thread turning



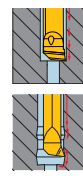
278-281

Grooving

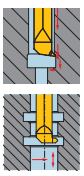


272 273-275 277

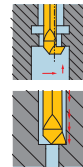
Internal turning and profiling



264-267



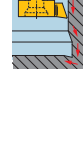
272 276



269



270



271

MiniCut

Axial grooving



282+308

Thread turning



304-306

Grooving



299 300+301 303

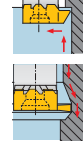
Internal turning and profiling



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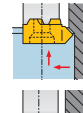
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298



298



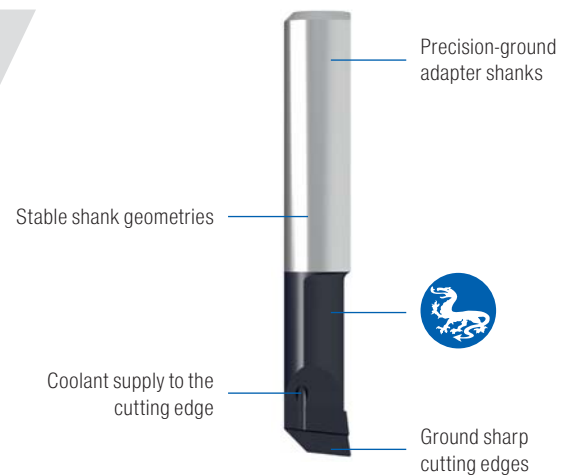
298



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UltraMini – Highlights

- Precision turning from a diameter of 0.5 mm
Any component application can be covered
- Covers many internal profiles
Maximum flexibility
- Easy to change the cutting edge
Reduces tool change times
- High repeatability
Minimal adjustment times
- Precise centre height
Improves component accuracy



Special quick change tool holder

- Shank with coolant hole and connection thread
- One-handed quick change
- Repeatability < 5 µm

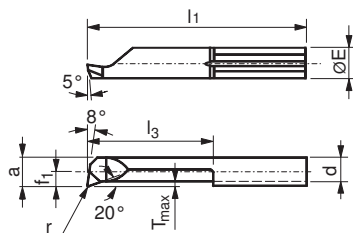
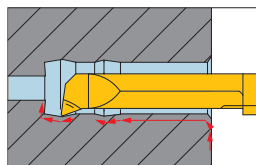


Shank diameter in mm	Adapter diameter in mm	Pages
12,0	4,0/ 5,0/ 6,0/ 7,0	290
16,0		
19,05		
20,0		
22,0		
25,0		
25,4		
28,0		

List of contents

Hole diameter in mm	Applications												suitable holder
	Internal turning and profiling	High-feed turning	Turning and profile turning – super alloys	Internal turning	Back boring	Turning and chamfering	Pre-parting and chamfering	Groove turning	Internal Undercuts	Groove and profile turning	Internal thread turning	Axial grooving	
UltraMini													
≥ 0,5	264-267												288-294
≥ 2	264-267	268	269					273-275	276				288-294
≥ 2,4	264-267		269								278-281		288-294
≥ 2,5			269										
≥ 2,8	264-267	268		270					276				288-294
≥ 3					271			273-275					288-294
≥ 3,5			269										
≥ 4	264-267	268	269	270	271		272	273-275	276	277	278-281		288-294
≥ 5	264-267	268		270	271	272	272	273-275	276	277	278-281	282-287	288-294
≥ 6	264-267	268			271	272	272	273-275	276	277	278-281	282-287	288-294
≥ 8												282-287	288-294
≥ 16												282-287	288-294

UltraMini – Inserts for internal turning and profiling

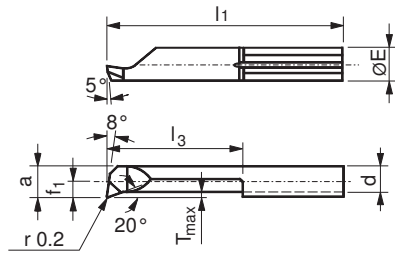
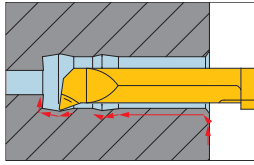


Illustrations show right-hand versions

Designation	Ø E _{h6} D CONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											Article no. 73 005 ...	Article no. 73 004 ...	Article no. 73 005 ...	Article no. 73 004 ...
R/L 050.05-2	4		0.5	0.4	20	2	0.06	0.32	0.2	645.00..-D	500	500		
R/L 050.06-2	4		0.6	0.5	20	2	0.08	0.40	0.2	645.00..-D	510	510		
R/L 050.06-3	4		0.6	0.5	20	3	0.08	0.40	0.2	645.00..-D	511	511		
R/L 050.08-4	4		0.8	0.7	20	4	0.08	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	0.2	645.00..-D	515	515		
R/L 050.15-10	4		1.5	1.3	24	10	0.10	1.15	0.2	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	0.2	645.00..-D	520	520		
R/L 050.2-10	4		2.0	1.7	24	10	0.10	1.50	0.2	645.00..-D	521	521		
R/L 050.2-15	4		2.0	1.7	29	15	0.10	1.50	0.2	645.00..-D	522	522		
R/L 050.3-10	4	0.6	2.8	2.6	24	10	0.20	2.30	0.2	645.00..-D	531	531		
R/L 050.3-16	4	0.6	2.8	2.6	30	16	0.20	2.30	0.2	645.00..-D	530	530		
R/L 050.3-20	4	0.6	2.8	2.6	34	20	0.20	2.30	0.2	645.00..-D	532	532		
R/L 050.35-10	4	1.1	3.5	3.1	24	10	0.25	2.80	0.1	645.00..-D			835	835
R/L 050.35-16	4	1.1	3.5	3.1	30	16	0.25	2.80	0.1	645.00..-D			836	836
R/L 050.35-20	4	1.1	3.5	3.1	34	20	0.25	2.80	0.1	645.00..-D			837	837
R/L 050.35-24	4	1.1	3.5	3.1	38	24	0.25	2.80	0.1	645.00..-D			838	838
R/L 050.4-10	4	1.5	4.0	3.5	24	10	0.30	3.00	0.2	645.00..-D	541	541	841	841
R/L 050.4-16	4	1.5	4.0	3.5	30	16	0.30	3.00	0.2	645.00..-D	540	540	840	840
R/L 050.4-20	4	1.5	4.0	3.5	34	20	0.30	3.00	0.2	645.00..-D	542	542	842	842
R/L 050.4-24	4	1.5	4.0	3.5	38	24	0.30	3.00	0.2	645.00..-D	545	545	845	845
R/L 050.4-28	4	1.5	4.0	3.5	42	28	0.30	3.00	0.2	645.00..-D	546	546	846	846
R/L 050.5-10	5	1.9	5.0	4.4	25	10	0.50	3.80	0.2	645.00..-D	551	551	851	851
R/L 050.5-15	5	1.9	5.0	4.4	30	15	0.50	3.80	0.2	645.00..-D	552	552	852	852
R/L 050.5-20	5	1.9	5.0	4.4	35	20	0.50	3.80	0.2	645.00..-D	550	550	850	850
R/L 050.5-25	5	1.9	5.0	4.4	40	25	0.50	3.80	0.2	645.00..-D	553	553	853	853
R/L 050.5-30	5	1.9	5.0	4.4	45	30	0.50	3.80	0.2	645.00..-D	554	554	854	854
R/L 050.5-35	5	1.9	5.0	4.4	50	35	0.50	3.80	0.2	645.00..-D	556	556	856	856
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	0.2	676.00..-D	561	561	861	861
R/L 050.6-22	6	2.3	6.0	5.3	37	22	0.50	4.50	0.2	676.00..-D	560	560	860	860
R/L 050.6-25	6	2.3	6.0	5.3	40	25	0.50	4.50	0.2	676.00..-D	562	562	862	862
R/L 050.6-30	6	2.3	6.0	5.3	45	30	0.50	4.50	0.2	676.00..-D	563	563	863	863
R/L 050.6-35	6	2.3	6.0	5.3	50	35	0.50	4.50	0.2	676.00..-D	564	564	864	864
R/L 050.6-42	6	2.3	6.0	5.3	57	42	0.50	4.50	0.2	676.00..-D	565	565	865	865
R/L 050.7-20	7	2.8	6.8	6.3	35	20	0.60	5.50	0.2	676.00..-D	572	572	872	872
R/L 050.7-25	7	2.8	6.8	6.3	40	25	0.60	5.50	0.2	676.00..-D	573	573	873	873
R/L 050.7-30	7	2.8	6.8	6.3	45	30	0.60	5.50	0.2	676.00..-D	574	574	874	874
R/L 050.7-35	7	2.8	7.0	6.3	50	35	0.60	5.50	0.2	676.00..-D	575	575	875	875
R/L 050.7-40	7	2.8	7.0	6.3	55	40	0.60	5.50	0.2	676.00..-D	576	576	876	876
R/L 050.7-45	7	2.8	7.0	6.3	60	45	0.60	5.50	0.2	676.00..-D	577	577	877	877
R/L 050.7-50	7	2.8	7.0	6.3	65	50	0.60	5.50	0.2	676.00..-D	578	578	878	878

Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron	○	○	●	●
Non ferrous metals	○	○	●	●
Heat resistant alloys	○	○	●	●
hardened materials				

UltraMini – Inserts for internal turning and profiling



Illustrations show right-hand versions



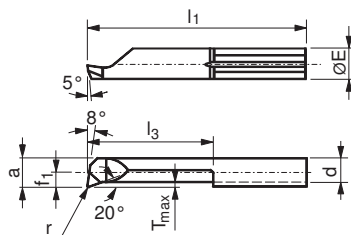
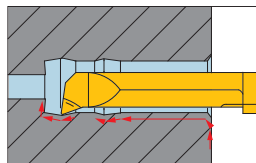
Left-hand

Right-hand

Designation	Ø E _{h6} D CONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	Standard tool holder	Article no. 73 005 ...	Article no. 73 004 ...
R/L 050.2-10	4		2.0	1.7	24	10	0.1	1.5	645.00...D	021	021
R/L 050.2-15	4		2.0	1.7	29	15	0.1	1.5	645.00...D	022	022
R/L 050.2-5	4		2.0	1.7	19	5	0.1	1.5	645.00...D	020	020
R/L 050.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	645.00...D	031	031
R/L 050.3-20	4	0.6	2.8	2.6	34	20	0.2	2.3	645.00...D	032	032
R/L 050.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	645.00...D	030	030
R/L 050.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	645.00...D	040	040
R/L 050.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	645.00...D	042	042
R/L 050.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	645.00...D	041	041
R/L 050.5-10	5	1.9	5.0	4.4	25	10	0.5	3.8	645.00...D	051	051
R/L 050.5-25	5	1.9	5.0	4.4	40	25	0.5	3.8	645.00...D	053	053
R/L 050.5-15	5	1.9	5.0	4.4	30	15	0.5	3.8	645.00...D	052	052
R/L 050.5-30	5	1.9	5.0	4.4	45	30	0.5	3.8	645.00...D	054	054
R/L 050.5-20	5	1.9	5.0	4.4	35	20	0.5	3.8	645.00...D	050	050
R/L 050.6-15	6	2.3	6.0	5.3	30	15	0.5	4.5	676.00...D	061	061
R/L 050.6-25	6	2.3	6.0	5.3	40	25	0.5	4.5	676.00...D	062	062
R/L 050.6-30	6	2.3	6.0	5.3	45	30	0.5	4.5	676.00...D	063	063
R/L 050.6-22	6	2.3	6.0	5.3	37	22	0.5	4.5	676.00...D	060	060
R/L 050.7-20	7	2.8	6.8	6.3	35	20	0.6	5.5	676.00...D	072	072
R/L 050.7-30	7	2.8	6.8	6.3	45	30	0.6	5.5	676.00...D	074	074
R/L 050.7-25	7	2.8	6.8	6.3	40	25	0.6	5.5	676.00...D	073	073
Steel										○	○
Stainless steel											
Cast iron										○	○
Non ferrous metals										●	●
Heat resistant alloys											
hardened materials											

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UltraMini – Inserts for internal turning and profiling

■ with corner radius ≤ 0.05 mm

TiAlN

TiAlN

TiAlN

TiAlN



Illustrations show right-hand versions

Left-hand

Right-hand

Left-hand

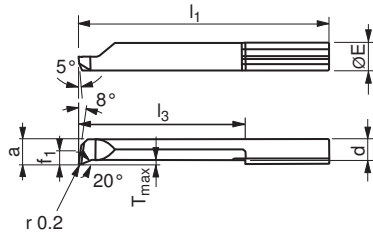
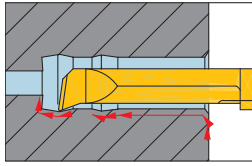
Right-hand

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	T_{max} PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Article no. 73 021 ...	Article no. 73 020 ...	Article no. 73 023 ...	Article no. 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
Steel											•	•	•	•
Stainless steel											•	•	•	•
Cast iron											•	•	•	•
Non ferrous metals											•	•	•	•
Heat resistant alloys											•	•	•	•
hardened materials														

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UltraMini – Inserts for internal turning and profiling

