





## Drilling

HSS drilling

1

Solid carbide drilling

Reamers

## Threading

HSS taps

2

Circular and Thread Milling

Thread turning

## Turning

Turning Tools

3

EcoCut

Grooving Tools

Miniature turning tools

## Milling

Solid Carbide milling cutters

4

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5

Material examples and  
article no. index

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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.

**i** Further indexable inserts and tool holders can be found in our → **main catalogue in Chapter 8 Turning Tools**

Negative indexable insert with WN.. geometry.  
Six-edged indexable insert, ideal for roughing

→ 9+10

Positive insert with VC.. geometry.  
Low cutting forces and maximum  
degree of freedom

→ 39-41

Positive insert with TC.. geometry.  
Three-edged indexable insert  
with high stability

→ 34-36

Negative indexable insert with DN.. geometry.  
Four-edged indexable insert,  
ideal for sloping contours

→ 5+6

Positive insert with CC.. geometry.  
Two-edged indexable insert, universal application  
for internal and external machining

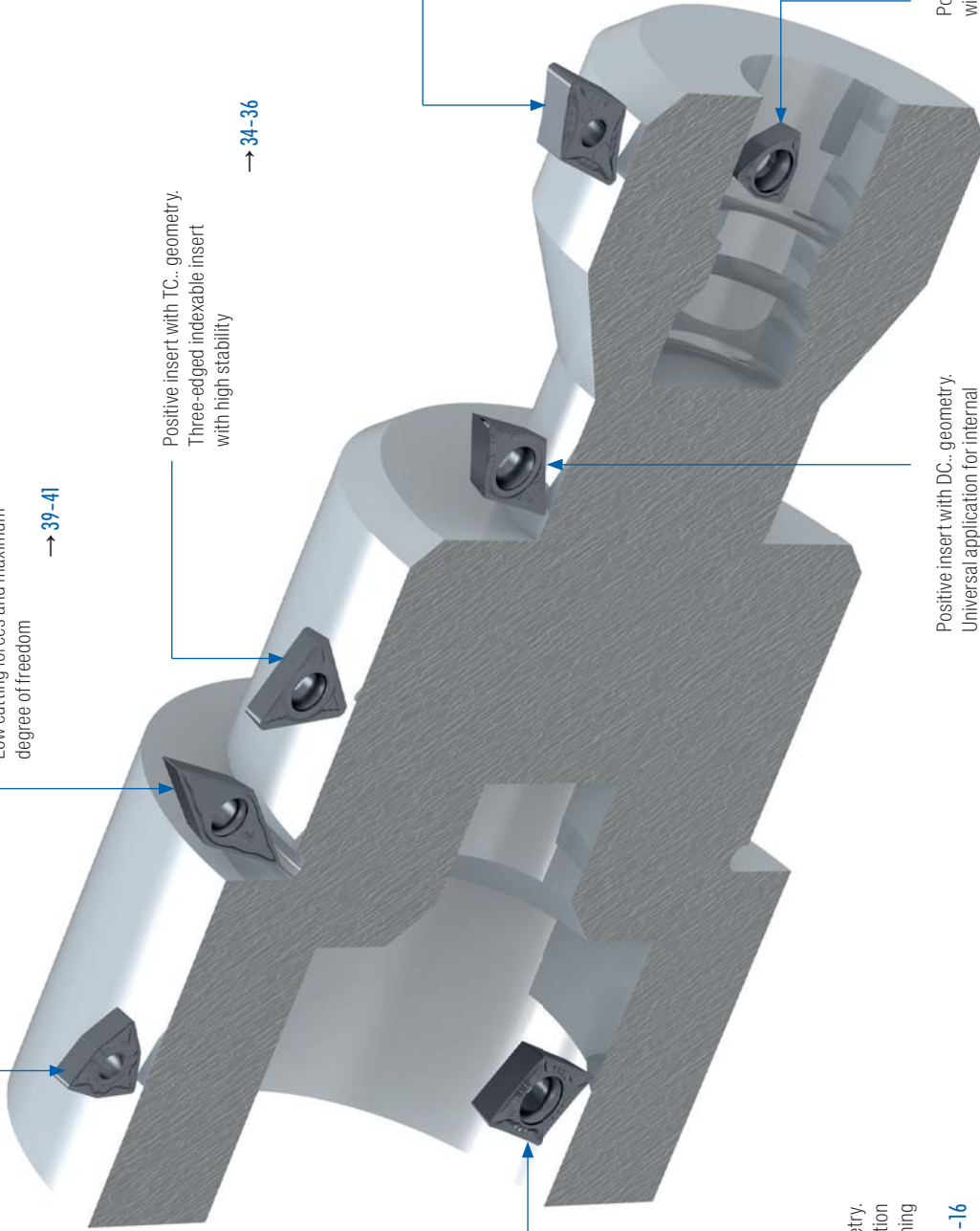
→ 12-16

Positive insert with DC.. geometry.  
Universal application for internal  
and external machining

→ 22-26

Positive mini indexable insert  
with WC.. geometry.  
Ideal for internal machining

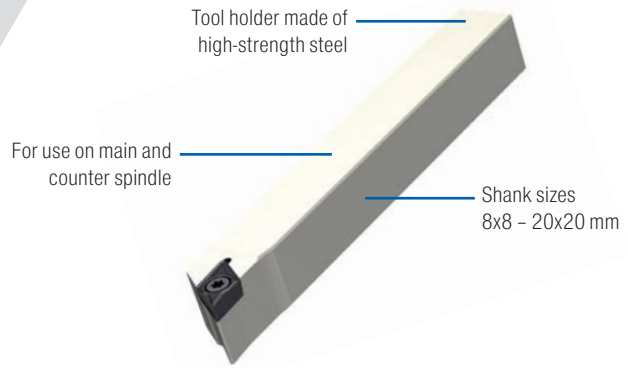
→ 46





# 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

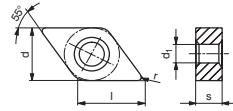
	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometries	
						DN..	WN..
sharp ↓ stable	-F32	●	●	○	●	5	
	-NF23	○	●			5	9
	-NF15	●	○	○		5	9
	-NM23	○	●			5	9
	-NM15	●	○	○		5	9
	-NM26	○	●				9
	-M42	○	●			5	10
	-M52		○	○	○		10
	-NM19	●	●	○		6	10
	Suitable tool holders						7+8

	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

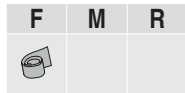
Diamond	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometries			
						CC..	DC..	TC..	VC..
-CB1				●		16	26	36	41
-CB2				●		16	26	36	41
Suitable tool holders						17-21	27-33	37+38	42-45

# DNGU / DNMG

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



# DNGU / DNMG



	-F32	-F32	-NF23	-NF15	-NF15	-NF15
	WUU 7630	TiAIN	HCN 2125	HCX 1115	HCX 1125	HCR 1135

ISO	r RE mm	DNGU		DNGU		DNMG		DNMG		DNMG		DNMG	
		NEW X1	Article no.	X1	Article no.	1A	Article no.	NEW 1A	Article no.	NEW 1A	Article no.	NEW 1A	Article no.
1104008FN	0.08	£ 25.41	638	£ 27.40	108	£		£ 10.24	302	£ 10.24	502	£ 10.24	702
1104015FN	0.15	£ 25.41	645	£ 27.40	115								
110402EN	0.2												
110404EN	0.4					£ 10.24	204	£ 10.24	304	£ 10.24	504	£ 10.24	704
110408EN	0.8					£ 10.24	206	£ 10.24	306	£ 10.24	506	£ 10.24	706
Steel		•	•	•	•	○	○	•	•	•	•	•	•
Stainless steel		•	•	•	•	•	•	○	○	○	○	○	○
Cast iron								○	○	○	○	○	○
Non ferrous metals		○	○	○	○	○	○	○	○	○	○	○	○
Heat resistant alloys		○	○	○	○	○	○	○	○	○	○	○	○

# DNMG



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

ISO	r RE mm	DNMG		DNMG		DNMG		DNMG		DNMG	
		1A	Article no.	1A	Article no.	1A	Article no.	1A	Article no.	1A	Article no.
110404EN	0.4	£		£ 10.24	304	£ 10.24	504	£ 10.24	704	£ 10.24	600
110408EN	0.8	£ 10.24	206	£ 10.24	306	£ 10.24	506	£ 10.24	706	£ 10.24	602
Steel		○	○	•	•	•	•	•	•	○	○
Stainless steel		•	•	○	○	○	○	○	○	•	•
Cast iron				○	○	○	○	○	○		
Non ferrous metals		○	○	○	○	○	○	○	○	○	○
Heat resistant alloys		○	○	○	○	○	○	○	○	•	•

# DNMG

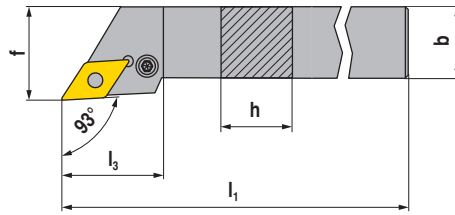
F	M	R

	-NM19	-NM19	-NM19	-NM19
	HCX 1115	HCX 1125	HCR 1135	CWN 2135
	DNMG 1A	DNMG 1A	DNMG 1A	DNMG 1A
	Article no. 76 263 ...	Article no. 76 263 ...	Article no. 76 263 ...	Article no. 70 263 ...
	£ 10.24 306	£ 10.24 506	£ 10.24 706	£ 10.24 406

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



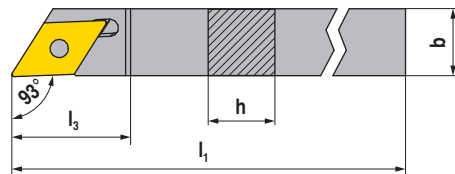
Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand 2A		Right-hand 2A	
							Article no. 70 541 ...	£	Article no. 70 540 ...	£
PDJN R/L 1616 H11	16	16	100	30	20	DN.. 1104	66.10	116	66.10	116
PDJN R/L 2020 K11	20	20	125	30	25	DN.. 1104	73.63	120	73.63	120
PDJN R/L 2525 M11	25	25	150	30	32	DN.. 1104	76.18	125	76.18	125

Spare parts for Article no.	2A		2A		2A		2A		2A		2A				
	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide Seat D	Article no. 70 950 ...	£	Article no. 70 950 ...	£	Article no. 70 950 ...	£			
70 540 116 / 70 541 116			SW2,5	2.12	175	1.78	122	1.07	191	12.97	121	2.76	208	6.25	120
70 540 120 / 70 541 120			SW2,5	2.12	175	1.78	122	1.07	191	12.97	121	2.76	208	6.25	120
70 540 125 / 70 541 125			SW2,5	2.12	175	1.78	122	1.07	191	12.97	121	2.76	208	6.25	120

# IsoClamp - SDJN 93° - Toolholder with screw clamping



Illustrations show right-hand versions

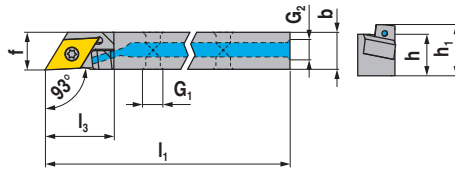
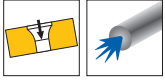


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	Insert	Left-hand X0		Right-hand X0	
						Article no. 70 699 ...	£	Article no. 70 698 ...	£
SDJN R/L 1012 H11	10	12	100	21.3	DNGU 1104	84.32	010	84.32	010
SDJN R/L 1212 H11	12	12	100	21.3	DNGU 1104	84.32	012	84.32	012
SDJN R/L 1616 K11	16	16	125	21.3	DNGU 1104	89.84	016	89.84	016
SDJN R/L 2020 K11	20	20	125	21.3	DNGU 1104	93.03	020	93.03	020
SDJN R/L 2525 M11	25	25	150	21.3	DNGU 1104	100.82	025	100.82	025

Spare parts for Article no.	Y7		2A					
	Key D	Clamping screw	Article no. 80 950 ...	£	Article no. 72 950 ...	£		
70 698 010 / 70 699 010			T15 - IP	14.58	128	M4x11	4.32	007
70 698 012 / 70 699 012			T15 - IP	14.58	128	M4x11	4.32	007
70 698 016 / 70 699 016			T15 - IP	14.58	128	M4x11	4.32	007
70 698 020 / 70 699 020			T15 - IP	14.58	128	M4x11	4.32	007
70 698 025 / 70 699 025			T15 - IP	14.58	128	M4x11	4.32	007

# IsoClamp - SDJN 93° - Tool holder with thro' coolant

▪ for sliding head lathes



Illustrations show right-hand versions

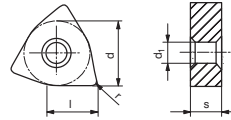


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	h <sub>1</sub> OAH mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
										NEW	X0	NEW	X0
SDJN R/L 1012 H11 IC	10	12	100	22	12	16.5	M5	M5	DNGU 1104	Article no. 72 359 ...		Article no. 72 358 ...	
SDJN R/L 1212 H11 IC	12	12	100	22	12	18.5	M5	M5	DNGU 1104	£		£	
SDJN R/L 1616 K11 IC	16	16	125	22	16	22.5	M5	G1/8"	DNGU 1104	396.00	010	396.00	010
SDJN R/L 2020 K11 IC	20	20	125	22	20	26.5	M5	G1/8"	DNGU 1104	396.00	012	396.00	012
SDJN R/L 2525 K11 IC	25	25	125	22	25	31.5	M5	G1/8"	DNGU 1104	381.15	016	381.15	016
										346.50	020	346.50	020
										397.65	025	397.65	025

Spare parts for Article no.	X0 Cylindrical screw		X0 Cylindrical screw		Y7 Key D		2A Clamping screw							
	Article no. 72 950 ...	£	Article no. 72 950 ...	£	Article no. 80 950 ...	£	Article no. 72 950 ...	£						
72 358 010 / 72 359 010			M5x4	7.59	011	T15 - IP	14.58	128	M4x11	4.32	007			
72 358 012 / 72 359 012			M5x4	7.59	011	T15 - IP	14.58	128	M4x11	4.32	007			
72 358 016 / 72 359 016			G1/8"	24.09	010	M5x4	7.59	011	T15 - IP	14.58	128	M4x11	4.32	007
72 358 020 / 72 359 020			G1/8"	24.09	010	M5x4	7.59	011	T15 - IP	14.58	128	M4x11	4.32	007
72 358 025 / 72 359 025			G1/8"	24.09	010	M5x4	7.59	011	T15 - IP	14.58	128	M4x11	4.32	007

# WNMG

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



# WNMG

F	M	R

	-NF23	-NF15	-NF15	-NF15
	HCN 2125	HGX 1115	HGX 1125	HCR 1135
	WNMG 1A	WNMG 1A	WNMG 1A	WNMG 1A
ISO	Article no. 75 024 ...	Article no. 76 157 ...	Article no. 76 157 ...	Article no. 76 157 ...
	£ 8.36 204	£ 8.36 304	£ 8.36 504	£ 8.36 704
060404EN	0.4	0.4	0.4	0.4
060408EN	0.8	0.8	0.8	0.8

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

# WNMG

F	M	R

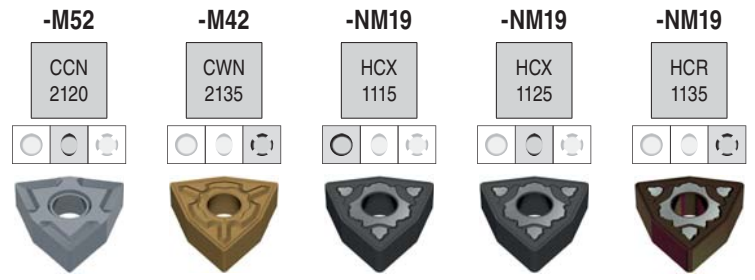
	-NM23	-NM15	-NM15	-NM15	-NM26
	HCN 2125	HGX 1115	HGX 1125	HCR 1135	HCN 2125
	WNMG 1A	WNMG 1A	WNMG 1A	WNMG 1A	WNMG 1A
ISO	Article no. 75 025 ...	Article no. 76 139 ...	Article no. 76 139 ...	Article no. 76 139 ...	Article no. 75 026 ...
	£ 8.36 206	£ 8.36 304	£ 8.36 504	£ 8.36 704	£ 8.36 206
060404EN	0.4	0.4	0.4	0.4	0.4
060408EN	0.8	0.8	0.8	0.8	0.8

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

3

# WNMG

F	M	R

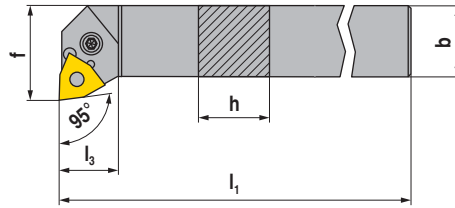


ISO	r RE mm	-M52 CCN 2120 WNMG 1A		-M42 CWN 2135 WNMG 1A		-NM19 HCX 1115 WNMG 1A		-NM19 HCX 1125 WNMG 1A		-NM19 HCR 1135 WNMG 1A	
		Article no. 70 179 ...	£	Article no. 70 178 ...	£	Article no. 76 273 ...	£	Article no. 76 273 ...	£	Article no. 76 273 ...	£
060404EN	0.4	8.14	604	8.14	400						
060408EN	0.8	8.14	608	8.14	402	8.36	306	8.36	506	8.36	706

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



# IsoClamp - PWLN 95° - Toolholder with lever clamping



Illustrations show right-hand versions

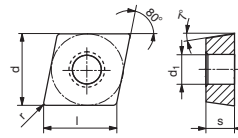


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand 2A		Right-hand 2A	
							Article no. 70 543 ...	£	Article no. 70 542 ...	£
PWLN R/L 1616 H06	16	16	100	20	20	WNMG 0604	66.10	116	66.10	116
PWLN R/L 2020 K06	20	20	125	25	25	WNMG 0604	73.63	120	73.63	120
PWLN R/L 2525 M06	25	25	150	25	32	WNMG 0604	76.18	125	76.18	125

Spare parts for Article no.	2A		2A		2A		2A		2A		2A			
	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide Seat W	Article no. 70 950 ...	£	Article no. 70 950 ...	£	Article no. 70 950 ...	£		
70 542 116 / 70 543 116		SW2,5	2.12	175	1.78	122	1.07	191	10.81	185	2.76	208	6.25	127
70 542 120 / 70 543 120		SW2,5	2.12	175	1.78	122	1.07	191	10.81	185	2.76	208	6.25	127
70 542 125 / 70 543 125		SW2,5	2.12	175	1.78	122	1.07	191	10.81	185	2.76	208	6.25	127

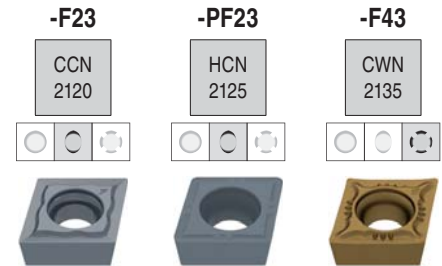
# CCGT / CCMT / CCXT

Designation	l DC mm	s S mm	d <sub>1</sub> 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



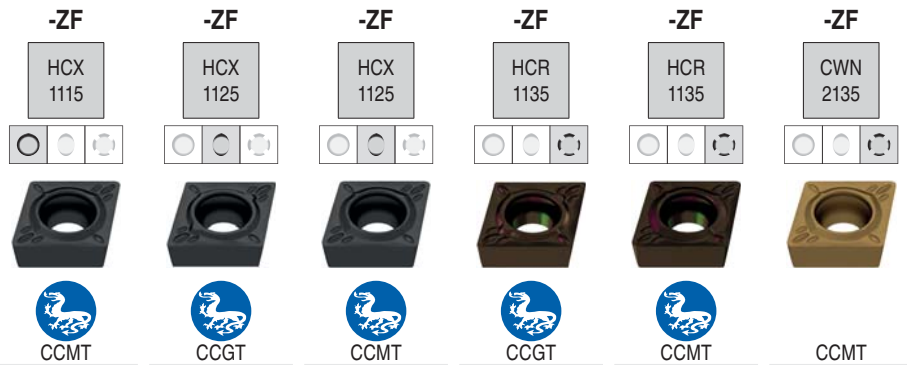
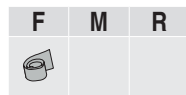
# CCGT / CCMT

F	M	R



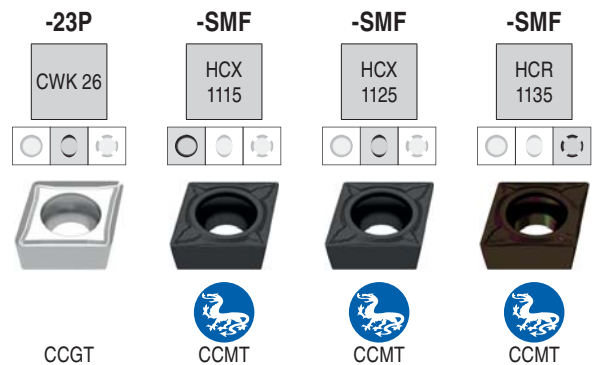
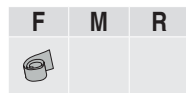
ISO	r RE mm	CCGT 1A		CCMT 1A		CCMT 1A	
		Article no. 70 191 ...	£	Article no. 75 210 ...	£	Article no. 70 185 ...	£
060200FN	0.0	600	11.64				
060201FN	0.1	602	11.64				
060204EN	0.4			204	6.53		
09T300FN	0.0	604	13.43				
09T301FN	0.1	606	13.43				
09T304EN	0.4			216	8.16	460	8.14
09T308EN	0.8			218	8.16	462	8.14
Steel					○		○
Stainless steel			●		●		●
Cast iron			○				
Non ferrous metals			○				
Heat resistant alloys			●				●

# CCMT / CCGT



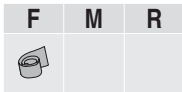
ISO	r RE mm	-ZF HCX 1115 CCMT 1A		-ZF HCX 1125 CCGT 1A		-ZF HCX 1125 CCMT 1A		-ZF HCR 1135 CCGT 1A		-ZF HCR 1135 CCMT 1A		-ZF CWN 2135 CCMT 1A	
		Article no. 76 253 ...	£	Article no. 76 251 ...	£	Article no. 76 253 ...	£	Article no. 76 251 ...	£	Article no. 76 253 ...	£	Article no. 70 253 ...	£
060202EN	0.2			11.64	502		11.64	702					
060204EN	0.4	6.53	304			6.53	504		6.53	704	6.33	460	
09T304EN	0.4	8.16	316			8.16	516		8.16	716	8.14	464	
09T308EN	0.8	8.16	318			8.16	518						
Steel		●		●		●		●		●		○	
Stainless steel		○		○		○		○		○		●	
Cast iron		○		○		○		○		○		○	
Non ferrous metals													
Heat resistant alloys								○		○		●	

# CCGT / CCMT



ISO	r RE mm	-23P CWK 26 CCGT 1A		-SMF HCX 1115 CCMT 1A		-SMF HCX 1125 CCMT 1A		-SMF HCR 1135 CCMT 1A	
		Article no. 70 255 ...	£	Article no. 76 249 ...	£	Article no. 76 249 ...	£	Article no. 76 249 ...	£
060202FN	0.2								
060204EN	0.4					6.53	504	6.53	704
060204FN	0.4	9.16	654						
060208EN	0.8					6.53	506		
09T304EN	0.4			8.16	316	8.16	516	8.16	716
09T304FN	0.4	9.58	656						
09T308EN	0.8			8.16	318	8.16	518		
09T308FN	0.8	9.58	658						
Steel				●		●		●	
Stainless steel				○		○		○	
Cast iron				○		○		○	
Non ferrous metals				●					
Heat resistant alloys				○				○	

# CCMT / CCGT



**-PF26**



**-25P**



**-25P**



CCMT

CCGT

CCGT

1A

1A

1A

ISO	r RE mm	Article no. 75 211 ... £	Article no. 70 248 ... £	Article no. 70 248 ... £
060202FN	0.2		9.16 636	10.91 556
060204EN	0.4	6.53 204	9.16 638	10.91 558
060204FN	0.4		9.58 639	11.19 539
09T302FN	0.2		9.58 640	11.19 560
09T304EN	0.4	8.16 216	9.58 641	11.19 541
09T304FN	0.4			
09T308EN	0.8	8.16 218		
09T308FN	0.8			
Steel		○	○	○
Stainless steel		●	○	○
Cast iron			○	○
Non ferrous metals			●	●
Heat resistant alloys			○	○

# CCGT



**-25Q**



**-25Q**



CCGT

CCGT

1A

1A

ISO	r RE mm	Article no. 70 248 ... £	Article no. 70 248 ... £
060204FN	0.4	9.96 678	14.13 618
09T304FN	0.4	10.53 680	14.81 620
09T308FN	0.8	10.53 681	14.81 621
Steel			○
Stainless steel			○
Cast iron			○
Non ferrous metals			●
Heat resistant alloys			○

# CCMT / CCGT



	-ZM	-ZM	-ZM	-ZM	-ZM
	HCX 1115	HCX 1125	HCX 1125	HCR 1135	HCR 1135
	CCMT	CCGT	CCMT	CCGT	CCMT
	1A	1A	1A	1A	1A
ISO	Article no.	Article no.	Article no.	Article no.	Article no.
	76 252 ...	76 250 ...	76 252 ...	76 250 ...	76 252 ...
	£	£	£	£	£
060202EN	0.2	0.2	0.2	0.2	0.2
060204EN	0.4	0.4	0.4	0.4	0.4
060208EN	0.8	0.8	0.8	0.8	0.8
09T304EN	0.4	0.4	0.4	0.4	0.4
09T308EN	0.8	0.8	0.8	0.8	0.8

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

# CCMT / CCGT / CCXT

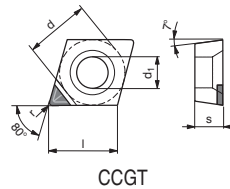


	-ZM	-AL	-AL	-AL	-M81
	CWN 2135	CWN 15	CWK 15	AMZ	CWN 2120
	CCMT	CCGT	CCGT	CCGT	CCXT
	1A	1A	1A	1A	1A
ISO	Article no.	Article no.	Article no.	Article no.	Article no.
	70 252 ...	70 254 ...	70 254 ...	70 254 ...	70 254 ...
	£	£	£	£	£
060202FN	0.2	0.2	0.2	0.2	0.2
060204EN	0.4	0.4	0.4	0.4	0.4
060204FN	0.4	0.4	0.4	0.4	0.4
09T302FN	0.2	0.2	0.2	0.2	0.2
09T304EN	0.4	0.4	0.4	0.4	0.4
09T304FN	0.4	0.4	0.4	0.4	0.4
09T308EN	0.8	0.8	0.8	0.8	0.8
09T308FN	0.8	0.8	0.8	0.8	0.8

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

# CCGT

Designation	l DC mm	s S mm	d <sub>1</sub> 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		

-CB1		-CB1	
PDC		CVD	
DIAMOND CCGT Y0		DIAMOND CCGT Y0	
Article no. 71 300 ...		Article no. 71 300 ...	
£		£	
81.67	102	103.64	302
81.67	104	103.64	304
80.31	112		
80.31	114	107.01	314
87.01	118		

# CCGT

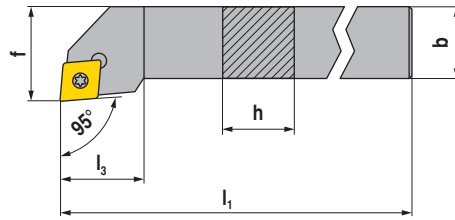
F	M	R

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	○	

-CB2		-CB2	
PDC-S		CVD	
DIAMOND CCGT Y0		DIAMOND CCGT Y0	
Article no. 71 301 ...		Article no. 71 301 ...	
£		£	
81.67	202		
81.67	204	103.64	304
85.25	208		
84.65	212		
84.65	214	107.01	314
91.73	218		

# IsoClamp - SCLC 95° - Toolholder with screw clamping



Illustrations show right-hand versions



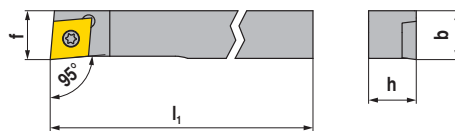
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand 2A		Right-hand 2A	
							Article no. 70 653 ...	Article no. 70 652 ...	Article no. 70 653 ...	Article no. 70 652 ...
SCLC R/L 0808 D06	8	8	60	9	10	CC.. 0602	£ 52.74	008	£ 52.74	008
SCLC R/L 1010 E06	10	10	70	9	12	CC.. 0602	£ 55.93	010	£ 55.93	010
SCLC R/L 1212 F09	12	12	80	15	16	CC.. 09T3	£ 55.93	012	£ 55.93	012
SCLC R/L 1616 H09	16	16	100	17	20	CC.. 09T3	£ 69.27	016	£ 69.27	016
SCLC R/L 2020 K09	20	20	125	17	25	CC.. 09T3	£ 73.63	020	£ 73.63	020

Y7	2A	2A	2A	2A
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				
9.52 110		2.19 112		
70 652 010 / 70 653 010		2.19 112		
9.52 110				
70 652 012 / 70 653 012		2.71 113		
11.34 113				
70 652 016 / 70 653 016	7.17 398	2.71 113	8.37 165	4.03 171
70 652 020 / 70 653 020	7.17 398	2.71 113	8.37 165	4.03 171

Spare parts for Article no.

# 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 <sub>1</sub> OAL mm	f WF mm	Insert	Left-hand NEW X0		Right-hand NEW X0	
						Article no. 72 353 ...	Article no. 72 352 ...	Article no. 72 353 ...	Article no. 72 352 ...
SCLC R/L 0808 H06	8	8	100	8	CC.. 0602	£ 127.88	008	£ 127.88	008
SCLC R/L 1010 H06	10	10	100	10	CC.. 0602	£ 165.84	010	£ 165.84	010
SCLC R/L 1212 H09	12	12	100	12	CC.. 09T3	£ 184.40	012	£ 184.40	012

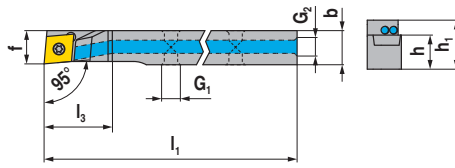
Spare parts for Article no.

Article no.	Y7	2A
72 352 008 / 72 353 008	T08	M2,5x6
72 352 010 / 72 353 010	T08	M2,5x6
72 352 012 / 72 353 012	T15	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 <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	h <sub>1</sub> OAH mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
										NEW	X0	NEW	X0
SCLC R/L 0808 H06 IC	8	8	100	16	8	11.5	M5	M5	CC.. 0602	Article no. 72 351 ...	008	Article no. 72 350 ...	008
SCLC R/L 1010 H06 IC	10	10	100	16	10	13.5	M5	M5	CC.. 0602	£ 382.80	010	£ 382.80	010
SCLC R/L 1212 H09 IC	12	12	100	19	12	15.5	M5	M5	CC.. 09T3	£ 320.10	012	£ 320.10	012
SCLC R/L 1616 K09 IC	16	16	125	19	16	19.5	M5	M5	CC.. 09T3	£ 359.70	016	£ 359.70	016
										£ 348.15		£ 348.15	

Spare parts for Article no.

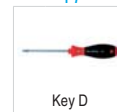
Article no.	£	QTY	Part	Article no.	£	QTY	Part	Article no.	£	QTY
72 350 008 / 72 351 008	7.59	011	M5x4	80 950 ...	9.52	110	T08	70 950 ...	2.19	112
72 350 010 / 72 351 010	7.59	011	M5x4	80 950 ...	9.52	110	T08	70 950 ...	2.19	112
72 350 012 / 72 351 012	7.59	011	M5x4	80 950 ...	11.34	113	T15	70 950 ...	2.71	113
72 350 016 / 72 351 016	7.59	011	M5x4	80 950 ...	11.34	113	T15	70 950 ...	2.71	113

X0



Cylindrical screw

Y7



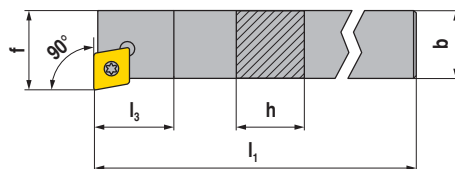
Key D

2A



Clamping screw

# IsoClamp - SCFC 90° - Toolholder with screw clamping



Illustrations show right-hand versions

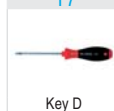


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							2A	Article no. 70 761 ...	2A	Article no. 70 760 ...
SCFC R/L 0808 D06	8	8	60	10	10	CC.. 0602	£ 52.74	008	£ 52.74	008
SCFC R/L 1010 E06	10	10	70	10	12	CC.. 0602	£ 55.93	010	£ 55.93	010
SCFC R/L 1212 F09	12	12	80	13	16	CC.. 09T3	£ 55.93	012	£ 55.93	012
SCFC R/L 1616 H09	16	16	100	13	20	CC.. 09T3	£ 69.27	016	£ 69.27	016

Spare parts for Article no.

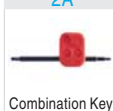
Article no.	£	QTY	Part	Article no.	£	QTY	Part	Article no.	£	QTY
70 760 008 / 70 761 008	9.52	110	M5x4	70 950 ...	2.19	112	T08	70 950 ...	2.19	112
70 760 010 / 70 761 010	9.52	110	M5x4	70 950 ...	2.19	112	T08	70 950 ...	2.19	112
70 760 012 / 70 761 012	11.34	113	M5x4	70 950 ...	2.71	113	T15	70 950 ...	2.71	113
70 760 016 / 70 761 016	11.34	113	M5x4	70 950 ...	2.71	113	T15	70 950 ...	2.71	113

Y7



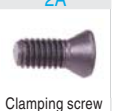
Key D

2A



Combination Key

2A



Clamping screw

2A



Carbide type C

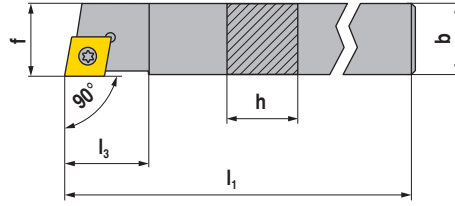
2A



Threaded sleeve

# IsoClamp - SCAC 90° - Toolholder with screw clamping

▪ for sliding head lathes



Illustrations show right-hand versions

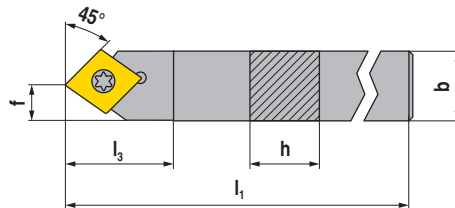


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand 2A		Right-hand 2A	
							Article no. 70 757 ...	£	Article no. 70 756 ...	£
SCAC R/L 0808 K06	8	8	125	9	8	CC.. 0602	55.93	108	55.93	108
SCAC R/L 0808 D06	8	8	60	9	8	CC.. 0602	52.74	008	52.74	008
SCAC R/L 1010 M06	10	10	150	9	10	CC.. 0602	55.93	110	55.93	110
SCAC R/L 1010 E06	10	10	70	9	10	CC.. 0602	55.93	010	55.93	010
SCAC R/L 1212 M09	12	12	150	13	12	CC.. 09T3	62.56	112	62.56	112
SCAC R/L 1212 F09	12	12	80	13	12	CC.. 09T3	55.93	012	55.93	012
SCAC R/L 1414 M09	14	14	150	13	14	CC.. 09T3	62.56	114	62.56	114
SCAC R/L 1616 H09	16	16	100	13	16	CC.. 09T3	69.27	116	69.27	116

Spare parts  
for Article no.

	Y7	2A	2A	2A	2A
	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 ...
	£	£	£	£	£
70 756 108 / 70 757 108	9.52	110	2.19	112	
70 756 008 / 70 757 008	9.52	110	2.19	112	
70 756 110 / 70 757 110	9.52	110	2.19	112	
70 756 010 / 70 757 010	9.52	110	2.19	112	
70 756 112 / 70 757 112	11.34	113	2.71	113	
70 756 012 / 70 757 012	11.34	113	2.71	113	
70 756 114 / 70 757 114	11.34	113	2.71	113	
70 756 116 / 70 757 116		7.17	398	2.71	113
				8.37	165
					4.03
					171

# IsoClamp - SCDC 45° - Toolholder with screw clamping



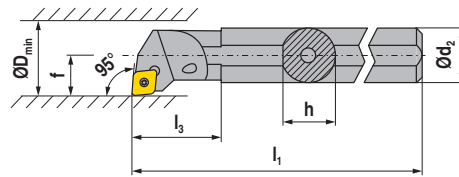
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Neutral 2A	
							Article no. 70 752 ...	£
SCDC L 0808 K06	8	8	125	13	4	CC.. 0602	55.93	008
SCDC L 1010 M06	10	10	150	13	5	CC.. 0602	55.93	010
SCDC L 1212 M09	12	12	150	18	6	CC.. 09T3	62.56	012
SCDC L 1414 M09	14	14	150	18	7	CC.. 09T3	62.56	014

Spare parts  
for Article no.

	Y7	2A		
	Key D	Clamping screw		
	Article no. 80 950 ...	Article no. 70 950 ...		
	£	£		
70 752 008	9.52	110	2.19	112
70 752 010	9.52	110	2.19	112
70 752 012	11.34	113	2.71	113
70 752 014	11.34	113	2.71	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 <sub>2</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 717 ...	£	Article no. 70 716 ...	£
S08H SCLC R/L 06	8	7.2	100		5	11	CC.. 0602	83.62	008	83.62	008
A08F SCLC R/L 06	8	7.6	80		5	11	CC.. 0602	83.62	208	83.62	208
A10H SCLC R/L 06	10	9.5	100	10	7	13	CC.. 0602	83.62	210	83.62	210
S10K SCLC R/L 06	10	9.0	125	10	7	13	CC.. 0602	83.62	010	83.62	010
A12K SCLC R/L 06	12	11.5	125	10	9	16	CC.. 0602	83.62	212	83.62	212
S12Q SCLC R/L 06	12	11.0	180	10	9	16	CC.. 0602	83.62	012	83.62	012
A16M SCLC R/L 06	16	14.0	150	50	9	18	CC.. 0602	89.02	116	89.02	116
S16R SCLC R/L 09	16	14.5	200	16	11	20	CC.. 09T3	85.43	016	85.43	016
A16M SCLC R/L 09	16	15.0	150	16	11	20	CC.. 09T3	85.43	216	85.43	216
A20Q SCLC R/L 09	20	18.5	180	16	13	25	CC.. 09T3	106.49	220	106.49	220
S20S SCLC R/L 09	20	18.0	250	16	13	25	CC.. 09T3	106.49	020	106.49	020
S25T SCLC R/L 09	25	23.0	300	16	17	32	CC.. 09T3	122.39	025	122.39	025
A25R SCLC R/L 09	25	23.0	200	16	17	32	CC.. 09T3	122.39	225	122.39	225

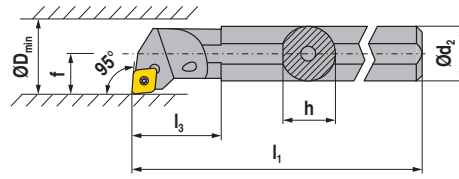


Spare parts  
for Article no.

70 716 008 / 70 717 008	Article no. 80 950 ...		Article no. 70 950 ...	
	£		£	
70 716 008 / 70 717 008	9.52	110	2.23	116
70 716 208 / 70 717 208	9.52	110	2.23	116
70 716 210 / 70 717 210	9.52	110	2.23	116
70 716 010 / 70 717 010	9.52	110	2.23	116
70 716 212 / 70 717 212	9.52	110	2.23	116
70 716 012 / 70 717 012	9.52	110	2.23	116
70 716 116 / 70 717 116	9.52	110	2.23	116
70 716 016 / 70 717 016	11.34	113	2.71	110
70 716 216 / 70 717 216	11.34	113	2.71	110
70 716 220 / 70 717 220	11.34	113	2.71	304
70 716 020 / 70 717 020	11.34	113	2.71	110
70 716 025 / 70 717 025	11.34	113	2.71	113
70 716 225 / 70 717 225	11.34	113	2.71	304

# IsoClamp - SCLC 95° - Boring bar with screw clamping

▪ Type: Solid carbide



Illustrations show right-hand versions



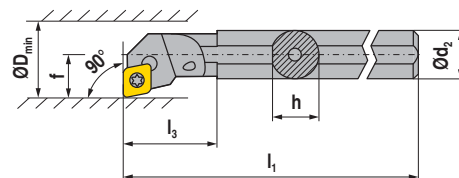
ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 719 ...	£	Article no. 70 718 ...	£
E08H SCLC R/L 06	8	7.6	100		5	11	CC.. 0602	190.11	008	190.11	008
E10K SCLC R/L 06	10	9.0	125	10	7	13	CC.. 0602	219.62	010	219.62	010
E12Q SCLC R/L 06	12	11.5	180	10	9	16	CC.. 0602	288.53	012	288.53	012
E16R SCLC R/L 09	16	15.0	200	16	11	20	CC.. 09T3	376.96	016	376.96	016
E20S SCLC R/L 09	20	18.5	250	16	13	25	CC.. 09T3	470.93	020	470.93	020
E25T SCLC R/L 09	25	23.0	300	16	17	32	CC.. 09T3	830.45	025	830.45	025

Y7		2A	
	Key D		Clamping screw
Article no. 80 950 ...	£	Article no. 70 950 ...	£
110	9.52	116	2.23
110	9.52	116	2.23
110	9.52	116	2.23
113	11.34	110	2.71
113	11.34	304	2.71
113	11.34	113	2.71

Spare parts  
for Article no.

70 718 008 / 70 719 008
70 718 010 / 70 719 010
70 718 012 / 70 719 012
70 718 016 / 70 719 016
70 718 020 / 70 719 020
70 718 025 / 70 719 025

# IsoClamp - SCFC 90° - Boring bar with screw clamping



Illustrations show right-hand versions



ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 793 ...	£	Article no. 70 792 ...	£
A08F SCFC R/L 06	8	7.6	80		5	11	CC.. 0602	83.62	208	83.62	208
A10H SCFC R/L 06	10	9.5	100	9	7	13	CC.. 0602	83.62	210	83.62	210
A12K SCFC R/L 06	12	11.5	125	14	9	16	CC.. 0602	83.62	212	83.62	212

Y7		2A	
	Key D		Clamping screw
Article no. 80 950 ...	£	Article no. 70 950 ...	£
110	9.52	116	2.23
110	9.52	116	2.23
110	9.52	116	2.23

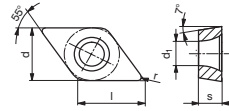
Spare parts  
for Article no.

70 792 208 / 70 793 208
70 792 210 / 70 793 210
70 792 212 / 70 793 212

T08	110	9.52	M2,5x5	116	2.23
T08	110	9.52	M2,5x5	116	2.23
T08	110	9.52	M2,5x5	116	2.23

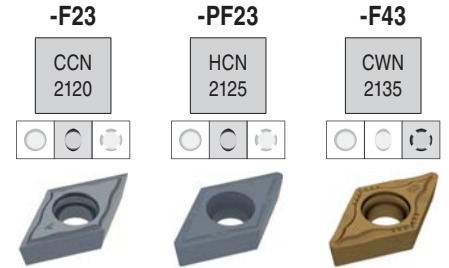
# DCGT / DCMT / DCXT

Designation	l DC mm	s S mm	d <sub>1</sub> 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

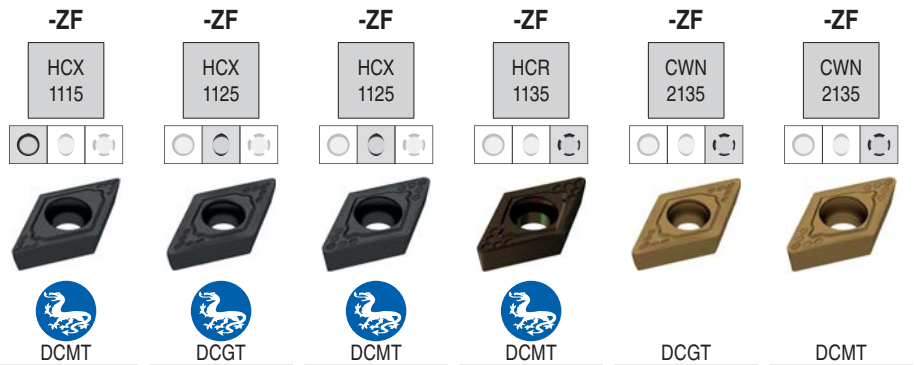
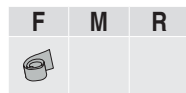
F	M	R



ISO	r RE mm	DCGT 1A		DCMT 1A		DCMT 1A	
		Article no. 70 192 ...	£	Article no. 75 213 ...	£	Article no. 70 186 ...	£
070200FN	0.0						
070201FN	0.1						
070202EN	0.2			6.53	202	6.33	400
070204EN	0.4			6.53	204	6.33	402
11T300FN	0.0						
11T301FN	0.1						
11T302EN	0.2			9.16	214	9.16	404
11T304EN	0.4			9.18	216	9.16	406
11T308EN	0.8			9.18	218	9.16	408

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

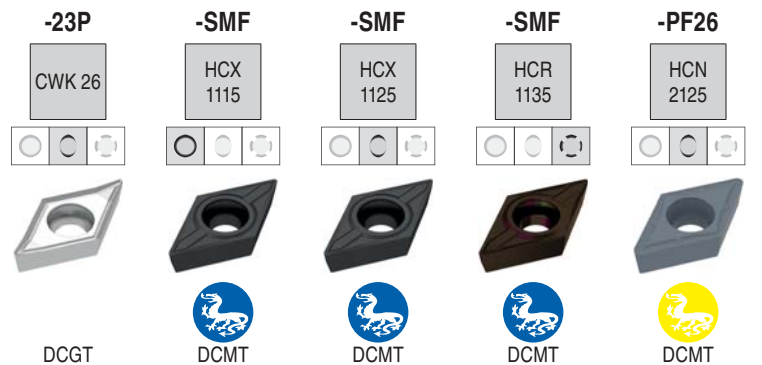
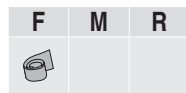
# DCMT / DCGT



ISO	r RE mm	-ZF DCMT 1A		-ZF DCGT 1A		-ZF DCMT 1A		-ZF DCMT 1A		-ZF DCGT 1A		-ZF DCMT 1A	
		Article no. 76 259 ...	£	Article no. 76 257 ...	£	Article no. 76 259 ...	£	Article no. 76 259 ...	£	Article no. 70 257 ...	£	Article no. 70 259 ...	£
070202EN	0.2			11.64	502					11.64	440		
070204EN	0.4	6.53	304			6.53	504	6.53	704			6.33	440
11T304EN	0.4	9.18	316			9.18	516	9.18	716			9.16	444
11T308EN	0.8	9.18	318			9.18	518	9.18	718			9.16	446

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

# DCGT / DCMT



ISO	r RE mm	-23P DCGT 1A		-SMF DCMT 1A		-SMF DCMT 1A		-SMF DCMT 1A		-PF26 DCMT 1A	
		Article no. 70 261 ...	£	Article no. 76 265 ...	£	Article no. 76 265 ...	£	Article no. 76 265 ...	£	Article no. 75 214 ...	£
070204EN	0.4					6.53	504	6.53	704	6.53	204
070204FN	0.4	8.25	654								
070208EN	0.8							6.53	706	6.53	206
11T304EN	0.4			9.18	316	9.18	516	9.18	716	9.18	216
11T304FN	0.4	10.24	664								
11T308EN	0.8			9.18	318	9.18	518	9.18	718	9.18	218
11T308FN	0.8	10.24	666								

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

# DCGT / DCMT

		-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	
ISO	r RE mm	NEW X1 Article no. 72 400 ...	£	NEW X1 Article no. 72 400 ...	£	NEW X1 Article no. 72 400 ...	£	1A Article no. 76 195 ...	£	1A Article no. 76 195 ...	£	1A Article no. 70 263 ...	£	1A Article no. 70 263 ...	£
0702006FN	0.06	17.82	006	22.28	706	22.02	506								
0702015FN	0.15	17.33	015	21.95	715	22.02	515								
070202FN	0.2											8.25	632	9.87	552
0702035FN	0.35	17.33	035	21.95	735	22.02	535								
070204EN	0.4							7.44	304	7.44	504				
070204FN	0.4											8.25	634	9.87	554
11T3008FN	0.08	20.30	038	25.58	738	25.26	538								
11T3015FN	0.15	20.30	045	25.58	745										
11T302FN	0.2											10.24	635	11.93	535
11T3035FN	0.35	20.30	065	25.58	765	25.26	565								
11T304EL	0.4									10.24	516				
11T304EN	0.4									10.24	515				
11T304ER	0.4									10.24	517				
11T304FN	0.4											10.24	636	11.93	556
11T308EN	0.8									10.24	518				
11T308FN	0.8											10.24	638	11.93	558
Steel			●		●		●		●		●		○		○
Stainless steel				○	●		○		○		○				○
Cast iron				●	●		○		○		○		○		○
Non ferrous metals			●	●	●		●		●		●		●		●
Heat resistant alloys			●	●	○		○		○		○		○		○

# DCGT

		F	M	R			-25Q		-25Q	
							CWK 20		AMZ	
		DCGT		DCGT		DCGT		DCGT		
ISO	r RE mm	1A Article no. 70 263 ...	£	1A Article no. 70 263 ...	£	1A Article no. 70 263 ...	£	1A Article no. 70 263 ...	£	
11T304FL	0.4	11.19	670	15.30	620					
11T304FN	0.4	11.19	660	15.30	610					
11T304FR	0.4	11.19	680	15.30	630					
11T308FL	0.8	11.19	672	15.30	622					
11T308FN	0.8	11.19	662	15.30	612					
11T308FR	0.8	11.19	682	15.30	642					
Steel									○	
Stainless steel									○	
Cast iron								○	○	
Non ferrous metals								●	●	
Heat resistant alloys								○	○	



# DCMT / DCGT

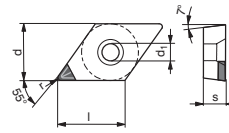
		F	M	R	-ZM		-ZM		-ZM		-ZM		-ZM		-ZM	
					HCX 1115		HCX 1125		HCX 1125		HCR 1135		HCR 1135		CWN 2135	
					DCMT 1A		DCGT 1A		DCMT 1A		DCGT 1A		DCMT 1A		DCMT 1A	
ISO	r RE mm	Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		
		76 258 ...		76 256 ...		76 258 ...		76 256 ...		76 258 ...		76 258 ...		70 258 ...		
		£		£		£		£		£		£		£		
070202EN	0.2			11.64	502			11.64	702			6.53	704	6.33	440	
070204EN	0.4	6.53	304			6.53	504			6.53	706			6.33	442	
070208EN	0.8	6.53	306			6.53	506			6.53	706			6.33	442	
11T304EN	0.4	9.18	316			9.18	516			9.18	716			9.16	444	
11T308EN	0.8	9.18	318			9.18	518			9.18	718			9.16	448	
11T312EN	1.2					9.18	520									
Steel		●		●		●		●		●		●		○		
Stainless steel		○		○		○		○		○		○		●		
Cast iron		○		○		○		○		○		○				
Non ferrous metals																
Heat resistant alloys										○		○		●		

# DCGT / DCXT

		F	M	R	-AL		-AL		-AL		-M81	
					CWK 15		CWN 15		AMZ		CWN 2120	
					DCGT 1A		DCGT 1A		DCGT 1A		DCXT 1A	
ISO	r RE mm	Article no.		Article no.		Article no.		Article no.		Article no.		
		70 260 ...		70 260 ...		70 260 ...		70 260 ...		70 260 ...		
		£		£		£		£		£		
070202FN	0.2	7.80	600	10.72	300	9.49	450	8.27	100			
070204FN	0.4	7.80	602	10.72	302	9.49	452	8.27	102			
11T302FN	0.2	9.77	604	12.66	304	11.47	454	8.60	104			
11T304FN	0.4	9.77	606	12.66	306	11.47	456	8.60	106			
11T308FN	0.8	9.77	608	12.66	308	11.47	458	8.60	108			
Steel										○		
Stainless steel						○		○		●		
Cast iron				○				○				
Non ferrous metals		●		●		●		●		○		
Heat resistant alloys				○								

# DCGT

Designation	l DC mm	s S mm	d <sub>1</sub> 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 Y0	DIAMOND DCGT Y0	DIAMOND DCGT Y0
Article no. 71 310 ...	Article no. 71 310 ...	Article no. 71 310 ...
£	£	£
85.17 102	85.17 202	105.41 302
85.17 104	85.17 204	105.41 304
93.81 108		
87.01 112	87.01 212	
87.01 114	87.01 214	107.01 314
100.80 118	100.80 218	119.93 318

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

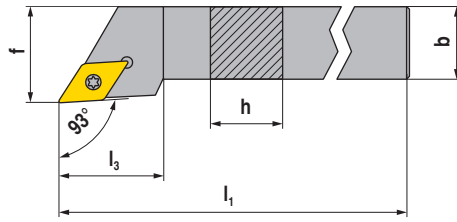
F	M	R

-CB2	-CB2
PDC-S	CVD
DIAMOND DCGT Y0	DIAMOND DCGT Y0
Article no. 71 311 ...	Article no. 71 311 ...
£	£
85.17 202	
85.17 204	105.41 304
93.81 208	113.72 308
91.73 212	
91.73 214	107.01 314
100.80 218	119.93 318

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 H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand 2A		Right-hand 2A	
							Article no. 70 685 ...	£	Article no. 70 684 ...	£
SDJC R/L 0808 D07	8	8	60	13.0	10	DC.. 0702	52.74	008	52.74	008
SDJC R/L 1010 E07	10	10	70	13.0	12	DC.. 0702	55.93	010	55.93	010
SDJC R/L 1212 F07	12	12	80	14.5	16	DC.. 0702	55.93	012	55.93	012
SDJC R/L 1616 H11	16	16	100	20.0	20	DC.. 11T3	69.27	016	69.27	016
SDJC R/L 2020 K11	20	20	125	20.5	25	DC.. 11T3	73.63	020	73.63	020
SDJC R/L 2525 M11	25	25	150	21.5	32	DC.. 11T3	76.18	025	76.18	025

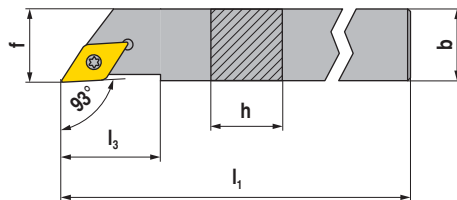
Y7	2A	2A	2A	2A
Key D	Combination Key	Clamping screw	Solid Carbide Seat D	Threaded sleeve
Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
£ 9.52 110	£ 7.17 398	£ 2.19 112	£ 6.48 106	£ 4.03 171

Spare parts  
Insert

DC.. 0702	9.52	110
DC.. 11T3	7.17	398

# IsoClamp - SDJC 93° - Toolholder with screw clamping

▪ for sliding head lathes



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand X0		Right-hand X0	
							Article no. 70 685 ...	£	Article no. 70 684 ...	£
SDJC R/L 0808 H07	8	8	100	13.0	8	DC.. 0702	93.67	108	93.67	108
SDJC R/L 1010 H07	10	10	100	13.0	10	DC.. 0702	93.67	110	93.67	110
SDJC R/L 1212 H07	12	12	100	14.5	12	DC.. 0702	104.79	112	104.79	112
SDJC R/L 1616 K07	16	16	125	33.0	16	DC.. 0702	116.18	116	116.18	116
SDJC R/L 1212 H11	12	12	100	22.0	12	DC.. 11T3	104.79	212	104.79	212
SDJC R/L 1616 K11	16	16	125	33.0	16	DC.. 11T3	116.18	216	116.18	216
SDJC R/L 2020 K11	20	20	125		20	DC.. 11T3	224.70	220	224.70	220

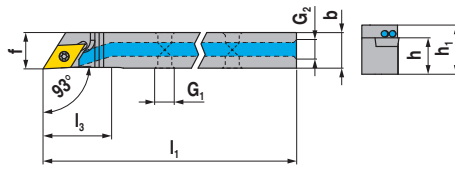
Spare parts  
Insert

DC.. 0702	9.52	110	T08	4.32	002
DC.. 11T3	11.34	113	T15	4.32	006

Y7	2A
Key D	Clamping screw
Article no. 80 950 ...	Article no. 72 950 ...
£ 9.52 110	£ 4.32 002
£ 11.34 113	£ 4.32 006

# IsoClamp - SDJC 93° - Tool holder with thro' coolant

for sliding head lathes



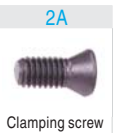
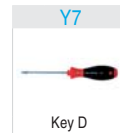
Illustrations show right-hand versions



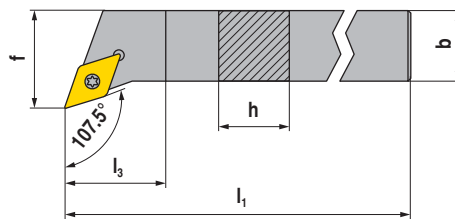
ISO designation	h mm	b mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	h <sub>1</sub> OAH mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
										NEW	X0	NEW	X0
SDJC L 0808 H07 IC	8	8	100	17	8	11.5	M5	M5	DC.. 0702	382.80	008		
SDJC R/L 1010 H07 IC	10	10	100	17	10	13.5	M5	M5	DC.. 0702	320.10	010	320.10	010
SDJC R/L 1212 H07 IC	12	12	100	17	12	15.5	M5	M5	DC.. 0702	359.70	012	359.70	012
SDJC R/L 1616 K07 IC	16	16	125	17	16	15.5	M5	G1/8"	DC.. 0702	348.15	016	348.15	016
SDJC R/L 1010 H11 IC	10	10	100	22	10	13.5	M5	M5	DC.. 11T3	396.00	110	396.00	110
SDJC R/L 1212 H11 IC	12	12	100	22	12	15.5	M5	M5	DC.. 11T3	359.70	112	359.70	112
SDJC R/L 1616 K11 IC	16	16	125	22	16	19.5	M5	G1/8"	DC.. 11T3	348.15	116	348.15	116
SDJC R/L 2020 K11 IC	20	20	125	22	20	23.5	M5	G1/8"	DC.. 11T3	346.50	120	346.50	120

Spare parts  
for Article no.

Article no.	£	Article no.	£	Article no.	£	Article no.	£
72 357 008		M5x4	7.59	011	T08	9.52	110
72 356 010 / 72 357 010		M5x4	7.59	011	T08	9.52	110
72 356 012 / 72 357 012		M5x4	7.59	011	T08	9.52	110
72 356 016 / 72 357 016	24.09	G1/8"	7.59	011	T08	9.52	110
72 356 110 / 72 357 110		M5x4	7.59	011	T15	11.34	113
72 356 112 / 72 357 112		M5x4	7.59	011	T15	11.34	113
72 356 116 / 72 357 116	24.09	G1/8"	7.59	011	T15	11.34	113
72 356 120 / 72 357 120	24.09	G1/8"	7.59	011	T15	11.34	113



# IsoClamp - SDHC 107.5° - Toolholder with screw clamping



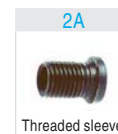
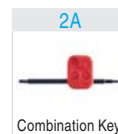
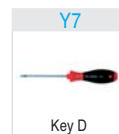
Illustrations show right-hand versions



ISO designation	h mm	b mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							2A	Article no.	2A	Article no.
SDHC R/L 1010 E07	10	10	70	5.5	12	DC.. 0702	70 689 ...		70 688 ...	
SDHC R/L 1212 F07	12	12	80	12.0	16	DC.. 0702	55.93	010	55.93	010
SDHC R/L 1616 H11	16	16	100	10.4	20	DC.. 11T3	55.93	012	55.93	012
SDHC R/L 2020 K11	20	20	125	14.0	32	DC.. 11T3	69.27	016	69.27	016
SDHC R/L 2525 M11	25	25	150	20.0	32	DC.. 11T3	73.63	020	73.63	020
							76.18	025	76.18	025

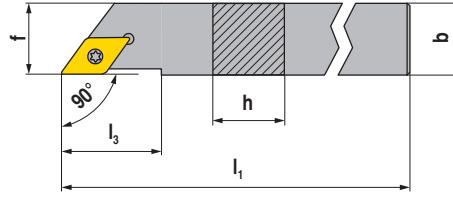
Spare parts  
for Article no.

Article no.	£	Article no.	£	Article no.	£	Article no.	£	Article no.	£
70 688 010 / 70 689 010	9.52	110		2.19	112				
70 688 012 / 70 689 012	9.52	110		2.19	112				
70 688 016 / 70 689 016			7.17	398	2.71	113	6.48	106	4.03
70 688 020 / 70 689 020			7.17	398	2.71	113	6.48	106	4.03
70 688 025 / 70 689 025			7.17	398	2.71	113	6.48	106	4.03



# IsoClamp - SDAC 90° - Toolholder with screw clamping

▪ for sliding head lathes



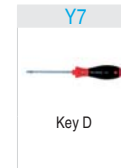
Illustrations show right-hand versions



ISO designation	h	b	l <sub>1</sub>	l <sub>3</sub>	f	Insert	Left-hand 2A		Right-hand 2A	
	H mm	B mm	OAL mm	LH mm	WF mm		Article no. 70 789 ...	£	Article no. 70 788 ...	£
SDAC R/L 0808 K07	8	8	125	14	8	DC.. 0702	008	55.93	008	55.93
SDAC R/L 1010 M07	10	10	150	14	10	DC.. 0702	010	55.93	010	55.93
SDAC R/L 1212 M07	12	12	150	14	12	DC.. 0702	012	62.56	012	62.56
SDAC R/L 1414 M11	14	14	150	21	14	DC.. 11T3	014	62.56	014	62.56

Spare parts  
for Article no.

Article no.	£	QTY	Part	Article no.	£	QTY
70 788 008 / 70 789 008	9.52	110	T08	70 950 ...	2.19	112
70 788 010 / 70 789 010	9.52	110	T08	70 950 ...	2.19	112
70 788 012 / 70 789 012	9.52	110	T08	70 950 ...	2.19	112
70 788 014 / 70 789 014	11.34	113	T15	70 950 ...	2.71	113

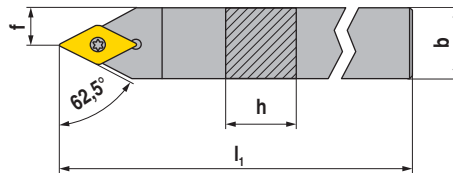


Key D



Clamping screw

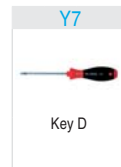
# IsoClamp - SDNC 62.5° - Toolholder with screw clamping



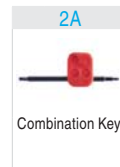
ISO designation	h	b	l <sub>1</sub>	f	Insert	Neutral 2A	
	H mm	B mm	OAL mm	WF mm		Article no. 70 680 ...	£
SDNC N 0808 D07	8	8	60	4.0	DC.. 0702	008	52.74
SDNC N 1010 E07	10	10	70	5.0	DC.. 0702	010	55.93
SDNC N 1212 F07	12	12	80	6.0	DC.. 0702	012	55.93
SDNC N 1616 H11	16	16	100	8.0	DC.. 11T3	016	69.27
SDNC N 2020 K11	20	20	125	10.0	DC.. 11T3	020	73.63
SDNC N 2525 M11	25	25	150	12.5	DC.. 11T3	025	76.18

Spare parts  
for Article no.

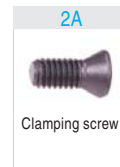
Article no.	£	QTY	Part	Article no.	£	QTY
70 680 008	9.52	110	T08	70 950 ...	2.19	112
70 680 010	9.52	110	T08	70 950 ...	2.19	112
70 680 012	9.52	110	T08	70 950 ...	2.19	112
70 680 016			T08	70 950 ...	7.17	398
70 680 020			T08	70 950 ...	7.17	398
70 680 025			T15	70 950 ...	7.17	398



Key D



Combination Key



Clamping screw

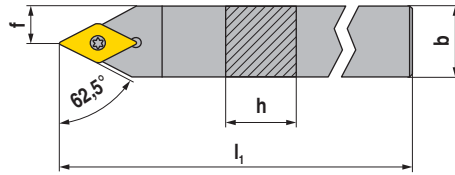


Solid Carbide Seat D

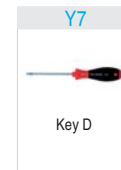


Threaded sleeve

# IsoClamp - SDNC 62.5° - Toolholder with screw clamping



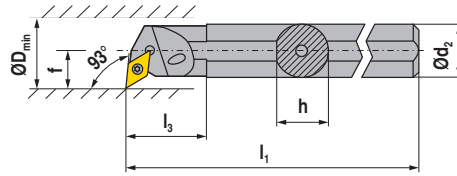
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	f WF mm	Insert	Neutral 2A	
						Article no. 70 784 ...	£
SDNC N 0808 K07	8	8	125	4	DC.. 0702	52.74	008
SDNC N 1010 M07	10	10	150	5	DC.. 0702	55.93	010
SDNC N 1212 M07	12	12	150	6	DC.. 0702	62.56	012
SDNC N 1414 M11	14	14	150	7	DC.. 11T3	62.56	014



Spare parts for Article no.	Article no. 80 950 ...		Article no. 70 950 ...	
	£		£	
70 784 008	9.52	110	2.19	112
70 784 010	9.52	110	2.19	112
70 784 012	9.52	110	2.19	112
70 784 014	11.34	113	2.71	113

# IsoClamp - SDUC 93° - Boring bar with screw clamping

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



Illustrations show right-hand versions



ISO designation	d <sub>2</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 737 ...	£	Article no. 70 736 ...	£
S12Q SDUC R/L 07	12	11.0	180	12.5	9	17	DC.. 0702	83.62	012	83.62	012
A12K SDUC R/L 07	12	11.5	125	12.5	9	16	DC.. 0702	83.62	212	83.62	212
S16R SDUC R/L 07	16	15.0	200	16.5	11	21	DC.. 0702	85.43	016	85.43	016
A16M SDUC R/L 07	16	15.0	150	16.5	11	20	DC.. 0702	85.43	216	85.43	216
S20S SDUC R 07	20	18.0	250	20.5	13	25	DC.. 0702			106.49	020
A20Q SDUC R/L 07	20	18.5	180	20.5	13	25	DC.. 0702	106.49	220	106.49	220
S20S SDUC R 11	20	18.0	250	21.0	13	25	DC.. 11T3			106.49	120
A20Q SDUC R/L 11	20	18.5	180	21.0	13	25	DC.. 11T3	106.49	320	106.49	320



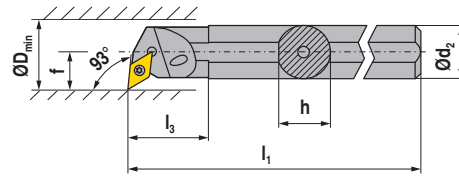
**Spare parts  
for Article no.**

Spare parts for Article no.	Y7		2A	
	Article no. 80 950 ...	£	Article no. 70 950 ...	£
70 736 012 / 70 737 012	80 950 110	9.52	70 950 112	2.19
70 736 212 / 70 737 212	80 950 110	9.52	70 950 112	2.19
70 736 016 / 70 737 016	80 950 110	9.52	70 950 112	2.19
70 736 216 / 70 737 216	80 950 110	9.52	70 950 112	2.19
70 736 020	80 950 110	9.52	70 950 112	2.19
70 736 220 / 70 737 220	80 950 110	9.52	70 950 112	2.19
70 736 120	80 950 113	11.34	70 950 110	2.71
70 736 320 / 70 737 320	80 950 113	11.34	70 950 110	2.71



# IsoClamp - SDUC 93° - Boring bar with screw clamping

▪ Type: Solid carbide



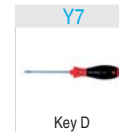
Illustrations show right-hand versions



ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 739 ...	£	Article no. 70 738 ...	£
E12Q SDUC R/L 07	12	11.5	180	12.5	9	16	DC.. 0702	288.53	012	288.53	012
E16R SDUC R/L 07	16	15.0	200	16.5	11	20	DC.. 0702	376.96	016	376.96	016
E20S SDUC R/L 11	20	18.5	250	16.0	13	25	DC.. 11T3	470.93	120	470.93	120
E25T SDUC R/L 11	25	23.0	300	26.0	17	32	DC.. 11T3	830.45	125	830.45	125

Spare parts  
for Article no.

Article no.	£	QTY	Part	Article no.	£	QTY
70 738 012 / 70 739 012	9.52	110	T08	70 950 ...	2.19	112
70 738 016 / 70 739 016	9.52	110	T08	70 950 ...	2.19	112
70 738 120 / 70 739 120	11.34	113	T15	70 950 ...	2.71	304
70 738 125 / 70 739 125	11.34	113	T15	70 950 ...	2.71	113



Key D

Article no.  
80 950 ...

£

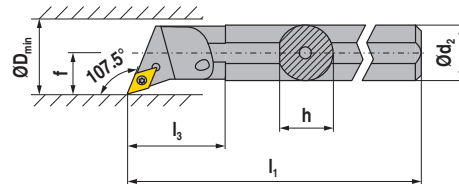


Clamping screw

Article no.  
70 950 ...

£

# IsoClamp - SDQC 107.5° - Boring bar with screw clamping



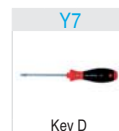
Illustrations show right-hand versions



ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 741 ...	£	Article no. 70 740 ...	£
A10H SDQC R/L 07	10	9.0	100	22.0	7	12.5	DC.. 0702	87.13	210	87.13	210
A12K SDQC R/L 07	12	11.5	125	12.5	9	16.0	DC.. 0702	83.62	212	83.62	212
A16M SDQC R/L 07	16	15.0	150	16.5	11	20.0	DC.. 0702	85.43	216	85.43	216
A20Q SDQC R/L 07	20	18.5	180	20.5	13	25.0	DC.. 0702	106.49	220	106.49	220
A25R SDQC R/L 11	25	23.0	200	26.5	17	32.0	DC.. 11T3	122.39	225	122.39	225

Spare parts  
for Article no.

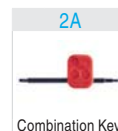
Article no.	£	QTY	Part	Article no.	£	QTY
70 740 210 / 70 741 210	9.52	110	T08	70 950 ...	2.19	112
70 740 212 / 70 741 212	9.52	110	T08	70 950 ...	2.19	112
70 740 216 / 70 741 216	9.52	110	T08	70 950 ...	2.19	112
70 740 220 / 70 741 220	9.52	110	T08	70 950 ...	2.19	112
70 740 225 / 70 741 225	9.52	110	T08	70 950 ...	2.19	112
				70 950 ...	7.17	398
				70 950 ...	2.71	113
				70 950 ...	6.48	106
				70 950 ...	4.03	171



Key D

Article no.  
80 950 ...

£



Combination Key

Article no.  
70 950 ...

£



Clamping screw

Article no.  
70 950 ...

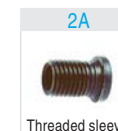
£



Solid Carbide  
Seat D

Article no.  
70 950 ...

£

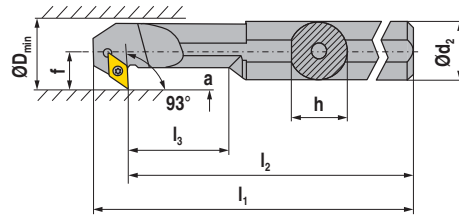


Threaded sleeve

Article no.  
70 950 ...

£

# IsoClamp - SDXC 93° - Boring bar with screw clamping

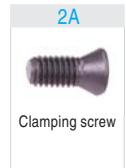
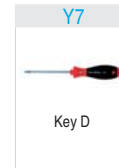


Illustrations show right-hand versions



**ISO designation**

ISO designation	d <sub>2</sub> DCONMS mm	h H mm	l <sub>2</sub> LF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	a mm	Insert	Left-hand 2A		Right-hand 2A	
										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	83.62	212	83.62	212
A16M SDXC R/L 07	16	15.0	150	162.0	32	11	20	4.5	DC.. 0702	85.43	216	85.43	216
A20Q SDXC R/L 11	20	18.5	180	196.5	40	13	25	6.5	DC.. 11T3	106.49	220	106.49	220
A25R SDXC R/L 11	25	23.0	200	216.8	50	17	32	9.5	DC.. 11T3	122.39	225	122.39	225

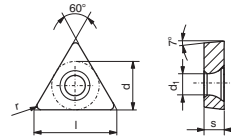


**Spare parts  
for Article no.**

Spare parts for Article no.	Article no. 80 950 ...	£	Article no. 70 950 ...	£
70 732 212 / 70 733 212	T08	9.52 110	M2,5x6	2.19 112
70 732 216 / 70 733 216	T08	9.52 110	M2,5x6	2.19 112
70 732 220 / 70 733 220	T15	11.34 113	M3,5x8,6	2.71 304
70 732 225 / 70 733 225	T15	11.34 113	M3,5x8,6	2.71 304

# TCMT / TCGT

Designation	l DC mm	s S mm	d <sub>1</sub> 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		-PF23	-F43	-ZF	-SMF	-SMF	-PF26
						HCN 2125	CWN 2135	HCX 1125	HCX 1115	HCR 1135	HCN 2125

# TCGT

F	M	R

-AL	-AL
CWN 15	CWK 15
TCGT 1A	TCGT 1A
Article no. 70 276 ...	Article no. 70 276 ...
£ 12.09	£ 9.16
300	600
12.09 302	9.16 602

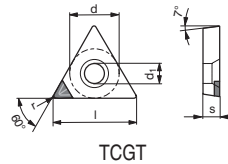
ISO	r RE mm	£		£	
110202FN	0.2	12.09	300	9.16	600
110204FN	0.4	12.09	302	9.16	602

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

3

# TCGT

Designation	l	s	d <sub>1</sub>	d
	DC mm	S mm	D1 mm	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  
TCGT  
Y0

Article no.  
71 325 ...

£	
81.67	112
81.67	114
85.17	122
85.17	124

ISO	r RE mm
090202	0.2
090204	0.4
110202	0.2
110204	0.4

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

# TCGT

F	M	R

-CB2

PDC-S



DIAMOND  
TCGT  
Y0

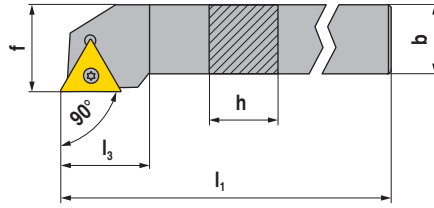
Article no.  
71 326 ...

£	
81.67	212
81.67	214
85.17	222
85.17	224

ISO	r RE mm
090202	0.2
090204	0.4
110202	0.2
110204	0.4

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	b	l <sub>1</sub>	l <sub>3</sub>	f	Insert	Left-hand		Right-hand	
	H	B	OAL	LH	WF		2A		2A	
	mm	mm	mm	mm	mm		Article no.	Article no.	Article no.	Article no.
STGC R/L 1010 E09	10	10	70	12	12	TC.. 0902	70 677 ...	70 676 ...	70 677 ...	70 676 ...
STGC R/L 1212 F11	12	12	80	15	16	TC.. 1102	£ 55.93	£ 55.93	010	010
							£ 55.93	£ 55.93	012	012

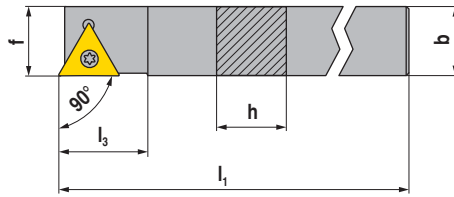
**Spare parts for Article no.**

70 676 012 / 70 677 012

Y7		2A	
Key D		Clamping screw	
Article no. 80 950 ...		Article no. 70 950 ...	
£		£	
T08	9.52 110	M2,5x6	2.19 112

# IsoClamp - STAC 90° - Toolholder with screw clamping

▪ for sliding head lathes



Illustrations show right-hand versions



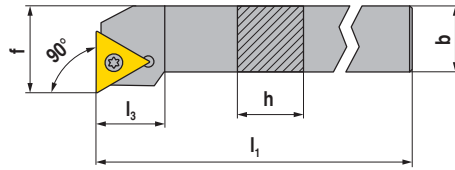
ISO designation	h	b	l <sub>1</sub>	l <sub>3</sub>	f	Insert	Left-hand		Right-hand	
	H	B	OAL	LH	WF		2A		2A	
	mm	mm	mm	mm	mm		Article no.	Article no.	Article no.	Article no.
STAC R/L 1010 K09	10	10	125	12	10	TC.. 0902	70 769 ...	70 768 ...	70 769 ...	70 768 ...
STAC R/L 1212 K11	12	12	125	15	12	TC.. 1102	£ 55.93	£ 55.93	010	010
STAC R 1414 K11	14	14	125	15	14	TC.. 1102	£ 62.56	£ 62.56	012	012
							£ 62.56	£ 62.56	014	014

**Spare parts for Article no.**

70 768 012 / 70 769 012  
70 768 014

Y7		2A	
Key D		Clamping screw	
Article no. 80 950 ...		Article no. 70 950 ...	
£		£	
T08	9.52 110	M2,5x6	2.19 112
T08	9.52 110	M2,5x6	2.19 112

# IsoClamp - STFC 90° - Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert
STFC R/L 1212 F11	12	12	80	15	16	TC.. 1102

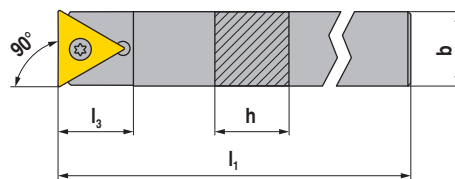
Left-hand 2A	Right-hand 2A
Article no. 70 673 ...	Article no. 70 672 ...
£ 55.93	£ 55.93
012	012

Spare parts  
for Article no.

70 672 012 / 70 673 012

Y7	2A
Key D	Clamping screw
Article no. 80 950 ...	Article no. 70 950 ...
£ 9.52	£ 2.19
110	112

# IsoClamp - STCC 90° - Toolholder with screw clamping



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	Insert
STCC N 0808 K09	8	8	125	11	TC.. 0902
STCC N 1010 K11	10	10	125	15	TC.. 1102
STCC N 1212 K11	12	12	125	15	TC.. 1102
STCC N 1414 K11	14	14	125	21	TC.. 1102
STCC N 1616 K11	16	16	125	24	TC.. 1102

Neutral 2A
Article no. 70 782 ...
£ 52.74
008
£ 55.93
010
£ 62.56
012
£ 62.56
014
£ 69.27
016

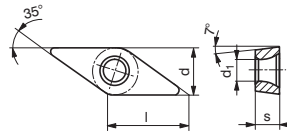
Spare parts  
for Article no.