■ with chip former



Illustrations show right-hand versions

TiAlN



TiAlN



Left-hand

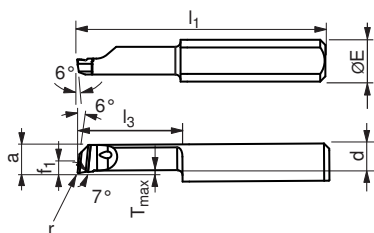
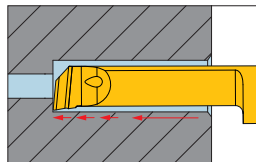
Right-hand

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	T_{max} PDPT mm	d BDRED mm	Standard tool holder	Left-hand Article no. 73 017 ...	Right-hand Article no. 73 016 ...
R/L 050.4-10C	4	1.5	4	3.5	24	10	0.3	3.0	645.00..-D	410	410
R/L 050.4-16C	4	1.5	4	3.5	30	16	0.3	3.0	645.00..-D	416	416
R/L 050.4-20C	4	1.5	4	3.5	34	20	0.3	3.0	645.00..-D	420	420
R/L 050.4-24C	4	1.5	4	3.5	38	24	0.3	3.0	645.00..-D	424	424
R/L 050.4-28C	4	1.5	4	3.5	42	28	0.3	3.0	645.00..-D	428	428
R/L 050.5-10C	5	1.9	5	4.4	25	10	0.5	3.8	645.00..-D	510	510
R/L 050.5-15C	5	1.9	5	4.4	30	15	0.5	3.8	645.00..-D	515	515
R/L 050.5-20C	5	1.9	5	4.4	35	20	0.5	3.8	645.00..-D	520	520
R/L 050.5-25C	5	1.9	5	4.4	40	25	0.5	3.8	645.00..-D	525	525
R/L 050.5-30C	5	1.9	5	4.4	45	30	0.5	3.8	645.00..-D	530	530
R/L 050.5-35C	5	1.9	5	4.4	50	35	0.5	3.8	645.00..-D	535	535
R/L 050.6-15C	6	2.3	6	5.3	30	15	0.5	4.5	676.00..-D	615	615
R/L 050.6-22C	6	2.3	6	5.3	37	22	0.5	4.5	676.00..-D	622	622
R/L 050.6-25C	6	2.3	6	5.3	40	25	0.5	4.5	676.00..-D	625	625
R/L 050.6-30C	6	2.3	6	5.3	45	30	0.5	4.5	676.00..-D	630	630
R/L 050.6-35C	6	2.3	6	5.3	50	35	0.5	4.5	676.00..-D	635	635
R/L 050.6-42C	6	2.3	6	5.3	57	42	0.5	4.5	676.00..-D	642	642
R/L 050.7-20C	7	2.8	7	6.3	35	20	0.6	5.5	676.00..-D	720	720
R/L 050.7-25C	7	2.8	7	6.3	40	25	0.6	5.5	676.00..-D	725	725
R/L 050.7-30C	7	2.8	7	6.3	45	30	0.6	5.5	676.00..-D	730	730
R/L 050.7-35C	7	2.8	7	6.3	50	35	0.6	5.5	676.00..-D	735	735
R/L 050.7-40C	7	2.8	7	6.3	55	40	0.6	5.5	676.00..-D	740	740
R/L 050.7-45C	7	2.8	7	6.3	60	45	0.6	5.5	676.00..-D	745	745
R/L 050.7-50C	7	2.8	7	6.3	65	50	0.6	5.5	676.00..-D	750	750
Steel										●	●
Stainless steel										●	●
Cast iron										●	●
Non ferrous metals										●	●
Heat resistant alloys										●	●
hardened materials											

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UltraMini – Inserts for internal turning

■ with chip former



Illustrations show right-hand versions

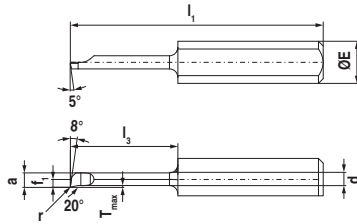
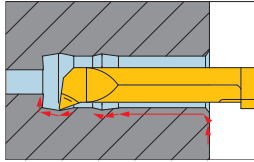
Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand NEW Article no. 73 001 ...	Right-hand NEW Article no. 73 000 ...
R/L X050.1-5	4		1.0	0.90	20	5	0.03	0.85	0.05	645.00..-D	121	121
R/L X050.15-7	4		1.5	1.35	22	7	0.05	1.25	0.1	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	0.2	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	0.1	645.00..-D	373	373
R/L X050.3-16	4	0.7	3.0	2.70	30	16	0.15	2.55	0.2	645.00..-D	377	377
R/L X050.4-10	4	1.6	4.0	3.60	24	10	0.20	3.20	0.1	645.00..-D	403	403
R/L X050.4-10	4	1.6	4.0	3.60	24	10	0.20	3.20	0.2	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	0.1	645.00..-D	433	433
R/L X050.4-16	4	1.6	4.0	3.60	30	16	0.20	3.20	0.2	645.00..-D	437	437
R/L X050.4-24	4	1.6	4.0	3.60	38	24	0.20	3.20	0.1	645.00..-D	463	463
R/L X050.4-24	4	1.6	4.0	3.60	38	24	0.20	3.20	0.2	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	0.1	645.00..-D	513	513
R/L X050.5-15	5	2.1	5.0	4.60	30	15	0.30	4.05	0.2	645.00..-D	517	517
R/L X050.5-25	5	2.1	5.0	4.60	40	25	0.30	4.05	0.1	645.00..-D	543	543
R/L X050.5-25	5	2.1	5.0	4.60	40	25	0.30	4.05	0.2	645.00..-D	547	547
R/L X050.5-30	5	2.1	5.0	4.60	45	30	0.30	4.05	0.1	645.00..-D	553	553
R/L X050.5-30	5	2.1	5.0	4.60	45	30	0.30	4.05	0.2	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	0.1	676.00..-D	613	613
R/L X050.6-15	6	2.5	6.0	5.50	30	15	0.40	4.90	0.2	676.00..-D	617	617
R/L X050.6-22	6	2.5	6.0	5.50	37	22	0.40	4.90	0.2	676.00..-D	637	637
R/L X050.6-30	6	2.5	6.0	5.50	45	30	0.40	4.90	0.2	676.00..-D	657	657
R/L X050.6-35	6	2.5	6.0	5.50	50	35	0.40	4.90	0.2	676.00..-D	667	667
R/L X050.6-50	6	2.5	6.0	5.50	65	50	0.40	4.90	0.2	676.00..-D	697	697
R/L X050.7-25	7	3.0	7.0	6.50	40	25	0.50	5.90	0.2	676.00..-D	747	747
R/L X050.7-30	7	3.0	7.0	6.50	45	30	0.50	5.90	0.2	676.00..-D	757	757

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

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UltraMini – Inserts for internal turning and profiling

- Specially designed for super alloys



Illustrations show right-hand versions

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	T_{max} PDPT mm	d BDRED mm	r 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	052	052
R/L M050.08-4	4	0.35	0.8	0.70	20	4	0.08	0.03	0.02	645.00..-D	082	082
R/L M050.1-5	4	0.40	1.0	0.90	20	5	0.05	0.05	0.02	645.00..-D	102	102
R/L M050.1-7	4	0.40	1.0	0.90	22	7	0.05	0.05	0.02	645.00..-D	103	103
R/L M050.15-5	4	0.60	1.5	1.15	19	5	0.08	0.08	0.02	645.00..-D	151	151
R/L M050.15-10	4	0.60	1.5	1.15	24	10	0.08	0.08	0.02	645.00..-D	154	154
R/L M050.2-5	4	0.80	2.0	1.70	19	5	0.08	0.08	0.02	645.00..-D	201	201
R/L M050.2-10	4	0.80	2.0	1.70	24	10	0.08	0.08	0.02	645.00..-D	204	204
R/L M050.25-5	4	0.20	2.5	2.20	19	5	0.10	0.10	0.02	645.00..-D	251	251
R/L M050.25-10	4	0.20	2.5	2.20	24	10	0.10	0.10	0.02	645.00..-D	254	254
R/L M050.3-10	4	0.60	3.0	2.60	24	10	0.15	0.15	0.02	645.00..-D	304	304
R/L M050.3-16	4	0.60	3.0	2.60	30	16	0.15	0.15	0.02	645.00..-D	307	307
R/L M050.35-10	4	1.10	3.5	3.10	24	10	0.17	0.17	0.02	645.00..-D	350	350
R/L M050.35-16	4	1.10	3.5	3.10	30	16	0.17	0.17	0.02	645.00..-D	353	353
R/L M050.35-20	4	1.10	3.5	3.10	34	20	0.17	0.17	0.02	645.00..-D	354	354
R/L M050.4-10	4	1.50	4.0	3.50	24	10	0.20	0.20	0.02	645.00..-D	400	400
R/L M050.4-16	4	1.50	4.0	3.50	30	16	0.20	0.20	0.02	645.00..-D	403	403
R/L M050.4-20	4	1.50	4.0	3.50	34	20	0.20	0.20	0.02	645.00..-D	404	404
R/L M050.4-24	4	1.50	4.0	3.50	38	24	0.20	0.20	0.02	645.00..-D	406	406
Steel											•	•
Stainless steel											•	•
Cast iron											•	•
Non ferrous metals											•	•
Heat resistant alloys											•	•
hardened materials												

DPX 57S

DPX 57S



Left-hand



Right-hand

NEW

Article no.
73 027 ...

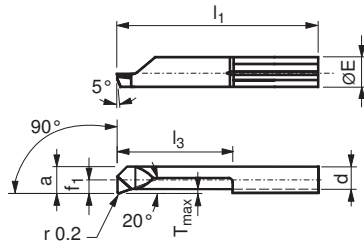
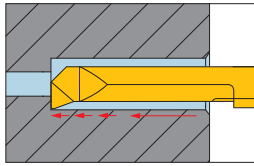
NEW

Article no.
73 026 ...

052 082 102 103 151 154 201 204 251 254 304 307 350 353 354 400 403 404 406

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UltraMini – Inserts for internal turning



Illustrations show right-hand versions



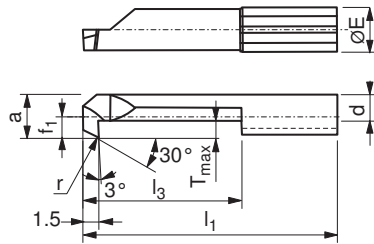
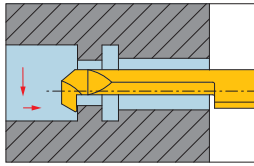
Left-hand

Right-hand

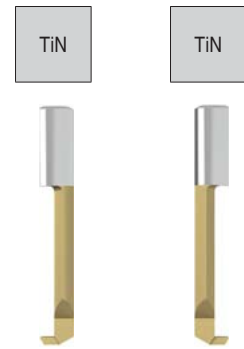
Designation	Ø E _{h6} D CONMS mm	f ₁ mm	D _{min} D AXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	Standard tool holder	Article no. 73 015 ...	Article no. 73 014 ...
R/L 090.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	645.00..-D	541	541
R/L 090.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	645.00..-D	542	542
R/L 090.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	645.00..-D	545	545
R/L 090.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	645.00..-D	546	546
R/L 090.5-10	5	1.9	5.0	4.4	25	10	0.5	3.8	645.00..-D	550	550
R/L 090.5-15	5	1.9	5.0	4.4	30	15	0.5	3.8	645.00..-D	551	551
R/L 090.5-20	5	1.9	5.0	4.4	35	20	0.5	3.8	645.00..-D	552	552
Steel										●	●
Stainless steel										●	●
Cast iron										○	○
Non ferrous metals										○	○
Heat resistant alloys										○	○
hardened materials											

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UltraMini – Inserts for back boring



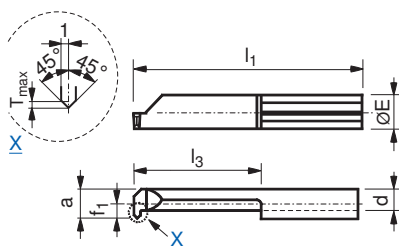
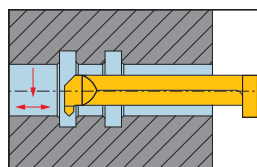
Illustrations show right-hand versions



Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand	Right-hand
											Article no. 73 013 ...	Article no. 73 012 ...
R/L 080.0003-15	4	0.6	3	2.6	29	15	0.5	2.0	0.1	645.00..-D	542	542
R/L 080.0003-20	4	0.6	3	2.6	34	20	0.5	2.0	0.1	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	0.2	645.00..-D	554	554
R/L 080.0005-30	5	1.9	5	4.4	45	30	1.0	3.3	0.2	645.00..-D	558	558
R/L 080.0006-20	6	2.3	6	5.3	35	20	1.8	3.4	0.2	676.00..-D	564	564
R/L 080.0006-30	6	2.3	6	5.3	45	30	1.8	3.4	0.2	676.00..-D	568	568
R/L 080.0007-20	7	2.7	7	6.3	35	20	2.5	3.8	0.2	676.00..-D	574	574
R/L 080.0007-30	7	2.7	7	6.3	45	30	2.5	3.8	0.2	676.00..-D	578	578
Steel											●	●
Stainless steel											●	●
Cast iron											○	○
Non ferrous metals											○	○
Heat resistant alloys											○	○
hardened materials												

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UltraMini – Inserts for internal turning and chamfering