70 782 010  
70 782 012  
70 782 014  
70 782 016

Y7	2A
Key D	Clamping screw
Article no. 80 950 ...	Article no. 70 950 ...
£ 9.52	£ 2.19
110	112
T08	M2,5x6
£ 9.52	£ 2.19
110	112
T08	M2,5x6
£ 9.52	£ 2.19
110	112
T08	M2,5x6
£ 9.52	£ 2.19
110	112
T08	M2,5x6

# VCGT / VCMT

Designation	l DC mm	s S mm	d <sub>1</sub> 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	HGX 1115	HGX 1125	HCR 1135	CWN 2135
		VCGT 1A	VCGT 1A	VCGT 1A	VCGT 1A	VCGT 1A
		Article no. 70 193 ...	Article no. 76 277 ...	Article no. 76 277 ...	Article no. 76 277 ...	Article no. 70 277 ...
		£	£	£	£	£
ISO	r RE mm					
110300FN	0.0	13.43 600				
110301FN	0.1	13.43 602				
110302EN	0.2		13.43 314	13.43 514	13.43 714	13.43 444
110304EN	0.4		13.43 316	13.43 516	13.43 716	13.43 446
110308EN	0.8		13.43 318	13.43 518	13.43 718	
Steel		●	●	●	●	○
Stainless steel		○	○	○	○	●
Cast iron		○	○	○	○	○
Non ferrous metals		○				
Heat resistant alloys		●			○	●

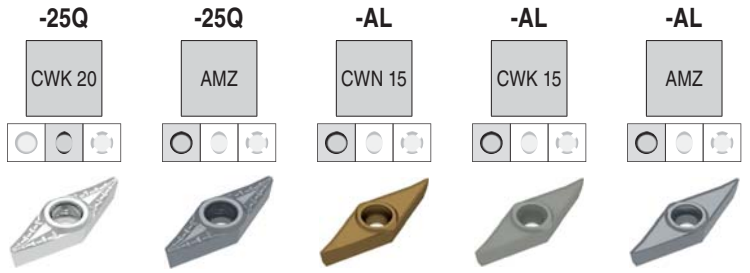
## VCMT / VCGT

F	M	R

		-SMF	-SMF	-SMF	-SMF	-25P	-25P
		HGX 1115	HGX 1125	HCR 1135	HCR 1135	CWK 20	AMZ
		VCMT 1A	VCMT 1A	VCGT 1A	VCMT 1A	VCGT 1A	VCGT 1A
		Article no. 76 288 ...	Article no. 76 288 ...	Article no. 76 285 ...	Article no. 76 288 ...	Article no. 70 282 ...	Article no. 70 282 ...
		£	£	£	£	£	£
ISO	r RE mm						
110302EN	0.2			13.43 714			
110302FN	0.2					12.68 638	14.56 538
110304EN	0.4	11.56 316	11.56 516		11.56 716		
110304FN	0.4					12.68 640	14.56 540
Steel		●	●	●	●	○	○
Stainless steel		○	○	○	○	○	○
Cast iron		○	○			○	○
Non ferrous metals						●	●
Heat resistant alloys				○	○	○	



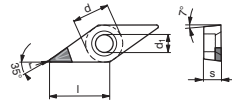
# VCGT



ISO	r RE mm	VCGT 1A Article no. 70 282 ...		VCGT 1A Article no. 70 282 ...		VCGT 1A Article no. 70 280 ...		VCGT 1A Article no. 70 280 ...		VCGT 1A Article no. 70 280 ...	
		£		£		£		£		£	
110302FN	0.2					15.30	306	12.12	606	14.19	456
110304FL	0.4	14.10	670	18.42	620						
110304FN	0.4					15.30	308	12.12	608	14.19	458
110304FR	0.4	14.10	680	18.42	630						
110308FN	0.8					15.30	310	12.12	610		
Steel											
Stainless steel											
Cast iron											
Non ferrous metals											
Heat resistant alloys											

# VCGT

Designation	l	s	d <sub>1</sub>	d
	DC mm	S mm	D1 mm	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

-CB1	-CB1	-CB1
PDC	PDC-S	CVD
DIAMOND VCGT Y0	DIAMOND VCGT Y0	DIAMOND VCGT Y0
Article no. 71 330 ...	Article no. 71 330 ...	Article no. 71 330 ...
£	£	£
113.72 102		
113.72 104		
110.35 112		132.07 312
110.35 114	110.35 214	132.07 314

ISO	r RE mm
070202	0.2
070204	0.4
110302	0.2
110304	0.4

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

# VCGT

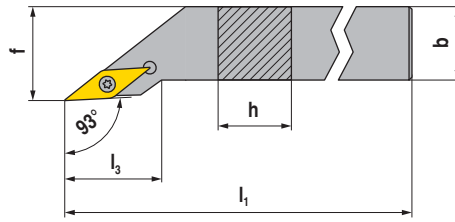
F	M	R

-CB2	-CB2
PDC-S	CVD
DIAMOND VCGT Y0	DIAMOND VCGT Y0
Article no. 71 331 ...	Article no. 71 331 ...
£	£
107.01 212	132.07 312
110.35 214	132.07 314

ISO	r RE mm
110302	0.2
110304	0.4

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

# IsoClamp - SVJC 93° - Toolholder with screw clamping



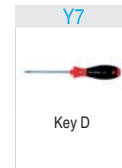
Illustrations show right-hand versions



ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand X0		Right-hand X0	
	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	102.11	008	102.11	008
SVJC R/L 1010 H11	10	10	100	10	VC.. 1103	102.11	010	102.11	010
SVJC R/L 1212 H11	12	12	100	12	VC.. 1103	114.66	112	114.66	112
SVJC R/L 1616 K11	16	16	125	16	VC.. 1103	127.33	116	127.33	116

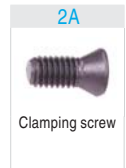
**Spare parts for Article no.**

70 696 008 / 70 697 008	T08	9.52	110	M2,5x6	2.19	112
70 696 010 / 70 697 010	T08	9.52	110	M2,5x6	2.19	112
70 696 112 / 70 697 112	T08	9.52	110	M2,5x6	2.19	112
70 696 116 / 70 697 116	T08	9.52	110	M2,5x6	2.19	112



Key D

Article no.  
80 950 ...

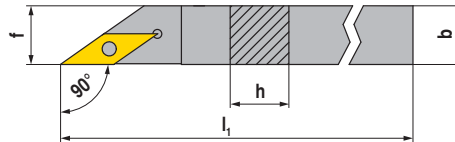


Clamping screw

Article no.  
70 950 ...

# IsoClamp - SVAC 90° - Toolholder with screw clamping

▪ for sliding head lathes



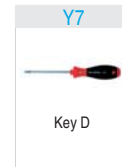
Illustrations show right-hand versions



ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand X0		Right-hand X0	
	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	102.11	008	102.11	008
SVAC R/L 1010 H11	10	10	100	10	VC.. 1103	102.11	010	102.11	010
SVAC R/L 1212 H11	12	12	100	12	VC.. 1103	114.66	012	114.66	012

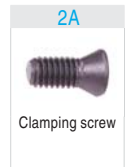
**Spare parts for Article no.**

70 694 008 / 70 695 008	T08	9.52	110	M2,5x6	2.19	112
70 694 010 / 70 695 010	T08	9.52	110	M2,5x6	2.19	112
70 694 012 / 70 695 012	T08	9.52	110	M2,5x6	2.19	112



Key D

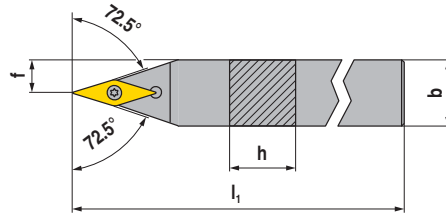
Article no.  
80 950 ...



Clamping screw

Article no.  
70 950 ...

# IsoClamp - SVVC 72.5° - Toolholder with screw clamping



ISO designation	h	b	l <sub>1</sub>	f	Insert	Neutral 2A	
	H mm	B mm	OAL mm	WF mm		Article no. 70 692 ...	£
SVVC N 1212 F11	12	12	80	6	VC.. 1103	68.64	012
SVVC N 1616 H11	16	16	100	8	VC.. 1103	76.18	016
SVVC N 2020 K11	20	20	125	10	VC.. 1103	87.34	020

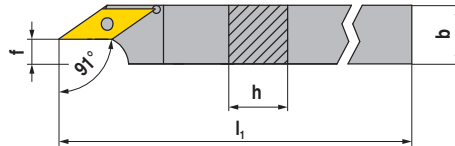
Y7		2A	
	Key D		Clamping screw
Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
£	£	£	£
9.52 110	2.19 112	2.19 112	2.19 112
9.52 110	2.19 112	2.19 112	2.19 112
9.52 110	2.19 112	2.19 112	2.19 112

**Spare parts for Article no.**

70 692 012
70 692 016
70 692 020

# IsoClamp - SVXC 91° - Toolholder with screw clamping

▪ for sliding head lathes



Illustrations show right-hand versions



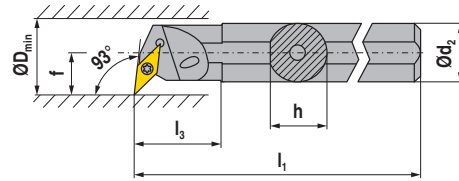
ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand X0		Right-hand X0	
	H mm	B mm	OAL mm	WF mm		Article no. 70 691 ...	£	Article no. 70 690 ...	£
SVXC R/L 1010 H11	10	10	100	3.4	VC.. 1103	102.11	010	102.11	010
SVXC R/L 1212 H11	12	12	100	5.4	VC.. 1103	114.66	012	114.66	012
SVXC R/L 1616 K11	16	16	125	8.9	VC.. 1103	127.33	016	127.33	016

Y7		2A	
	Key D		Clamping screw
Article no. 80 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
£	£	£	£
9.52 110	2.19 112	2.19 112	2.19 112
9.52 110	2.19 112	2.19 112	2.19 112
9.52 110	2.19 112	2.19 112	2.19 112

**Spare parts for Article no.**

70 690 010 / 70 691 010	T08	9.52 110	M2,5x6	2.19 112
70 690 012 / 70 691 012	T08	9.52 110	M2,5x6	2.19 112
70 690 016 / 70 691 016	T08	9.52 110	M2,5x6	2.19 112

# IsoClamp - SVUC 93° - Boring bar with screw clamping



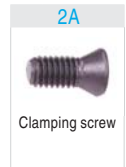
Illustrations show right-hand versions



ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 745 ...	£	Article no. 70 744 ...	£
A16M SVUC R/L 11	16	15.0	150	29	11	20	VC.. 1103	108.94	216	108.94	216
A20Q SVUC R/L 11	20	18.5	180	32	13	25	VC.. 1103	125.65	220	125.65	220
A25R SVUC R/L 11	25	23.0	200	36	17	32	VC.. 1103	153.98	225	153.98	225

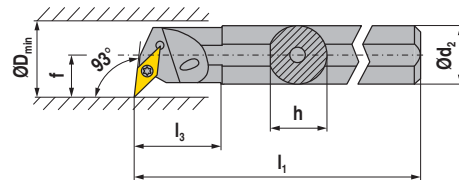
**Spare parts  
for Article no.**

Article no.	£	T08	Article no.	£	T08
70 744 216 / 70 745 216	9.52	110	M2,5x6	2.19	112
70 744 220 / 70 745 220	9.52	110	M2,5x6	2.19	112
70 744 225 / 70 745 225	9.52	110	M2,5x6	2.19	112



# IsoClamp - SVUC 93° - Boring bar with screw clamping

▪ Type: Solid carbide



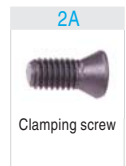
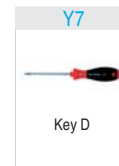
Illustrations show right-hand versions



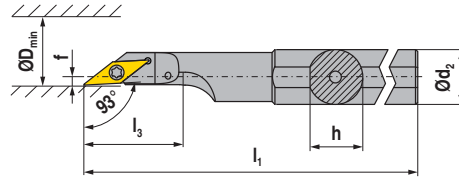
ISO designation	d <sub>2</sub> DCONMS mm	h mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
								Article no. 70 747 ...	£	Article no. 70 746 ...	£
E16R SVUC R/L 11	16	15.0	200	16.5	11	20	VC.. 1103	417.45	016	417.45	016
E20S SVUC R/L 11	20	18.5	250	20.5	13	25	VC.. 1103	495.07	020	495.07	020
E25T SVUC R 11	25	23.0	300	25.5	17	32	VC.. 1103			866.49	025

**Spare parts  
for Article no.**

Article no.	£	T08	Article no.	£	T08
70 746 016 / 70 747 016	9.52	110	M2,5x6	2.19	112
70 746 020 / 70 747 020	9.52	110	M2,5x6	2.19	112
70 746 025	9.52	110	M2,5x6	2.19	112



# IsoClamp - SVJC 93° - Boring bar with screw clamping



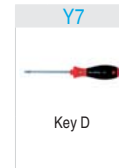
Illustrations show right-hand versions



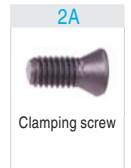
ISO designation	d <sub>2</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	D <sub>min</sub> DAXN mm	Insert	Left-hand		Right-hand	
								NEW	2A	NEW	2A
A16M SVJC R/L 11	16	15	150	30	2	22	VC.. 1103	Article no. 70 727 ...	Article no. 70 726 ...	Article no. 70 727 ...	Article no. 70 726 ...
A20M SVJC R/L 11	20	19	150	38	2	25	VC.. 1103	£	£	£	£
								103.12	216	103.12	216
								103.12	220	103.12	220

Spare parts  
for Article no.

Article no.	Key D	Article no.	Clamping screw
70 726 216 / 70 727 216	T08	80 950 ...	M2,5x6
70 726 220 / 70 727 220	T08	80 950 ...	M2,5x6



Key D



Clamping screw

Article no.  
80 950 ...

£

9.52 110

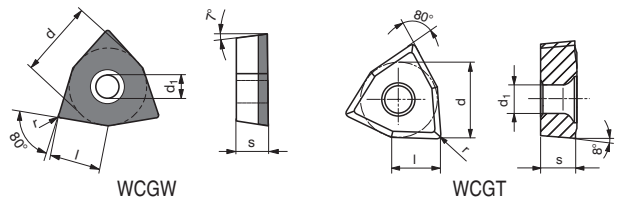
Article no.  
70 950 ...

£

2.19 112

# WCGT / WCGW

Designation	l DC mm	s S mm	d <sub>1</sub> 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

ISO	r RE mm
020102EN	0.2
020104EN	0.4

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

-ZF		-ZF	
HCN 2430		CWK 26	
WCGT		WCGT	
<b>NEW</b> 1A	1A	1A	
Article no.	Article no.	Article no.	
70 287 ...	70 287 ...	70 287 ...	
£	£	£	
14.68	450	11.21	600
14.68	452	11.21	602

## WCGW

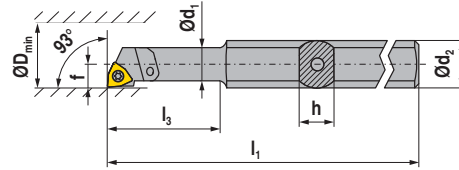
F	M	R

ISO	r RE mm
020102	0.2
020104	0.4

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

PDC	
DIAMOND WCGW Y0	
Article no.	
71 154 ...	
£	
184.19	100
184.19	102

# IsoClamp - SWUC 93° - Boring bar with screw clamping



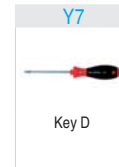
Illustrations show right-hand versions



ISO designation	h H mm	d <sub>1</sub> mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	d <sub>2</sub> DCONMS mm	D <sub>min</sub> DAXN mm	Insert	Left-hand 2A		Right-hand 2A	
									Article no. 70 731 ...	£	Article no. 70 730 ...	£
A0508H SWUC R/L 02	7	5	100	24	2.9	8	5.8	WC.. 0201..	128.62	005	128.62	005
A0608H SWUC R/L 02	7	6	100	24	3.9	8	7.8	WC.. 0201..	128.62	006	128.62	006
SET								WC.. 0201..	232.89	999	232.89	999

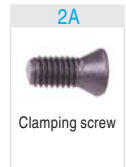
Spare parts  
for Article no.

70 730 005 / 70 731 005	T06	10.31	108	M1,8x3,4	3.19	334
70 730 006 / 70 731 006	T06	10.31	108	M1,8x3,4	3.19	334



Key D

Article no.  
80 950 ...

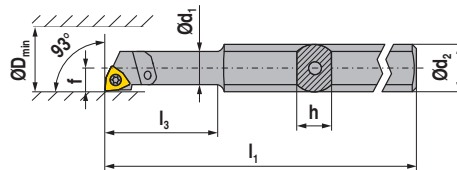


Clamping screw

Article no.  
70 950 ...

# IsoClamp - SWUC 93° - Boring bar with screw clamping

▪ with carbide core



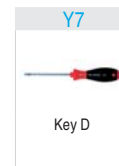
Illustrations show right-hand versions



ISO designation	h H mm	d <sub>1</sub> mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	d <sub>2</sub> DCONMS mm	D <sub>min</sub> DAXN mm	Insert	Left-hand NEW 2A		Right-hand NEW 2A	
									Article no. 70 743 ...	£	Article no. 70 742 ...	£
E-A0508H SWUC R/L 02	7	5	100	24	2.9	8	5.8	WC.. 0201..	128.62	005	128.62	005
E-A0608H SWUC R/L 02	7	6	100	24	3.9	8	7.8	WC.. 0201..	128.62	006	128.62	006
SET								WC.. 0201..	232.89	999	232.89	999

Spare parts  
for Article no.

70 742 005 / 70 743 005	T06	10.31	108	M1,8x3,4	3.19	334
70 742 006 / 70 743 006	T06	10.31	108	M1,8x3,4	3.19	334



Key D

Article no.  
80 950 ...



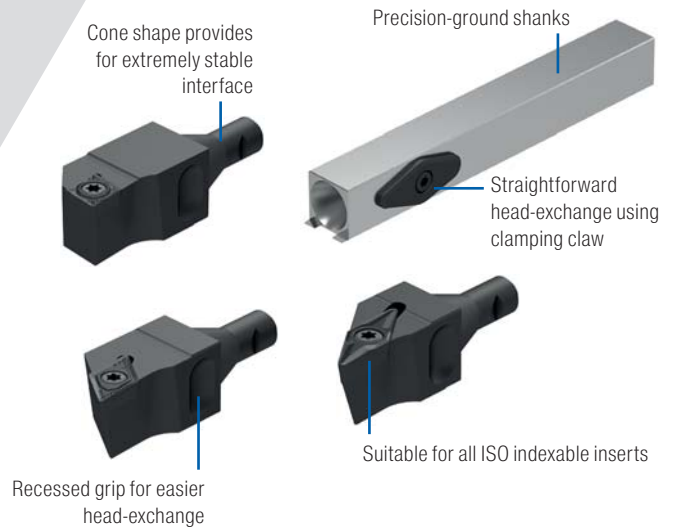
Clamping screw

Article no.  
70 950 ...



# 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

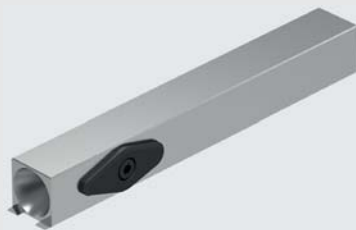
## Basic holder

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

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

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

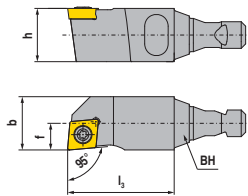
**BH 16:**  $l_1 = 89 \text{ mm}$



51

51

# XheadClamp – SCLC 95° exchangeable head turning tool

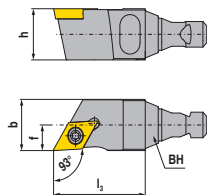


ISO designation	System dimen- sions BH	b B mm	h H mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW	X0	NEW	X0
SCLC R/L 06 BH12	12	12	12	24	6	CC.. 0602	Article no. 72 809 ...		Article no. 72 808 ...	
							£		£	
SCLC R/L 09 BH12	12	16	12	24	6	CC.. 09T3	170.28	221	170.28	221
SCLC R/L 06 BH16	16	16	16	28	8	CC.. 0602	170.28	222	170.28	222
SCLC R/L 09 BH16	16	16	16	28	8	CC.. 09T3	178.50	621	178.50	621
							178.50	622	178.50	622

Spare parts Insert	Y7	2A	2A	Article no.		Article no.		Article no.	
				80 950 ...	70 950 ...	70 950 ...	£	£	£
CC.. 0602	T08	9.52	110	M2,5x6	2.19	112			
CC.. 09T3	T15/SW	7.17	398	M3,5x11	2.71	113			

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

# XheadClamp – SDJC 93° exchangeable head turning tool

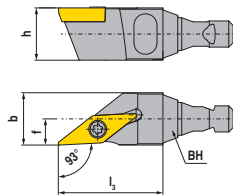


ISO designation	System dimen- sions BH	b B mm	h H mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW	X0	NEW	X0
SDJC R/L 07-BH12	12	12	12	24	6	DC.. 0702	Article no. 72 811 ...		Article no. 72 810 ...	
							£		£	
SDJC R/L 11-BH12	12	14	12	24	6	DC.. 11T3	170.28	230	170.28	230
SDJC R/L 07-BH16	16	16	16	28	8	DC.. 0702	170.28	231	170.28	231
SDJC R/L 11-BH16	16	16	16	28	8	DC.. 11T3	178.50	630	178.50	630
							178.50	631	178.50	631

Spare parts Insert	Y7	2A	2A	Article no.		Article no.		Article no.	
				80 950 ...	70 950 ...	70 950 ...	£	£	£
DC.. 0702	T08	9.52	110	M2,5x6	2.19	112			
DC.. 11T3	T15/SW	7.17	398	M3,5x11	2.71	113			

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

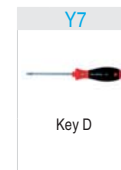
# XheadClamp – SVJC 93° exchangeable head turning tool



ISO designation	System dimensions BH	b B mm	h H mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW	X0	NEW	X0
SVJC R/L 11-BH12	12	12	12	24	6	VC.. 1103	Article no. 72 813 ...		Article no. 72 812 ...	
SVJC R/L 11-BH16	16	16	16	28	8	VC.. 1103	£		£	
							170.28	234	170.28	234
							178.50	634	178.50	634

**Spare parts**  
Insert

VC.. 1103



Article no. 80 950 ...  
£



Article no. 70 950 ...  
£

T08

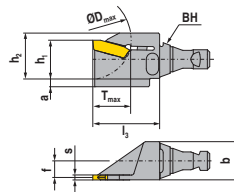
9.52 110

M2,5x6

2.19 112

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

# XheadClamp – GX 09/16 exchangeable head grooving tool holder



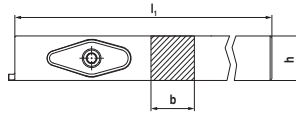
Designation	System dimensions BH	b B mm	h = h <sub>1</sub> H mm	h <sub>2</sub> OAH mm	l <sub>3</sub> LH mm	T <sub>max</sub> CDX mm	D <sub>max</sub> DAXX mm	f WF mm	s mm	a mm	for grooving inserts	Left-hand		Right-hand	
												NEW	X0	NEW	X0
GX09-1 R/L -BH12	12	12	12	15	24	12.5	25	5.5	0,60-2,50	4.0	GX 09-1	Article no. 72 801 ...		Article no. 72 800 ...	
GX09-2 R/L -BH12	12	12	12	15	24	12.5	25	5.0	0,60-3,00	4.0	GX 09-2	£	£		
GX16-1 R/L -BH12	12	12	12	15	24	12.5	25	5.5	0,60-2,50	4.0	GX 16-1	194.08	212	194.08	212
GX16-2 R/L -BH12	12	12	12	15	24	12.5	25	5.0	0,60-3,50	4.0	GX 16-2	194.08	712	194.08	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	203.84	116	203.84	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	203.84	216	203.84	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	203.84	616	203.84	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	203.84	716	203.84	716

**Spare parts**  
System dimensions BH

12	T15	11.34	113	M4x11	2.94	174
16	T15	11.34	113	M4x11	2.94	174

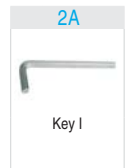
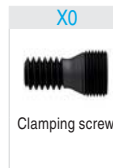
**i** Suitable indexable inserts can be found in the grooving tools section on → Page 204-210.

# XheadClamp - Base holder

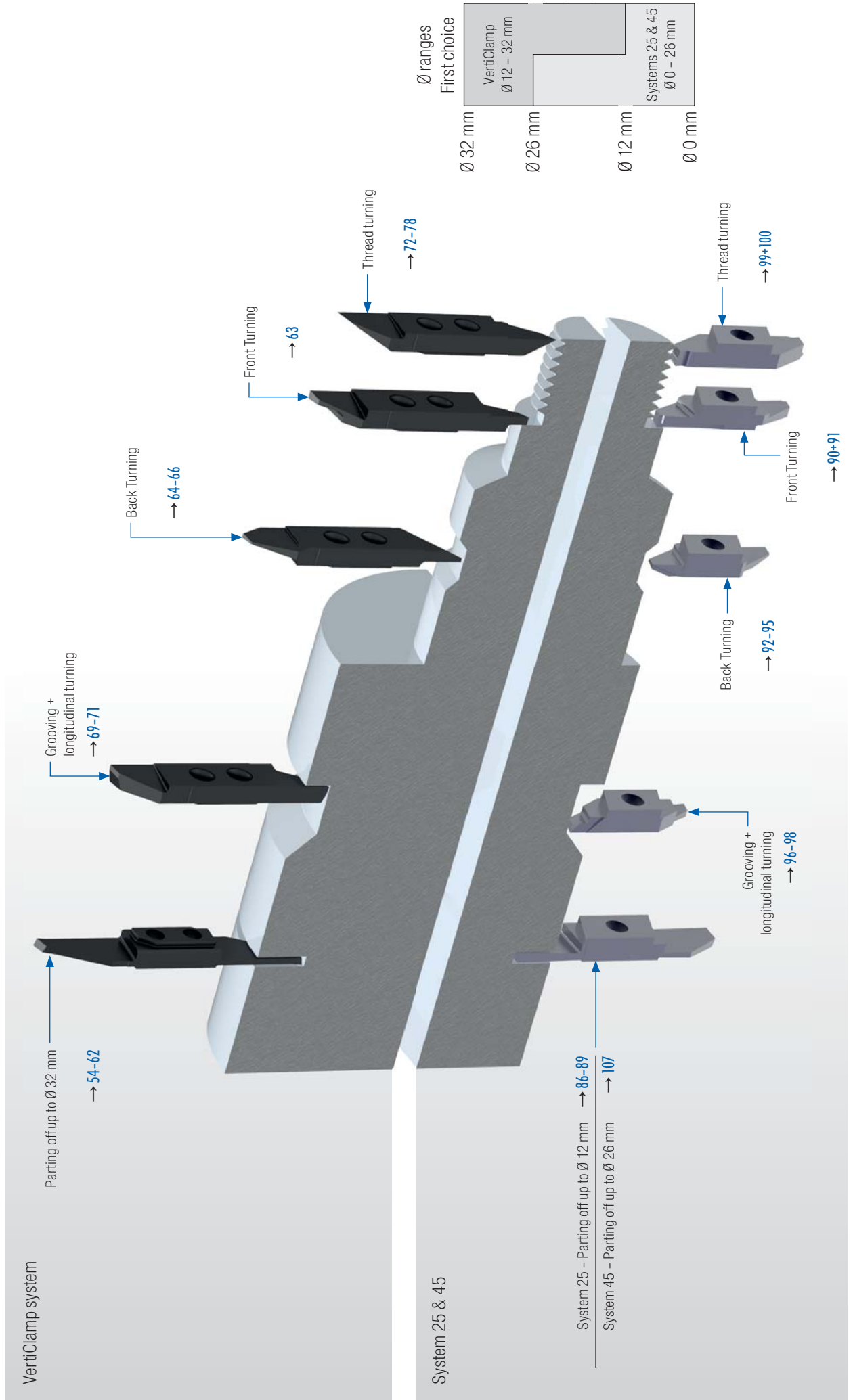


ISO designation	System dimensions BH	b mm	h mm	l <sub>1</sub> OAL mm	For exchangeable heads	Left-hand		Right-hand	
						NEW	X0	NEW	X0
BHSH.12X63	12	12	12	63	BH12	Article no. 72 841 ...	Article no. 72 840 ...		
BHSH.12X93	12	12	12	93	BH12	£ 187.25	£ 187.25	263	263
BHSH.16X63	16	16	16	63	BH16	£ 199.50	£ 199.50	293	293
BHSH.16X89	16	16	16	89	BH16	£ 197.75	£ 197.75	663	663
						£ 210.00	£ 210.00	693	693

Spare parts System dimensions BH	X0		X0		2A	
	Article no. 72 950 ...	Article no. 72 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...	Article no. 70 950 ...
12	SR.BHSH.12	£ 12.99 801	PR.BHSH.12	£ 43.05 800	SW2,5	£ 2.12 175
16	SR.BHSH.16	£ 13.86 803	PR.BHSH.16	£ 45.33 802	SW03	£ 2.12 176

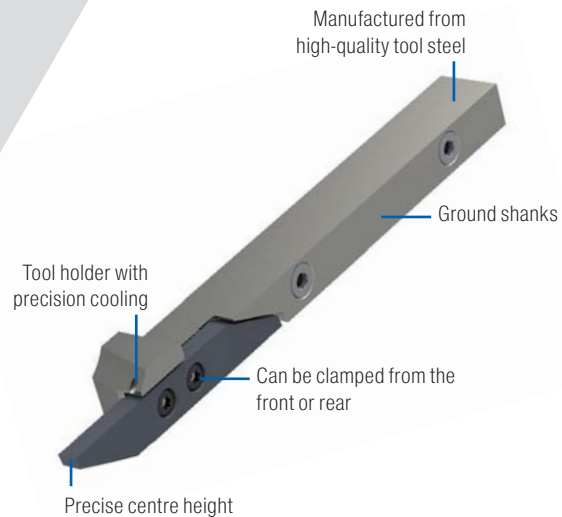


3



# 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

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

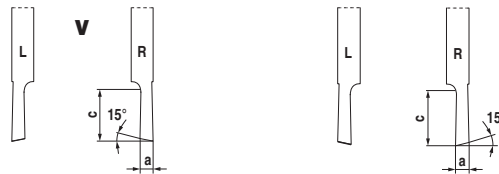
	Thread turning	Radius Grooving	Chamfers
<b>WNT MASTERTOOL PERFORMANCE</b>	72-78	79+80	81
<b>WNT MASTERTOOL STANDARD</b>	99+100		

# Tool holder

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

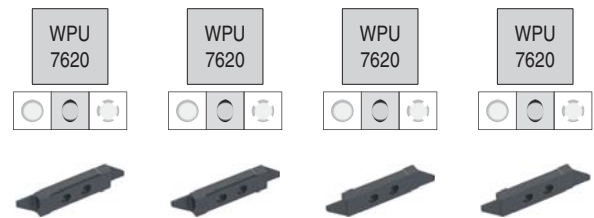
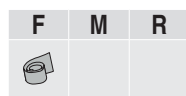
# 3002 L / 3002 LV / 3002 R / 3002 RV

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

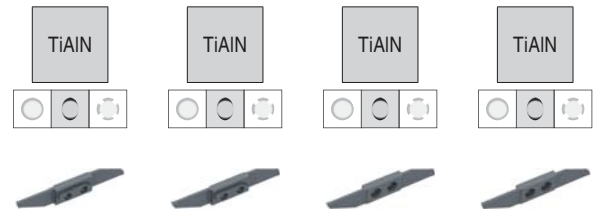
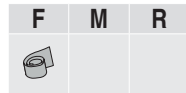


ISO	3002 L		3002 LV		3002 R		3002 RV	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 420 ...		Article no. 72 422 ...		Article no. 72 416 ...		Article no. 72 418 ...	
	£		£	£		£		
3002-0,8-6	36.53	510	36.53	510	36.53	510	36.53	510
3002-0,8-10	36.53	530	36.53	530	36.53	530	36.53	530
3002-1,0-6	36.53	512	36.53	512	36.53	512	36.53	512
3002-1,0-13	42.56	532	42.88	532	42.56	532	42.88	532
3002-1,2-6	36.53	514	36.53	514	36.53	514	36.53	514
3002-1,5-8	36.53	516	36.53	516	36.53	516	36.53	516
3002-1,5-16	46.46	536	46.46	536	46.46	536	46.46	536
3002-1,8-8	36.53	518	36.53	518	36.53	518	36.53	518
3002-2,0-10	36.53	520	36.53	520	36.53	520	36.53	520
3002-2,0-16	46.46	540	46.46	540	46.46	540	46.46	540
3002-2,5-13	42.56	522 <sup>1)</sup>	42.56	522 <sup>1)</sup>	42.56	522 <sup>1)</sup>	42.56	522 <sup>1)</sup>
3002-2,5-16	46.46	542 <sup>1)</sup>	46.46	542 <sup>1)</sup>	46.46	542 <sup>1)</sup>	46.46	542 <sup>1)</sup>
3002-3,0-16	46.46	524 <sup>1)</sup>	46.46	524 <sup>1)</sup>	46.46	524 <sup>1)</sup>	46.46	524 <sup>1)</sup>
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



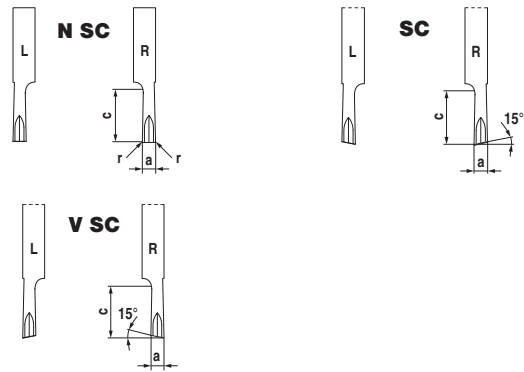
ISO	3002 L X1		3002 LV X1		3002 R X1		3002 RV X1	
	Article no. 72 420 ...	£	Article no. 72 422 ...	£	Article no. 72 416 ...	£	Article no. 72 418 ...	£
3002-0,8-6	33.53	110	33.53	110	33.53	110	33.53	110
3002-0,8-10	37.54	130	47.99	130	37.54	130	47.99	130
3002-1,0-6	33.53	112	33.53	112	33.53	112	33.53	112
3002-1,0-13	44.33	132	47.99	132	44.33	132	47.99	132
3002-1,2-6	33.53	114	33.53	114	33.53	114	33.53	114
3002-1,5-8	33.53	116	33.53	116	33.53	116	33.53	116
3002-1,5-16	47.99	136	47.99	136	47.99	136	47.99	136
3002-1,8-8	33.53	118	33.53	118	33.53	118	33.53	118
3002-2,0-10	33.53	120	33.53	120	33.53	120	33.53	120
3002-2,0-16	47.99	140	47.99	140	47.99	140	47.99	140
3002-2,5-13	38.90	122 <sup>1)</sup>	38.90	122 <sup>1)</sup>	38.90	122 <sup>1)</sup>	38.90	122 <sup>1)</sup>
3002-2,5-16	47.99	142 <sup>1)</sup>	47.99	142 <sup>1)</sup>	47.99	142 <sup>1)</sup>	47.99	142 <sup>1)</sup>
3002-3,0-16	41.46	124 <sup>1)</sup>	41.46	124 <sup>1)</sup>	41.46	124 <sup>1)</sup>	41.46	124 <sup>1)</sup>
Steel	●		●		●		●	
Stainless steel	●		●		●		●	
Cast iron								
Non ferrous metals	○		○		○		○	
Heat resistant alloys	○		○		○		○	

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



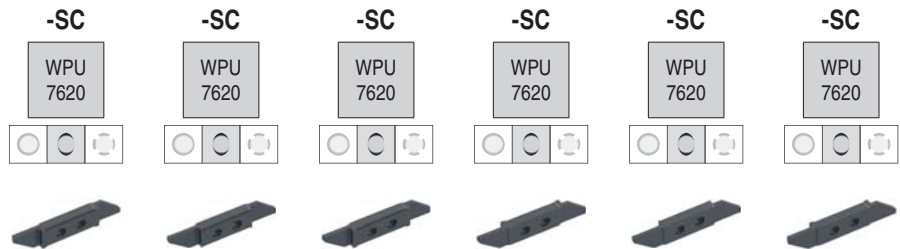
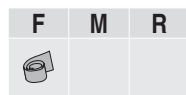
# 3002 L / 3002 LN / 3002 LV / 3002 R / 3002 RN / 3002 RV

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

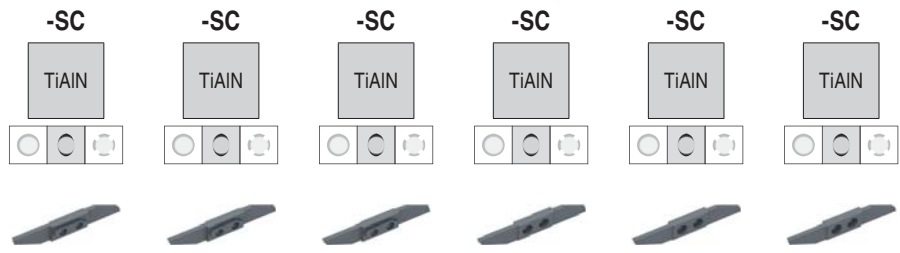
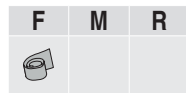


ISO	3002 L		3002 LN		3002 LV		3002 R		3002 RN		3002 RV	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 432 ...		Article no. 72 426 ...		Article no. 72 434 ...		Article no. 72 428 ...		Article no. 72 424 ...		Article no. 72 430 ...	
	£		£	£		£		£	£		£	
3002-1,5-8	39.62	508			39.62	508	39.62	508			39.62	508
3002-1,5-10			42.38	510					40.27	510		
3002-1,5-16	49.73	528	50.54	530	49.73	528	49.73	528	50.54	530	49.73	528
3002-2,0-10	39.62	510	42.38	512	39.62	510	39.62	510	40.27	512	39.62	510
3002-2,0-16	49.73	530	50.54	532	49.73	530	49.73	530	50.54	532	49.73	530
3002-2,5-13	46.46	512 <sup>1)</sup>	49.89	514 <sup>1)</sup>	46.30	512 <sup>1)</sup>	46.46	512 <sup>1)</sup>	47.60	514 <sup>1)</sup>	46.30	512 <sup>1)</sup>
3002-2,5-16	49.73	532 <sup>1)</sup>	49.89	534 <sup>1)</sup>	49.73	532 <sup>1)</sup>	49.73	532 <sup>1)</sup>	47.60	534 <sup>1)</sup>	49.73	532 <sup>1)</sup>
3002-3,0-16	49.73	514 <sup>1)</sup>	49.89	516 <sup>1)</sup>	49.73	514 <sup>1)</sup>	49.73	514 <sup>1)</sup>	47.60	516 <sup>1)</sup>	49.73	514 <sup>1)</sup>
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

▪ for parting off

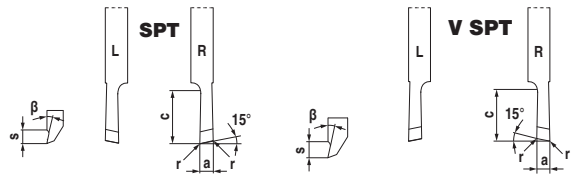


ISO	3002 L		3002 LN		3002 LV		3002 R		3002 RN		3002 RV	
	Article no. 72 432 ...	X1	Article no. 72 426 ...	X1	Article no. 72 434 ...	X1	Article no. 72 428 ...	X1	Article no. 72 424 ...	X1	Article no. 72 430 ...	X1
	£		£		£		£		£		£	
3002-1,5-8	35.84	108			35.84	108	35.84	108			35.84	108
3002-1,5-10			35.84	110					35.84	110		
3002-1,5-16	51.43	128	51.43	130	51.43	128	51.43	128	51.43	130	51.43	128
3002-2,0-10	35.84	110	35.84	112	35.84	110	35.84	110	35.84	112	35.84	110
3002-2,0-16	51.43	130	51.43	132	51.43	130	51.43	130	51.43	132	51.43	130
3002-2,5-13	41.46	112 <sup>1)</sup>	41.46	114 <sup>1)</sup>	41.46	112 <sup>1)</sup>	41.46	112 <sup>1)</sup>	41.46	114 <sup>1)</sup>	41.46	112 <sup>1)</sup>
3002-2,5-16	51.43	132 <sup>1)</sup>	51.43	134 <sup>1)</sup>	51.43	132 <sup>1)</sup>	51.43	132 <sup>1)</sup>	51.43	134 <sup>1)</sup>	51.43	132 <sup>1)</sup>
3002-3,0-16	43.51	114 <sup>1)</sup>	43.51	116 <sup>1)</sup>	43.51	114 <sup>1)</sup>	43.51	114 <sup>1)</sup>	43.51	116 <sup>1)</sup>	43.51	114 <sup>1)</sup>
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

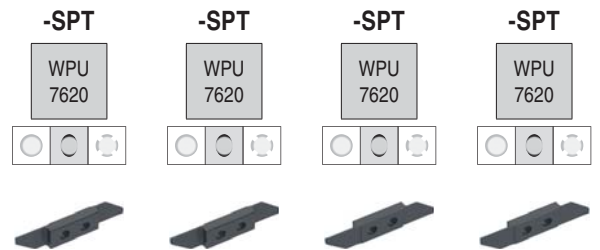
Designation	a CW mm	c PDPT mm	r CRE mm	$\beta^\circ$	s mm
3002-0,8-10	0.8	10	-	20	2
3002-1,0-13	1.0	13	-	20	2
3002-1,5-8-06	1.5	8	0.05	6	2
3002-1,5-8-12	1.5	8	0.05	12	2
3002-1,5-8	1.5	8	-	20	2
3002-1,5-16	1.5	16	-	20	2
3002-2,0-10-06	2.0	10	0.05	6	2
3002-2,0-10-12	2.0	10	0.05	12	2
3002-2,0-10	2.0	10	-	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

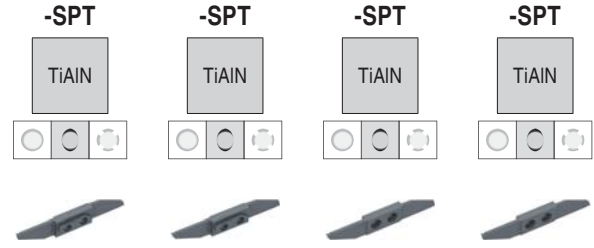
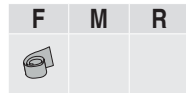


ISO	3002 L		3002 LV		3002 R		3002 RV	
	NEW X1	Article no.	NEW X1	Article no.	NEW X1	Article no.	NEW X1	Article no.
		72 440 ...		72 442 ...		72 436 ...		72 438 ...
	£		£		£		£	
3002-1,5-8-06	42.38	540	42.38	540	42.38	540	42.38	540
3002-1,5-8-12	42.38	570	42.38	570	42.38	570	42.38	570
3002-2,0-10-06	42.38	572	42.38	572	42.38	572	42.38	572
3002-2,0-10-12	42.38	582	42.38	582	42.38	582	42.38	582
3002-2,0-16-06	52.99	552	52.99	552	52.99	552	52.99	552
3002-2,0-16-12	52.99	592	52.99	592	52.99	592	52.99	592
3002-2,5-13-06	49.89	554	52.99	554	49.89	554	52.99	554
3002-2,5-13-12	49.89	584	52.99	584	49.89	584	52.99	584
3002-2,5-16-06	52.99	574	52.99	574	52.99	574	52.99	574
3002-2,5-16-12	52.99	594	52.99	594	52.99	594	52.99	594
3002-3,0-16-06	52.99	556	52.99	556	52.99	556	52.99	556
3002-3,0-16-12	52.99	586	52.99	586	52.99	586	52.99	586

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

# 3002 L / 3002 LV / 3002 R / 3002 RV

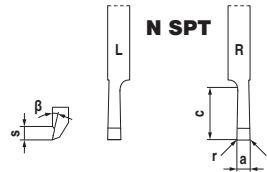
▪ for parting off



ISO	3002 L X1		3002 LV X1		3002 R X1		3002 RV X1	
	Article no. 72 440 ...	£	Article no. 72 442 ...	£	Article no. 72 436 ...	£	Article no. 72 438 ...	£
3002-0,8-10	39.62	106	39.62	106	39.62	106	39.62	106
3002-1,0-13	45.98	128	45.98	128	45.98	128	45.98	128
3002-1,5-8	35.84	110	35.84	110	35.84	110	35.84	110
3002-1,5-16	50.65	130	50.65	130	50.65	130	50.65	130
3002-2,0-10	35.84	112	35.84	112	35.84	112	35.84	112
3002-2,0-16	50.65	132	50.65	132	50.65	132	50.65	132
3002-2,5-13	45.98	114	45.98	114	45.98	114	45.98	114
3002-2,5-16	49.07	134	49.07	134	49.07	134	49.07	134
3002-3,0-16	49.07	136	49.07	136	49.07	136	49.07	136
Steel		●		●		●		●
Stainless steel		●		●		●		●
Cast iron								
Non ferrous metals		○		○		○		○
Heat resistant alloys		○		○		○		○

# 3002 LN / 3002 RN

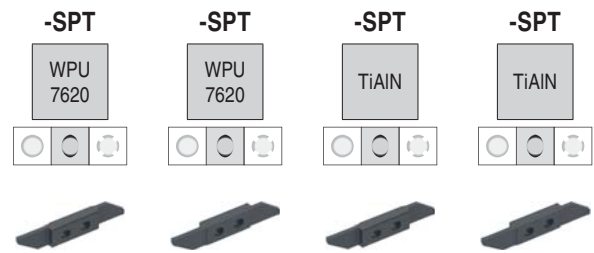
Designation	a CW mm	c PDPT mm	r CRE mm	$\beta^\circ$	s mm
3002-1,0-10	1.0	10	0.05	20	2
3002-1,5-10-06	1.5	10	0.05	6	2
3002-1,5-10-12	1.5	10	0.05	12	2
3002-1,5-10	1.5	10	0.05	20	2
3002-1,5-16	1.5	16	0.05	20	2
3002-2,0-10-06	2.0	10	0.05	6	2
3002-2,0-10-12	2.0	10	0.05	12	2
3002-2,0-10	2.0	10	0.05	20	2
3002-2,0-16-06	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

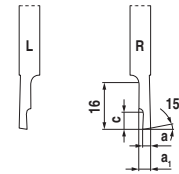
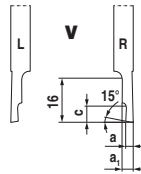


ISO	3002 LN		3002 RN		3002 LN		3002 RN	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 515 ...		Article no. 72 514 ...		Article no. 72 515 ...		Article no. 72 514 ...	
	£		£		£		£	
3002-1,0-10					47.12	108	47.12	108
3002-1,5-10					42.38	120	42.38	120
3002-1,5-10-06	42.38	550	42.38	550				
3002-1,5-10-12	42.38	580	42.38	580				
3002-1,5-16					52.99	130	52.99	130
3002-2,0-10					42.38	112	42.38	112
3002-2,0-10-06	42.38	572	42.38	572				
3002-2,0-10-12	42.38	582	42.38	582				
3002-2,0-16					52.99	132	52.99	132
3002-2,0-16-06	52.99	552	52.99	552				
3002-2,0-16-12	52.99	592	52.99	592				
3002-2,5-13					49.89	114	49.89	114
3002-2,5-13-06	49.89	554	49.89	554				
3002-2,5-13-12	49.89	584	49.89	584				
3002-2,5-16					52.99	134	52.99	134
3002-2,5-16-06	52.99	574	52.99	574				
3002-2,5-16-12	52.99	594	52.99	594				
3002-3,0-16					52.99	136	52.99	136
3002-3,0-16-06	52.99	556	52.99	556				
3002-3,0-16-12	52.99	586	52.99	586				

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

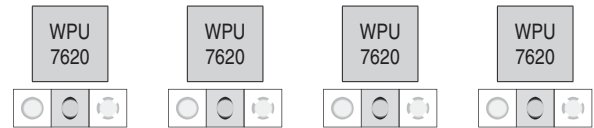
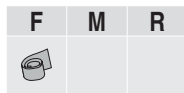
## 3002 L-16 / 3002 LV-16 / 3002 R-16 / 3002 RV-16

Designation	a	c
	CW mm	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

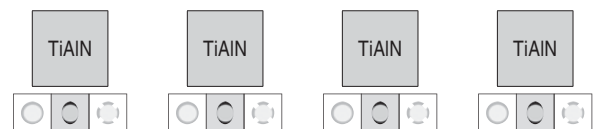
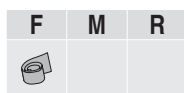


ISO	3002 L-16		3002 LV-16		3002 R-16		3002 RV-16	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 497 ...		Article no. 72 499 ...		Article no. 72 496 ...		Article no. 72 498 ...	
	£		£		£		£	
3002-0,8-6-16	45.65	510	45.65	510	45.65	510	45.65	510
3002-1,2-6-16	45.65	514	45.65	514	45.65	514	45.65	514

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

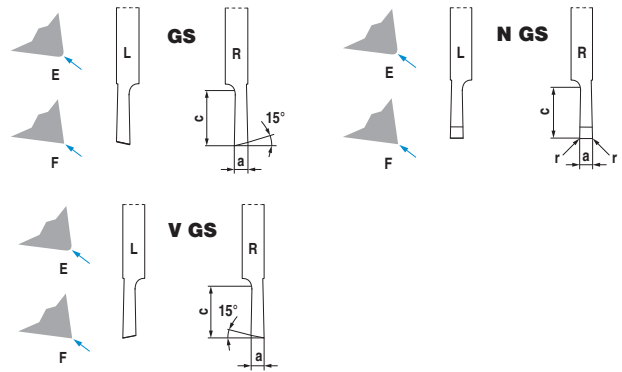


ISO	3002 L-16		3002 LV-16		3002 R-16		3002 RV-16	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 497 ...		Article no. 72 499 ...		Article no. 72 496 ...		Article no. 72 498 ...	
	£		£		£		£	
3002-0,8-6-16	45.65	110	45.65	110	45.65	110	45.65	110
3002-1,0-6-16	45.65	112	45.65	112	45.65	112	45.65	112
3002-1,2-6-16	45.65	114	45.65	114	45.65	114	45.65	114

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

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

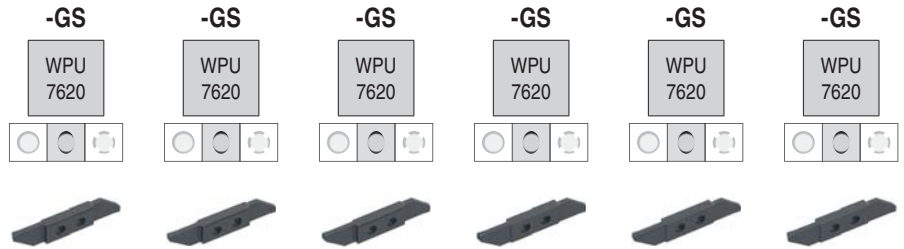
Designation	a CW mm	c PDPT mm	r CRE mm
3002-2,0-10..	2	10	0.2



# 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

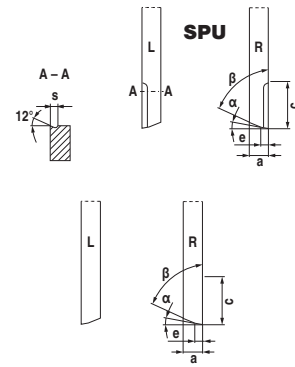
F	M	R



ISO	3002 L		3002 LN		3002 LV		3002 R		3002 RN		3002 RV	
	NEW	X1	NEW	X1	NEW	X1	NEW	X1	NEW	X1	NEW	X1
	Article no. 72 501 ...		Article no. 72 505 ...		Article no. 72 507 ...		Article no. 72 500 ...		Article no. 72 504 ...		Article no. 72 506 ...	
	£		£		£		£		£		£	
3002-2,0-10 E	31.95	512	31.95	512	31.95	512	31.95	512	31.95	512	31.95	512
3002-2,0-10 F	37.98	552	37.98	552	37.98	552	37.98	552	37.98	552	37.98	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	$\alpha^\circ$	$\beta^\circ$
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

	-SPU		-SPU	
	WPU 7620	WPU 7620	WPU 7620	WPU 7620
	3003 L	3003 R	3003 L	3003 R
	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
ISO	Article no. 72 446 ...	Article no. 72 444 ...	Article no. 72 521 ...	Article no. 72 520 ...
	£ 33.58 510	£ 33.58 510	£ 36.69 510	£ 36.69 510

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

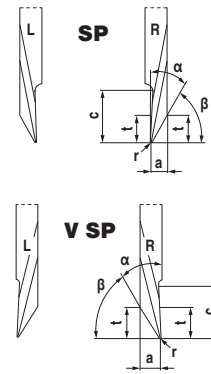
	-SPU		-SPU	
	TiAlN	TiAlN	TiAlN	TiAlN
	3003 L	3003 R	3003 L	3003 R
	X1	X1	X1	X1
ISO	Article no. 72 446 ...	Article no. 72 444 ...	Article no. 72 450 ...	Article no. 72 448 ...
	£ 35.84 110	£ 35.84 110	£ 38.14 110	£ 38.14 110

3003-3,4-8				
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	○	○	○	○
Heat resistant alloys	○	○	○	○



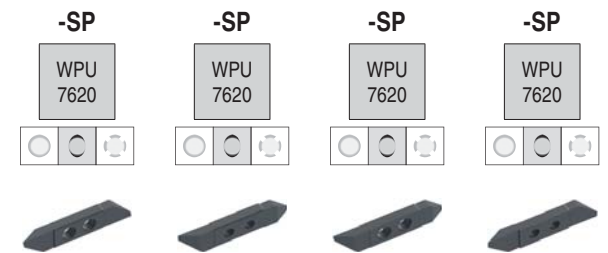
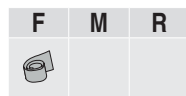
# 3004 L / 3004 LV / 3004 R / 3004 RV

Designation	r CRE mm	a CW mm	c PDPT mm	t mm	$\alpha^\circ$ PNA	$\beta^\circ$
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

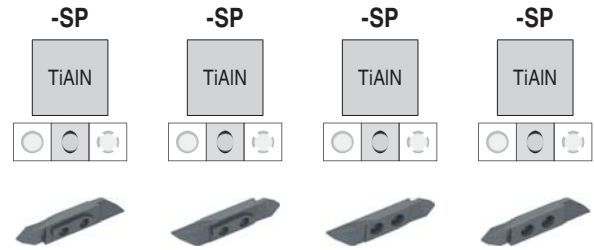
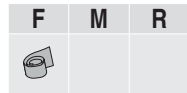


ISO	3004 L		3004 LV		3004 R		3004 RV	
	NEW X1 Article no. 72 562 ...	£	NEW X1 Article no. 72 563 ...	£	NEW X1 Article no. 72 560 ...	£	NEW X1 Article no. 72 561 ...	£
3004-3,2-5 35015	38.96	514			38.96	514		
3004-3,2-5 35035	38.96	516			38.96	516		
3004-3,2-6 29008	38.96	508	38.96	508	38.96	508	38.96	508
3004-3,2-6 29015	38.96	510	38.96	510	38.96	510	38.96	510
3004-3,2-6 29035	38.96	512	38.96	512	38.96	512	38.96	512
3004-3,2-6 29075	38.96	515	38.96	515	38.96	515	38.96	515

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

# 3004 L / 3004 LV / 3004 R / 3004 RV

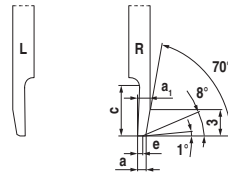
▪ for back turning



ISO	3004 L X1		3004 LV X1		3004 R X1		3004 RV X1	
	Article no. 72 562 ...	£	Article no. 72 563 ...	£	Article no. 72 560 ...	£	Article no. 72 561 ...	£
3004-3,2-5 35015	40.32	114			40.32	114		
3004-3,2-5 35035	40.32	116			40.32	116		
3004-3,2-6 29008	38.96	108	38.96	108	38.96	108	38.96	108
3004-3,2-6 29015	40.32	110	40.32	110	40.32	110	40.32	110
3004-3,2-6 29035	40.32	112	40.32	112	40.32	112	40.32	112
3004-3,2-6 29075	38.96	115	38.96	115	38.96	115	38.96	115
Steel		●		●		●		●
Stainless steel		●		●		●		●
Cast iron								
Non ferrous metals		○		○		○		○
Heat resistant alloys		○		○		○		○

# 3004 L / 3004 R

Designation	a CW mm	e CF mm	a <sub>1</sub> 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

F	M	R

ISO

ISO	3004 L		3004 R	
	NEW X1	Article no.	NEW X1	Article no.
3004-0,8-6	£ 33.58	504	£ 33.58	504
3004-1,0-6	£ 33.58	506	£ 33.58	506
3004-1,2-8	£ 33.58	508	£ 33.58	508
3004-1,5-8	£ 33.58	510	£ 33.58	510
3004-1,8-8	£ 33.58	512	£ 33.58	512
Steel		●		●
Stainless steel		●		●
Cast iron		●		●
Non ferrous metals		●		●
Heat resistant alloys		●		●

# 3004 L / 3004 R

▪ for back turning

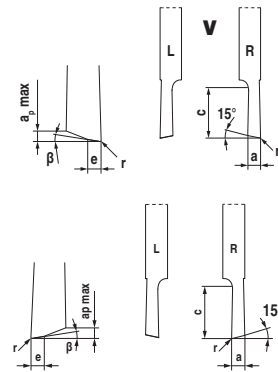
F	M	R

ISO

ISO	3004 L		3004 R	
	NEW X1	Article no.	NEW X1	Article no.
3004-0,8-6	£ 35.84	110	£ 35.84	110
3004-1,0-6	£ 35.84	112	£ 35.84	112
3004-1,2-8	£ 35.84	114	£ 35.84	114
3004-1,5-8	£ 35.84	116	£ 35.84	116
3004-1,8-8	£ 35.84	118	£ 35.84	118
Steel		●		●
Stainless steel		●		●
Cast iron		○		○
Non ferrous metals		○		○
Heat resistant alloys		○		○

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

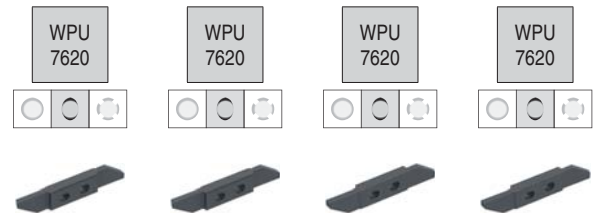
Designation	a CW mm	e CF mm	c PDPT mm	r CRE mm	$\beta^\circ$	$a_{p\max}$ mm
3002-015-..	2	0.3	10	0.15	1.5	0.45



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

▪ For turning and parting off

F	M	R



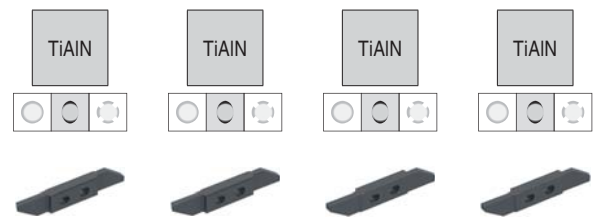
ISO	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
	Article no. 72 517 ...	Article no. 72 519 ...	Article no. 72 516 ...	Article no. 72 518 ...
	£ 39.62 510	£ 39.62 510	£ 39.62 510	£ 39.62 510

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

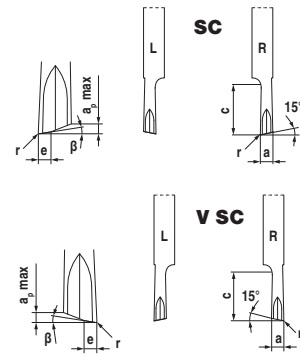


ISO	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
	Article no. 72 517 ...	Article no. 72 519 ...	Article no. 72 516 ...	Article no. 72 518 ...
	£ 39.62 110	£ 39.62 110	£ 39.62 110	£ 39.62 110

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	$\beta^\circ$	$a_{p\max}$ 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

	-SC	-SC	-SC	-SC
	WPU 7620	WPU 7620	WPU 7620	WPU 7620
	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
ISO	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
	Article no. 72 511 ...	Article no. 72 513 ...	Article no. 72 510 ...	Article no. 72 512 ...
	£ 41.90 510	£ 41.90 510	£ 41.90 510	£ 41.90 510

3002-015-2,0-10

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

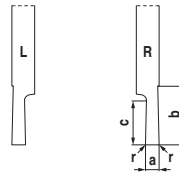
	-SC	-SC	-SC	-SC
	TiAlN	TiAlN	TiAlN	TiAlN
	3002-015 L	3002-015 LV	3002-015 R	3002-015 RV
ISO	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
	Article no. 72 511 ...	Article no. 72 513 ...	Article no. 72 510 ...	Article no. 72 512 ...
	£ 41.90 110	£ 41.90 110	£ 41.90 110	£ 41.90 110

3002-015-2,0-10

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

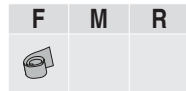
## 3005 L / 3005 R

Designation	a CW mm	c PDPT mm	r CRE mm	b mm
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

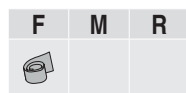


ISO

	3005 L NEW X1 Article no. 72 466 ...		3005 R NEW X1 Article no. 72 464 ...	
	£		£	
3005-1,0-2,5	34.40	518	34.40	518
3005-1,5-3	34.40	510	34.40	510
3005-2,0-4	34.40	512	34.40	512
3005-2,5-5	34.40	514	34.40	514
3005-3,0-6	34.40	516	34.40	516
Steel		●		●
Stainless steel		●		●
Cast iron		●		●
Non ferrous metals		●		●
Heat resistant alloys		●		●

## 3005 L / 3005 R

▪ for grooving and turning

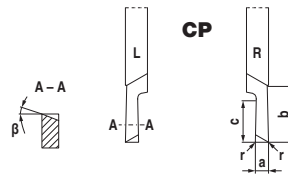


ISO

	3005 L X1 Article no. 72 466 ...		3005 R X1 Article no. 72 464 ...	
	£		£	
3005-1,0-2,5	35.84	108	35.84	108
3005-1,5-3	35.84	110	35.84	110
3005-2,0-4	35.84	112	35.84	112
3005-2,5-5	35.84	114	35.84	114
3005-3,0-6	34.40	116	34.40	116
Steel		●		●
Stainless steel		●		●
Cast iron				
Non ferrous metals		○		○
Heat resistant alloys		○		○

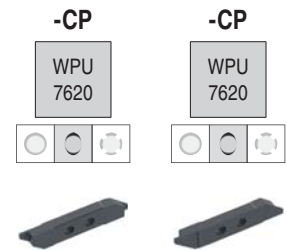
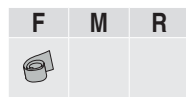
# 3005 L / 3005 R

Designation	a CW mm	c PDPT mm	r CRE mm	b mm	$\beta^\circ$
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

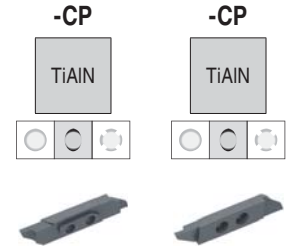


ISO	3005 L		3005 R	
	NEW X1	Article no.	NEW X1	Article no.
3005-0,8-2,5		72 470 ...		72 468 ...
	£		£	
3005-0,8-2,5	36.19	508	36.19	508
3005-1,0-3,5	36.19	518	36.19	518
3005-1,5-4	36.19	510	36.19	528
3005-1,5-4 R08	38.48	519	38.48	519
3005-2,0-5	36.19	512	36.19	512
3005-2,0-5 R08	38.48	522	38.48	522
3005-2,0-5 R15	38.48	532	38.48	532
3005-2,5-6	36.19	514	36.19	514
3005-2,5-6 R08	38.48	524	38.48	524
3005-2,5-6 R15	38.48	534	38.48	534
3005-3,0-6	36.19	516	36.19	516
3005-3,0-6 R08	38.48	526	38.48	526
3005-3,0-6 R15	38.48	536	38.48	536
Steel		●		●
Stainless steel		●		●
Cast iron		●		●
Non ferrous metals		●		●
Heat resistant alloys		●		●

# 3005 L / 3005 R

▪ for grooving and turning

F	M	R
		

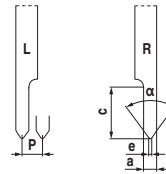


ISO	3005 L X1		3005 R X1	
	Article no. 72 470 ...	£	Article no. 72 468 ...	£
3005-0,8-2,5	106	38.14	106	38.14
3005-1,0-3,5	108	38.14	108	38.14
3005-1,5-4	110	38.14	110	38.14
3005-1,5-4 R08	119	38.48	119	38.48
3005-2,0-5	112	38.14	112	38.14
3005-2,0-5 R08	122	38.48	122	38.48
3005-2,0-5 R15	132	38.48	132	38.48
3005-2,5-6	114	38.14	114	38.14
3005-2,5-6 R08	124	38.48	124	38.48
3005-2,5-6 R15	134	38.48	134	38.48
3005-3,0-6	116	38.14	116	38.14
3005-3,0-6 R08	126	38.48	126	38.48
3005-3,0-6 R15	136	38.48	136	38.48
Steel		●		●
Stainless steel		●		●
Cast iron				
Non ferrous metals		○		○
Heat resistant alloys		○		○



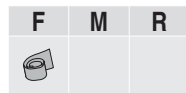
# 3006 L / 3006 R

Designation	Pitch TP mm	a CW mm	c PDPT mm	$\alpha^\circ$ 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

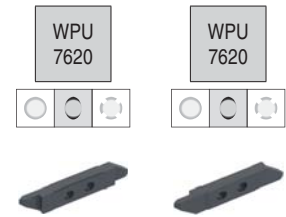
▪ For thread turning (partial profile)



ISO

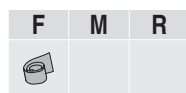
	3006 L		3006 R	
	NEW X1		NEW X1	
Article no.	72 478 ...		72 476 ...	
£				
3006-2-6-60	33.58	510	33.58	510
3006-3-10-60	33.58	512	33.58	512

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



# 3006 L / 3006 R

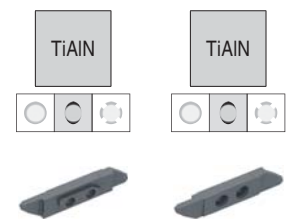
▪ For thread turning (partial profile)



ISO

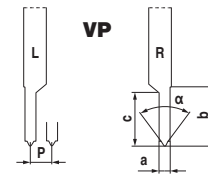
	3006 L		3006 R	
	X1		X1	
Article no.	72 478 ...		72 476 ...	
£				
3006-2-6-60	35.84	110	35.84	110
3006-3-10-60	35.84	112	35.84	112

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



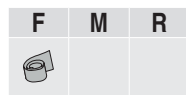
# 3006 VP L / 3006 VP R

Designation	Pitch TP mm	Thread	a CW mm	c PDPT mm	b mm	$\alpha^\circ$ 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)

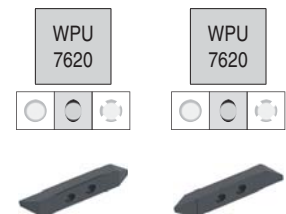


ISO

ISO	3006 VP L		3006 VP R	
	NEW X1 Article no. 72 474 ...	£	NEW X1 Article no. 72 472 ...	£
3006-0,25-10-60 VP	72.474	510	72.472	510
3006-0,35-10-60 VP	72.474	512	72.472	512
3006-0,4-10-60 VP	72.474	514	72.472	514
3006-0,45-10-60 VP	72.474	516	72.472	516
3006-0,5-10-60 VP	52.02	518	52.02	518
3006-0,6-10-60 VP	52.02	520	52.02	520
3006-0,7-10-60 VP	52.02	522	52.02	522
3006-0,75-10-60 VP	52.02	524	52.02	524
3006-0,8-10-60 VP	52.02	526	52.02	526
3006-1,0-10-60 VP	52.02	528	52.02	528
3006-1,25-10-60 VP	52.02	530	52.02	530
3006-1,5-10-60 VP	52.02	532	52.02	532
3006-1,75-10-60 VP	52.02	534	52.02	534

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

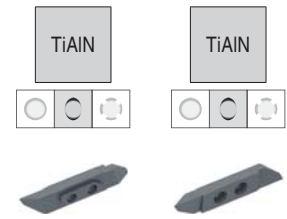
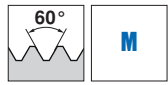
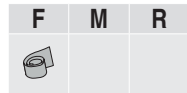


3006 VP L  
NEW X1  
Article no.  
72 474 ...

3006 VP R  
NEW X1  
Article no.  
72 472 ...

# 3006 VP L / 3006 VP R

▪ For thread turning (full profile)



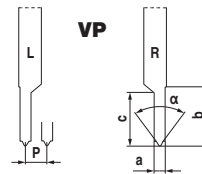
ISO

	3006 VP L		3006 VP R	
	X1		X1	
	Article no.		Article no.	
	72 474 ...		72 472 ...	
	£		£	
3006-0,15-10-60 VP	74.67	108	74.67	108
3006-0,25-10-60 VP	80.10	110	80.10	110
3006-0,35-10-60 VP	80.10	112	80.10	112
3006-0,4-10-60 VP	80.10	114	80.10	114
3006-0,45-10-60 VP	80.10	116	80.10	116
3006-0,5-10-60 VP	52.21	118	52.21	118
3006-0,6-10-60 VP	52.21	120	52.21	120
3006-0,7-10-60 VP	52.21	122	52.21	122
3006-0,75-10-60 VP	52.21	124	52.21	124
3006-0,8-10-60 VP	52.21	126	52.21	126
3006-1,0-10-60 VP	52.21	128	52.21	128
3006-1,25-10-60 VP	52.21	130	52.21	130
3006-1,5-10-60 VP	52.21	132	52.21	132
3006-1,75-10-60 VP	52.21	134	52.21	134
3006-2,0-10-60 VP			52.02	136

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

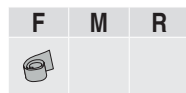
# 3006 VP L / 3006 VP R

Designation	Thread TDIN	Pitch TP mm	a CW mm	c PDPT mm	$\alpha^\circ$ 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

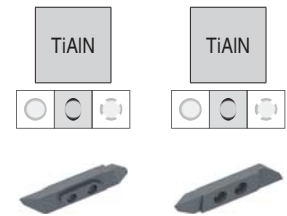
▪ For thread turning (full profile)



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

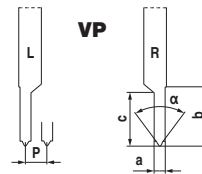
Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	○	○
Heat resistant alloys	○	○



3006 VP L		3006 VP R	
NEW X1	Article no.	NEW X1	Article no.
	72 523 ...		72 522 ...
£		£	
52.02	110	52.02	110
52.02	112	52.02	112
52.02	114	52.02	114
52.02	116	52.02	116
52.02	118	52.02	118
52.02	132	52.02	132
52.02	124	52.02	124
52.02	120	52.02	120
52.02	122	52.02	122
52.02	128	52.02	128
52.02	126	52.02	126
52.02	130	52.02	130

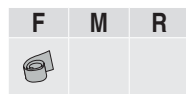
# 3006 VP L / 3006 VP R

Designation	Thread TDIN	Pitch TP mm	a CW mm	c PDPT mm	$\alpha^\circ$ 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

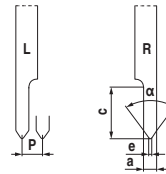
3006-04-48 UNF 10-60 VP
3006-05-44 UNF 10-60 VP
3006-06-40 UNF 10-60 VP
3006-08-36 UNF 10-60 VP
3006-1/2-20 UNF 10-60 VP
3006-1/4-28 UNF 10-60 VP
3006-10-32 UNF 10-60 VP
3006-12-28 UNF 10-60 VP
3006-3/8-24 UNF 10-60 VP
3006-5/16-24 UNF 10-60 VP
3006-7/16-20 UNF 10-60 VP

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

	3006 VP L		3006 VP R	
	NEW X1		NEW X1	
Article no.	72 525 ...		72 524 ...	
£			£	
52.02	150		52.02	150
52.02	152		52.02	152
52.02	154		52.02	154
52.02	156		52.02	156
52.02	170		52.02	170
52.02	162		52.02	162
52.02	158		52.02	158
52.02	160		52.02	160
52.02	166		52.02	166
52.02	164		52.02	164
52.02	168		52.02	168

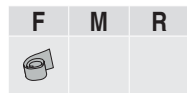
# 3006 L / 3006 R

Designation	Pitch TP mm	a CW mm	c PDPT mm	$\alpha^\circ$ 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



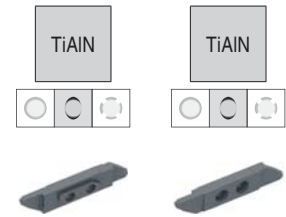
# 3006 L / 3006 R

▪ For thread turning (partial profile)



ISO

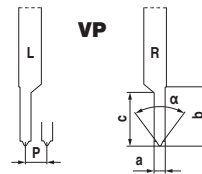
	3006 L		3006 R	
	NEW X1		NEW X1	
Article no.	72 527 ...		72 526 ...	
	£		£	
3006-2-6-55	33.58	100	33.58	100
3006-3-10-55	33.58	102	33.58	102
Steel		●		●
Stainless steel		●		●
Cast iron				
Non ferrous metals		○		○
Heat resistant alloys		○		○



3

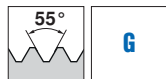
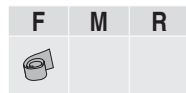
# 3006 VP L / 3006 VP R

Designation	Pitch TP mm	Thread	a CW mm	c PDPT mm	$\alpha^\circ$ 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

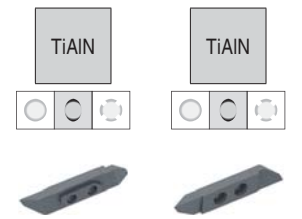
- For thread turning (full profile)



ISO

3006-G11-10-55 VP  
3006-G14-10-55 VP  
3006-G19-10-55 VP  
3006-G28-10-55 VP

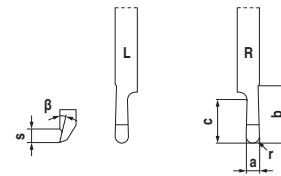
Steel			●	●
Stainless steel			●	●
Cast iron				
Non ferrous metals			○	○
Heat resistant alloys			○	○



3006 VP L		3006 VP R	
NEW X1	NEW X1	NEW X1	NEW X1
Article no.	Article no.	Article no.	Article no.
72 529 ...	72 528 ...	72 529 ...	72 528 ...
£	£	£	£
52.02	52.02	52.02	52.02
111	114	119	128

# 3007 L / 3007 R

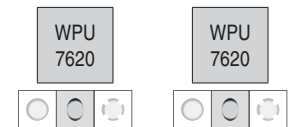
Designation	a CW mm	b mm	c PDPT mm	$\beta^\circ$	r CRE mm	s mm
3007-R0,25-2..	0.5	12	2.0	6	0.25	2
3007-R0,5-2,5..	1.0	12	2.5	6	0.50	2
3007-R0,6-2,5..	1.2	12	2.5	6	0.60	2
3007-R0,75-3..	1.5	12	3.0	6	0.75	2
3007-R0,8-3-1..	1.6	12	3.0	6	0.80	2
3007-R1,0-10	2.0	12	10.0	6	1.00	2
3007-R1,5-10	3.0	12	10.0	6	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


ISO	3007 L		3007 R	
	NEW X1	Article no.	NEW X1	Article no.
		72 482 ...		72 480 ...
	£		£	
3007-R0,25-2-10	33.58	510	33.58	510
3007-R0,5-2,5-10	33.58	512	33.58	512
3007-R0,6-2,5-10	33.58	514	33.58	514
3007-R0,75-3-10	33.58	516	33.58	516
3007-R0,8-3-10	33.58	518	33.58	518
3007-R1,0-10	33.58	520	33.58	520
3007-R1,5-10	33.58	522	33.58	522
3007-R1,5-16	39.95	524	39.95	524
Steel	●		●	
Stainless steel	●		●	
Cast iron	●		●	
Non ferrous metals	○		○	
Heat resistant alloys	○		○	

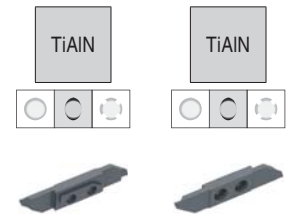
3



# 3007 L / 3007 R

▪ for radius turning

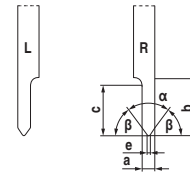
F	M	R
		



ISO	3007 L		3007 R	
	X1	X1	X1	X1
	Article no.	Article no.	Article no.	Article no.
	72 482 ...	72 480 ...	72 480 ...	72 480 ...
	£	£	£	£
3007-R0,25-2-10	40.22	110	40.22	110
3007-R0,5-2,5-10	40.22	112	40.22	112
3007-R0,6-2,5-10	40.22	114	40.22	114
3007-R0,75-3-10	40.22	116	40.22	116
3007-R0,8-3-10	40.22	118	40.22	118
3007-R1,0-10	40.22	120	40.22	120
3007-R1,5-10	40.22	122	40.22	122
3007-R1,5-16	46.11	124	46.11	124
Steel		○		○
Stainless steel		○		○
Cast iron				
Non ferrous metals		●		●
Heat resistant alloys		○		○

## 3012 L / 3012 R

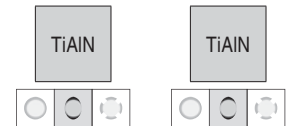
Designation	a CW mm	c PDPT mm	b mm	$\beta^\circ$	$\alpha^\circ$ PNA	e CF mm
3012-2-6-...	2	2	10	60	60	0.035
3012-2-10..	2	10	12	45	90	-



## 3012 L / 3012 R

▪ for chamfering

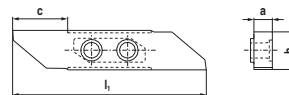
F	M	R



ISO	3012 L X1		3012 R X1	
	Article no.		Article no.	
3012-2-6-60	72 486 ...		72 484 ...	
3012-2-10-45				
	£		£	
	40.22	110	40.22	110
	40.22	112	40.22	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



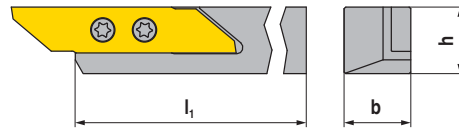
## 3001 L / 3001 R

▪ Blank



ISO	3001 L X1		3001 R X1	
	Article no.		Article no.	
3001-3,5-10	72 414 ...		72 412 ...	
3001-3,6-17				
	£		£	
	25.47	010	25.47	010
	31.00	030	31.00	030

# VertiClamp - Standard tool holder

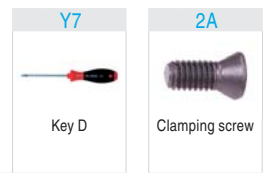


Illustrations show right-hand versions

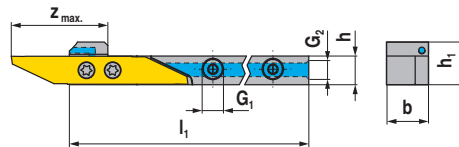
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert	Left-hand X0		Right-hand X0	
					Article no. 72 302 ...	£	Article no. 72 300 ...	£
3000-08x100 .	8	8	100	30..	008	97.12	008	97.12
3000-10x100 .	10	10	100	30..	010	105.95	010	105.95
3000-12x100 .	12	12	100	30..	012	115.15	012	115.15
3000-16x125 .	16	16	125	30..	016	138.58	016	138.58
3000-20x125 .	20	20	125	30..	020	154.94	020	154.94
3000-25x150 .	25	25	150	30..	025	196.35	025	196.35

**Spare parts  
for Article no.**

Article no.	£	Article no. 80 950 ...	£	Article no. 72 950 ...	£
72 300 008 / 72 302 008		T08	9.52	110	3.38
72 300 010 / 72 302 010		T08	9.52	110	3.38
72 300 012 / 72 302 012		T08	9.52	110	3.38
72 300 016 / 72 302 016		T08	9.52	110	3.38
72 300 020 / 72 302 020		T08	9.52	110	3.38



# VertiClamp - Standard holder with thro' coolant



Illustrations show right-hand versions

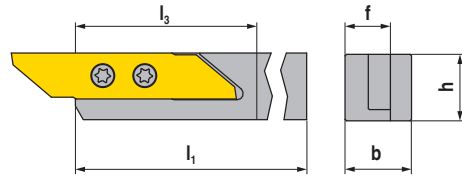
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>1</sub> OAH mm	z <sub>max.</sub> mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand NEW X0		Right-hand NEW X0	
									Article no. 72 311 ...	£	Article no. 72 310 ...	£
3000-08x100 .IC	8	12	100	12.2	26	M5	M5	30..	008	316.80	008	316.80
3000-10x100 .IC	10	12	100	14.0	26	M5	M5	30..	010	262.35	010	262.35
3000-12x100 .IC	12	12	100	16.0	26	M5	M5	30..	012	262.35	012	262.35
3000-16x100 .IC	16	16	125	20.0	26	M5	G1/8"	30..	016	278.85	016	278.85
3000-20x100 .IC	20	20	125	24.0	26	M5	G1/8"	30..	020	285.45	020	285.45
3000-25x100 .IC	25	25	125	29.0	26	M5	G1/8"	30..	025	321.75	025	321.75

**Spare parts  
for Article no.**

Article no.	£	Article no. 72 950 ...	£	Article no. 80 950 ...	£	Article no. 72 950 ...	£
72 310 008 / 72 311 008		M5x4	7.59	011	T08	9.52	110
72 310 010 / 72 311 010		M5x4	7.59	011	T08	9.52	110
72 310 012 / 72 311 012		M5x4	7.59	011	T08	9.52	110
72 310 016 / 72 311 016		G1/8"	24.09	010	M5x4	7.59	011
72 310 020 / 72 311 020		G1/8"	24.09	010	M5x4	7.59	011
72 310 025 / 72 311 025		G1/8"	24.09	010	M5x4	7.59	011



# VertiClamp - Offset tool holder



Illustrations show right-hand versions

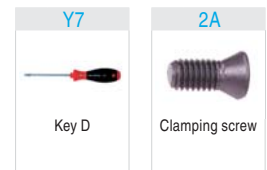
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert
3000-10x100 .A	10	10	100	37	8	30..
3000-12x100 .A	12	12	100	37	8	30..
3000-16x125 .A	16	16	125	37	8	30..



Left-hand X0		Right-hand X0	
Article no.		Article no.	
72 309 ...		72 308 ...	
£		£	
115.17	006	115.17	006
126.93	008	126.93	008
153.79	010	153.79	010

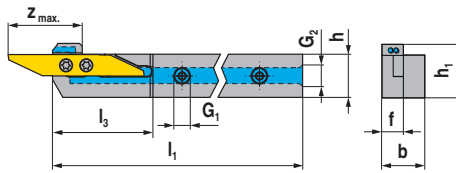
**Spare parts  
for Article no.**

72 308 008 / 72 309 008	T08	9.52	110	3.38	004
72 308 010 / 72 309 010	T08	9.52	110	3.38	004



Article no. 80 950 ...		Article no. 72 950 ...	
£		£	
9.52	110	3.38	004
9.52	110	3.38	004

# VertiClamp - Offset holder with thro' coolant



Illustrations show right-hand versions

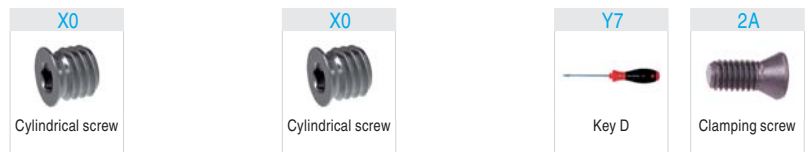
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	f WF mm	l <sub>3</sub> LH mm	h <sub>1</sub> OAH mm	z <sub>max.</sub> mm	G <sub>1</sub>	G <sub>2</sub>	Insert
3000-16x125 .A IC	16	16	125	8	37	20	27	M5	G1/8"	30..



Left-hand NEW X0		Right-hand NEW X0	
Article no.		Article no.	
72 315 ...		72 314 ...	
£		£	
278.85	016	278.85	016

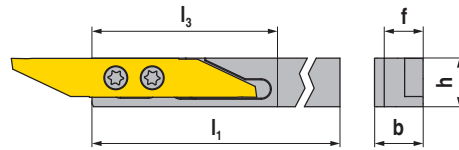
**Spare parts  
for Article no.**

72 314 016 / 72 315 016	G1/8"	24.09	010	M5x4	7.59	011	T08	9.52	110	3.38	004
-------------------------	-------	-------	-----	------	------	-----	-----	------	-----	------	-----



Article no. 72 950 ...		Article no. 72 950 ...		Article no. 80 950 ...		Article no. 72 950 ...	
£		£		£		£	
24.09	010	7.59	011	9.52	110	3.38	004

## VertiClamp - Offset holder with offset insert seat



Illustrations show right-hand versions

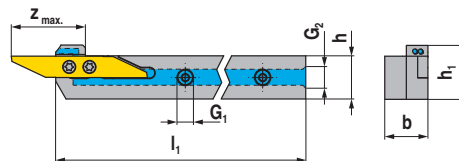


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	Insert	Left-hand		Right-hand	
							NEW	X0	NEW	X0
3000-10x100 .AV	10	10	100	28	8	30..	NEW	X0	NEW	X0
3000-12x100 .AV	12	12	100	28	8	30..	Article no.	Article no.	Article no.	Article no.
3000-16x125 .AV	16	16	125	28	8	30..	72 317 ...	72 316 ...	72 316 ...	72 316 ...
							£	£	£	£
							115.17	010	115.17	010
							115.17	012	115.17	012
							139.59	016	139.59	016



Spare parts for Article no.	T08	Article no. 80 950 ...		Article no. 72 950 ...	
		£	110	£	004
72 316 010 / 72 317 010	T08	9.52	110	3.38	004
72 317 012	T08	9.52	110	3.38	004
72 316 016 / 72 317 016	T08	9.52	110	3.38	004

## VertiClamp - Offset holder with offset insert seat and thro' coolant



Illustrations show right-hand versions

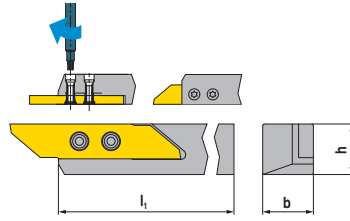


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>1</sub> OAH mm	z <sub>max.</sub> mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
									NEW	X0	NEW	X0
3000-16x125 .AV IC	16	16	125	20	27	M5	G1/8"	30..	NEW	X0	NEW	X0
									Article no.	Article no.	Article no.	Article no.
									72 313 ...	72 312 ...	72 312 ...	72 312 ...
									£	£	£	£
									278.85	016	278.85	016



Spare parts for Article no.	M5x4	Article no. 72 950 ...		Article no. 72 950 ...		Article no. 80 950 ...		Article no. 72 950 ...	
		£	010	£	011	£	110	£	004
72 312 016 / 72 313 016	G1/8"	24.09	010	7.59	011	9.52	110	3.38	004

# VertiClamp - Combi tool holder



Illustrations show right-hand versions



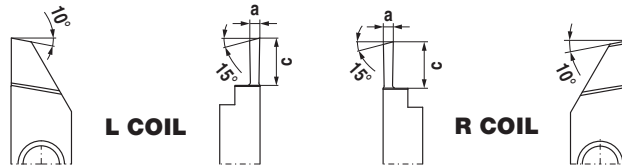
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert	Left-hand X0		Right-hand X0	
					Article no. 72 306 ...	Article no. 72 304 ...	Article no. 72 306 ...	Article no. 72 304 ...
3000-08x100 .C	8	8	100	30..	£ 112.09	008	£ 112.09	008
3000-10x100 .C	10	10	100	30..	£ 122.32	010	£ 122.32	010
3000-12x100 .C	12	12	100	30..	£ 131.67	012	£ 131.67	012
3000-16x125 .C	16	16	125	30..	£ 159.56	016	£ 159.56	016
3000-20x125 .C	20	20	125	30..	£ 179.38	020	£ 179.38	020



Spare parts for Article no.	Article no. 80 950 ...	£	110	Article no. 72 950 ...		Article no. 72 950 ...	
				£	003	£	008
72 304 008 / 72 306 008	T08	9.52	110	3.38	003	3.72	008
72 304 010 / 72 306 010	T08	9.52	110	3.38	003	3.72	008
72 304 012 / 72 306 012	T08	9.52	110	3.38	003	3.72	008
72 304 016 / 72 306 016	T08	9.52	110	3.38	003	3.72	008
72 304 020 / 72 306 020	T08	9.52	110	3.38	003	3.72	008

## 25L COIL / 25R COIL

Designation	a	c
	CW mm	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 / 25R COIL

▪ for parting off

ISO	25L COIL		25R COIL	
	NEW X1 Article no. 72 607 ...	£	NEW X1 Article no. 72 600 ...	£
25. COI. 0,8			44.60	208
25. COI. 1,0	44.60	210	44.60	210
25. COI. 1,5	43.40	215	43.40	215
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•

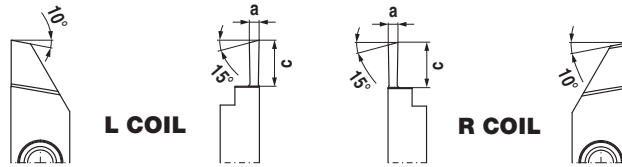
## 25L COIL / 25R COIL

▪ for parting off

ISO	25L COIL		25R COIL	
	NEW X1 Article no. 72 607 ...	£	NEW X1 Article no. 72 600 ...	£
25. COI. 0,8			41.40	108
25. COI. 1,0			41.40	110
25. COI. 2,0	40.00	120	40.00	120
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•

## 25CL COIL / 25CR COIL

Designation	a	c
	CW mm	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		25CR COIL	
	NEW X1	Article no.	NEW X1	Article no.
25C. COI. 0,8		72 637 ...		72 628 ...
25C. COI. 1,0	46.80	210	46.20	210
25C. COI. 1,5	45.00	215	44.80	215
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•

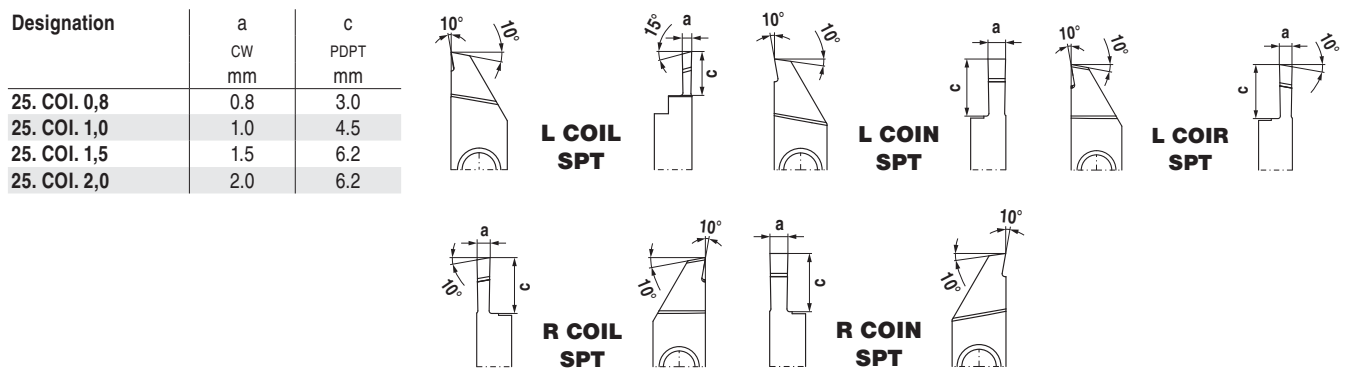
## 25CL COIL / 25CR COIL

- For parting off
- Contra version

ISO	25CL COIL		25CR COIL	
	NEW X1	Article no.	NEW X1	Article no.
25C. COI. 0,8		72 637 ...		72 628 ...
25C. COI. 1,0			43.20	110
25C. COI. 2,0	41.60	120	41.60	120
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•



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



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

▪ for parting off

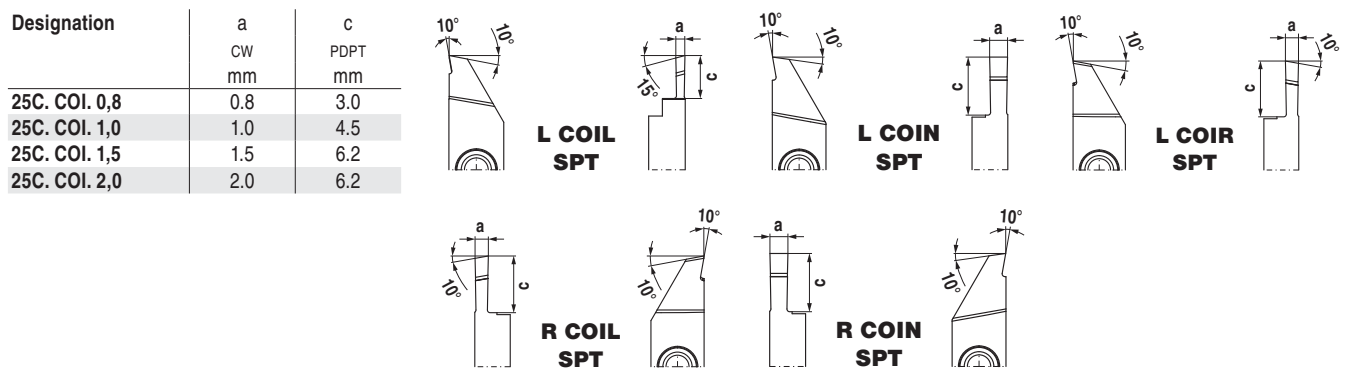
	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615	-SPT WPX 7615
ISO	25L COIL <b>NEW</b> X1 Article no. 72 601 ... £	25L COIN <b>NEW</b> X1 Article no. 72 605 ... £	25L COIR <b>NEW</b> X1 Article no. 72 603 ... £	25R COIL <b>NEW</b> X1 Article no. 72 602 ... £	25R COIN <b>NEW</b> X1 Article no. 72 604 ... £
25. COI. 0,8	44.60 208		44.60 208	44.60 208	
25. COI. 1,0	44.60 210	44.60 210		43.40 215	44.60 210
25. COI. 1,5	43.40 215	43.40 215		43.40 215	43.40 215
25. COI. 2,0	43.40 220			43.40 220	43.40 220
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
ISO	25L COIL <b>NEW</b> X1 Article no. 72 601 ... £	25L COIR <b>NEW</b> X1 Article no. 72 603 ... £	25R COIL <b>NEW</b> X1 Article no. 72 602 ... £	25R COIN <b>NEW</b> X1 Article no. 72 604 ... £
25. COI. 0,8		41.40 108	41.40 108	
25. COI. 1,0				41.40 110
25. COI. 1,5	40.00 115		40.00 115	40.00 115
25. COI. 2,0				40.00 120
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•

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



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

- For parting off
- Contra version

	-SPT	-SPT	-SPT	-SPT	-SPT
	WPX 7615	WPX 7615	WPX 7615	WPX 7615	WPX 7615
	25CL COIL	25CL COIN	25CL COIR	25CR COIL	25CR COIN
ISO	<b>NEW</b> X1 Article no. 72 635 ...	<b>NEW</b> X1 Article no. 72 633 ...	<b>NEW</b> X1 Article no. 72 631 ...	<b>NEW</b> X1 Article no. 72 630 ...	<b>NEW</b> X1 Article no. 72 632 ...
	£	£	£	£	£
25C. COI. 0,8	46.20 208		46.20 208	46.20 208	
25C. COI. 1,0	46.20 210	46.20 210		46.20 208	46.20 210
25C. COI. 1,5	43.40 215	44.80 215		44.80 215	44.80 215
25C. COI. 2,0	45.00 220			44.80 220	44.80 220
Steel	•	•	•	•	•
Stainless steel	•	•	•	•	•
Cast iron	•	•	•	•	•
Non ferrous metals	•	•	•	•	•
Heat resistant alloys	•	•	•	•	•

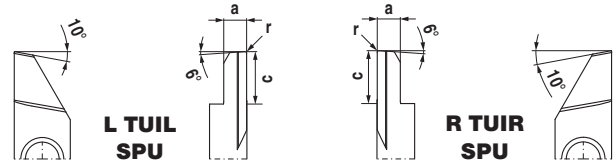
## 25CL COIL / 25CL COIR / 25CR COIL / 25CR COIN

- For parting off
- Contra version

	-SPT	-SPT	-SPT	-SPT
	WUX 7620	WUX 7620	WUX 7620	WUX 7620
	25CL COIL	25CL COIR	25CR COIL	25CR COIN
ISO	<b>NEW</b> X1 Article no. 72 635 ...	<b>NEW</b> X1 Article no. 72 631 ...	<b>NEW</b> X1 Article no. 72 630 ...	<b>NEW</b> X1 Article no. 72 632 ...
	£	£	£	£
25C. COI. 0,8		46.20 108	46.20 108	
25C. COI. 1,0				43.20 110
25C. COI. 1,5	41.60 115		41.60 115	41.60 115
25C. COI. 2,0				41.60 120
Steel	•	•	•	•
Stainless steel	•	•	•	•
Cast iron	•	•	•	•
Non ferrous metals	•	•	•	•
Heat resistant alloys	•	•	•	•


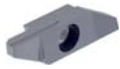
## 25L TUIL / 25R TUIR / 25CL TUIL / 25CR TUIR

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	-SPU		-SPU	
	WPX 7615	WPX 7615	WPX 7615	WPX 7615
				
	25L TUIL	25R TUIR		
	<b>NEW</b> X1	<b>NEW</b> X1		
	Article no.	Article no.		
	72 627 ...	72 626 ...		
	£	£		
25. TUI. 2,5	43.40	43.40	200	200
25. TUI. 2,5-0,2	43.40	43.40	202	202
Steel			•	•
Stainless steel			•	•
Cast iron			•	•
Non ferrous metals			•	•
Heat resistant alloys			•	•

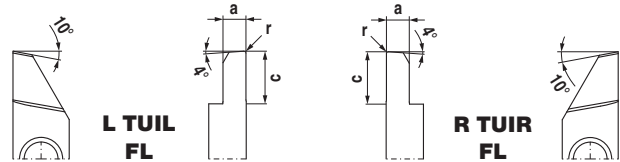
## 25CL TUIL / 25CR TUIR

- For front turning
- Contra version

ISO	-SPU		-SPU	
	WPX 7615	WPX 7615	WPX 7615	WPX 7615
				
	25CL TUIL	25CR TUIR		
	<b>NEW</b> X1	<b>NEW</b> X1		
	Article no.	Article no.		
	72 659 ...	72 658 ...		
	£	£		
25C. TUI. 2,5	44.80	44.80	200	200
25C. TUI. 2,5-0,2	44.80	44.80	202	202
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	-FL WPX 7615		-FL WPX 7615	
	25L TUIL NEW X1 Article no. 72 625 ...	£	25R TUIR NEW X1 Article no. 72 624 ...	£
25. TUI. 2,5	41.60	200	41.60	200
25. TUI. 2,5-0,2	41.60	202	41.60	202
Steel	•		•	
Stainless steel	•		•	
Cast iron	•		•	
Non ferrous metals	•		•	
Heat resistant alloys	•		•	

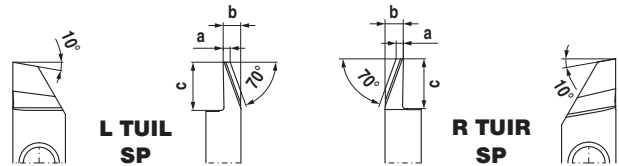
## 25CL TUIL / 25CR TUIR

- For front turning
- Contra version

ISO	-FL WPX 7615		-FL WPX 7615	
	25CL TUIL NEW X1 Article no. 72 657 ...	£	25CR TUIR NEW X1 Article no. 72 656 ...	£
25C. TUI. 2,5	43.40	200	43.40	200
25C. TUI. 2,5-0,2	43.40	202	43.40	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




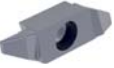
## 25L TUIL / 25R TUIR

- for back turning

ISO

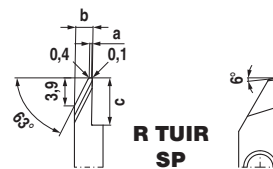
25. TUI. 2,0

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

-SP		-SP	
WPX 7615		WPX 7615	
			
25L TUIL		25R TUIR	
NEW X1		NEW X1	
Article no. 72 613 ...		Article no. 72 616 ...	
£	44.20	£	44.20
	220		220

## 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

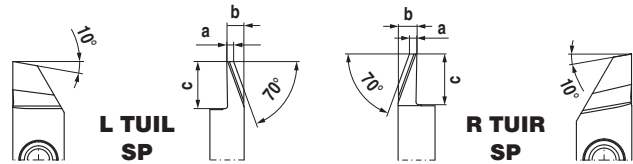
25. TUI. 2,5

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

-SP	
WPX 7630	
	
25R TUIR	
NEW X1	
Article no. 72 612 ...	
£	52.40
	325

## 25CL TUIL / 25CR TUIR

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




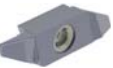
## 25CL TUIL / 25CR TUIR

- For back turning
- Contra version

ISO

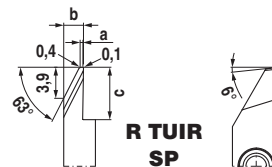
25C. TUI. 2,0

	25CL TUIL	25CR TUIR
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•

-SP	-SP
WPX 7615	WPX 7615
	
25CL TUIL <b>NEW</b> X1	25CR TUIR <b>NEW</b> X1
Article no. 72 649 ...	Article no. 72 648 ...
£ 45.60	£ 45.60
220	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

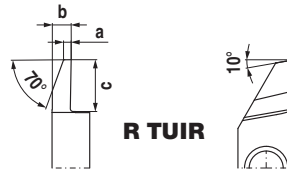
	25CR TUIR
Steel	•
Stainless steel	•
Cast iron	•
Non ferrous metals	•
Heat resistant alloys	•

-SP
WPX 7630

25CR TUIR <b>NEW</b> X1
Article no. 72 644 ...
£ 53.80
305

## 25R TUIR

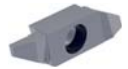
Designation	a CW mm	c PDPT mm	b mm
25. TUI. 2,0	0.8	5	2



## 25R TUIR

- for back turning

WPX  
7615



25R TUIR

NEW X1

Article no.  
72 614 ...

£  
41.60 220

ISO

25. TUI. 2,0

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

## 25R TUIR

- for grooving and turning

WUX  
7620



25R TUIR

NEW X1

Article no.  
72 614 ...

£  
38.60 120

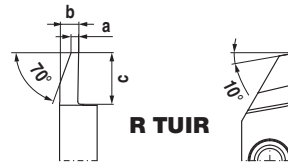
ISO

25. TUI. 2,0

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 X1

Article no.  
72 646 ...

£  
43.40 220

ISO

25C. TUI. 2,0

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

## 25CR TUIR

- For back turning
- Contra version

WUX  
7620



25CR TUIR

NEW X1

Article no.  
72 646 ...

£  
40.00 120

ISO

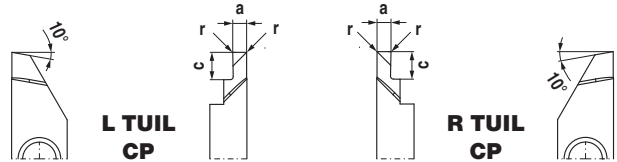
25C. TUI. 2,0

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	25L TUIL		25R TUIR	
	NEW X1	Article no.	NEW X1	Article no.
		72 609 ...		72 608 ...
	£		£	
25. TUI. 1,0	44.60	210	44.60	210
25. TUI. 1,5	44.60	215	44.60	215
25. TUI. 1,5-0,08			47.60	217
25. TUI. 2,0	43.40	220	43.40	220
25. TUI. 2,0-0,08			46.20	222
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•

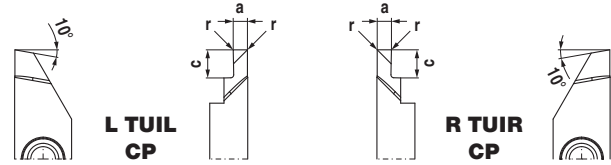
## 25L TUIL / 25R TUIR

▪ for grooving and turning

ISO	25L TUIL		25R TUIR	
	NEW X1	Article no.	NEW X1	Article no.
		72 609 ...		72 608 ...
	£		£	
25. TUI. 1,0	41.40	110	41.40	110
25. TUI. 1,5			41.40	115
25. TUI. 2,0	40.00	120	40.00	120
Steel		•		•
Stainless steel		•		•
Cast iron		•		•
Non ferrous metals		•		•
Heat resistant alloys		•		•



## 25CL TUIL / 25CR TUIR

Designation	a	c	r
	CW mm	PDPT mm	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	-CP		-CP	
	WPX 7615		WPX 7615	
				
	25CL TUIL		25CR TUIR	
	<b>NEW</b> X1		<b>NEW</b> X1	
	Article no.		Article no.	
	72 639 ...		72 638 ...	
	£		£	
25C. TUI. 1,0	46.20	210	46.20	210
25C. TUI. 1,5	46.20	215	46.20	215
25C. TUI. 1,5-0,08			49.20	217
25C. TUI. 2,0	44.80	220	44.80	220
25C. TUI. 2,0-0,08			47.80	222
Steel	•		•	
Stainless steel	•		•	
Cast iron	•		•	
Non ferrous metals	•		•	
Heat resistant alloys	•		•	

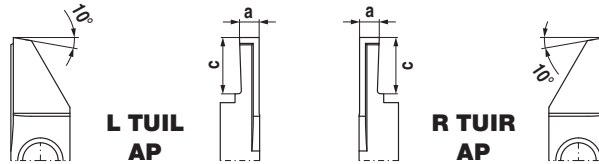
## 25CL TUIL / 25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO	-CP		-CP	
	WUX 7620		WUX 7620	
				
	25CL TUIL		25CR TUIR	
	<b>NEW</b> X1		<b>NEW</b> X1	
	Article no.		Article no.	
	72 639 ...		72 638 ...	
	£		£	
25C. TUI. 1,0	43.20	110	43.20	110
25C. TUI. 1,5			43.20	115
25C. TUI. 2,0	41.60	120	41.60	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
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	•	•

-AP		-AP	
WPX 7615		WPX 7615	
25L TUIL		25R TUIR	
NEW X1		NEW X1	
Article no.		Article no.	
72 611 ...		72 610 ...	
£		£	
44.60	220	44.60	220

## 25CL TUIL / 25CR TUIR

- For grooving and longitudinal turning
- Contra version

ISO

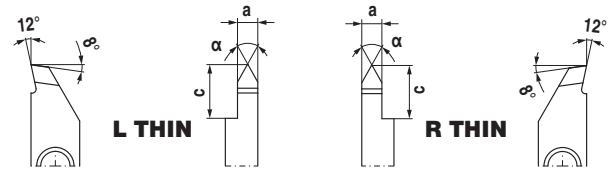
25C. TUI. 2,0

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

-AP		-AP	
WPX 7615		WPX 7615	
25CL TUIL		25CR TUIR	
NEW X1		NEW X1	
Article no.		Article no.	
72 641 ...		72 640 ...	
£		£	
46.20	220	46.20	220

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

Designation	a CW mm	c PDPT mm	$\alpha^\circ$ 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



## 25L THIN / 25R THIN

- For thread turning (partial profile)



ISO

	25L THIN NEW X1 Article no. 72 619 ...		25R THIN NEW X1 Article no. 72 618 ...	
	£		£	
25. THIN-0,5-0,8/60	53.00	305	53.00	305
25. THIN-1,0-1,5/60	53.00	310	53.00	310

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

## 25CL THIN / 25CR THIN

- For thread turning (partial profile)
- Contra version



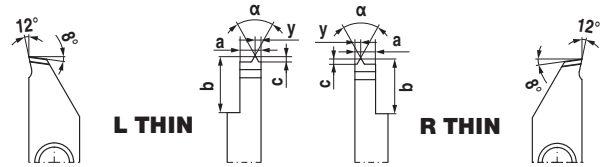
ISO

	25CL THIN NEW X1 Article no. 72 651 ...		25CR THIN NEW X1 Article no. 72 650 ...	
	£		£	
25C. THIN-0,5-0,8/60	54.40	305	54.40	305
25C. THIN-1,0-1,5/60	54.40	310	54.40	310

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	$\alpha^\circ$ 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

	25L THIN	25R THIN
Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●

	25L THIN		25R THIN	
	NEW	X1	NEW	X1
Article no.	72 623 ...		72 622 ...	
£	74.00	305	74.00	305
	74.00	307	74.00	307
	74.00	317	74.00	317
	74.00	308	74.00	308
	74.00	310	74.00	310
	76.80	312	76.80	312
	76.80	315	76.80	315

## 25CL THIN / 25CR THIN

- For thread turning (full profile)
- Contra version



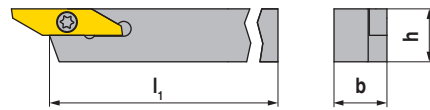
ISO

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

	25CL THIN	25CR THIN
Steel	●	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys	●	●

	25CL THIN		25CR THIN	
	NEW	X1	NEW	X1
Article no.	72 655 ...		72 654 ...	
£	76.00	305	76.00	305
	76.00	307	76.00	307
	76.00	317	76.00	317
	76.00	308	76.00	308
	76.00	310	76.00	310
	78.60	312	78.60	312
	78.60	315	78.60	315

# SH 25 - Turning tool holder



Illustrations show right-hand versions



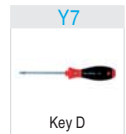
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert	Left-hand		Right-hand	
					NEW X0 Article no. 72 001 ... £	008 010 012 016	NEW X0 Article no. 72 000 ... £	008 010 012 016 020
SH R/L 08-25	8	8	140	25 R/L...	126.00	008	126.00	008
SH R/L 10-25	10	10	140	25 R/L...	130.00	010	130.00	010
SH R/L 12-25	12	12	140	25 R/L...	135.00	012	135.00	012
SH R/L 16-25	16	16	125	25 R/L...	145.00	016	145.00	016
SH R 20-25	25	20	125	25 R...			166.00	020

**Spare parts  
for Article no.**

Article no.	£	501	T08	Article no.	£	110
72 000 008 / 72 001 008	5.80	501	T08	80 950 ...	9.52	110
72 000 010 / 72 001 010	5.80	501	T08	80 950 ...	9.52	110
72 000 012 / 72 001 012	5.80	501	T08	80 950 ...	9.52	110
72 000 016 / 72 001 016	5.80	501	T08	80 950 ...	9.52	110
72 000 020	5.80	501	T08	80 950 ...	9.52	110



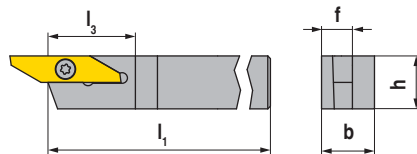
Article no.  
72 950 ...



Article no.  
80 950 ...

# SH 25 A - Offset turning tool holder

▪ For parting off with pick-up spindle



Illustrations show right-hand versions



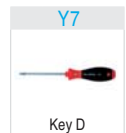
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	f WF mm	l <sub>3</sub> LH mm	Insert	Left-hand		Right-hand	
							NEW X0 Article no. 72 009 ... £	010 012 016	NEW X0 Article no. 72 008 ... £	010 012 016
SH R/L 10-25 A	10	10	140	7	22	25 R/L...	143.00	010	143.00	010
SH R/L 12-25 A	12	12	140	7	22	25 R/L...	143.00	012	143.00	012
SH R/L 16-25 A	16	16	125	7	22	25 R/L...	161.00	016	161.00	016

**Spare parts  
for Article no.**

Article no.	£	504	T08	Article no.	£	110
72 008 010 / 72 009 010	5.80	504	T08	80 950 ...	9.52	110
72 008 012 / 72 009 012	5.80	504	T08	80 950 ...	9.52	110
72 008 016 / 72 009 016	5.80	504	T08	80 950 ...	9.52	110



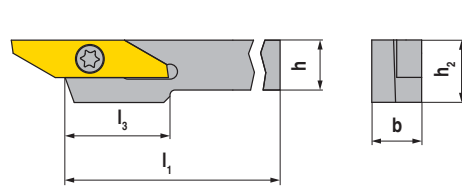
Article no.  
72 950 ...



Article no.  
80 950 ...

3

# SH 25 RH - Reinforced turning tool holder



Illustrations show right-hand versions

ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>2</sub> HF mm	l <sub>3</sub> LH mm	Insert
SH R/L 08-25 RH	8	8	140	10	17	25 R/L...



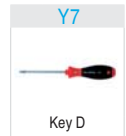
Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 003 ...		Article no. 72 002 ...	
£ 151.00		£ 151.00	
008		008	

Spare parts  
for Article no.  
72 002 008 / 72 003 008



TORX® Screws

Article no. 72 950 ...  
£ 5.80

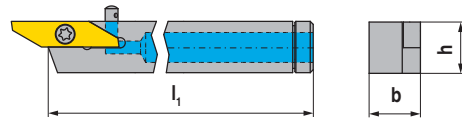


Key D

Article no. 80 950 ...  
£ 9.52

M3x8-30°	501	T08	110
----------	-----	-----	-----

# SH 25 DC - Turning tool holder with rear coolant supply



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert
SH R 10-25 DC	10	10	110	25 R...

Right-hand	
NEW	X0
Article no. 72 004 ...	
£ 392.00	
010	

Spare parts  
for Article no.  
72 004 010



Coolant nozzle

Article no. 72 950 ...  
£ 9.00



Coolant connection

Article no. 72 950 ...  
£ 10.00



Clamping screw for CN

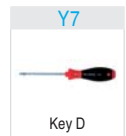
Article no. 72 950 ...  
£ 8.00

M6x1	505	SW2,5	506
------	-----	-------	-----



TORX® Screws

Article no. 72 950 ...  
£ 5.80



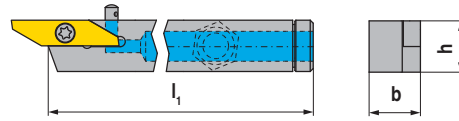
Key D

Article no. 80 950 ...  
£ 9.52

for Article no.  
72 004 010

M3x8-30°	501	T08	110
----------	-----	-----	-----

# 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 <sub>1</sub> OAL mm	Insert
SH R/L 12-25 DC-L	12	12	95	25 R/L...

Left-hand		Right-hand	
<b>NEW</b>	X0	<b>NEW</b>	X0
Article no. 72 007 ...		Article no. 72 006 ...	
£		£	
398.00	012	398.00	012

Spare parts for Article no.	T08	Y7	X0	M8x1	X0	X0
		Key D	Coolant nozzle	Coolant connection	Clamping screw for CN	
		Article no. 80 950 ...	Article no. 72 950 ...	Article no. 72 950 ...	Article no. 72 950 ...	
		£	£	£	£	
72 006 012 / 72 007 012		9.52 110	9.00 505	6.00 510	8.00 508	

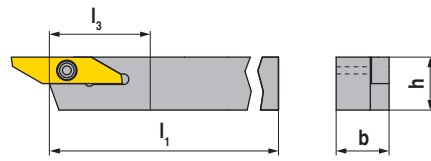
for Article no.	M8x1	X0	X0
		Protection plugs	TORX® Screws
		Article no. 72 950 ...	Article no. 72 950 ...
		£	£
72 006 012 / 72 007 012		5.00 509	5.80 501

3



# 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



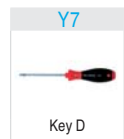
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert	Left-hand		Right-hand	
					NEW X0 Article no. 72 011 ...	£	NEW X0 Article no. 72 010 ...	£
SH R/L C 08-25	8	8	140	25C R/L...	126.00	008	126.00	008
SH R/L C 10-25	10	10	140	25C R/L...	130.00	010	130.00	010
SH R/L C 12-25	12	12	140	25C R/L...	135.00	012	135.00	012
SH R/L C 16-25	16	16	125	25C R/L...	145.00	016	145.00	016
SH R C 20-25	20	20	125	25C R...			166.00	020

Spare parts  
for Article no.

Spare parts for Article no.	M3x8	X0		Y7		
		Article no. 72 950 ...	£	Article no. 80 950 ...	£	
72 010 008 / 72 011 008	M3x8	5.80	500	T09	10.84	111
72 010 010 / 72 011 010	M3x8	5.80	500	T09	10.84	111
72 010 012 / 72 011 012	M3x8	5.80	500	T09	10.84	111
72 010 016 / 72 011 016	M3x8	5.80	500	T09	10.84	111
72 010 020	M3x8	5.80	500	T09	10.84	111



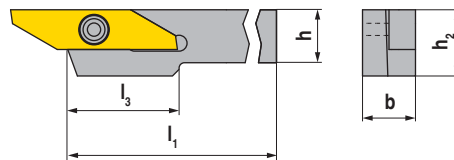
TORX® Screws



Key D

# 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



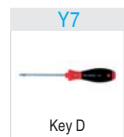
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>2</sub> HF mm	l <sub>3</sub> LH mm	Insert	Left-hand		Right-hand	
							NEW X0 Article no. 72 013 ...	£	NEW X0 Article no. 72 012 ...	£
SH R/L C 08-25 RH	8	8	140	10	17	25C R/L...	151.00	008	151.00	008

Spare parts  
for Article no.

Spare parts for Article no.	M3x8	X0		Y7		
		Article no. 72 950 ...	£	Article no. 80 950 ...	£	
72 012 008 / 72 013 008	M3x8	5.80	500	T09	10.84	111



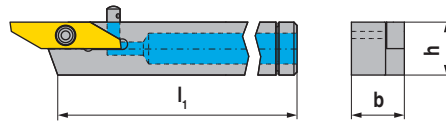
TORX® Screws



Key D

# 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



ISO designation	h	b	l <sub>1</sub>	Insert	Right-hand	
	H	B	OAL		NEW X0	Article no.
	mm	mm	mm		£	
SH R C 10-25 DC	10	10	110	25C R...	386.00	010

Spare parts  
for Article no.

72 014 010

<p>X0</p>  <p>Coolant nozzle</p> <p>Article no. 72 950 ...</p> <p>£ 9.00 505</p>	<p>X0</p>  <p>Coolant connection</p> <p>Article no. 72 950 ...</p> <p>£ 10.00 507</p>	<p>X0</p>  <p>Clamping screw for CN</p> <p>Article no. 72 950 ...</p> <p>£ 8.00 506</p>
<p>X0</p>  <p>TORX® Screws</p> <p>Article no. 72 950 ...</p> <p>£ 5.80 500</p>	<p>Y7</p>  <p>Key D</p> <p>Article no. 80 950 ...</p> <p>£ 10.84 111</p>	

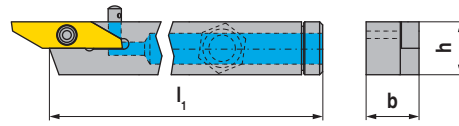
for Article no.

72 014 010

3

# 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 <sub>1</sub> OAL mm	Insert
SH R/L C 12-25 DC-L	12	12	95	25C R/L...

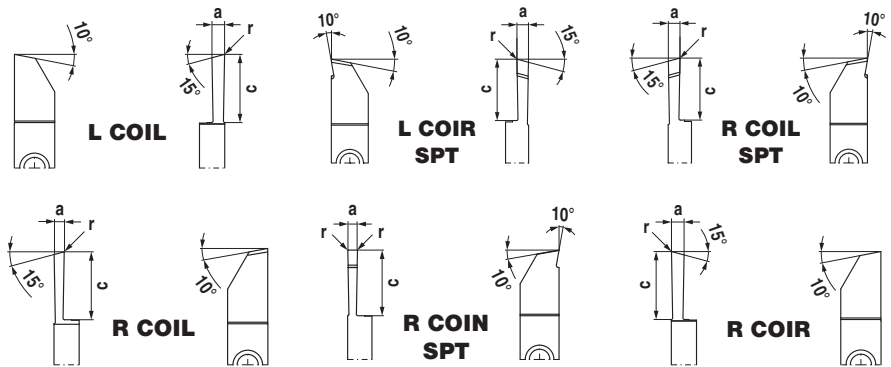
Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 017 ...		Article no. 72 016 ...	
£		£	
398.00	012	398.00	012

Spare parts  
for Article no.

72 016 012 / 72 017 012	T09	 Y7 Key D Article no. 80 950 ... £ 10.84 111	 X0 Coolant nozzle Article no. 72 950 ... £ 9.00 505	 X0 Coolant connection Article no. 72 950 ... £ 6.00 510	 X0 Clamping screw for CN Article no. 72 950 ... £ 8.00 508
72 016 012 / 72 017 012	M8x1	 X0 Protection plugs Article no. 72 950 ... £ 5.00 509	 X0 TORX® Screws Article no. 72 950 ... £ 5.80 500		

# 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

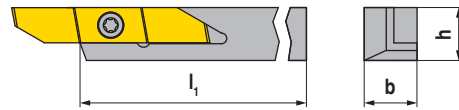
ISO	45L COIL		45R COIL		45R COIR	
	NEW X1	Article no.	NEW X1	Article no.	NEW X1	Article no.
45. COI. 2,0		72 667 ...		72 673 ...		72 666 ...
45. COI. 2,5		72 662 ...		72 663 ...		72 615 ...
	£	68.40	£	68.40	£	68.40
		220		220		225
		68.40		68.40		68.40
		225		225		225
Steel	•		•		•	
Stainless steel	•		•		•	
Cast iron	•		•		•	
Non ferrous metals	•		•		•	
Heat resistant alloys	•		•		•	

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

▪ for parting off

ISO	45L COIR		45R COIL		45R COIN	
	NEW X1	Article no.	NEW X1	Article no.	NEW X1	Article no.
45. COI. 2,0-0,08		72 662 ...		72 663 ...		72 615 ...
45. COI. 2,5		72 662 ...		72 663 ...		72 615 ...
	£	68.40	£	68.40	£	68.40
		225		225		208
		68.40		68.40		68.40
		225		225		208
Steel	•		•		•	
Stainless steel	•		•		•	
Cast iron	•		•		•	
Non ferrous metals	•		•		•	
Heat resistant alloys	•		•		•	

# SH 45 - Turning tool holder



Illustrations show right-hand versions

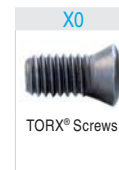
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	Insert
SH R/L 12-45	12	12	140	45 R/L...
SH R/L 16-45	16	16	125	45 R/L...
SH R/L 20-45	20	20	125	45 R/L...



Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 019 ...		Article no. 72 018 ...	
£		£	
146.00	012	146.00	012
150.00	016	150.00	016
168.00	020	168.00	020

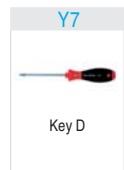
**Spare parts for Article no.**

Article no.	£	513	Article no.	£	113
72 018 012 / 72 019 012	4.40	M4x11,5	80 950 ...	11.34	T15
72 018 016 / 72 019 016	4.40	M4x11,5	80 950 ...	11.34	T15
72 018 020 / 72 019 020	4.40	M4x11,5	80 950 ...	11.34	T15



TORX® Screws

Article no. 72 950 ...

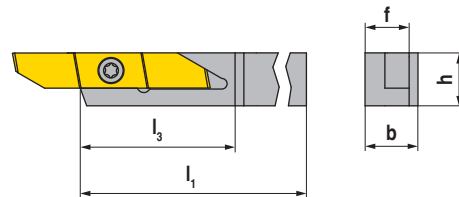


Key D

Article no. 80 950 ...

# SH 45 A - Offset turning tool holder

- For parting off with pick-up spindle



Illustrations show right-hand versions

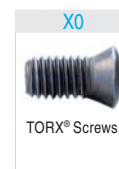
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	f WF mm	l <sub>3</sub> LH mm	Insert
SH R/L 12-45 A	12	12	140	10	38	45 R/L...
SH R/L 16-45 A	16	16	125	10	38	45 R/L...
SH R/L 20-45 A	20	20	125	10	38	45 R/L...



Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 021 ...		Article no. 72 020 ...	
£		£	
153.00	012	153.00	012
168.00	016	168.00	016
173.00	020	173.00	020

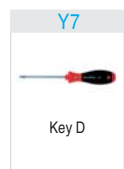
**Spare parts for Article no.**

Article no.	£	503	Article no.	£	113
72 020 012 / 72 021 012	4.40	M4x9,5	80 950 ...	11.34	T15
72 020 016 / 72 021 016	4.40	M4x9,5	80 950 ...	11.34	T15
72 020 020 / 72 021 020	4.40	M4x9,5	80 950 ...	11.34	T15



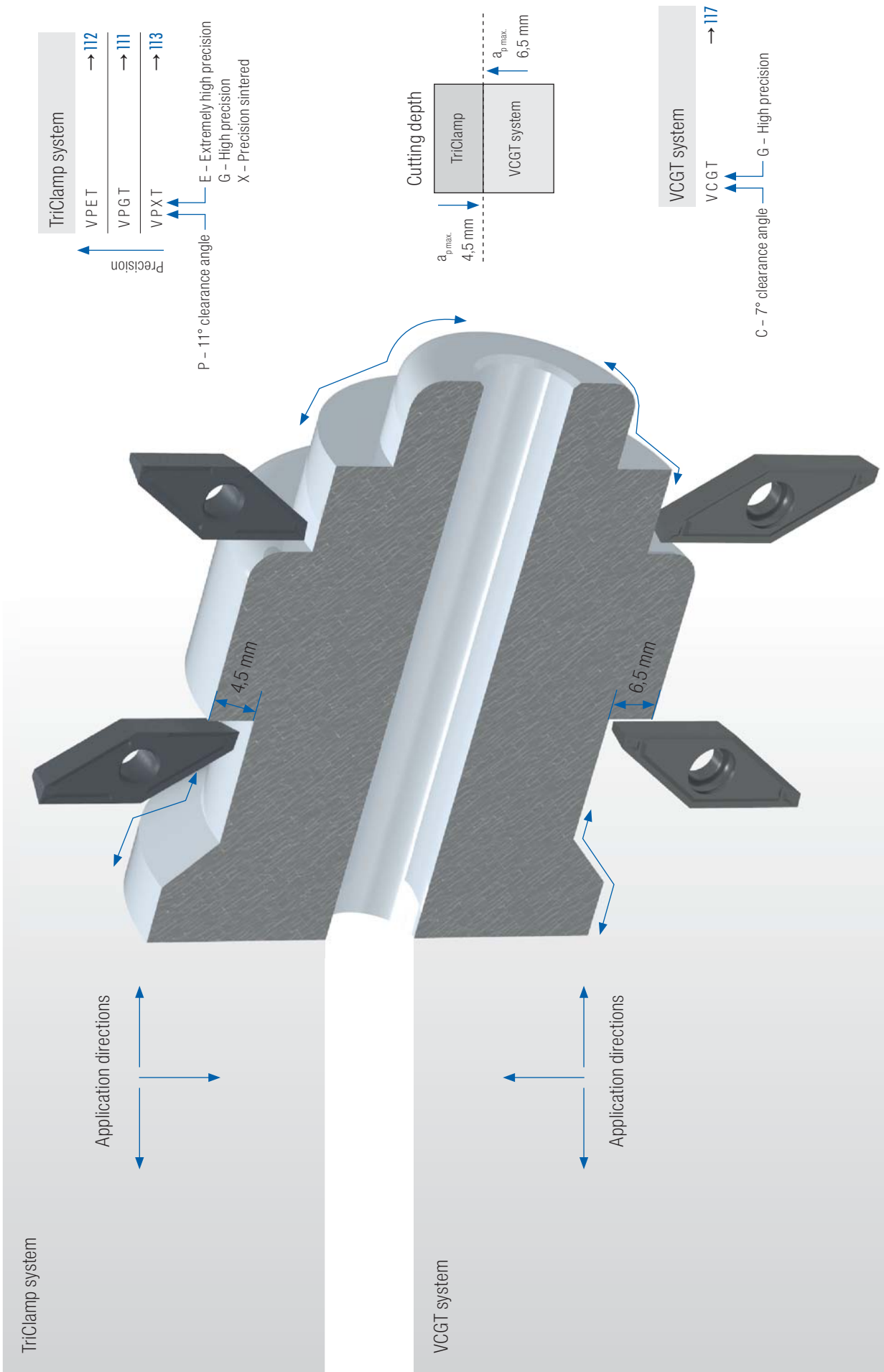
TORX® Screws

Article no. 72 950 ...



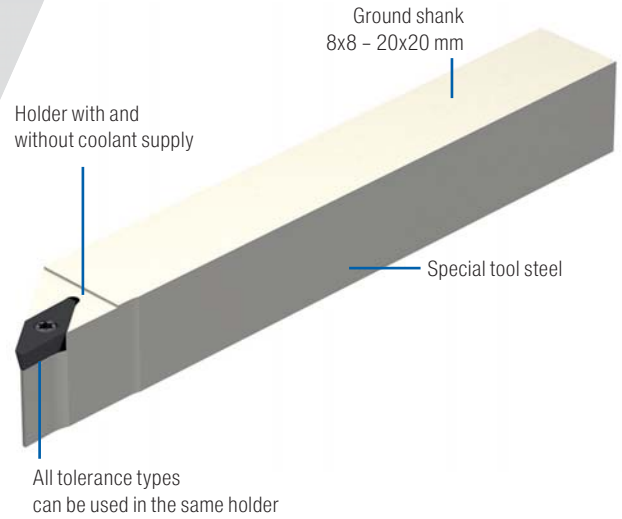
Key D

Article no. 80 950 ...

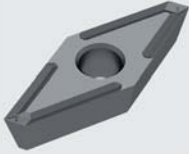

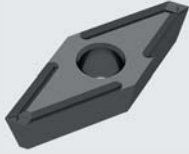



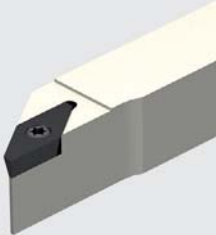
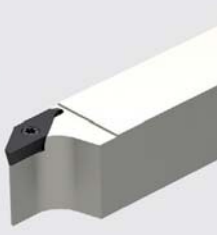
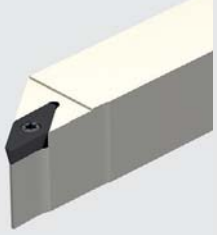
# Highlights

- 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



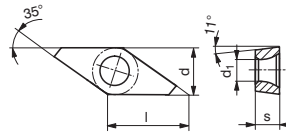
# Overview

Inserts	VPGT 10	VPXT 10	VPET 10	VCGT 13
				
<b>WNT MASTERTOOL PERFORMANCE</b>	111	113	112	
<b>WNT MASTERTOOL STANDARD</b>				117

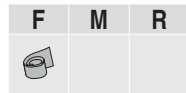
Tool holder	90°	91°	93°
			
<b>WNT MASTERTOOL PERFORMANCE</b>	114	115	114-116
<b>WNT MASTERTOOL STANDARD</b>	118		118

# VPGT / VPET / VPXT

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



## VPGT



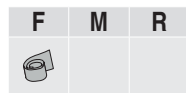
	-FL	-FR	-FL	-FR
	WPU 7610	WPU 7610	TiAlN	TiAlN
	VPGT	VPGT	VPGT	VPGT
	NEW X1	NEW X1	X1	X1
	Article no. 72 405 ...	Article no. 72 404 ...	Article no. 72 493 ...	Article no. 72 492 ...
	£	£	£	£
1003ZZ	29.70 760 <sup>2)</sup>	29.70 760 <sup>1)</sup>	27.01 200 <sup>2)</sup>	27.01 200 <sup>1)</sup>
1003008	29.70 728 <sup>2)</sup>	29.70 728 <sup>1)</sup>	27.01 208 <sup>2)</sup>	27.01 208 <sup>1)</sup>
1003015	29.70 735 <sup>2)</sup>	29.70 735 <sup>1)</sup>	28.26 215 <sup>2)</sup>	28.26 215 <sup>1)</sup>

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



	-FL	-FR	-FL	-FR
	TiAlN+	TiAlN+		
	VPGT	VPGT	VPGT	VPGT
	X1	X1	X1	X1
	Article no. 72 493 ...	Article no. 72 492 ...	Article no. 72 493 ...	Article no. 72 492 ...
	£	£	£	£
1003ZZ	31.10 500 <sup>2)</sup>	31.10 500 <sup>1)</sup>	23.56 000 <sup>2)</sup>	23.56 000 <sup>1)</sup>
1003008	31.10 508 <sup>2)</sup>	31.10 508 <sup>1)</sup>	23.56 008 <sup>2)</sup>	23.56 008 <sup>1)</sup>
1003015	31.10 515 <sup>2)</sup>	31.10 515 <sup>1)</sup>	24.05 015 <sup>2)</sup>	24.05 015 <sup>1)</sup>

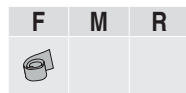
ISO	r RE mm
1003ZZ	0.0
1003008	0.08
1003015	0.15

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

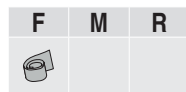


	-FL	-FL	-FL	-FL	-FL
	WUU 7610	WUU 7630	WPU 7610	WPU 7620	TiAlN
	VPET	VPET	VPET	VPET	VPET
	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
ISO	Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...	Article no. 72 403 ...
	£	£	£	£	£
1003ZZ	28.71 060 <sup>1)</sup>	28.71 660 <sup>1)</sup>	33.33 760 <sup>1)</sup>	34.56 560 <sup>1)</sup>	32.93 160 <sup>1)</sup>
1003008	28.71 028 <sup>1)</sup>	28.71 628 <sup>1)</sup>	33.33 728 <sup>1)</sup>	34.56 528 <sup>1)</sup>	32.93 128 <sup>1)</sup>
1003015	28.71 035 <sup>1)</sup>	28.71 635 <sup>1)</sup>	33.33 735 <sup>1)</sup>	34.56 535 <sup>1)</sup>	32.93 135 <sup>1)</sup>

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

1) Note ! Left hand insert for left hand holder

# VPET










	-FR	-FR	-FR	-FR	-FR
	WUU 7610	WUU 7630	WPU 7610	WPU 7620	TiAlN
	VPET	VPET	VPET	VPET	VPET
	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1	<b>NEW</b> X1
ISO	Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...	Article no. 72 402 ...
	£	£	£	£	£
1003ZZ	28.71 060 <sup>1)</sup>	28.71 660 <sup>1)</sup>	33.33 760 <sup>1)</sup>	34.56 560 <sup>1)</sup>	32.93 160 <sup>1)</sup>
1003008	28.71 028 <sup>1)</sup>	28.71 628 <sup>1)</sup>	33.33 728 <sup>1)</sup>	34.56 528 <sup>1)</sup>	32.93 128 <sup>1)</sup>
1003015	28.71 035 <sup>1)</sup>	28.71 635 <sup>1)</sup>	33.33 735 <sup>1)</sup>	34.56 535 <sup>1)</sup>	32.93 135 <sup>1)</sup>

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

1) Note ! Right hand insert for right hand holder

# VPXT

F	M	R
		

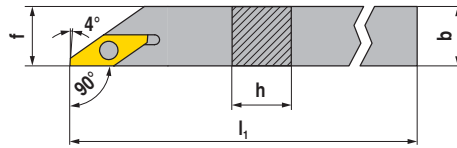
-EL	-ER
	
	
	
VPXT X1	VPXT X1
Article no. 72 493 ...	Article no. 72 492 ...
£ 22.22	£ 22.22
615 <sup>2)</sup>	615 <sup>1)</sup>
22.22	22.22
635 <sup>2)</sup>	635 <sup>1)</sup>

ISO	r RE mm	£	615 <sup>2)</sup>	£	615 <sup>1)</sup>
1003015	0.15	22.22	615 <sup>2)</sup>	22.22	615 <sup>1)</sup>
1003035	0.35	22.22	635 <sup>2)</sup>	22.22	635 <sup>1)</sup>

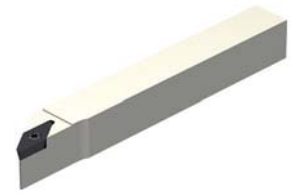
Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys	○	○

- 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



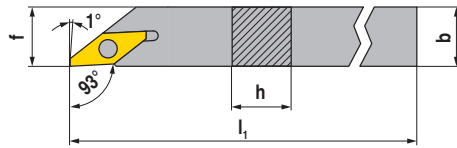
ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	WF mm		X0	Article no.	X0	Article no.
SVAP R/L 0808 H10	8	8	100	8	VP.. 1003	£	72 382 ...	£	72 380 ...
SVAP R/L 1010 H10	10	10	100	10	VP.. 1003	137.42	008	137.42	008
SVAP R/L 1212 H10	12	12	100	12	VP.. 1003	137.42	010	137.42	010
						154.94	012	154.94	012

Spare parts  
Insert

VP.. 1003

Key D		Clamping screw	
Article no.	80 950 ...	Article no.	72 950 ...
£	9.52	£	4.32
T08	110	T08	002

## TriClamp - SVJP 93° - Toolholder with screw clamping



Illustrations show right-hand versions



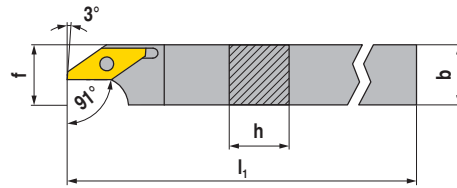
ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand		Right-hand	
	H mm	B mm	OAL mm	WF mm		X0	Article no.	X0	Article no.
SVJP R/L 0808 H10	8	8	100	8	VP.. 1003	£	72 386 ...	£	72 384 ...
SVJP R/L 1010 H10	10	10	100	10	VP.. 1003	137.42	008	137.42	008
SVJP R/L 1212 H10	12	12	100	12	VP.. 1003	137.42	010	137.42	010
SVJP R/L 1616 K10	16	16	125	16	VP.. 1003	154.94	012	154.94	012
						173.51	016	173.51	016

Spare parts  
Insert

VP.. 1003

Key D		Clamping screw	
Article no.	80 950 ...	Article no.	72 950 ...
£	9.52	£	4.32
T08	110	T08	002

# TriClamp - SVXP 91° - Toolholder with screw clamping



Illustrations show right-hand versions



ISO designation	h	b	l <sub>1</sub>	f	Insert	Left-hand X0		Right-hand X0	
	H mm	B mm	OAL mm	WF mm		Article no. 72 390 ...	Article no. 72 388 ...	Article no. 72 390 ...	Article no. 72 388 ...
SVXP R/L 0808 H10	8	8	100	8	VP.. 1003	£ 137.42	008	£ 137.42	008
SVXP R/L 1010 H10	10	10	100	10	VP.. 1003	£ 137.42	010	£ 137.42	010
SVXP R/L 1212 H10	12	12	100	12	VP.. 1003	£ 154.94	012	£ 154.94	012
SVXP R/L 1616 K10	16	16	125	16	VP.. 1003	£ 173.51	016	£ 173.51	016

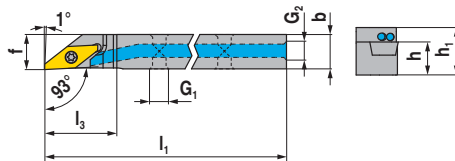


Spare parts  
Insert

VP.. 1003

Article no. 80 950 ...		Article no. 72 950 ...	
£		£	
9.52	110	4.32	002

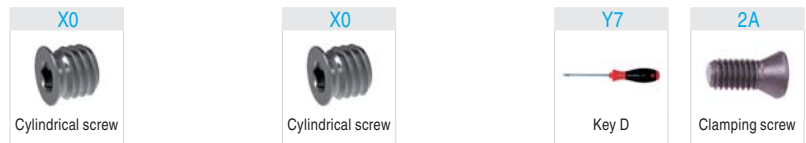
# TriClamp - SVJP 93°-IC - Tool holder with screw clamping and thro' coolant



Illustrations show right-hand versions



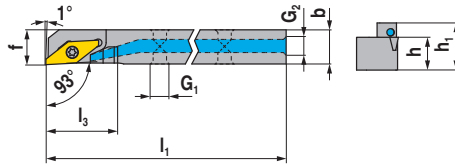
ISO designation	h	b	l <sub>1</sub>	l <sub>3</sub>	f	h <sub>1</sub>	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand NEW X0		Right-hand NEW X0	
	H mm	B mm	OAL mm	LH mm	WF mm	OAH mm				Article no. 72 361 ...	Article no. 72 360 ...	Article no. 72 361 ...	Article no. 72 360 ...
SVJP R/L 0810 H10 IC	8	10	100	21	10	11.5	M5	M5	VP.. 1003	£ 410.85	008	£ 410.85	008
SVJP R/L 1010 H10 IC	10	10	100	21	10	13.5	M5	M5	VP.. 1003	£ 343.20	010	£ 343.20	010
SVJP R/L 1212 H10 IC	12	12	100	21	12	15.5	M5	M5	VP.. 1003	£ 396.00	012	£ 396.00	012
SVJP R/L 1616 K10 IC	16	16	125	21	16	19.5	M5	G1/8"	VP.. 1003	£ 381.15	016	£ 381.15	016
SVJP R/L 2020 K10 IC	20	20	125	21	20	23.5	M5	G1/8"	VP.. 1003	£ 397.65	020	£ 397.65	020



Spare parts  
for Article no.

Article no. 72 950 ...		Article no. 72 950 ...		Article no. 80 950 ...		Article no. 72 950 ...	
£		£		£		£	
72 360 008 / 72 361 008		M5x4	7.59 011	T08	9.52 110	4.32	002
72 360 010 / 72 361 010		M5x4	7.59 011	T08	9.52 110	4.32	002
72 360 012 / 72 361 012		M5x4	7.59 011	T08	9.52 110	4.32	002
72 360 016 / 72 361 016	G1/8"	M5x4	7.59 011	T08	9.52 110	4.32	002
72 360 020 / 72 361 020	G1/8"	M5x4	7.59 011	T08	9.52 110	4.32	002

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



Illustrations show right-hand versions



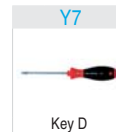
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	h <sub>1</sub> OAH mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
										NEW	X0	NEW	X0
SVJP R/L 0810 H10 VIC	8	10	100	21	10	11.5	M5	M5	VP.. 1003	Article no. 72 363 ...	Article no. 72 362 ...		
SVJP R/L 1010 H10 VIC	10	10	100	21	10	13.5	M5	M5	VP.. 1003	£ 410.85	£ 410.85	008	008
SVJP R/L 1212 H10 VIC	12	12	100	21	12	15.5	M5	M5	VP.. 1003	£ 343.20	£ 343.20	010	010
										£ 396.00	£ 396.00	012	012

Spare parts  
Insert

VP.. 1003	M5x4	£ 7.59	011	T08	£ 9.52	110	£ 4.32	002
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Article no.  
72 950 ...

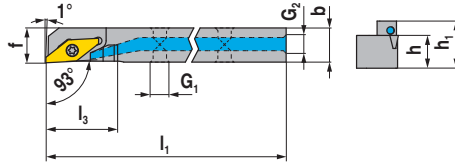


Article no.  
80 950 ...



Article no.  
72 950 ...

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



Illustrations show right-hand versions



ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	f WF mm	h <sub>1</sub> OAH mm	G <sub>1</sub>	G <sub>2</sub>	Insert	Left-hand		Right-hand	
										NEW	X0	NEW	X0
SVJP R/L 1616 K10 VIC	16	16	125	21	16	19.5	M5	G1/8"	VP.. 1003	Article no. 72 365 ...	Article no. 72 364 ...		
SVJP R/L 2020 K10 VIC	20	20	125	21	20	23.5	M5	G1/8"	VP.. 1003	£ 381.15	£ 381.15	016	016
										£ 397.65	£ 397.65	020	020

Spare parts  
Insert

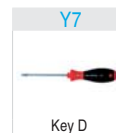
VP.. 1003	G1/8"	£ 24.09	010	M5x4	£ 7.59	011	T08	£ 9.52	110	£ 4.32	002
-----------	-------	---------	-----	------	--------	-----	-----	--------	-----	--------	-----



Article no.  
72 950 ...



Article no.  
72 950 ...



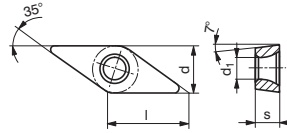
Article no.  
80 950 ...



Article no.  
72 950 ...

# VCGT

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

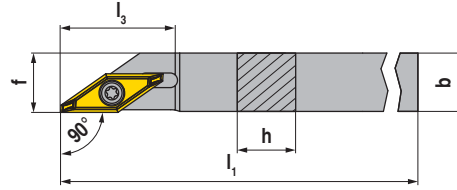


# VCGT

ISO	r RE mm	-FN TiCN		-FN CERMET	
		NEW X1	Article no. 72 668 ...	NEW X1	Article no. 72 668 ...
130300	0.0	£ 37.60	400	£ 34.00	500
130301	0.1	£ 37.60	401	£ 34.00	501
Steel		●		●	
Stainless steel		●		○	
Cast iron		●		●	
Non ferrous metals		●			
Heat resistant alloys					
hardened materials					

3

# SVAC 90° - Toolholder with screw clamping



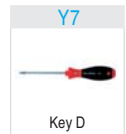
ISO designation	h	b	l <sub>1</sub>	f	l <sub>3</sub>	Insert	Right-hand	
	H mm	B mm	OAL mm	WF mm	LH mm		NEW X0	Article no.
SVAC R 0808 L13	8	8	140	10	25	VCGT 1303..	£	72 030 ...
SVAC R 1010 L13	10	10	140	10		VCGT 1303..	145.00	008
SVAC R 1212 L13	12	12	140	12		VCGT 1303..	127.00	010
SVAC R 1616 M13	16	16	125	16		VCGT 1303..	128.00	012
SVAC R 2020 M13	20	20	125	20		VCGT 1303..	149.00	016
							181.00	020

### Spare parts for Article no.

Article no.	£	502	Article no.	£	111
72 030 008	4.40	502	T09	10.84	111
72 030 010	4.40	502	T09	10.84	111
72 030 012	4.40	502	T09	10.84	111
72 030 016	4.40	502	T09	10.84	111
72 030 020	4.40	502	T09	10.84	111

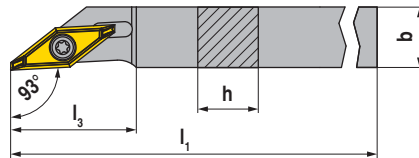


Article no.  
72 950 ...



Article no.  
80 950 ...

# SVJC 93° - Toolholder with screw clamping



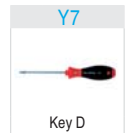
ISO designation	h	b	l <sub>1</sub>	f	l <sub>3</sub>	Insert	Right-hand	
	H mm	B mm	OAL mm	WF mm	LH mm		NEW X0	Article no.
SVJC R 0808 L13	8	8	140	10	25	VCGT 1303..	£	72 032 ...
SVJC R 1010 L13	10	10	140	10		VCGT 1303..	145.00	008
SVJC R 1212 L13	12	12	140	12		VCGT 1303..	127.00	010
SVJC R 1616 M13	16	16	125	16		VCGT 1303..	128.00	012
SVJC R 2020 M13	20	20	125	20		VCGT 1303..	149.00	016
							181.00	020

### Spare parts for Article no.

Article no.	£	502	Article no.	£	111
72 032 008	4.40	502	T09	10.84	111
72 032 010	4.40	502	T09	10.84	111
72 032 012	4.40	502	T09	10.84	111
72 032 016	4.40	502	T09	10.84	111
72 032 020	4.40	502	T09	10.84	111



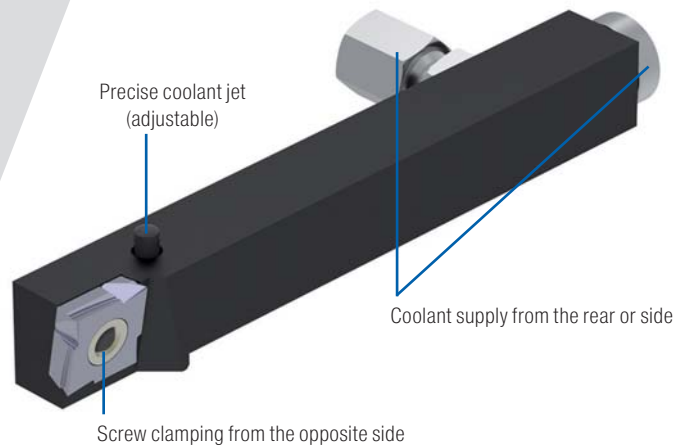
Article no.  
72 950 ...



Article no.  
80 950 ...

# 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



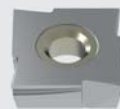
120

SOGX 11



120

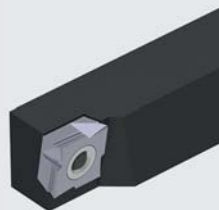
WPX 7620



120

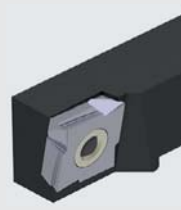
## Tool holder

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

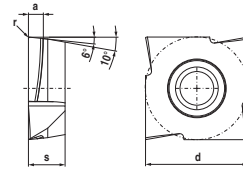


Diagram shows right hand version

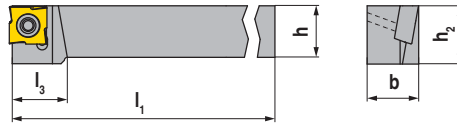
# SOGX

ISO	r mm	-FL WPX 7615		-FR WPX 7615		-FL WUX 7620		-FR WUX 7620	
		NEW X1 Article no. 72 671 ...	£	NEW X1 Article no. 72 670 ...	£	NEW X1 Article no. 72 671 ...	£	NEW X1 Article no. 72 670 ...	£
070300	0.0	33.00	200	33.00	200	31.20	100	31.20	100
070302	0.2	33.00	202	33.00	202	31.20	102	31.20	102
070304	0.4	33.00	204	33.00	204	31.20	104	31.20	104
Steel		•		•		•		•	
Stainless steel		•		•		•		•	
Cast iron		•		•		•		•	
Non ferrous metals		•		•		•		•	
Heat resistant alloys		•		•		•		•	

# SOGX

ISO	r mm	-FL WPX 7615		-FR WPX 7615		-FL WUX 7620		-FR WUX 7620	
		NEW X1 Article no. 72 669 ...	£	NEW X1 Article no. 72 668 ...	£	NEW X1 Article no. 72 669 ...	£	NEW X1 Article no. 72 668 ...	£
110400	0.0	37.60	200	37.60	200	35.80	100	35.80	100
110402	0.2	37.60	202	37.60	202	35.80	102	35.80	102
110404	0.4	37.60	204	37.60	204	35.80	104	35.80	104
Steel		•		•		•		•	
Stainless steel		•		•		•		•	
Cast iron		•		•		•		•	
Non ferrous metals		•		•		•		•	
Heat resistant alloys		•		•		•		•	

# SSAO - Tangential tool holder



Illustrations show right-hand versions

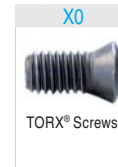


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>2</sub> HF mm	l <sub>3</sub> LH mm	Insert
SSAO R/L 0808 Y07	8	8	120	10	12	SOGX 0703..
SSAO R/L 1010 L07	10	10	140	10		SOGX 0703..
SSAO R 1212 L07	12	12	140	12		SOGX 0703..

Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 029 ...		Article no. 72 028 ...	
£		£	
	008	139.00	008
	010	113.00	010
		156.00	012

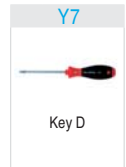
**Spare parts for Article no.**

Article no.	£	502	T09	Article no.	£	111
72 028 008 / 72 029 008	4.40	502	T09	80 950 ...	10.84	111
72 028 010 / 72 029 010	4.40	502	T09		10.84	111
72 028 012	4.40	502	T09		10.84	111



TORX® Screws

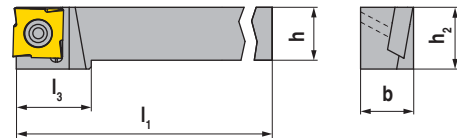
Article no. 72 950 ...



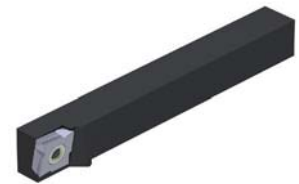
Key D

Article no. 80 950 ...

# SSAO - Tangential tool holder



Illustrations show right-hand versions

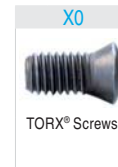


ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>2</sub> HF mm	l <sub>3</sub> LH mm	Insert
SSAO R/L 1212 L11	12	12	140	14	17	SOGX 1104..
SSAO R/L 1616 K11	16	16	125	16		SOGX 1104..
SSAO R 2020 K11	20	20	125	20		SOGX 1104..

Left-hand		Right-hand	
NEW	X0	NEW	X0
Article no. 72 025 ...		Article no. 72 024 ...	
£		£	
	012	142.00	012
	016	143.00	016
		162.00	020

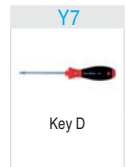
**Spare parts for Article no.**

Article no.	£	503	T15	Article no.	£	113
72 024 012 / 72 025 012	4.40	503	T15	80 950 ...	11.34	113
72 024 016 / 72 025 016	4.40	503	T15		11.34	113
72 024 020	4.40	503	T15		11.34	113



TORX® Screws

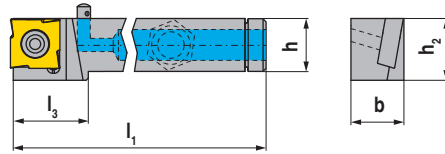
Article no. 72 950 ...



Key D

Article no. 80 950 ...

# SSAO - Tangential tool holder with thro' coolant



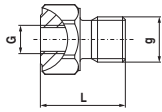
ISO designation	h H mm	b B mm	l <sub>1</sub> OAL mm	h <sub>2</sub> HF mm	l <sub>3</sub> LH mm	Insert	Right-hand	
							NEW X0	Article no.
SSAO R 1212 L11 DC-L	12	12	140	14	17	SOGX 1104..		72 026 ...
SSAO R 1616 K11 DC-L	16	16	125	16		SOGX 1104..	£ 394.00	012
SSAO R 2020 K11 DC-L	20	20	125	20		SOGX 1104..	£ 386.00	016
							£ 404.00	020

Spare parts for Article no.	Y7		X0		X0		X0	
	Article no.	£	Article no.	£	Article no.	£	Article no.	£
	80 950 ...		72 950 ...		72 950 ...		72 950 ...	
72 026 012	T15	11.34 113	9.00 505	M8x1	6.00 510	SW2,5	8.00 508	
72 026 016	T15	11.34 113	9.00 505	M8x1	6.00 510	SW2,5	9.00 511	
72 026 020	T15	11.34 113	9.00 505	M8x1	6.00 510	SW2,5	9.00 511	

for Article no.	X0		X0	
	Article no.	£	Article no.	£
	72 950 ...		72 950 ...	
72 026 012	M8x1	5.00 509	M4x9,5	4.40 503
72 026 016	M10x1	8.00 512	M4x9,5	4.40 503
72 026 020	M10x1	8.00 512	M4x9,5	4.40 503

## Reducer fitting

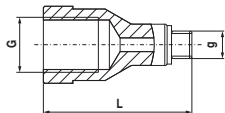
- Max. 200 bar/2900 psi
- No sealing ring required



Designation	G	g	L mm	NEW	X0
				Article no. 72 301 ...	£
RV.100.G1/8-M5	M5	G1/8"	15	44.72	006
RV.100.M10x1-M5	M5	M10x1	15	44.72	007
RV.100.M6-M5	M5	M6	18	44.72	002
RV.100.M8x1-M5	M5	M8x1	15	44.72	008

## Reducer fitting

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



Designation	G	g	L mm	NEW	X0
				Article no. 72 301 ...	£
RV.100.M5-G1/8	G1/8"	M5	27	44.72	004
RV.100.M5-M10x1	M10x1	M5	27	44.72	005
RV.100.M5-M6	M6	M5	15	44.72	001
RV.100.M5-M8x1	M8x1	M5	23	44.72	003

X0



Sealing ring

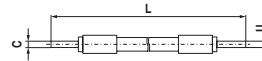
### Spare parts for Article no.

Article no.	£	X0
72 301 004	1.85	009
72 301 005	1.85	009
72 301 001	1.85	009
72 301 003	1.85	009

Article no.  
72 950 ...