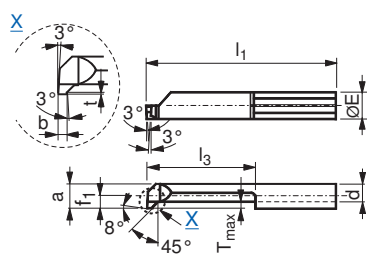
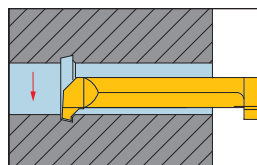
Illustrations show right-hand versions



Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											Article no. 73 007 ...	Article no. 73 006 ...	Article no. 73 007 ...	Article no. 73 006 ...
R/L 060.5-15	5	1.9	5.0	4.4	30	15	0.7	3.3	0.2	645.00..-D	051	051	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	050	050	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	070	070	570	570
Steel											○	○	●	●
Stainless steel													●	●
Cast iron											○	○	○	○
Non ferrous metals											●	●	○	○
Heat resistant alloys													○	○
hardened materials														

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UltraMini – Inserts for internal chamfering for subsequent parting off



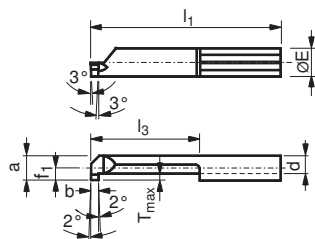
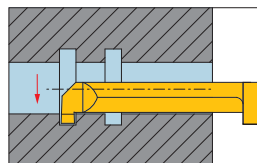
Illustrations show right-hand versions



Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	d BDRED mm	b CW mm	t CDX mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
												Article no. 73 009 ...	Article no. 73 008 ...	Article no. 73 009 ...	Article no. 73 008 ...
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	051	051	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	050	050	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
Steel												○	○	●	●
Stainless steel														●	●
Cast iron												○	○	○	○
Non ferrous metals												●	●	○	○
Heat resistant alloys														○	○
hardened materials															

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UltraMini - Inserts for Internal Grooving



Illustrations show right-hand versions

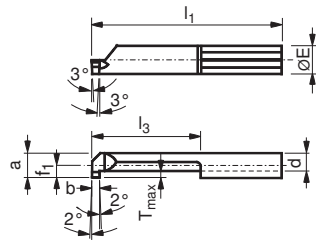
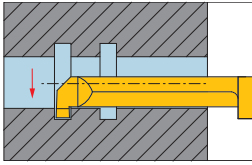


Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											Article no. 73 003 ...	Article no. 73 002 ...	Article no. 73 003 ...	Article no. 73 002 ...
R/L 004.0100-10	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 005.0200-10	5	1.9	5.0	4.4	25	10	1.0	3.3	2.0	645.00..-D	158	158	658	658
R/L 005.0150-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.5	645.00..-D	154	154	654	654
R/L 005.0100-15	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 005.0200-20	5	1.9	5.0	4.4	35	20	1.0	3.3	2.0	645.00..-D	053	053	553	553
R/L 005.0150-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.5	645.00..-D	052	052	552	552
R/L 005.0100-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.0	645.00..-D	051	051	551	551
R/L 005.0100-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.0	645.00..-D	152	152	652	652
R/L 005.0200-25	5	1.9	5.0	4.4	40	25	1.0	3.3	2.0	645.00..-D	250	250	750	750
R/L 005.0150-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.5	645.00..-D	156	156	656	656
R/L 005.0100-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.0	645.00..-D	153	153	653	653
R/L 005.0200-30	5	1.9	5.0	4.4	45	30	1.0	3.3	2.0	645.00..-D	251	251	751	751
R/L 005.0150-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.5	645.00..-D	157	157	657	657
R/L 005.0100-35	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 006.0150-15	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 006.0100-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.0	676.00..-D	161	161	661	661
R/L 006.0200-22	6	2.3	6.0	5.3	37	22	1.8	3.4	2.0	676.00..-D	063	063	563	563
R/L 006.0150-22	6	2.3	6.0	5.3	37	22	1.8	3.4	1.5	676.00..-D	062	062	562	562
R/L 006.0100-22	6	2.3	6.0	5.3	37	22	1.8	3.4	1.0	676.00..-D	061	061	561	561
R/L 006.0100-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.0	676.00..-D	162	162	662	662
R/L 006.0200-25	6	2.3	6.0	5.3	40	25	1.8	3.4	2.0	676.00..-D	260	260	760	760
R/L 006.0150-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.5	676.00..-D	166	166	666	666
R/L 006.0150-30	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 006.0100-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.0	676.00..-D	163	163	663	663
R/L 006.0150-35	6	2.3	6.0	5.3	50	35	1.8	3.4	1.5	676.00..-D			684	684
R/L 006.0100-35	6	2.3	6.0	5.3	50	35	1.8	3.4	1.0	676.00..-D			682	682
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 007.0200-10	7	2.7	6.8	6.3	25	10	2.5	3.8	2.0	676.00..-D	170	170	670	670
R/L 007.0150-10	7	2.7	6.8	6.3	25	10	2.5	3.8	1.5	676.00..-D	075	075	575	575
R/L 007.0100-10	7	2.7	6.8	6.3	25	10	2.5	3.8	1.0	676.00..-D	070	070	570	570
R/L 007.0150-15	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 007.0100-15	7	2.7	6.8	6.3	30	15	2.5	3.8	1.0	676.00..-D	071	071	571	571
R/L 007.0200-22	7	2.7	6.8	6.3	37	22	2.5	3.8	2.0	676.00..-D	172	172	672	672
R/L 007.0150-22	7	2.7	6.8	6.3	37	22	2.5	3.8	1.5	676.00..-D	077	077	577	577
R/L 007.0100-22	7	2.7	6.8	6.3	37	22	2.5	3.8	1.0	676.00..-D	072	072	572	572
R/L 007.0150-25	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 007.0100-25	7	2.7	6.8	6.3	40	25	2.5	3.8	1.0	676.00..-D	073	073	573	573
R/L 007.0200-30	7	2.7	6.8	6.3	45	30	2.5	3.8	2.0	676.00..-D	174	174	674	674
R/L 007.0150-30	7	2.7	6.8	6.3	45	30	2.5	3.8	1.5	676.00..-D	079	079	579	579
R/L 007.0100-30	7	2.7	6.8	6.3	45	30	2.5	3.8	1.0	676.00..-D	074	074	574	574
R/L 007.0200-35	7	2.7	7.0	6.3	50	35	2.5	3.8	2.0	676.00..-D			692	692
R/L 007.0150-35	7	2.7	7.0	6.3	50	35	2.5	3.8	1.5	676.00..-D			690	690
R/L 007.0100-35	7	2.7	7.0	6.3	50	35	2.5	3.8	1.0	676.00..-D			688	688
R/L 007.0150-40	7	2.7	7.0	6.3	55	40	2.5	3.8	1.5	676.00..-D			702	702
R/L 007.0100-40	7	2.7	7.0	6.3	55	40	2.5	3.8	1.0	676.00..-D			700	700
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

Steel	○	○	●	●
Stainless steel			●	●
Cast iron	○	○	○	○
Non ferrous metals	●	●	○	○
Heat resistant alloys			○	○
hardened materials				

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UltraMini – Inserts for Internal Grooving



Illustrations show right-hand versions

TiAlN

TiAlN



Left-hand

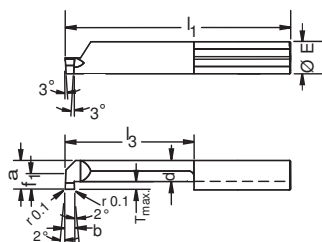
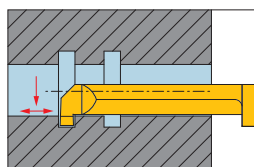
Right-hand

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	T_{max} PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Article no. 73 003 ...	Article no. 73 002 ...
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
Steel											•	•
Stainless steel											•	•
Cast iron											•	•
Non ferrous metals											•	•
Heat resistant alloys											•	•
hardened materials												

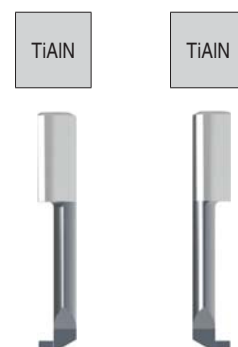
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UltraMini – Inserts for Internal Grooving

■ with corner radius



Illustrations show right-hand versions



Left-hand

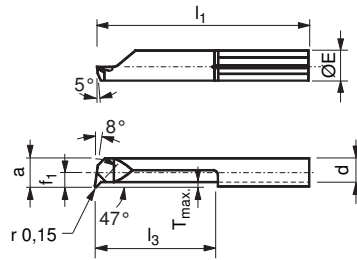
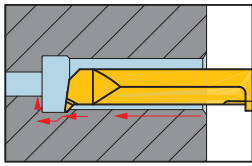
Right-hand

Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Article no. 73 203 ...	Article no. 73 202 ...
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 005M0100-15	5	1.9	5.0	4.4	30	15	1.0	3.3	1.0	645.00..-D	808	808
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 005M0100-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.0	645.00..-D	812	812
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 005M0150-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.5	645.00..-D	816	816
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 005M0150-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.5	645.00..-D	820	820
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 005M0150-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.5	645.00..-D	824	824
R/L 005M0200-10	5	1.9	5.0	4.4	25	10	1.0	3.3	2.0	645.00..-D	826	826
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 005M0200-20	5	1.9	5.0	4.4	35	20	1.0	3.3	2.0	645.00..-D	830	830
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 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 006M0100-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.0	676.00..-D	838	838
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 006M0100-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.0	676.00..-D	842	842
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 006M0150-10	6	2.3	6.0	5.3	25	10	1.8	3.4	1.5	676.00..-D	846	846
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 006M0150-20	6	2.3	6.0	5.3	37	22	1.8	3.4	1.5	676.00..-D	850	850
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 006M0150-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.5	676.00..-D	854	854
R/L 006M0200-10	6	2.3	6.0	5.3	25	10	1.8	3.4	2.0	676.00..-D	856	856
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 006M0200-20	6	2.3	6.0	5.3	37	22	1.8	3.4	2.0	676.00..-D	860	860
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 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 007M0100-15	7	2.7	6.8	6.3	30	15	2.5	3.7	1.0	676.00..-D	868	868
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 007M0100-25	7	2.7	6.8	6.3	40	25	2.5	3.7	1.0	676.00..-D	872	872
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 007M0150-10	7	2.7	6.8	6.3	25	10	2.5	3.7	1.5	676.00..-D	876	876
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 007M0150-22	7	2.7	6.8	6.3	37	22	2.5	3.7	1.5	676.00..-D	880	880
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 007M0150-30	7	2.7	6.8	6.3	45	30	2.5	3.7	1.5	676.00..-D	884	884
R/L 007M0200-10	7	2.7	6.8	6.3	25	10	2.5	3.7	2.0	676.00..-D	886	886
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 007M0200-22	7	2.7	6.8	6.3	37	22	2.5	3.7	2.0	676.00..-D	890	890
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 007M0200-30	7	2.7	6.8	6.3	45	30	2.5	3.7	2.0	676.00..-D	894	894

Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys	●	●
hardened materials		

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UltraMini – Inserts for internal undercuts



Illustrations show right-hand versions

TiN



TiN



TiAlN



TiAlN



Left-hand

Right-hand

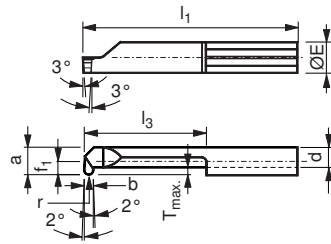
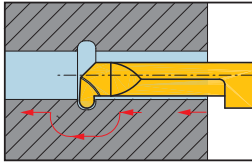
Left-hand

Right-hand

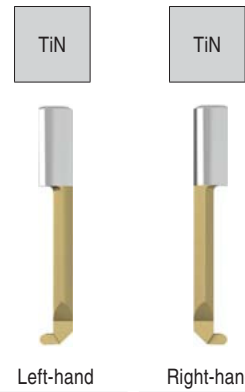
Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	T_{max} PDPT mm	d BDRED mm	Standard tool holder	Article no. 73 011 ...	Article no. 73 010 ...	Article no. 73 011 ...	Article no. 73 010 ...
R/L 047.2-10	4		2.0	1.7	24	10	0.4	1.2	645.00..-D			221	221
R/L 047.3-15	4	0.6	2.8	2.6	29	15	0.6	1.9	645.00..-D			231	231
R/L 047.4-10	4	1.5	4.0	3.5	24	10	0.6	2.8	645.00..-D			241	241
R/L 047.T4-20	4	1.5	4.0	3.5	34	20	0.6	2.8	645.00..-D			242	242
R/L 047.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	645.00..-D	542	542		
R/L 047.5-15	5	1.9	5.0	4.4	30	15	0.8	3.5	645.00..-D			251	251
R/L 047.T5-25	5	1.9	5.0	4.4	40	25	0.8	3.5	645.00..-D			252	252
R/L 047.5-25	5	1.9	5.0	4.4	40	25	0.5	3.8	645.00..-D	552	552		
R/L 047.T6-22	6	2.3	6.0	5.3	37	22	1.8	3.4	676.00..-D			262	262
R/L 047.T6-30	6	2.3	6.0	5.3	45	30	1.8	3.4	676.00..-D			263	263
R/L 047.6-30	6	2.3	6.0	5.3	45	30	0.5	4.5	676.00..-D	562	562		
Steel										●	●	●	●
Stainless steel										●	●	●	●
Cast iron										○	○	●	●
Non ferrous metals										○	○	●	●
Heat resistant alloys										○	○	●	●
hardened materials													

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UltraMini – Inserts for internal grooving and turning



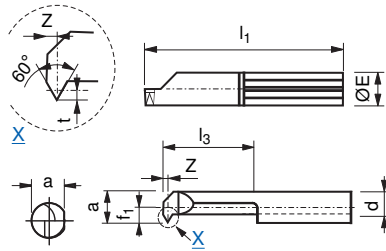
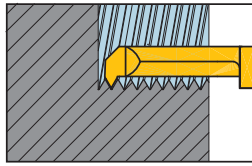
Illustrations show right-hand versions



Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Left-hand Article no. 73 019 ...	Right-hand Article no. 73 018 ...
R/L 004-0.50-16	4	1.5	4.0	3.5	30	16	0.8	2.4	1.0	0.5	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	0.5	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	1.0	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	0.5	676.00..-D	562	562
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 006-1.00-25	6	2.3	6.0	5.3	40	25	1.8	3.4	2.0	1.0	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	0.5	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	1.0	676.00..-D	576	576
Steel												●	●
Stainless steel												●	●
Cast iron												○	○
Non ferrous metals												○	○
Heat resistant alloys												○	○
hardened materials													

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UltraMini – Inserts for internal threading (Partial profile)



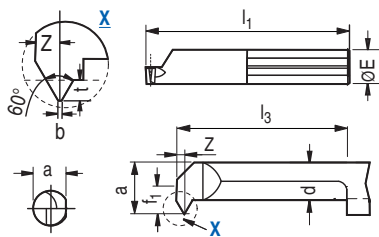
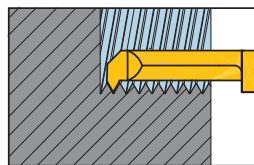
Illustrations show right-hand versions

Left-hand
K10FRight-hand
K10FLeft-hand
K10FRight-hand
K10F

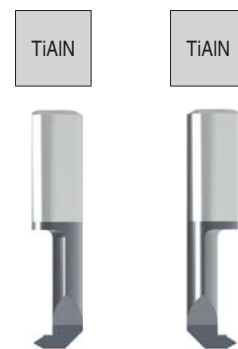
Designation	$\emptyset E_{h6}$ D CONMS mm	p TP mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	clamping holder	Article no. 73 101 ...	Article no. 73 100 ...	Article no. 73 101 ...	Article no. 73 100 ...
R/L 003.0105-8	4	0.50	0.30	2.4	2.3	22	8	1.8	0.27	0.33	645.00..-D			551	551
R/L 004.0408-15	4	0.80	1.75	4.0	3.5	30	15	2.4	0.43	0.45	645.00..-D			552	552
R/L 005.0510-15	5	1.00	1.90	4.8	4.4	30	15	3.3	0.55	0.55	645.00..-D	545	545		
R/L 005.0510-20	5	1.00	1.90	4.8	4.4	35	20	3.3	0.55	0.55	645.00..-D	544	544		
R/L 006.0612-15	6	1.25	2.30	6.0	5.3	30	15	3.4	0.68	0.65	676.00..-D	547	547		
R/L 006.0612-22	6	1.25	2.30	6.0	5.3	37	22	3.4	0.68	0.65	676.00..-D	546	546		
R/L 006.0815-15	6	1.50	2.30	6.0	5.3	30	15	3.4	0.81	0.75	676.00..-D	549	549		
R/L 006.0815-22	6	1.50	2.30	6.0	5.3	37	22	3.4	0.81	0.75	676.00..-D	548	548		
R/L 007.0815-15	7	1.50	2.70	7.0	6.3	30	15	3.8	0.81	0.75	676.00..-D	550	550		
Steel												●	●	●	●
Stainless steel												●	●	●	●
Cast iron												○	○	●	●
Non ferrous metals												○	○	●	●
Heat resistant alloys												○	○	●	●
hardened materials															

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UltraMini – Inserts for Internal thread turning (Full profile)



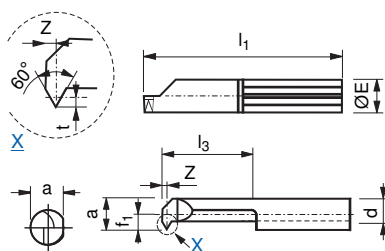
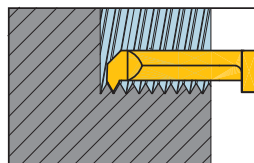
Illustrations show right-hand versions

Left-hand
K10FRight-hand
K10F

Designation	Ø E _{h6} D CONMS mm	p TP mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Article no. 73 209 ...	Article no. 73 208 ...
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
Steel													•	•
Stainless steel													•	•
Cast iron													•	•
Non ferrous metals													•	•
Heat resistant alloys													•	•
hardened materials													•	•

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UltraMini – Inserts for internal thread turning (Partial profile)



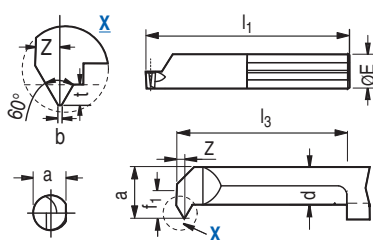
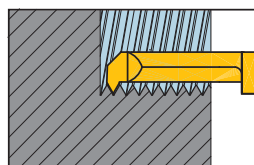
Illustrations show right-hand versions

Designation	$\varnothing E_{h6}$ D CONMS mm	p TP mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	Standard tool holder	Article no. 73 103 ...	Article no. 73 102 ...	Article no. 73 103 ...	Article no. 73 102 ...
R/L 004.0105-10	4	0.50	1.0	3.2	3.0	24	10	2.3	0.27	0.44	645.00..-D	510	510	509	509
R/L 004.0205-15	4	0.50	1.5	4.0	3.5	30	15	2.4	0.27	0.35	645.00..-D				
R/L 005.0205-15	5	0.50	1.9	5.0	4.4	30	15	3.3	0.27	0.35	645.00..-D	539	539		
R/L 005.0205-20	5	0.50	1.9	5.0	4.4	35	20	3.3	0.27	0.35	645.00..-D	540	540		
R/L 005.0407-15	5	0.75	1.9	5.0	4.4	30	15	3.3	0.40	0.45	645.00..-D	541	541		
R/L 005.0407-20	5	0.75	1.9	5.0	4.4	35	20	3.3	0.40	0.45	645.00..-D	542	542		
R/L 006.0510-15	6	1.00	2.3	6.0	5.3	30	15	3.4	0.55	0.55	676.00..-D	543	543		
R/L 006.0510-22	6	1.00	2.3	6.0	5.3	37	22	3.4	0.55	0.55	676.00..-D	544	544		

Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	○	○	•	•
Non ferrous metals	○	○	•	•
Heat resistant alloys	○	○	•	•
hardened materials				

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UltraMini – Inserts for Internal thread turning (Full profile)



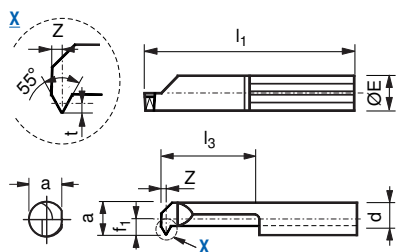
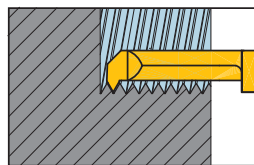
Illustrations show right-hand versions

Designation	$\varnothing E_{h6}$ D CONMS mm	p TP mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Article no. 73 207 ...	Article no. 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

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v_c Page 314

UltraMini – Inserts for internal thread turning (Partial profile)



Illustrations show right-hand versions

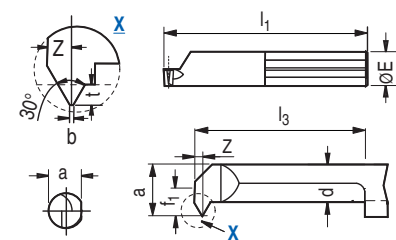
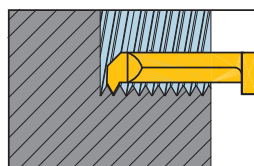
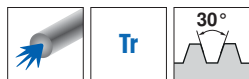
Designation	Ø E _{h6} DCONMS mm	p TDIN 1/"	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	Standard tool holder	Left-hand K10F Article no. 73 105 ...	Right-hand K10F Article no. 73 104 ...
R/L 005.5548-15	5	48 - 24	1.9	4.8	4.4	30	15	3.3	0.40	0.45	645.00..-D	552	552
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

Steel	•	•
Stainless steel	•	•
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	○	○
hardened materials		

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UltraMini – Inserts for internal thread turning (Partial profile)

■ Trapezoidal thread DIN 103



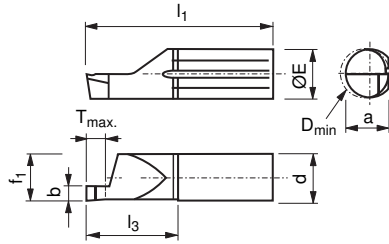
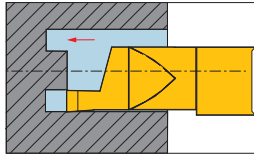
Illustrations show right-hand versions

Designation	Ø E _{h6} DCONMS mm	p TP mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Left-hand K10F Article no. 73 211 ...	Right-hand K10F Article no. 73 210 ...
R/L 007.1220-30	7	2	2.8	7	6.3	45	30	3.8	1.25	0.75	1.25	676.00..-D	230	230
R/L 007.1220-22	7	2	2.8	7	6.3	37	22	3.8	1.25	0.75	1.25	676.00..-D	222	222
R/L 007.1730-22	7	3	2.8	7	6.3	37	22	3.8	1.75	1.10	1.75	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	1.75	676.00..-D	330	330

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v_c Page 314

UltraMini – Inserts for axial grooving



Illustrations show right-hand versions

TiN



TiN



TiAlN



TiAlN

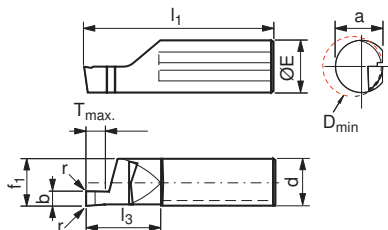
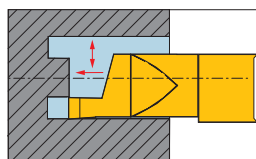


Designation	Ø E _{h6} D CONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
											Article no. 73 051 ...	Article no. 73 050 ...	Article no. 73 053 ...	Article no. 73 052 ...
R/L 010.1006-10	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
Steel											●	●	●	●
Stainless steel											●	●	●	●
Cast iron											○	○	●	●
Non ferrous metals											○	○	●	●
Heat resistant alloys											○	○	●	●
hardened materials														

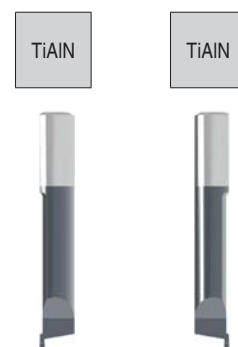
→ v_c Page 314

UltraMini – Inserts for axial grooving

■ with corner radius



Illustrations show right-hand versions



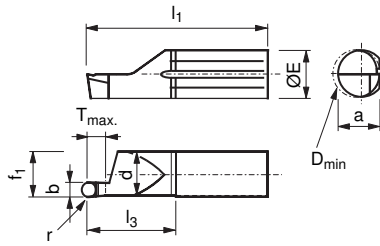
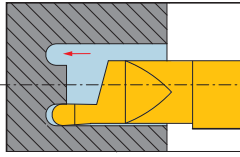
Left-hand

Right-hand

Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max.} PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Left-hand Article no. 73 253 ...	Right-hand Article no. 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	0.1	676.00..-D	800	800
R/L 010M1008-20	7	5.9	8	6.3	35	20	2	5.6	1.0	0.1	676.00..-D	810	810
R/L 010M1008-30	7	5.9	8	6.3	45	30	2	5.6	1.0	0.1	676.00..-D	820	820
R/L 010M1508-10	7	5.9	8	6.3	26	11	3	5.6	1.5	0.1	676.00..-D	802	802
R/L 010M1508-20	7	5.9	8	6.3	35	20	3	5.6	1.5	0.1	676.00..-D	812	812
R/L 010M1508-30	7	5.9	8	6.3	45	30	3	5.6	1.5	0.1	676.00..-D	822	822
R/L 010M2008-10	7	5.9	8	6.3	26	11	4	5.6	2.0	0.1	676.00..-D	804	804
R/L 010M2008-20	7	5.9	8	6.3	35	20	4	5.6	2.0	0.1	676.00..-D	814	814
R/L 010M2008-30	7	5.9	8	6.3	45	30	4	5.6	2.0	0.1	676.00..-D	824	824
R/L 010M2508-10	7	5.9	8	6.3	26	11	5	5.6	2.5	0.1	676.00..-D	806	806
R/L 010M2508-20	7	5.9	8	6.3	35	20	5	5.6	2.5	0.1	676.00..-D	816	816
R/L 010M2508-30	7	5.9	8	6.3	45	30	5	5.6	2.5	0.1	676.00..-D	826	826
R/L 010M3008-10	7	5.9	8	6.3	26	11	6	5.6	3.0	0.1	676.00..-D	808	808
R/L 010M3008-20	7	5.9	8	6.3	35	20	6	5.6	3.0	0.1	676.00..-D	818	818
R/L 010M3008-30	7	5.9	8	6.3	45	30	6	5.6	3.0	0.1	676.00..-D	828	828
Steel												•	•
Stainless steel												•	•
Cast iron												•	•
Non ferrous metals												•	•
Heat resistant alloys												•	•
hardened materials													