## Hose (connecting piece/connecting piece)

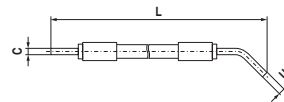
- Max. 200 bar/2900 psi



Designation	C mm	U mm	L mm	NEW	X0
				Article no. 72 305 ...	£
HDKS.150.3-3	3	3	150	65.67	001
HDKS.150.4-4	4	4	150	67.16	003
HDKS.150.5-5	5	5	150	70.13	007
HDKS.150.6-4	6	4	150	71.28	008
HDKS.200.3-3	3	3	200	66.66	012
HDKS.200.4-4	4	4	200	67.98	014
HDKS.200.5-5	5	5	200	70.95	018
HDKS.200.6-4	6	4	200	72.11	019
HDKS.300.3-3	3	3	300	66.99	023
HDKS.300.4-4	4	4	300	68.31	025
HDKS.300.4-6	4	6	300	91.25	028
HDKS.300.5-5	5	5	300	71.28	030
HDKS.300.6-4	6	4	300	72.60	031
HDKS.500.3-3	3	3	500	69.30	035
HDKS.500.4-4	4	4	500	70.46	037
HDKS.500.4-6	4	6	500	74.58	040
HDKS.500.5-5	5	5	500	73.76	043

## Hose (connecting piece/45° connecting piece)

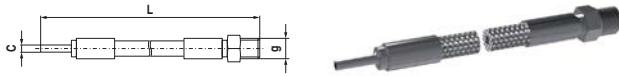
- Max. 200 bar/2900 psi



Designation	C mm	U mm	L mm	NEW	X0
				Article no. 72 305 ...	£
HDKS.150.3-45-3	3	3	150	75.57	002
HDKS.150.4-45-4	4	4	150	76.73	004
HDKS.150.4-45-6	4	6	150	81.35	005
HDKS.150.5-45-5	5	5	150	80.19	006
HDKS.200.3-45-3	3	3	200	76.23	013
HDKS.200.4-45-4	4	4	200	77.39	015
HDKS.200.4-45-6	4	6	200	82.17	016
HDKS.200.5-45-5	5	5	200	81.02	017
HDKS.300.3-45-3	3	3	300	76.89	024
HDKS.300.4-45-4	4	4	300	77.72	026
HDKS.300.4-45-6	4	6	300	82.67	027
HDKS.300.5-45-5	5	5	300	81.35	029
HDKS.500.3-45-3	3	3	500	78.87	036
HDKS.500.4-45-4	4	4	500	80.03	038
HDKS.500.4-45-6	4	6	500	84.81	039
HDKS.500.5-45-5	5	5	500	83.49	042

## Hose (connecting piece/thread)

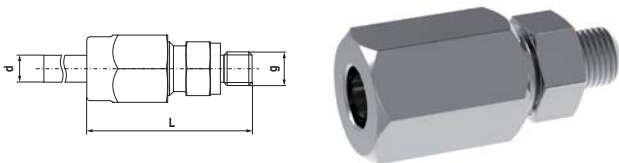
- Max. 200 bar/2900 psi
- No sealing ring required



Designation	C mm	g	L mm	NEW	X0
				Article no. 72 305 ...	
				£	
HDKS.150.M5-3	3	M5	150	71.61	009
HDKS.150.M5-4	4	M5	150	72.93	010
HDKS.150.M5-5	5	M5	150	76.07	011
HDKS.200.M5-3	3	M5	200	72.60	020
HDKS.200.M5-4	4	M5	200	73.76	021
HDKS.200.M5-5	5	M5	200	76.89	022
HDKS.300.M5-3	3	M5	300	72.77	032
HDKS.300.M5-4	4	M5	300	74.25	033
HDKS.300.M5-5	5	M5	300	77.22	034
HDKS.500.M5-3	3	M5	500	75.24	044
HDKS.500.M5-4	4	M5	500	76.23	045
HDKS.500.M5-5	5	M5	500	79.20	046

## Straight fitting

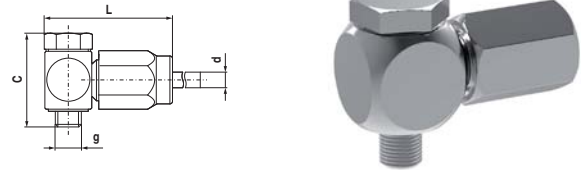
- Max. 200 bar/2900 psi



Designation	d mm	g	L mm	NEW	X0
				Article no. 72 307 ...	
				£	
KA. G1/8-2	2	G1/8"	25	47.03	001
KA. G1/8-3	3	G1/8"	26	47.19	002
KA. G1/8-4	4	G1/8"	32	39.44	003
KA. G1/8-5	5	G1/8"	32	39.60	004
KA. G1/8-6	6	G1/8"	32	38.28	005
KA. G1/8-8	8	G1/8"	34	50.00	006
KA. M5-2	2	M5	19	38.28	007
KA. M5-3	3	M5	21	38.94	008
KA. M5-4	4	M5	27	48.02	009
KA. M5-5	5	M5	27	48.02	010
KA. M5-6	6	M5	27	46.86	011

## Swivel fitting

- Max. 200 bar/2900 psi



Designation	d mm	U mm	g	L mm	NEW	X0
					Article no. 72 307 ...	
					£	
KA.SV.G1/8-4	4	30	G1/8"	37	143.55	012
KA.SV.G1/8-5	5	30	G1/8"	37	143.55	013
KA.SV.G1/8-6	6	30	G1/8"	37	142.56	014
KA.SV.G1/8-8	8	30	G1/8"	37	147.18	015
KA.SV.M5-3	3	21	M5	28	169.95	016
KA.SV.M5-4	4	21	M5	28	164.84	017
KA.SV.M5-5	5	21	M5	28	168.30	018

## Quick connection (coupling)

- Max. 200 bar/2900 psi



Designation	g	L mm	NEW	X0
			Article no. 72 319 ...	
			£	
KIG.M5	M5	26	214.50	001

## Quick connection (connector)

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



Designation	g	L mm	NEW	X0
			Article no. 72 320 ...	
			£	
SAG.M5	M5	20	73.76	001

## Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm <sup>2</sup> / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm <sup>2</sup>	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm <sup>2</sup>	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm <sup>2</sup>	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm <sup>2</sup>	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm <sup>2</sup>	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm <sup>2</sup>	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm <sup>2</sup>	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm <sup>2</sup>	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm <sup>2</sup>	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 <sup>2</sup>	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm <sup>2</sup>	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm <sup>2</sup>	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm <sup>2</sup>		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm <sup>2</sup>	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm <sup>2</sup>	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm <sup>2</sup>	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm <sup>2</sup>	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm <sup>2</sup>	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm <sup>2</sup>	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm <sup>2</sup>	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm <sup>2</sup>	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm <sup>2</sup>	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm <sup>2</sup>	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm <sup>2</sup>	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm <sup>2</sup>	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm <sup>2</sup>	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm <sup>2</sup>	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm <sup>2</sup>	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm <sup>2</sup>	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm <sup>2</sup>	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0,5- 10% Si	< 400 N/mm <sup>2</sup>	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 <sup>2</sup>	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm <sup>2</sup>		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm <sup>2</sup>	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm <sup>2</sup>	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-A111 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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm <sup>2</sup>	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

	HXC1115	HXC1125	HCR1135	CCN2120	HCN2125	CWN2135	HCN2430	WUU7610	WUU7630	WPU7610	WPU7620	TiAlN
Index	v <sub>c</sub> 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 <sub>c</sub> 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 <sub>c</sub> 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	<ul style="list-style-type: none"> <li>▪ Snarl chips</li> <li>▪ Possibly bad surface</li> <li>▪ Excessive built-up edge</li> <li>▪ Long tool life</li> <li>▪ Use coolant emulsion</li> </ul>	300-3200
			Al 99,5	F13	4		
			Al 99	W8	5		
			Al 99	F14	4		
	Aluminium wrought alloys	non hardenable	Al Mn	W10	5	<ul style="list-style-type: none"> <li>▪ Snarl, continuous or fragmented chip</li> <li>▪ Large feed rates necessary for good swarf control</li> <li>▪ Built-up edge</li> <li>▪ Long tool life</li> <li>▪ Emulsion coolant is advantageous</li> </ul>	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	<ul style="list-style-type: none"> <li>▪ Good swarf control with higher feed rates</li> <li>▪ Very good swarf control</li> <li>▪ No built up edge</li> <li>▪ Very good surface quality</li> <li>▪ Good swarf control</li> <li>▪ Good surface quality</li> <li>▪ Little built-up edge</li> </ul>	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		
			Al Cu Si Pb	F28-37	1		
			Al Cu Mg Pb	F34-37	1		
			Al Cu Mg 1	W	3		
			Al Cu Mg 1	F33-40	2		
			Al Cu Mg 2	W	3		
	Al Cu Mg 2	F40-47	2				
	Al Cu Si Mn	W	3				
	Al Cu Si Mn	F43-46	2				
	Al Zn Mg Cu 1,5	F50-52	2				
	Al Sn 6 Cu		1				
	Cast Aluminium Alloys	non hardenable	G-Al Si 12		3	<ul style="list-style-type: none"> <li>▪ Good swarf control</li> <li>▪ Built-up edge</li> <li>▪ Higher Si content results in lower tool life</li> <li>▪ high wear of the carbide</li> <li>▪ Good swarf control</li> <li>▪ Good surface quality</li> <li>▪ Long tool life</li> </ul>	Si content < 12 % 400-1500
			G-Al Si 10 Mg		3		Si content ~ 12.5 % 300-1000
			G-Al Si 5 Mg		2		Si content > 13 % 200-500
			G-Al Si 7 Mg (9 Mg)		2		
G-Al Si Cu 3				2			
G-Al Si 6 Cu 4				2			
G-Al Mg 3 (Mg 5)				2			
G-Al Mg 9				2			
G-Al Mg 10				2			
G-Al Mg 3 Si (5 Si)				2			
G-Al Cu 4 Ti (Mg)				2			
G-Al Si 12 Cu Mg Ni				2			
Copper wrought alloys		Cu Ag				300-1200	
		Cu As					
		Cu Cd					
		Cu Cd Sn					
		Cu Mg					
		Cu Mn					
	brass	Cu Zn Al					300-1000
		bronze	Cu Sn				300-800
			Cu Sn Zn				
			Cu Ni				
Cu Ni Fe							
Non metal materials	Duroplastics					80-320	
	Fibre-reinforced plastics						
	hard rubber						

\* 1 = good machinability, 5 = bad machinability

**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 polycrystalline diamond PCD / PCD-S /CVD

Material group	$a_p = 0,04-0,4$ mm Surface roughness $R_z$ in $\mu\text{m}$		$a_p = 0,4-1,0$ mm Surface roughness $R_z$ in $\mu\text{m}$		$a_p = 0,4-2,5$ mm Surface roughness $R_z$ in $\mu\text{m}$		
	2,5-5,0	5,0-10	2,5-5,0	5,0-10	2,5-5,0	5,0-10	
Aluminium wrought alloys without Si $f=0.05-0.5$ mm/rev.	 Tap Material	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD
	$v_c$ in m/min	400-2500	400-2500	400-2000	400-2000	400-1600	400-1600
	 Tap Material	PDC / CVD		PDC / CVD		PDC / CVD	
$v_c$ in m/min	400-2500		400-2000		400-1600		
 Tap Material	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD	PDC / CVD
$v_c$ in m/min	400-2500	400-2500	400-2000	400-2000	400-1600	400-1600	400-1600
Aluminium cast alloys Si=2-12% $f=0.05-0.5$ mm/rev.	 Tap Material	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD
	$v_c$ in m/min	600-2000	600-2200	600-1800	600-2000	600-1500	600-1800
	 Tap Material	PDC / CVD	PDC-S / CVD	PDC / CVD	PDC-S / CVD	PDC / CVD	PDC-S / CVD
$v_c$ in m/min	400-2000	400-2200	400-1800	600-2000	400-1500	400-1800	
 Tap Material	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	
$v_c$ in m/min	600-2000	600-2200	600-1800	600-2000	600-1500		
Aluminium cast alloys Si=12-20% $f=0.05-0.5$ mm/rev.	 Tap Material	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD	PDC-S / CVD
	$v_c$ in m/min	800-1200	400-1800	700-1000	400-1500	600-900	400-1200
	 Tap Material	PDC-S / CVD		PDC-S / CVD		PDC-S / CVD	
$v_c$ in m/min	600-1800		600-1500		600-1200		
 Tap Material	PDC-S / CVD		PDC-S / CVD		PDC-S / CVD		
$v_c$ in m/min	600-1800		600-1500				
Copper and copper wrought alloys $f=0.05-0.5$ mm/rev.	 Tap Material	PDC / CVD	PDC / CVD	PDC / CVD	PDC-S / CVD	PDC / CVD	PDC-S / CVD
	$v_c$ in m/min	400-1800	300-1600	400-1600	300-1600	400-1400	400-1500
	 Tap Material	PDC / CVD		PDC / CVD	PDC-S / CVD	PDC / CVD	PDC-S / CVD
$v_c$ in m/min	300-1500		400-1600	300-1500	400-1500	300-1400	
 Tap Material	PDC / CVD		PDC-S / CVD		PDC / CVD	PDC-S / CVD	
$v_c$ in m/min	300-1800		300-1700		300-1600	200-1300	
Plastic materials without reinforcement (acrylic glass) $f=0.05-0.7$ mm/rev.	 Tap Material	PDC / CVD		PDC / CVD		PDC / CVD	
	$v_c$ in m/min	400-1200		300-1000		200-1000	
	 Tap Material	PDC / CVD		PDC / CVD		PDC-S / CVD	
$v_c$ in m/min	300-1200		200-1000		200-900		
 Tap Material	PDC / CVD		PDC / CVD		PDC / CVD		
$v_c$ in m/min	400-1200		300-1000		200-1000		
Plastic materials with reinforcement (glass-fibre, carbon-fibre reinforced) $f=0.05-0.7$ mm/rev.	 Tap Material	PDC-S / CVD	PDC-S / CVD		PDC-S / CVD	PDC-S / CVD	PDC-S / CVD
	$v_c$ in m/min	500-1000	400-900		300-900	300-800	200-1200
	 Tap Material	PDC-S / CVD	PDC-S / CVD		PDC-S / CVD	PDC-S / CVD	PDC-S / CVD
$v_c$ in m/min	400-900	300-800		200-900	200-800	200-1400	
 Tap Material	PDC-S / CVD	PDC-S / CVD		PDC-S / CVD	PDC-S / CVD		
$v_c$ in m/min	500-1000	400-800		300-1000	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 <sub>p</sub> in mm		f <sub>z</sub> 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<sub>p</sub>: 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 <sub>p</sub> in mm		f <sub>z</sub> 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<sub>p</sub>: 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	X	Y	Parting					Turning					
			WPU7620	TiAlN	Fine	Medium	Rough	WPU7620	TiAlN		Fine	Medium	Rough
			v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	F	F	F	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	a <sub>p</sub> in mm	F	F	F
1.1	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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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			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			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			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			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			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		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		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		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		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		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	X	F	VertiClamp system					TriClamp system						
			Grooving					Turning						
			WPU7620	TiAlN	Fine	Medium	Rough	WUU7610	WUU7630	WPU7610	WPU7620 TiAlN+	TiAlN		
v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	F	F	F	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	F	a <sub>p</sub> in mm			
1.1	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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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		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			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			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			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			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			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		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		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		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		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		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				0,005-0,1	0,02-0,15	0,1-0,3	100-500	50-160	100-750				
4.12	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									25-70			0,01	0,1-0,5
5.2	x									25-100			0,02	0,1-0,5
5.3	x									30-80			0,008	0,1-0,5
5.4	x									15-30			0,07	0,1-0,5
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	50-80	25-70	50-150	60-140	40-120		
5.10	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		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									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.

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# Cutting data standard values - System 25 and System 45

Index	X	Hand	Parting					Turning					
			WPX7615	WUX7620	Fine	Medium	Rough	WPX7615	WPX7630	WUX7620	Fine	Medium	Rough
			v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	F	F	F	v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	v <sub>c</sub> 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	X	Hand	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.





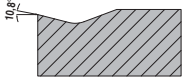

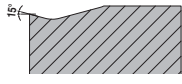

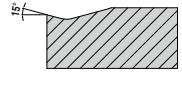


# Cutting data standard values - VCGT system and SOGX system

Index	X	Hand	VCGT system			SOGX system			
			TICN	Cermet		WPX7615	WUX7620		
			v <sub>c</sub> in m/min	v <sub>c</sub> in m/min	F	v <sub>c</sub> in m/min	v <sub>c</sub> 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									





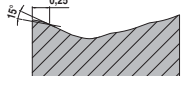

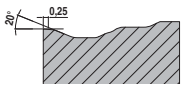

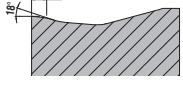

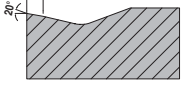

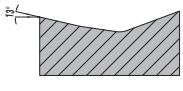

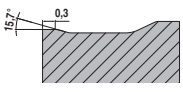
**i** The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

# Chip breakers / Applications

Negative - Fine	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry
					$a_p$ mm	f mm	
<b>-F32</b> <ul style="list-style-type: none"> <li>For finishing stainless steel</li> <li>Also by application on general steels and superalloys</li> </ul>		<b>CCN2120</b>	<b>CCN2120</b>				DN..
		CCN2120	CCN2120		0,05-4,0	0,05-0,25	
		<b>CCN2120</b>					
<b>-NF23</b> <ul style="list-style-type: none"> <li>Finishing of stainless steels</li> <li>Continuous cut</li> <li>High surface quality</li> <li>Good swarf control</li> </ul>		HCN2125	HCN2125				DN.. WN..
		<b>HCN2125</b>	<b>HCN2125</b>		0,08-2,5	0,10-0,35	
<b>-NF15</b> <ul style="list-style-type: none"> <li>Chip breaker for fine machining</li> <li>Steel and stainless steels</li> <li>Excellent chip control</li> <li>High surface quality</li> </ul>		<b>HGX1115</b>	<b>HGX1125</b>	<b>HCR1135</b>			DN.. WN..
		HGX1115	HGX1125	HCR1135	0,50-5,00	0,10-0,60	





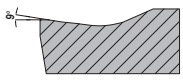
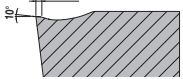

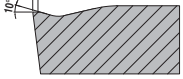

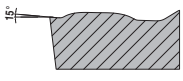

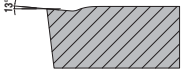

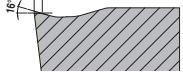
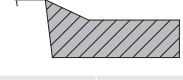
**i** Sectional drawings and models correspond to CNMG120408

# Chip breakers / Applications

Negative - Medium	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry	
					a <sub>p</sub> mm	f mm		
<p>-NM23</p> <ul style="list-style-type: none"> <li>Option for stainless steel machining</li> <li>Good swarf control</li> <li>Little edg build up</li> <li>Low cutting forces</li> <li>Little built-up edge</li> <li>Applicable on unstable machines</li> </ul>		HCN2125	HCN2125			1,00-4,50	0,15-0,40	DN.. WN..
		<b>HCN2125</b>	<b>HCN2125</b>					
<p>-NM15</p> <ul style="list-style-type: none"> <li>Medium machining</li> <li>First choice for steel machining</li> <li>Universal application</li> <li>Wide range of applications</li> </ul>		<b>HGX1115 / HGX1125</b>	HGX1115 / <b>HGX1125</b>	<b>HGX1125</b>		0,50-5,00	0,12-0,40	DN.. WN..
		<b>HGX1125</b>	<b>HGX1125</b>					
		<b>HGX1115 / HGX1125</b>	HGX1115 / <b>HGX1125</b>	<b>HGX1125</b>				
<p>-NM26</p> <ul style="list-style-type: none"> <li>Light to medium roughing</li> <li>Stable cutting edge</li> <li>Interrupted cut</li> <li>Forged skin and cast crust</li> </ul>		HCN2125	HCN2125	HCN2125		1,50-6,00	0,25-0,50	DN.. WN..
		<b>HCN2125</b>	<b>HCN2125</b>	<b>HCN2125</b>				
			HCN2125	HCN2125				
<p>-M42</p> <ul style="list-style-type: none"> <li>For medium machining of stainless steels</li> <li>Also by application on general steels and superalloys</li> </ul>		<b>CCN2120</b>	<b>CWN2135</b>	<b>CWN2135</b>		1,00-4,00	0,20-0,40	DN.. WN..
		CCN2120						
<p>-M52</p> <ul style="list-style-type: none"> <li>Universal geometry for the machining of stainless steels</li> <li>Also applicable for super alloys</li> </ul>		<b>CCN2120</b>	<b>CCN2120</b>			1,50-4,00	0,20-0,38	DN.. WN..
		<b>CCN2120</b>						
<p>-NM19</p> <ul style="list-style-type: none"> <li>Light to medium rough machining</li> <li>Cast crust and forging skin</li> <li>Stable cutting edge</li> <li>Interrupted cut</li> <li>Raw materials and forgings</li> </ul>		<b>HGX1115</b>	<b>HGX1125 / HGX1115</b>	<b>HGX1125 / HCR1135</b>		1,50-4,50	0,20-0,80	DN.. WN..
		<b>HGX1125</b>						
				<b>HGX1125</b>				
		HGX1125						





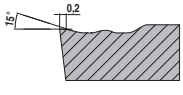

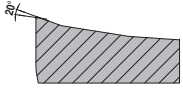

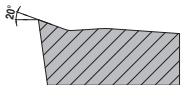

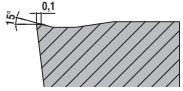

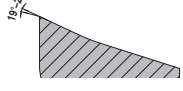

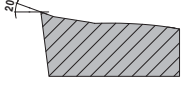
 Sectional drawings and models correspond to CNMG120408

# Chip breakers / Applications

Positive - Fine	Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration		Geometry
					a <sub>p</sub> mm	f mm	
<p>-F23</p> <ul style="list-style-type: none"> <li>Fine finishing (ground edge)</li> <li>Very high surface quality</li> <li>High repeatability</li> <li>Low depths of cut</li> </ul>		CCN2120	CCN2120				CC.. DC.. VC..
		CCN2120			0,10-2,00	0,06-0,13	
		CCN2120					
		CCN2120					
<p>-PF23</p> <ul style="list-style-type: none"> <li>First choice for medium machining of stainless steels</li> <li>High surface quality</li> <li>Little built-up edge</li> </ul>		HCN2125	HCN2125				CC.. DC.. TC.. VC..
		HCN2125	HCN2125		0,40-3,20	0,10-0,30	
<p>-F43</p> <ul style="list-style-type: none"> <li>For the light to medium machining of all stainless steels, general steels and superalloys</li> </ul>		CWN2135	CWN2135	CWN2135			CC.. DC.. TC..
					0,50-2,50	0,05-0,25	
<p>-ZF</p> <ul style="list-style-type: none"> <li>Finishing / contour turning</li> <li>Good swarf control</li> <li>High surface quality</li> <li>Low cutting forces</li> </ul>		HCX1115	HCX1125	HCX1125 / HCR1135			CC.. DC.. TC.. VC.. WC..
		HCX1125	CWN2135	CWN2135	0,05-2,50	0,05-0,25	
			HCX1125	HCX1125			
		HCX1125	CWN2135				
<p>-SMF</p> <ul style="list-style-type: none"> <li>Finishing to medium machining</li> <li>Low cutting forces</li> <li>Good swarf control</li> <li>High surface quality</li> </ul>		HCX1115	HCX1125	HCX1125 / HCR1135			CC.. DC.. TC.. VC..
		HCX1125	HCR1135	HCR1135	0,10-2,50	0,08-0,30	
		HCX1115					
		HCX1125					
<p>-PF26</p> <ul style="list-style-type: none"> <li>First choice for medium machining to roughing of stainless steels</li> <li>Smooth to lightly interrupted cut</li> <li>Good swarf control</li> <li>Stable cutting edge</li> </ul>		HCN2125	HCN2125	HCN2125			CC.. DC.. TC.. VC..
		HCN2125	HCN2125	HCN2125	0,40-4,80	0,06-0,35	
			HCN2125				
<p>-FM37</p> <ul style="list-style-type: none"> <li>Universal geometry for all materials</li> <li>Low cutting forces</li> <li>Ground radii</li> <li>Low built-up edge formation</li> </ul>		WPU7620	WPU7620	WPU7620			DC..
		WPU7610	WPU 7610 / WPU7620	WPU7620	0,25-7,00	0,025-0,2	
		WPU7610	WPU 7610 / WPU7620	WPU7620			
		WUU 7610 / WPU7610	WUU 7610 / WPU7610	WUU 7610 / WPU7620			
		WUU 7610 / WPU7610	WUU 7610 / WPU7610	WPU7620			

 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 <sub>p</sub> mm	f mm	
-SMQ <ul style="list-style-type: none"> <li>Positive wiper geometry</li> <li>Finishing to medium machining</li> <li>Very high feedrate</li> <li>High surface quality</li> </ul>		HCX1115	HCX1125				CC.. DC..
		HCX1115	HCX1125				
		HCX1125 / HCX1115	HCX1125				
		1,00-4,00	0,15-0,45				
-25P <ul style="list-style-type: none"> <li>Sharp cutting edge</li> <li>Good swarf control on soft aluminium alloys</li> <li>Low adhesion</li> </ul>		AMZ	AMZ				CC.. DC.. VC..
		AMZ	AMZ				
		AMZ	AMZ				
		CWK26	CWK26	CWK26			
		AMZ	AMZ				
		0,50-4,50	0,05-0,60				
Positive - Medium -25Q <ul style="list-style-type: none"> <li>Wiper geometry</li> <li>High feed rates</li> <li>High surface quality</li> <li>Good swarf control on soft aluminium alloys</li> <li>Low adhesion</li> </ul>							CC.. DC.. VC..
		CWK20 / AMZ	CWK20 / AMZ				
		CWK20 / AMZ	CWK20 / AMZ				
		CWK20 / AMZ	CWK20 / AMZ	CWK20 / AMZ			
		CWK20 / AMZ	CWK20 / AMZ				
		0,05-6,50	0,05-0,60				
-ZM <ul style="list-style-type: none"> <li>Medium machining</li> <li>Universal application</li> <li>Stable cutting edge</li> <li>Varying depths of cut</li> <li>Wide range of applications</li> </ul>		HCX1115 / HCX1125	HCX1125 / HCR1135 HCX1115	HCX1125 / HCR1135			CC.. DC.. TC.. VC..
		HCX1125					
		HCX1115	HCX1125				
		HCX1115 / HCX1125					
		0,05-5,00	0,15-0,45				
-AL <ul style="list-style-type: none"> <li>The universal Alu geometry</li> <li>Sharp cutting edge</li> <li>Extremely positive rake angle</li> <li>Low adhesion</li> <li>High feed rates</li> </ul>		AMZ	AMZ				CC.. DC.. TC.. VC..
		AMZ	AMZ				
		AMZ	AMZ	CWK26			
		CWK15	CWK15	CWK15			
		1,00-10,00	0,10-0,75				
-M81 <ul style="list-style-type: none"> <li>Directly pressed insert</li> <li>Positive rake angle</li> <li>Good swarf control</li> <li>For medium to rough machining</li> </ul>							CC.. DC.. VC..
		CWN2120					
		CWN2120	CWN2120	CWN2120			
		1,00-6,00	0,25-0,60				

 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!)



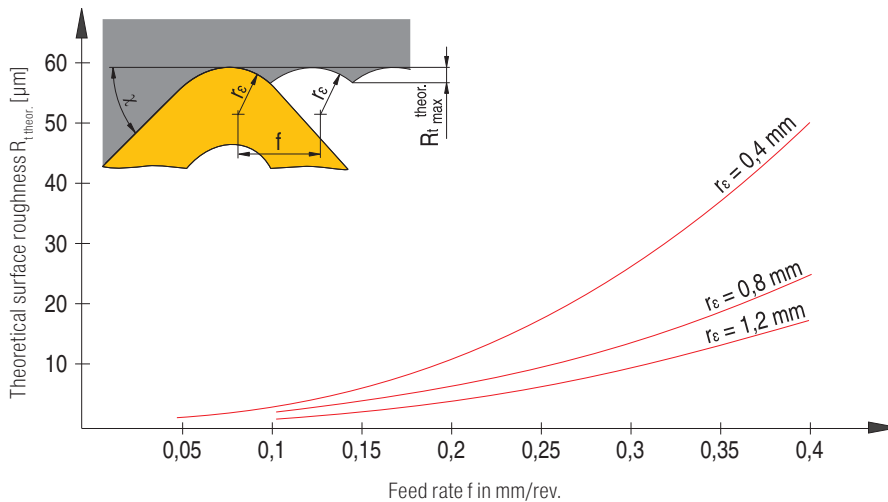
## Theoretical Surface Quality

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

or approximately:

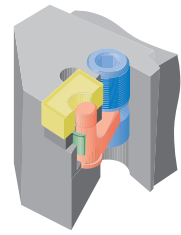
$$R_{t,theor.} = \left( r_\epsilon - \sqrt{r_\epsilon^2 - \frac{f^2}{4}} \right) \cdot 1000$$

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



## 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

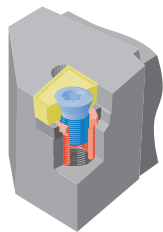
### IsoClamp – Holder with screw clamping



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

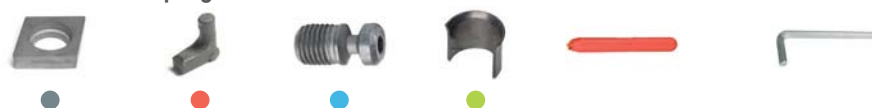
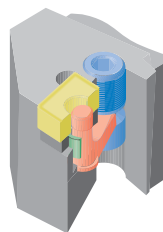
### IsoClamp – Holder with screw clamping



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

<b>Insert shape</b> 35° V 55° D 75° E 80° C 86° M 55° K 82° B 85° A 90° L 108° P 120° H 135° O --- R 90° S 60° T 80° W Included angle Included angle Other shapes		<b>Clearance angle</b> 3° A 5° B 7° C 15° D 20° E 25° F 30° G 0° N 11° P Clearance angles not included within the standard for which particular information is necessary.		<b>Tolerances</b> <table border="1"> <thead> <tr> <th></th> <th>d ±</th> <th>m ±</th> <th>s ±</th> </tr> </thead> <tbody> <tr><td>A</td><td>0.025</td><td>0.005</td><td>0.025</td></tr> <tr><td>F</td><td>0.013</td><td>0.005</td><td>0.025</td></tr> <tr><td>C</td><td>0.025</td><td>0.013</td><td>0.025</td></tr> <tr><td>H</td><td>0.013</td><td>0.013</td><td>0.025</td></tr> <tr><td>E</td><td>0.025</td><td>0.025</td><td>0.025</td></tr> <tr><td>G</td><td>0.025</td><td>0.025</td><td>0.13</td></tr> <tr><td>J</td><td>0.05-0.15*</td><td>0.005</td><td>0.025</td></tr> <tr><td>K</td><td>0.05-0.15*</td><td>0.013</td><td>0.025</td></tr> <tr><td>L</td><td>0.05-0.15*</td><td>0.025</td><td>0.025</td></tr> <tr><td>M</td><td>0.05-0.15*</td><td>0.05-0.20</td><td>0.13</td></tr> <tr><td>N</td><td>0.05-0.15*</td><td>0.05-0.20</td><td>0.025</td></tr> <tr><td>U</td><td>0.05-0.25*</td><td>0.13-0.38</td><td>0.13</td></tr> </tbody> </table>			d ±	m ±	s ±	A	0.025	0.005	0.025	F	0.013	0.005	0.025	C	0.025	0.013	0.025	H	0.013	0.013	0.025	E	0.025	0.025	0.025	G	0.025	0.025	0.13	J	0.05-0.15*	0.005	0.025	K	0.05-0.15*	0.013	0.025	L	0.05-0.15*	0.025	0.025	M	0.05-0.15*	0.05-0.20	0.13	N	0.05-0.15*	0.05-0.20	0.025	U	0.05-0.25*	0.13-0.38	0.13	<b>Characteristics</b> N R F A M G/P W T Q U B H C J X Special version		<b>Cutting length</b> <table border="1"> <thead> <tr> <th>d mm</th> <th>inch</th> <th>mm</th> </tr> </thead> <tbody> <tr><td>06</td><td>5/32</td><td>3.96</td></tr> <tr><td>08</td><td>7/32</td><td>5.56</td></tr> <tr><td>10</td><td>11/32</td><td>6.35</td></tr> <tr><td>12</td><td>1/2</td><td>12.7</td></tr> <tr><td>16</td><td>3/8</td><td>9.52</td></tr> <tr><td>20</td><td>1/2</td><td>12.7</td></tr> <tr><td>25</td><td>5/8</td><td>15.8</td></tr> <tr><td>32</td><td>3/4</td><td>19.0</td></tr> <tr><td>40</td><td>1 1/4</td><td>25.4</td></tr> <tr><td>50</td><td>2</td><td>50.8</td></tr> </tbody> </table>		d mm	inch	mm	06	5/32	3.96	08	7/32	5.56	10	11/32	6.35	12	1/2	12.7	16	3/8	9.52	20	1/2	12.7	25	5/8	15.8	32	3/4	19.0	40	1 1/4	25.4	50	2	50.8	<b>Insert thickness</b> <table border="1"> <thead> <tr> <th>Index</th> <th>inch</th> <th>mm</th> </tr> </thead> <tbody> <tr><td>01</td><td>1/16</td><td>1.59</td></tr> <tr><td>02</td><td>3/32</td><td>2.38</td></tr> <tr><td>03</td><td>1/8</td><td>3.18</td></tr> <tr><td>T3</td><td>5/32</td><td>3.97</td></tr> <tr><td>04</td><td>3/16</td><td>4.76</td></tr> <tr><td>05</td><td>7/32</td><td>5.56</td></tr> <tr><td>06</td><td>1/4</td><td>6.35</td></tr> <tr><td>07</td><td>5/16</td><td>7.94</td></tr> <tr><td>09</td><td>3/8</td><td>9.52</td></tr> </tbody> </table>		Index	inch	mm	01	1/16	1.59	02	3/32	2.38	03	1/8	3.18	T3	5/32	3.97	04	3/16	4.76	05	7/32	5.56	06	1/4	6.35	07	5/16	7.94	09	3/8	9.52	<b>Corner radius</b> 7.1 Inserts with corner radii 7.2 Inserts with secondary cutting edge 7.2.1 Angle of main cutting edge to secondary cutting edge 7.2.2 Clearance angle of secondary cutting edge according to position 2 7.3 Special version ZZ		<b>Cutting edge</b> F sharp E honed T chamfered S chamfered and honed K double-chamfered P double-chamfered and honed		<b>Direction of cut</b> R L N	
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For special forms of the chip breaker an internal code can be stated in the 10th position.

Code	Corner radius in inches
0	max.004
1	1/64
2	1/32
3	3/64
4	1/16
5	5/64
6	3/32
7	7/64
8	1/8
X	-

Code	inch
1	1/16
2	1/8
3	3/16
4	1/4
5	5/16
6	3/8

Code	inch
2	1/4
3	3/8
4	1/2
5	5/8
6	3/4
8	1

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

ASA and BHMA deviation with regards to ISO  
X = special version not according to ISO



# ISO designation system for tool holders

**Clamping method**

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

**Style**


**Direction of cut**

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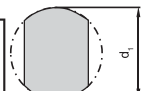


















**Shank width**

**Cutting length**

<b>25</b>	<b>25</b>	<b>M</b>	<b>12</b>	<b>9</b>																									
<b>Shank height</b>	<b>Cartridge</b>	<b>Tool length</b>																											
 Tool holder  Cartridge  Round shank <b>00</b>	1. Position: C = own version 2. Position: A = ISO 5611	<table border="1"> <tr> <th>l<sub>1</sub> mm</th> <th>l<sub>2</sub> mm</th> </tr> <tr> <td>A</td> <td>N</td> </tr> <tr> <td>B</td> <td>P</td> </tr> <tr> <td>C</td> <td>Q</td> </tr> <tr> <td>D</td> <td>R</td> </tr> <tr> <td>E</td> <td>S</td> </tr> <tr> <td>F</td> <td>T</td> </tr> <tr> <td>G</td> <td>U</td> </tr> <tr> <td>H</td> <td>V</td> </tr> <tr> <td>J</td> <td>W</td> </tr> <tr> <td>K</td> <td>Y</td> </tr> <tr> <td>L</td> <td>Special version</td> </tr> <tr> <td>M</td> <td></td> </tr> </table>	l <sub>1</sub> mm	l <sub>2</sub> mm	A	N	B	P	C	Q	D	R	E	S	F	T	G	U	H	V	J	W	K	Y	L	Special version	M		Qualified high-precision tools <b>Q</b>  <b>F</b>  <b>B</b> 
l <sub>1</sub> mm	l <sub>2</sub> mm																												
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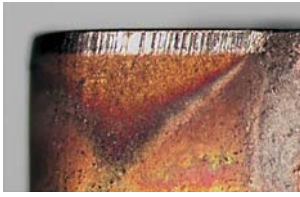
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<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>																																
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Included angle	<table border="1"> <tr> <td>35°</td> <td>55°</td> <td>75°</td> <td>80°</td> <td>86°</td> <td>55°</td> <td>82°</td> <td>85°</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	35°	55°	75°	80°	86°	55°	82°	85°									<table border="1"> <tr> <td>3°</td> <td>5°</td> <td>7°</td> <td>15°</td> <td>20°</td> <td>25°</td> <td>30°</td> <td>0°</td> <td>11°</td> </tr> <tr> <td><b>A</b></td> <td><b>B</b></td> <td><b>C</b></td> <td><b>D</b></td> <td><b>E</b></td> <td><b>F</b></td> <td><b>G</b></td> <td><b>N</b></td> <td><b>P</b></td> </tr> </table>	3°	5°	7°	15°	20°	25°	30°	0°	11°	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>N</b>	<b>P</b>
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<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>N</b>	<b>P</b>																												
Other shapes	<table border="1"> <tr> <td>90°</td> <td>108°</td> <td>120°</td> <td>135°</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	90°	108°	120°	135°					<table border="1"> <tr> <td>90°</td> <td>60°</td> <td>80°</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	90°	60°	80°				Clearance angles not included within the standard for which particular information is necessary.																			
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90°	60°	80°																																		

# ISO designation system for boring bars

<b>S</b> Steel shank <b>A</b> Steel shank with coolant hole <b>B</b> Steel shank with antivibration system <b>D</b> Steel shank with coolant hole and antivibration system <b>C</b> Carbide shank with steel head		<b>E</b> As C with coolant hole <b>F</b> As C with antivibration system <b>G</b> As C with coolant hole and antivibration system <b>H</b> Heavy metal <b>J</b> Heavy metal with coolant hole		<b>Shank type</b>		<b>1</b> <b>32</b> <b>2</b> <b>U</b> <b>3</b>		<b>Shank Ø</b> <table border="1"> <tr> <td>d<sub>1</sub>, mm</td> <td>08</td><td>10</td><td>12</td><td>16</td><td>20</td><td>25</td><td>32</td><td>40</td><td>50</td><td>60</td> </tr> </table> 		d <sub>1</sub> , mm	08	10	12	16	20	25	32	40	50	60	<b>Tool length</b> <table border="1"> <tr> <td>l, mm</td> <td>F</td><td>H</td><td>J</td><td>K</td><td>L</td><td>M</td><td>N</td><td>P</td><td>Q</td><td>R</td><td>S</td><td>T</td><td>U</td><td>V</td><td>W</td><td>X</td> </tr> <tr> <td></td> <td>80</td><td>100</td><td>110</td><td>125</td><td>140</td><td>150</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> </tr> </table> 		l, mm	F	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X		80	100	110	125	140	150	160	170	180	200	250	300	350	400	450	500	<b>Clamping method</b> <table border="1"> <tr> <td><b>D</b></td><td></td><td><b>S</b></td><td></td> </tr> <tr> <td><b>M</b></td><td></td><td><b>C</b></td><td></td> </tr> <tr> <td><b>P</b></td><td></td><td><b>X</b></td><td>Special version</td> </tr> </table>		<b>D</b>		<b>S</b>		<b>M</b>		<b>C</b>		<b>P</b>		<b>X</b>	Special version	<b>Style</b> <table border="1"> <tr> <td><b>F</b></td><td>90°</td><td><b>K</b></td><td>75°</td><td><b>L</b></td><td>95°</td></tr> <tr> <td><b>Q</b></td><td>107,5°</td><td><b>S</b></td><td>45°</td><td><b>U</b></td><td>93°</td></tr> <tr> <td><b>W</b></td><td>60°</td><td><b>X</b></td><td></td><td><b>Y</b></td><td>85°</td></tr> </table> <p>x) Special version</p>		<b>F</b>	90°	<b>K</b>	75°	<b>L</b>	95°	<b>Q</b>	107,5°	<b>S</b>	45°	<b>U</b>	93°	<b>W</b>	60°	<b>X</b>		<b>Y</b>	85°	<b>Direction of cut</b> <table border="1"> <tr> <td><b>R</b></td><td></td> </tr> <tr> <td><b>L</b></td><td></td> </tr> </table>		<b>R</b>		<b>L</b>		<b>Cutting length</b> <table border="1"> <tr> <td><b>R</b></td><td></td><td><b>L</b></td><td></td><td><b>O</b></td><td></td><td><b>H</b></td><td></td></tr> <tr> <td><b>T</b></td><td></td><td><b>W</b></td><td></td><td><b>VDECM</b></td><td></td><td><b>ABK</b></td><td></td></tr> </table>		<b>R</b>		<b>L</b>		<b>O</b>		<b>H</b>		<b>T</b>		<b>W</b>		<b>VDECM</b>		<b>ABK</b>		<b>Clearance angle</b> <table border="1"> <tr> <td><b>3°</b></td><td><b>A</b></td><td><b>25°</b></td><td><b>F</b></td></tr> <tr> <td><b>5°</b></td><td><b>B</b></td><td><b>30°</b></td><td><b>G</b></td></tr> <tr> <td><b>7°</b></td><td><b>C</b></td><td><b>0°</b></td><td><b>N</b></td></tr> <tr> <td><b>15°</b></td><td><b>D</b></td><td><b>11°</b></td><td><b>P</b></td></tr> <tr> <td><b>20°</b></td><td><b>E</b></td><td></td><td></td></tr> </table> <p>Clearance angles not included within the standard for which particular information is necessary. } <b>O</b></p>		<b>3°</b>	<b>A</b>	<b>25°</b>	<b>F</b>	<b>5°</b>	<b>B</b>	<b>30°</b>	<b>G</b>	<b>7°</b>	<b>C</b>	<b>0°</b>	<b>N</b>	<b>15°</b>	<b>D</b>	<b>11°</b>	<b>P</b>	<b>20°</b>	<b>E</b>			<b>K</b> <b>6</b> <b>C</b> <b>7</b> <b>R</b> <b>8</b> <b>12</b> <b>9</b>	
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## Types of wear

### Wear on clearance face



Abrasion on flank: normal wear after a certain machining time

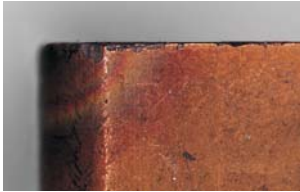
#### Cause

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

#### Remedy

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

### Edge chipping



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

#### Cause

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

#### Remedy

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

### Cratering



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

#### Cause

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

#### Remedy

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

### Plastic deformation



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

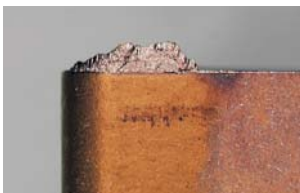
#### Cause

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

#### Remedy

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

### Built-up edge



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

#### Cause

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

#### Remedy

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

### Insert breakage



Excessive stress of the insert causes breakage.

#### Cause

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

#### Remedy

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

# Recommendation for Optimum Results

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

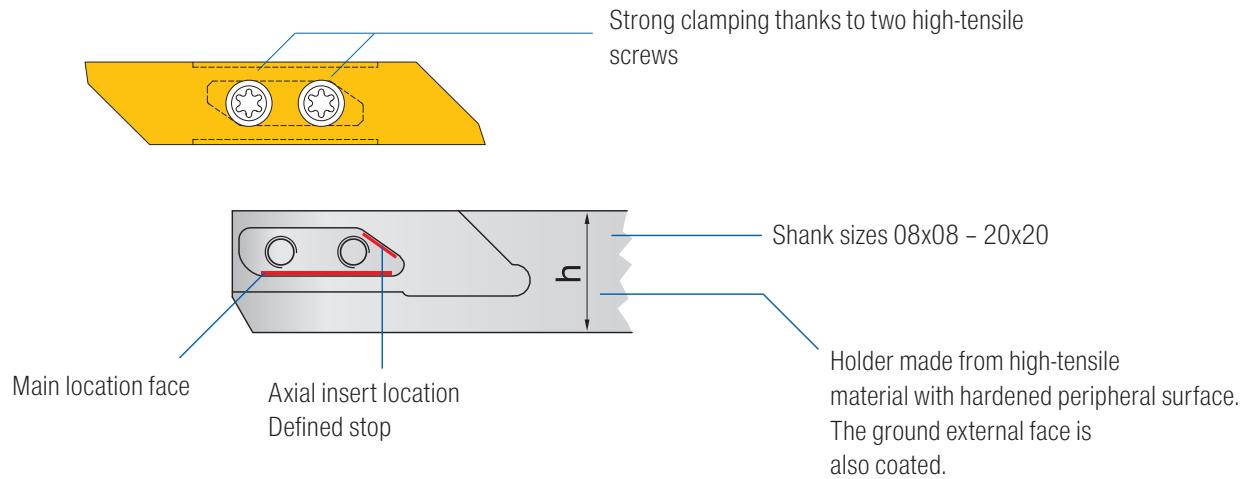
▲ raise, increase  
large influence  
↑ raise, increase  
small influence

▼ avoid, reduce  
large influence  
↓ avoid, reduce  
small influence

~ check, optimise  
● use

# VertiClamp

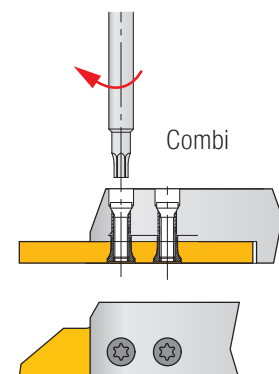
## Features



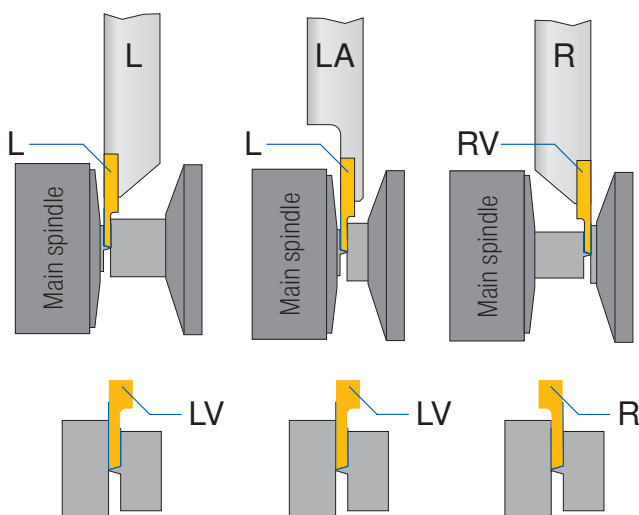
## Advantages

- 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

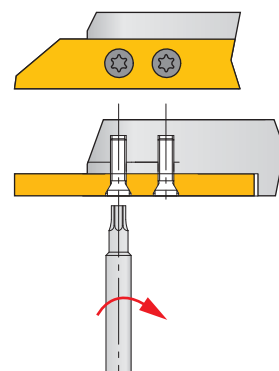
### Clamping of cutting edge With combi holders



### Turning away from the spindle



### Clamping of cutting edge With standard holders

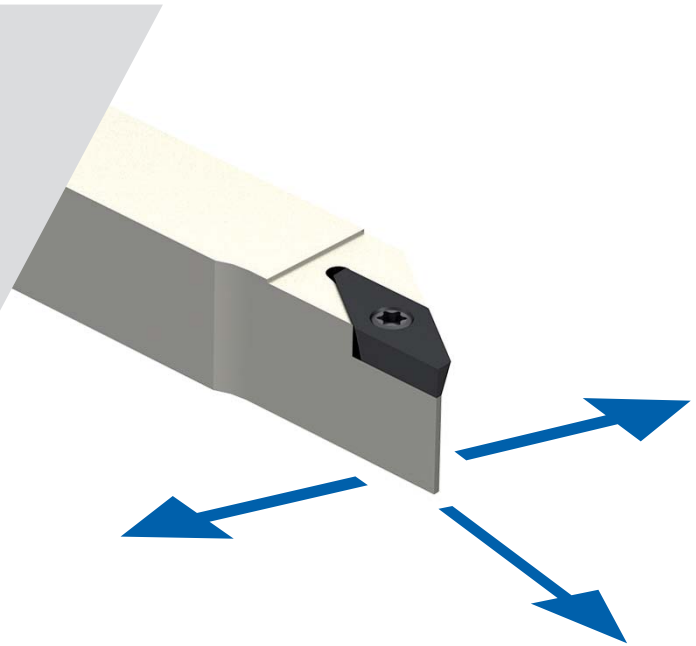


# TriClamp

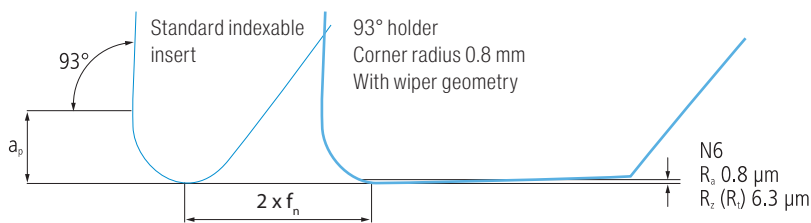
The feed rate can be doubled through the use of the TriClamp system with wiper geometry and 93° holder. This in turn allows machining times to be reduced considerably with no impact on quality, or the surface quality can be improved whilst retaining the same machining time. The ability to machine in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

## Advantages

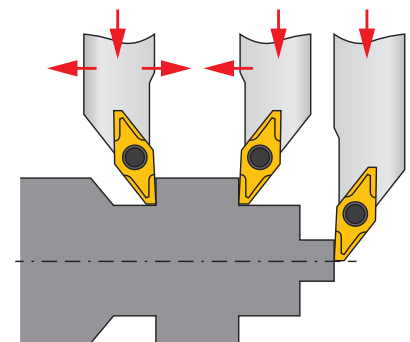
- Expansion of the ISO range
- Turning in three directions
- All cutting edges can easily be replaced
- Sharp positive cutting edges with 11° clearance angle
- Small corner radii 0.08 mm and 0.2 mm
- Perfect chip control
- Special holders for sliding head lathes (Cross-sections 8x8 mm to 16x16 mm)



Wiper geometry in detail:

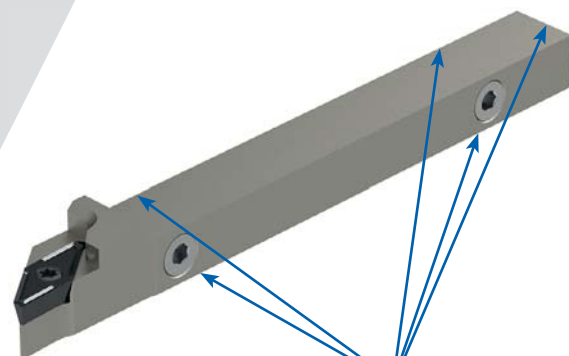


Applications:



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

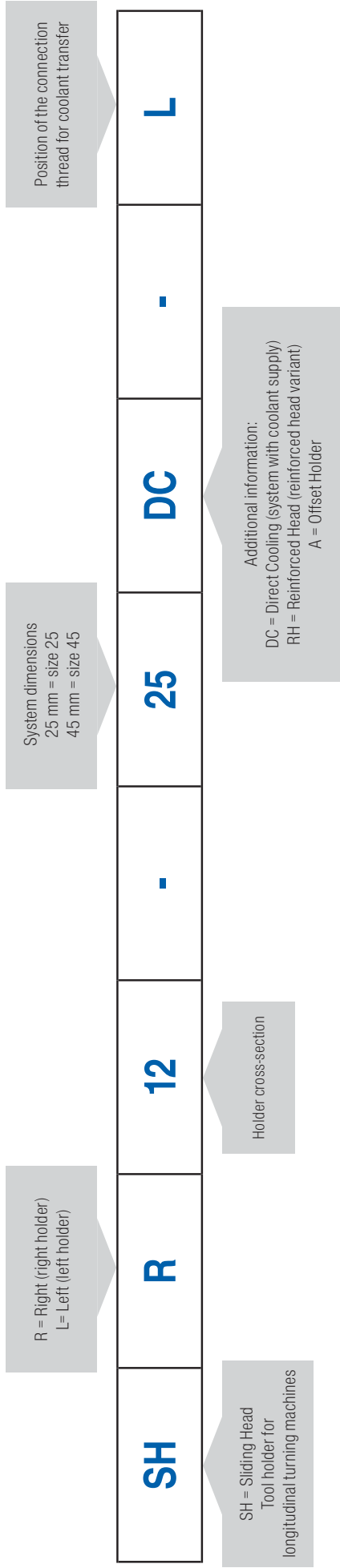


## Accuracy

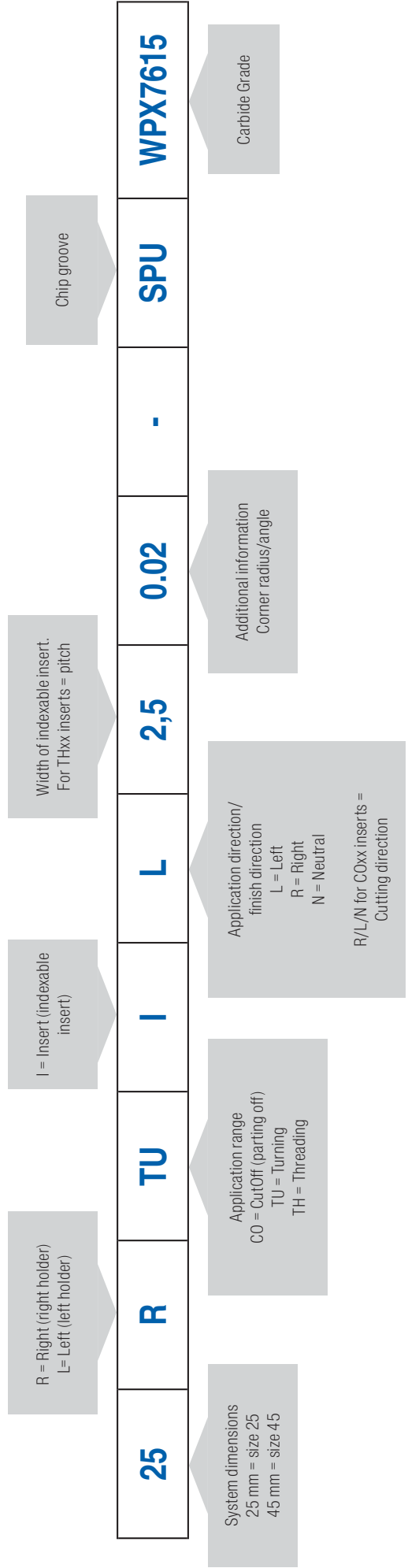
- No variable X and Y dimensions when changing the head
- Repeatability of less than  $\pm 7.5 \mu\text{m}$
- Centre height is retained even when the insert size is changed
- Two-nose system guarantees the correct position



## System 25 and System 45 tool holder naming convention



## System 25 and System 45 indexable insert naming convention





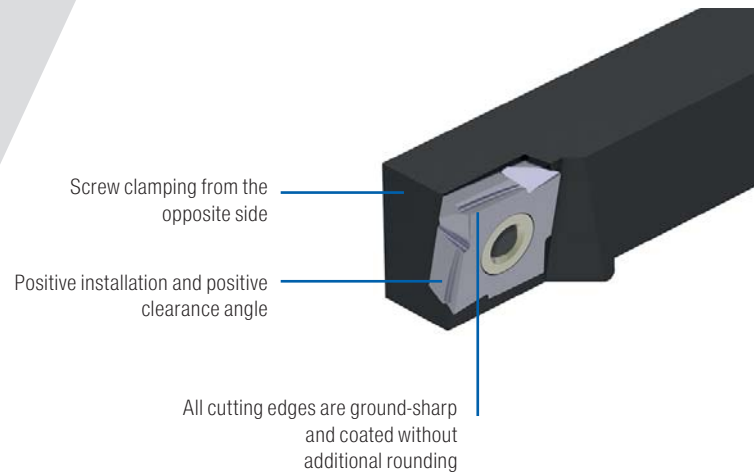
## SOGX system

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)

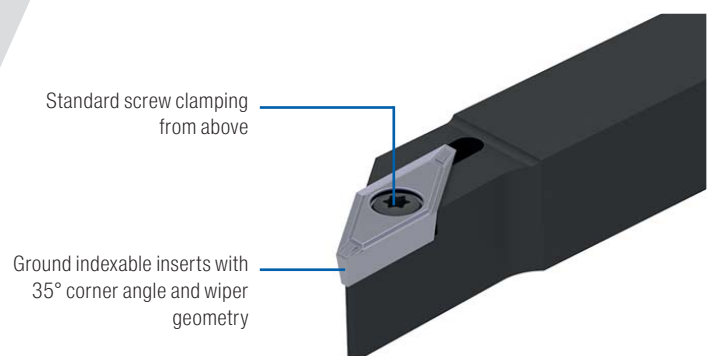


## VCGT system

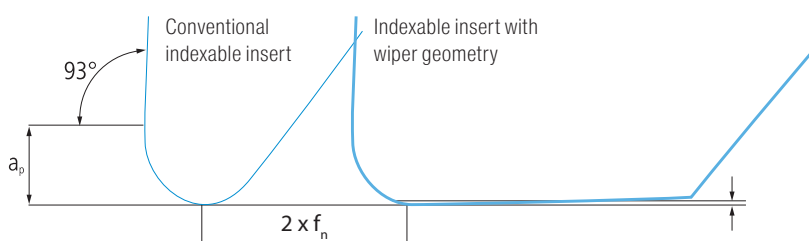
The VCGT system produces an excellent surface quality with an extremely sharp cutting edge, thanks to the wiper geometry. Feeds can be increased two-fold during the process (this decreases the surface quality to the value of a standard indexable insert due to complete utilisation of the wiper geometry 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:



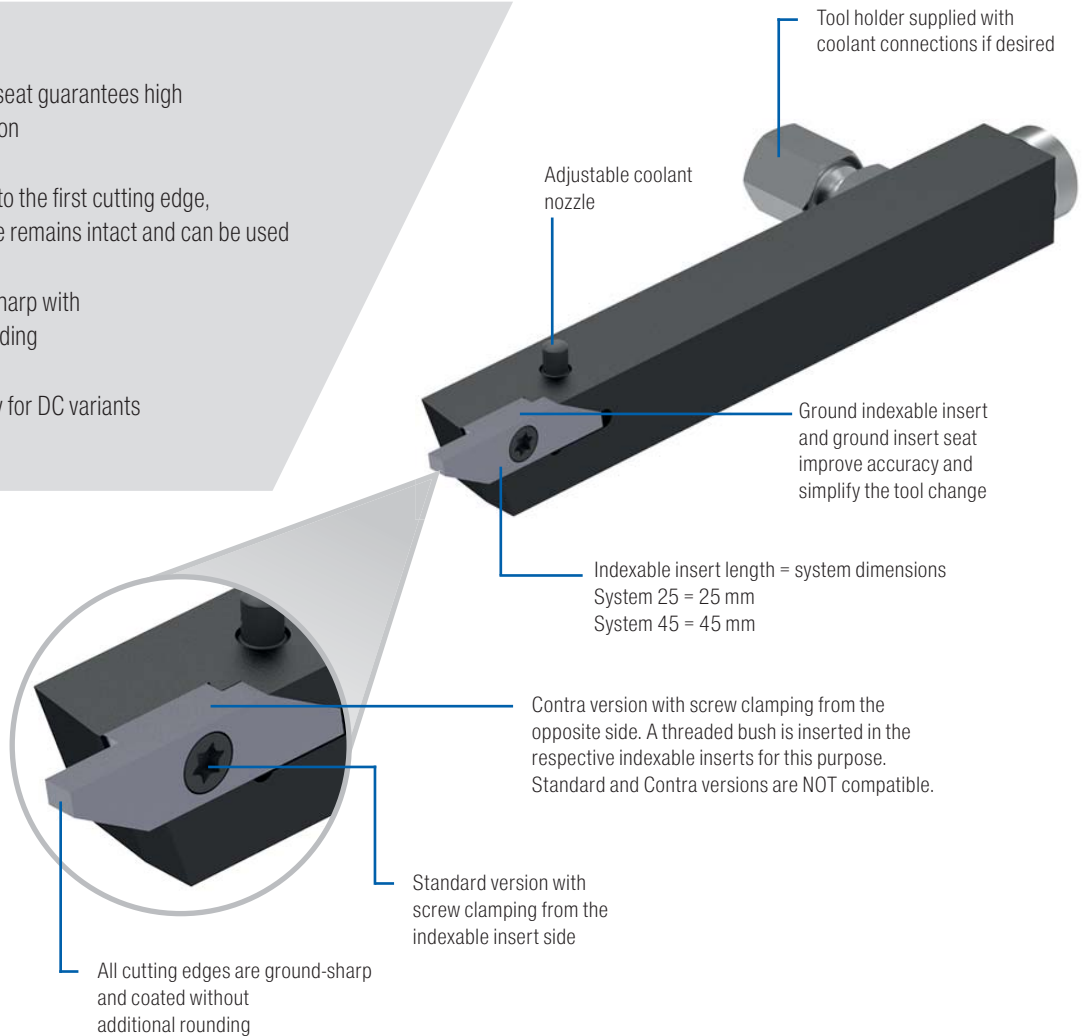
# System 25 and System 45

## System

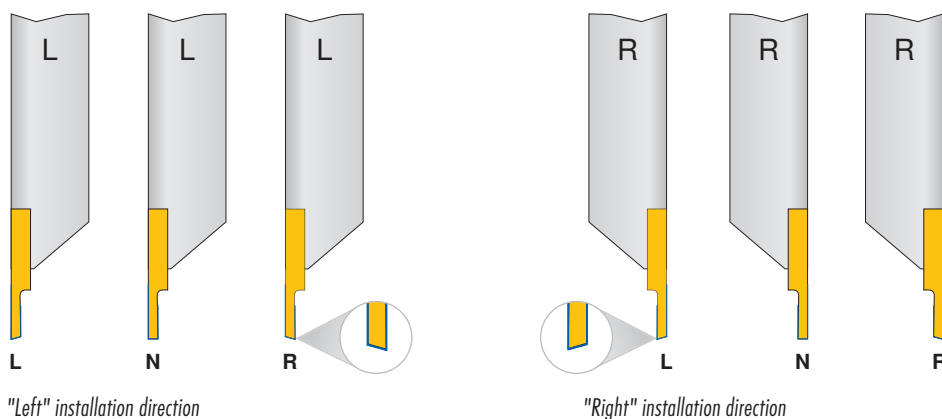
Systems 25 and 45 feature a tangential indexable insert tool holder. This clamping technology ensures that the cutting edge is almost in line with the external surface of the tool holder. The indexable insert can be turned in three directions, meaning that it can be used for machining in a radial direction 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

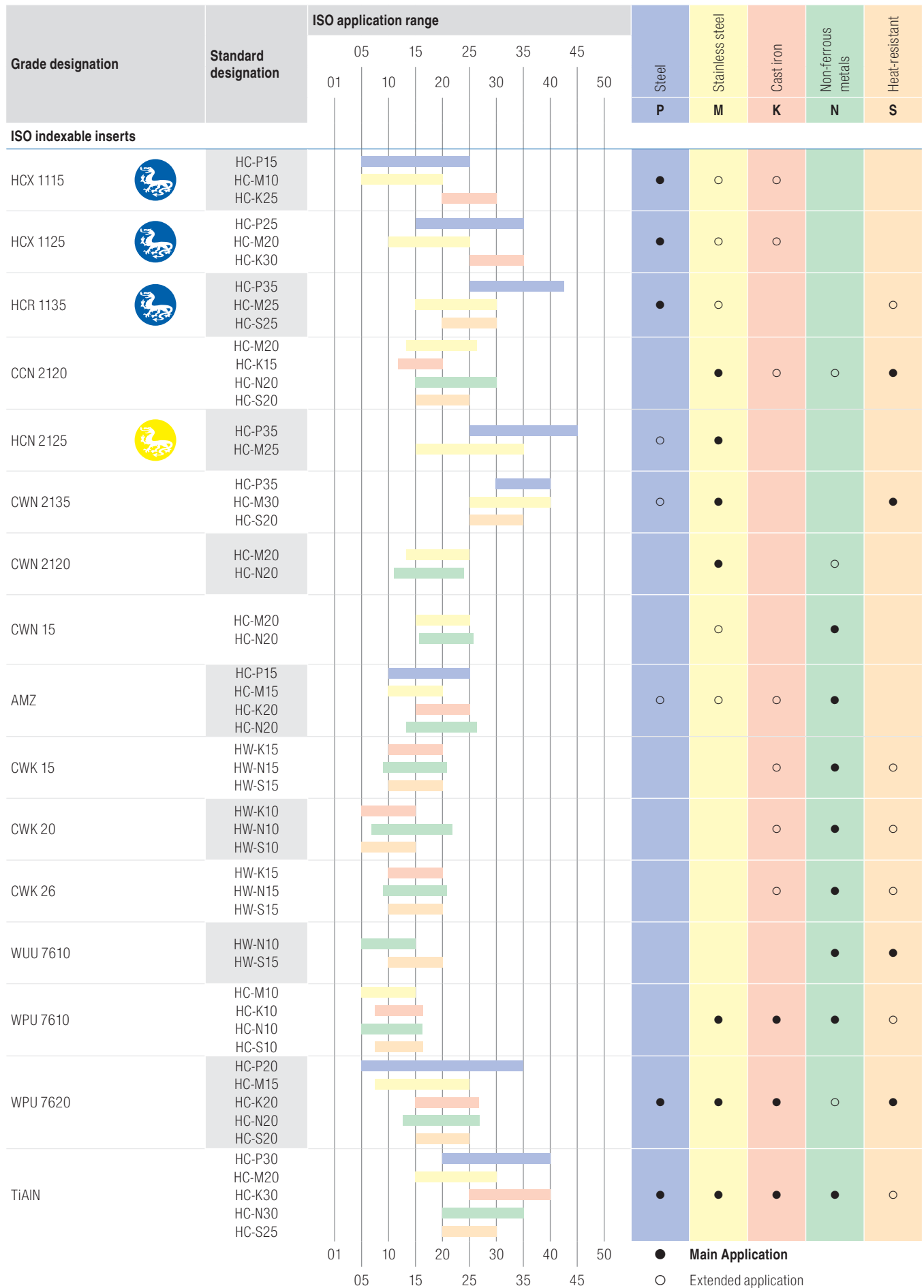
- Ground rhombic insert seat guarantees high tool changeover precision
- In the event of damage to the first cutting edge, the second cutting edge remains intact and can be used
- All inserts are ground-sharp with no additional edge rounding
- Targeted coolant supply for DC variants in all pressure ranges



## Useable directions

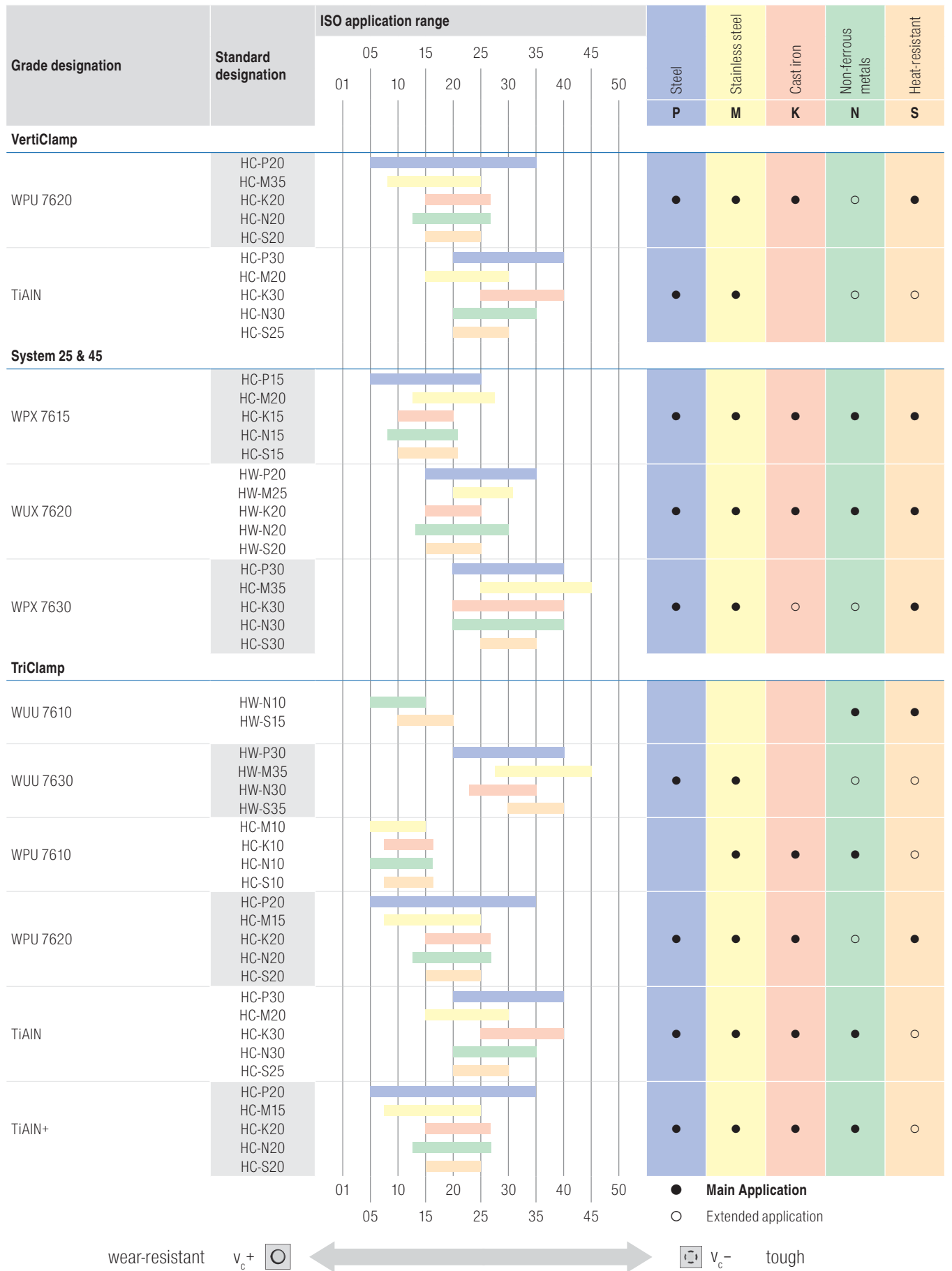


# Grades Overview



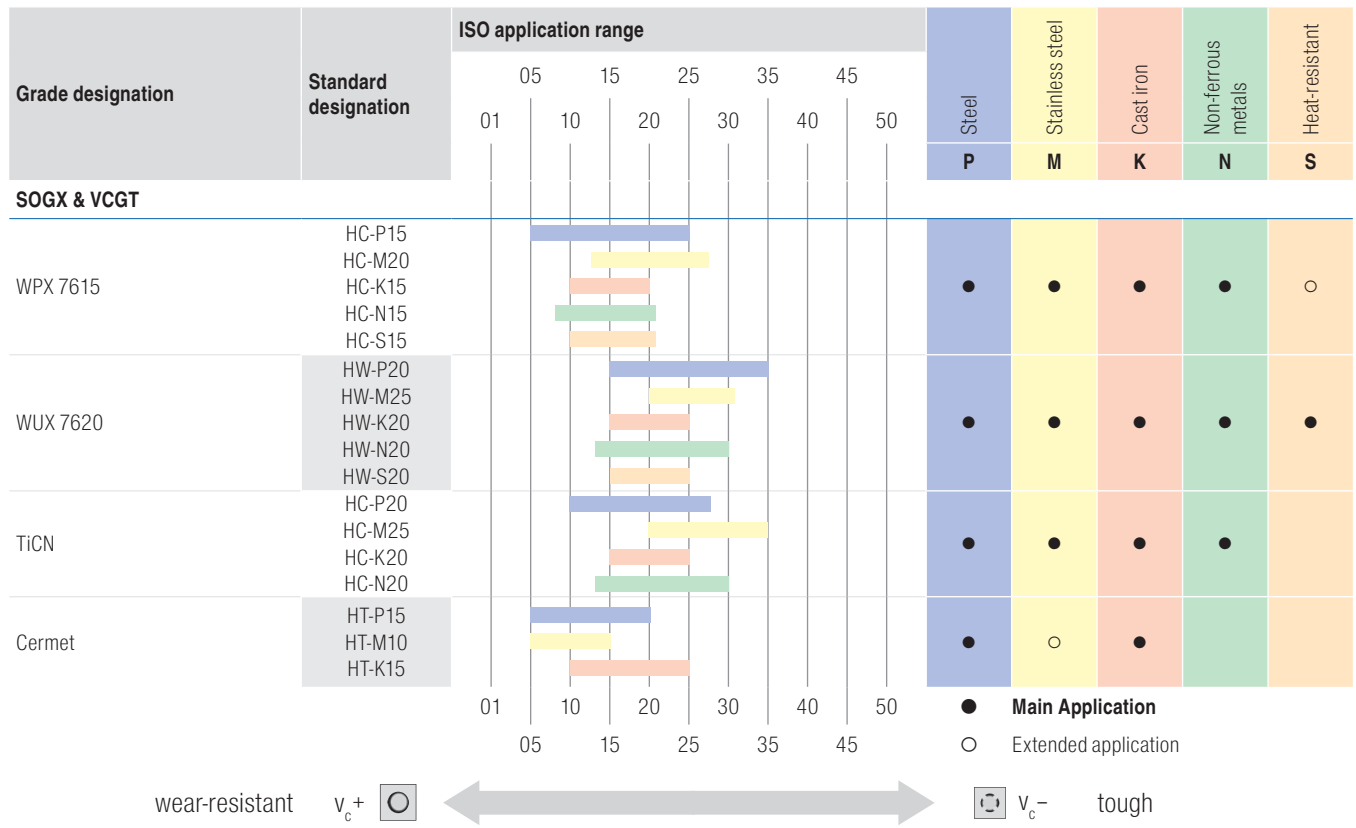
wear-resistant  $v_c+$   $v_c-$  tough

# Grades Overview



3

# Grades Overview



# Grade designation

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

## Grade designation



### Main application - material

- 1 Steel
- 2 Stainless steel
- 3 Cast iron
- 4 Light and non ferrous metals
- 5 Super alloys, titanium
- 6 Hard materials

### Application

- 1 Turning
- 2 Milling
- 3 Grooving
- 4 Drilling
- 5 Thread turning
- 6 Others

### Degree of hardness

- 05 ISO K/M/P 05
- 10 ISO K/M/P 10
- 15 ISO K/M/P 15
- ...