→ v_c Page 314

UltraMini – Inserts for axial grooving (Full radius)



Illustrations show right-hand versions

TiAlN

TiAlN



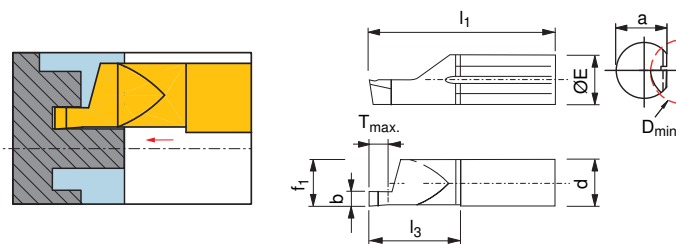
Left-hand

Right-hand

Designation	Ø E _{h6} DCONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max} PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Article no. 73 059 ...	Article no. 73 058 ...
R/L 610.1005-20	6	5.2	6	5.3	35	20	2	4.9	1.0	0.5	676.00..-D	171	171
R/L 610.1005-10	6	5.2	6	5.3	26	11	2	4.9	1.0	0.5	676.00..-D	071	071
R/L 610.1608-10	6	5.2	6	5.3	26	11	3	4.9	1.6	0.8	676.00..-D	073	073
R/L 610.1608-20	6	5.2	6	5.3	35	20	3	4.9	1.6	0.8	676.00..-D	173	173
R/L 610.2010-10	6	5.2	6	5.3	26	11	4	4.9	2.0	1.0	676.00..-D	075	075
R/L 610.2010-20	6	5.2	6	5.3	35	20	4	4.9	2.0	1.0	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	1.5	676.00..-D	079	079
R/L 610.3015-20	6	5.2	6	5.3	35	20	6	4.9	3.0	1.5	676.00..-D	179	179
R/L 010.1005-10	7	5.9	8	6.3	26	11	2	5.6	1.0	0.5	676.00..-D	571	571
R/L 010.1005-20	7	5.9	8	6.3	35	20	2	5.6	1.0	0.5	676.00..-D	671	671
R/L 010.1608-20	7	5.9	8	6.3	35	20	3	5.6	1.6	0.8	676.00..-D	673	673
R/L 010.1608-10	7	5.9	8	6.3	26	11	3	5.6	1.6	0.8	676.00..-D	573	573
R/L 010.2010-10	7	5.9	8	6.3	26	11	4	5.6	2.0	1.0	676.00..-D	575	575
R/L 010.2010-20	7	5.9	8	6.3	35	20	4	5.6	2.0	1.0	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	1.5	676.00..-D	579	579
R/L 010.3015-20	7	5.9	8	6.3	35	20	6	5.6	3.0	1.5	676.00..-D	679	679
Steel												•	•
Stainless steel												•	•
Cast iron												•	•
Non ferrous metals												•	•
Heat resistant alloys												•	•
hardened materials													

→ v_c Page 314

UltraMini – Inserts for axial grooving over a spigot



Illustrations show right-hand versions

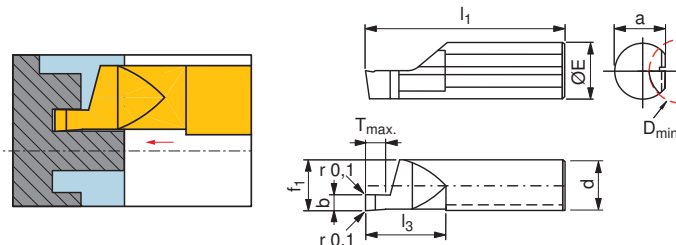
Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand Article no. 73 061 ...	Right-hand Article no. 73 060 ...
R/L 620.1006-20	6	5.2	6	5.3	35	20	2	4.9	1.0	676.00..-D	561	561
R/L 620.1506-20	6	5.2	6	5.3	35	20	3	4.9	1.5	676.00..-D	563	563
R/L 620.2006-20	6	5.2	6	5.3	35	20	4	4.9	2.0	676.00..-D	565	565
R/L 620.2506-20	6	5.2	6	5.3	35	20	5	4.9	2.5	676.00..-D	567	567
R/L 620.3006-20	6	5.2	6	5.3	35	20	6	4.9	3.0	676.00..-D	569	569

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials	•	•

→ v_c Page 314

UltraMini – Inserts for axial grooving over a spigot

▪ with corner radius



Illustrations show right-hand versions

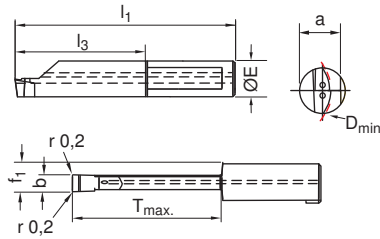
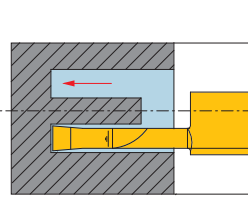
Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand Article no. 73 261 ...	Right-hand Article no. 73 260 ...
R/L 620M1006-20	6	5.2	6	5.3	35	20	2	4.9	1.0	676.00..-D	800	800
R/L 620M1506-20	6	5.2	6	5.3	35	20	3	4.9	1.5	676.00..-D	802	802
R/L 620M2006-20	6	5.2	6	5.3	35	20	4	4.9	2.0	676.00..-D	804	804
R/L 620M2506-20	6	5.2	6	5.3	35	20	5	4.9	2.5	676.00..-D	806	806
R/L 620M3006-20	6	5.2	6	5.3	35	20	6	4.9	3.0	676.00..-D	808	808

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials	•	•

→ v_c Page 314

UltraMini – Inserts for axial grooving

- up to 100 bar
- dual cooling channel

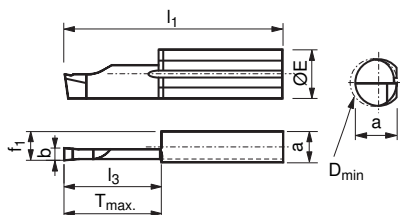
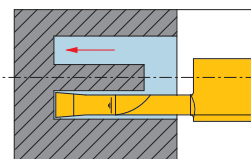


Illustrations show right-hand versions

Designation	Ø E _{h6} D/CONMS mm	f ₁ mm	D _{min} DAXN mm	a WF mm	l ₁ OAL mm	l ₃ LDRED mm	T _{max.} PDPT mm	b CW mm	Standard tool holder	Left-hand Article no. 73 263 ...	Right-hand Article no. 73 262 ...
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
Steel										•	•
Stainless steel										•	•
Cast iron										•	•
Non ferrous metals										•	•
Heat resistant alloys										•	•
hardened materials											

→ v_c Page 314

UltraMini – Inserts for axial grooving



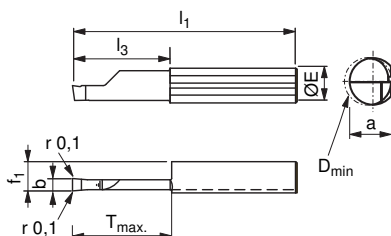
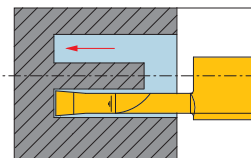
Illustrations show right-hand versions

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	b CW mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand
										Article no. 73 055 ...	Article no. 73 054 ...	Article no. 73 057 ...	Article no. 73 056 ...
R/L 015.2515-20	7	5.9	15	6.3	35	20	20	2.5	676.00..-D	572	572	572	572
R/L 015.3015-20	7	5.9	15	6.3	35	20	20	3.0	676.00..-D	574	574	574	574
R/L 015.3015-30	7	5.9	15	6.3	45	30	30	3.0	676.00..-D	674	674	674	674
Steel										●	●	●	●
Stainless steel										●	●	●	●
Cast iron										○	○	○	○
Non ferrous metals										○	○	●	●
Heat resistant alloys										○	○	●	●
hardened materials													

→ v_c Page 314

UltraMini – Inserts for axial grooving

▪ with corner radius



Illustrations show right-hand versions

Designation	$\varnothing E_{h6}$ DCONMS mm	f_1 mm	D_{min} DAXN mm	a WF mm	l_1 OAL mm	l_3 LDRED mm	$T_{max.}$ PDPT mm	b CW mm	Standard tool holder	Left-hand	Right-hand
										Article no. 73 257 ...	Article no. 73 256 ...
R/L 015M2515-20	7	5.9	8	6.3	35	20	20	2.5	676.00..-D	800	800
R/L 015M3015-20	7	5.9	8	6.3	35	20	20	3.0	676.00..-D	802	802
R/L 015M3015-30	7	5.9	8	6.3	45	30	30	3.0	676.00..-D	804	804
Steel										●	●
Stainless steel										●	●
Cast iron										●	●
Non ferrous metals										●	●
Heat resistant alloys										●	●
hardened materials											

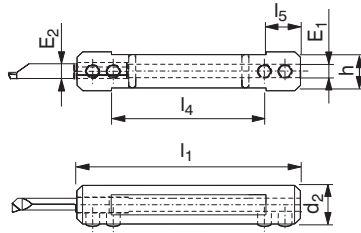
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UltraMini – Standard tool holder for cutting inserts

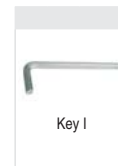
- double ended
- Machining diameter from $\varnothing 0.2$ mm

Scope of supply:

Tool holder with allen key



Designation	$\varnothing E_1$ mm	$\varnothing E_2$ mm	d_2 mm	l_1 mm	l_4 mm	l_5 mm	h mm	Article no. 73 080 ...
645.0012-D	4	5	12.00	75	55	10	10.3	163
645.0016-D	4	5	16.00	75	55	10	14.0	164
645.001905-D	4	5	19.05	90	70	10	17.2	170
645.0020-D	4	5	20.00	90	70	10	18.0	165
645.0022-D	4	5	22.00	90	70	10	20.0	171
645.00254-D	4	5	25.50	95	75	10	23.4	172
676.0016-D	6	7	16.00	75	55	10	14.0	166
676.001905-D	6	7	19.05	90	70	10	17.2	173
676.0020-D	6	7	20.00	90	70	10	18.0	167
676.0022-D	6	7	22.00	90	70	10	20.0	174
676.00254-D	6	7	25.40	95	75	10	23.4	175
687.0016-D	7	8	16.00	75	55	10	14.0	168
687.0020-D	7	8	20.00	90	70	10	18.0	169



Key I

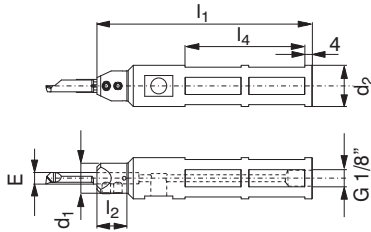


Clamping screw

Spare parts

$\varnothing E_1$	Article no. 70 950 ...	Article no. 73 082 ...
4	SW2,5 175	M5x6 001
4	SW2,5 175	M5x8 008
4	SW2,5 175	M5x4 013
6	SW2,5 175	M5x6 001
6	SW2,5 175	M5x8 008
7	SW2,5 175	M6x6 014

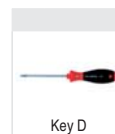
UltraMini – Toolholder for inserts



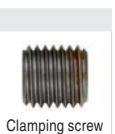
NEW

Article no.
73 088 ...

Designation	Ø E D CONWS mm	d ₁ mm	d ₂ g6 D CONMS mm	l ₁ OAL mm	l ₂ mm	l ₄ LS 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



Key D



Clamping screw

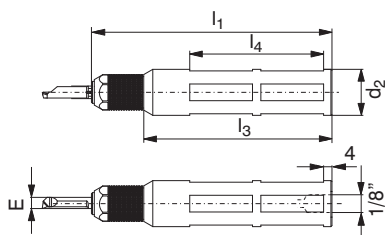
Spare parts
Ø E

		Article no. 80 950 ...		Article no. 73 950 ...
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 – Quick change tool holder for cutting inserts

Scope of supply:

Tool holder, lock nut and clamping wedge


NEW

Article no.
73 089 ...

Designation	Ø E DCONWS mm	d ₂ g6 DCONMS mm	l ₁ OAL mm	l ₃ mm	l ₄ LS 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



Lock nut UM600H



Clamping wedge
UM600H

Article no.
73 950 ...

Article no.
73 950 ...

Spare parts Ø E

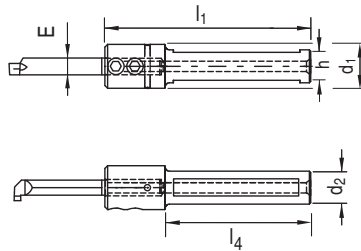
4	M4	104	111
5	M5	105	111
6	M6	106	111
7	M7	107	111

UltraMini – Toolholder for inserts

- single ended

Scope of supply:

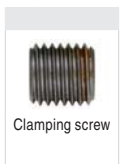
Tool holder with allen key



Designation	Ø E DCONWS mm	d ₁ mm	d ₂ DCONMS mm	l ₁ OAL mm	l ₄ LS mm	h H mm	Article no. 73 081 ...
640.0012-D	4	16	12	75	53	10.2	264
650.0012-D	5	16	12	75	53	10.2	265
660.0012-D	6	16	12	75	53	10.2	266
670.0012-D	7	16	12	75	53	10.2	267
680.0012-D	8	16	12	75	53	10.2	268



Key I



Clamping screw

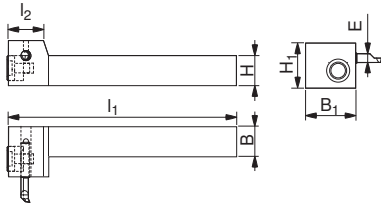
Spare parts

Ø E	Article no. 70 950 ...	Article no. 73 082 ...
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



Illustrations show right-hand versions

Designation	$\varnothing E$	l_1	l_2	B	B_1	H	H_1	Left-hand	Right-hand
	DCONWS mm	OAL mm	mm	B mm	OAW mm	H mm	OAH mm	Article no. 73 083 ...	Article no. 73 084 ...
R/L .UHCM.1212.4	4	90	17	12	20	12	18	124	124
R/L .UHCM.1212.5	5	90	17	12	20	12	18	125	125
R/L .UHCM.1212.6	6	90	17	12	20	12	21	126	126
R/L .UHCM.1212.7	7	90	17	12	20	12	21	127	127



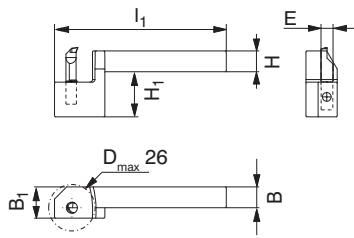
Spare parts

$\varnothing E$		Article no. 83 950 ...	Article no. 73 082 ...
4	SW5	107	UM 12 011
5	SW5	107	UM 12 011
6	SW5	107	UM 16 012
7	SW5	107	UM 16 012

UltraMini – Toolholder for inserts

Scope of supply:

Tool holder with allen key



Illustrations show right-hand versions

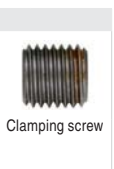
Designation	Ø E	l ₁	B	B ₁	H	H ₁		
	DCONWS mm	OAL mm	B mm	OAW mm	H mm	OAH mm	Left-hand NEW Article no. 73 091 ...	Right-hand NEW Article no. 73 090 ...
R/L UM.18.1010.4	4	99	10	16	10	38	104	104
R/L UM.28.1010.4	4	99	10	16	10	48	204	204
R/L UM.18.1212.4	4	99	12	18	12	38	124	124
R/L UM.28.1212.4	4	99	12	18	12	48	224	224
R/L UM.18.1010.5	5	99	10	16	10	38	105	105
R/L UM.28.1010.5	5	99	10	16	10	48	205	205
R/L UM.18.1212.5	5	99	12	18	12	38	125	125
R/L UM.28.1212.5	5	99	12	18	12	48	225	225
R/L UM.18.1010.6	6	99	10	16	10	38	106	106
R/L UM.28.1010.6	6	99	10	16	10	48	206	206
R/L UM.18.1212.6	6	99	12	18	12	38	126	126
R/L UM.28.1212.6	6	99	12	18	12	48	226	226
R/L UM.18.1010.7	7	99	10	16	10	38	107	107
R/L UM.28.1010.7	7	99	10	16	10	48	207	207
R/L UM.18.1212.7	7	99	12	18	12	38	127	127
R/L UM.28.1212.7	7	99	12	18	12	48	227	227

Spare parts
Ø E

4	175	008
5	175	008
6	175	008
7	175	008



Key I

Article no.
70 950 ...

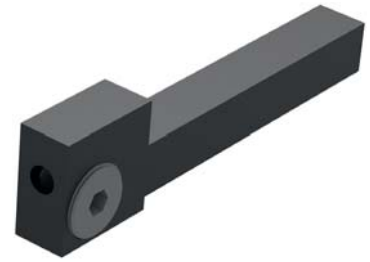
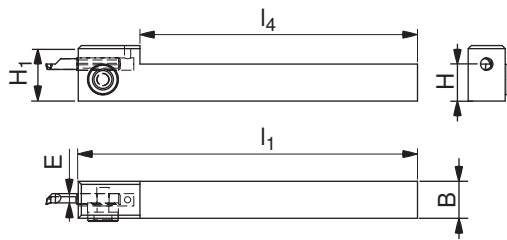
Clamping screw

Article no.
73 082 ...

UltraMini – Toolholder for inserts

Scope of supply:

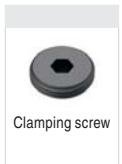
Tool holder with allen key



Designation	Ø E DCONWS mm	l ₁ OAL mm	l ₄ LS mm	B B mm	H H mm	H ₁ OAH mm	Article no. 73 086 ...
UM.1010.4	4	100	75	10	10	20	104
UM.1010.5	5	100	75	10	10	20	105
UM.1212.4	4	100	75	12	12	22	124
UM.1212.5	5	100	75	12	12	22	125
UM.1212.6	6	100	75	12	12	22	126



Clamping key - T



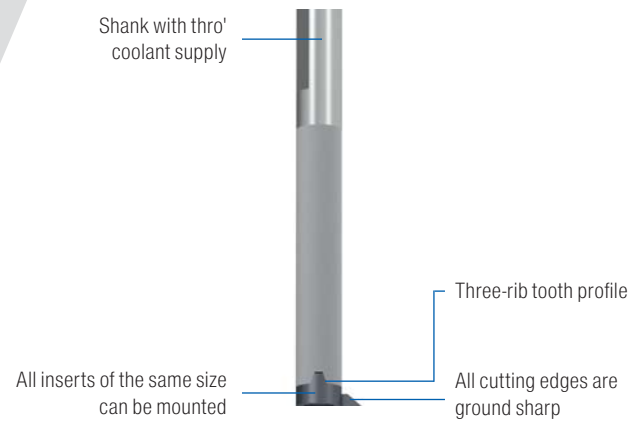
Clamping screw

Spare parts

Ø E	Article no. 83 950 ...	Article no. 73 082 ...
4	SW5 107	UM 12 011
5	SW5 107	UM 12 011
6	SW5 107	UM 16 012

MiniCut – Highlights

- Stable three-rib tooth profile
High process security
- Tool change using a single screw
Easy handling
- Internal profiles from a diameter of 7.8 mm
Ideal for medium diameters
- Universal TiAlN coating
One tool for all materials
- High repeatability
Minimal adjustment times
- Precise centre height
Improves component accuracy



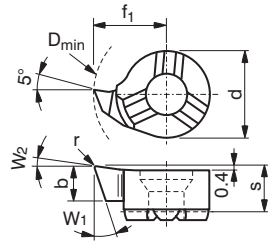
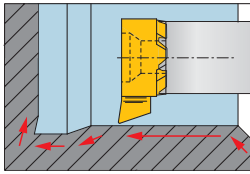
List of contents

Hole diameter in mm	Applications										suitable holder
	Internal turning and profiling	Internal turning	Back boring	Turning and chamfering	Pre-parting and chamfering	Groove turning	Internal Undercuts	Groove and profile turning	Internal thread turning	Axial grooving	
MiniCut											
≥ 8	296	297	298	298	299	300+301	302	303	304-306		309-312
≥ 9	296	297	298	298	299	300+301	302	303	304-306		309-312
≥ 11	296	297	298	298	299	300+301	302	303	304-306		309-312
≥ 14	296	297	298	298	299	300+301	302	303	304-306	307+308	309-312

Special carbide Flexoholder



MiniCut – Insert for turning and profiling

CWX
500CWX
500

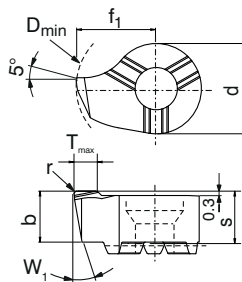
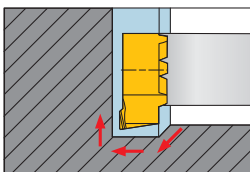
Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	s PDX mm	f ₁ PDY mm	d IC mm	r RE mm	a _{p max} CDX mm	W ₁ [°] PSIRR	W ₂ [°] RAL	Left-hand	Right-hand
											Article no. 73 324 ...	Article no. 73 322 ...
08	8,00. R/L .3,50.18°	7.8	3.5	3.5	4.65	6.0	0.05	0.6	18	8	035	035
	8,00. R/L .3,50.20°	7.8	3.5	3.5	4.65	6.0	0.20	0.6	20	20	135	135
	8,00. R/L .3,30.18°	7.8	3.3	3.5	4.65	6.0	0.20	0.6	18	8	033	033
09	9,00. R/L .3,60.20°	9.0	3.6	3.6	5.50	6.2	0.20	0.8	20	20	236	236
	9,00. R/L .3,60.18°	9.0	3.6	3.6	5.50	6.2	0.20	0.8	18	8	136	136
11	9,80. R/L .3,90.18°	9.8	3.9	4.2	5.50	8.0	0.20	1.0	18	8	139	139
	11,00. R/L .4,20.20°	11.0	4.2	4.2	6.70	8.0	0.20	1.0	20	20	342	342
	11,00. R/L .3,90.18°	11.0	3.9	4.2	6.70	8.0	0.20	1.0	18	8	339	339
14	14,00. R/L .5,00.18°	13.8	5.0	5.1	8.70	9.0	0.20	1.5	18	8	550	550
	14,00. R/L .5,30.20°	14.0	5.3	5.3	8.70	9.0	0.20	1.5	20	20	553	553
Steel											•	•
Stainless steel											•	•
Cast iron											•	•
Non ferrous metals											•	•
Heat resistant alloys											•	•
hardened materials											•	•

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MiniCut – Insert for copy turning

- with chip breaker

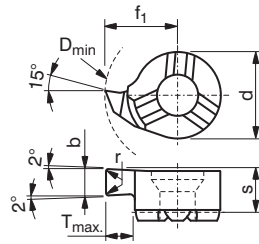
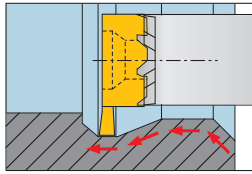
CWX
500CWX
500

Illustrations show right-hand versions

Illustrations show right-hand versions										Left-hand	Right-hand
Size	Designation	D _{min}	b	s	f ₁	d	r	a _{p max}	W° ₁	Article no.	Article no.
		DAXN	CW	PDX	PDY	IC	RE	CDX	PSIRR	73 388 ...	73 386 ...
		mm	mm	mm	mm	mm	mm	mm			
09	9,00. R/L .3,60.10°	9	3.5	3.6	5.5	6.2	0.2	0.5	10	136	136
Steel										●	●
Stainless steel										●	●
Cast iron										●	●
Non ferrous metals										●	●
Heat resistant alloys										●	●
hardened materials											

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MiniCut – Internal turning insert

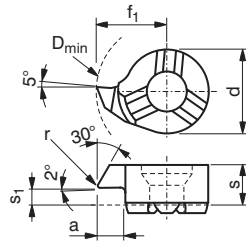
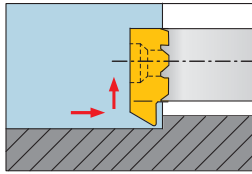
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b _{+0,05} CW mm	T _{max} PDPT mm	s PDX mm	f ₁ PDY mm	d IC mm	r RE mm	a _{p max} CDX mm	Left-hand	Right-hand
										Article no. 73 316 ...	Article no. 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
Steel										•	•
Stainless steel										•	•
Cast iron										•	•
Non ferrous metals										•	•
Heat resistant alloys										•	•
hardened materials											

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MiniCut – Back boring insert

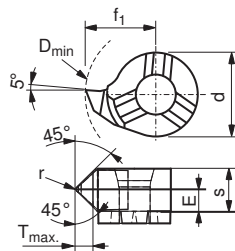
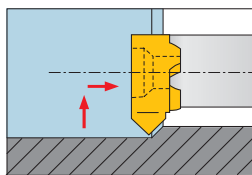
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	a PDPT mm	s W1 mm	s ₁ PDX mm	f ₁ PDY mm	d IC mm	r RE mm	a _{p max} CDX mm	Left-hand	Right-hand
										Article no. 73 332 ...	Article no. 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
Steel										•	•
Stainless steel										•	•
Cast iron										•	•
Non ferrous metals										•	•
Heat resistant alloys										•	•
hardened materials											

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MiniCut – Internal turning and chamfering insert

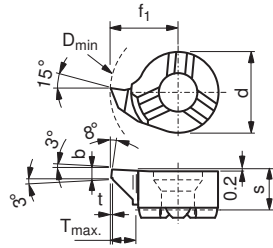
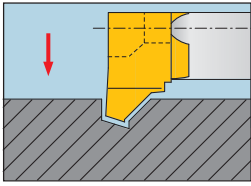
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	T _{max} PDPT mm	s W1 mm	E PDX mm	f ₁ PDY mm	d IC mm	r RE mm	a _{p max} CDX mm	Left-hand	Right-hand
										Article no. 73 336 ...	Article no. 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	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
Steel										•	•
Stainless steel										•	•
Cast iron										•	•
Non ferrous metals										•	•
Heat resistant alloys										•	•
hardened materials											

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MiniCut – Insert for pregrooving and chamfering