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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



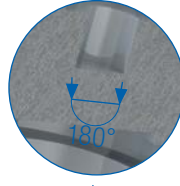
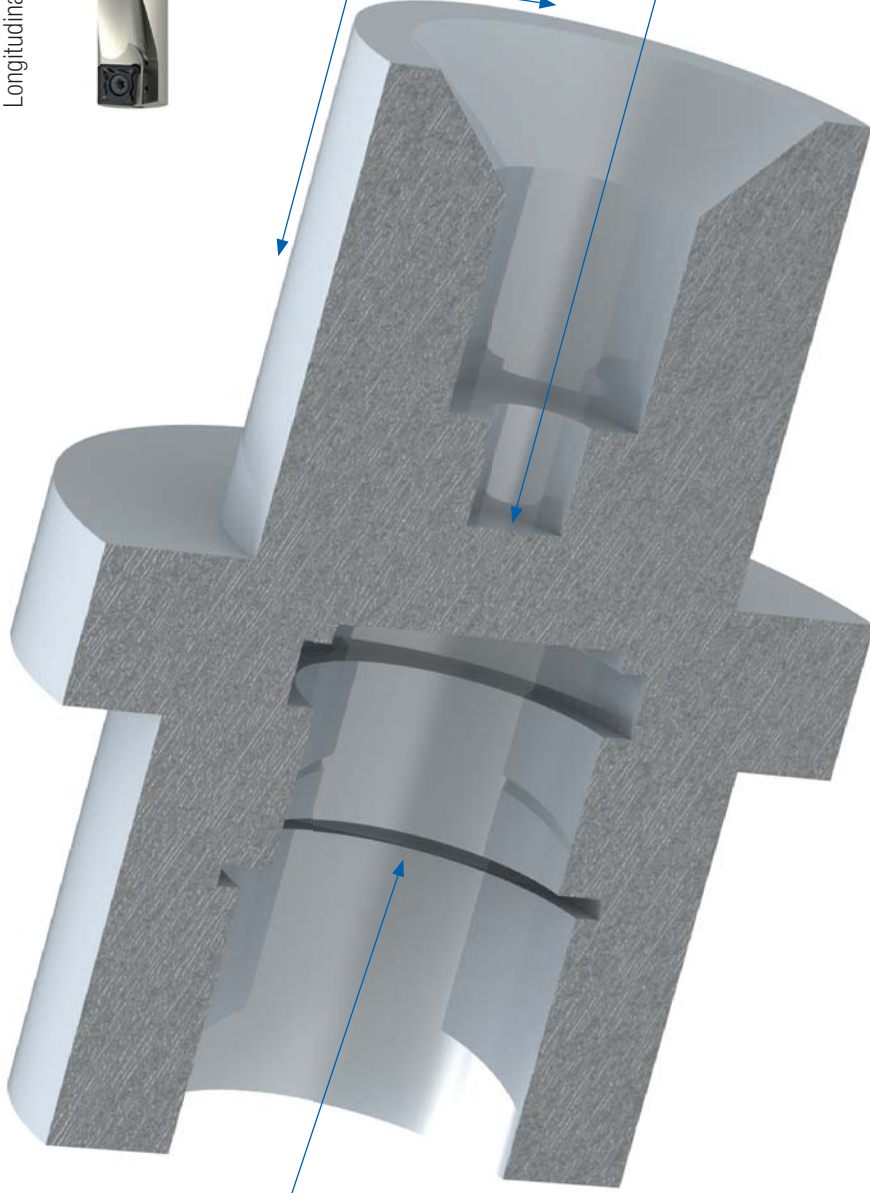
## EcoCut ProfileMaster

Drilling with flat bottom hole and groove turning



## EcoCut Mini

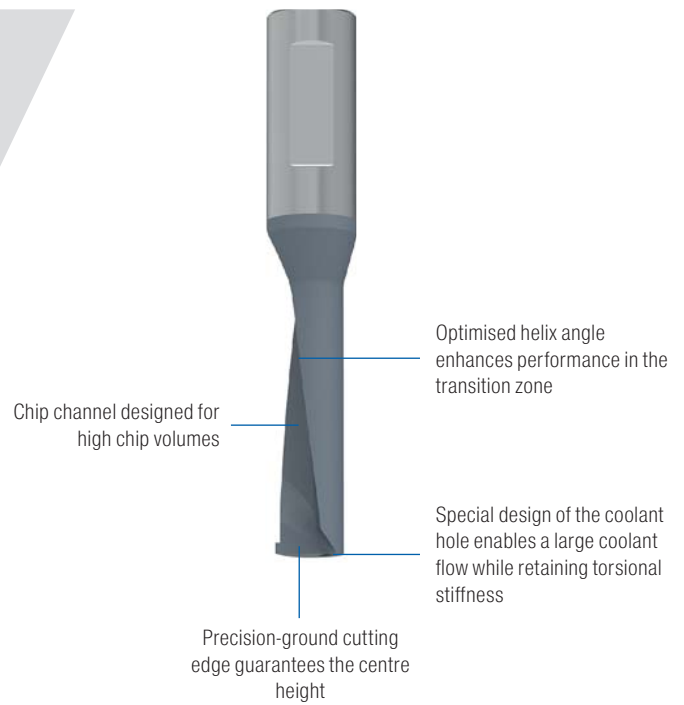
Drilling with flat bottom hole








# 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	
<b>EcoCut Mini</b> 	2,25xD	4-8	18	✓	✓	✓		162+163
	4,0xD	4-8	32	✓	✓	✓		162+163
<b>EcoCut Classic</b> 	1,5xD	8-16	24,0	✓	✓	✓		165
	2,25xD	8-16	36,0	✓	✓	✓		166
	3,0xD	8-16	48,0	✓	✓	✓		167
<b>EcoCut Profilmaster</b> 	1,5xD	10-16	24,0	✓	✓	✓	✓	169
	2,25xD	10-16	36,0	✓	✓	✓	✓	170

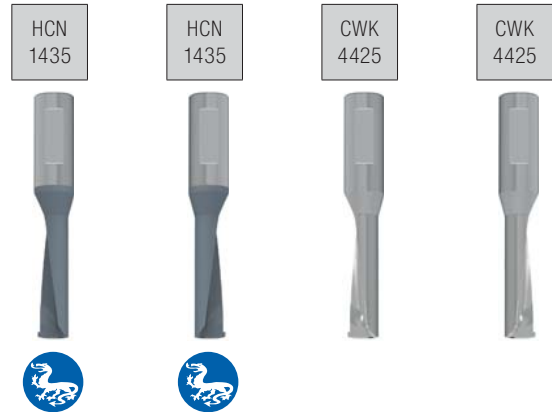
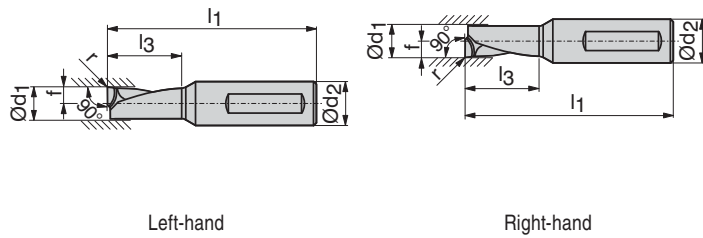
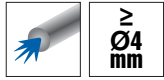
# Overview EcoCut Mini and EcoCut Inserts

Type	Smooth cut 	Irregular cutting depth 	Interrupted cut 	Grade	Material Application Legend	Radius r in mm	Coated/Uncoated Legend	Pages
<b>EcoCut Mini</b>								
				HCN 1435		0,2		162
				CWK 4425		0,2		162
<b>EcoCut Classic</b>								
				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
<b>EcoCut ProfileMaster</b>								
				HCN 2430		0,4		168

- = Main Application
- = Extended application

# EcoCut - Mini

▪ Drilling and turning tool for small diameters



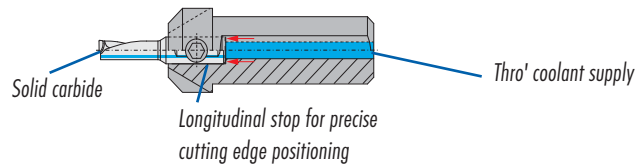
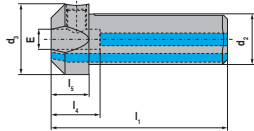
Solid carbide Left-hand 2B      Solid carbide Right-hand 2B      Solid carbide Left-hand 2B      Solid carbide Right-hand 2B

Designation	d <sub>1</sub> DC mm	d <sub>2</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LU mm	f WF mm	r RE mm	Solid carbide Left-hand 2B		Solid carbide Right-hand 2B		Solid carbide Left-hand 2B		Solid carbide Right-hand 2B	
							Article no. 70 805 ... £	300	Article no. 70 804 ... £	300	Article no. 70 805 ... £	450	Article no. 70 804 ... £	450
ECM 04 R/L 2,25D	4	6	35	9.00	2.0	0.2	50.18	300	50.18	300				
ECM 04 R/L 2,25D AL	4	6	35	9.00	2.0	0.2					44.22	450	44.22	450
ECM 04 R/L 4,00D	4	6	41	16.00	2.0	0.2	52.68	301	52.68	301				
ECM 04 R/L 4,00D AL	4	6	41	16.00	2.0	0.2					46.43	451	46.43	451
ECM 05 R/L 2,25D	5	6	37	11.25	2.5	0.2	51.92	302	51.92	302				
ECM 05 R/L 2,25D AL	5	6	37	11.25	2.5	0.2					45.46	452	45.46	452
ECM 05 R/L 4,00D	5	6	45	20.00	2.5	0.2	54.32	303	54.32	303				
ECM 05 R/L 4,00D AL	5	6	45	20.00	2.5	0.2					47.67	453	47.67	453
ECM 06 R/L 2,25D	6	8	38	13.50	3.0	0.2	53.26	306	53.26	306				
ECM 06 R/L 2,25D AL	6	8	38	13.50	3.0	0.2					47.00	456	47.00	456
ECM 06 R/L 4,00D	6	8	49	24.00	3.0	0.2	55.95	312	55.95	312				
ECM 06 R/L 4,00D AL	6	8	49	24.00	3.0	0.2					49.12	462	49.12	462
ECM 07 R/L 2,25D	7	8	42	15.75	3.5	0.2	54.91	308	54.91	308				
ECM 07 R/L 2,25D AL	7	8	42	15.75	3.5	0.2					48.45	458	48.45	458
ECM 07 R/L 4,00D	7	8	53	28.00	3.5	0.2	57.78	314	57.78	314				
ECM 07 R/L 4,00D AL	7	8	53	28.00	3.5	0.2					50.66	464	50.66	464
ECM 08 R/L 2,25D	8	8	45	18.00	4.0	0.2	56.73	310	56.73	310				
ECM 08 R/L 2,25D AL	8	8	45	18.00	4.0	0.2					49.79	460	49.79	460
ECM 08 R/L 4,00D	8	8	57	32.00	4.0	0.2	59.43	316	59.43	316				
ECM 08 R/L 4,00D AL	8	8	57	32.00	4.0	0.2					52.21	466	52.21	466

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

→ v<sub>c</sub> Page 177

# EcoCut - Adapter Mini



Designation	E	d <sub>2</sub>	d <sub>3</sub>	l <sub>1</sub>	l <sub>5</sub>	l <sub>4</sub>		
	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm	Article no. 70 800 ...	£
EC-ADX16-06	6	16.00	22	59.0	14	18	70 800 976	163.50
EC-ADX12-06-E 3/4"	6	19.05	25	63.5	14	18	70 800 986	163.50
EC-ADX20-06	6	20.00	25	64.0	14	18	70 800 996	163.50
EC-ADX16-08	8	16.00	22	59.0	14	18	70 800 978	163.50
EC-ADX12-08-E 3/4"	8	19.05	25	63.5	14	18	70 800 988	163.50
EC-ADX20-08	8	20.00	25	64.0	14	18	70 800 998	163.50

2B

Article no.  
70 800 ...

£  
163.50 976  
163.50 986  
163.50 996  
163.50 978  
163.50 988  
163.50 998

### Spare parts for Article no.

Article no.	£	
70 800 976	2.59	M8x1x8 - SW4 123
70 800 986	2.59	M8x1x8 - SW4 123
70 800 996	2.59	M8x1x8 - SW4 123
70 800 978	2.59	M8x1x8 - SW4 123
70 800 988	2.59	M8x1x8 - SW4 123
70 800 998	2.59	M8x1x8 - SW4 123

2A

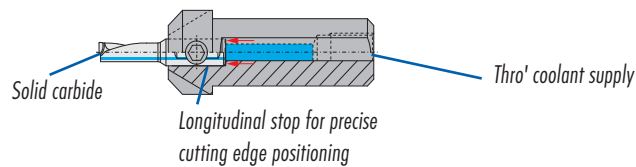
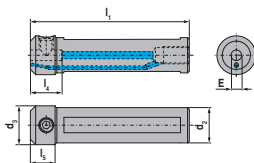


Clamping screw

Article no.  
70 950 ...

£  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123

# EcoCut - Mini adapter with direct coolant connection thread



Designation	E	d <sub>2</sub>	d <sub>3</sub>	l <sub>1</sub>	l <sub>5</sub>	l <sub>4</sub>	Thread		
	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm		Article no. 70 801 ...	£
ECA 16-06	6	16.00	22.0	75	14	18	G 1/8	70 801 816	85.96
ECA 0750-06 3/4"	6	19.05	22.0	100	14	18	G 1/8	70 801 819	87.72
ECA 20-06	6	20.00	22.0	90	14	18	G 1/8	70 801 820	87.72
ECA 22-06	6	22.00	22.0	110		18	G 1/8	70 801 822	90.35
ECA 25-06	6	25.00	25.0	110		18	G 1/8	70 801 825	91.23
ECA 1000-06 1/1"	6	25.40	25.4	110		18	G 1/8	70 801 826	91.23
ECA 16-08	8	16.00	22.0	75	14	18	G 1/8	70 801 916	85.96
ECA 0750-08 3/4"	8	19.05	22.0	100	14	18	G 1/8	70 801 919	87.72
ECA 20-08	8	20.00	22.0	90	14	18	G 1/8	70 801 920	87.72
ECA 22-08	8	22.00	22.0	110		18	G 1/8	70 801 922	90.35
ECA 25-08	8	25.00	25.0	110		18	G 1/8	70 801 925	91.23
ECA 1000-08 1/1"	8	25.40	25.4	110		18	G 1/8	70 801 926	91.23

2B

Article no.  
70 801 ...

£  
85.96 816  
87.72 819  
87.72 820  
90.35 822  
91.23 825  
91.23 826  
85.96 916  
87.72 919  
87.72 920  
90.35 922  
91.23 925  
91.23 926

2A



Clamping screw

Article no.  
70 950 ...

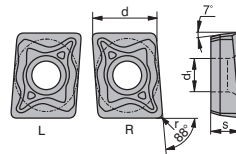
£  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123  
2.59 123

### Spare parts for Article no.

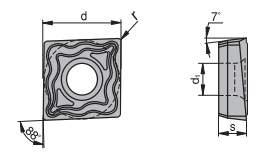
70 801 816	M8x1x8 - SW4	2.59	123
70 801 819	M8x1x8 - SW4	2.59	123
70 801 820	M8x1x8 - SW4	2.59	123
70 801 822	M8x1x8 - SW4	2.59	123
70 801 825	M8x1x8 - SW4	2.59	123
70 801 826	M8x1x8 - SW4	2.59	123
70 801 916	M8x1x8 - SW4	2.59	123
70 801 919	M8x1x8 - SW4	2.59	123
70 801 920	M8x1x8 - SW4	2.59	123
70 801 922	M8x1x8 - SW4	2.59	123
70 801 925	M8x1x8 - SW4	2.59	123
70 801 926	M8x1x8 - SW4	2.59	123

# XCNT / XCET

Designation	s	d <sub>1</sub>	d
	S	D1	IC
	mm	mm	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

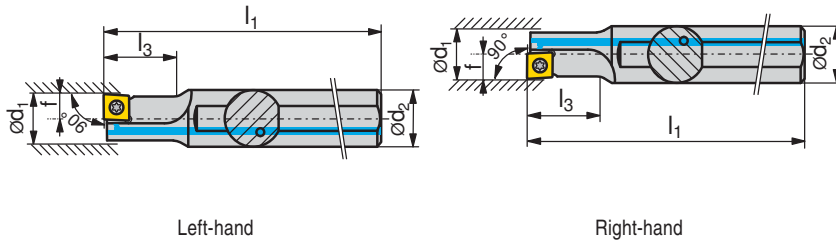
ISO	r RE mm	-M50Q		-ALP		-ALQ	
		XCNT 1D	XCNT 1D	XCNT 1D	XCNT 1D	XCET 1D	XCET 1D
		Article no. 70 386 ...	Article no. 70 386 ...	Article no. 70 386 ...	Article no. 70 286 ...	Article no. 70 286 ...	Article no. 70 286 ...
		£	£	£	£	£	£
040102EL	0.2	13.00 720		13.00 820	13.00 920		
040102ER	0.2	13.00 722		13.00 822	13.00 922		
040102FL	0.2				14.54 620	15.12 120	
040102FR	0.2				14.54 622	15.12 122	
040104EL	0.4	13.00 700	13.57 750	13.00 800	13.00 900		
040104ER	0.4	13.00 702	13.57 752	13.00 802	13.00 902		
040104FL	0.4				14.54 600	15.12 100	
040104FR	0.4				14.54 602	15.12 102	
050202EN	0.2	13.00 723		13.00 823	13.00 923		
050202FN	0.2				14.54 623	15.12 123	
050204EN	0.4	13.00 703	13.57 753	13.00 803	13.00 903		
050204FN	0.4				14.54 603	15.12 103	
060202EN	0.2	13.00 724		13.00 824	13.00 924		
060202FN	0.2				14.54 624	15.12 124	
060204EN	0.4	13.00 704	13.57 754	13.00 804	13.00 904		
060204FN	0.4				14.54 604	15.12 104	
070304EN	0.4	13.00 705	13.57 755	13.00 805	13.00 905		
070304FN	0.4				14.54 605	15.12 105	
080304EN	0.4	13.20 706	13.78 756	13.20 806	13.20 906		
080304FN	0.4				14.75 606	15.32 106	
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

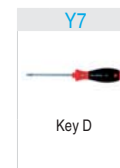


Left-hand 2B      Right-hand 2B

Designation	d <sub>1</sub> DC mm	d <sub>2</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LU mm	f WF mm	Insert	Article no.	
							70 805 ...	70 804 ...
ECC 08 L 1,5D 04	8	12	80	12	4	XC.T 0401..EL	£ 137.73	008 <sup>2)</sup>
ECC 08 R 1,5D 04	8	12	80	12	4	XC.T 0401..ER	£ 137.73	008 <sup>1)</sup>
ECC 10 R/L 1,5D 05	10	12	90	15	5	XC.T 0502..	£ 137.73	010
ECC 12 R/L 1,5D 06	12	16	100	18	6	XC.T 0602..	£ 139.96	012
ECC 14 R/L 1,5D 07	14	16	110	21	7	XC.T 0703..	£ 143.31	014
ECC 16 R/L 1,5D 08	16	20	125	24	8	XC.T 0803..	£ 145.63	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.**

Spare parts for Article no.	Article no. 80 950 ...		Article no. 70 950 ...	
	£		£	
70 805 008	12.65	123	3.19	862
70 804 008	12.65	123	3.19	862
70 805 010 / 70 804 010	12.65	123	2.85	863
70 805 012 / 70 804 012	12.48	124	2.75	856
70 805 014 / 70 804 014	12.48	125	3.54	857
70 805 016 / 70 804 016	13.66	126	2.71	819

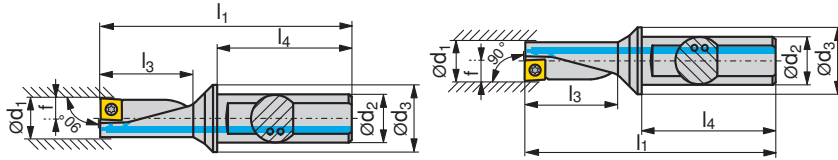
3

# 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

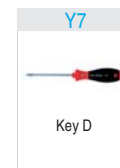
Designation	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	l <sub>1</sub>	l <sub>3</sub>	l <sub>4</sub>	f	Insert	Article no.	
	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LS mm	WF mm		70 805 ...	70 804 ...
ECC 08 L 2,25D 04	8	10	12	60.0	18.0	38	4	XC.T 0401..EL	204.92	108 <sup>2)</sup>
ECC 08 R 2,25D 04	8	10	12	60.0	18.0	38	4	XC.T 0401..ER	204.92	108 <sup>1)</sup>
ECC 10 R/L 2,25D 05	10	12	16	69.5	22.5	42	5	XC.T 0502..	204.92	110
ECC 12 R/L 2,25D 06	12	16	20	78.0	27.0	45	6	XC.T 0602..	210.51	112
ECC 14 R/L 2,25D 07	14	16	20	83.5	31.5	45	7	XC.T 0703..	215.16	114
ECC 16 R/L 2,25D 08	16	20	25	94.0	36.0	50	8	XC.T 0803..	219.62	116

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

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

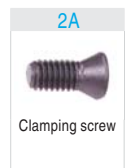
**Spare parts for Article no.**

Article no.	Price (£)	Quantity	Description	Price (£)	Quantity
70 805 108	12.65	123	T06 - IP	3.19	862
70 804 108	12.65	123	T06 - IP	3.19	862
70 805 110 / 70 804 110	12.65	123	T06 - IP	2.85	863
70 805 112 / 70 804 112	12.48	124	T07 - IP	2.75	856
70 805 114 / 70 804 114	12.48	125	T08 - IP	3.54	857
70 805 116 / 70 804 116	13.66	126	T09 - IP	2.71	819



Key D

Article no.  
80 950 ...



Clamping screw

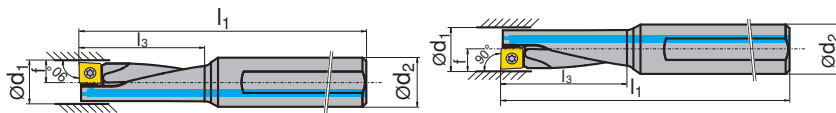
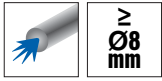
Article no.  
70 950 ...

# 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



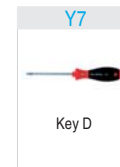
Left-hand

Right-hand

Designation	d <sub>1</sub>	d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub>	f	Insert	Left-hand 2B		Right-hand 2B	
	DC mm	DCONMS mm	OAL mm	LU mm	WF mm		Article no. 70 805 ...	£	Article no. 70 804 ...	£
ECC 08 L 3,00D 04 H	8	12	80	24	4	XC.T 0401..EL	70 805 608	505.34	70 804 608	505.34
ECC 08 R 3,00D 04 H	8	12	80	24	4	XC.T 0401..ER	70 805 610	507.63	70 804 610	507.63
ECC 10 R/L 3,00D 05 H	10	12	85	30	5	XC.T 0502..	70 805 612	547.98	70 804 612	547.98
ECC 12 R/L 3,00D 06 H	12	16	95	36	6	XC.T 0602..	70 805 614	560.64	70 804 614	560.64
ECC 14 R/L 3,00D 07 H	14	16	100	42	7	XC.T 0703..	70 805 616	614.79	70 804 616	614.79
ECC 16 R/L 3,00D 08 H	16	20	110	48	8	XC.T 0803..				

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

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



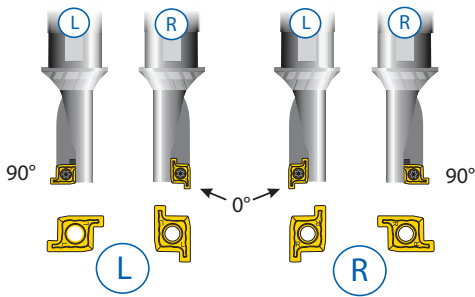
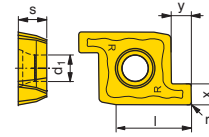
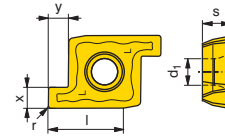
### Spare parts for Article no.

Article no.	£	Article no.	£
70 805 608	12.65	70 950 123	3.19
70 804 608	12.65	70 950 123	3.19
70 805 610 / 70 804 610	12.65	70 950 123	2.85
70 805 612 / 70 804 612	12.48	70 950 124	2.75
70 805 614 / 70 804 614	12.48	70 950 125	3.54
70 805 616 / 70 804 616	13.66	70 950 126	2.71



# PM-L / PM-R

Designation	x	y	l	s	d <sub>1</sub>	r
	CW mm	PDPT mm	L mm	s mm	D1 mm	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		PM-R	
		NEW 1F Article no. 70 289 ...		NEW 1F Article no. 70 289 ...	
PM 10 G 201504	0.4	£ 14.00	510	£ 14.00	511
PM 12 G 201804	0.4	£ 14.10	515	£ 14.10	516
PM 16 G 252004	0.4	£ 14.28	520	£ 14.28	521
Steel			●		●
Stainless steel			●		●
Cast iron			○		○
Non ferrous metals			○		○
Heat resistant alloys			●		●

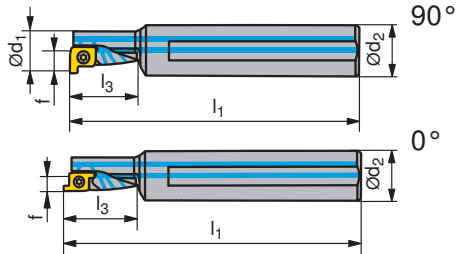
→ v<sub>c</sub> Page 177

# EcoCut - ProfileMaster 1.5xD

- Drilling, turning and grooving tool

**Scope of supply:**

Toolholder with one clamping screw and one screwdriver

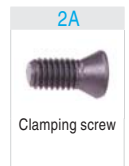
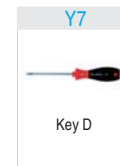


Diagrams show right hand versions



Designation	d <sub>1</sub> DC mm	d <sub>2</sub> DCONMS mm	l <sub>1</sub> (90°)		f (90°)	l <sub>1</sub> (0°)		f (0°)	Insert	Left-hand		Right-hand	
			OAL mm	LU mm	DC mm	OAL mm	LU mm	WF mm		NEW 2G Article no. 70 821 ...	£	NEW 2G Article no. 70 820 ...	£
PMC 10 R/L 1,5D	10	12	80	15	5				PM 10R/L	148.53	010 <sup>1)</sup>	148.53	010 <sup>1)</sup>
PMC 12 R/L 1,5D	12	16	90	18	6				PM 12R/L	153.98	012 <sup>1)</sup>	153.98	012 <sup>1)</sup>
PMC 16 R/L 1,5D	16	20	125	24	8	127.3	26.3	5.7	PM 16R/L	162.88	016	162.88	016

1) only usable as 90° version



**Spare parts  
for Article no.**

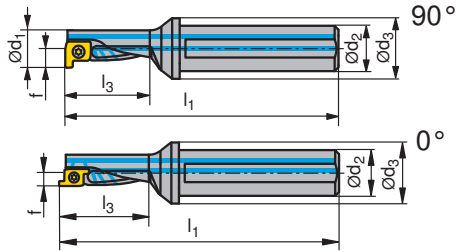
		Article no. 80 950 ...	£		Article no. 70 950 ...	£
70 820 010 / 70 821 010	T06 - IP	123	12.65	M1,8x3,6 - IP	862	3.19
70 820 012 / 70 821 012	T07 - IP	124	12.48	M2,2x4,2 - IP	137	2.75
70 820 016 / 70 821 016	T09 - IP	126	13.66	M3x5,7 - IP	008	2.71

# EcoCut - ProfileMaster 2.25xD

▪ Drilling, turning and grooving tool

**Scope of supply:**

Toolholder with one clamping screw and one screwdriver

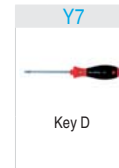


Diagrams show right hand versions



Designation	d <sub>1</sub> DC mm	d <sub>2</sub> DCONMS mm	d <sub>3</sub> DF mm	l <sub>1</sub> (90°)		l <sub>3</sub> (90°)		f (90°)		l <sub>1</sub> (0°)		l <sub>3</sub> (0°)		f (0°)		Insert	Left-hand		Right-hand	
				OAL	LU	DC	OAL	LU	WF	OAL	LU	WF	NEW 2G	Article no.	NEW 2G		Article no.			
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	£
PMC 10 R/L 2,25D	10	12	18	72.4	22.5	5								PM 10R/L	218.44	110 <sup>1)</sup>	218.44	110 <sup>1)</sup>		
PMC 12 R/L 2,25D	12	16	22	78.0	27.0	6								PM 12R/L	222.98	112 <sup>1)</sup>	222.98	112 <sup>1)</sup>		
PMC 16 R/L 2,25D	16	20	28	96.5	36.0	8	98.8	38.3	5.7					PM 16R/L	234.97	116	234.97	116		

1) only usable as 90° version



Key D

Article no.  
80 950 ...



Clamping screw

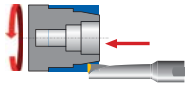
Article no.  
70 950 ...

**Spare parts for Article no.**

70 820 110 / 70 821 110	T06 - IP	12.65	123	M1,8x3,6 - IP	3.19	862
70 820 112 / 70 821 112	T07 - IP	12.48	124	M2,2x4,2 - IP	2.75	137
70 820 116 / 70 821 116	T09 - IP	13.66	126	M3x5,7 - IP	2.71	008

# Depth of Cut and Feedrate for EcoCut Mini

## Turning 2.25xD

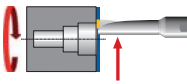


EcoCut Mini Size	Depth of Cut $a_p$ in mm								
	0,5	1	1,5	2	2,5	3	3,5	4	
Feed rate $f$ in mm/rev.									
ECM 04..	0,04-0,1	0,04-0,1	0,03-0,07	0,01-0,05					
ECM 05..	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04				
ECM 06..	0,04-0,1	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06	0,01-0,04			
ECM 07..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

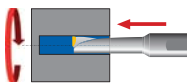
EcoCut Mini Size	Depth of Cut $a_p$ in mm							
	0,5	1	1,5	2	2,5	3	3,5	4
Feed rate $f$ in mm/rev.								
ECM 04..	0,04-0,1	0,03-0,08	0,01-0,05					
ECM 05..	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04				
ECM 06..	0,04-0,1	0,03-0,085	0,02-0,06	0,01-0,04				
ECM 07..	0,04-0,1	0,04-0,1	0,03-0,08	0,02-0,06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

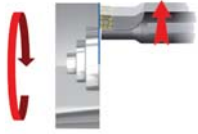
**i** Feed  $f$  may be increased by 50-75 % when using M50Q and ALQ.

## 3.0xD

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

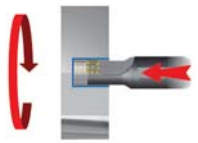
### Face turning



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

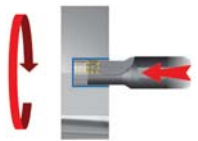
### Drilling

#### 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

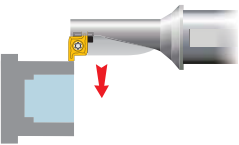


EcoCut ProfileMaster Size	Depth of Cut $a_p$ in mm							
	1	2	3	4	5	6	7	8
	Feed rate $f$ in mm/rev.							
EC-PM 10	0,07-0,20	0,05-0,17	0,02-0,12					
EC-PM 12	0,07-0,20	0,05-0,17	0,02-0,12					
EC-PM 16	0,10-0,25	0,07-0,23	0,05-0,21	0,02-0,17				

## 2,25xD

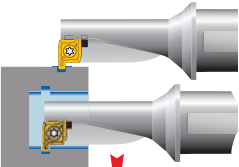
EcoCut ProfileMaster Size	Depth of Cut $a_p$ in mm							
	1	2	3	4	5	6	7	8
	Feed rate $f$ in mm/rev.							
EC-PM 10	0,07-0,19	0,02-0,13						
EC-PM 12	0,07-0,19	0,02-0,13						
EC-PM 16	0,10-0,25	0,07-0,21	0,02-0,13					

## Face turning 1,5xD and 2,25xD



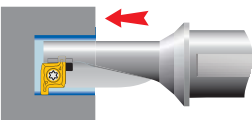
EcoCut ProfileMaster Size	Depth of Cut $a_p$ in mm					
	1	1,5	2	2,5	3	3,5
	Feed rate $f$ in mm/rev.					
EC-PM 10	0,02-0,15	0,02-0,15				
EC-PM 12	0,02-0,15	0,02-0,15				
EC-PM 16	0,05-0,20	0,05-0,20	0,05-0,20			

## Internal + external - radial grooving



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

## Drilling Feed and max. hole depth



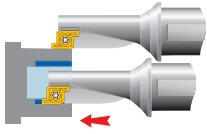
EcoCut ProfileMaster Size	1,5xD		EcoCut ProfileMaster Size	2,25xD	
	f in mm/rev.	Max. hole depth in mm		f in mm/rev.	Max. hole depth in mm
EC-PM 10	0,01-0,05	15,0	EC-PM 10	0,01-0,05	22,5
EC-PM 12	0,01-0,06	18,0	EC-PM 12	0,01-0,06	27,0
EC-PM 16	0,02-0,09	24,0	EC-PM 16	0,02-0,09	36,0

# 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



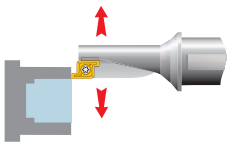
EcoCut ProfileMaster Size	Depth of cut $a_p$ in mm					
	1	1,5	2	2,5	3	3,5
	Feed rate $f$ in mm/rev.					
EC-PM 16	0,04-0,20	0,04-0,20	0,04-0,20			

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

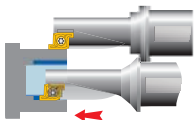


EcoCut ProfileMaster Size	Depth of cut $a_p$ in mm						
	1	1,5	2	2,5	3	3,5	4,0
	Feed rate $f$ in mm/rev.						
EC-PM 16	0,05-0,20	0,05-0,20	0,05-0,20				

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




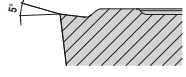




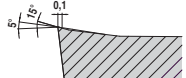








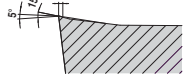

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	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/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	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/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0,5- 10% Si	< 400 N/mm²	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/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	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-A111 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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	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/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	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 <sub>c</sub> 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	<p><b>i</b> 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.</p>							
6.2								
6.3								
6.4								
6.5								

# Chip Breakers Overview

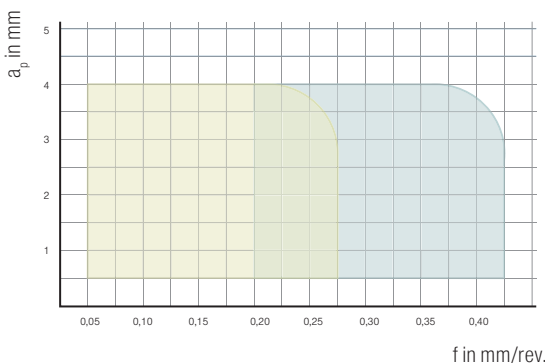
## EcoCut Classic

Model	Smooth cut	Irregular cutting depth	Interrupted cut	sectional illustration	
				f mm	
<b>-EN</b> <ul style="list-style-type: none"> <li>Universal geometry</li> <li>Excellent chip breakage</li> <li>Positive cutting edge</li> <li>Low to medium feeds</li> </ul>				 0,05–0,75	
		HCR1425	HCR1435		HCN2430
		HCR1435	HCN2430		HCN2430
		HCR1425	HCR1435		
		HCN2430	HCN2430		HCN2430
<b>-M50Q</b> <ul style="list-style-type: none"> <li>With wiper geometry</li> <li>Excellent surface qualities</li> <li>Good chip formation</li> <li>Medium to high feeds</li> </ul>				 0,2–0,425	
		HCR1425	HCR1425		
		HCR1425			
		HCR1425	HCR1425		
<b>-ALP</b> <ul style="list-style-type: none"> <li>Positive cutting edge</li> <li>Periphery ground</li> <li>Polished rake face</li> <li>First choice for non-ferrous metals</li> </ul>				 0,1–0,4	
					
			CKW 26		
<b>-ALQ</b> <ul style="list-style-type: none"> <li>With wiper geometry</li> <li>Extremely positive geometry</li> <li>Periphery ground</li> <li>Low adhesion</li> </ul>				 0,2–0,5	
					
			CKW 20		

## EcoCut ProfileMaster

<b>-M20</b> <ul style="list-style-type: none"> <li>Positive geometry</li> <li>Universal application</li> <li>Low to medium feeds</li> </ul>				 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

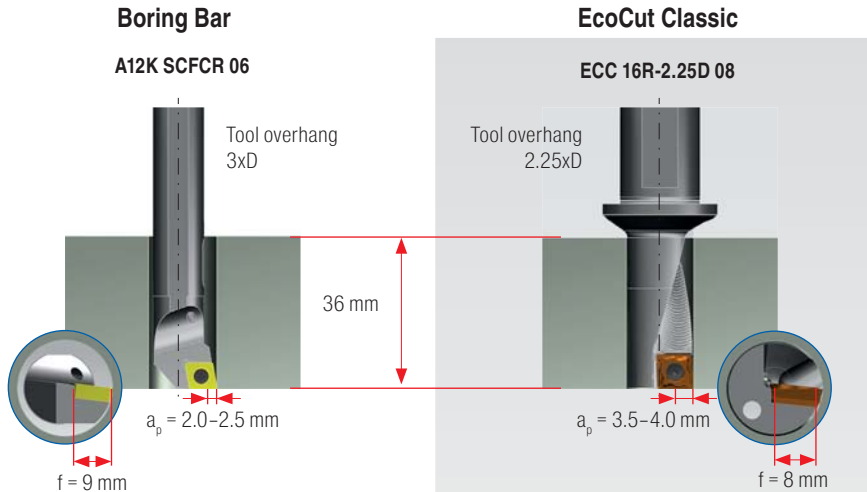
-  = -M50Q
-  = Standard

# 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

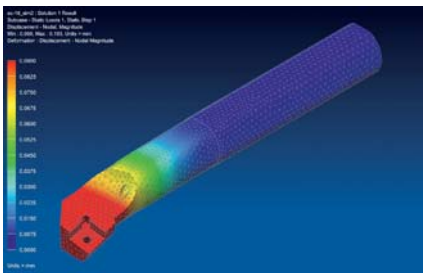
#### Benefits

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

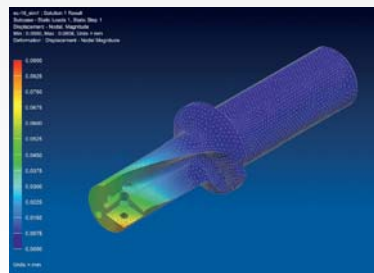
### Stability Comparison

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



Deflection 0.19 mm

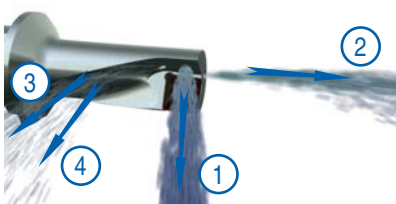


Deflection 0.08 mm

### Practical experience shows:

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

## Innovative chip removal – Chip-Booster



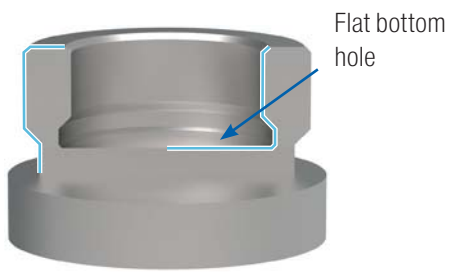
EcoCut tools are equipped with a unique coolant and chip removal system.

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

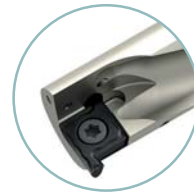
- ③ Chip booster for improved chip transport
- ④ Chip booster prevents chips from getting stuck between tool and workpiece

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

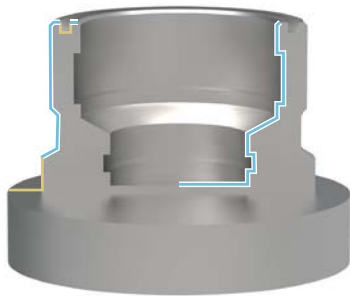
# EcoCut ProfileMaster – the highlight with regard to efficiency



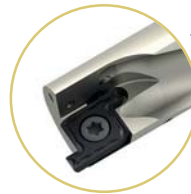
Right hand tools



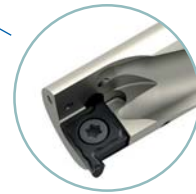
Right hand insert



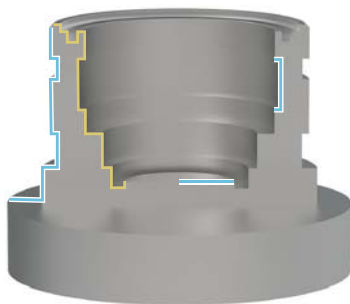
Right hand tools



Left hand insert



Right hand insert



Left hand tool

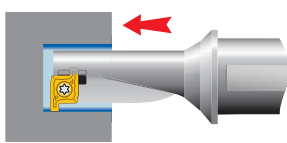


Right hand insert

Right hand tools

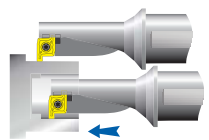


## Version 90°



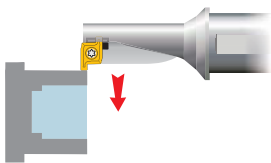
Drilling into solid material with flat bottom hole

Drilling

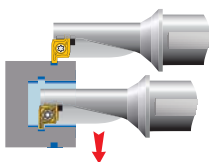


Turning External Diameters

Turning Internal Diameters



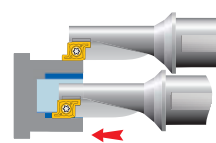
Turning Profiles



External radial grooving

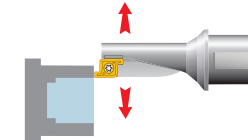
Internal radial grooving

## Version 0°

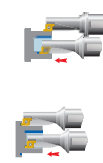


Turning External Diameters

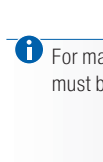
Turning Internal Diameters



Turning Profiles



Axial grooving external



Axial grooving internal

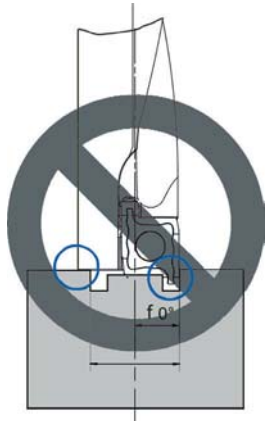
**i** For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

# 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 <sub>min.</sub> in mm	D <sub>max.</sub> 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

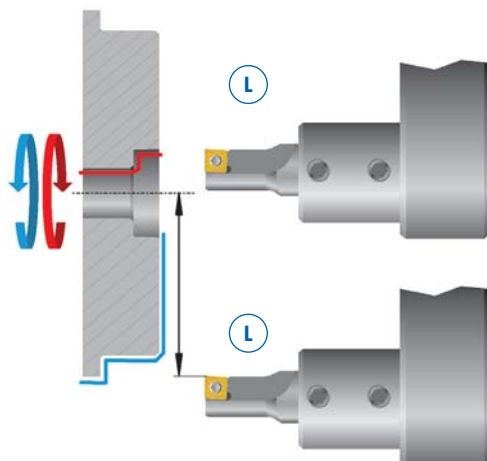
EcoCut Classic	Tool nominal- $\varnothing$	Work piece bore $\varnothing$	
	D in mm	D <sub>min.</sub> in mm	D <sub>max.</sub> in mm
ECC 08 R/L - ... 04	8	7,85	8,30
ECC 10 R/L - ... 05	10	9,85	10,50
ECC 12 R/L - ... 06	12	11,85	12,50
ECC 14 R/L - ... 07	14	13,85	14,50
ECC 16 R/L - ... 08	16	15,85	16,50

EcoCut ProfileMaster	Tool nominal- $\varnothing$	Work piece bore $\varnothing$	
	D in mm	D <sub>min.</sub> in mm	D <sub>max.</sub> 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

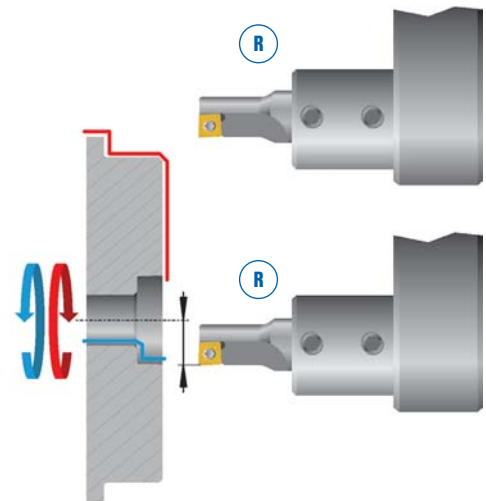
### Problem

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.

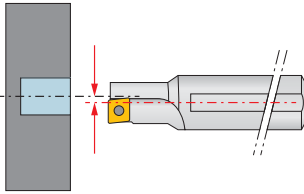


# Application Tips

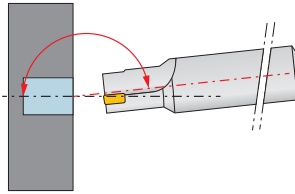
With axial displacement there is the danger of collision!

## Problems

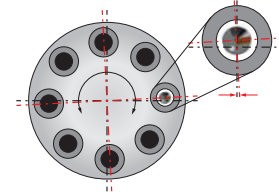
Displacement in x-direction:



Angular error:



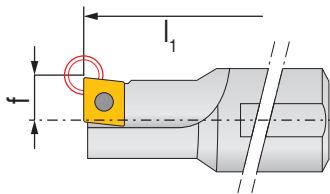
Turret position error:



## Remedy

When pre-setting the tool:

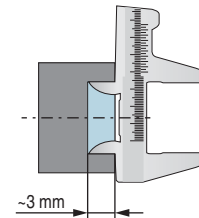
- Definition as an internal turning tool for programming



- 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

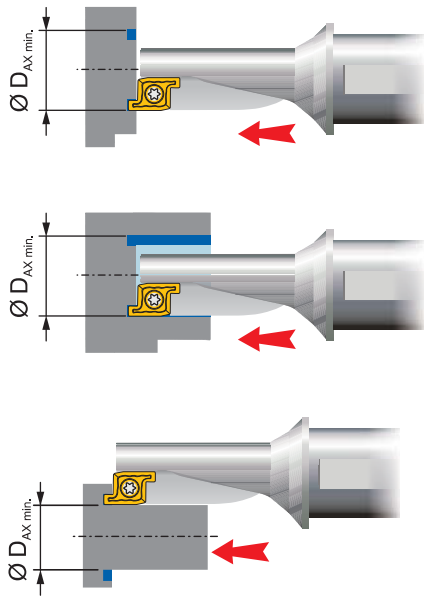
For  $\varnothing$  8 mm tools, right-hand and left-hand indexable inserts are required. Neutral indexable inserts are used from  $\varnothing$  10–16 mm.

**Caution!**  
Ensure correct orientation upon installation.

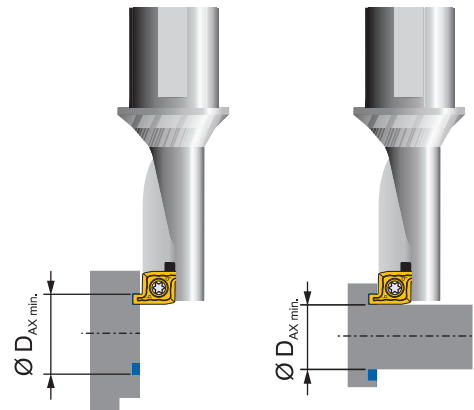


# EcoCut ProfileMaster – Axial Grooving

0° (from Ø 16 mm)

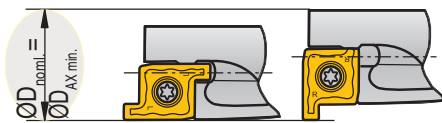


90°

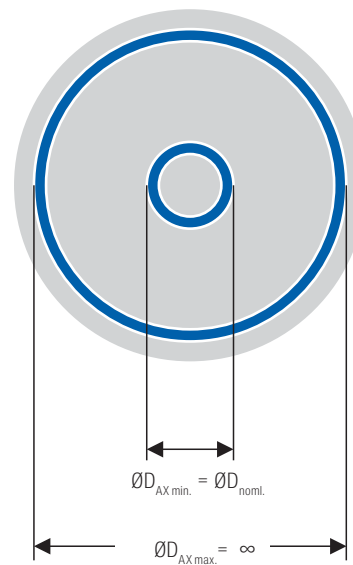


EcoCut ProfileMaster	ØD <sub>noml.</sub> mm	ØD <sub>AX min.</sub> mm	ØD <sub>AX max.</sub> mm
PM 10R/L 1,5D	10	10	> 10
PM 10R/L 2,25D	10	10	> 10
PM 12R/L 1,5D	12	12	> 12
PM 12R/L 2,25D	12	12	> 12
PM 16R/L 1,5D	16	16	> 16
PM 16R/L 2,25D	16	16	> 16

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



- ØD<sub>noml.</sub> = Nominal tool diameter
- ØD<sub>AX min.</sub> = smallest diameter for axial grooving
- ØD<sub>AX max.</sub> = largest diameter for axial grooving





# Application Tips

## Recommendation for Optimum Results

Type of problem									Remedy measures
Type of wear				Work piece problems		Swarf control			
Edge breakage	Built-up edge	Wear on clearance face	Plastic deformation	Vibration	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)		
	▲	▼	▼	▼	▲	▼		Cutting data	Cutting speed
▼		⋈	▼	▲	▼	▲	▼		Feed rate
▲		▲	▲	▼	▲			Insert selection	Corner radius ▲ larger ▼ smaller
▼		▲	▲						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

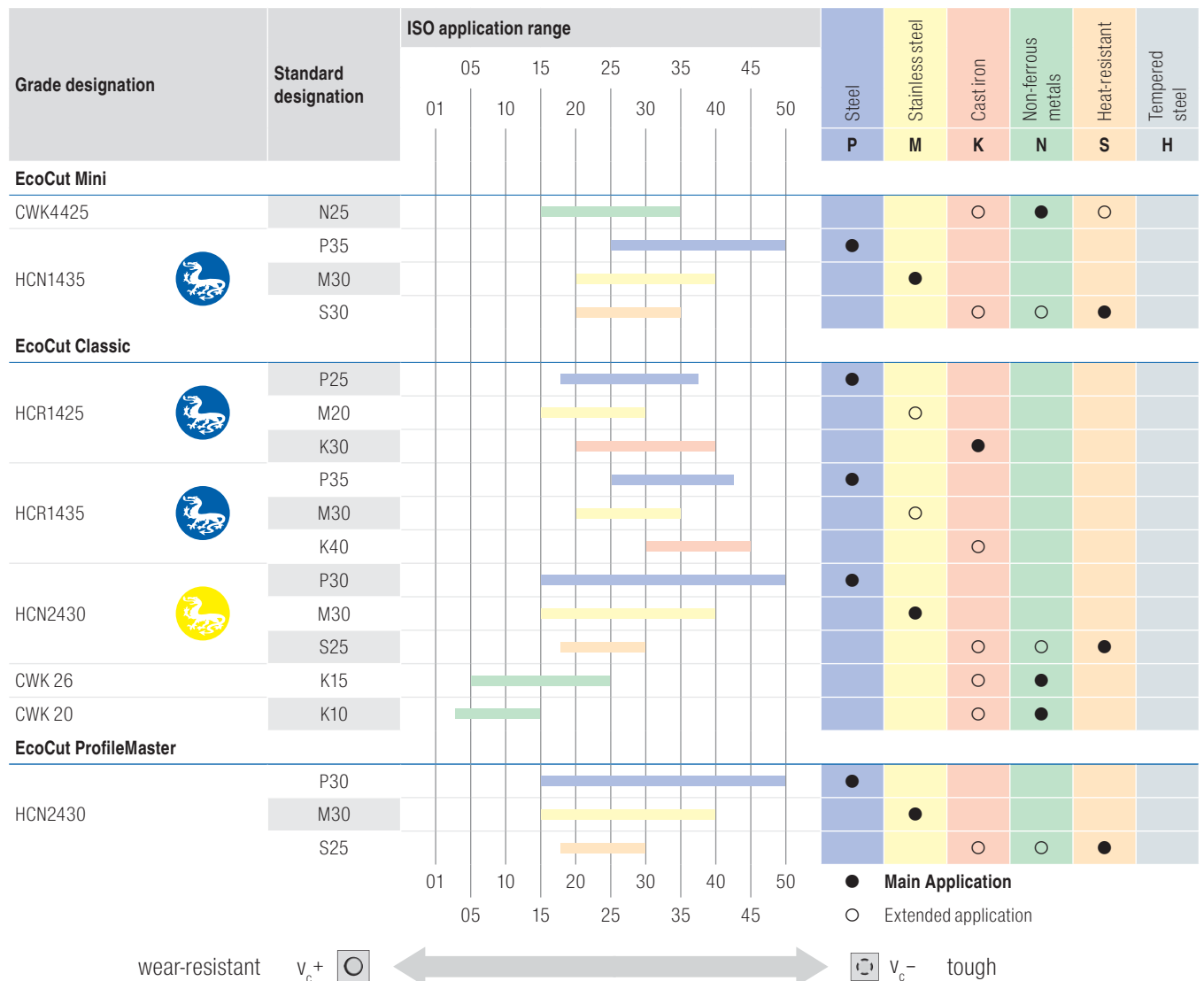
<b>HCR 1425</b>	Carbide, Ti+AL <sub>2</sub> O <sub>3</sub> coated, ISO-P25 Hard grade for ideal conditions
<b>HCR 1435</b>	Carbide, Ti+AL <sub>2</sub> O <sub>3</sub> -TiN coated, ISO-P35 1st choice in steel even in tough conditions
<b>HCN 2430</b>	Carbide, TiALN-coated, universal grade, ISO-M25 1st choice for stainless and heat resistant materials, including steel and cast iron
<b>CWK 20</b>	Carbide, uncoated, ISO-K10 More wear-resistant grade for non-ferrous metals
<b>CWK 26</b>	Carbide, uncoated, ISO-K20 1st Choice for non-ferrous metals at high v <sub>c</sub>

## EcoCut Mini

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

## EcoCut ProfileMaster

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



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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



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

### System 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



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

### System 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



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
-------------	---------------

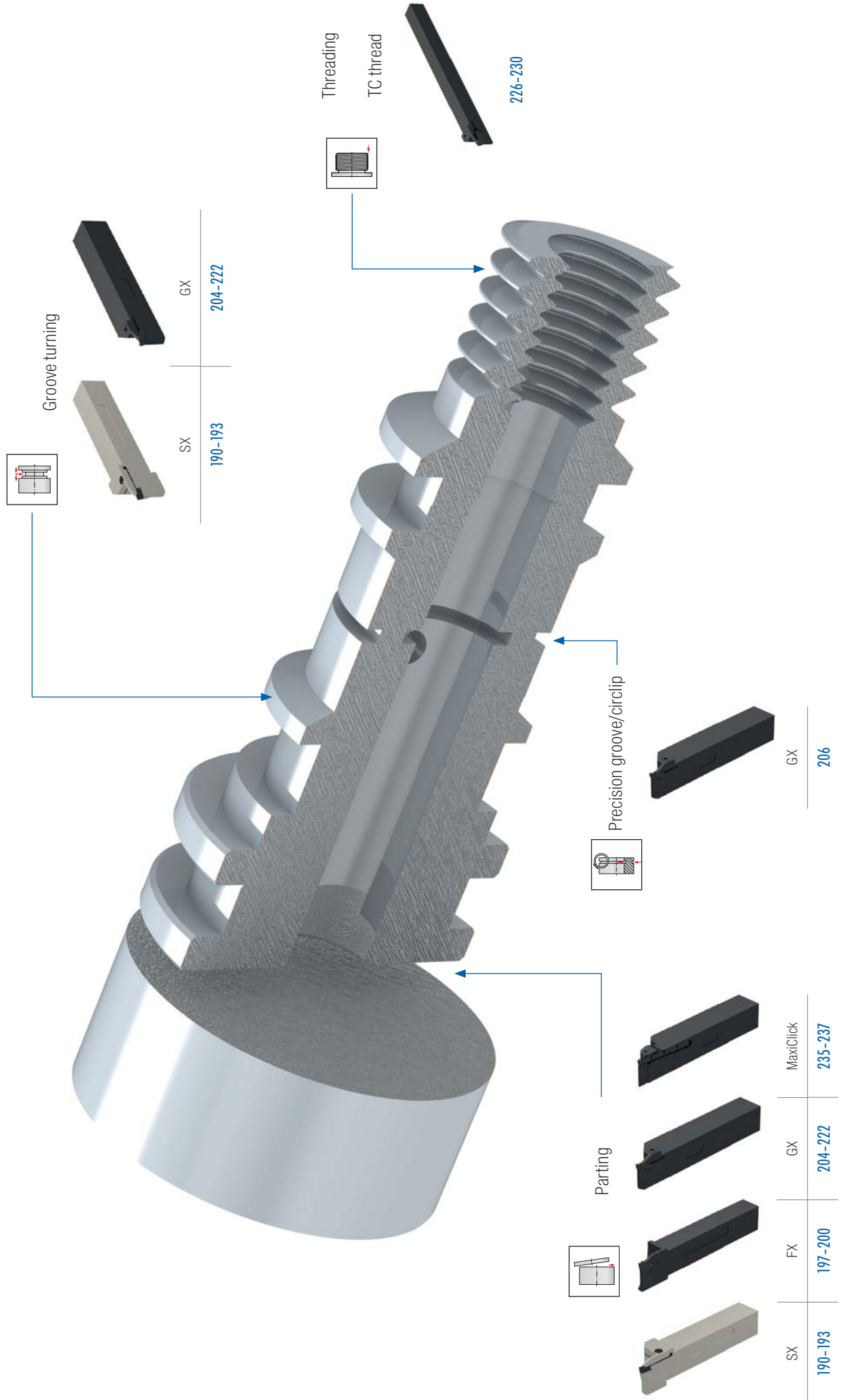
## Application

	Parting		Grooving		Main Application
	Axial Grooving and Turning		Grooving and Turning		Extended application
	External metric thread		Copy Turning		Repeatability
	Internal metric thread		Grooving		
	Internal and External Whitworth thread		Turning		
	Circlip Grooves		Face turning		
			Axial grooving		

## Coatings

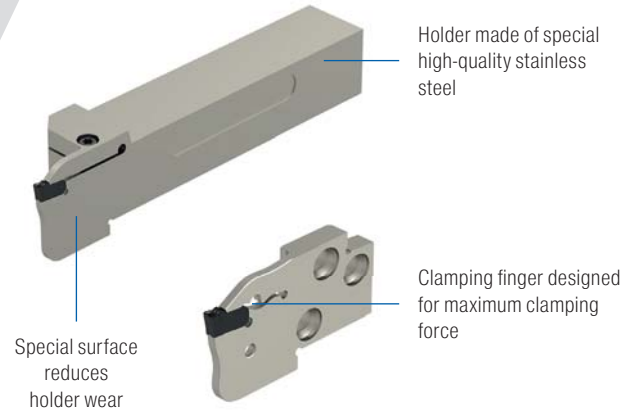
HCR 1325	Carbide, Dragonskin coating, ISO-P25 High performance grade for steel and cast iron	CWK 26	Carbide, uncoated, ISO-N15 Multi-use grade for non-ferrous metals
HCR 1335	Carbide Dragonskin Coating, IOS-P35 High-performance grade for steel and cast iron materials	AMZ	Carbide, TiAlN coating, ISO-N10 Multi-use grade for non-ferrous metals
HCN 1345	Carbide Dragonskin Coating, ISO-P45 For difficult conditions, steel and stainless steel materials	CCN 1340	Carbide, Dragonskin-coating, ISO-P40 Universal type for Steel, stainless steel, non-ferrous metals and super alloys
DPX 1520	Carbide, Dragonskin coating, ISO-P20/M15 High-performance grade specifically for steel and stainless steel	DPX 1535	Carbide, Dragonskin coating, ISO-P35/M30 Universal grade for steel, stainless steel, non-ferrous metals and super alloys

# WNT Toolfinder - Grooving

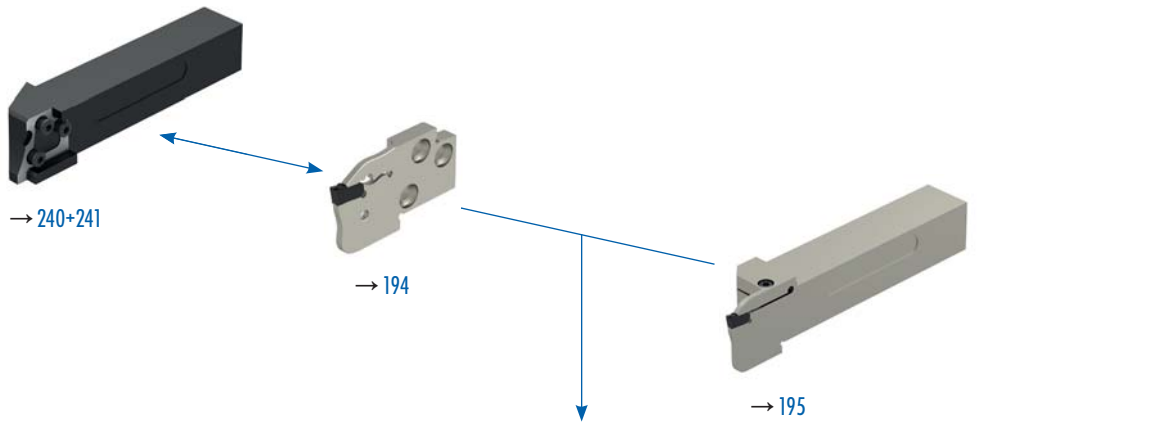


# Highlights

- 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



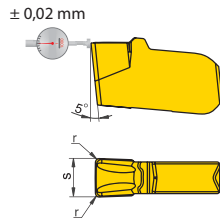
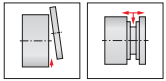
# List of contents



sharp ←				→ stable			
-ALP		-F2		-M2		-M1	

# 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	r	for tool holder
	$\pm 0,02$ CW mm	$\pm 0,05$ RER mm	
<b>SX E2.00 N 0.20</b>	2	0.2	-SX2
<b>SX E3.00 N 0.30</b>	3	0.3	-SX3

1C
Article no. <b>70 349 ...</b>
£
12.03 122
12.88 123

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

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→ Application recommendation on page 244

## Internal machining

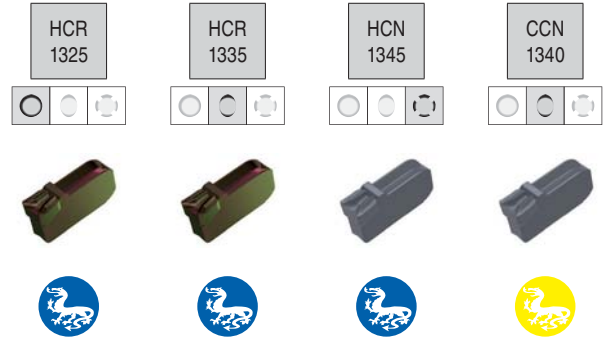
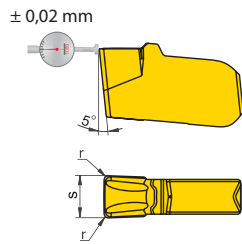
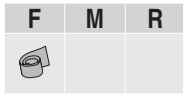
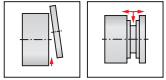
## External machining



		→ 194	→ 195				

# Insert SX-F2

- High Precision polished geometry



Designation	s +/-0,02 CW mm	r +/-0,05 RER mm	for tool holder	NEW 1C		1C		1C		1C	
				Article no.	£	Article no.	£	Article no.	£	Article no.	£
SX E2.00 N 0.20	2	0.2	-SX2	70 346 ...	£	70 346 ...	£	70 346 ...	£	70 346 ...	£
SX E3.00 N 0.30	3	0.3	-SX3	16.26	923	16.26	523	15.12	822	15.12	622
				16.26	823	16.26	823	16.26	823	16.26	623

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 244

Internal machining

External machining

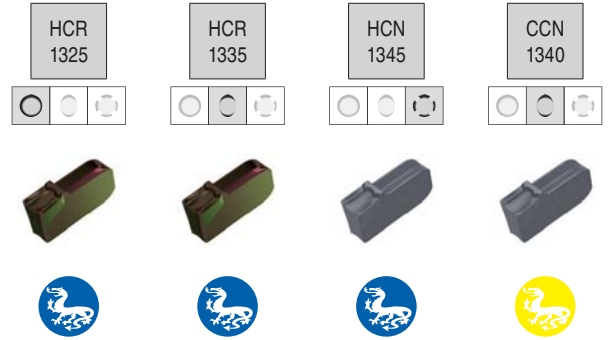
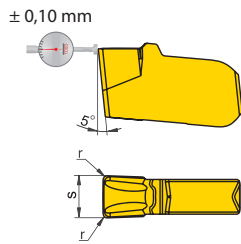
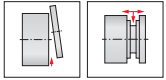


			→ 194	→ 195					



# 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 1C		1C		1C		1C	
				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	10.15	922	10.15	522	10.15	822	10.15	622
SX E3.00 N 0.30	3	0.3	-SX3	10.81	923	10.81	523	10.81	823	10.81	623

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 244

Internal machining

External machining

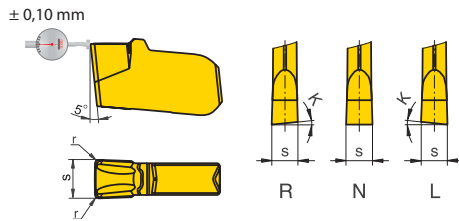


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→ 195

# Insert SX-M1

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



Designation	R/L/N IH	s <sub>+/-0,05</sub> CW mm	K° KCHR	r <sub>+/-0,05</sub> RER mm	for tool holder	NEW	1C	1C	1C	1C
						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	£				10.15 612
SX E3.00 L 6	L	3	6	0.2	-SX3	10.81	913			10.81 613
SX E2.00 N 0.20	N	2	0	0.2	-SX2	10.15	922		10.15	822 622
SX E3.00 N 0.20	N	3	0	0.2	-SX3	10.81	923	10.81	523	10.81 823 623
SX E2.00 R 6	R	2	6	0.2	-SX2					10.15 602
SX E3.00 R 6	R	3	6	0.2	-SX3	10.81	903			10.81 603

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

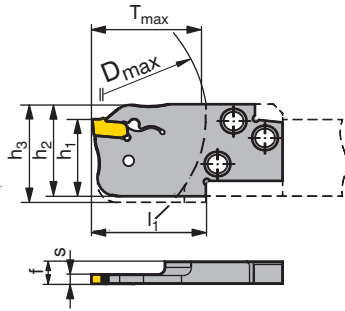


→ 194

→ 195

# ModularClamp - Radial grooving module SX

- for parting, grooving and finish turning



Illustrations show right-hand versions



Designation	h <sub>1</sub> HF mm	s CW mm	f WF mm	l <sub>1</sub> LF mm	h <sub>2</sub> H mm	h <sub>3</sub> mm	D <sub>max</sub> CODX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand	Right-hand
										2C	2C
										Article no. <b>70 897 ...</b>	Article no. <b>70 896 ...</b>
										£	£
E20 R/L 20-SX2	20	2	4.82	22	24	27	60	20	SX .2..	74.35 020	74.35 020
E20 R/L 20-SX3	20	3	4.45	22	24	27	60	20	SX .3..	74.35 120	74.35 120

## Spare parts for grooving inserts

		Article no. <b>70 950 ...</b>	
SX .2..	SX 2-3	£	
SX .3..	SX 2-3	23.03	836
		23.03	836



Ejector SX

Article no.  
**70 950 ...**

£

23.03 836

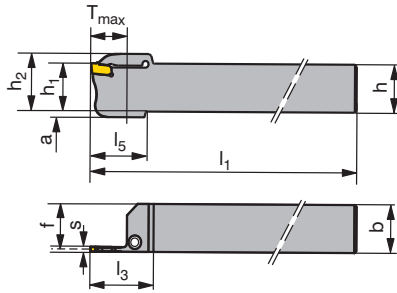
23.03 836



→ 190-193

→ 240+241

# MonoClamp - Radial Monoholder SX

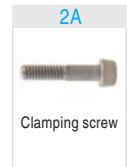
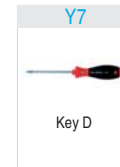


Illustrations show right-hand versions

Designation	h = h <sub>1</sub> H mm	b B mm	s CW mm	f WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	l <sub>5</sub> mm	h <sub>2</sub> OAH mm	T <sub>max</sub> CDX mm	a mm	for grooving inserts	Left-hand		Right-hand	
												2C		2C	
												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..	85.71	216	85.71	216
E20 R/L 0016-2020K-SX2	20	20	2	19.2	125	31	25	25	16	3	SX .2..	99.50	220	99.50	220
E16 R/L 0020-1616K-SX3	16	16	3	14.8	125	36	30	21	20	7	SX .3..	85.71	316	85.71	316
E20 R/L 0020-2020K-SX3	20	20	3	18.8	125	38	30	25	20	3	SX .3..	99.50	320	99.50	320

Spare parts  
for grooving inserts

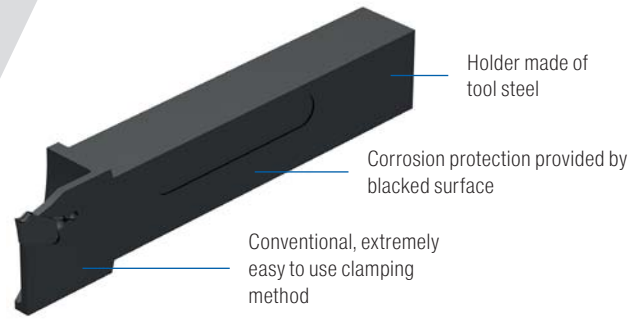
		Article no. 80 950 ...		Article no. 70 950 ...	
		£		£	
SX .2..	T20	12.13	114	4.12	204
SX .3..	T20	12.13	114	4.12	204



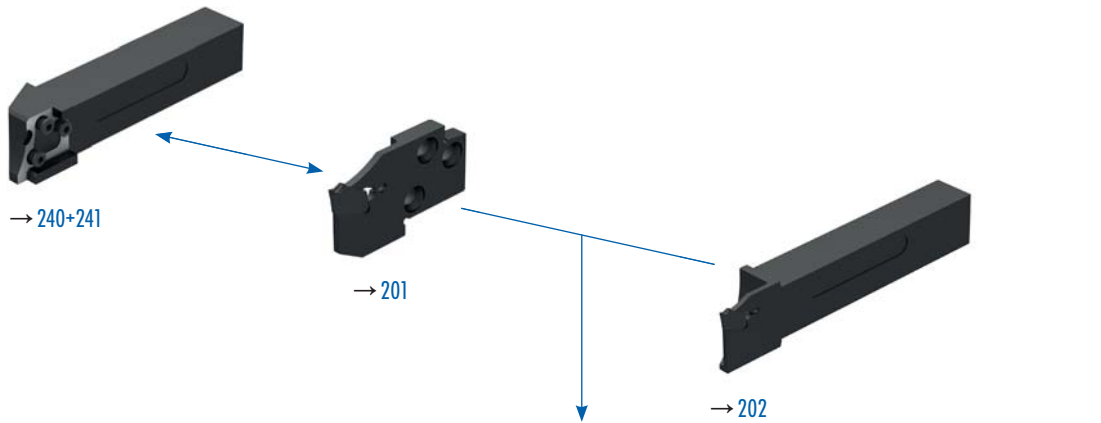
→ 190-193

# 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



sharp ←		→ stable	
-ALP	-F1	-M1	
→ 197	→ 198	→ 199+200	

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

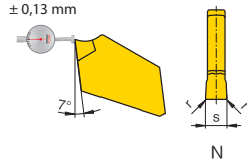
**i** Further dimensions can be found in our **main catalogue** → **Chapter 10 Grooving**

# 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 <sub>-0,1</sub>	r <sub>+/-0,05</sub>	for tool holder
	IH	CW mm	RER mm	
<b>FX 2.2 N 0.10</b>	N	2.2	0.10	E.. R/L ..-FX 2.2
<b>FX 3.1 N 0.15</b>	N	3.1	0.15	E.. R/L ..-FX 3.1

1A
Article no.
<b>70 334 ...</b>
£
10.81 650
10.81 652

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

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Internal machining

External machining



		→ 201	→ 202						

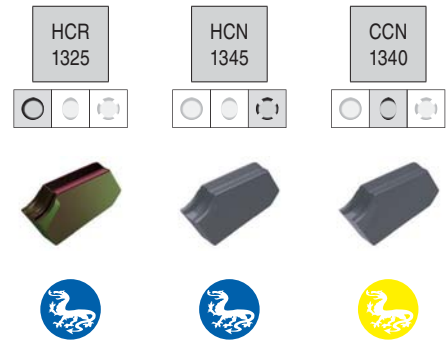
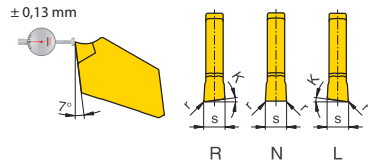
3

# Insert FX -F1

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



<b>F</b>	<b>M</b>	<b>R</b>



Designation	R/L/N IH	s <sub>-0,1</sub> CW mm	K° KCHR	r <sub>+/-0,05</sub> RER mm	for tool holder	NEW 1A		1A		1A	
						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			11.56	847	11.56	647
FX 3.1 L 5-F1	L	3.1	5	0.20	E.. R/L ...-FX 3.1			11.56	851	11.56	651
FX 3.1 L 8-F1	L	3.1	8	0.20	E.. R/L ...-FX 3.1			11.56	855		
FX 2.2 N 0.15-F1	N	2.2	0	0.15	E.. R/L ...-FX 2.2	11.56	998	11.56	848	11.56	648
FX 3.1 N 0.20-F1	N	3.1	0	0.20	E.. R/L ...-FX 3.1	11.56	902	11.56	852	11.56	652
FX 3.1 N 0.40-F1	N	3.1	0	0.40	E.. R/L ...-FX 3.1	11.56	906	11.56	856	11.56	656
FX 2.2 R 5-F1	R	2.2	5	0.15	E.. R/L ...-FX 2.2			11.56	849	11.56	649
FX 3.1 R 5-F1	R	3.1	5	0.20	E.. R/L ...-FX 3.1			11.56	853	11.56	653
FX 3.1 R 8-F1	R	3.1	8	0.20	E.. R/L ...-FX 3.1			11.56	857		
Steel						●		●		●	
Stainless steel						○		●		●	
Cast iron						●		●		●	
Non ferrous metals											○
Heat resistant alloys						○		●		●	

→ v<sub>c</sub> Page 243

→ Application recommendation on page 244

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

Internal machining

External machining

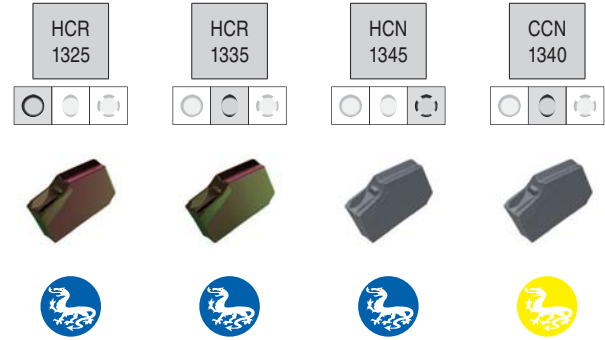
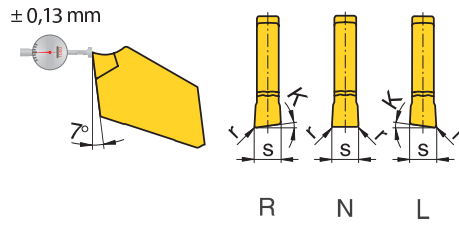


→ 201

→ 202

# Insert FX -M1

▪ narrow version



Designation	R/L/N IH	s <sub>-0,1</sub> CW mm	K° KCHR	r <sub>+/-0,05</sub> RER mm	for tool holder	NEW	1A	1A	1A	1A			
						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	£		11.56	550	11.56	800	11.56	600
FX 2.2 N 0.10-M1	N	2.2	0	0.1	E.. R/L ...-FX 2.2	11.56	902	11.56	552	11.56	802	11.84	602
FX 2.2 R 4-M1	R	2.2	4	0.1	E.. R/L ...-FX 2.2			11.56	554	11.56	804	11.56	604

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 244

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

Internal machining

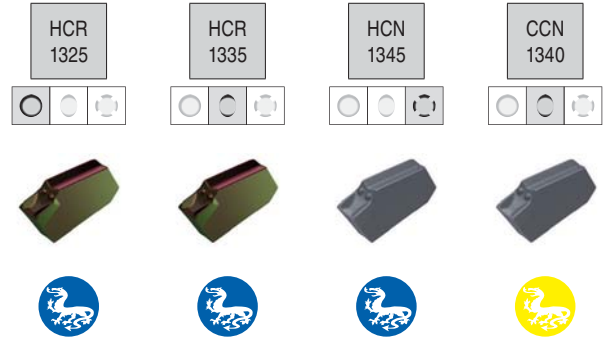
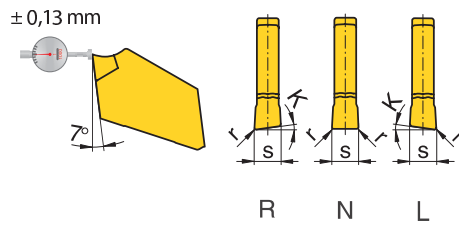
External machining

		→ 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	1A	1A	1A	1A			
						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	11.56	900	11.56	550	11.56	800	11.56	600
FX 3.1 N 0.15-M1	N	3.1	0	0.15	E.. R/L ..-FX 3.1	11.56	902	11.56	552	11.56	802	11.56	602
FX 3.1 R 6-M1	R	3.1	6	0.15	E.. R/L ..-FX 3.1	11.56	904	11.56	554	11.56	804	11.56	604

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 244

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

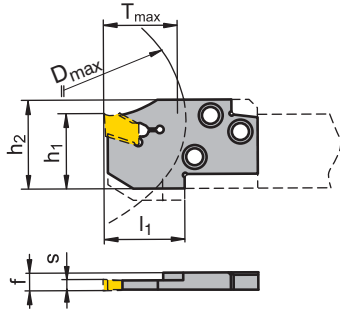
Internal machining

External machining

			→ 201	→ 202			

# ModularClamp - Radial grooving module FX short/long

- For parting and grooving



Illustrations show right-hand versions



Designation	h <sub>1</sub> HF mm	s CW mm	f WF mm	l <sub>1</sub> LF mm	h <sub>2</sub> H mm	D <sub>max</sub> CODX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand	Right-hand
									2C	2C
E20 R/L 20-FX 2.2	23	2.2	4.67	22	27	60	20	FX 2.2 ..	Article no. <b>70 876 ...</b> £	Article no. <b>70 875 ...</b> £
E20 R/L 20-FX 3.1	23	3.1	4.75	22	27	60	20	FX 3.1 ..	74.35 020 74.35 120	74.35 020 74.35 120

### Spare parts for grooving inserts

FX 2.2 ..	Article no. <b>70 950 ...</b> £	3.77	375
FX 3.1 ..	3.77	376	



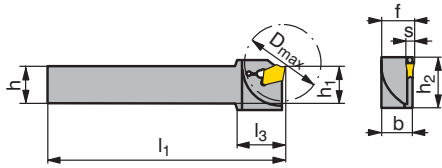
→ 197-200

→ 240+241

# MonoClamp - Radial Monoholder FX

## Scope of supply:

Blade and ejector



Illustrations show right-hand versions

Designation	h = h <sub>1</sub> H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	h <sub>2</sub> OAH mm	s CW mm	f WF mm	D <sub>max</sub> DAXX mm	for grooving inserts	Left-hand		Right-hand	
										2A		2A	
										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 ..	85.98	101	85.98	101
XLCE R/L 1212 F-FX2.2	12	12	80	21.0	21	2.2	12.25	30	FX 2.2 ..	85.98	102	81.71	102
XLCE R/L 1212 M-FX2.2	12	12	150	19.4	21	2.2	12.25	30	FX 2.2 ..	85.98	103	85.98	103
XLCE R/L 1414 M-FX2.2	14	14	150	19.4	21	2.2	14.25	30	FX 2.2 ..	88.61	104	88.61	104
XLCE R/L 1612 H-FX2.2	16	12	100	21.0	21	2.2	12.25	30	FX 2.2 ..	81.71	105	81.71	105
XLCE R/L 1612 H-FX3.1	16	12	100	21.4	25	3.1	12.35	35	FX 3.1 ..	81.71	106	81.71	106
XLCE R/L 2016 K-FX3.1	20	16	125	26.4	26	3.1	16.35	40	FX 3.1 ..	91.15	107	91.15	107

## Spare parts for grooving inserts

FX 2.2 ..	3.77	375
FX 3.1 ..	3.77	376

2A



Ejector

Article no.  
70 950 ...