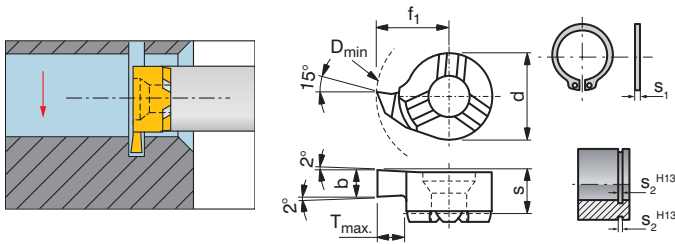
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max.} PDPT mm	s PDX mm	f ₁ PDY mm	d IC mm	t mm	Left-hand	Right-hand
									Article no. 73 340 ...	Article no. 73 338 ...
08	8,00. R/L .1,00.45°	8	1.0	1.0	3.3	4.8	6.0	0.2	100	100
09	9,00. R/L .1,00.45°	9	1.0	1.5	3.6	5.5	6.2	0.2	215	215
11	11,00. R/L .1,00.45°	11	1.0	1.5	4.2	6.7	8.0	0.2	315	315
14	14,00. R/L .1,00.45°	14	1.0	1.5	5.3	9.0	9.0	0.2	515	515
Steel									•	•
Stainless steel									•	•
Cast iron									•	•
Non ferrous metals									•	•
Heat resistant alloys									•	•
hardened materials										

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MiniCut – Grooving insert

CWX
500CWX
500

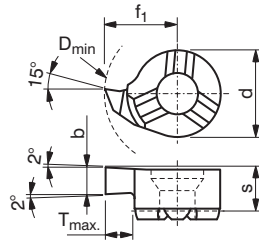
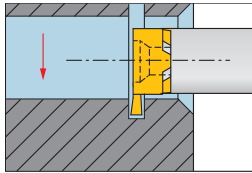
Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max} PDPT mm	s PDX mm	s ₁ mm	s ₂ mm	f ₁ PDY mm	d IC mm	Left-hand	Right-hand
										Article no. 73 312 ...	Article no. 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 .100,1,0	8	1.00	1.0	3.3			4.8	6.0	110	110
	8,00. R/L .120,1,0	8	1.20	1.0	3.3	1.0	1.1	4.8	6.0	112	112
	8,00. R/L .140,1,0	8	1.40	1.0	3.3	1.2	1.3	4.8	6.0	114	114
	8,00. R/L .150,1,0	8	1.50	1.0	3.3			4.8	6.0	115	115
	8,00. R/L .170,1,0	8	1.70	1.0	3.3	1.5	1.6	4.8	6.0	117	117
	8,00. R/L .200,1,0	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 .100,1,8	9	1.00	1.8	3.6			5.5	6.2	210	210
	9,00. R/L .120,1,8	9	1.20	1.8	3.6	1.0	1.1	5.5	6.2	212	212
	9,00. R/L .140,1,8	9	1.40	1.8	3.6	1.2	1.3	5.5	6.2	214	214
	9,00. R/L .150,1,8	9	1.50	1.8	3.6			5.5	6.2	215	215
	9,00. R/L .170,1,8	9	1.70	1.8	3.6	1.5	1.6	5.5	6.2	217	217
	9,00. R/L .200,1,8	9	2.00	1.8	3.6			5.5	6.2	220	220
	9,00. R/L .250,1,8	9	2.50	1.8	3.6			5.5	6.2	225	225
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/L .093,1,5	11	0.93	1.5	4.2	0.8	0.9	6.7	8.0	393	393
	11,00. R/L .100,2,3	11	1.00	2.3	4.2			6.7	8.0	310	310
	11,00. R/L .120,2,3	11	1.20	2.3	4.2	1.0	1.1	6.7	8.0	312	312
	11,00. R/L .140,2,3	11	1.40	2.3	4.2	1.2	1.3	6.7	8.0	314	314
	11,00. R/L .150,2,3	11	1.50	2.3	4.2			6.7	8.0	315	315
	11,00. R/L .170,2,3	11	1.70	2.3	4.2	1.5	1.6	6.7	8.0	317	317
	11,00. R/L .200,2,3	11	2.00	2.3	4.2			6.7	8.0	320	320
	11,00. R/L .250,2,3	11	2.50	2.3	4.2			6.7	8.0	325	325
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 .120,4,0	14	1.20	4.0	5.3	1.0	1.1	9.0	9.0	512	512
	14,00. R/L .140,4,0	14	1.40	4.0	5.3	1.2	1.3	9.0	9.0	514	514
	14,00. R/L .150,4,0	14	1.50	4.0	5.3			9.0	9.0	515	515
	14,00. R/L .170,4,0	14	1.70	4.0	5.3	1.5	1.6	9.0	9.0	517	517
	14,00. R/L .200,4,0	14	2.00	4.0	5.3			9.0	9.0	520	520
	14,00. R/L .250,4,0	14	2.50	4.0	5.3			9.0	9.0	525	525
	14,00. R/L .300,4,0	14	3.00	4.0	5.3			9.0	9.0	530	530

Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys	●	●
hardened materials		

MiniCut – Grooving insert

- large groove depth ($T_{\max.}$ 5.5 mm)

CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	$D_{\min}$ DAXN mm	$b_{+0,03}$ CW mm	$T_{\max.}$ PDPT mm	s PDX mm	f_1 PDY mm	d IC mm
14	14,00. R/L .2,50.5,5	16	2.5	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 .3,50.5,5	16	3.0	5.5	5.2	10.5	9
	14,00. R/L .1,50.5,5	16	1.5	5.5	5.2	10.5	9

Left-hand

Right-hand

Article no.
73 372 ...Article no.
73 370 ...

725

725

720

720

730

730

715

715

Steel

Stainless steel

Cast iron

Non ferrous metals

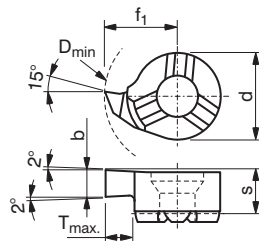
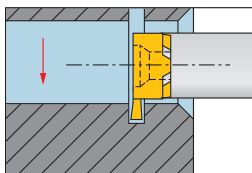
Heat resistant alloys

hardened materials

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MiniCut – Grooving insert

- large groove depth ($T_{\max.}$ 6.5 mm)

CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	$D_{\min}$ DAXN mm	$b_{+0,03}$ CW mm	$T_{\max.}$ PDPT mm	s PDX mm	f_1 PDY mm	d IC 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 .3,50.6,5	17	3.0	6.5	5.2	11.5	9

Left-hand

Right-hand

Article no.
73 384 ...Article no.
73 382 ...

515

515

520

520

525

525

530

530

Steel

Stainless steel

Cast iron

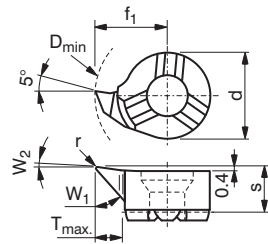
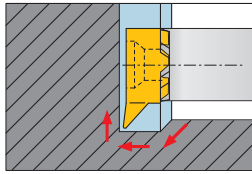
Non ferrous metals

Heat resistant alloys

hardened materials

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MiniCut – Internal undercut insert

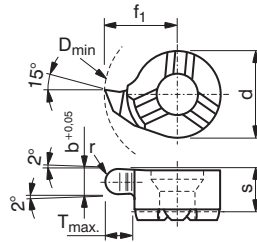
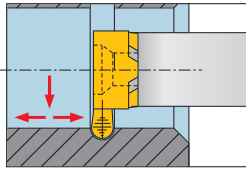
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	T _{max.} PDPT mm	s PDX mm	f ₁ PDY mm	d IC mm	r RE mm	a _{p max} CDX mm	W ₁ [°] PSIRR	W ₂ [°] RAR	Left-hand	Right-hand
											Article no. 73 328 ...	Article no. 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 .47°2,3	11.0	2.3	4.2	6.70	8.0	0.2	0.6	47	3	323	323
	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
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
Steel											•	•
Stainless steel											•	•
Cast iron											•	•
Non ferrous metals											•	•
Heat resistant alloys											•	•
hardened materials												

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MiniCut – Full radius grooving and turning insert

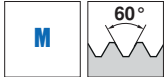
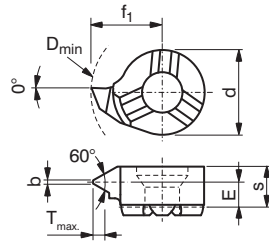
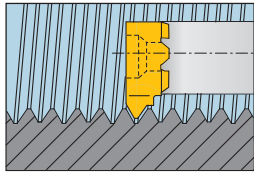
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max} PDPT mm	s PDX mm	f ₁ PDY mm	d IC mm	r RE mm	Left-hand	Right-hand
									Article no. 73 320 ...	Article no. 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
	11,00. R/L .3,00.2,3	11	3.0	2.3	4.2	6.7	8.0	1.5	330	330
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
Steel									•	•
Stainless steel									•	•
Cast iron									•	•
Non ferrous metals									•	•
Heat resistant alloys									•	•
hardened materials									•	•

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MiniCut – Threading insert (Partial profile)

CWX
500CWX
500

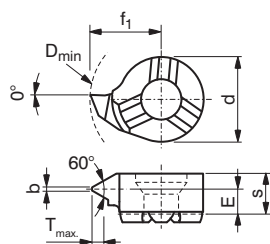
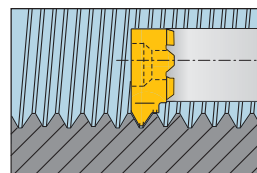
Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	p TP mm	b CW mm	T _{max} PDPT mm	s W1 mm	E PDX mm	f ₁ PDY mm	d IC mm	Left-hand	Right-hand
										Article no. 73 344 ...	Article no. 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
	9,00. R/L .3,0/3,5.60°	9	3,0/3,5	0.37	1.62	3.55	1.9	5.5	6.2	124	124
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

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

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MiniCut – Threading insert (Full profile)

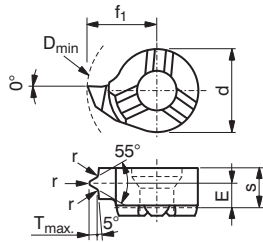
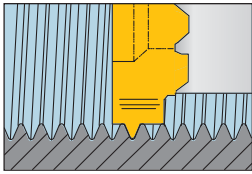
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	p TP mm	b CW mm	T _{max} PDPT mm	s W1 mm	E PDX mm	f ₁ PDY mm	d IC mm	Left-hand	Right-hand
										Article no. 73 348 ...	Article no. 73 346 ...
09	9,00. R/L .0,5.60°	9	0,5	0.06	0.27	3.55	3.25	5.5	6.2	405	405
	9,00. R/L .1,0.60°	9	1,0	0.12	0.54	3.55	3.00	5.5	6.2	410	410
	9,00. R/L .1,5.60°	9	1,5	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	2,0	0.25	1.08	3.55	2.60	5.5	6.2	420	420
	9,00. R/L .2,5.60°	9	2,5	0.31	1.35	3.55	2.50	5.5	6.2	425	425
	9,00. R/L .3,0.60°	9	3,0	0.37	1.62	3.55	2.20	5.5	6.2	430	430
11	11,00. R/L .1,0.60°	11	1,0	0.12	0.54	4.30	3.50	6.7	8.0	314	314
	11,00. R/L .1,5.60°	11	1,5	0.18	0.81	4.30	3.50	6.7	8.0	316	316
	11,00. R/L .2,0.60°	11	2,0	0.25	1.08	4.30	3.20	6.7	8.0	310	310
	11,00. R/L .2,5.60°	11	2,5	0.31	1.35	4.30	3.00	6.7	8.0	320	320
	11,00. R/L .3,0.60°	11	3,0	0.37	1.62	4.30	2.90	6.7	8.0	330	330
14	14,00. R/L .0,5.60°	14	0,5	0.06	0.27	5.40	3.50	9.0	9.0	510	510
	14,00. R/L .1,0.60°	14	1,0	0.12	0.54	5.40	3.50	9.0	9.0	512	512
	14,00. R/L .1,5.60°	14	1,5	0.18	0.81	5.40	3.30	9.0	9.0	514	514
	14,00. R/L .2,0.60°	14	2,0	0.25	1.08	5.40	4.20	9.0	9.0	610	610
	14,00. R/L .2,5.60°	14	2,5	0.31	1.35	5.40	4.70	9.0	9.0	520	520
Steel										•	•
Stainless steel										•	•
Cast iron										•	•
Non ferrous metals										•	•
Heat resistant alloys										•	•
hardened materials											

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MiniCut – Threading insert (Full profile)

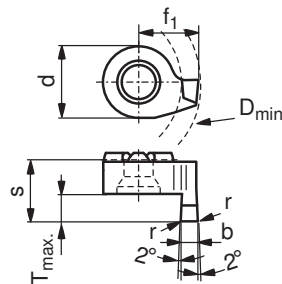
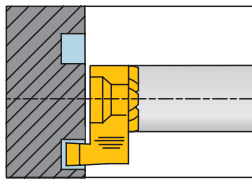
CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	p TP mm	p TDIN 1/"	T _{max} PDPT mm	s W1 mm	E PDX mm	f ₁ PDY mm	d IC mm	r RE mm	Left-hand	Right-hand
											Article no. 73 352 ...	Article no. 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
Steel											●	●
Stainless steel											●	●
Cast iron											●	●
Non ferrous metals											●	●
Heat resistant alloys											●	●
hardened materials												