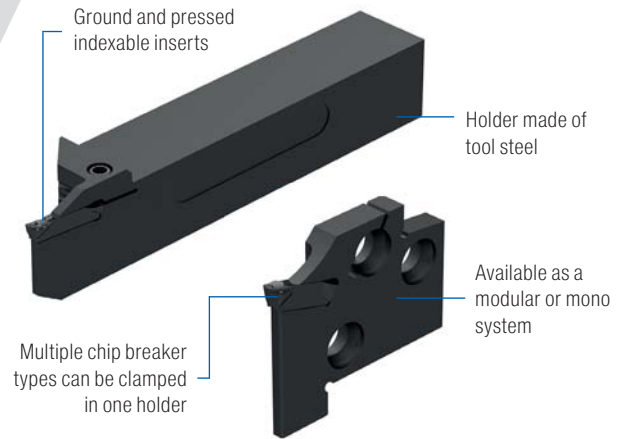
£



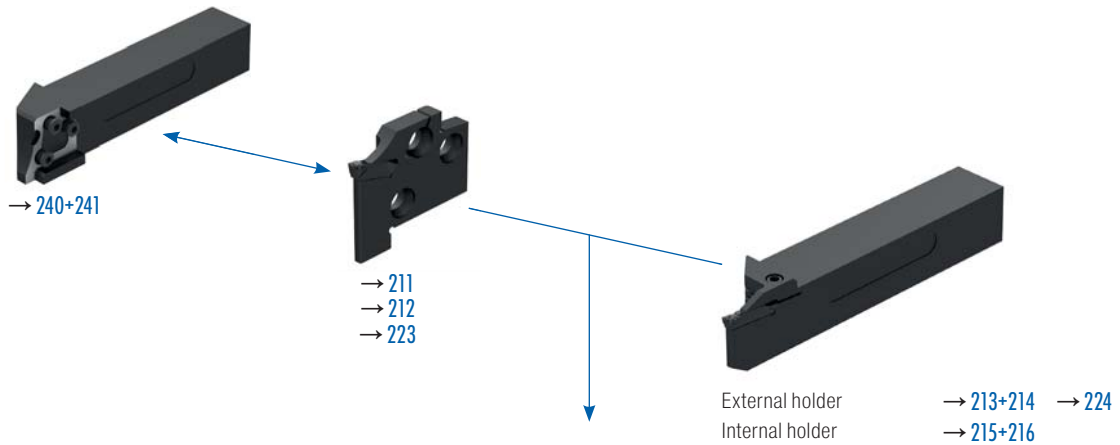
→ 197-200

# 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



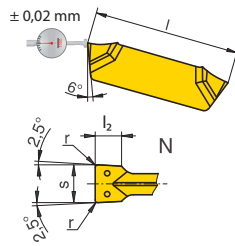
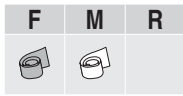
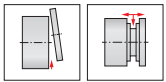
	sharp							stable	
	-ALP	-F2	-Standard (circlip)	-Radius	-Standard / -E	-M40	-M1	-M3	
GX 09		→ 205	→ 206	→ 207	→ 208	→ 209			
GX 16	→ 204	→ 205	→ 206	→ 207	→ 208	→ 209	→ 210		
GX 24	→ 217	→ 218			→ 219	→ 220	→ 221	→ 222	

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	s	r	l <sub>2</sub>	for tool holder
	INSL mm	$\pm 0.02$ CW mm	$\pm 0.05$ RER mm	PDPT mm	
<b>GX 16-1 E2.00 N 0.20</b>	16	2	0.2	2.5	GX 16-1
<b>GX 16-2 E3.00 N 0.30</b>	16	3	0.3	3.0	GX 16-2

1C
Article no.
<b>70 350 ...</b>
£
16.54    650
16.54    658

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

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→ Application recommendation on page 245

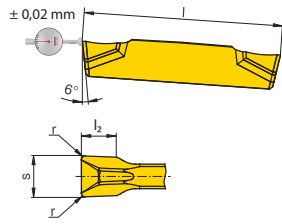
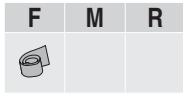
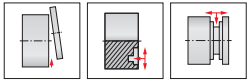
## Internal machining

## 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



1C

Designation	l INSL mm	s +/-0,02 CW mm	r +/-0,05 RER mm	l <sub>2</sub> PDPT mm	for tool holder	Article no.	
						70 360 ...	£
GX 09-1 E2.00 N 0.20	9	2.0	0.2	1.5	GX 09-1	21.42	600
GX 09-1 E2.50 N 0.20	9	2.5	0.2	1.5	GX 09-1	21.42	602
GX 09-2 E3.00 N 0.30	9	3.0	0.3	2.0	GX 09-2	21.42	604
GX 16-1 E2.00 N 0.20	16	2.0	0.2	2.5	GX 16-1	21.80	650
GX 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2	21.80	652

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

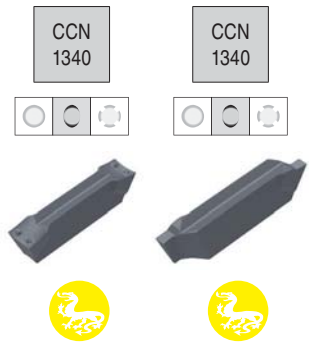
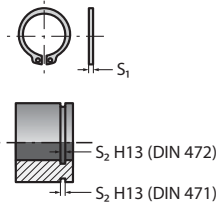
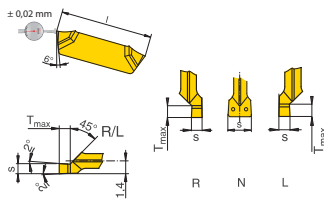
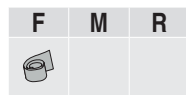
→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

## Internal machining

## External machining

→ 215+216	→ 211+212	→ 213+214						

# Circlip groove insert GX 09/16 - Standard



Designation	R/L/N IH	l INSL mm	s <sub>1</sub> mm	s <sub>2</sub> mm	r <sub>+/-0,05</sub> RER mm	s <sub>+/-0,02</sub> CW mm	T <sub>max.</sub> PDPT mm	for tool holder	1C	
									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		21.42 679
GX 09-1 S0.80 L	L	9	0.60	0.70	0.0	0.80	0.94	R 02-GX 09-1		21.42 681
GX 09-1 S0.90 L	L	9	0.70	0.80	0.0	0.90	1.04	R 02-GX 09-1		21.42 683
GX 09-1 S1.00 L	L	9	0.80	0.90	0.0	1.00	1.14	R 02-GX 09-1		21.42 684
GX 09-1 S1.20 L	L	9	1.00	1.10	0.0	1.20	1.34	R 02-GX 09-1		21.42 686
GX 09-1 S1.40 L	L	9	1.20	1.30	0.0	1.40	1.53	R 02-GX 09-1		21.42 688
GX 09-1 S1.70 L	L	9	1.50	1.60	0.0	1.70	1.82	R 02-GX 09-1		21.42 690
GX 16-2 S0.60 L	L	16	0.40	0.50	0.0	0.60	0.75	R 03-GX 16-2		21.80 607
GX 16-2 S0.80 L	L	16	0.60	0.70	0.0	0.80	0.94	R 03-GX 16-2		21.80 609
GX 16-2 S0.90 L	L	16	0.70	0.80	0.0	0.90	1.04	R 03-GX 16-2		21.80 611
GX 16-2 S1.00 L	L	16	0.80	0.90	0.0	1.00	1.14	R 03-GX 16-2		21.80 612
GX 16-2 S1.20 L	L	16	1.00	1.10	0.0	1.20	1.34	R 03-GX 16-2		21.80 614
GX 16-2 S1.40 L	L	16	1.20	1.30	0.0	1.40	1.53	R 03-GX 16-2		21.80 616
GX 16-2 S1.70 L	L	16	1.50	1.60	0.0	1.70	1.82	R 03-GX 16-2		21.80 618
GX 16-2 S1.95 L	L	16	1.75	1.85	0.0	1.95	2.07	R 03-GX 16-2		21.80 620
GX 16-2 S2.25 L	L	16	2.00	2.15	0.0	2.25	2.36	R 03-GX 16-2		21.80 622
GX 09-1 S1.95 N	N	9	1.75	1.85	0.1	1.95		GX 09-1	21.42	692
GX 09-1 S2.25 N	N	9	2.00	2.15	0.1	2.25		GX 09-1	21.42	694
GX 09-2 S2.75 N	N	9	2.50	2.65	0.1	2.75		GX 09-2	21.42	696
GX 09-2 S3.25 N	N	9	3.00	3.15	0.1	3.25		GX 09-2	21.42	698
GX 16-2 S2.75 N	N	16	2.50	2.65	0.1	2.75		GX 16-2	21.80	624
GX 16-2 S3.25 N	N	16	3.00	3.15	0.1	3.25		GX 16-2	21.80	626
GX 09-1 S0.60 R	R	9	0.40	0.50	0.0	0.60	0.75	L 02-GX 09-1		21.42 670
GX 09-1 S0.80 R	R	9	0.60	0.70	0.0	0.80	0.94	L 02-GX 09-1		21.42 672
GX 09-1 S0.90 R	R	9	0.70	0.80	0.0	0.90	1.04	L 02-GX 09-1		21.42 674
GX 09-1 S1.00 R	R	9	0.80	0.90	0.0	1.00	1.14	L 02-GX 09-1		21.42 676
GX 09-1 S1.20 R	R	9	1.00	1.10	0.0	1.20	1.34	L 02-GX 09-1		21.42 678
GX 09-1 S1.40 R	R	9	1.20	1.30	0.0	1.40	1.53	L 02-GX 09-1		21.42 680
GX 09-1 S1.70 R	R	9	1.50	1.60	0.0	1.70	1.82	L 02-GX 09-1		21.42 682
GX 16-2 S0.60 R	R	16	0.40	0.50	0.0	0.60	0.75	L 03-GX 16-2		21.80 695
GX 16-2 S0.80 R	R	16	0.60	0.70	0.0	0.80	0.94	L 03-GX 16-2		21.80 697
GX 16-2 S0.90 R	R	16	0.70	0.80	0.0	0.90	1.04	L 03-GX 16-2		21.80 699
GX 16-2 S1.00 R	R	16	0.80	0.90	0.0	1.00	1.14	L 03-GX 16-2		21.80 600
GX 16-2 S1.20 R	R	16	1.00	1.10	0.0	1.20	1.34	L 03-GX 16-2		21.80 602
GX 16-2 S1.40 R	R	16	1.20	1.30	0.0	1.40	1.53	L 03-GX 16-2		21.80 604
GX 16-2 S1.70 R	R	16	1.50	1.60	0.0	1.70	1.82	L 03-GX 16-2		21.80 606
GX 16-2 S1.95 R	R	16	1.75	1.85	0.0	1.95	2.07	L 03-GX 16-2		21.80 608
GX 16-2 S2.25 R	R	16	2.00	2.15	0.0	2.25	2.36	L 03-GX 16-2		21.80 610

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

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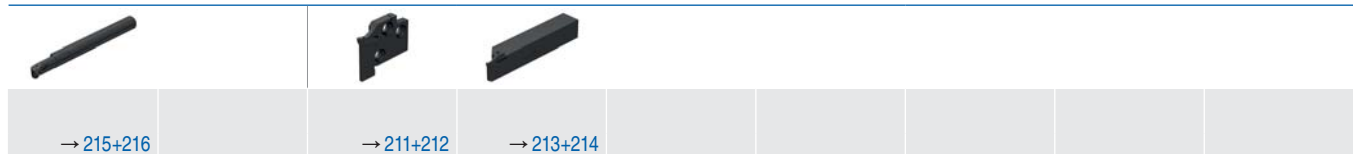
→ Application recommendation on page 245

**i Attention – applies only to internal machining:**

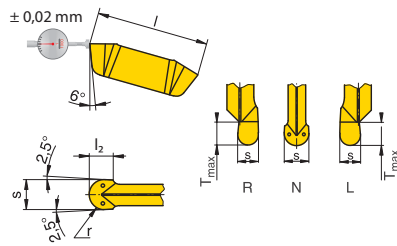
Right-hand insert → left-hand module or monobloc boring bar  
Left-hand insert → right-hand module or monobloc boring bar

Internal machining

External machining



# Radius groove insert GX 09/16



Designation	R/L/N	IH	I	s <sub>±0,02</sub> CW mm	r <sub>±0,05</sub> CRE mm	l <sub>2</sub> PDPT mm	T <sub>max.</sub> PDPT mm	for tool holder	NEW	1C	NEW	1C	1C
									Article no. 70 354 ...	£	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	25.83	988			
GX 16-2 R0.80 L	L		16	1.6	0.8		1.78	R 03-GX 16-2	26.51	912			
GX 16-2 R1.00 L	L		16	2.0	1.0		2.18	R 03-GX 16-2	26.51	916			
GX 16-2 R1.20 L	L		16	2.4	1.2		2.58	R 03-GX 16-2	26.51	920			
GX 09-1 R1.00 N	N		9	2.0	1.0	1.0		GX 09-1			25.83	992	
GX 09-1 R1.20 N	N		9	2.4	1.2	1.2		GX 09-1			25.83	996	
GX 16-2 R1.50 N	N		16	3.0	1.5	1.5		GX 16-2			26.51	924	26.51 624
GX 09-1 R0.80 R	R		9	1.6	0.8		1.78	L 02-GX 09-1	25.83	984			
GX 16-2 R0.80 R	R		16	1.6	0.8		1.78	L 03-GX 16-2	26.51	900			
GX 16-2 R1.00 R	R		16	2.0	1.0		2.18	L 03-GX 16-2	26.51	904			
GX 16-2 R1.20 R	R		16	2.4	1.2		2.58	L 03-GX 16-2	26.51	908			

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

→ v<sub>c</sub> 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

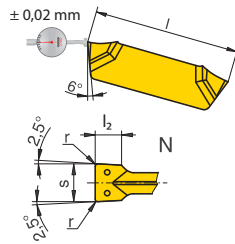
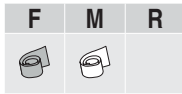
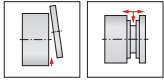
Internal machining	External machining	
→ 215+216	→ 211+212	→ 213+214

3



# 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 <sub>2</sub> PDPT mm	for tool holder	NEW 1C		1C		1C	
						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	21.42	984			21.42	634
GX 09-1 E2.50 N 0.20	9	2.5	0.2	1.5	GX 09-1	21.42	988			21.42	638
GX 09-2 E3.00 N 0.30	9	3.0	0.3	2.0	GX 09-2	21.42	992			21.42	642
GX 16-1 E2.00 N 0.20	16	2.0	0.2	2.5	GX 16-1	21.80	900	21.80	500	21.80	600
GX 16-1 E2.50 N 0.20	16	2.5	0.2	2.5	GX 16-1	21.80	904	21.80	504	21.80	604
GX 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2	21.80	908	21.80	508	21.80	608
GX 16-2 E3.00 N 0.50	16	3.0	0.5	3.0	GX 16-2	21.80	910				

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

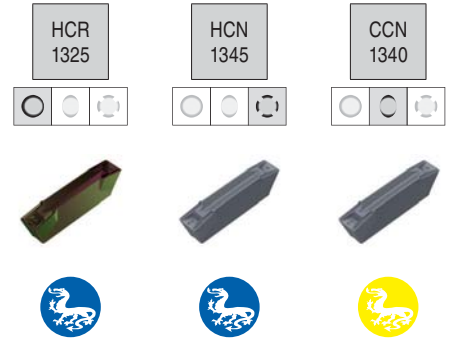
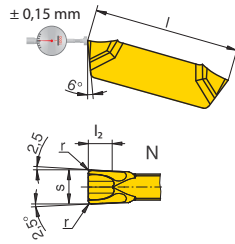
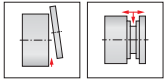
### Internal machining

### External machining

→ 215+216	→ 211+212	→ 213+214						

# Insert GX 09/16 -M40

- Very good swarf control



Designation	l	s	r	l <sub>2</sub>	for tool holder
	INSL mm	s <sub>±0,05</sub> CW mm	r <sub>±0,05</sub> RER mm	l <sub>2</sub> PDPT mm	
GX 09-1 E2.00 N 0.20	9	2	0.2	1.5	GX 09-1
GX 09-2 E3.00 N 0.30	9	3	0.3	2.0	GX 09-2
GX 16-1 E2.00 N 0.20	16	2	0.2	2.5	GX 16-1
GX 16-2 E3.00 N 0.30	16	3	0.3	3.0	GX 16-2

NEW	1C	1C	1C
Article no. 70 351 ...		Article no. 70 351 ...	
£		£	
14.00	986	14.00	886
14.00	994	14.00	894
14.19	902	14.19	802
14.19	910	14.19	810

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

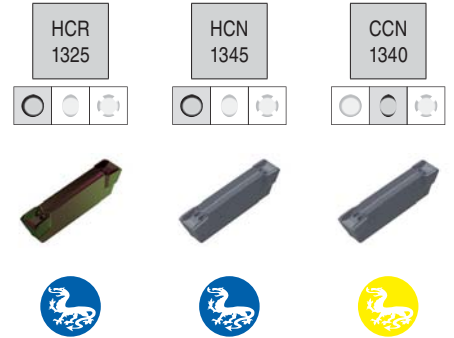
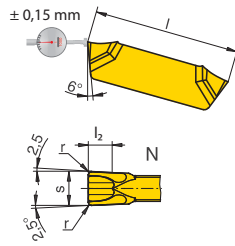
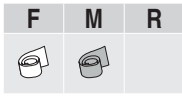
### Internal machining

### External machining

→ 215+216	→ 211+212	→ 213+214					

# Insert GX 16 -M1

- Very good swarf control



Designation	l	s	r	l <sub>2</sub>	for tool holder
	INSL mm	$\pm 0,05$ CW mm	$\pm 0,05$ RER mm	PDPT mm	
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

NEW	1C	1C	1C
Article no. 70 362 ...		Article no. 70 362 ...	
£		£	
		14.40	800
14.19	902	14.40	802
		14.19	600
		14.19	602

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

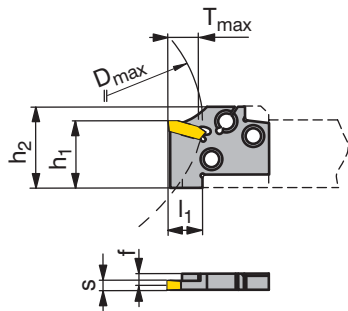
### Internal machining

### 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

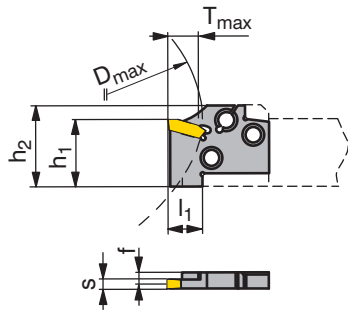
Designation	s mm	f WF mm	l <sub>1</sub> LF mm	h <sub>1</sub> HF mm	h <sub>2</sub> H mm	D <sub>max</sub> CODX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand		Right-hand	
									2C		2C	
									Article no. 70 871 ...		Article no. 70 870 ...	
									£		£	
E12 R/L 02-GX 09-1	<1,95	3.15	8	12	14.5	36	2	GX 09-1 ..R/L	73.54	112	73.54	112
E16 R/L 02-GX 09-1	<1,95	3.15	8	16	19.5	48	2	GX 09-1 ..R/L	74.35	116	74.35	116
E20 R/L 03-GX 16-2	<2,75	3.40	13	20	24.0	60	3	GX 16-2 ..R/L	74.35	120	74.35	120



→ 206+207	→ 240+241											
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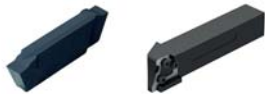
# ModularClamp - Radial grooving module GX 09/16

- 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

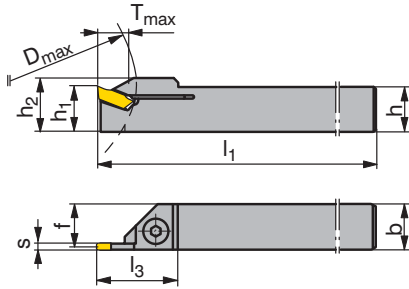
Designation	s mm	f WF mm	l <sub>1</sub> LF mm	h <sub>1</sub> HF mm	h <sub>2</sub> H mm	D <sub>max</sub> CODX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand		Right-hand	
									2C		2C	
									Article no. 70 866 ...		Article no. 70 865 ...	
									£		£	
E12 R/L 07-GX 09-1	2,00 - 2,75	3.15	8	12	14.5	36	7	GX 09-1 ..N	73.54	012	73.54	012
E12 R/L 07-GX 09-2	2,76 - 3,75	2.80	8	12	14.5	36	7	GX 09-2 ..N	73.54	112	73.54	112
E16 R/L 07-GX 09-1	2,00 - 2,75	3.15	8	16	19.5	48	7	GX 09-1 ..N	74.35	016	74.35	016
E16 R/L 07-GX 09-2	2,76 - 3,75	2.80	8	16	19.5	48	7	GX 09-2 ..N	74.35	116	74.35	116
E20 R/L 12-GX 16-1	2,00 - 2,75	3.75	13	20	24.0	60	12	GX 16-1 ..N	74.35	020	74.35	020
E20 R/L 12-GX 16-2	2,76 - 3,75	3.40	13	20	24.0	60	12	GX 16-2 ..N	74.35	120	74.35	120



→ 204-210

→ 240+241

# MonoClamp - Radial Monoholder GX 09

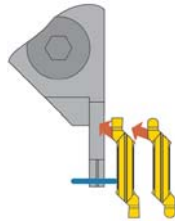


Illustrations show right-hand versions





Designation	h = h <sub>1</sub> H mm	b B mm	s mm	f WF mm	h <sub>2</sub> OAH mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	D <sub>max</sub> DAXX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand		Right-hand			
											2C		2C			
E10 R/L 00-1010M-GX09	10	10	2,00 - 3,50	9,35	12	150	18	30	7	GX 09 ..	Article no. 70 863 ...	£ 106.95	010	Article no. 70 862 ...	£ 106.95	010

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



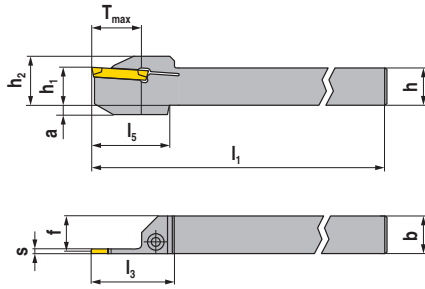
Spare parts  
for grooving inserts  
GX 09 ..

	Y7	2A
		
	Key D	Clamping screw
	Article no. 80 950 ...	Article no. 70 950 ...
	£ 11.34	£ 8.95
T15	113	M4x11
		442



→ 205-209

# MonoClamp - Radial Monoholder GX 16

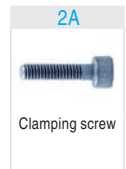
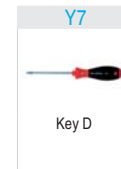


Illustrations show right-hand versions

Designation	h = h <sub>1</sub> H mm	b B mm	s mm	f WF mm	h <sub>2</sub> OAH mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	l <sub>5</sub> mm	a mm	T <sub>max.</sub> CDX mm	for grooving inserts	Left-hand		Right-hand	
												2C		2C	
												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	78.90	212	78.90	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	78.90	312	78.90	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	84.25	216	84.25	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	84.25	316	84.25	316
E20 R/L 0012-2020K-GX16-1	20	20	2,00 - 2,75	19.35	25	125	26			12	GX 16-1	96.96	220	96.96	220
E20 R/L 0012-2020K-GX16-2	20	20	2,76 - 3,75	19.00	25	125	26			12	GX 16-2	96.96	320	96.96	320

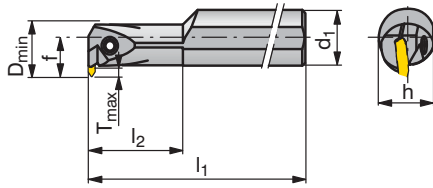
### Spare parts for grooving inserts

		Article no. 80 950 ...		Article no. 70 950 ...	
		£		£	
GX 16-1	T15	11.34	113	3.54	160
GX 16-2	T15	11.34	113	3.54	160



→ 204-210

# MonoClamp - Radial Mono-boring bars GX 09

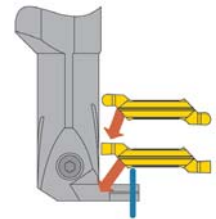


Illustrations show right-hand versions

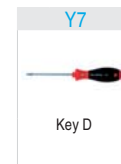
Designation	f WF mm	d <sub>1</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>2</sub> LH mm	T <sub>max</sub> CDX mm	D <sub>min</sub> DAXN mm	for grooving inserts	Left-hand		Right-hand	
									2C		2C	
I12 R/L 90-2,5D-GX09	11	16	15.25	150	30	3	16	GX 09 ..	Article no. 70 859 ... £ 131.10	012	Article no. 70 858 ... £ 131.10	012

**i** Right hand boring bar → left hand insert only  
Left hand boring bar → right hand insert only

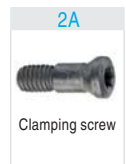
**i** When using „R“ or „L“ tools the insert support seat requires modification to prevent the insert fouling.



## Spare parts for grooving inserts



Article no.  
80 950 ...  
£ 11.34



Article no.  
70 950 ...  
£ 7.77

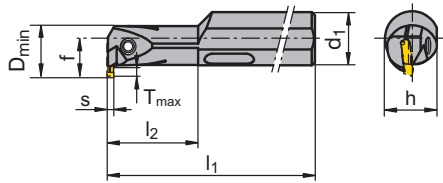
GX 09 ..	T15	113	M3,5x12,5	441
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→ 205-209



# MonoClamp - Radial Mono-boring bars GX 16

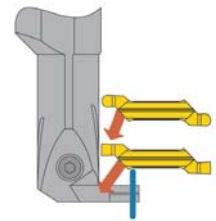


Illustrations show right-hand versions

Designation	h H mm	d <sub>1</sub> DCONMS mm	D <sub>min</sub> DAXN mm	s mm	T <sub>max</sub> CDX mm	f WF mm	l <sub>1</sub> OAL mm	l <sub>2</sub> LH mm	for grooving inserts	Left-hand		Right-hand	
										2C		2C	
										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	115.39	516	115.39	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	115.39	616	115.39	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	124.66	620	124.66	620

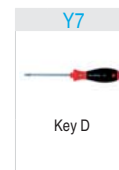
**i** Right hand boring bar → left hand insert only  
Left hand boring bar → right hand insert only

**i** When using „R“ or „L“ tools the insert support seat requires modification to prevent the insert fouling.



### Spare parts for grooving inserts

		Y7		2A	
		Article no. 80 950 ...	£	Article no. 70 950 ...	£
GX 16-1	T15	11.34	113	M4x14	7.43 403
GX 16-2	T15	11.34	113	M4x14	7.43 403



Key D



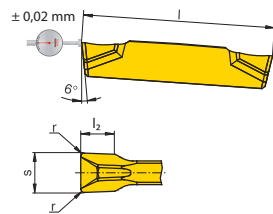
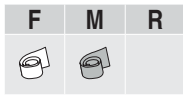
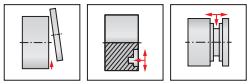
Clamping screw



→ 204-210

# Insert GX 24 -ALP

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



CWK 26



Designation	l	s	r	l <sub>2</sub>	for tool holder
	INSL mm	$\pm 0.02$ CW mm	$\pm 0.05$ RER mm	PDPT mm	
<b>GX 24-2 E3.00 N 0.30</b>	24	3	0.3	2.5	GX 24-2

1C
Article no.
<b>70 350 ...</b>
£
18.04 682

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

Internal machining

External machining

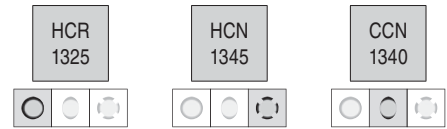
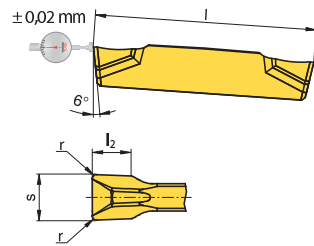
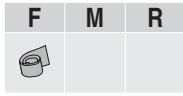
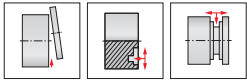


→ 223

→ 224

# Insert GX 24 -F2

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



NEW	1C	1C	1C
Article no.	70 350 ...	Article no.	70 350 ...
£	22.46	£	22.46
	962		862
			864

Designation	l INSL mm	s +/-0,02 CW mm	r +/-0,05 RER mm	l <sub>2</sub> PDPT mm	for tool holder
GX 24-2 E3.00 N 0.30	24	3.0	0.3	2.5	GX 24-2
GX 24-2 E3.50 N 0.30	24	3.5	0.3	2.5	GX 24-2

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

## Internal machining

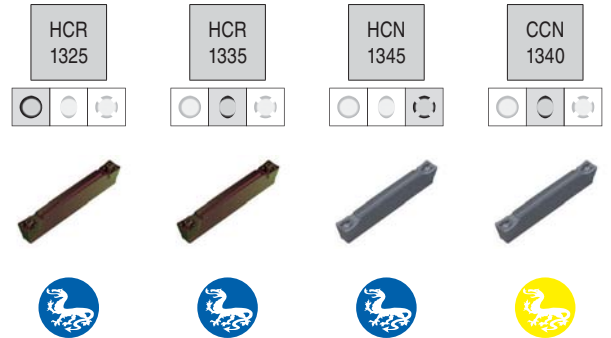
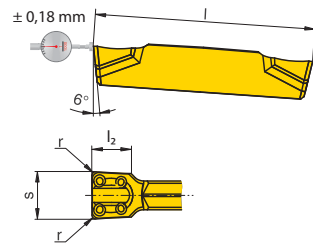
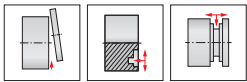
## External machining



→ 223

→ 224

# Insert GX 24 -E



Designation	l INSL mm	s +/-0,05 CW mm	r +/-0,05 RER mm	l <sub>2</sub> PDPT mm	for tool holder

NEW	1C	Article no.	1C	Article no.	1C	Article no.	1C	Article no.							
		70 350 ...		70 350 ...		70 350 ...		70 350 ...							
£		15.12	932	£		15.12	532	£		15.12	832	£		15.12	632

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

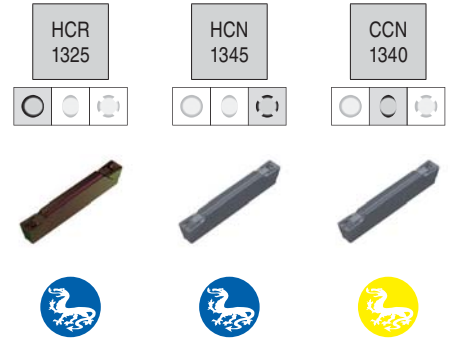
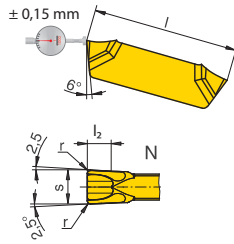
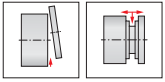
Internal machining

External machining

		→ 223	→ 224					

# Insert GX 24 -M40

- Very good swarf control



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

NEW 1C	1C	1C
Article no. <b>70 364 ...</b>	Article no. <b>70 364 ...</b>	Article no. <b>70 364 ...</b>
£ 15.12	£ 15.12	£ 15.12
900	800	600

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

Internal machining

External machining

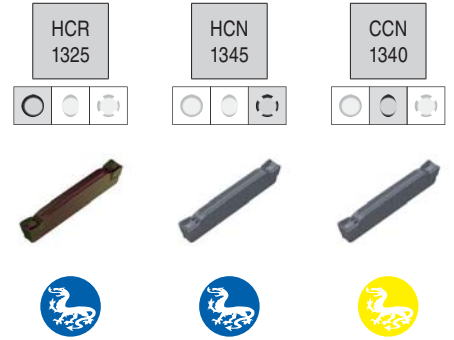
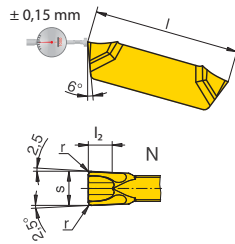


→ 223

→ 224

# Insert GX 24 -M1

- Very good swarf control



Designation	l	s	r	l <sub>2</sub>	for tool holder
	INSL mm	$\pm 0,05$ CW mm	$\pm 0,05$ RER mm	PDPT mm	
<b>GX 24-1 E2.00 N 0.20</b>	24	2	0.2	2.5	GX 24-1
<b>GX 24-2 E3.00 N 0.20</b>	24	3	0.2	2.5	GX 24-2

NEW	1C	1C	1C
Article no. 70 363 ...		Article no. 70 363 ...	
£		£	
15.12	900	15.12	800
15.12	902	15.12	802
15.12	600	15.12	602

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

Internal machining

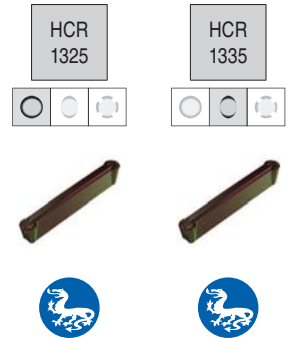
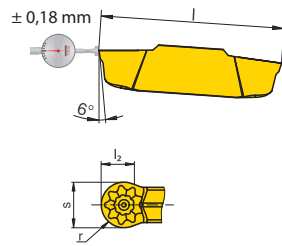
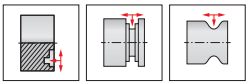
External machining



→ 223

→ 224

# Radius groove insert GX 24 -M3



Designation	l	s	r	l <sub>2</sub>	for tool holder
	INSL mm	$\pm 0,05$ CW mm	$\pm 0,05$ CRE mm	PDPT mm	
<b>GX 24-2 R1.50 N</b>	24.4	3	1.5	1.5	GX 24-2

NEW	1C	Article no.
		<b>70 354 ...</b>
£		
20.11	952	

1C	Article no.
	<b>70 354 ...</b>
£	
20.11	552

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 245

Internal machining

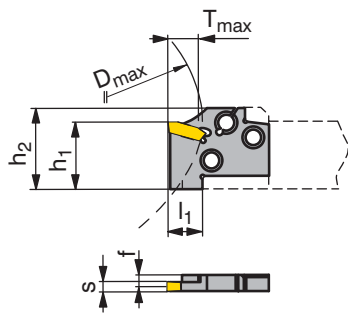
External machining



		→ 223	→ 224					

# 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 <sub>1</sub> LF mm	h <sub>1</sub> HF mm	h <sub>2</sub> H mm	D <sub>max</sub> CODX mm	T <sub>max</sub> CDX mm	for grooving inserts	Left-hand	Right-hand
									2C	2C
									Article no. <b>70 868 ...</b>	Article no. <b>70 867 ...</b>
									£	£
E20 R/L 21-GX 24-1	2,00 - 2,75	3.6	22	20	24	60	21	GX 24-1	74.35 020	74.35 020
E20 R/L 21-GX 24-2	3	3.4	22	20	24	60	21	GX 24-2	74.35 120	74.35 120

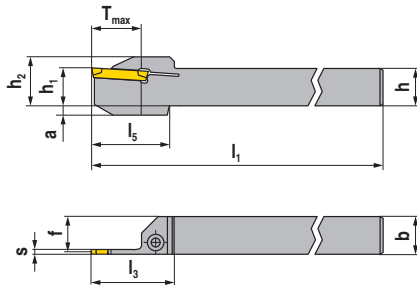


→ 217-221

→ 240+241



# MonoClamp - Radial Monoholder GX 24

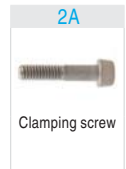
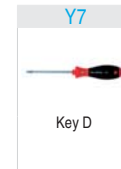


Illustrations show right-hand versions

Designation	h = h <sub>1</sub> H mm	b B mm	s mm	f WF mm	h <sub>2</sub> OAH mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	l <sub>5</sub> mm	a mm	T <sub>max.</sub> CDX mm	for grooving inserts	Left-hand		Right-hand	
												2C		2C	
												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	90.52	160	90.52	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	90.52	016	90.52	016
E20 R/L 0021-2020K-GX24-2	20	20	2,76 - 3,75	19.0	25	125	35			21	GX 24-2	104.22	020	104.22	020
E20 R/L 0021-2020K-GX24-1	20	20	2,00 - 2,75	19.2	25	125	35			21	GX 24-1	104.22	200	104.22	200

Spare parts  
for grooving inserts

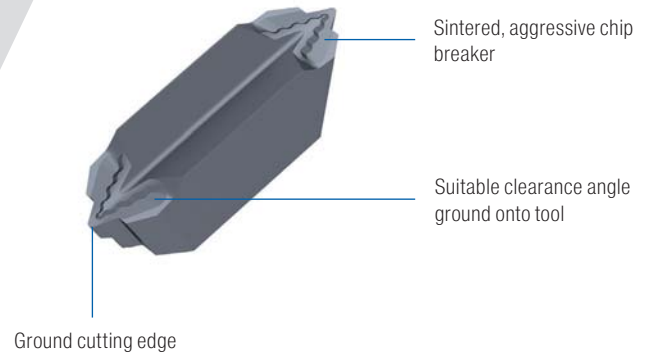
		Article no. 80 950 ...		Article no. 70 950 ...	
		£		£	
GX 24-1	T20	12.13	114	4.12	204
GX 24-2	T20	12.13	114	4.12	204



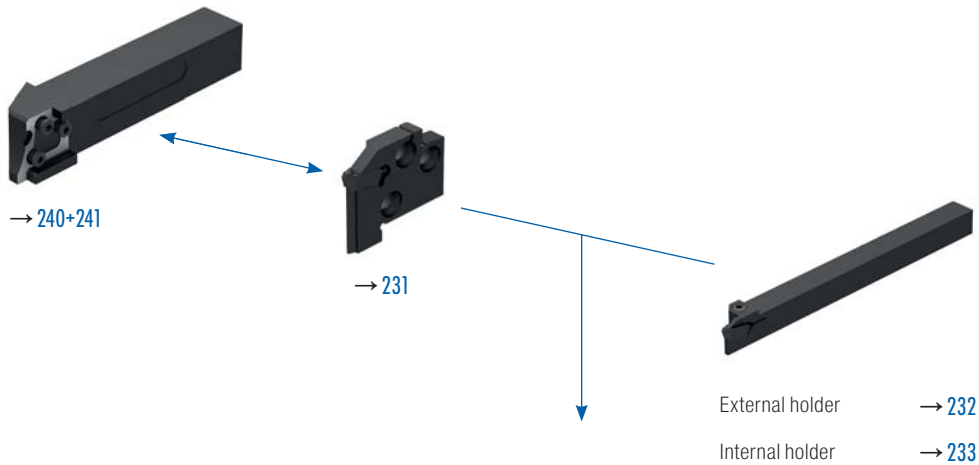
→ 217-221

# 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



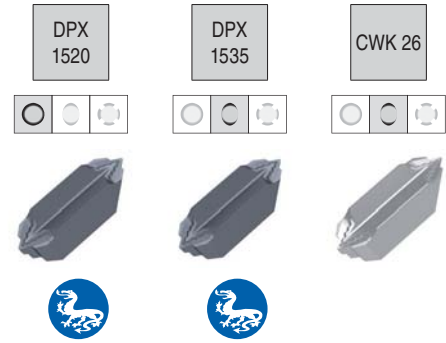
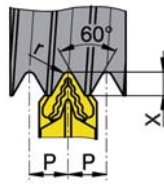
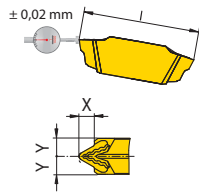
# List of contents



	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°

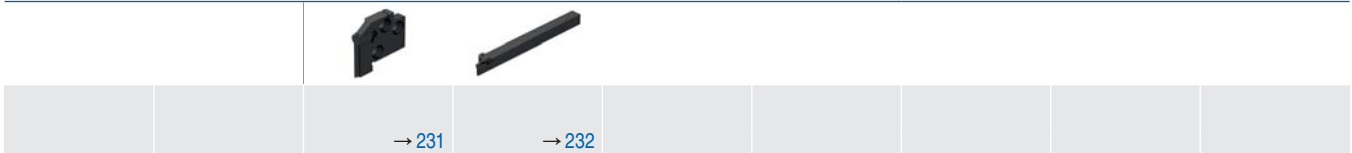


Designation	Size	p TP mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW 1C		NEW 1C		1C	
								Article no. 70 357 ...	£	Article no. 70 357 ...	£	Article no. 70 357 ...	£
TC 16-1 E 0.5 ISO	TC 16-1 ...	0.50	16	0.32	1.05	0.06	E.. R/L TC 16-1	18.04	010	18.04	110	14.56	610
TC 16-1 E 0.75 ISO	TC 16-1 ...	0.75	16	0.48	1.05	0.09	E.. R/L TC 16-1	18.04	012	18.04	112	14.56	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	18.04	014	18.04	114	14.56	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	18.04	016	18.04	116	14.56	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	18.04	018	18.04	118	14.56	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	18.04	030	18.04	130	14.56	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	18.04	032	18.04	132	14.56	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	18.04	034	18.04	134	14.56	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	18.04	036	18.04	136	14.56	636
Steel								●		●			
Stainless steel								●		●			
Cast iron								○					○
Non ferrous metals								●		○			●
Heat resistant alloys								○		●			○

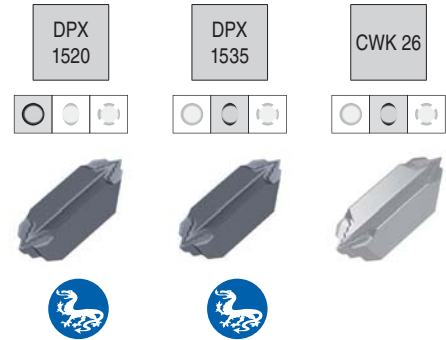
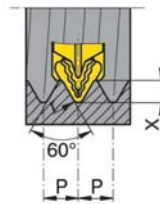
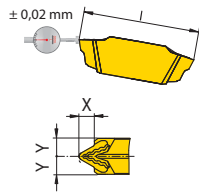
→ v<sub>c</sub> Page 243  
→ Application recommendation on page 247

Internal machining

External machining



# Threading inserts TC full profile - Internal thread 60°




Designation	Size	p TP mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW 1C		NEW 1C		1C	
								Article no. 70 358 ...	Article no. 70 358 ...	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	£ 18.04	014	£ 18.04	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	£ 18.04	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	£ 18.04	018	£ 18.04	118	£ 14.56	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	£ 18.04	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	£ 18.04	032	£ 18.04	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	£ 18.04	036	£ 18.04	136	£ 14.56	636
Steel								●		●			
Stainless steel								●		●			
Cast iron												○	
Non ferrous metals								●		○		●	
Heat resistant alloys								○		●		○	

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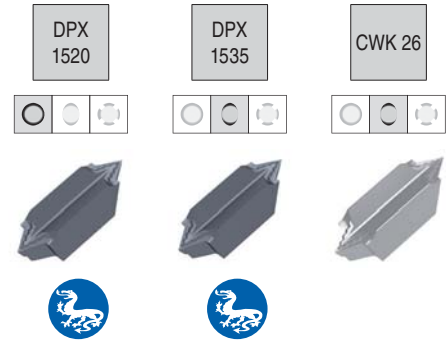
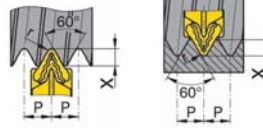
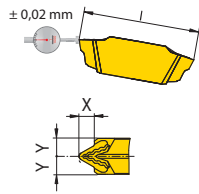
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Internal machining

External machining

													
→ 233													

# Threading inserts TC partial profile 60°



Designation	Size	p mm	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW	1C	NEW	1C	1C	
								Article no. 70 355 ...	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	£ 18.04	010	£ 18.04	110	£ 14.56	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	£ 18.04	032	£ 18.04	132	£ 14.56	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	£ 18.04	030	£ 18.04	130	£ 14.56	630

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

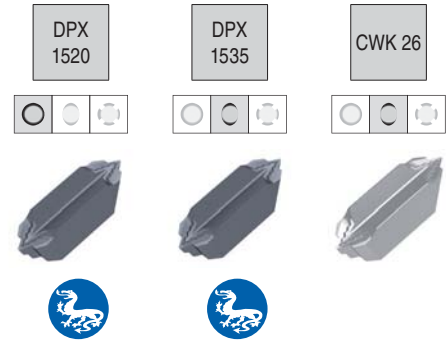
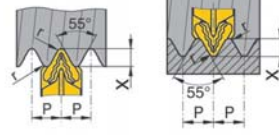
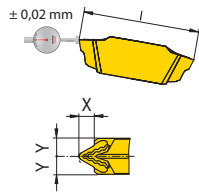
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Internal machining

External machining



# Threading inserts TC full profile 55°



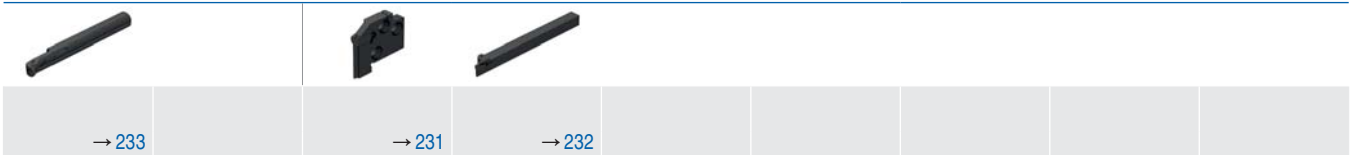
Designation	Size	p TPI 1/"	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW 1C		NEW 1C		1C	
								Article no. 70 359 ...	£	Article no. 70 359 ...	£	Article no. 70 359 ...	£
TC 16-1 EI 28 W	TC 16-1 ...	28	16	0.60	1.05	0.12	E/l.. R/L TC 16-1	18.04	010	18.04	110		
TC 16-1 EI 20 W	TC 16-1 ...	20	16	0.84	1.05	0.17	E/l.. R/L TC 16-1	18.04	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	18.04	018	18.04	118	14.56	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	18.04	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	18.04	030	18.04	130	14.56	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			18.04	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	18.04	034	18.04	134	14.56	634
Steel								●		●			
Stainless steel								●		●			
Cast iron												○	
Non ferrous metals								●		○		●	
Heat resistant alloys								○		●		○	

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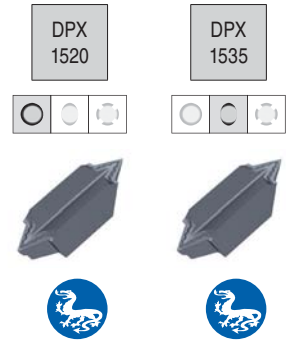
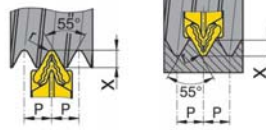
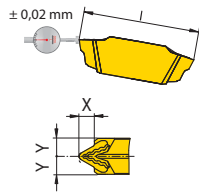
→ Application recommendation on page 247

Internal machining

External machining



# Threading inserts TC partial profile 55°



Designation	Size	p 1/"	l INSL mm	X PDPT mm	Y PDX mm	r CRE mm	for tool holder	NEW 1C		NEW 1C	
								Article no. 70 356 ...	£	Article no. 70 356 ...	£
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	18.04	110	18.04
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	18.04	132	18.04
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	18.04	130	18.04

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

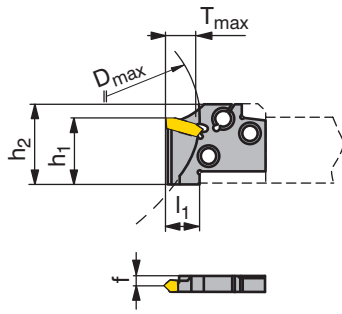
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Internal machining

External machining

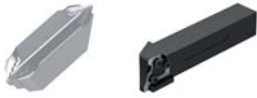


# ModularClamp - Threading module TC for external threads



Illustrations show right-hand versions

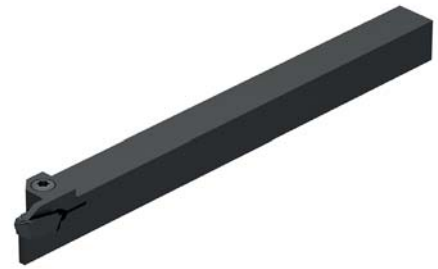
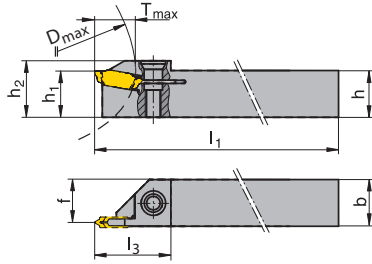
Designation	p		f	h <sub>1</sub>	l <sub>1</sub>	h <sub>2</sub>	D <sub>max</sub>	T <sub>max</sub>	for grooving inserts	Left-hand	Neutral	Right-hand	
	mm	1/''	WF mm	HF mm	LF mm	H mm	CODX mm	CDX mm		2C Article no. 70 872 ...	2C Article no. 70 872 ...	2C Article no. 70 872 ...	
E20 R/L TC 16-1	0,5 - 1,5	28 - 16	3.45	13	20	24	60	8	TC 16-1 ...	£ 74.35	120	£ 74.35	020
E20 N TC 16-2	1,75 - 3,0	14 - 8	2.20	13	20	24		12	TC 16-2 ...			74.35	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 <sub>1</sub> H mm	b B mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	h <sub>2</sub> OAH mm	f WF mm	D <sub>max</sub> DAXX mm	for grooving inserts	Left-hand	Right-hand
											2C	2C
E12 R/L 00-1212 TC16	0,5 - 3	28 - 8	12	12	150	20	14.5	11	30	TC16-1/2..	Article no. <b>70 883 ...</b> £ 110.31	Article no. <b>70 882 ...</b> £ 110.31
											012	012

**Spare parts  
for grooving inserts**

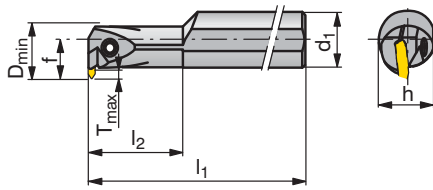
TC16-1/2..

	Y7	2A
		
	Key D	Clamping screw
	Article no. <b>80 950 ...</b> £ 11.34	Article no. <b>70 950 ...</b> £ 8.95
T15	113	M4x11 442



→ 226-230	→ 240+241								
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# MonoClamp - Monobloc Boring bar TC for internal thread cutting

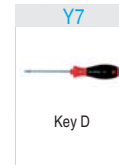


Illustrations show right-hand versions

Designation	f WF mm	d <sub>1</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>2</sub> LH mm	T <sub>max</sub> CDX mm	D <sub>min</sub> DAXN mm	for grooving inserts	Left-hand	Right-hand
									2C	2C
									Article no. <b>70 857 ...</b>	Article no. <b>70 856 ...</b>
									£	£
I16 L 90-2D TC16	14.0	20	18	180	32	4	20	TC16-1/2..	120.11	016
I20 R/L 90-2D TC16	17.5	25	23	200	40	5	25	TC16-..	132.28	020
									132.28	020

Spare parts  
for Article no.

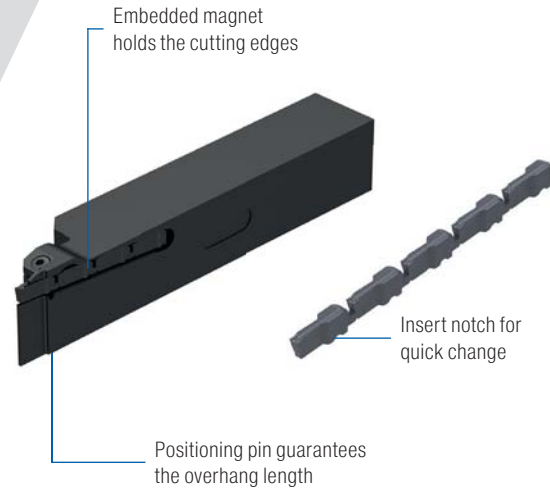
Spare parts for Article no.			Y7		2A	
			Article no. <b>80 950 ...</b>	Article no. <b>70 950 ...</b>		
70 857 016	T15	11.34	113	M4x14	7.43	403
70 856 020 / 70 857 020	T20	12.13	114	M5x18	4.96	404



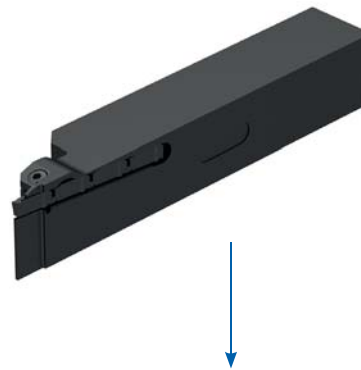
→ 226-230

# 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



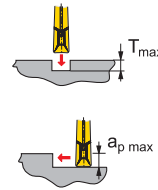
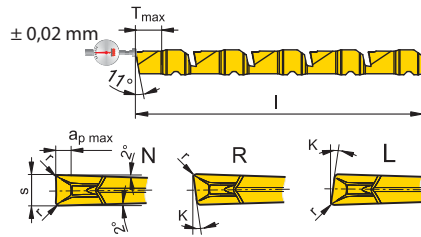
(5 mm groove depth) → **238**  
(10 mm groove depth) → **239**

-F2 (5 mm groove depth)	-F2 (10 mm groove depth)	-F3 (10 mm groove depth)
→ <b>235</b>	→ <b>236</b>	→ <b>237</b>

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 <sub>p max</sub>	T <sub>max</sub>	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

1C	
Article no.	
70 338 ...	
£	
29.23	250
29.23	260
29.23	210
29.23	220
29.23	230
29.23	240

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 246

Internal machining

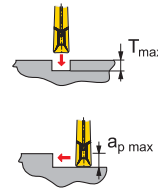
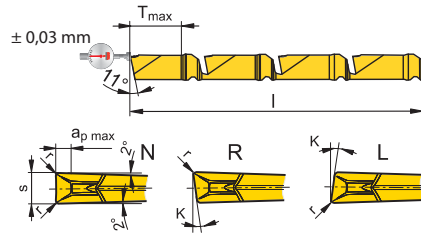
External machining



→ 238

# MaxiClick - Insert - cutting depth 10 mm -F2

4 cutting edges



CCN  
1340



1C

Designation	R/L/N	s	l	r	K°	a <sub>p max</sub>	T <sub>max</sub>	for tool holder
	IH	CW mm	INSL mm	RER mm	KCHR	mm	PDPT mm	
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 ...

£

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

→ v<sub>c</sub> Page 243

→ Application recommendation on page 246

Internal machining

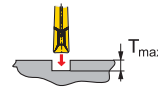
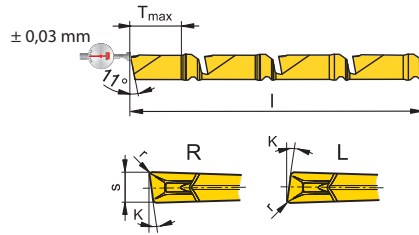
External machining



→ 239

# MaxiClick - Insert - cutting depth 10 mm -F3

4 cutting edges



CCN  
1340



Designation	R/L/N	s	l	r	K°	T <sub>max.</sub>	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

1C	
Article no.	70 340 ...
£	
	270
	280
	290
	240
	250
	260

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

→ v<sub>c</sub> Page 243  
→ Application recommendation on page 246

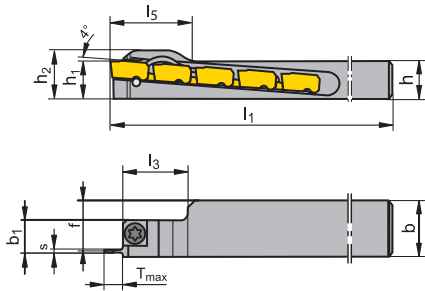
Internal machining

External machining



→ 239

# MaxiClick - Toolholder - cutting depth 5 mm





Illustrations show right-hand versions



Designation	h = h <sub>1</sub> H mm	h <sub>2</sub> OAH mm	b B mm	b <sub>1</sub> mm	s mm	T <sub>max</sub> CDX mm	f WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	l <sub>5</sub> mm	for grooving inserts	Left-hand		Right-hand	
												2C		2C	
												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	£ 76.71	210	£ 76.71	110
MC 05 R/L -1212K	12	15	12	12	1,00 - 1,50	5	10.5	125	23	27	MC 05	£ 76.71	212	£ 76.71	112
MC 05 R/L -1616K	16	19	16	12	1,00 - 1,50	5	14.5	125	23	20	MC 05	£ 76.71	216	£ 76.71	116
MC 05 R/L -2020K	20	23	20	12	1,00 - 1,50	5	18.8	125	23	20	MC 05	£ 89.15	220	£ 89.15	120

Spare parts  
for grooving inserts

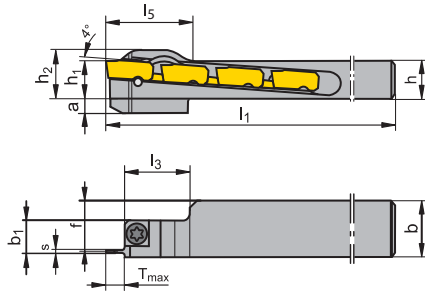
MC 05

2A		2A	
	Key-T		Clamping screw
Article no. 70 950 ...		Article no. 70 950 ...	
£ 5.55 738		£ 2.94 174	
T15	M4x11		



→ 235

# MaxiClick - Toolholder - cutting depth 10 mm



Illustrations show right-hand versions

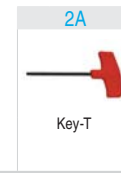


Designation	h = h <sub>1</sub> H mm	h <sub>2</sub> OAH mm	b B mm	b <sub>1</sub> mm	a mm	s mm	T <sub>max</sub> CDX mm	f WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	l <sub>5</sub> mm	for grooving inserts	Left-hand		Right-hand	
													2C		2C	
													Article no. 70 874 ...	£	Article no. 70 874 ...	£
MC 10 R/L -1010K	10	13	10	10		1,50 - 2,50	10	8.5	125	28		MC 10	76.71	210	76.71	110
MC 10 R/L -1010K-S	10	13	10	10	6	1,50 - 2,50	10	8.5	125	28	27	MC 10	76.71	410 <sup>1)</sup>	76.71	310 <sup>1)</sup>
MC 10 R/L -1212K	12	15	12	12		1,50 - 2,50	10	10.5	125	28		MC 10	76.71	212	76.71	112
MC 10 R/L -1212K-S	12	15	12	12	4	1,50 - 2,50	10	10.5	125	28	27	MC 10	76.71	412 <sup>1)</sup>	76.71	312 <sup>1)</sup>
MC 10 R -1616K	16	19	16	12		1,50 - 2,50	10	14.5	125	28	20	MC 10			76.71	116
MC 10 R/L -2020K	20	23	20	12		1,50 - 2,50	10	18.8	125	28	20	MC 10	89.15	220	89.15	120

1) -S = strengthened variant

Spare parts  
for grooving inserts

MC 10



Article no.  
70 950 ...

£ 5.55 738



Article no.  
70 950 ...

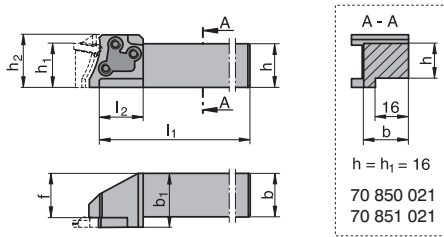
£ 2.94 174



→ 236-237



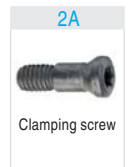
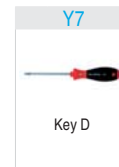
# ModularClamp - Tool holder 0°



Illustrations show right-hand versions

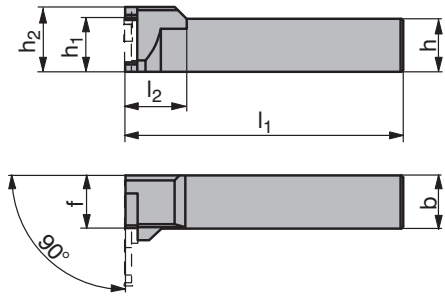
Designation	h = h <sub>1</sub> H mm	b B mm	b <sub>1</sub> OAW mm	h <sub>2</sub> OAH mm	f WF mm	l <sub>1</sub> mm	l <sub>2</sub> mm	for modules	Left-hand		Right-hand	
									2C		2C	
									Article no. 70 851 ...		Article no. 70 850 ...	
E12 R/L 00-1212E	12	12	15.25	14.5	11.75	70	12	E12 R/L ...	113.58	012	113.58	012
E16 R/L 00-1616G	16	16	19.25	19.5	15.75	90	16	E16 R/L ...	114.76	016	114.76	016
E20 R/L 00-1620G	16	20	24.25	24.0	20.15	90	20	E20 R/L ...	115.75	021 <sup>1)</sup>	115.75	021 <sup>1)</sup>
E20 R/L 00-2020J	20	20	24.25	24.0	20.15	110	20	E20 R/L ...	115.75	020	115.75	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	9.52	110	6.14	440
70 850 016 / 70 851 016	11.34	113	7.77	441
70 850 021 / 70 851 021	11.34	113	7.43	403
70 850 020 / 70 851 020	11.34	113	7.43	403

# ModularClamp - Tool holder 90°



Illustrations show right-hand versions





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

Left-hand		Right-hand	
2C		2C	
Article no. 70 855 ...		Article no. 70 854 ...	
£		£	
115.75	020	115.75	020

Spare parts  
for Article no.

70 854 020 / 70 855 020
-------------------------

Y7		2A	
			
Key D		Clamping screw	
Article no. 80 950 ...		Article no. 70 950 ...	
£		£	
11.34	113	7.43	403

# Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	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/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	< 1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	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/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0,5- 10% Si	< 400 N/mm²	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/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	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-A111 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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	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/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	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

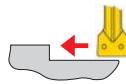


	HCR 1325	HCR 1335	HCN 1345	CCN 1340	DPX 1520	DPX 1535	CWK 26
Index	v <sub>c</sub> in m/min.						
1.1	130-260	110-190	80-150	80-180	150-200	80-150	
1.2	150-300	130-250	110-190	120-250	150-240	110-170	
1.3	130-260	110-190	80-150	60-150	100-200	80-150	
1.4	140-240	80-170	70-140	120-200	130-180	70-130	
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			
<b>SX-F2</b>	<b>0,50</b>	<b>0,75</b>	<b>1,00</b>	<b>1,25</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.			
<b>2</b>	0,03-0,15	0,03-0,15	0,03-0,15	0,03-0,10
<b>3</b>	0,04-0,17	0,04-0,17	0,04-0,17	0,04-0,15

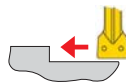
Parting / Grooving



<b>SX-F2</b>
Feed rate $f$ in mm/rev.
0,05-0,15
0,075-0,20

### SX-M2

Turning



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

Parting / Grooving



<b>SX-M2</b>
Feed rate $f$ in mm/rev.
0,05-0,15
0,075-0,20

### SX-ALP

Turning



	Depth of Cut $a_p$ in mm				
<b>SX-ALP</b>	<b>0,5</b>	<b>1,0</b>	<b>1,5</b>	<b>2,0</b>	<b>2,5</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.				
<b>2</b>	0,05-0,23	0,05-0,23	0,05-0,23	0,05-0,20	
<b>3</b>	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,20

Parting / Grooving



<b>SX-ALP</b>
Feed rate $f$ in mm/rev.
0,05-0,20
0,05-0,25

### SX-M1

Parting / Grooving



<b>SX-M1</b>
Feed rate $f$ in mm/rev.
0,05-0,15
0,10-0,20

## FX - Cutting depths and feeds

### FX-F1

Parting / Grooving



<b>FX-F1</b>
Feed rate $f$ in mm/rev.
0,025-0,10
0,05-0,15

### FX-M1

Parting / Grooving



<b>FX-M1</b>
Feed rate $f$ in mm/rev.
0,05-0,15
0,08-0,18

### FX-ALP

Parting / Grooving

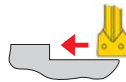


<b>FX-ALP</b>
Feed rate $f$ in mm/rev.
0,01-0,10
0,015-0,125

# GX - Depths of cut and feed rates

## GX Standard / GX-E

Turning



	Depth of Cut $a_p$ in mm				
<b>GX Standard / GX-E</b>	<b>0,5</b>	<b>1,0</b>	<b>1,5</b>	<b>2,0</b>	<b>2,5</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.				
<b>2</b>	0,10-0,15	0,05-0,15	0,05-0,12	0,05-0,10	
<b>3</b>	0,10-0,17	0,05-0,17	0,05-0,17	0,05-0,15	0,05-0,12

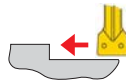
Parting / Grooving



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

## GX-F2

Turning



	Depth of Cut $a_p$ in mm			
<b>GX-F2</b>	<b>0,50</b>	<b>0,75</b>	<b>1,00</b>	<b>1,25</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.			
<b>2</b>	0,03-0,15	0,03-0,15	0,03-0,15	0,03-0,10
<b>3</b>	0,04-0,17	0,04-0,17	0,04-0,17	0,04-0,15

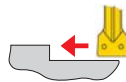
Parting / Grooving



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

## GX-M40

Turning



	Depth of Cut $a_p$ in mm				
<b>GX-M40</b>	<b>0,5</b>	<b>1,0</b>	<b>1,5</b>	<b>2,0</b>	<b>2,5</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.				
<b>2</b>	0,10-0,20	0,05-0,20	0,05-0,17	0,05-0,15	
<b>3</b>	0,10-0,22	0,10-0,22	0,10-0,21	0,10-0,20	0,10-0,17

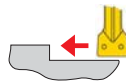
Parting / Grooving



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

## GX-ALP

Turning



	Depth of Cut $a_p$ in mm				
<b>GX-ALP</b>	<b>0,5</b>	<b>1,0</b>	<b>1,5</b>	<b>2,0</b>	<b>2,5</b>
<b>Cutting width in mm</b>	Feed rate $f$ in mm/rev.				
<b>2</b>	0,05-0,23	0,05-0,23	0,05-0,23	0,05-0,20	
<b>3</b>	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,25	0,05-0,20

Parting / Grooving



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

## GX-M3

Turning



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

Parting / Grooving



<b>GX-M3</b>
Feed rate $f$ in mm/rev.
0,05-0,20

## GX-M1

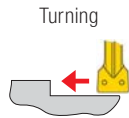
Parting / Grooving



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

# MaxiClick - Depths of cut and feed rates

## MaxiClick 05



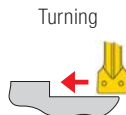
	Depth of Cut $a_p$ in mm		
MaxiClick 05	0,25	0,50	0,75
Cutting width in mm	Feed rate $f$ in mm/rev.		
1	0,02-0,15	0,02-0,10	
1,5	0,02-0,20	0,02-0,20	0,02-0,14

## Parting / Grooving



MaxiClick 05
Feed rate $f$ in mm/rev.
0,03-0,10
0,03-0,11

## MaxiClick 10



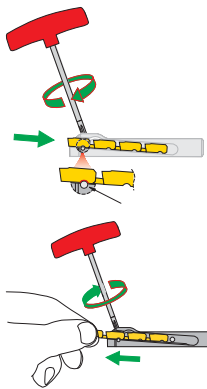
	Depth of Cut $a_p$ in mm				
MaxiClick 10	0,50	0,75	1,00	1,25	1,50
Cutting width in mm	Feed rate $f$ in mm/rev.				
1,5	0,02-0,20	0,02-0,15	0,02-0,10		
2	0,02-0,20	0,02-0,20	0,02-0,14	0,02-0,10	
2,5	0,02-0,20	0,02-0,20	0,02-0,17	0,02-0,13	0,02-0,10

## Parting / Grooving



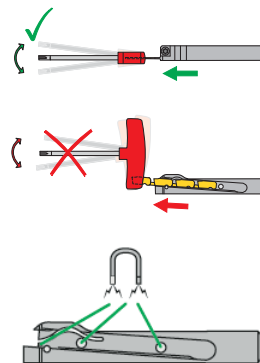
MaxiClick 10
Feed rate $f$ in mm/rev.
0,03-0,11
0,03-0,12
0,03-0,15

## 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

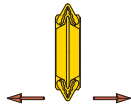
External	TC 16-2EI-AG55													
	TC 16-1EI-A55													
TPI	28	26	24	20	19	18	16	14	12	11	10	9	8	
Thread profile depth in mm	5-8	5-8	6-9	6-9	7-12	7-12	8-14	9-14	10-16	10-16	11-18	12-20	12-20	
Thread profile depth in mm	0,66	0,72	0,79	0,95	1,01	1,07	1,21	1,39	1,63	1,79	1,97	2,20	2,48	

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	

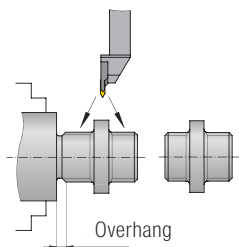


# Comparison threading system with TC and conventional

## TC

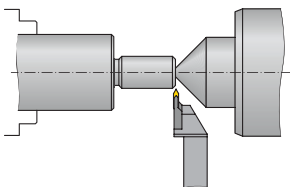


- Neutral configuration of insert makes operation in both directions possible
- Only one threading insert per pitch for partial profile and Whitworth thread; only two threading inserts (internal – external) per pitch for ISO threads
- Reduced stock holding
- good chip formation due to chip breaker with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

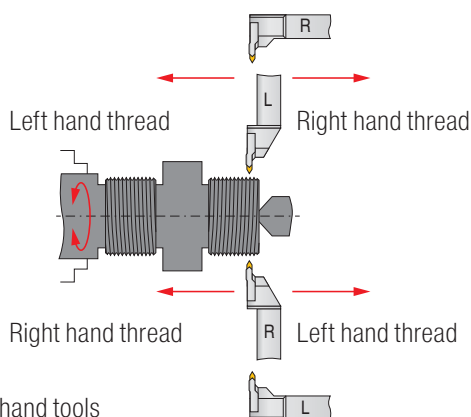


### Greater efficiency through:

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



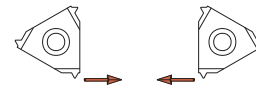
- Very good access to workpiece, therefore use of tailstock also possible with small thread diameters



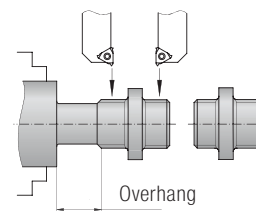
R = Right hand tools  
L = Left hand tool

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

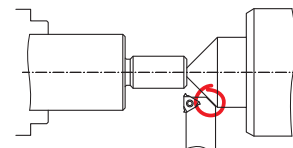
## Conventional



- 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)



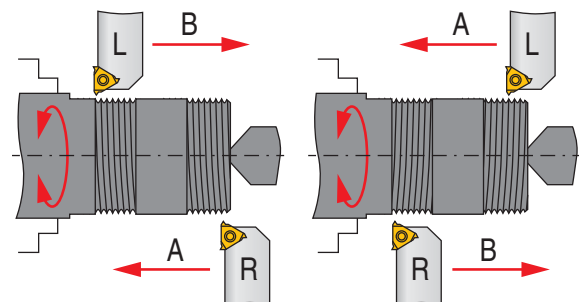
- For this machining method 2 tools are required
- additional material and stability loss with large overhang



- poor accessibility
- Collision danger

Right hand thread

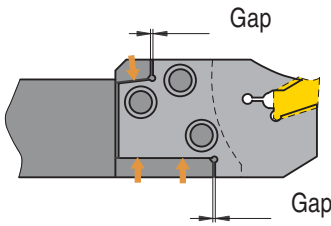
Left hand thread



- 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

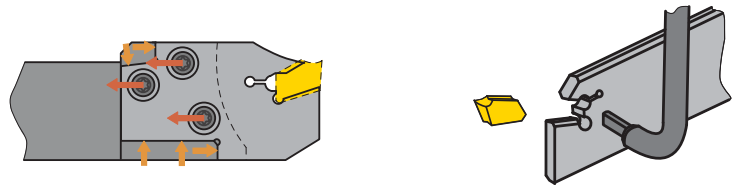
# Clamping function - ModularClamp-Module

## Module unclamped



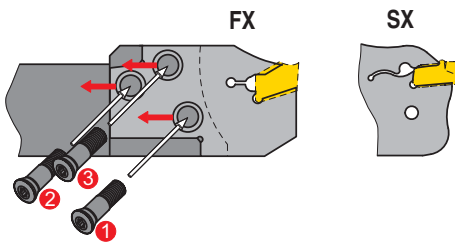
- Gap between module and support face for axial clamping

## Module clamped



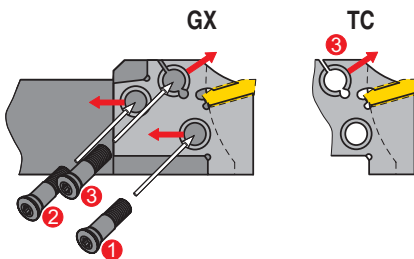
- Axial clamping with support face
- Connection free from play, therefore maximum stability

## FX SX Self clamping of the insert



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

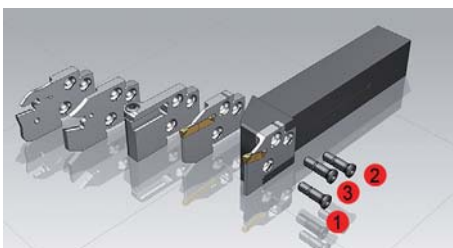
## GX TC Active insert clamping



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

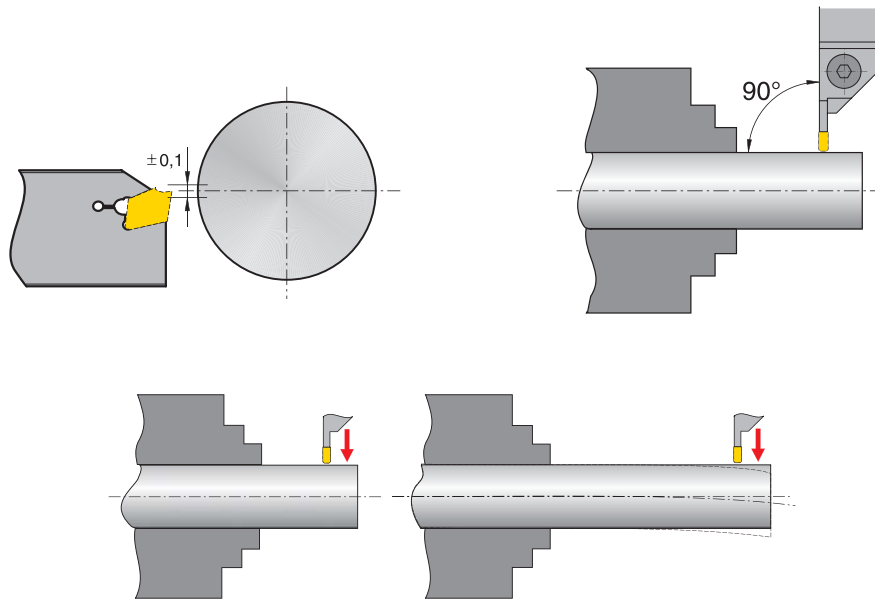


**i** Order for the pre-and tightening of the screws!

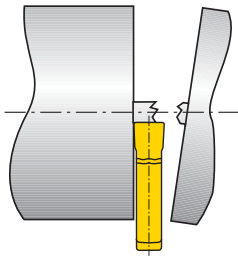
ModularClamp - Tool holder	Screw	Torx	Torque	
			Nm	in.lbs
E12..	M2,5x10	T08	1,2	10,6
E16..	M3,5x12,5	T15	3,2	28,3
E20..	M4x14	T15	4,0	35,4

## General references

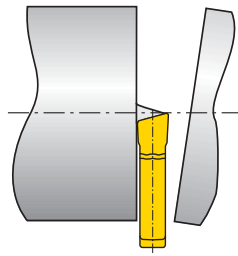
### Tool position



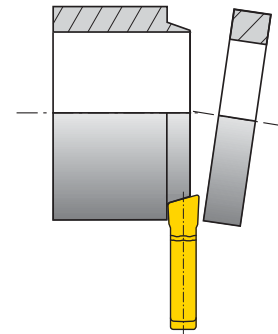
### References for Parting off



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

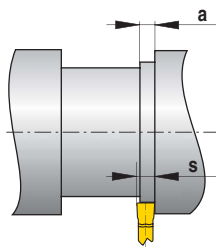


For parting pip-free, use R or L inserts. In order to minimize lateral deflection reduce feed by approx. 20-50 %.

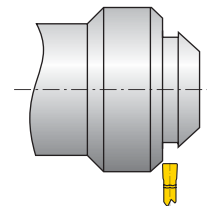


In order to prevent ring formation, use R or L inserts. Reduce feed "f" because of lateral deflection by approx. 20 %-50 %.

### 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 pits and burrs	Chattered surface	Surface quality	Chip too long (snarl chip)	Chip too short (fragmented chip)			
	↑	↓	↓	↓			↑	↓		Cutting speed	Cutting data	Remedy measures
↓			↓	↑		↓	↓	↑	↓	Feed rate		
↓		↓	↓		↓	↓	↓			Feed rate at centre -R ↑ -F ↑ -M ↓		
↑	↓		⤿	⤿	↓	↓	↓	↓	↑	Chip groove		
					●					R/L execution		
↑		↑	↑	↓	↓	↓	↑			Corner radius ↑ larger ↓ smaller		
↓		↑	↑							Tap Material ↑ wear resistance ↓ toughness		
				↓		↑	↑			Groove width		
⤿				⤿		⤿	⤿			Tool clamping		
⤿				⤿		⤿	⤿			Work piece clamping		
⤿				⤿			↓			Overhang		
⤿		⤿		⤿	⤿		⤿			Tip height		
	●	●	●		●		●	●		Cooling lubricant		

↑ raise, increase large influence  
↑ raise, increase small influence

↓ avoid, reduce large influence  
↓ avoid, reduce small influence

⤿ check, optimise  
● use

# Trouble shooting guide for TC threading

Type of problem														
Type of wear				Workpiece				Swarf control						
Wear on clearance face	Break out cut	Plastic deformation	Built-up edge	Formation of a shoulder at the external thread Ø	Profile	Surface quality	Chatter marks, vibrations	Chip too thick	Chip too thin	Chip shape (snarl chip)				
↓		↓	↑			↑	↓				Cutting speed	Cutting data	Remedy measures	
a, b	a, b		a, b	a, b		a, b	a, b	a, b		a, b	Feed			a – over the flanks b – Alternating flanks
↑	↓	↓		↓	↓	↓	↓	↓	↑	↔	Feed (Cutting depth)			
↓	↑	↑		↔	↔	↑	↔	↑	↓	↓	Number of passes			
				●	●	●					Spring cut (Air cut)			
			●			●	●			●	Chip groove			
↑	↓	↑									Tap Material	wear resistance ↑ toughness ↓		
				●	●	●					Full profile			
											Partial profile			
	↔					↔	↔				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.

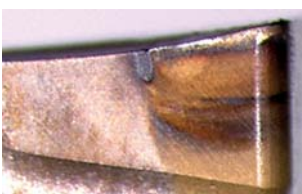
#### Cause

- 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





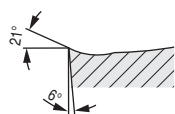

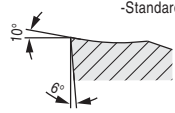


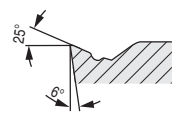

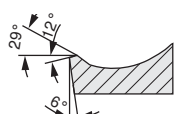

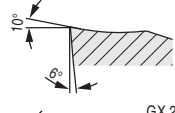
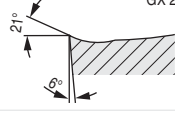

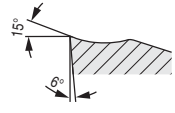

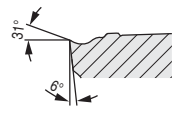
- Oxidation at the cutting edge
- Too high a temperature at the edge

#### 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.
<b>-F2</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>honed cutting edge</li> <li>low feed rates</li> <li>low cutting forces</li> <li>first choice for stainless materials</li> </ul>		<b>HCR1325</b>	<b>CCN1340</b>	<b>HCN1345</b>		0,05-0,15
		<b>CCN1340</b>	<b>CCN1340/HCN1345</b>	<b>HCN1345</b>		
		HCR1325	CCN1340			
		CCN1340	CCN1340/HCN1345			
<b>-Standard / -E</b> <ul style="list-style-type: none"> <li>positive geometry</li> <li>low-medium feed rates</li> <li>low cutting forces</li> <li>universal application</li> <li>first choice for axial grooving</li> </ul>		<b>HCR1325</b>	<b>HCR1335/CCN1340</b>	<b>HCN1345</b>	 	0,05-0,17
		<b>CCN1340</b>	<b>CCN1340/HCN1345</b>	HCN1345		
		HCR1325	<b>HCR1335/CCN1340</b>	<b>CCN1340</b>		
		CCN1340	CCN1340	HCN1345		
<b>-M40</b> <ul style="list-style-type: none"> <li>stable geometry</li> <li>medium feed rates</li> <li>universal application</li> <li>good chip control</li> </ul>		<b>HCR1325</b>	<b>CCN1340</b>	<b>HCN1345</b>		0,075-0,20
		CCN1340	CCN1340/HCN1345	HCN1345		
		<b>HCR1325</b>	<b>HCR1335/CCN1340</b>	<b>CCN1340</b>		
		CCN1340	CCN1340	HCN1345		
<b>-M1</b> <ul style="list-style-type: none"> <li>very stable cutting edge</li> <li>medium-high feed rates</li> <li>for interrupted cut</li> <li>for high tensile materials</li> <li>first choice for parting off</li> </ul>		<b>HCR1325</b>	<b>CCN1340</b>	<b>HCN1345</b>		0,1-0,20
		CCN1340	CCN1340/HCN1345	HCN1345		
		<b>HCR1325</b>	<b>HCR1335/CCN1340</b>	<b>CCN1340</b>		
		CCN1340	CCN1340	HCN1345		
<b>-ALP</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>ground periphery</li> <li>sharp cutting edge</li> <li>polished chip breaker</li> <li>first choice for non-ferrous metals</li> </ul>					 	0,05-0,25
		CWK26	CWK26	CWK26		
<b>Standard - Radius</b> <ul style="list-style-type: none"> <li>positive geometry</li> <li>honed cutting edge</li> <li>low-medium feed rates</li> <li>low cutting forces</li> <li>Radius grooving/copy turning</li> </ul>		<b>HCR1325</b>	<b>HCR1335/CCN1340</b>	<b>CCN1340</b>		0,05-0,20
		<b>CCN1340</b>	<b>CCN1340/HCR1345</b>	CCN1340		
		HCR1325	<b>HCR1325/CCN1340</b>	<b>CCN1340</b>		
		CCN1340	CCN1340			
<b>-M3 - Radius</b> <ul style="list-style-type: none"> <li>stable geometry</li> <li>medium-high feed rates</li> <li>high surface quality</li> <li>Radius grooving/copy turning</li> </ul>		<b>HCR1325</b>	<b>HCR1325/HCR1335</b>	<b>HCR1335</b>		0,07-0,20
		HCR1335	HCR1335	HCR1345		
		<b>HCR1325</b>	<b>HCR1325/HCR1335</b>	<b>HCR1335</b>		

# Chip breakers / Applications

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

## GX system - Circlip grooving




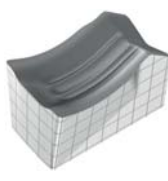
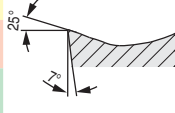

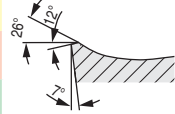
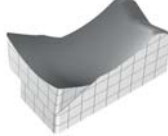
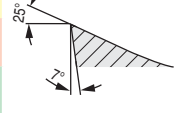

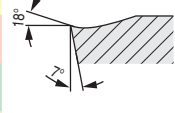


<b>Standard</b> <ul style="list-style-type: none"> <li>positive geometry</li> <li>honed cutting edge</li> <li>low feed rates</li> <li>small corner radius</li> <li>Circlip grooves</li> </ul>		CCN1340	CCN1340			0,05-0,30
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			

## System SX

<b>-F2</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>honed cutting edge</li> <li>low feed rates</li> <li>low cutting forces</li> <li>first choice for stainless materials</li> </ul>		CCN1340	CCN1340	HCR1345		0,05-0,15
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	CCN1340			
		CCN1340	CCN1340/HCR1345			
<b>-M1</b> <ul style="list-style-type: none"> <li>very stable cutting edge</li> <li>medium-high feed rates</li> <li>for interrupted cut</li> <li>for high tensile materials</li> <li>first choice for parting off</li> </ul>		HCR1325	HCR 1335/CCN1340	HCR1345		0,10-0,20
		HCR 1335	CCN1340	HCR1345		
		HCR1325	HCR1325	HCR1325		
		CCN1340	CCN1340	HCR1345		
<b>-M2</b> <ul style="list-style-type: none"> <li>stable geometry</li> <li>medium feed rates</li> <li>universal application</li> <li>good chip control</li> </ul>		HCR1325	HCR 1335/CCN1340	HCR1345		0,075-0,20
		HCR 1335	CCN1340	HCR1345		
		HCR1325	HCR1325	HCR 1335		
		CCN1340	CCN1340	CCN1340		
<b>-ALP</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>ground periphery</li> <li>sharp cutting edge</li> <li>polished chip breaker</li> <li>first choice for non-ferrous metals</li> </ul>						0,05-0,25
		CWK26	CWK26	CWK26		
<b>-M3 - Radius</b> <ul style="list-style-type: none"> <li>stable geometry</li> <li>medium-high feed rates</li> <li>high surface quality</li> <li>Radius grooving / Copy turning</li> </ul>		HCR1335	HCR 1335/CCN1340	CCN1340		0,05-0,20
		HCR1335	HCR 1335/CCN1340	CCN1340		
		HCR1325	HCR 1335/CCN1340	CCN1340		
		CCN1340	CCN1340	CCN1340		



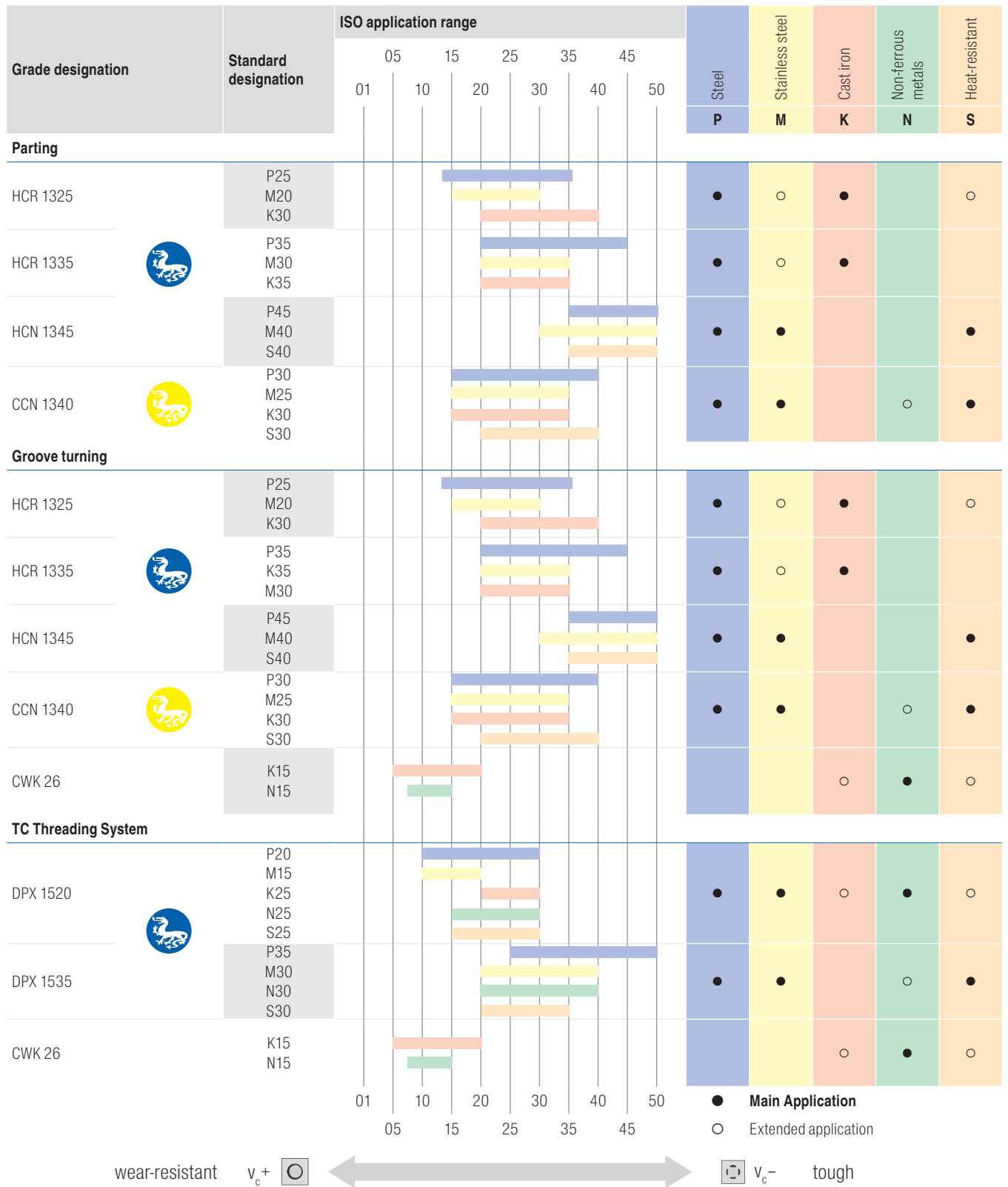
# Chip breakers / Applications

System FX		Smooth cut	Irregular cut	Interrupted cut	Model	f in mm/rev.
						
<b>-F1</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>low-medium feed rates</li> <li>low cutting forces</li> <li>good chip control</li> <li>low cutting edge build up</li> </ul>		HCR1325	CCN1340	HCR1345		0,05-0,15
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	HCR1325/CCN1340			
		CCN1340	CCN1340/HCR1345	HCR1345		
<b>-M1</b> <ul style="list-style-type: none"> <li>very stable cutting edge</li> <li>medium-high feed rates</li> <li>for interrupted cut</li> <li>for high tensile materials</li> <li>first choice for parting off</li> </ul>		HCR1325	HCR1335/CCN1340	HCR1345		0,08-0,20
		CCN1340	CCN1340/HCR1345	HCR1345		
		HCR1325	HCR1325	HCR1335		
		CCN1340	CCN1340	HCR1345		
<b>-ALP</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>ground periphery</li> <li>sharp cutting edge</li> <li>polished chip breaker</li> <li>first choice for non-ferrous metals</li> </ul>						0,03-0,13
		CWK26	CWK26	CWK26		
<b>-F2</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>honed cutting edge</li> <li>low feed rates</li> <li>low cutting forces</li> <li>first choice for stainless materials</li> </ul>		CCN1340	CCN1340	CCN1340		0,05-0,10
		CCN1340	CCN1340	CCN1340		
		CCN1340	CCN1340	CCN1340		
		CCN1340	CCN1340			
<b>-F3</b> <ul style="list-style-type: none"> <li>very positive geometry</li> <li>honed cutting edge</li> <li>low feed rates</li> <li>low cutting forces</li> <li>reduced burrs / edge build up</li> </ul>		CCN1340	CCN1340			0,02-0,06
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			
		CCN1340	CCN1340			

## Example of Coding Grooving Tools

Grooving insert		<b>GX</b>	<b>16</b>	<b>E</b>	<b>3.00</b>	<b>N</b>	<b>0.50</b>
	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		<b>E</b>	<b>25</b>	<b>12</b>	<b>GX</b>	<b>16</b>	<b>2</b>
	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		<b>E</b>	<b>25</b>	<b>00</b>	<b>2525</b>	<b>L</b>	
	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)	
 <b>Compilation</b>		Grooving insert					
Basic holder		Module					
		<b>E25 R 00 - 2525L</b>	<b>E25 R 12 - GX 16-2</b>	<b>GX 16-2 E3.00 N 0.50</b>			

# 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

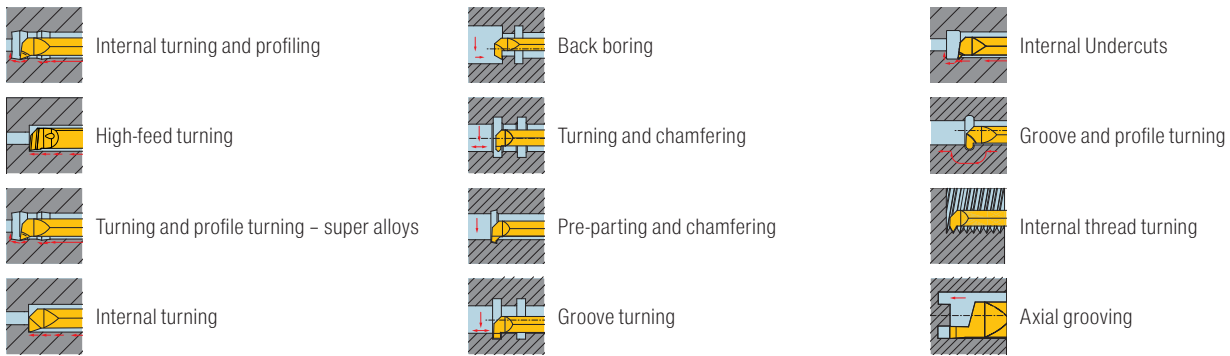


#### Advantages / Benefits

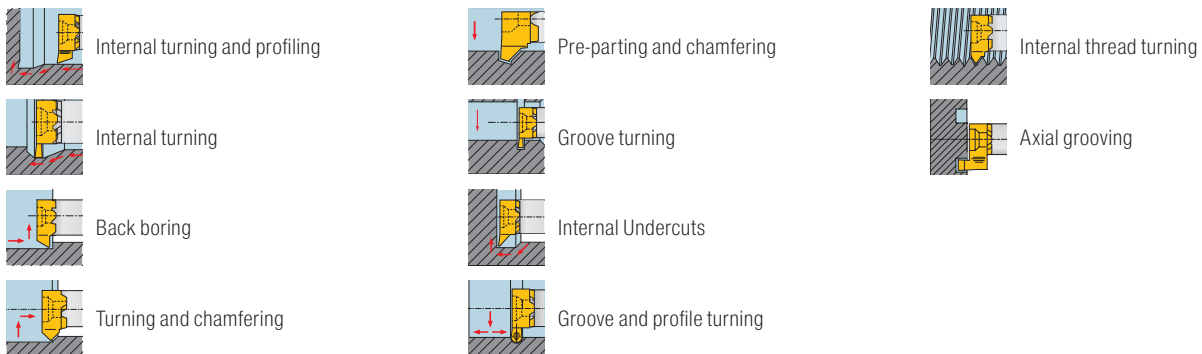
- From a bore diameter of 7.8 mm
- Interchangeable inserts
- 3 rib insert location
- Precise cutting edge position
- Perfect power transmission
- Optimum stability
- Simple use
- Coolant directly to the cutting edge

# Symbol explanation

## UltraMini



## MiniCut



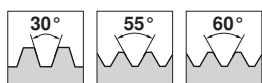
## Coatings

<b>TiAlN+</b>	<ul style="list-style-type: none"> <li>Coating with an excellent hot hardness, resistance to oxidation and thermal insulating properties.</li> </ul>	<b>CWX 500</b>	<ul style="list-style-type: none"> <li>Universal grade that is distinguished by good toughness / hardness ratio.</li> </ul>
<b>TiN</b>	<ul style="list-style-type: none"> <li>Universal PVD TiN coating. This all-round grade is suitable for low and medium cutting speeds with limitations on non-ferrous metals.</li> </ul>	<b>DPX 77S</b>	<ul style="list-style-type: none"> <li>Universal PVD-TiAlN+X coating (Dragonskin)</li> <li>Low coefficient of friction</li> </ul>
<b>TiAlN</b>	<ul style="list-style-type: none"> <li>Universal TiAlN coating with high heat resistance with high hardness. Very well suited for non-ferrous metals.</li> </ul>	<b>DPX 57S</b>	<ul style="list-style-type: none"> <li>Dragonskin coating for super alloys</li> <li>PVD-TiCrN coating with high temperature-resistance</li> </ul>

## Thread types

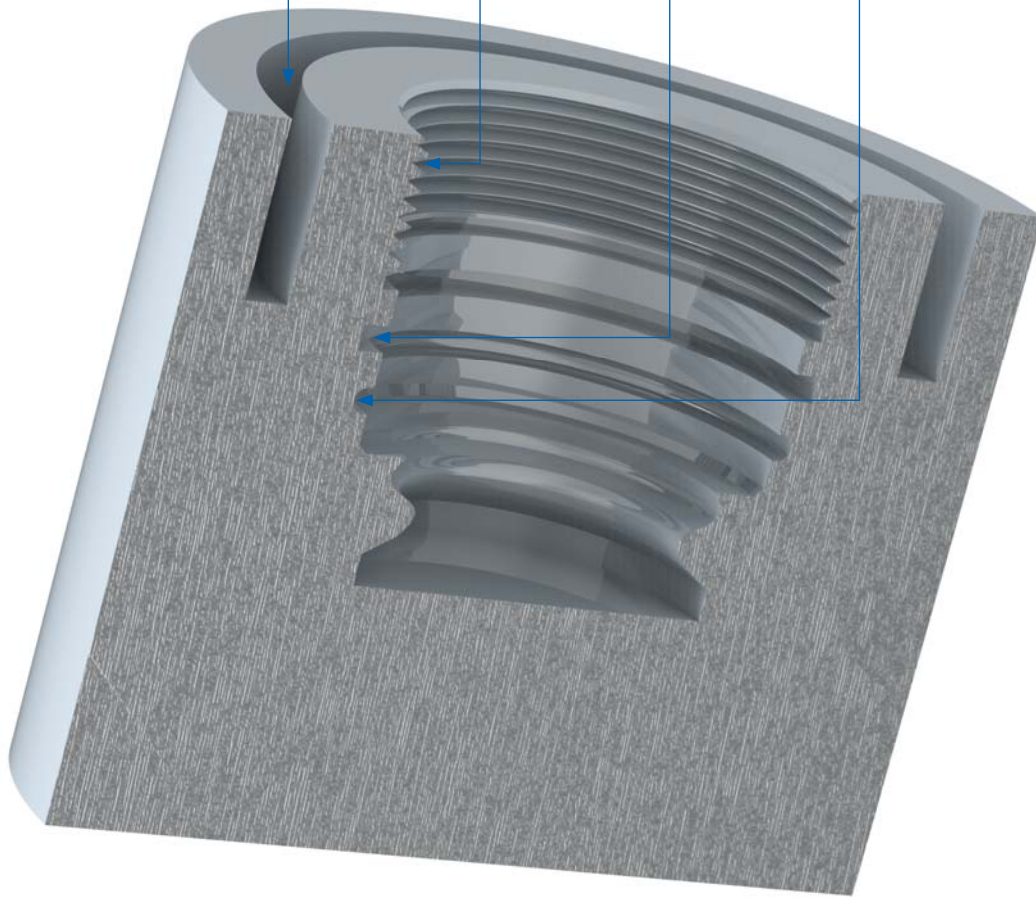


## Thread flank angle



## Coolant





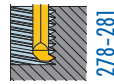
UltraMini

Axial grooving



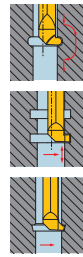
282-287

Thread turning

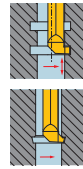


278-281

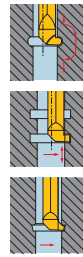
Grooving



272

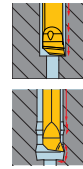


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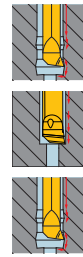


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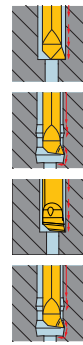
Internal turning and profiling



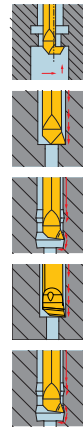
264-267



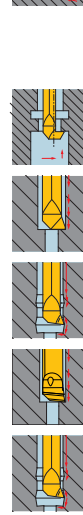
268



276



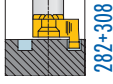
270



271

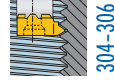
MiniCut

Axial grooving



282+308

Thread turning

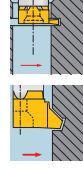


304-306

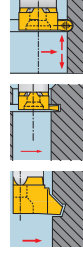
Grooving



299



300+301

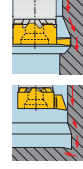


303

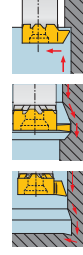
Internal turning and profiling



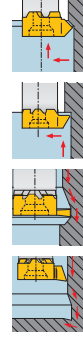
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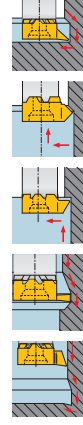
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298



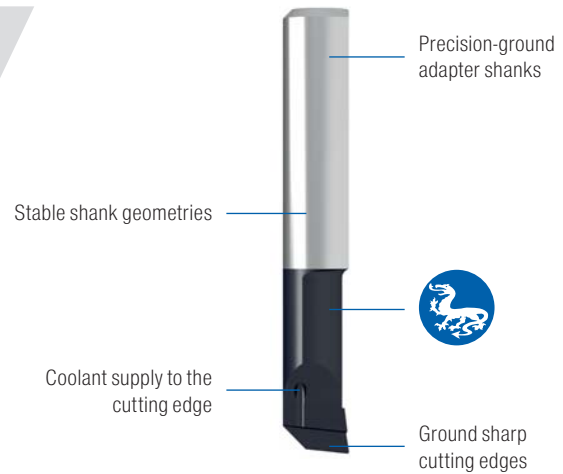
298



302

## 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



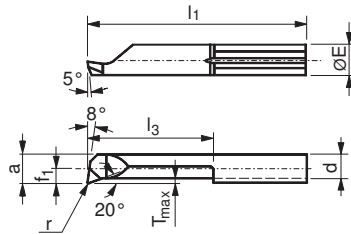
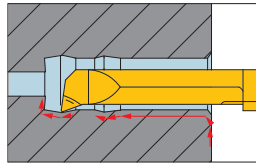
Shank diameter in mm	Adapter diameter in mm	Pages
12,0	4,0/ 5,0/ 6,0/ 7,0	290
16,0		
19,05		
20,0		
22,0		
25,0		
25,4		
28,0		

## 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	
<b>UltraMini</b>													
≥ 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

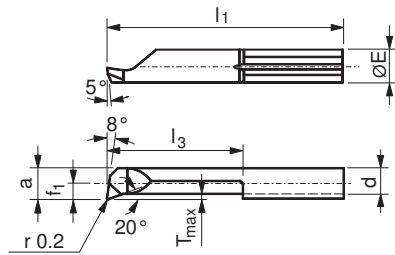
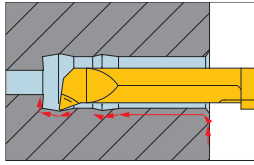


Illustrations show right-hand versions

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand		
											Y5	Y5	Y5	Y5		
											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	57.07	500	57.07	500		
R/L 050.06-2	4		0.6	0.5	20	2	0.08	0.40	0.2	645.00..-D	57.07	510	57.07	510		
R/L 050.06-3	4		0.6	0.5	20	3	0.08	0.40	0.2	645.00..-D	58.92	511	58.92	511		
R/L 050.08-4	4		0.8	0.7	20	4	0.08	0.60	0.04	645.00..-D			57.43	812	57.43	812
R/L 050.1-8	4		1.0	0.9	22	8	0.10	0.75	0.05	645.00..-D			56.88	813	56.88	813
R/L 050.15-5	4		1.5	1.3	19	5	0.10	1.15	0.2	645.00..-D	54.44	515	54.44	515		
R/L 050.15-10	4		1.5	1.3	24	10	0.10	1.15	0.2	645.00..-D	54.95	516	54.95	516		
R/L 050.15-12	4		1.5	1.3	26	12	0.10	1.15	0.05	645.00..-D			56.88	818	56.88	818
R/L 050.2-5	4		2.0	1.7	19	5	0.10	1.50	0.2	645.00..-D	46.26	520	42.44	520		
R/L 050.2-10	4		2.0	1.7	24	10	0.10	1.50	0.2	645.00..-D	46.80	521	46.26	521		
R/L 050.2-15	4		2.0	1.7	29	15	0.10	1.50	0.2	645.00..-D	50.23	522	45.87	522		
R/L 050.3-10	4	0.6	2.8	2.6	24	10	0.20	2.30	0.2	645.00..-D	50.23	531	48.78	531		
R/L 050.3-16	4	0.6	2.8	2.6	30	16	0.20	2.30	0.2	645.00..-D	55.09	530	53.51	530		
R/L 050.3-20	4	0.6	2.8	2.6	34	20	0.20	2.30	0.2	645.00..-D	52.33	532	53.44	532		
R/L 050.35-10	4	1.1	3.5	3.1	24	10	0.25	2.80	0.1	645.00..-D			44.99	835	44.99	835
R/L 050.35-16	4	1.1	3.5	3.1	30	16	0.25	2.80	0.1	645.00..-D			47.43	836	47.43	836
R/L 050.35-20	4	1.1	3.5	3.1	34	20	0.25	2.80	0.1	645.00..-D			56.99	837	56.99	837
R/L 050.35-24	4	1.1	3.5	3.1	38	24	0.25	2.80	0.1	645.00..-D			62.43	838	62.43	838
R/L 050.4-10	4	1.5	4.0	3.5	24	10	0.30	3.00	0.2	645.00..-D	50.49	541	48.10	541	46.14	841
R/L 050.4-16	4	1.5	4.0	3.5	30	16	0.30	3.00	0.2	645.00..-D	50.49	540	48.10	540	48.78	840
R/L 050.4-20	4	1.5	4.0	3.5	34	20	0.30	3.00	0.2	645.00..-D	51.58	542	51.27	542	54.55	842
R/L 050.4-24	4	1.5	4.0	3.5	38	24	0.30	3.00	0.2	645.00..-D	61.93	545	60.10	545	61.93	845
R/L 050.4-28	4	1.5	4.0	3.5	42	28	0.30	3.00	0.2	645.00..-D	68.93	546	65.81	546	68.93	846
R/L 050.5-10	5	1.9	5.0	4.4	25	10	0.50	3.80	0.2	645.00..-D	49.91	551	45.51	551	43.22	851
R/L 050.5-15	5	1.9	5.0	4.4	30	15	0.50	3.80	0.2	645.00..-D	50.68	552	48.49	552	46.14	852
R/L 050.5-20	5	1.9	5.0	4.4	35	20	0.50	3.80	0.2	645.00..-D	51.08	550	49.78	550	53.12	850
R/L 050.5-25	5	1.9	5.0	4.4	40	25	0.50	3.80	0.2	645.00..-D	58.83	553	56.23	553	60.10	853
R/L 050.5-30	5	1.9	5.0	4.4	45	30	0.50	3.80	0.2	645.00..-D	63.40	554	61.82	554	67.75	854
R/L 050.5-35	5	1.9	5.0	4.4	50	35	0.50	3.80	0.2	645.00..-D	75.13	556	71.76	556	75.13	856
R/L 050.5-40	5	1.9	5.0	4.4	55	40	0.50	3.80	0.15	645.00..-D			81.65	857	81.65	857
R/L 050.6-15	6	2.3	6.0	5.3	30	15	0.50	4.50	0.2	676.00..-D	51.92	561	47.59	561	46.14	861
R/L 050.6-22	6	2.3	6.0	5.3	37	22	0.50	4.50	0.2	676.00..-D	53.24	560	51.81	560	53.12	860
R/L 050.6-25	6	2.3	6.0	5.3	40	25	0.50	4.50	0.2	676.00..-D	60.25	562	55.09	562	60.10	862
R/L 050.6-30	6	2.3	6.0	5.3	45	30	0.50	4.50	0.2	676.00..-D	64.34	563	62.61	563	67.75	863
R/L 050.6-35	6	2.3	6.0	5.3	50	35	0.50	4.50	0.2	676.00..-D	75.13	564	71.76	564	75.13	864
R/L 050.6-42	6	2.3	6.0	5.3	57	42	0.50	4.50	0.2	676.00..-D	83.96	565	81.59	565	83.96	865
R/L 050.7-20	7	2.8	6.8	6.3	35	20	0.60	5.50	0.2	676.00..-D	54.44	572	52.86	572	52.36	872
R/L 050.7-25	7	2.8	6.8	6.3	40	25	0.60	5.50	0.2	676.00..-D	68.14	573	65.37	573	60.76	873
R/L 050.7-30	7	2.8	6.8	6.3	45	30	0.60	5.50	0.2	676.00..-D	67.88	574	66.29	574	67.48	874
R/L 050.7-35	7	2.8	7.0	6.3	50	35	0.60	5.50	0.2	676.00..-D	76.43	575	76.43	575	76.43	875
R/L 050.7-40	7	2.8	7.0	6.3	55	40	0.60	5.50	0.2	676.00..-D	85.14	576	85.14	576	85.14	876
R/L 050.7-45	7	2.8	7.0	6.3	60	45	0.60	5.50	0.2	676.00..-D	88.56	577	88.56	577	88.56	877
R/L 050.7-50	7	2.8	7.0	6.3	65	50	0.60	5.50	0.2	676.00..-D	97.13	578	97.13	578	97.13	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



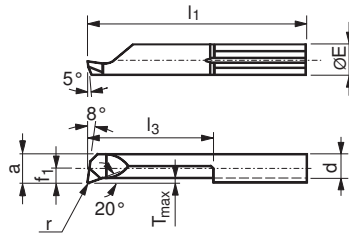
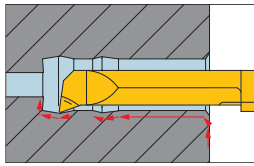
Designation	Ø E <sub>h6</sub> D CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
										Article no. 73 005 ...	£	Article no. 73 004 ...	£
R/L 050.2-10	4		2.0	1.7	24	10	0.1	1.5	645.00..D	38.76	021	38.76	021
R/L 050.2-15	4		2.0	1.7	29	15	0.1	1.5	645.00..D	41.39	022	41.39	022
R/L 050.2-5	4		2.0	1.7	19	5	0.1	1.5	645.00..D	36.98	020	36.98	020
R/L 050.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	645.00..D	39.16	031	39.16	031
R/L 050.3-20	4	0.6	2.8	2.6	34	20	0.2	2.3	645.00..D	46.24	032	46.24	032
R/L 050.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	645.00..D	45.13	030	45.13	030
R/L 050.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	645.00..D	40.74	040	40.74	040
R/L 050.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	645.00..D	43.22	042	42.69	042
R/L 050.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	645.00..D	39.28	041	39.28	041
R/L 050.5-10	5	1.9	5.0	4.4	25	10	0.5	3.8	645.00..D	39.55	051	39.55	051
R/L 050.5-25	5	1.9	5.0	4.4	40	25	0.5	3.8	645.00..D	49.91	053	49.91	053
R/L 050.5-15	5	1.9	5.0	4.4	30	15	0.5	3.8	645.00..D	41.64	052	41.64	052
R/L 050.5-30	5	1.9	5.0	4.4	45	30	0.5	3.8	645.00..D	54.04	054	54.76	054
R/L 050.5-20	5	1.9	5.0	4.4	35	20	0.5	3.8	645.00..D	43.10	050	43.10	050
R/L 050.6-15	6	2.3	6.0	5.3	30	15	0.5	4.5	676.00..D	42.69	061	42.69	061
R/L 050.6-25	6	2.3	6.0	5.3	40	25	0.5	4.5	676.00..D	51.58	062	51.58	062
R/L 050.6-30	6	2.3	6.0	5.3	45	30	0.5	4.5	676.00..D	55.62	063	54.83	063
R/L 050.6-22	6	2.3	6.0	5.3	37	22	0.5	4.5	676.00..D	43.44	060	43.44	060
R/L 050.7-20	7	2.8	6.8	6.3	35	20	0.6	5.5	676.00..D	45.87	072	45.87	072
R/L 050.7-30	7	2.8	6.8	6.3	45	30	0.6	5.5	676.00..D	61.15	074	56.23	074
R/L 050.7-25	7	2.8	6.8	6.3	40	25	0.6	5.5	676.00..D	52.36	073	52.36	073

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for internal turning and profiling

▪ with corner radius  $\leq 0.05$  mm

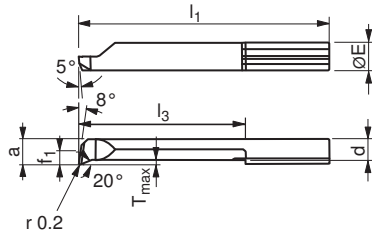
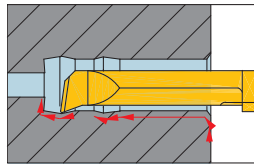


Illustrations show right-hand versions

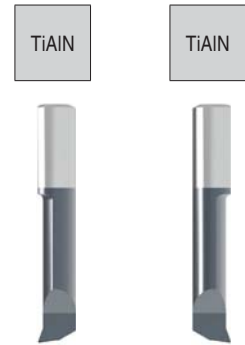
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											Article no. 73 021 ...	£	Article no. 73 020 ...	£	Article no. 73 023 ...	£	Article no. 73 022 ...	£
R/L 053.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	0.03	645.00..-D	49.82	310	49.82	310				
R/L 053.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	0.03	645.00..-D	52.45	316	52.45	316				
R/L 053.3-20	4	0.6	2.8	2.6	34	20	0.2	2.3	0.03	645.00..-D	61.03	320	61.03	320				
R/L 053.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	0.03	645.00..-D	49.82	410	49.82	410				
R/L 053.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	0.03	645.00..-D	52.45	416	52.45	416				
R/L 053.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	0.03	645.00..-D	59.32	420	59.32	420				
R/L 053.4-24	4	1.5	4.0	3.5	38	24	0.3	3.0	0.03	645.00..-D	65.64	424	65.64	424				
R/L 053.4-28	4	1.5	4.0	3.5	42	28	0.3	3.0	0.03	645.00..-D	71.37	428	71.37	428				
R/L 055.2-10	4		2.0	1.7	24	10	0.1	1.5	0.05	645.00..-D					50.30	210	50.30	210
R/L 055.2-15	4		2.0	1.7	29	15	0.1	1.5	0.05	645.00..-D					53.77	215	53.77	215
R/L 055.2-5	4		2.0	1.7	19	5	0.1	1.5	0.05	645.00..-D					49.82	205	49.82	205
R/L 055.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	0.05	645.00..-D					49.82	310	49.82	310
R/L 055.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	0.05	645.00..-D					52.45	316	52.45	316
R/L 055.3-20	4	0.6	2.8	2.6	34	20	0.2	2.3	0.05	645.00..-D					62.34	320	62.34	320
R/L 055.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	0.05	645.00..-D					49.82	410	49.82	410
R/L 055.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	0.05	645.00..-D					52.45	416	52.45	416
R/L 055.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	0.05	645.00..-D					59.32	420	59.32	420
R/L 055.4-24	4	1.5	4.0	3.5	38	24	0.3	3.0	0.05	645.00..-D					65.64	424	65.64	424
R/L 055.4-28	4	1.5	4.0	3.5	42	28	0.3	3.0	0.05	645.00..-D					71.37	428	71.37	428
R/L 055.5-10	5	1.9	5.0	4.4	25	10	0.5	3.8	0.05	645.00..-D					47.04	510	44.83	510
R/L 055.5-15	5	1.9	5.0	4.4	30	15	0.5	3.8	0.05	645.00..-D					49.82	515	49.82	515
R/L 055.5-20	5	1.9	5.0	4.4	35	20	0.5	3.8	0.05	645.00..-D					56.68	520	56.68	520
R/L 055.5-25	5	1.9	5.0	4.4	40	25	0.5	3.8	0.05	645.00..-D					62.70	525	62.70	525
R/L 055.5-30	5	1.9	5.0	4.4	45	30	0.5	3.8	0.05	645.00..-D					71.31	530	71.31	530
R/L 055.5-35	5	1.9	5.0	4.4	50	35	0.5	3.8	0.05	645.00..-D					78.82	535	78.82	535
R/L 055.6-15	6	2.3	6.0	5.3	30	15	0.5	4.5	0.05	676.00..-D					49.82	615	49.82	615
R/L 055.6-22	6	2.3	6.0	5.3	37	22	0.5	4.5	0.05	676.00..-D					55.47	622	55.47	622
R/L 055.6-25	6	2.3	6.0	5.3	40	25	0.5	4.5	0.05	676.00..-D					62.70	625	62.70	625
R/L 055.6-30	6	2.3	6.0	5.3	45	30	0.5	4.5	0.05	676.00..-D					71.31	630	71.31	630
R/L 055.6-35	6	2.3	6.0	5.3	50	35	0.5	4.5	0.05	676.00..-D					78.82	635	78.82	635
R/L 055.6-42	6	2.3	6.0	5.3	57	42	0.5	4.5	0.05	676.00..-D					85.98	642	85.98	642
Steel											•		•		•		•	
Stainless steel											•		•		•		•	
Cast iron											•		•		•		•	
Non ferrous metals											•		•		•		•	
Heat resistant alloys											•		•		•		•	
hardened materials											•		•		•		•	

# UltraMini - Inserts for internal turning and profiling

▪ with chip former



Illustrations show right-hand versions



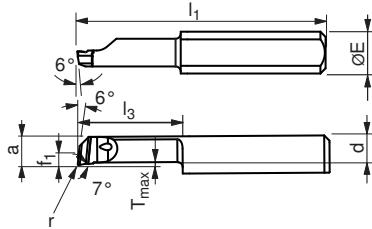
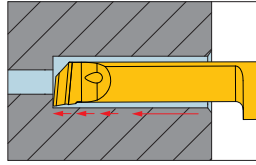
Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
										Article no. 73 017 ...	£	Article no. 73 016 ...	£
R/L 050.4-10C	4	1.5	4	3.5	24	10	0.3	3.0	645.00..-D	46.14	410	46.14	410
R/L 050.4-16C	4	1.5	4	3.5	30	16	0.3	3.0	645.00..-D	48.78	416	48.78	416
R/L 050.4-20C	4	1.5	4	3.5	34	20	0.3	3.0	645.00..-D	54.55	420	54.55	420
R/L 050.4-24C	4	1.5	4	3.5	38	24	0.3	3.0	645.00..-D	61.93	424	61.93	424
R/L 050.4-28C	4	1.5	4	3.5	42	28	0.3	3.0	645.00..-D	68.93	428	68.93	428
R/L 050.5-10C	5	1.9	5	4.4	25	10	0.5	3.8	645.00..-D	43.22	510	43.22	510
R/L 050.5-15C	5	1.9	5	4.4	30	15	0.5	3.8	645.00..-D	46.14	515	46.14	515
R/L 050.5-20C	5	1.9	5	4.4	35	20	0.5	3.8	645.00..-D	53.12	520	53.12	520
R/L 050.5-25C	5	1.9	5	4.4	40	25	0.5	3.8	645.00..-D	60.10	525	60.10	525
R/L 050.5-30C	5	1.9	5	4.4	45	30	0.5	3.8	645.00..-D	67.75	530	67.75	530
R/L 050.5-35C	5	1.9	5	4.4	50	35	0.5	3.8	645.00..-D	75.13	535	75.13	535
R/L 050.6-15C	6	2.3	6	5.3	30	15	0.5	4.5	676.00..-D	46.14	615	46.14	615
R/L 050.6-22C	6	2.3	6	5.3	37	22	0.5	4.5	676.00..-D	53.12	622	53.12	622
R/L 050.6-25C	6	2.3	6	5.3	40	25	0.5	4.5	676.00..-D	60.10	625	60.10	625
R/L 050.6-30C	6	2.3	6	5.3	45	30	0.5	4.5	676.00..-D	67.75	630	67.75	630
R/L 050.6-35C	6	2.3	6	5.3	50	35	0.5	4.5	676.00..-D	75.13	635	75.13	635
R/L 050.6-42C	6	2.3	6	5.3	57	42	0.5	4.5	676.00..-D	83.96	642	83.96	642
R/L 050.7-20C	7	2.8	7	6.3	35	20	0.6	5.5	676.00..-D	52.36	720	52.36	720
R/L 050.7-25C	7	2.8	7	6.3	40	25	0.6	5.5	676.00..-D	60.76	725	60.76	725
R/L 050.7-30C	7	2.8	7	6.3	45	30	0.6	5.5	676.00..-D	67.48	730	67.48	730
R/L 050.7-35C	7	2.8	7	6.3	50	35	0.6	5.5	676.00..-D	76.43	735	76.43	735
R/L 050.7-40C	7	2.8	7	6.3	55	40	0.6	5.5	676.00..-D	85.14	740	85.14	740
R/L 050.7-45C	7	2.8	7	6.3	60	45	0.6	5.5	676.00..-D	88.56	745	88.56	745
R/L 050.7-50C	7	2.8	7	6.3	65	50	0.6	5.5	676.00..-D	97.13	750	97.13	750

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for internal turning

▪ with chip former



Illustrations show right-hand versions



Left-hand

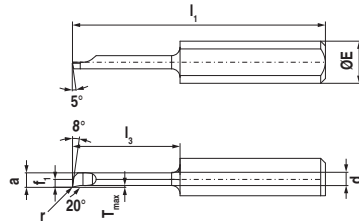
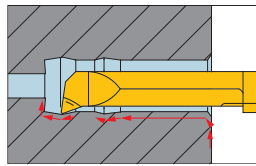
Right-hand

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	r RE mm	Standard tool holder	NEW Y5		NEW Y5	
											Article no. 73 001 ...	£	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	41.30	121	41.30	121
R/L X050.15-7	4		1.5	1.35	22	7	0.05	1.25	0.1	645.00..-D	47.20	233	47.20	233
R/L X050.2-5	4		2.0	1.80	19	5	0.10	1.60	0.15	645.00..-D	35.91	245	35.91	245
R/L X050.2-10	4		2.0	1.80	24	10	0.10	1.60	0.05	645.00..-D	36.85	215	36.85	215
R/L X050.2-10	4		2.0	1.80	24	10	0.10	1.60	0.15	645.00..-D	36.85	241	36.85	241
R/L X050.3-10	4	0.7	3.0	2.70	24	10	0.15	2.55	0.05	645.00..-D	35.81	341	35.81	341
R/L X050.3-10	4	0.7	3.0	2.70	24	10	0.15	2.55	0.2	645.00..-D	35.81	347	35.81	347
R/L X050.3-16	4	0.7	3.0	2.70	30	16	0.15	2.55	0.05	645.00..-D	37.78	371	37.78	371
R/L X050.3-16	4	0.7	3.0	2.70	30	16	0.15	2.55	0.1	645.00..-D	37.78	373	37.78	373
R/L X050.3-16	4	0.7	3.0	2.70	30	16	0.15	2.55	0.2	645.00..-D	37.78	377	37.78	377
R/L X050.4-10	4	1.6	4.0	3.60	24	10	0.20	3.20	0.1	645.00..-D	35.81	403	35.81	403
R/L X050.4-10	4	1.6	4.0	3.60	24	10	0.20	3.20	0.2	645.00..-D	35.81	407	35.81	407
R/L X050.4-16	4	1.6	4.0	3.60	30	16	0.20	3.20	0.05	645.00..-D	37.78	431	37.78	431
R/L X050.4-16	4	1.6	4.0	3.60	30	16	0.20	3.20	0.1	645.00..-D	37.78	433	37.78	433
R/L X050.4-16	4	1.6	4.0	3.60	30	16	0.20	3.20	0.2	645.00..-D	37.78	437	37.78	437
R/L X050.4-24	4	1.6	4.0	3.60	38	24	0.20	3.20	0.1	645.00..-D	48.02	463	48.02	463
R/L X050.4-24	4	1.6	4.0	3.60	38	24	0.20	3.20	0.2	645.00..-D	48.02	467	48.02	467
R/L X050.5-15	5	2.1	5.0	4.60	30	15	0.30	4.05	0.05	645.00..-D	35.81	511	35.81	511
R/L X050.5-15	5	2.1	5.0	4.60	30	15	0.30	4.05	0.1	645.00..-D	35.81	513	35.81	513
R/L X050.5-15	5	2.1	5.0	4.60	30	15	0.30	4.05	0.2	645.00..-D	35.81	517	35.81	517
R/L X050.5-25	5	2.1	5.0	4.60	40	25	0.30	4.05	0.1	645.00..-D	46.68	543	46.68	543
R/L X050.5-25	5	2.1	5.0	4.60	40	25	0.30	4.05	0.2	645.00..-D	46.68	547	46.68	547
R/L X050.5-30	5	2.1	5.0	4.60	45	30	0.30	4.05	0.1	645.00..-D	52.79	553	52.79	553
R/L X050.5-30	5	2.1	5.0	4.60	45	30	0.30	4.05	0.2	645.00..-D	52.79	557	52.79	557
R/L X050.6-15	6	2.5	6.0	5.50	30	15	0.40	4.90	0.05	676.00..-D	35.81	611	35.81	611
R/L X050.6-15	6	2.5	6.0	5.50	30	15	0.40	4.90	0.1	676.00..-D	35.81	613	35.81	613
R/L X050.6-15	6	2.5	6.0	5.50	30	15	0.40	4.90	0.2	676.00..-D	35.81	617	35.81	617
R/L X050.6-22	6	2.5	6.0	5.50	37	22	0.40	4.90	0.2	676.00..-D	41.19	637	41.19	637
R/L X050.6-30	6	2.5	6.0	5.50	45	30	0.40	4.90	0.2	676.00..-D	52.79	657	52.79	657
R/L X050.6-35	6	2.5	6.0	5.50	50	35	0.40	4.90	0.2	676.00..-D	58.37	667	58.37	667
R/L X050.6-50	6	2.5	6.0	5.50	65	50	0.40	4.90	0.2	676.00..-D	72.66	697	72.66	697
R/L X050.7-25	7	3.0	7.0	6.50	40	25	0.50	5.90	0.2	676.00..-D	47.40	747	47.40	747
R/L X050.7-30	7	3.0	7.0	6.50	45	30	0.50	5.90	0.2	676.00..-D	53.41	757	53.41	757

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

# UltraMini - Inserts for internal turning and profiling

▪ Specially designed for super alloys



Illustrations show right-hand versions

DPX 57S

DPX 57S



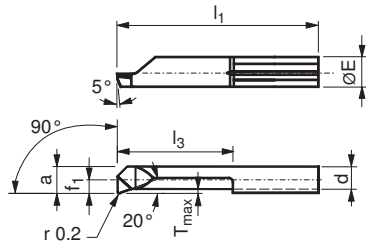
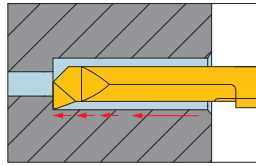
Left-hand

Right-hand

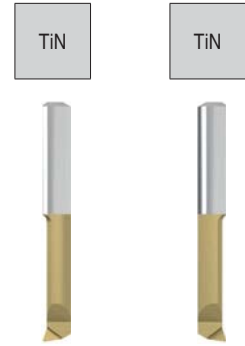
Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	r RE mm	Standard tool holder	NEW Y5			
											Article no. 73 027 ...	Article no. 73 026 ...		
R/L M050.05-2	4	0.20	0.5	0.40	20	2	0.02	0.02	0.02	645.00..-D	48.00	052	48.00	052
R/L M050.08-4	4	0.35	0.8	0.70	20	4	0.08	0.03	0.02	645.00..-D	49.00	082	49.00	082
R/L M050.1-5	4	0.40	1.0	0.90	20	5	0.05	0.05	0.02	645.00..-D	45.00	102	45.00	102
R/L M050.1-7	4	0.40	1.0	0.90	22	7	0.05	0.05	0.02	645.00..-D	47.00	103	47.00	103
R/L M050.15-5	4	0.60	1.5	1.15	19	5	0.08	0.08	0.02	645.00..-D	45.00	151	45.00	151
R/L M050.15-10	4	0.60	1.5	1.15	24	10	0.08	0.08	0.02	645.00..-D	47.00	154	47.00	154
R/L M050.2-5	4	0.80	2.0	1.70	19	5	0.08	0.08	0.02	645.00..-D	39.00	201	39.00	201
R/L M050.2-10	4	0.80	2.0	1.70	24	10	0.08	0.08	0.02	645.00..-D	40.00	204	40.00	204
R/L M050.25-5	4	0.20	2.5	2.20	19	5	0.10	0.10	0.02	645.00..-D	39.00	251	39.00	251
R/L M050.25-10	4	0.20	2.5	2.20	24	10	0.10	0.10	0.02	645.00..-D	40.00	254	40.00	254
R/L M050.3-10	4	0.60	3.0	2.60	24	10	0.15	0.15	0.02	645.00..-D	39.00	304	39.00	304
R/L M050.3-16	4	0.60	3.0	2.60	30	16	0.15	0.15	0.02	645.00..-D	41.00	307	41.00	307
R/L M050.35-10	4	1.10	3.5	3.10	24	10	0.17	0.17	0.02	645.00..-D	39.00	350	39.00	350
R/L M050.35-16	4	1.10	3.5	3.10	30	16	0.17	0.17	0.02	645.00..-D	41.00	353	41.00	353
R/L M050.35-20	4	1.10	3.5	3.10	34	20	0.17	0.17	0.02	645.00..-D	49.00	354	49.00	354
R/L M050.4-10	4	1.50	4.0	3.50	24	10	0.20	0.20	0.02	645.00..-D	39.00	400	39.00	400
R/L M050.4-16	4	1.50	4.0	3.50	30	16	0.20	0.20	0.02	645.00..-D	41.00	403	41.00	403
R/L M050.4-20	4	1.50	4.0	3.50	34	20	0.20	0.20	0.02	645.00..-D	46.00	404	46.00	404
R/L M050.4-24	4	1.50	4.0	3.50	38	24	0.20	0.20	0.02	645.00..-D	52.00	406	52.00	406

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

# UltraMini - Inserts for internal turning

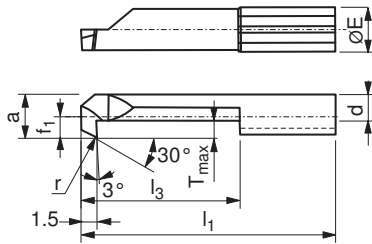
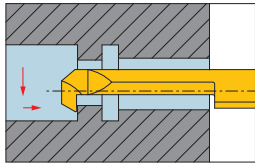


Illustrations show right-hand versions

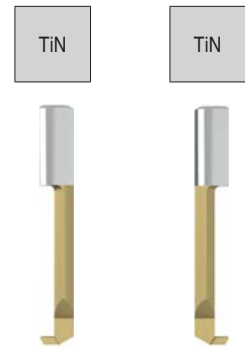


Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
										Article no. 73 015 ... £		Article no. 73 014 ... £	
R/L 090.3-10	4	0.6	2.8	2.6	24	10	0.2	2.3	645.00..-D	46.14	541	46.14	541
R/L 090.3-16	4	0.6	2.8	2.6	30	16	0.2	2.3	645.00..-D	48.89	542	48.89	542
R/L 090.4-10	4	1.5	4.0	3.5	24	10	0.3	3.0	645.00..-D	46.14	545	46.14	545
R/L 090.4-16	4	1.5	4.0	3.5	30	16	0.3	3.0	645.00..-D	48.89	546	48.89	546
R/L 090.5-10	5	1.9	5.0	4.4	25	10	0.5	3.8	645.00..-D	46.14	550	46.14	550
R/L 090.5-15	5	1.9	5.0	4.4	30	15	0.5	3.8	645.00..-D	48.89	551	48.89	551
R/L 090.5-20	5	1.9	5.0	4.4	35	20	0.5	3.8	645.00..-D	53.12	552	53.12	552
Steel											●		●
Stainless steel											●		●
Cast iron											○		○
Non ferrous metals											○		○
Heat resistant alloys											○		○
hardened materials													

# UltraMini - Inserts for back boring



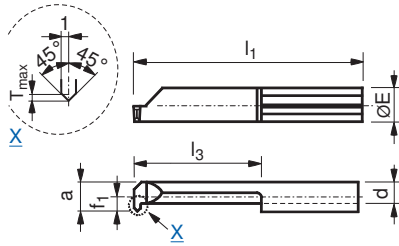
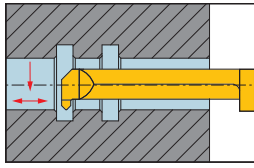
Illustrations show right-hand versions



Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
											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	56.41	542	56.41	542
R/L 080.0003-20	4	0.6	3	2.6	34	20	0.5	2.0	0.1	645.00..-D	67.22	544	67.22	544
R/L 080.0004-15	4	1.5	4	3.5	29	15	0.8	2.4	0.15	645.00..-D	56.41	546	56.41	546
R/L 080.0004-25	4	1.5	4	3.5	39	25	0.8	2.4	0.15	645.00..-D	63.23	548	63.23	548
R/L 080.0005-20	5	1.9	5	4.4	35	20	1.0	3.3	0.2	645.00..-D	57.61	554	57.61	554
R/L 080.0005-30	5	1.9	5	4.4	45	30	1.0	3.3	0.2	645.00..-D	59.84	558	59.84	558
R/L 080.0006-20	6	2.3	6	5.3	35	20	1.8	3.4	0.2	676.00..-D	60.10	564	60.10	564
R/L 080.0006-30	6	2.3	6	5.3	45	30	1.8	3.4	0.2	676.00..-D	71.95	568	71.95	568
R/L 080.0007-20	7	2.7	7	6.3	35	20	2.5	3.8	0.2	676.00..-D	60.10	574	60.10	574
R/L 080.0007-30	7	2.7	7	6.3	45	30	2.5	3.8	0.2	676.00..-D	71.95	578	71.95	578
Steel											●		●	
Stainless steel											●		●	
Cast iron											○		○	
Non ferrous metals											○		○	
Heat resistant alloys											○		○	
hardened materials														



# UltraMini - Inserts for internal turning and chamfering

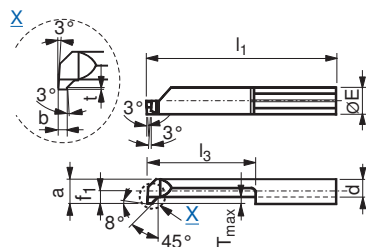
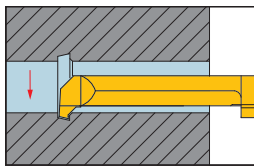


Illustrations show right-hand versions

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	r RE mm	Standard tool holder	Left-hand Y5		Right-hand Y5		Left-hand Y5		Right-hand Y5	
											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	40.06	051	40.06	051	46.80	551	43.48	551
R/L 060.5-20	5	1.9	5.0	4.4	35	20	0.7	3.3	0.2	645.00.-D	39.96	050	39.96	050	48.60	550	48.39	550
R/L 060.7-20	7	2.7	6.8	6.3	35	20	0.7	3.8	0.2	676.00.-D	47.84	070	44.94	070	54.55	570	50.49	570
Steel											○		○		●		●	
Stainless steel															●		●	
Cast iron											○		○		○		○	
Non ferrous metals											●		●		○		○	
Heat resistant alloys															○		○	
hardened materials																		

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for internal chamfering for subsequent parting off

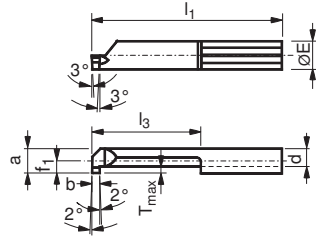
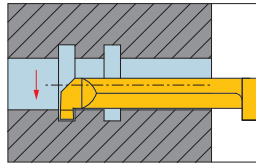


Illustrations show right-hand versions

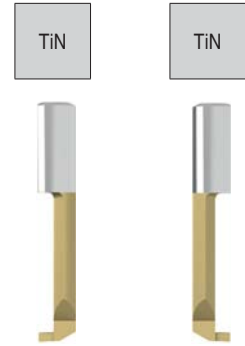
Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	b CW mm	t CDX mm	Standard tool holder	Left-hand Y5		Right-hand Y5		Left-hand Y5		Right-hand Y5	
												Article no. 73 009 ...	£	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					48.44	410	48.44	410
R/L 070.4-16	4	1.5	4	3.5	30	16	0.8	2.4	1	0.2	645.00.-D					49.88	416	49.88	416
R/L 070.5-15	5	1.9	5	4.4	30	15	1.0	3.3	1	0.2	645.00.-D	39.44	051	39.44	051	47.84	551	47.84	551
R/L 070.5-20	5	1.9	5	4.4	35	20	1.0	3.3	1	0.2	645.00.-D	41.52	050	41.52	050	50.49	550	50.49	550
R/L 070.5-30	5	1.9	5	4.4	45	30	1.0	3.3	1	0.2	645.00.-D					67.43	530	67.43	530
R/L 070.6-30	6	2.3	6	5.3	45	30	1.0	4.2	1	0.2	676.00.-D					67.43	630	67.43	630
R/L 070.6-42	6	2.3	6	5.3	57	42	1.0	4.2	1	0.2	676.00.-D					78.87	642	78.87	642
Steel												○		○		●		●	
Stainless steel																●		●	
Cast iron												○		○		○		○	
Non ferrous metals												●		●		○		○	
Heat resistant alloys																○		○	
hardened materials																			

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for Internal Grooving



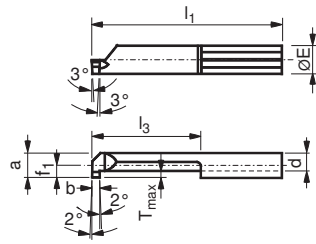
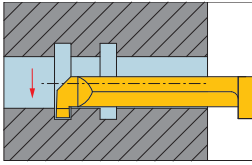
Illustrations show right-hand versions



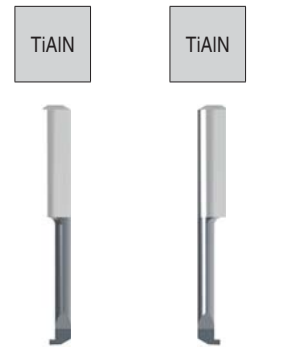
Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand		Right-hand		Left-hand		Right-hand	
											Y5		Y5		Y5		Y5	
											Article no. 73 003 ...	£	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	35.98	040	35.98	040	43.83	540	42.84	540
R/L 004.0100-16	4	1.5	4.0	3.5	30	16	0.8	2.4	1.0	645.00..D	44.94	041	44.94	041	53.77	541	52.33	541
R/L 004.0100-20	4	1.5	4.0	3.5	34	20	0.8	2.4	1.0	645.00..D	48.50	042	48.50	042	58.00	542	56.41	542
R/L 005.0100-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.0	645.00..D	35.69	150	35.69	150	44.83	650	42.16	650
R/L 005.0200-10	5	1.9	5.0	4.4	25	10	1.0	3.3	2.0	645.00..D	35.69	158	35.69	158	44.83	658	43.63	658
R/L 005.0150-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.5	645.00..D	35.69	154	35.69	154	44.83	654	43.63	654
R/L 005.0100-15	5	1.9	5.0	4.4	30	15	1.0	3.3	1.0	645.00..D	42.16	151	42.16	151	51.81	651	49.39	651
R/L 005.0150-15	5	1.9	5.0	4.4	30	15	1.0	3.3	1.5	645.00..D	42.16	155	42.16	155	51.81	655	49.39	655
R/L 005.0200-15	5	1.9	5.0	4.4	30	15	1.0	3.3	2.0	645.00..D	42.16	159	42.16	159	51.81	659	49.39	659
R/L 005.0200-20	5	1.9	5.0	4.4	35	20	1.0	3.3	2.0	645.00..D	48.50	053	48.50	053	56.23	553	55.90	553
R/L 005.0150-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.5	645.00..D	48.50	052	48.50	052	56.23	552	55.90	552
R/L 005.0100-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.0	645.00..D	48.50	051	48.50	051	56.23	551	55.90	551
R/L 005.0100-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.0	645.00..D	54.55	152	54.55	152	63.66	652	61.93	652
R/L 005.0200-25	5	1.9	5.0	4.4	40	25	1.0	3.3	2.0	645.00..D	54.55	250	54.55	250	64.05	750	62.34	750
R/L 005.0150-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.5	645.00..D	54.55	156	54.55	156	63.66	656	61.93	656
R/L 005.0100-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.0	645.00..D	61.55	153	61.55	153	70.90	653	68.93	653
R/L 005.0200-30	5	1.9	5.0	4.4	45	30	1.0	3.3	2.0	645.00..D	61.55	251	61.55	251	71.31	751	69.47	751
R/L 005.0150-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.5	645.00..D	61.55	157	61.55	157	70.90	657	68.93	657
R/L 005.0100-35	5	1.9	5.0	4.4	50	35	1.0	3.3	1.0	645.00..D					78.82	680	75.24	680
R/L 006.0100-10	6	2.3	6.0	5.3	25	10	1.8	3.4	1.0	676.00..D	37.43	160	37.43	160	44.22	660	42.93	660
R/L 006.0150-10	6	2.3	6.0	5.3	25	10	1.8	3.4	1.5	676.00..D	37.43	164	37.43	164	44.22	664	41.12	664
R/L 006.0200-10	6	2.3	6.0	5.3	25	10	1.8	3.4	2.0	676.00..D	37.43	168	37.43	168	44.22	668	42.93	668
R/L 006.0150-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.5	676.00..D	44.54	165	44.54	165	51.08	665	49.78	665
R/L 006.0200-15	6	2.3	6.0	5.3	30	15	1.8	3.4	2.0	676.00..D	44.54	169	44.54	169	51.08	669	49.78	669
R/L 006.0100-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.0	676.00..D	44.54	161	44.54	161	51.08	661	49.78	661
R/L 006.0200-22	6	2.3	6.0	5.3	37	22	1.8	3.4	2.0	676.00..D	48.89	063	48.89	063	56.76	563	56.29	563
R/L 006.0150-22	6	2.3	6.0	5.3	37	22	1.8	3.4	1.5	676.00..D	48.89	062	48.89	062	56.76	562	56.29	562
R/L 006.0100-22	6	2.3	6.0	5.3	37	22	1.8	3.4	1.0	676.00..D	48.89	061	48.89	061	56.76	561	56.29	561
R/L 006.0100-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.0	676.00..D	56.29	162	56.29	162	64.05	662	62.34	662
R/L 006.0200-25	6	2.3	6.0	5.3	40	25	1.8	3.4	2.0	676.00..D	56.29	260	56.29	260	64.05	760	62.34	760
R/L 006.0150-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.5	676.00..D	56.29	166	56.29	166	64.05	666	62.34	666
R/L 006.0150-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.5	676.00..D	63.66	167	63.66	167	71.31	667	69.47	667
R/L 006.0200-30	6	2.3	6.0	5.3	45	30	1.8	3.4	2.0	676.00..D	63.66	261	63.66	261	71.31	761	69.47	761
R/L 006.0100-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.0	676.00..D	63.66	163	63.66	163	71.31	663	69.47	663
R/L 006.0150-35	6	2.3	6.0	5.3	50	35	1.8	3.4	1.5	676.00..D					78.82	684	75.24	684
R/L 006.0100-35	6	2.3	6.0	5.3	50	35	1.8	3.4	1.0	676.00..D					78.82	682	75.24	682
R/L 006.0100-42	6	2.3	6.0	5.3	57	42	1.8	3.4	1.0	676.00..D					86.98	685	84.49	685
R/L 007.0200-10	7	2.7	6.8	6.3	25	10	2.5	3.8	2.0	676.00..D	37.82	170	37.82	170	44.61	670	43.63	670
R/L 007.0150-10	7	2.7	6.8	6.3	25	10	2.5	3.8	1.5	676.00..D	37.82	075	37.82	075	44.61	575	43.63	575
R/L 007.0100-10	7	2.7	6.8	6.3	25	10	2.5	3.8	1.0	676.00..D	37.82	070	37.82	070	44.61	570	43.63	570
R/L 007.0150-15	7	2.7	6.8	6.3	30	15	2.5	3.8	1.5	676.00..D	44.94	076	44.94	076	51.58	576	50.30	576
R/L 007.0200-15	7	2.7	6.8	6.3	30	15	2.5	3.8	2.0	676.00..D	44.94	171	44.94	171	51.58	671	48.11	671
R/L 007.0100-15	7	2.7	6.8	6.3	30	15	2.5	3.8	1.0	676.00..D	44.94	071	44.94	071	51.58	571	50.30	571
R/L 007.0200-22	7	2.7	6.8	6.3	37	22	2.5	3.8	2.0	676.00..D	51.41	172	51.41	172	58.05	672	57.46	672
R/L 007.0150-22	7	2.7	6.8	6.3	37	22	2.5	3.8	1.5	676.00..D	51.41	077	51.41	077	58.05	577	57.46	577
R/L 007.0100-22	7	2.7	6.8	6.3	37	22	2.5	3.8	1.0	676.00..D	51.41	072	51.41	072	58.05	572	57.46	572
R/L 007.0150-25	7	2.7	6.8	6.3	40	25	2.5	3.8	1.5	676.00..D	55.47	078	55.47	078	64.73	578	63.00	578
R/L 007.0200-25	7	2.7	6.8	6.3	40	25	2.5	3.8	2.0	676.00..D	55.47	173	55.47	173	64.73	673	62.09	673
R/L 007.0100-25	7	2.7	6.8	6.3	40	25	2.5	3.8	1.0	676.00..D	55.47	073	55.47	073	64.73	573	63.00	573
R/L 007.0200-30	7	2.7	6.8	6.3	45	30	2.5	3.8	2.0	676.00..D	65.12	174	57.88	174	71.37	674	66.29	674
R/L 007.0150-30	7	2.7	6.8	6.3	45	30	2.5	3.8	1.5	676.00..D	64.73	079	64.73	079	71.37	579	68.38	579
R/L 007.0100-30	7	2.7	6.8	6.3	45	30	2.5	3.8	1.0	676.00..D	64.73	074	64.73	074	71.37	574	70.64	574
R/L 007.0200-35	7	2.7	7.0	6.3	50	35	2.5	3.8	2.0	676.00..D					79.60	692	77.37	692
R/L 007.0150-35	7	2.7	7.0	6.3	50	35	2.5	3.8	1.5	676.00..D					79.60	690	77.37	690
R/L 007.0100-35	7	2.7	7.0	6.3	50	35	2.5	3.8	1.0	676.00..D					79.60	688	77.37	688
R/L 007.0150-40	7	2.7	7.0	6.3	55	40	2.5	3.8	1.5	676.00..D					88.30	702	85.80	702
R/L 007.0100-40	7	2.7	7.0	6.3	55	40	2.5	3.8	1.0	676.00..D					88.30	700	85.80	700
R/L 007.0100-45	7	2.7	7.0	6.3	60	45	2.5	3.8	1.0	676.00..D					95.82	712	93.19	712
R/L 007.0100-50	7	2.7	7.0	6.3	65	50	2.5	3.8	1.0	676.00..D					102.66	714	99.63	714

Steel	○	○	●	●
Stainless steel			●	●
Cast iron	○			

# UltraMini - Inserts for Internal Grooving



Illustrations show right-hand versions

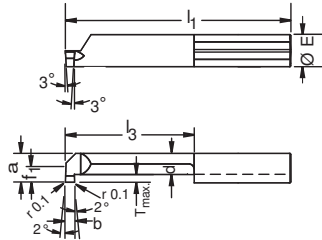
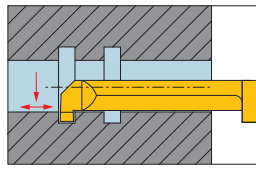


Left-hand Y5 Right-hand Y5

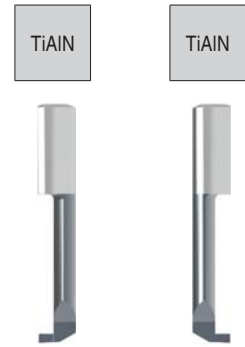
Designation	Ø E <sub>h6</sub> D CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
											Article no. 73 003 ...	£	Article no. 73 002 ...	£
R/L 002.0050-5	4		2	1.8	19	5	0.4	1.2	0.5	645.00.-D	55.09	820	55.09	820
R/L 002.0050-10	4		2	1.8	24	10	0.4	1.2	0.5	645.00.-D	55.47	821	55.47	821
R/L 002.0050-15	4		2	1.8	29	15	0.4	1.2	0.5	645.00.-D	61.03	822	61.03	822
R/L 003.0070-5	4	0.7	3	2.7	19	5	0.6	1.9	0.7	645.00.-D	51.08	830	51.08	830
R/L 003.0070-10	4	0.7	3	2.7	24	10	0.6	1.9	0.7	645.00.-D	58.92	831	58.92	831
R/L 003.0070-16	4	0.7	3	2.7	30	16	0.6	1.9	0.7	645.00.-D	65.64	832	65.64	832
Steel												•		•
Stainless steel												•		•
Cast iron												•		•
Non ferrous metals												•		•
Heat resistant alloys												•		•
hardened materials														

# UltraMini - Inserts for Internal Grooving

▪ with corner radius



Illustrations show right-hand versions

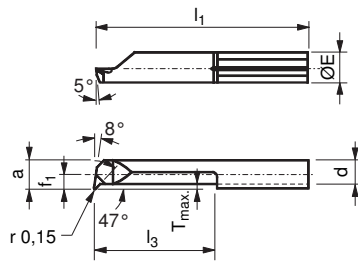
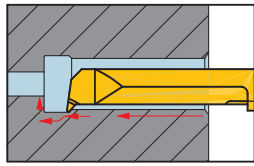


Left-hand Right-hand

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Y5			
											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	47.10	800	47.10	800
R/L 004M0100-16	4	1.5	4.0	3.5	30	16	0.8	2.4	1.0	645.00.-D	53.77	802	53.77	802
R/L 004M0100-20	4	1.5	4.0	3.5	34	20	0.8	2.4	1.0	645.00.-D	59.22	804	59.22	804
R/L 005M0100-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.0	645.00.-D	44.46	806	44.46	806
R/L 005M0100-15	5	1.9	5.0	4.4	30	15	1.0	3.3	1.0	645.00.-D	50.96	808	50.96	808
R/L 005M0100-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.0	645.00.-D	56.94	810	56.94	810
R/L 005M0100-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.0	645.00.-D	61.85	812	61.85	812
R/L 005M0100-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.0	645.00.-D	68.54	814	68.54	814
R/L 005M0150-10	5	1.9	5.0	4.4	25	10	1.0	3.3	1.5	645.00.-D	44.46	816	44.46	816
R/L 005M0150-15	5	1.9	5.0	4.4	30	15	1.0	3.3	1.5	645.00.-D	50.96	818	50.96	818
R/L 005M0150-20	5	1.9	5.0	4.4	35	20	1.0	3.3	1.5	645.00.-D	56.94	820	56.94	820
R/L 005M0150-25	5	1.9	5.0	4.4	40	25	1.0	3.3	1.5	645.00.-D	61.85	822	61.85	822
R/L 005M0150-30	5	1.9	5.0	4.4	45	30	1.0	3.3	1.5	645.00.-D	68.54	824	68.54	824
R/L 005M0200-10	5	1.9	5.0	4.4	25	10	1.0	3.3	2.0	645.00.-D	44.46	826	44.46	826
R/L 005M0200-15	5	1.9	5.0	4.4	30	15	1.0	3.3	2.0	645.00.-D	50.96	828	50.96	828
R/L 005M0200-20	5	1.9	5.0	4.4	35	20	1.0	3.3	2.0	645.00.-D	56.94	830	56.94	830
R/L 005M0200-25	5	1.9	5.0	4.4	40	25	1.0	3.3	2.0	645.00.-D	61.85	832	61.85	832
R/L 005M0200-30	5	1.9	5.0	4.4	45	30	1.0	3.3	2.0	645.00.-D	68.54	834	68.54	834
R/L 006M0100-10	6	2.3	6.0	5.3	25	10	1.8	3.4	1.0	676.00.-D	44.46	836	44.46	836
R/L 006M0100-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.0	676.00.-D	50.96	838	50.96	838
R/L 006M0100-20	6	2.3	6.0	5.3	35	22	1.8	3.4	1.0	676.00.-D	56.94	840	56.94	840
R/L 006M0100-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.0	676.00.-D	61.85	842	61.85	842
R/L 006M0100-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.0	676.00.-D	68.54	844	68.54	844
R/L 006M0150-10	6	2.3	6.0	5.3	25	10	1.8	3.4	1.5	676.00.-D	44.46	846	44.46	846
R/L 006M0150-15	6	2.3	6.0	5.3	30	15	1.8	3.4	1.5	676.00.-D	50.96	848	50.96	848
R/L 006M0150-20	6	2.3	6.0	5.3	37	22	1.8	3.4	1.5	676.00.-D	56.94	850	56.94	850
R/L 006M0150-25	6	2.3	6.0	5.3	40	25	1.8	3.4	1.5	676.00.-D	61.85	852	61.85	852
R/L 006M0150-30	6	2.3	6.0	5.3	45	30	1.8	3.4	1.5	676.00.-D	68.54	854	68.54	854
R/L 006M0200-10	6	2.3	6.0	5.3	25	10	1.8	3.4	2.0	676.00.-D	44.46	856	44.46	856
R/L 006M0200-15	6	2.3	6.0	5.3	30	15	1.8	3.4	2.0	676.00.-D	50.96	858	50.96	858
R/L 006M0200-20	6	2.3	6.0	5.3	37	22	1.8	3.4	2.0	676.00.-D	56.94	860	56.94	860
R/L 006M0200-25	6	2.3	6.0	5.3	40	25	1.8	3.4	2.0	676.00.-D	61.85	862	61.85	862
R/L 006M0200-30	6	2.3	6.0	5.3	45	30	1.8	3.4	2.0	676.00.-D	68.54	864	68.54	864
R/L 007M0100-10	7	2.7	6.8	6.3	25	10	2.5	3.7	1.0	676.00.-D	44.46	866	44.46	866
R/L 007M0100-15	7	2.7	6.8	6.3	30	15	2.5	3.7	1.0	676.00.-D	50.96	868	50.96	868
R/L 007M0100-22	7	2.7	6.8	6.3	37	22	2.5	3.7	1.0	676.00.-D	56.94	870	56.94	870
R/L 007M0100-25	7	2.7	6.8	6.3	40	25	2.5	3.7	1.0	676.00.-D	61.85	872	61.85	872
R/L 007M0100-30	7	2.7	6.8	6.3	45	30	2.5	3.7	1.0	676.00.-D	69.07	874	69.07	874
R/L 007M0150-10	7	2.7	6.8	6.3	25	10	2.5	3.7	1.5	676.00.-D	44.46	876	44.46	876
R/L 007M0150-15	7	2.7	6.8	6.3	30	15	2.5	3.7	1.5	676.00.-D	50.96	878	50.96	878
R/L 007M0150-22	7	2.7	6.8	6.3	37	22	2.5	3.7	1.5	676.00.-D	56.94	880	56.94	880
R/L 007M0150-25	7	2.7	6.8	6.3	40	25	2.5	3.7	1.5	676.00.-D	61.85	882	61.85	882
R/L 007M0150-30	7	2.7	6.8	6.3	45	30	2.5	3.7	1.5	676.00.-D	69.07	884	69.07	884
R/L 007M0200-10	7	2.7	6.8	6.3	25	10	2.5	3.7	2.0	676.00.-D	44.46	886	44.46	886
R/L 007M0200-15	7	2.7	6.8	6.3	30	15	2.5	3.7	2.0	676.00.-D	50.96	888	50.96	888
R/L 007M0200-22	7	2.7	6.8	6.3	37	22	2.5	3.7	2.0	676.00.-D	56.94	890	56.94	890
R/L 007M0200-25	7	2.7	6.8	6.3	40	25	2.5	3.7	2.0	676.00.-D	61.85	892	61.85	892
R/L 007M0200-30	7	2.7	6.8	6.3	45	30	2.5	3.7	2.0	676.00.-D	69.07	894	69.07	894

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

# UltraMini - Inserts for internal undercuts

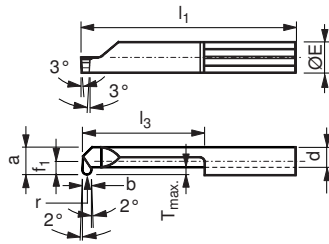
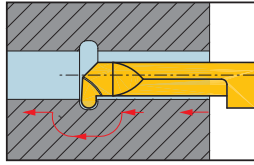


Illustrations show right-hand versions

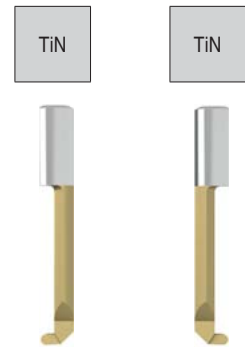


Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	d BDRED mm	Standard tool holder	Left-hand Y5		Right-hand Y5		Left-hand Y5		Right-hand Y5	
										Article no. 73 011 ...	£	Article no. 73 010 ...	£	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					51.87	221	51.87	221
R/L 047.3-15	4	0.6	2.8	2.6	29	15	0.6	1.9	645.00..-D					53.99	231	53.99	231
R/L 047.4-10	4	1.5	4.0	3.5	24	10	0.6	2.8	645.00..-D					49.44	241	49.44	241
R/L 047.T4-20	4	1.5	4.0	3.5	34	20	0.6	2.8	645.00..-D					57.99	242	57.99	242
R/L 047.4-20	4	1.5	4.0	3.5	34	20	0.3	3.0	645.00..-D	55.76	542	54.96	542				
R/L 047.5-15	5	1.9	5.0	4.4	30	15	0.8	3.5	645.00..-D					55.65	251	55.65	251
R/L 047.T5-25	5	1.9	5.0	4.4	40	25	0.8	3.5	645.00..-D					58.87	252	58.87	252
R/L 047.5-25	5	1.9	5.0	4.4	40	25	0.5	3.8	645.00..-D	55.47	552	55.47	552				
R/L 047.T6-22	6	2.3	6.0	5.3	37	22	1.8	3.4	676.00..-D					56.99	262	56.99	262
R/L 047.T6-30	6	2.3	6.0	5.3	45	30	1.8	3.4	676.00..-D					75.87	263	60.21	263
R/L 047.6-30	6	2.3	6.0	5.3	45	30	0.5	4.5	676.00..-D	56.76	562	57.61	562				
Steel										●		●		●		●	
Stainless steel										●		●		●		●	
Cast iron										○		○		●		●	
Non ferrous metals										○		○		●		●	
Heat resistant alloys										○		○		●		●	
hardened materials																	

# UltraMini - Inserts for internal grooving and turning



Illustrations show right-hand versions

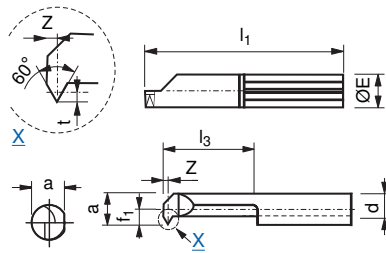
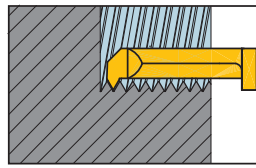


Left-hand Y5 Right-hand Y5

Designation	Ø E <sub>h6</sub> D CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
												Article no. 73 019 ...	£	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	54.16	51.81	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	57.21	57.21	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	57.21	57.21	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	57.21	57.21	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	58.52	58.52	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	58.52	58.52	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	58.52	57.61	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	60.35	57.54	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	60.35	60.35	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	60.35	60.35	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)



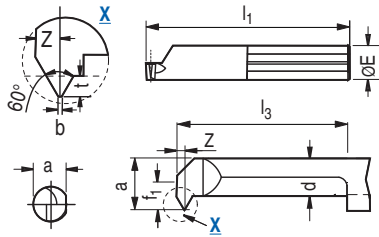
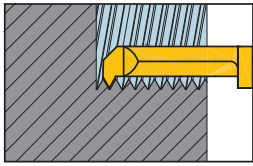
Illustrations show right-hand versions



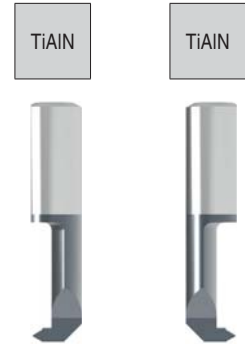
Left-hand K10F Y5      Right-hand K10F Y5      Left-hand K10F Y5      Right-hand K10F Y5

Designation	Ø E <sub>h6</sub> D CONMS mm	p TP mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	clamping holder	Left-hand K10F Y5		Right-hand K10F Y5		Left-hand K10F Y5		Right-hand K10F Y5		
												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									
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						52.43	551	52.43	551
																	54.66	552	54.66	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	49.85	545	48.33	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	50.55	544	50.35	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	48.87	547	48.33	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	51.21	546	49.98	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	49.85	549	48.95	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	51.21	548	49.98	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	49.56	550	49.98	550					
Steel												●		●		●		●		●
Stainless steel												●		●		●		●		●
Cast iron												○		○		●		●		●
Non ferrous metals												○		○		●		●		●
Heat resistant alloys												○		○		●		●		●
hardened materials												○		○		●		●		●