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MiniCut – Axial grooving insert

CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max} PDPT mm	s PDX mm	f ₁ PDY mm	r RE mm	d IC mm	Left-hand	Right-hand
									Article no. 73 364 ...	Article no. 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

Steel

Stainless steel

Cast iron

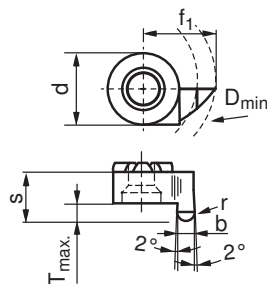
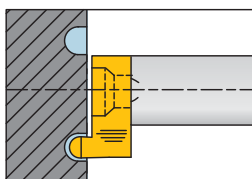
Non ferrous metals

Heat resistant alloys

hardened materials

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MiniCut – Full radius axial grooving insert

CWX
500CWX
500

Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max} PDPT mm	s PDX mm	f ₁ PDY mm	r RE mm	d IC mm	Left-hand	Right-hand
									Article no. 73 376 ...	Article no. 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

Steel

Stainless steel

Cast iron

Non ferrous metals

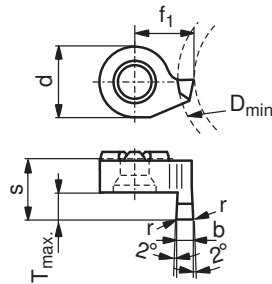
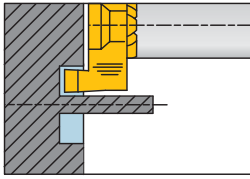
Heat resistant alloys

hardened materials

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MiniCut – Axial grooving insert over a spigot

CWX
500

CWX
500


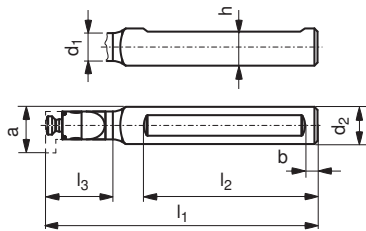
Illustrations show right-hand versions

Size	Designation	D _{min} DAXN mm	b CW mm	T _{max} PDPT mm	s PDX mm	f ₁ PDY mm	r RE mm	d IC mm	Left-hand	Right-hand
									Article no. 73 360 ...	Article no. 73 358 ...
14	12,00. R/L .1,0,1,5	12	1.0	1.5	8.3	7.0		9	310	310
	12,00. R/L .1,5,2,5	12	1.5	2.5	8.3	7.5	0.2	9	315	315
	12,00. R/L .2,0,3,0	12	2.0	3.0	8.3	8.0	0.2	9	320	320
	12,00. R/L .2,0,5,0	12	2.0	5.0	10.3	8.0	0.2	9	420	420
	12,00. R/L .2,5,3,0	12	2.5	3.0	8.3	8.5	0.2	9	325	325
	12,00. R/L .2,5,5,0	12	2.5	5.0	10.3	8.5	0.2	9	425	425
	12,00. R/L .3,0,3,0	12	3.0	3.0	8.3	9.0	0.2	9	330	330
	12,00. R/L .3,0,5,0	12	3.0	5.0	10.3	9.0	0.2	9	430	430

Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

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MiniCut – Steel Tool holder



Size	Designation	a WF mm	d ₂ 17 DCONMS mm	l ₁ OAL mm	l ₂ LDRED mm	l ₃ LH mm	d ₁ DCONWS mm	h H mm	b mm	Article no. 73 522 ...
08	8,00/16.N.12.1,0	7.8	16	80	60	12	6.0	15.0	5	012
	8,00/16.N.22.1,0	7.8	16	90	60	22	6.0	15.0	5	122
09	9,00/16.N.14.1,8	8.6	16	95	60	14	7.4	15.0	5	014
	9,00/16.N.25.1,8	8.6	16	105	60	25	7.4	15.0	5	125
11	11,00/16.N.16.2,3	10.7	16	97	60	16	8.0	14.5	5	016
	11,00/16.N.29.2,3	10.7	16	110	60	29	8.0	14.5	5	129
14	14,00/16.N.18.4,0	13.8	16	100	60	18	11.0	14.5	5	018
	14,00/16.N.38.4,0	13.8	16	120	60	38	11.0	14.5	5	138

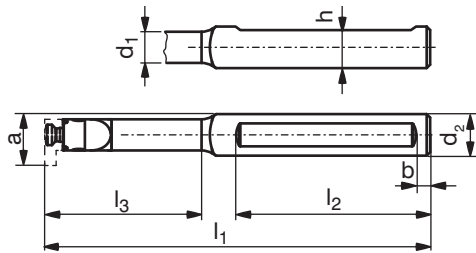
3

Spare parts

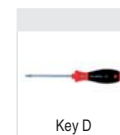
Size	Article no. 80 950 ...	Article no. 73 082 ...
08	T08 110	M2,6 002
09	T08 110	M2,6 002
11	T10 112	M3,5 003
14	T15 113	M4 004



MiniCut – Solid Carbide Tool holder – vibration damped



Size	Designation	a WF mm	d _{2 17} DCONMS mm	l ₁ OAL mm	l ₂ LDRED mm	l ₃ LH mm	d ₁ DCONWS mm	h H mm	b mm	Article no. 73 520 ...
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



Key D

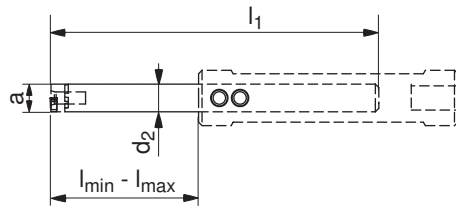


Clamping screw

Spare parts

Size	Article no. 80 950 ...	Article no. 73 082 ...
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 – Flexoholder



Size	Designation	d ₂ DCONMS mm	l ₁ OAL mm	l _{min} LFN mm	l _{max} LF mm	a WF mm	Article no. 73 525 ...
08	8,0/6.N16/2	6	85	18	42	8	818
	8,0/6.N40/4	6	103	40	80	8	840
11	11,0/8.N20/2	8	79	20	55	11	120 ¹⁾
	11,0/8.N50/4	8	129	50	105	11	150 ¹⁾

1) with thro' coolant

Spare parts		Article no. 80 950 ...		Article no. 73 082 ...	
Size					
08	T08	110	M2,6	002	
11	T10	112	M3,5	003	

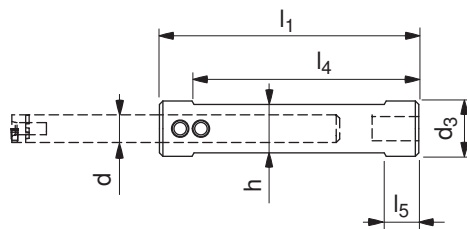


Key D



Clamping screw

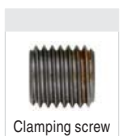
MiniCut – Base holder for solid carbide Flexoholder



Size	Designation	d DCONWS mm	d ₃ DCONMS mm	h H mm	l ₁ OAL mm	l ₄ mm	l ₅ mm	Article no. 73 526 ...
08	8/16.75	6	16	14	75	55	10	816
	8/20.90	6	20	18	90	70	10	820
11	11/16.75	8	16	14	75	55	10	116
	11/20.90	8	20	18	90	70	10	120



Key I

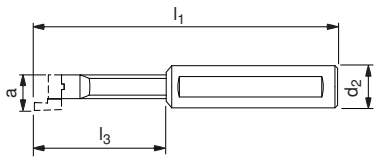


Clamping screw

Spare parts for Article no.		Article no. 70 950 ...		Article no. 73 082 ...	
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

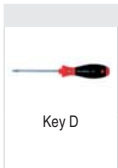


Illustrations show right-hand versions

Size	Designation	a	d ₂	l ₁	l ₃	Left-hand		Right-hand	
		WF mm	DCONMS mm	OAL mm	LH mm	Article no. 73 523 ...		Article no. 73 524 ...	
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	Article no. 80 950 ... 113	M4	Article no. 73 082 ... 004
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Key D



Clamping screw

Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm ²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm ²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm ²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm ²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm ²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm ²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm ²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm ²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm ²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm ²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm ²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm ²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm ²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm ²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm ²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm ²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm ²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm ²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm ²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm ²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm ²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm ²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm ²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm ²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm ²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm ²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm ²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm ²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm ²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm ²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm ²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm ²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm ²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5 - 10% Si	< 400 N/mm ²	3.2315	A - G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10 - 15% Si	< 400 N/mm ²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm ²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm ²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm ²	2.1247	Cub2 (Beryllium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm ²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm ²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm ²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm ²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm ²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm ²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm ²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm ²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm ²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm ²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm ²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data approximate values

	UltraMini K10F	UltraMini K10F-TiN	UltraMini K10-TiAlN	UltraMini DPX 57S	MiniCut CWX500
Index	v_c in m/min				
1.1	30-130	30-180	80-200	80-200	80-200
1.2	30-130	40-200	80-200	80-200	80-200
1.3	30-130	40-180	80-200	80-200	80-200
1.4	15-90	30-140	80-160	80-160	80-160
1.5	15-90	30-100		80-140	
1.6	15-90	30-100	80-160	80-160	80-160
1.7	30-130	30-100	80-160	80-160	80-160
1.8	15-90	30-100	80-150	80-150	80-150
1.9	30-130	40-200	80-200	80-200	80-200
1.10	15-90	30-100	70-140	70-140	70-140
1.11	15-90	30-100	70-140	70-140	70-140
1.12	15-90	30-100	70-140	70-140	70-140
1.13					
1.14					
1.15	15-45	30-100			
1.16	15-45	30-100			
2.1		30-100	80-160	80-160	80-160
2.2		30-100	80-160	80-160	80-160
2.3		30-100	80-160	80-160	80-160
2.4		20-90	20-85	20-85	20-85
2.5		20-65	20-75	20-75	20-75
2.6		20-80	20-65	20-65	20-65
2.7		20-80	20-65	20-65	20-65
3.1	30-110	70-150	30-180	30-180	30-180
3.2	30-90	50-120	30-150	30-150	30-150
3.3	25-110	30-130	30-180	30-180	30-180
3.4	25-80	30-110	30-120	30-120	30-120
3.5	30-110	30-100	30-90	30-90	30-90
3.6	30-90	30-90	20-80	20-80	20-80
3.7	30-110	30-100	30-90	30-90	30-90
3.8	30-90	30-90	20-80	20-80	20-80
4.1	110-210	100-600	120-600	120-600	120-600
4.2	90-200	100-600	120-600	120-600	120-600
4.3	90-200	100-500	100-450	100-450	100-450
4.4	50-140	80-350	70-300	70-300	70-300
4.5		80-200	60-150	60-150	60-150
4.6	50-140	70-160	60-150	60-150	60-150
4.7	60-150	80-180	100-180	100-180	100-180
4.8	50-140	80-180	90-180	90-180	90-180
4.9	50-140	80-180	80-180	80-180	80-180
4.10	50-140	80-180	80-180	80-180	80-180
4.11	80-160	100-200	120-220	120-220	120-220
4.12	50-120	80-180	70-150	70-150	70-150
4.13	40-120	70-160	80-180	80-180	80-180
4.14					
4.15					
4.16					
4.17					
4.18	15-70				
4.19					
5.1		30-80	30-80	30-80	30-80
5.2		18-75	18-75	18-75	18-75
5.3		18-75	18-75	18-75	18-75
5.4				40-70	
5.5		18-40	18-40	40-70	18-40
5.6		18-40	18-40	40-70	18-40
5.7		15-30	15-30	40-70	15-30
5.8		15-30	15-30	40-70	15-30
5.9		15-30	15-30	70-150	15-30
5.10				70-150	
5.11				70-150	
6.1					
6.2					
6.3					
6.4					
6.5					

	UltraMini	MiniCut
	f in mm/rev.	
Internal turning and profiling	0,02-0,05	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

i The cutting data depends largely on the external conditions, e.g. stability of the tools 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 – 73 000 .../ 73 001 ...

Index	UltraMini DPX 77S v_c in m/min	Corner radius in mm			
		0,05	0,1	0,15	0,2
		f in mm/rev.			
1.1	80–200	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.2	80–200	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.3	80–200	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.4	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.5	80–140	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.6	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.7	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.8	80–150	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.9	80–200	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.10	70–140	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.11	70–140	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.12	70–140	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
1.13					
1.14					
1.15					
1.16					
2.1	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.2	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.3	80–160	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.4	20–85	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.5	20–75	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.6	20–65	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
2.7	20–65	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.1	30–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.2	30–150	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.3	30–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.4	30–120	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.5	30–90	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.6	20–80	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.7	30–90	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
3.8	20–80	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.1	120–600	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.2	120–600	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.3	100–450	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.4	70–300	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.5	60–150	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.6	60–150	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.7	100–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.8	90–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.9	80–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.10	80–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.11	120–220	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.12	70–150	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.13	80–180	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
4.14					
4.15					
4.16					
4.17					
4.18					
4.19					
5.1	30–80	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.2	18–75	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.3	18–75	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.4	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.5	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.6	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.7	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.8	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.9	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.10	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
5.11	40–70	0,015–0,03	0,02–0,06	0,02–0,08	0,02–0,12
6.1					
6.2					
6.3					
6.4					
6.5					

i The cutting data depends largely on the external conditions, e.g. stability of the tools 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.