# UltraMini - Inserts for Internal thread turning (Full profile)



Illustrations show right-hand versions



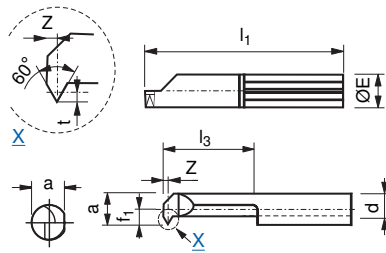
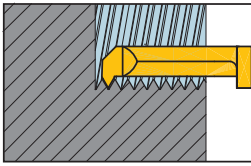
Left-hand K10F Y5  
Right-hand K10F Y5

Designation	Ø E <sub>h6</sub> DCONMS mm	p TP mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Left-hand K10F Y5		Right-hand K10F Y5	
													Article no. 73 209 ...	Article no. 73 208 ...	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	£ 56.66	799	£ 56.66	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	£ 52.36	800	£ 52.36	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	£ 52.36	802	£ 52.36	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	£ 52.36	804	£ 52.36	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	£ 52.36	806	£ 52.36	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



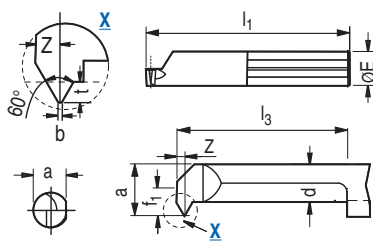
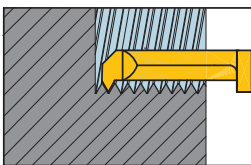
Left-hand K10F Y5 Right-hand K10F Y5 Left-hand K10F Y5 Right-hand K10F Y5

Designation	Ø E <sub>h6</sub> D CONMS mm	p TP mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	Standard tool holder	Article no.	Article no.	Article no.	Article no.
												73 103 ...	73 102 ...	73 103 ...	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	£	£	£	£
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	51.63	510	51.63	510
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	49.85	539	49.85	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	50.55	540	50.55	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	49.85	541	49.85	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	50.55	542	50.55	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	49.85	543	49.85	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	51.21	544	51.21	544

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for Internal thread turning (Full profile)



Illustrations show right-hand versions



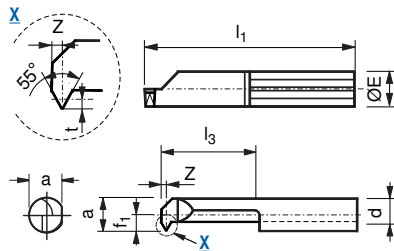
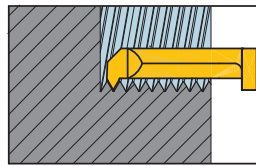
Left-hand K10F Y5 Right-hand K10F Y5

Designation	Ø E <sub>h6</sub> D CONMS mm	p TP mm	f <sub>1</sub> mm	D <sub>min</sub> D AXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Article no.	Article no.
													73 207 ...	73 206 ...
R/L 104.0205-15	5	0.50	1.5	4	3.5	30	15	2.4	0.27	0.35	0.06	645.00..-D	£	£
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	55.19	800
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	52.36	802
													52.36	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	52.36	806

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for internal thread turning (Partial profile)



Illustrations show right-hand versions

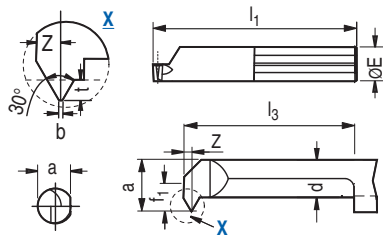
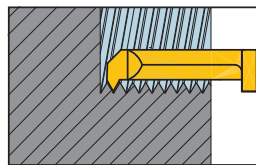
Designation	Ø E <sub>h6</sub> DCONMS mm	p TDIN 1/"	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	Standard tool holder	Left-hand K10F Y5		Right-hand K10F Y5	
												Article no. 73 105 ...	Article no. 73 104 ...	Article no. 73 105 ...	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	£ 53.27	552	£ 53.27	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	£ 53.27	562	£ 53.27	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	£ 53.27	563	£ 53.27	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	£ 53.27	572	£ 53.27	572

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for internal thread turning (Partial profile)

▪ Trapezoidal thread DIN 103



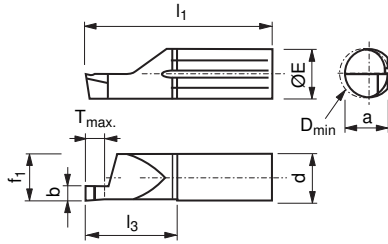
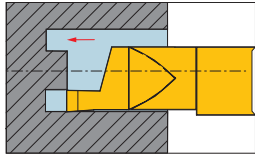
Illustrations show right-hand versions

Designation	Ø E <sub>h6</sub> DCONMS mm	p TP mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	d BDRED mm	t CDX mm	Z PDX mm	b CW mm	Standard tool holder	Left-hand K10F Y5		Right-hand K10F Y5	
													Article no. 73 211 ...	Article no. 73 210 ...	Article no. 73 211 ...	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	£ 85.65	230	£ 85.65	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	£ 70.87	222	£ 70.87	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	£ 70.87	322	£ 70.87	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	£ 85.65	330	£ 85.65	330

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for axial grooving



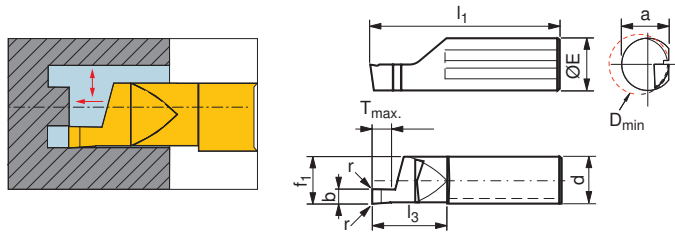
Illustrations show right-hand versions

Designation	Ø E <sub>h6</sub> D CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	b CW mm	Standard tool holder	Left-hand Y5		Right-hand Y5		Left-hand Y5		Right-hand Y5	
											Article no.	£	Article no.	£	Article no.	£	Article no.	£
											73 051 ...		73 050 ...		73 053 ...		73 052 ...	
R/L 010.1006-10	6	5.2	6	5.3	26	11	1.5	4.9	1.0	676.00..-D	55.35	561	53.77	561	55.09	561	55.09	561
R/L 010.1506-10	6	5.2	6	5.3	26	11	2.0	4.9	1.5	676.00..-D	55.35	563	53.77	563	55.09	563	55.09	563
R/L 010.1008-10	7	5.9	8	6.3	26	11	1.5	5.6	1.0	676.00..-D	55.47	571	54.96	571	56.41	571	56.41	571
R/L 010.1008-20	7	5.9	8	6.3	35	20	1.5	5.6	1.0	676.00..-D	60.35	671	58.78	671	60.25	671	60.25	671
R/L 010.1008-30	7	5.9	8	6.3	45	30	1.5	5.6	1.0	676.00..-D	63.66	771	61.93	771	62.32	771	62.32	771
R/L 010.1508-10	7	5.9	8	6.3	26	11	2.5	5.6	1.5	676.00..-D	55.47	573	53.27	573	56.41	573	56.41	573
R/L 010.1508-20	7	5.9	8	6.3	35	20	2.5	5.6	1.5	676.00..-D	60.35	673	56.76	673	60.25	673	60.25	673
R/L 010.1508-30	7	5.9	8	6.3	45	30	2.5	5.6	1.5	676.00..-D	63.66	773	61.93	773	62.32	773	62.32	773
R/L 010.2008-10	7	5.9	8	6.3	26	11	3.0	5.6	2.0	676.00..-D	55.47	575	53.27	575	56.41	575	56.41	575
R/L 010.2008-20	7	5.9	8	6.3	35	20	3.0	5.6	2.0	676.00..-D	60.35	675	56.76	675	60.25	675	60.25	675
R/L 010.2008-30	7	5.9	8	6.3	45	30	3.0	5.6	2.0	676.00..-D	63.66	775	61.93	775	62.32	775	62.32	775
R/L 010.2508-10	7	5.9	8	6.3	26	11	3.5	5.6	2.5	676.00..-D	55.47	577	54.96	577	56.41	577	56.41	577
R/L 010.2508-20	7	5.9	8	6.3	35	20	3.5	5.6	2.5	676.00..-D	60.35	677	58.78	677	60.25	677	60.25	677
R/L 010.2508-30	7	5.9	8	6.3	45	30	3.5	5.6	2.5	676.00..-D	63.66	777	61.93	777	62.32	777	62.32	777
R/L 010.3008-10	7	5.9	8	6.3	26	11	3.5	5.6	3.0	676.00..-D	55.47	579	54.96	579	56.41	579	56.41	579
R/L 010.3008-20	7	5.9	8	6.3	35	20	3.5	5.6	3.0	676.00..-D	60.35	679	56.76	679	60.25	679	60.25	679
R/L 010.3008-30	7	5.9	8	6.3	45	30	3.5	5.6	3.0	676.00..-D	63.66	779	61.93	779	62.32	779	62.32	779

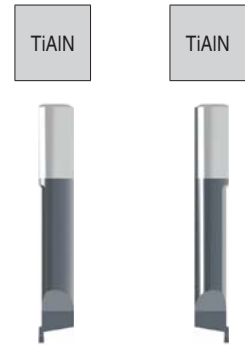
Steel	●	●	●	●
Stainless steel	●	●	●	●
Cast iron	○	○	●	●
Non ferrous metals	○	○	●	●
Heat resistant alloys	○	○	●	●
hardened materials				

# UltraMini - Inserts for axial grooving

▪ with corner radius



Illustrations show right-hand versions



Left-hand Y5 Right-hand Y5

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
												Article no. 73 253 ...	£	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	67.21	510	67.21	510
R/L 510M1008-20	5	4.3	5	6.3	35	20	2	4.0	1.0	0.05	645.00.-D	70.98	610	70.98	610
R/L 510M1508-10	5	4.3	5	6.3	26	11	3	4.0	1.5	0.05	645.00.-D	67.21	515	67.21	515
R/L 510M1508-20	5	4.3	5	6.3	35	20	3	4.0	1.5	0.05	645.00.-D	70.98	615	70.98	615
R/L 510M2008-10	5	4.3	5	6.3	26	11	4	4.0	2.0	0.05	645.00.-D	67.21	520	67.21	520
R/L 510M2008-20	5	4.3	5	6.3	35	20	4	4.0	2.0	0.05	645.00.-D	70.98	620	70.98	620
R/L 010M1008-10	7	5.9	8	6.3	26	11	2	5.6	1.0	0.1	676.00.-D	62.20	800	62.20	800
R/L 010M1008-20	7	5.9	8	6.3	35	20	2	5.6	1.0	0.1	676.00.-D	65.71	810	65.71	810
R/L 010M1008-30	7	5.9	8	6.3	45	30	2	5.6	1.0	0.1	676.00.-D	68.71	820	68.71	820
R/L 010M1508-10	7	5.9	8	6.3	26	11	3	5.6	1.5	0.1	676.00.-D	62.20	802	62.20	802
R/L 010M1508-20	7	5.9	8	6.3	35	20	3	5.6	1.5	0.1	676.00.-D	65.71	812	65.71	812
R/L 010M1508-30	7	5.9	8	6.3	45	30	3	5.6	1.5	0.1	676.00.-D	68.71	822	68.71	822
R/L 010M2008-10	7	5.9	8	6.3	26	11	4	5.6	2.0	0.1	676.00.-D	62.20	804	62.20	804
R/L 010M2008-20	7	5.9	8	6.3	35	20	4	5.6	2.0	0.1	676.00.-D	65.71	814	65.71	814
R/L 010M2008-30	7	5.9	8	6.3	45	30	4	5.6	2.0	0.1	676.00.-D	68.71	824	68.71	824
R/L 010M2508-10	7	5.9	8	6.3	26	11	5	5.6	2.5	0.1	676.00.-D	62.20	806	62.20	806
R/L 010M2508-20	7	5.9	8	6.3	35	20	5	5.6	2.5	0.1	676.00.-D	65.71	816	65.71	816
R/L 010M2508-30	7	5.9	8	6.3	45	30	5	5.6	2.5	0.1	676.00.-D	68.71	826	68.71	826
R/L 010M3008-10	7	5.9	8	6.3	26	11	6	5.6	3.0	0.1	676.00.-D	62.20	808	62.20	808
R/L 010M3008-20	7	5.9	8	6.3	35	20	6	5.6	3.0	0.1	676.00.-D	65.71	818	65.71	818
R/L 010M3008-30	7	5.9	8	6.3	45	30	6	5.6	3.0	0.1	676.00.-D	68.71	828	68.71	828
Steel												•		•	
Stainless steel												•		•	
Cast iron												•		•	
Non ferrous metals												•		•	
Heat resistant alloys												•		•	
hardened materials												•		•	

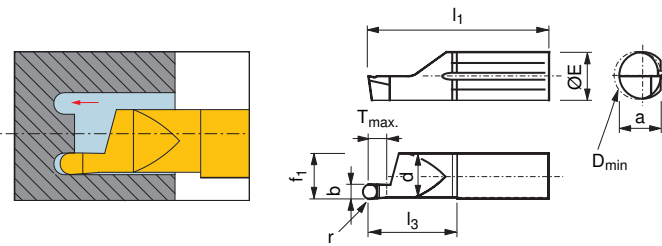
3

# UltraMini - Inserts for axial grooving (Full radius)



Left-hand

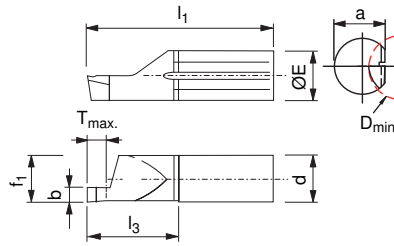
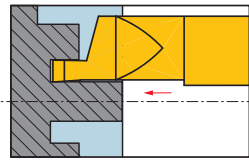
Right-hand



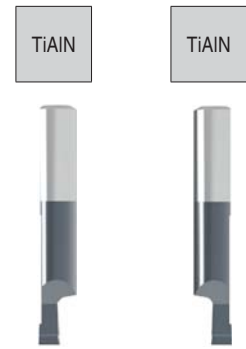
Illustrations show right-hand versions

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max</sub> PDPT mm	d BDRED mm	b CW mm	r RE mm	Standard tool holder	Left-hand Y5		Right-hand Y5		
												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	72.43	171	72.43	171	
R/L 610.1005-10	6	5.2	6	5.3	26	11	2	4.9	1.0	0.5	676.00..-D	68.42	071	68.42	071	
R/L 610.1608-10	6	5.2	6	5.3	26	11	3	4.9	1.6	0.8	676.00..-D	68.42	073	68.42	073	
R/L 610.1608-20	6	5.2	6	5.3	35	20	3	4.9	1.6	0.8	676.00..-D	72.43	173	72.43	173	
R/L 610.2010-10	6	5.2	6	5.3	26	11	4	4.9	2.0	1.0	676.00..-D	68.42	075	68.42	075	
R/L 610.2010-20	6	5.2	6	5.3	35	20	4	4.9	2.0	1.0	676.00..-D	72.43	175	72.43	175	
R/L 610.2512-10	6	5.2	6	5.3	26	11	5	4.9	2.5	1.25	676.00..-D	68.42	077	68.42	077	
R/L 610.2512-20	6	5.2	6	5.3	35	20	5	4.9	2.5	1.25	676.00..-D	72.43	177	72.43	177	
R/L 610.3015-10	6	5.2	6	5.3	26	11	6	4.9	3.0	1.5	676.00..-D	68.42	079	68.42	079	
R/L 610.3015-20	6	5.2	6	5.3	35	20	6	4.9	3.0	1.5	676.00..-D	72.43	179	72.43	179	
R/L 010.1005-10	7	5.9	8	6.3	26	11	2	5.6	1.0	0.5	676.00..-D	65.64	571	65.64	571	
R/L 010.1005-20	7	5.9	8	6.3	35	20	2	5.6	1.0	0.5	676.00..-D	69.47	671	69.47	671	
R/L 010.1608-20	7	5.9	8	6.3	35	20	3	5.6	1.6	0.8	676.00..-D	69.47	673	69.47	673	
R/L 010.1608-10	7	5.9	8	6.3	26	11	3	5.6	1.6	0.8	676.00..-D	65.64	573	65.64	573	
R/L 010.2010-10	7	5.9	8	6.3	26	11	4	5.6	2.0	1.0	676.00..-D	65.64	575	65.64	575	
R/L 010.2010-20	7	5.9	8	6.3	35	20	4	5.6	2.0	1.0	676.00..-D	69.47	675	69.47	675	
R/L 010.2512-10	7	5.9	8	6.3	26	11	5	5.6	2.5	1.25	676.00..-D	65.64	577	65.64	577	
R/L 010.2512-20	7	5.9	8	6.3	35	20	5	5.6	2.5	1.25	676.00..-D	69.47	677	69.47	677	
R/L 010.3015-10	7	5.9	8	6.3	26	11	6	5.6	3.0	1.5	676.00..-D	65.64	579	65.64	579	
R/L 010.3015-20	7	5.9	8	6.3	35	20	6	5.6	3.0	1.5	676.00..-D	69.47	679	69.47	679	
Steel													•		•	
Stainless steel													•		•	
Cast iron													•		•	
Non ferrous metals													•		•	
Heat resistant alloys													•		•	
hardened materials																

# UltraMini - Inserts for axial grooving over a spigot



Illustrations show right-hand versions



Left-hand		Right-hand	
Y5		Y5	
Article no.		Article no.	
73 061 ...		73 060 ...	
£		£	
69.47	561	69.47	561
69.47	563	69.47	563
69.47	565	69.47	565
69.47	567	69.47	567
69.47	569	69.47	569

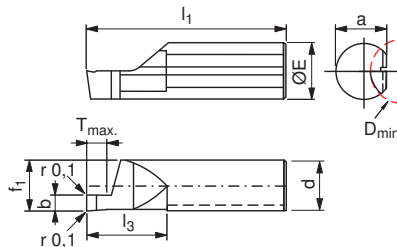
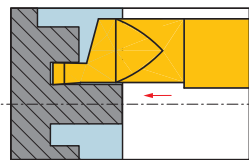
Designation	$\varnothing E_{h6}$ DCONMS mm	$f_1$ mm	$D_{min}$ DAXN mm	a WF mm	$l_1$ OAL mm	$l_3$ LDRED mm	$T_{max}$ PDPT mm	d BDRED mm	b CW mm	Standard tool holder
R/L 620.1006-20	6	5.2	6	5.3	35	20	2	4.9	1.0	676.00..-D
R/L 620.1506-20	6	5.2	6	5.3	35	20	3	4.9	1.5	676.00..-D
R/L 620.2006-20	6	5.2	6	5.3	35	20	4	4.9	2.0	676.00..-D
R/L 620.2506-20	6	5.2	6	5.3	35	20	5	4.9	2.5	676.00..-D
R/L 620.3006-20	6	5.2	6	5.3	35	20	6	4.9	3.0	676.00..-D

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

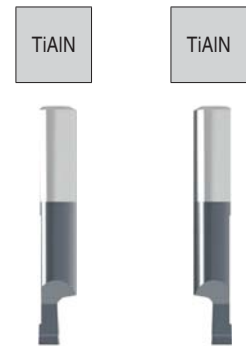
→ v<sub>c</sub> Page 314

# UltraMini - Inserts for axial grooving over a spigot

▪ with corner radius



Illustrations show right-hand versions



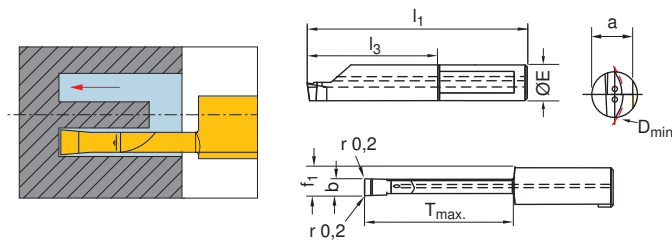
Designation	$\varnothing E_{h6}$ DCONMS mm	$f_1$ mm	$D_{min}$ DAXN mm	a WF mm	$l_1$ OAL mm	$l_3$ LDRED mm	$T_{max}$ PDPT mm	d BDRED mm	b CW mm	Standard tool holder
R/L 620M1006-20	6	5.2	6	5.3	35	20	2	4.9	1.0	676.00..-D
R/L 620M1506-20	6	5.2	6	5.3	35	20	3	4.9	1.5	676.00..-D
R/L 620M2006-20	6	5.2	6	5.3	35	20	4	4.9	2.0	676.00..-D
R/L 620M2506-20	6	5.2	6	5.3	35	20	5	4.9	2.5	676.00..-D
R/L 620M3006-20	6	5.2	6	5.3	35	20	6	4.9	3.0	676.00..-D

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for axial grooving

- up to 100 bar
- dual cooling channel



Illustrations show right-hand versions

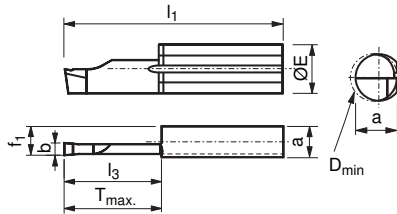
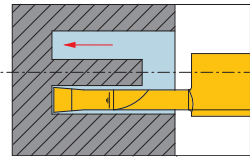


Left-hand Right-hand

Designation	Ø E <sub>h6</sub> DCONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	b CW mm	Standard tool holder	Left-hand Y5		Right-hand Y5	
										Article no. 73 263 ...	£	Article no. 73 262 ...	£
R/L 012.0200-10	8	5.00	12	7.3	30	10	10	2.0	687.00.-D	61.47	700	61.47	700
R/L 012.0200-15	8	5.00	12	7.3	35	15	15	2.0	687.00.-D	61.47	702	61.47	702
R/L 012.0250-10	8	5.25	12	7.3	30	10	10	2.5	687.00.-D	61.47	704	61.47	704
R/L 012.0250-20	8	5.25	12	7.3	40	20	20	2.5	687.00.-D	62.56	706	62.56	706
R/L 016.0300-10	8	5.50	16	7.3	30	10	10	3.0	687.00.-D	87.15	800	87.15	800
R/L 016.0300-20	8	5.50	16	7.3	40	20	20	3.0	687.00.-D	89.46	802	89.46	802
R/L 020.0300-25	8	5.50	20	7.3	45	25	25	3.0	687.00.-D	90.68	804	90.68	804
R/L 020.0300-30	8	5.50	20	7.3	50	30	30	3.0	687.00.-D	90.68	806	90.68	806
R/L 020.0300-35	8	5.50	20	7.3	55	35	35	3.0	687.00.-D	92.78	808	92.78	808
R/L 020.0300-40	8	5.50	20	7.3	60	40	40	3.0	687.00.-D	92.78	810	92.78	810
R/L 016.0400-10	8	6.00	16	7.3	30	10	10	4.0	687.00.-D	87.15	812	87.15	812
R/L 016.0400-20	8	6.00	16	7.3	40	20	20	4.0	687.00.-D	89.46	814	89.46	814
R/L 020.0400-25	8	6.00	20	7.3	45	25	25	4.0	687.00.-D	90.68	816	90.68	816
R/L 020.0400-30	8	6.00	20	7.3	50	30	30	4.0	687.00.-D	90.68	818	90.68	818
R/L 020.0400-35	8	6.00	20	7.3	55	35	35	4.0	687.00.-D	92.78	820	92.78	820
R/L 020.0400-40	8	6.00	20	7.3	60	40	40	4.0	687.00.-D	92.78	822	92.78	822
R/L 020.0500-20	8	6.50	20	7.3	40	20	20	5.0	687.00.-D	87.15	824	87.15	824
R/L 020.0500.25	8	6.50	20	7.3	45	25	25	5.0	687.00.-D	88.21	826	88.21	826
R/L 020.0500.30	8	6.50	20	7.3	50	30	30	5.0	687.00.-D	88.21	828	88.21	828
R/L 020.0500.35	8	6.50	20	7.3	55	35	35	5.0	687.00.-D	90.68	830	90.68	830
R/L 020.0500.40	8	6.50	20	7.3	60	40	40	5.0	687.00.-D	88.17	832	88.17	832

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

# UltraMini - Inserts for axial grooving



Illustrations show right-hand versions



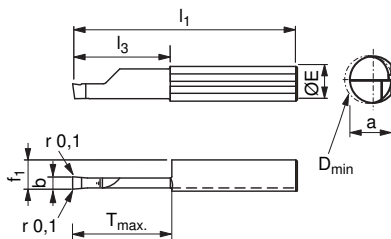
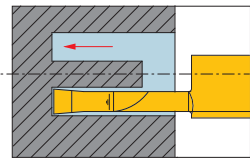
Designation	Ø E <sub>h6</sub> D/CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	b CW mm	Standard tool holder	Left-hand	Right-hand	Left-hand	Right-hand				
										Y5	Y5	Y5	Y5				
										Article no. 73 055 ...	Article 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	75.91	572	71.17	572	75.65	572	75.65	572
R/L 015.3015-20	7	5.9	15	6.3	35	20	20	3.0	676.00.-D	71.17	574	71.17	574	75.65	574	75.65	574
R/L 015.3015-30	7	5.9	15	6.3	45	30	30	3.0	676.00.-D	83.56	674	83.56	674	83.42	674	83.42	674

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

→ v<sub>c</sub> Page 314

# UltraMini - Inserts for axial grooving

▪ with corner radius



Illustrations show right-hand versions



Designation	Ø E <sub>h6</sub> D/CONMS mm	f <sub>1</sub> mm	D <sub>min</sub> DAXN mm	a WF mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LDRED mm	T <sub>max.</sub> PDPT mm	b CW mm	Standard tool holder	Left-hand	Right-hand		
										Y5	Y5		
										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	72.76	800	72.76	800
R/L 015M3015-20	7	5.9	8	6.3	35	20	20	3.0	676.00.-D	72.76	802	72.76	802
R/L 015M3015-30	7	5.9	8	6.3	45	30	30	3.0	676.00.-D	79.60	804	79.60	804

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

→ v<sub>c</sub> Page 314

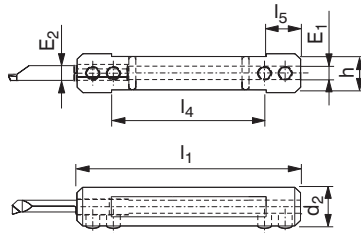


# UltraMini - Standard tool holder for cutting inserts

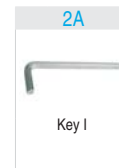
- double ended
- Machining diameter from  $\varnothing 0.2$  mm

**Scope of supply:**

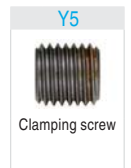
Tool holder with allen key



Designation	$\varnothing E_1$ mm	$\varnothing E_2$ DCONWS mm	$d_2$ DCONMS mm	$l_1$ OAL mm	$l_4$ LS mm	$l_5$ LH mm	h H mm	Y5	
								Article no. 73 080 ...	£
645.0012-D	4	5	12.00	75	55	10	10.3	159.98	163
645.0016-D	4	5	16.00	75	55	10	14.0	168.04	164
645.001905-D	4	5	19.05	90	70	10	17.2	140.00	170
645.0020-D	4	5	20.00	90	70	10	18.0	180.96	165
645.0022-D	4	5	22.00	90	70	10	20.0	146.00	171
645.00254-D	4	5	25.50	95	75	10	23.4	155.00	172
676.0016-D	6	7	16.00	75	55	10	14.0	168.04	166
676.001905-D	6	7	19.05	90	70	10	17.2	140.00	173
676.0020-D	6	7	20.00	90	70	10	18.0	180.96	167
676.0022-D	6	7	22.00	90	70	10	20.0	146.00	174
676.00254-D	6	7	25.40	95	75	10	23.4	155.00	175
687.0016-D	7	8	16.00	75	55	10	14.0	194.87	168
687.0020-D	7	8	20.00	90	70	10	18.0	208.57	169



Key I

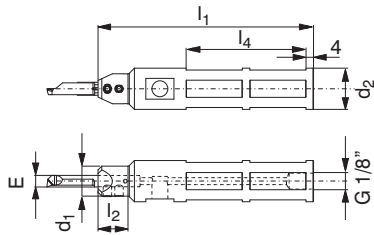


Clamping screw

**Spare parts**  
 $\varnothing E_1$

$\varnothing E_1$	Article no. 70 950 ...		Article no. 73 082 ...	
	£	175	£	001
4	2.12	175	5.31	001
4	2.12	175	6.44	008
4	2.12	175	6.47	013
6	2.12	175	5.31	001
6	2.12	175	6.44	008
7	2.12	175	7.55	014

# UltraMini - Toolholder for inserts

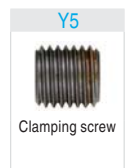
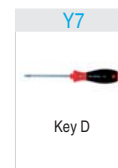


Designation	Ø E DCONWS mm	d <sub>1</sub> mm	d <sub>2 g6</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>2</sub> mm	l <sub>4</sub> LS mm	NEW	Y5
							Article no. 73 088 ...	
							£	
UMST.0016.4	4	16	16.00	115	24	42	323.00	164
UMST.001905.4	4	16	19.05	115	24	42	350.00	194
UMST.0020.4	4	16	20.00	115	24	42	330.00	204
UMST.0022.4	4	16	22.00	115	24	42	340.00	224
UMST.00254.4	4	16	25.40	115	24	42	350.00	264
UMST.0028.4	4	16	28.00	115	24	42	350.00	284
UMST.0016.5	5	16	16.00	115	24	42	323.00	165
UMST.001905.5	5	16	19.05	115	24	42	350.00	195
UMST.0020.5	5	16	20.00	115	24	42	330.00	205
UMST.0022.5	5	16	22.00	115	24	42	340.00	225
UMST.00254.5	5	16	25.40	115	24	42	350.00	265
UMST.0028.5	5	16	28.00	115	24	42	350.00	285
UMST.0016.6	6	16	16.00	115	24	42	323.00	166
UMST.001905.6	6	16	19.05	115	24	42	350.00	196
UMST.0020.6	6	16	20.00	115	24	42	330.00	206
UMST.0022.6	6	16	22.00	115	24	42	340.00	226
UMST.00254.6	6	16	25.40	115	24	42	350.00	266
UMST.0028.6	6	16	28.00	115	24	42	350.00	286
UMST.0016.7	7	16	16.00	115	24	42	323.00	167
UMST.001905.7	7	16	19.05	115	24	42	350.00	197
UMST.0020.7	7	16	20.00	115	24	42	330.00	207
UMST.0022.7	7	16	22.00	115	24	42	340.00	227
UMST.00254.7	7	16	25.40	115	24	42	350.00	267
UMST.0028.7	7	16	28.00	115	24	42	350.00	287
UMST.0016.8	8	16	16.00	115	24	42	323.00	168
UMST.001905.8	8	16	19.05	115	24	42	350.00	198
UMST.0020.8	8	16	20.00	115	24	42	330.00	208
UMST.0022.8	8	16	22.00	115	24	42	340.00	228
UMST.00254.8	8	16	25.40	115	24	42	350.00	268
UMST.0028.8	8	16	28.00	115	24	42	350.00	288

3

Spare parts  
Ø E

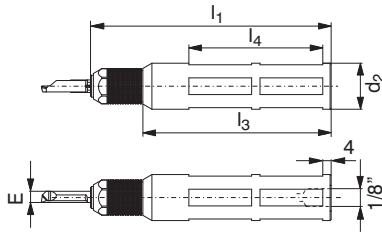
Ø E		Article no. 80 950 ...		Article no. 73 950 ...	
		£	104	£	050
4	T10	8.41	104	10.00	050
5	T10	8.41	104	10.00	050
6	T10	8.41	104	10.00	050
7	T10	8.41	104	10.00	050
8	T10	8.41	104	10.00	050



# UltraMini - Quick change tool holder for cutting inserts

## Scope of supply:

Tool holder, lock nut and clamping wedge



Designation	Ø E DCONWS mm	d <sub>2, g6</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>3</sub> mm	l <sub>4</sub> LS mm	NEW Y5	
						Article no. 73 089 ...	£
UM600H.0012.4	4	12.00	115	90	64	302.00	124
UM600H.0016.4	4	16.00	115	90	64	274.00	164
UM600H.001905.4	4	19.05	115	90	64	294.00	194
UM600H.0020.4	4	20.00	115	90	64	290.00	204
UM600H.0022.4	4	22.00	115	90	64	295.00	224
UM600H.0025.4	4	25.00	115	90	64	301.00	254
UM600H.00254.4	4	25.40	115	90	64	307.00	264
UM600H.0028.4	4	28.00	115	90	64	307.00	284
UM600H.0012.5	5	12.00	115	90	64	302.00	125
UM600H.0016.5	5	16.00	115	90	64	274.00	165
UM600H.001905.5	5	19.05	115	90	64	294.00	195
UM600H.0020.5	5	20.00	115	90	64	290.00	205
UM600H.0022.5	5	22.00	115	90	64	295.00	225
UM600H.0025.5	5	25.00	115	90	64	301.00	255
UM600H.00254.5	5	25.40	115	90	64	307.00	265
UM600H.0028.5	5	28.00	115	90	64	307.00	285
UM600H.0012.6	6	12.00	115	90	64	302.00	126
UM600H.0016.6	6	16.00	115	90	64	274.00	166
UM600H.001905.6	6	19.05	115	90	64	294.00	196
UM600H.0020.6	6	20.00	115	90	64	290.00	206
UM600H.0022.6	6	22.00	115	90	64	295.00	226
UM600H.0025.6	6	25.00	115	90	64	301.00	256
UM600H.00254.6	6	25.40	115	90	64	307.00	266
UM600H.0028.6	6	28.00	115	90	64	307.00	286
UM600H.0012.7	7	12.00	115	90	64	302.00	127
UM600H.0016.7	7	16.00	115	90	64	274.00	167
UM600H.001905.7	7	19.05	115	90	64	294.00	197
UM600H.0020.7	7	20.00	115	90	64	290.00	207
UM600H.0022.7	7	22.00	115	90	64	295.00	227
UM600H.0025.7	7	25.00	115	90	64	301.00	257
UM600H.00254.7	7	25.40	115	90	64	307.00	267
UM600H.0028.7	7	28.00	115	90	64	307.00	287



Lock nut UM600H

Clamping wedge UM600H

## Spare parts

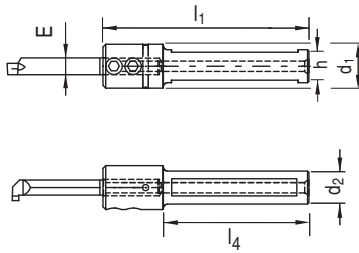
Ø E		Article no. 73 950 ...	£	Article no. 73 950 ...	£
4	M4	104	68.00	111	44.00
5	M5	105	68.00	111	44.00
6	M6	106	68.00	111	44.00
7	M7	107	68.00	111	44.00

# UltraMini - Toolholder for inserts

- single ended

**Scope of supply:**

Tool holder with allen key



Designation	Ø E DCONWS mm	d <sub>1</sub> mm	d <sub>2</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>4</sub> LS mm	h H mm	Y5	
							Article no. 73 081 ...	£
640.0012-D	4	16	12	75	53	10.2	165.00	264
650.0012-D	5	16	12	75	53	10.2	165.00	265
660.0012-D	6	16	12	75	53	10.2	235.94	266
670.0012-D	7	16	12	75	53	10.2	235.94	267
680.0012-D	8	16	12	75	53	10.2	235.94	268

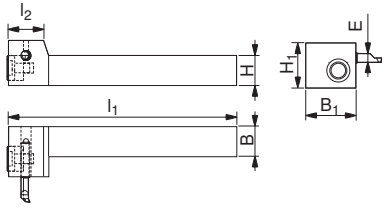
**Spare parts**  
Ø E

Ø E	SW2,5	2A Key I		Y5 Clamping screw	
		Article no. 70 950 ...	£	Article no. 73 082 ...	£
4	SW2,5	2.12	175	M5x0,5x6	4.25 010
5	SW2,5	2.12	175	M5x0,5x6	4.25 010
6	SW2,5	2.12	175	M5x0,5x6	4.25 010
7	SW2,5	2.12	175	M5x0,5x6	4.25 010
8	SW2,5	2.12	175	M5x0,5x6	4.25 010

# UltraMini - Toolholder for inserts

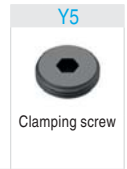
**Scope of supply:**

Tool holder with allen key



Illustrations show right-hand versions

Designation	Ø E DCONWS mm	l <sub>1</sub> OAL mm	l <sub>2</sub> mm	B mm	B <sub>1</sub> OAW mm	H mm	H <sub>1</sub> OAH mm	Left-hand Y5		Right-hand Y5	
								Article no. 73 083 ...	£	Article no. 73 084 ...	£
R/L .UHCM.1212.4	4	90	17	12	20	12	18	299.92	124	299.92	124
R/L .UHCM.1212.5	5	90	17	12	20	12	18	299.92	125	299.92	125
R/L .UHCM.1212.6	6	90	17	12	20	12	21	299.92	126	299.92	126
R/L .UHCM.1212.7	7	90	17	12	20	12	21	299.92	127	299.92	127



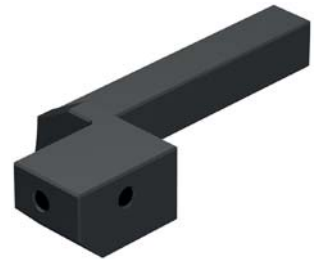
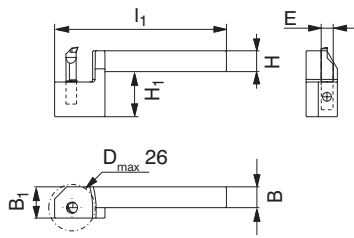
**Spare parts**  
Ø E

Ø E	SW5	Article no. 83 950 ...		UM 12	Article no. 73 082 ...	
		£	107		£	011
4		20.53	107	UM 12	31.88	011
5		20.53	107	UM 12	31.88	011
6		20.53	107	UM 16	31.88	012
7		20.53	107	UM 16	31.88	012

# UltraMini - Toolholder for inserts

## Scope of supply:

Tool holder with allen key



Illustrations show right-hand versions

Designation	Ø E DCONWS mm	l <sub>1</sub> OAL mm	B mm	B <sub>1</sub> OAW mm	H mm	H <sub>1</sub> OAH mm	Left-hand		Right-hand	
							NEW	Y5	NEW	Y5
							Article no. 73 091 ...		Article no. 73 090 ...	
							£		£	
R/L UM.18.1010.4	4	99	10	16	10	38	310.50	104	310.50	104
R/L UM.28.1010.4	4	99	10	16	10	48	310.50	204	310.50	204
R/L UM.18.1212.4	4	99	12	18	12	38	310.50	124	310.50	124
R/L UM.28.1212.4	4	99	12	18	12	48	310.50	224	310.50	224
R/L UM.18.1010.5	5	99	10	16	10	38	310.50	105	310.50	105
R/L UM.28.1010.5	5	99	10	16	10	48	310.50	205	310.50	205
R/L UM.18.1212.5	5	99	12	18	12	38	310.50	125	310.50	125
R/L UM.28.1212.5	5	99	12	18	12	48	310.50	225	310.50	225
R/L UM.18.1010.6	6	99	10	16	10	38	310.50	106	310.50	106
R/L UM.28.1010.6	6	99	10	16	10	48	310.50	206	310.50	206
R/L UM.18.1212.6	6	99	12	18	12	38	310.50	126	310.50	126
R/L UM.28.1212.6	6	99	12	18	12	48	310.50	226	310.50	226
R/L UM.18.1010.7	7	99	10	16	10	38	310.50	107	310.50	107
R/L UM.28.1010.7	7	99	10	16	10	48	310.50	207	310.50	207
R/L UM.18.1212.7	7	99	12	18	12	38	310.50	127	310.50	127
R/L UM.28.1212.7	7	99	12	18	12	48	310.50	227	310.50	227

## Spare parts

Ø E	2A		Y5	
	Article no. 70 950 ...		Article no. 73 082 ...	
	£		£	
4	2.12	175	6.44	008
5	2.12	175	6.44	008
6	2.12	175	6.44	008
7	2.12	175	6.44	008



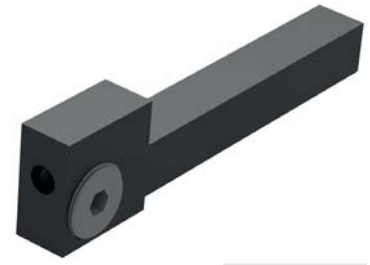
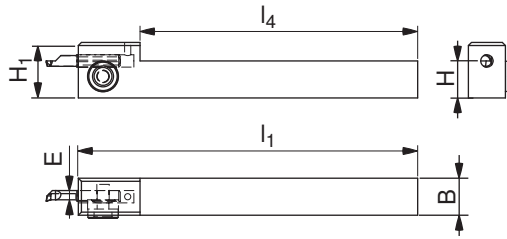
Article no. 70 950 ...      Article no. 73 082 ...

£		£	
2.12	175	6.44	008
2.12	175	6.44	008
2.12	175	6.44	008
2.12	175	6.44	008

# UltraMini - Toolholder for inserts

**Scope of supply:**

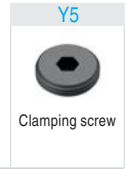
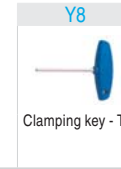
Tool holder with allen key



Designation	Ø E DCONWS mm	l <sub>1</sub> OAL mm	l <sub>4</sub> LS mm	B mm	H mm	H <sub>1</sub> OAH mm	Y5	
							Article no. 73 086 ...	£
UM.1010.4	4	100	75	10	10	20	299.92	104
UM.1010.5	5	100	75	10	10	20	299.92	105
UM.1212.4	4	100	75	12	12	22	299.92	124
UM.1212.5	5	100	75	12	12	22	299.92	125
UM.1212.6	6	100	75	12	12	22	299.92	126

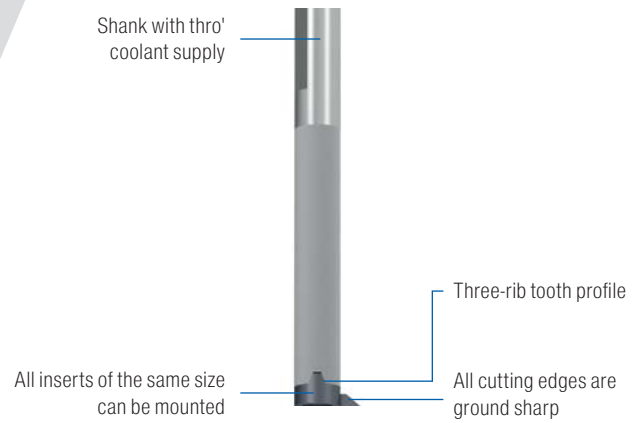
**Spare parts**  
Ø E

Ø E	SW5	Y8		Y5	
		Article no. 83 950 ...	£	Article no. 73 082 ...	£
4	SW5	20.53	107	UM 12	31.88 011
5	SW5	20.53	107	UM 12	31.88 011
6	SW5	20.53	107	UM 16	31.88 012



# 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

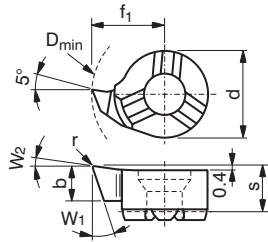
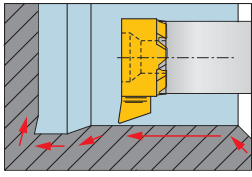




# MiniCut - Insert for turning and profiling

CWX  
500

CWX  
500



Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	W <sub>1</sub> <sup>o</sup> PSIRR	W <sub>2</sub> <sup>o</sup> RAL	Left-hand Y5		Right-hand Y5	
											Article no. 73 324 ...	Article no. 73 322 ...	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	£ 37.22	035	£ 37.22	035
	8,00. R/L .3,50.20°	7.8	3.5	3.5	4.65	6.0	0.20	0.6	20	20	£ 35.99	135	£ 35.99	135
	8,00. R/L .3,30.18°	7.8	3.3	3.5	4.65	6.0	0.20	0.6	18	8	£ 34.27	033	£ 34.27	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	£ 36.66	236	£ 36.66	236
	9,00. R/L .3,60.18°	9.0	3.6	3.6	5.50	6.2	0.20	0.8	18	8	£ 32.44	136	£ 32.44	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	£ 34.27	139	£ 34.27	139
	11,00. R/L .4,20.20°	11.0	4.2	4.2	6.70	8.0	0.20	1.0	20	20	£ 36.66	342	£ 36.66	342
	11,00. R/L .3,90.18°	11.0	3.9	4.2	6.70	8.0	0.20	1.0	18	8	£ 33.89	339	£ 33.89	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	£ 33.89	550	£ 33.89	550
	14,00. R/L .5,30.20°	14.0	5.3	5.3	8.70	9.0	0.20	1.5	20	20	£ 36.66	553	£ 36.66	553

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

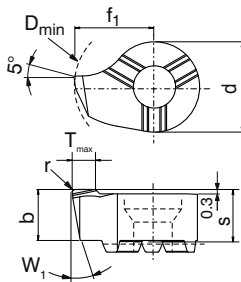
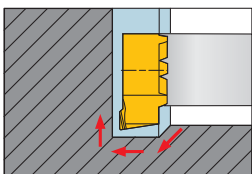
→ v<sub>c</sub> Page 314

# MiniCut - Insert for copy turning

▪ with chip breaker

CWX  
500

CWX  
500



Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	W <sub>1</sub> <sup>o</sup> PSIRR	Left-hand Y5		Right-hand Y5	
										Article no. 73 388 ...	Article no. 73 386 ...	Article no. 73 388 ...	Article no. 73 386 ...
09	9,00. R/L .3,60.10°	9	3.5	3.6	5.5	6.2	0.2	0.5	10	£ 16.18	136	£ 16.18	136

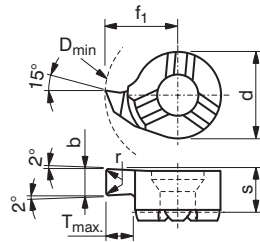
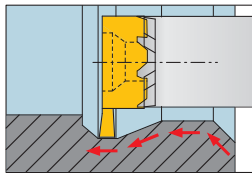
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v<sub>c</sub> Page 314

# MiniCut - Internal turning insert

CWX  
500

CWX  
500



Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b <sub>+0,05</sub> CW mm	T <sub>max.</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	Left-hand		Right-hand	
										Y5		Y5	
										Article no.		Article no.	
										73 316 ...		73 314 ...	
										£		£	
08	8,00. R/L .1,50,1,0	8	1.5	1.0	3.3	4.8	6.0	0.2	0.2	34.67	015	34.67	015
	8,00. R/L .2,00,1,0	8	2.0	1.0	3.3	4.8	6.0	0.2	0.2	33.09	020	33.09	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	35.44	115	35.44	115
	9,00. R/L .1,50,3,0	10	1.5	3.0	3.6	6.5	6.2	0.2	0.2	35.44	121	35.44	121
	9,00. R/L .2,00,2,0	9	2.0	2.0	3.6	5.5	6.2	0.2	0.2	31.43	120	31.43	120
	9,00. R/L .2,00,3,0	10	2.0	3.0	3.6	6.5	6.2	0.2	0.2	31.43	122	31.43	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	36.51	315	36.51	315
	11,00. R/L .2,00,2,3	11	2.0	2.3	4.2	6.7	8.0	0.2	0.2	34.27	320	34.27	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	33.47	515	33.47	515
	14,00. R/L .1,50,5,5	16	1.5	5.5	5.2	10.5	9.0	0.2	0.2	42.59	516	42.59	516
	14,00. R/L .1,50,6,5	17	1.5	6.5	5.2	11.5	9.0	0.2	0.2	42.59	517	42.59	517
	14,00. R/L .2,00,4,0	14	2.0	4.0	5.3	9.0	9.0	0.2	0.2	34.27	520	34.27	520
	14,00. R/L .2,00,5,5	16	2.0	5.5	5.2	10.5	9.0	0.2	0.2	42.59	521	42.59	521
	14,00. R/L .2,00,6,5	17	2.0	6.5	5.2	11.5	9.0	0.2	0.2	42.59	522	42.59	522
	14,00. R/L .2,50,5,5	16	2.5	5.5	5.2	10.5	9.0	0.2	0.2	42.59	525	42.59	525
	14,00. R/L .2,50,6,5	17	2.5	6.5	5.2	11.5	9.0	0.2	0.2	42.59	526	42.59	526
	14,00. R/L .3,00,5,5	16	3.0	5.5	5.2	10.5	9.0	0.2	0.2	42.59	530	42.59	530
	14,00. R/L .3,00,6,5	17	3.0	6.5	5.2	11.5	9.0	0.2	0.2	42.59	531	42.59	531

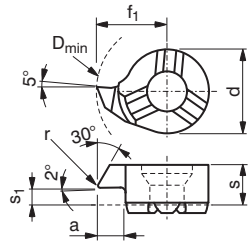
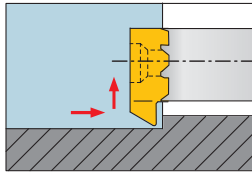
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v<sub>c</sub> Page 314

# MiniCut - Back boring insert

CWX  
500

CWX  
500



Illustrations show right-hand versions

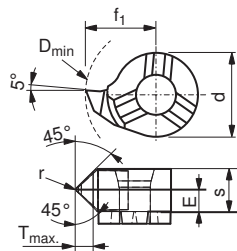
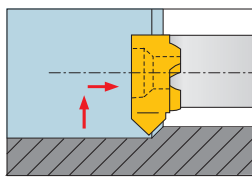
Size	Designation	D <sub>min</sub> DAXN mm	a PDPT mm	s W1 mm	s <sub>1</sub> PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	Left-hand	Right-hand		
										Y5	Y5		
										Article no. 73 332 ...	Article no. 73 330 ...		
										£	£		
08	8,00. R/L .30°:1,3	7.8	1.3	3.50	1.0	4.65	6.0	0.2	0.6	39.44	013	39.44	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	35.99	117	35.99	117
	9,00. R/L .30°:2,3	10.0	2.3	3.55	1.2	6.50	6.2	0.2	0.8	35.99	123	35.99	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	38.61	323	38.61	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	39.44	535	39.44	535
Steel										•	•		
Stainless steel										•	•		
Cast iron										•	•		
Non ferrous metals										•	•		
Heat resistant alloys										•	•		
hardened materials										•	•		

→ v<sub>c</sub> Page 314

# MiniCut - Internal turning and chamfering insert

CWX  
500

CWX  
500



Illustrations show right-hand versions

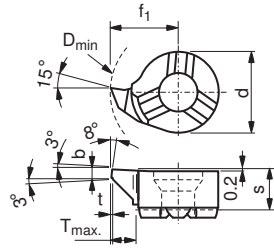
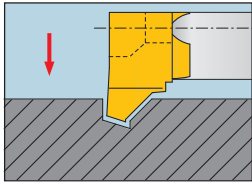
Size	Designation	D <sub>min</sub> DAXN mm	T <sub>max</sub> PDPT mm	s W1 mm	E PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	Left-hand	Right-hand		
										Y5	Y5		
										Article no. 73 336 ...	Article no. 73 334 ...		
										£	£		
08	8,00. R/L .45°:1,4	8	1.4	3.50	1.8	4.8	6.0	0.2	0.6	32.94	010	32.94	010
09	9,00. R/L .45°:1,3	9	1.3	3.55	1.8	5.5	6.2	0.2	0.8	30.87	110	30.87	110
	11,00. R/L .45°:1,5	11	1.5	4.30	2.2	6.7	8.0	0.2	1.0	32.94	310	32.94	310
14	14,00. R/L .45°:1,5	14	1.5	5.40	2.8	9.0	9.0	0.2	1.2	35.58	510	35.58	510
Steel										•	•		
Stainless steel										•	•		
Cast iron										•	•		
Non ferrous metals										•	•		
Heat resistant alloys										•	•		
hardened materials										•	•		

→ v<sub>c</sub> Page 314

# MiniCut - Insert for pregrooving and chamfering

CWX  
500

CWX  
500

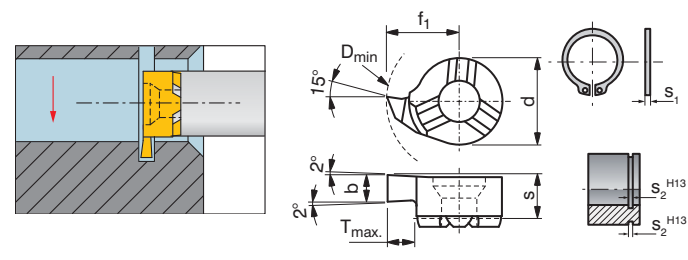


Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	t mm	Left-hand		Right-hand	
									Y5		Y5	
									Article no.		Article no.	
									73 340 ...		73 338 ...	
									£		£	
08	8,00. R/L .1,00.45°	8	1.0	1.0	3.3	4.8	6.0	0.2	33.48	100	33.48	100
09	9,00. R/L .1,00.45°	9	1.0	1.5	3.6	5.5	6.2	0.2	31.88	215	31.88	215
11	11,00. R/L .1,00.45°	11	1.0	1.5	4.2	6.7	8.0	0.2	33.48	315	33.48	315
14	14,00. R/L .1,00.45°	14	1.0	1.5	5.3	9.0	9.0	0.2	33.48	515	33.48	515
Steel										•		•
Stainless steel										•		•
Cast iron										•		•
Non ferrous metals										•		•
Heat resistant alloys										•		•
hardened materials												

→ v<sub>c</sub> Page 314

# MiniCut - Grooving insert



Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max</sub> PDPT mm	s PDX mm	s <sub>1</sub> mm	s <sub>2</sub> mm	f <sub>1</sub> PDY mm	d IC mm	Left-hand		Right-hand	
										Y5		Y5	
										Article no.	Article no.	Article no.	Article no.
										73 312 ...	73 310 ...	73 312 ...	73 310 ...
										£	£	£	£
08	8,00. R/L .0,73,1,0	8	0,73	1,0	3,3	0,6	0,7	4,8	6,0	29.61	073	29.61	073
	8,00. R/L .0,83,1,0	8	0,83	1,0	3,3	0,7	0,8	4,8	6,0	29.61	083	29.61	083
	8,00. R/L .0,93,1,0	8	0,93	1,0	3,3	0,8	0,9	4,8	6,0	29.61	093	29.61	093
	8,00. R/L .1,00,1,0	8	1,00	1,0	3,3			4,8	6,0	29.61	110	29.61	110
	8,00. R/L .1,20,1,0	8	1,20	1,0	3,3	1,0	1,1	4,8	6,0	29.61	112	29.61	112
	8,00. R/L .1,40,1,0	8	1,40	1,0	3,3	1,2	1,3	4,8	6,0	29.61	114	29.61	114
	8,00. R/L .1,50,1,0	8	1,50	1,0	3,3			4,8	6,0	29.61	115	29.61	115
	8,00. R/L .1,70,1,0	8	1,70	1,0	3,3	1,5	1,6	4,8	6,0	29.61	117	29.61	117
	8,00. R/L .2,00,1,0	8	2,00	1,0	3,3			4,8	6,0	29.61	120	29.61	120
09	9,00. R/L .0,73,1,2	9	0,73	1,2	3,6	0,6	0,7	5,5	6,2	28.88	173	28.88	173
	9,00. R/L .0,83,1,3	9	0,83	1,3	3,6	0,7	0,8	5,5	6,2	28.88	183	28.88	183
	9,00. R/L .0,93,1,5	9	0,93	1,5	3,6	0,8	0,9	5,5	6,2	28.88	193	28.88	193
	9,00. R/L .1,00,1,8	9	1,00	1,8	3,6			5,5	6,2	28.88	210	28.88	210
	9,00. R/L .1,20,1,8	9	1,20	1,8	3,6	1,0	1,1	5,5	6,2	28.88	212	28.88	212
	9,00. R/L .1,40,1,8	9	1,40	1,8	3,6	1,2	1,3	5,5	6,2	28.88	214	28.88	214
	9,00. R/L .1,50,1,8	9	1,50	1,8	3,6			5,5	6,2	28.88	215	28.88	215
	9,00. R/L .1,70,1,8	9	1,70	1,8	3,6	1,5	1,6	5,5	6,2	28.88	217	28.88	217
	9,00. R/L .2,00,1,8	9	2,00	1,8	3,6			5,5	6,2	28.88	220	28.88	220
	9,00. R/L .2,50,1,8	9	2,50	1,8	3,6			5,5	6,2	28.88	225	28.88	225
9,00. R/L .3,00,1,8	9	3,00	1,8	3,6			5,5	6,2	28.88	230	28.88	230	
11	11,00. R/L .0,73,1,2	11	0,73	1,2	4,2	0,6	0,7	6,7	8,0	29.61	373	29.61	373
	11,00. R/L .0,83,1,3	11	0,83	1,3	4,2	0,7	0,8	6,7	8,0	29.61	383	29.61	383
	11,00. R/L .0,93,1,5	11	0,93	1,5	4,2	0,8	0,9	6,7	8,0	29.61	393	29.61	393
	11,00. R/L .1,00,2,3	11	1,00	2,3	4,2			6,7	8,0	29.61	310	29.61	310
	11,00. R/L .1,20,2,3	11	1,20	2,3	4,2	1,0	1,1	6,7	8,0	29.61	312	29.61	312
	11,00. R/L .1,40,2,3	11	1,40	2,3	4,2	1,2	1,3	6,7	8,0	29.61	314	29.61	314
	11,00. R/L .1,50,2,3	11	1,50	2,3	4,2			6,7	8,0	29.61	315	29.61	315
	11,00. R/L .1,70,2,3	11	1,70	2,3	4,2	1,5	1,6	6,7	8,0	29.61	317	29.61	317
	11,00. R/L .2,00,2,3	11	2,00	2,3	4,2			6,7	8,0	29.61	320	29.61	320
	11,00. R/L .2,50,2,3	11	2,50	2,3	4,2			6,7	8,0	29.61	325	29.61	325
11,00. R/L .3,00,2,3	11	3,00	2,3	4,2			6,7	8,0	29.61	330	29.61	330	
14	14,00. R/L .0,73,1,2	14	0,73	1,2	5,3	0,6	0,7	9,0	9,0	29.61	573	29.61	573
	14,00. R/L .0,83,1,3	14	0,83	1,3	5,3	0,7	0,8	9,0	9,0	29.61	583	29.61	583
	14,00. R/L .0,93,1,5	14	0,93	1,5	5,3	0,8	0,9	9,0	9,0	29.61	593	29.61	593
	14,00. R/L .1,20,4,0	14	1,20	4,0	5,3	1,0	1,1	9,0	9,0	29.61	512	29.61	512
	14,00. R/L .1,40,4,0	14	1,40	4,0	5,3	1,2	1,3	9,0	9,0	29.61	514	29.61	514
	14,00. R/L .1,50,4,0	14	1,50	4,0	5,3			9,0	9,0	29.61	515	29.61	515
	14,00. R/L .1,70,4,0	14	1,70	4,0	5,3	1,5	1,6	9,0	9,0	29.61	517	29.61	517
	14,00. R/L .2,00,4,0	14	2,00	4,0	5,3			9,0	9,0	29.61	520	29.61	520
	14,00. R/L .2,50,4,0	14	2,50	4,0	5,3			9,0	9,0	29.61	525	29.61	525
	14,00. R/L .3,00,4,0	14	3,00	4,0	5,3			9,0	9,0	29.61	530	29.61	530

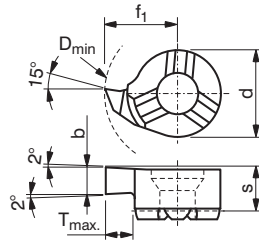
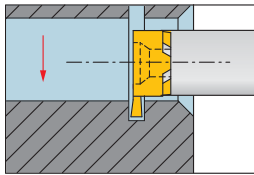
Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys	●	●
hardened materials	●	●

# MiniCut - Grooving insert

- large groove depth ( $T_{max}$  5.5 mm)

CWX  
500

CWX  
500



Illustrations show right-hand versions

Size	Designation	$D_{min}$	$b_{+0.03}$	$T_{max}$	$s$	$f_1$	$d$
		DAXN mm	CW mm	PDPT mm	PDX mm	PDY mm	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 Y5		Right-hand Y5	
Article no. 73 372 ...		Article no. 73 370 ...	
£		£	
34.39	725	34.39	725
34.39	720	34.39	720
34.39	730	34.39	730
34.39	715	34.39	715

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

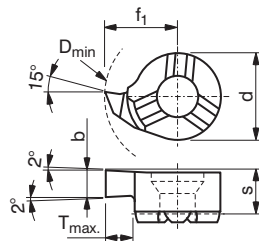
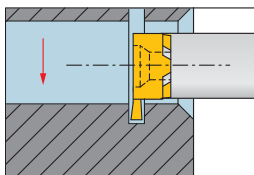
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# MiniCut - Grooving insert

- large groove depth ( $T_{max}$  6.5 mm)

CWX  
500

CWX  
500



Illustrations show right-hand versions

Size	Designation	$D_{min}$	$b_{+0.03}$	$T_{max}$	$s$	$f_1$	$d$
		DAXN mm	CW mm	PDPT mm	PDX mm	PDY mm	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 Y5		Right-hand Y5	
Article no. 73 384 ...		Article no. 73 382 ...	
£		£	
34.39	515	34.39	515
34.39	520	34.39	520
34.39	525	34.39	525
34.39	530	34.39	530

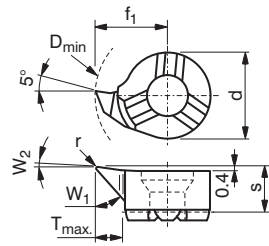
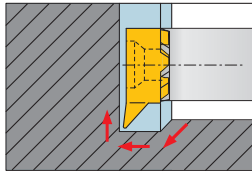
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v<sub>c</sub> Page 314

# MiniCut - Internal undercut insert

CWX  
500

CWX  
500



Illustrations show right-hand versions

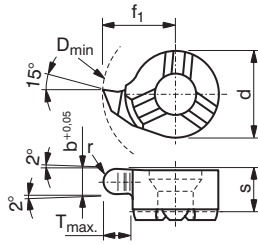
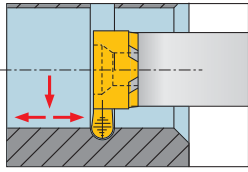
Size	Designation	D <sub>min</sub> DAXN mm	T <sub>max</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	a <sub>p max</sub> CDX mm	W <sub>1</sub> <sup>°</sup> PSIRR	W <sub>2</sub> <sup>°</sup> RAR	Left-hand Y5		Right-hand Y5	
											Article no. 73 328 ...	Article no. 73 326 ...	Article no. 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	£ 39.58	010	£ 39.58	010
	8,00. R/L .47°1,2	7.8	1.2	3.5	4.65	6.0	0.2	0.4	47	3	£ 34.39	012	£ 34.39	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	£ 31.88	115	£ 31.88	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	£ 33.48	323	£ 33.48	323
	11,00. R/L .30°2,3	11.0	2.3	4.2	6.70	8.0	0.2	0.6	30	3	£ 38.66	423	£ 38.66	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	£ 34.39	530	£ 34.39	530
	13,70. R/L .30°4,0	13.7	4.0	5.3	8.70	9.0	0.2	0.8	30	3	£ 39.58	540	£ 39.58	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  
500

CWX  
500



Illustrations show right-hand versions

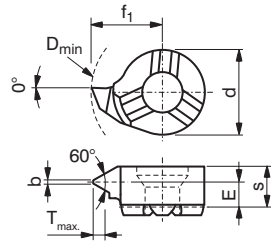
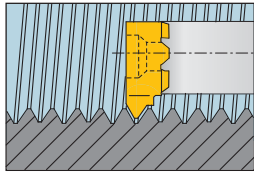
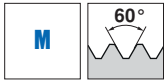
Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	Left-hand		Right-hand	
									Y5		Y5	
									Article no.		Article no.	
									73 320 ...		73 318 ...	
									£		£	
08	8,00. R/L .0,80,1,0	8	0.8	1.0	3.3	4.8	6.0	0.4	36.91	008	36.91	008
	8,00. R/L .1,20,1,0	8	1.2	1.0	3.3	4.8	6.0	0.6	36.91	012	36.91	012
	8,00. R/L .1,80,1,0	8	1.8	1.0	3.3	4.8	6.0	0.9	36.91	018	36.91	018
	8,00. R/L .2,00,1,0	8	2.0	1.0	3.3	4.8	6.0	1.0	34.21	020	34.21	020
09	9,00. R/L .0,80,1,6	9	0.8	1.6	3.6	5.5	6.2	0.4	35.44	108	35.44	108
	9,00. R/L .1,20,1,6	9	1.2	1.6	3.6	5.5	6.2	0.6	35.44	112	35.44	112
	9,00. R/L .1,80,1,6	9	1.8	1.6	3.6	5.5	6.2	0.9	35.44	118	35.44	118
	9,00. R/L .2,00,1,6	9	2.0	1.6	3.6	5.5	6.2	1.0	35.44	120	35.44	120
11	11,00. R/L .0,80,2,3	11	0.8	2.3	4.2	6.7	8.0	0.4	37.37	308	37.37	308
	11,00. R/L .1,20,2,3	11	1.2	2.3	4.2	6.7	8.0	0.6	37.37	312	37.37	312
	11,00. R/L .1,60,2,3	11	1.6	2.3	4.2	6.7	8.0	0.8	35.44	316	35.44	316
	11,00. R/L .1,80,2,3	11	1.8	2.3	4.2	6.7	8.0	0.9	37.37	318	37.37	318
	11,00. R/L .2,00,2,3	11	2.0	2.3	4.2	6.7	8.0	1.0	37.37	320	37.37	320
	11,00. R/L .2,40,2,3	11	2.4	2.3	4.2	6.7	8.0	1.2	35.44	324	35.44	324
	11,00. R/L .3,00,2,3	11	3.0	2.3	4.2	6.7	8.0	1.5	37.37	330	37.37	330
14	14,00. R/L .0,80,4,0	14	0.8	4.0	5.3	9.0	9.0	0.4	36.89	508	36.89	508
	14,00. R/L .1,20,4,0	14	1.2	4.0	5.3	9.0	9.0	0.6	39.55	512	39.55	512
	14,00. R/L .1,80,4,0	14	1.8	4.0	5.3	9.0	9.0	0.9	39.55	518	39.55	518
	14,00. R/L .2,00,4,0	14	2.0	4.0	5.3	9.0	9.0	1.0	39.55	520	39.55	520
	14,00. R/L .2,20,4,0	14	2.2	4.0	5.3	9.0	9.0	1.1	39.55	522	39.55	522
	14,00. R/L .3,00,4,0	14	3.0	4.0	5.3	9.0	9.0	1.5	39.55	530	39.55	530

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

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# MiniCut - Threading insert (Partial profile)

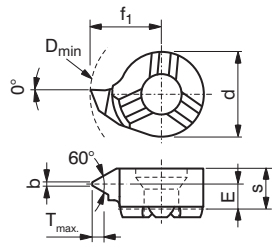
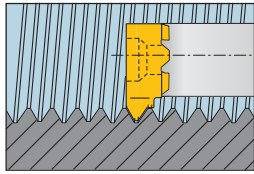
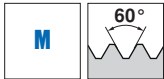


Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	p TP mm	b CW mm	T <sub>max</sub> PDPT mm	s W1 mm	E PDX mm	f <sub>1</sub> PDY mm	d IC mm	Left-hand		Right-hand	
										Y5		Y5	
										Article no.		Article no.	
										73 344 ...		73 342 ...	
										£		£	
08	8,00. R/L .0,5/0,75.60°	8	0,5/0,75	0.06	0.43	3.50	2.7	4.8	6.0	39.96	012	39.96	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	39.96	014	39.96	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	39.96	010	39.96	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	37.88	112	37.88	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	37.88	114	37.88	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	37.88	116	37.88	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	37.88	118	37.88	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	37.88	120	37.88	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	37.88	122	37.88	122
11	11,00. R/L .0,5/0,75.60°	11	0,5/0,75	0.06	0.75	4.30	3.5	6.7	8.0	39.96	312	39.96	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	39.96	314	39.96	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	39.96	316	39.96	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	39.96	310	39.96	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	39.96	320	39.96	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	39.96	512	39.96	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	39.96	514	39.96	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	39.96	510	39.96	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	39.96	520	39.96	520

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

# MiniCut - Threading insert (Full profile)



Illustrations show right-hand versions

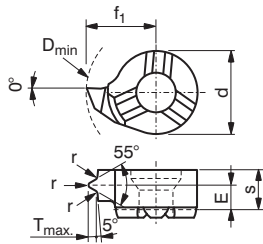
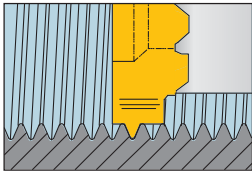
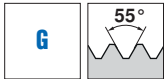
Size	Designation	D <sub>min</sub> DAXN mm	p TP mm	b CW mm	T <sub>max</sub> PDPT mm	s W1 mm	E PDX mm	f <sub>1</sub> PDY mm	d IC mm	Left-hand Y5		Right-hand Y5	
										Article no. 73 348 ...	Article no. 73 346 ...	Article no. 73 348 ...	Article no. 73 346 ...
09	9,00. R/L .0,5.60°	9	0,5	0,06	0,27	3,55	3,25	5,5	6,2	£ 42.21	405	£ 42.21	405
	9,00. R/L .1,0.60°	9	1,0	0,12	0,54	3,55	3,00	5,5	6,2	£ 42.21	410	£ 42.21	410
	9,00. R/L .1,5.60°	9	1,5	0,18	0,81	3,55	2,80	5,5	6,2	£ 42.21	415	£ 42.21	415
	9,00. R/L .1,75.60°	9	1,75	0,20	0,95	3,55	2,70	5,5	6,2	£ 42.21	418	£ 42.21	418
	9,00. R/L .2,0.60°	9	2,0	0,25	1,08	3,55	2,60	5,5	6,2	£ 42.21	420	£ 42.21	420
	9,00. R/L .2,5.60°	9	2,5	0,31	1,35	3,55	2,50	5,5	6,2	£ 42.21	425	£ 42.21	425
	9,00. R/L .3,0.60°	9	3,0	0,37	1,62	3,55	2,20	5,5	6,2	£ 42.21	430	£ 42.21	430
11	11,00. R/L .1,0.60°	11	1,0	0,12	0,54	4,30	3,50	6,7	8,0	£ 45.33	314	£ 45.33	314
	11,00. R/L .1,5.60°	11	1,5	0,18	0,81	4,30	3,50	6,7	8,0	£ 44.61	316	£ 45.33	316
	11,00. R/L .2,0.60°	11	2,0	0,25	1,08	4,30	3,20	6,7	8,0	£ 45.33	310	£ 45.33	310
	11,00. R/L .2,5.60°	11	2,5	0,31	1,35	4,30	3,00	6,7	8,0	£ 45.33	320	£ 45.33	320
	11,00. R/L .3,0.60°	11	3,0	0,37	1,62	4,30	2,90	6,7	8,0	£ 45.33	330	£ 45.33	330
14	14,00. R/L .0,5.60°	14	0,5	0,06	0,27	5,40	3,50	9,0	9,0	£ 45.90	510	£ 45.90	510
	14,00. R/L .1,0.60°	14	1,0	0,12	0,54	5,40	3,50	9,0	9,0	£ 41.79	512	£ 41.79	512
	14,00. R/L .1,5.60°	14	1,5	0,18	0,81	5,40	3,30	9,0	9,0	£ 41.79	514	£ 41.79	514
	14,00. R/L .2,0.60°	14	2,0	0,25	1,08	5,40	4,20	9,0	9,0	£ 41.79	610	£ 41.79	610
	14,00. R/L .2,5.60°	14	2,5	0,31	1,35	5,40	4,70	9,0	9,0	£ 41.79	520	£ 41.79	520

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

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3

# MiniCut - Threading insert (Full profile)

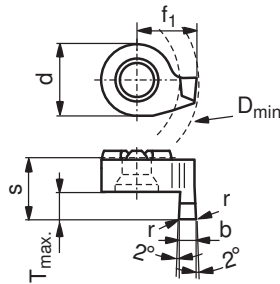
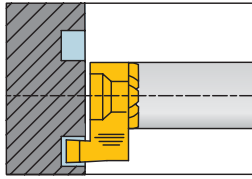


Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	p TP mm	p TDIN 1/"	T <sub>max</sub> PDPT mm	s W1 mm	E PDX mm	f <sub>1</sub> PDY mm	d IC mm	r RE mm	Left-hand		Right-hand	
											Y5		Y5	
											Article no.		Article no.	
											73 352 ...		73 350 ...	
											£		£	
11	11,00. R/L .1,814.55°	11	1,814	14	1.16	4.30	3.0	6.7	8	0.24	58.83	306	58.83	306
	11,00. R/L .1,337.55°	11	1,337	19	0.85	4.30	2.7	6.7	8	0.18	58.83	304	58.83	304
14	14,00. R/L .1,814.55°	14	1,814	14	1.16	5.35	3.6	9.0	9	0.24	58.05	506	58.05	506
	14,00. R/L .1,337.55°	14	1,337	19	0.85	5.35	3.8	9.0	9	0.18	58.05	504	58.05	504
Steel											•		•	
Stainless steel											•		•	
Cast iron											•		•	
Non ferrous metals											•		•	
Heat resistant alloys											•		•	
hardened materials														

# MiniCut - Axial grooving insert

CWX 500 CWX 500



Illustrations show right-hand versions

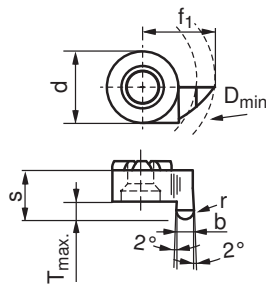
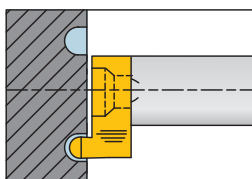
Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max.</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	r RE mm	d IC mm	Left-hand Y5		Right-hand Y5	
									Article no. 73 364 ...	Article no. 73 362 ...	Article no. 73 376 ...	Article no. 73 374 ...
14	14,00. R/L .1,0,1,5	14	1.0	1.5	8.3	9		9	£ 32.19	510	£ 32.19	510
	14,00. R/L .1,5,2,5	14	1.5	2.5	8.3	9	0.2	9	£ 32.19	515	£ 32.19	515
	14,00. R/L .2,0,3,0	14	2.0	3.0	8.3	9	0.2	9	£ 32.19	520	£ 32.19	520
	14,00. R/L .2,0,5,0	14	2.0	5.0	10.3	9	0.2	9	£ 37.37	620	£ 37.37	620
	14,00. R/L .2,5,3,0	14	2.5	3.0	8.3	9	0.2	9	£ 32.19	525	£ 32.19	525
	14,00. R/L .2,5,5,0	14	2.5	5.0	10.3	9	0.2	9	£ 37.37	625	£ 37.37	625
	14,00. R/L .3,0,3,0	14	3.0	3.0	8.3	9	0.2	9	£ 32.19	530	£ 32.19	530
	14,00. R/L .3,0,5,0	14	3.0	5.0	10.3	9	0.2	9	£ 37.37	630	£ 37.37	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 500 CWX 500



Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max.</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	r RE mm	d IC mm	Left-hand Y5		Right-hand Y5	
									Article no. 73 376 ...	Article no. 73 374 ...	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	£ 37.22	510	£ 37.22	510
	14,00. R/L .1,6,2,5	14	1.6	2.5	8.3	9	0.8	9	£ 37.22	516	£ 37.22	516
	14,00. R/L .2,0,3,0	14	2.0	3.0	8.3	9	1.0	9	£ 37.22	520	£ 37.22	520
	14,00. R/L .2,5,3,0	14	2.5	3.0	8.3	9	1.2	9	£ 37.22	525	£ 37.22	525
	14,00. R/L .3,0,3,0	14	3.0	3.0	8.3	9	1.5	9	£ 37.22	530	£ 37.22	530

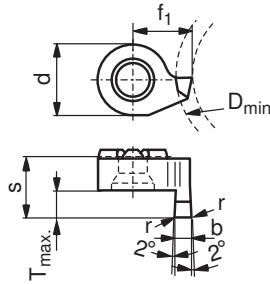
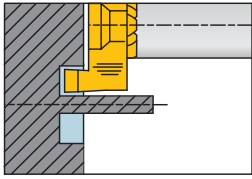
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v<sub>c</sub> Page 314

# MiniCut - Axial grooving insert over a spigot

CWX  
500

CWX  
500



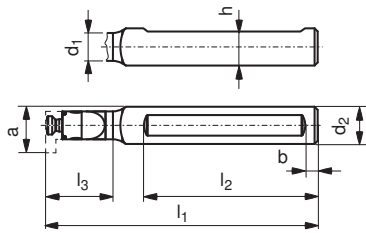
Illustrations show right-hand versions

Size	Designation	D <sub>min</sub> DAXN mm	b CW mm	T <sub>max</sub> PDPT mm	s PDX mm	f <sub>1</sub> PDY mm	r RE mm	d IC mm	Left-hand		Right-hand	
									Y5		Y5	
									Article no.		Article no.	
									73 360 ...		73 358 ...	
									£		£	
14	12,00. R/L .1,0,1,5	12	1.0	1.5	8.3	7.0		9	33.48	310	33.48	310
	12,00. R/L .1,5,2,5	12	1.5	2.5	8.3	7.5	0.2	9	34.27	315	34.27	315
	12,00. R/L .2,0,3,0	12	2.0	3.0	8.3	8.0	0.2	9	34.27	320	34.27	320
	12,00. R/L .2,0,5,0	12	2.0	5.0	10.3	8.0	0.2	9	39.95	420	39.95	420
	12,00. R/L .2,5,3,0	12	2.5	3.0	8.3	8.5	0.2	9	34.27	325	34.27	325
	12,00. R/L .2,5,5,0	12	2.5	5.0	10.3	8.5	0.2	9	39.95	425	39.95	425
	12,00. R/L .3,0,3,0	12	3.0	3.0	8.3	9.0	0.2	9	34.27	330	34.27	330
	12,00. R/L .3,0,5,0	12	3.0	5.0	10.3	9.0	0.2	9	39.95	430	39.95	430

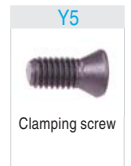
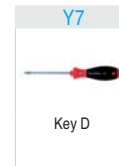
Steel	•	•
Stainless steel	•	•
Cast iron	•	•
Non ferrous metals	•	•
Heat resistant alloys	•	•
hardened materials		

→ v<sub>c</sub> Page 314

# MiniCut - Steel Tool holder



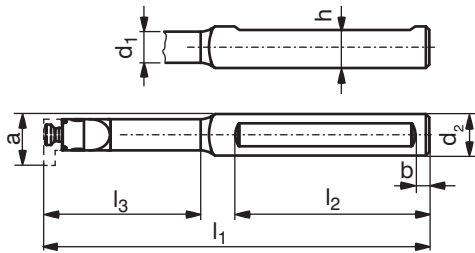
Size	Designation	a WF mm	d <sub>2,17</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>2</sub> LDRED mm	l <sub>3</sub> LH mm	d <sub>1</sub> DCONWS mm	h H mm	b mm	Y5	
										Article no. 73 522 ...	£
08	8,00/16.N.12.1,0	7.8	16	80	60	12	6.0	15.0	5	177.11	012
	8,00/16.N.22.1,0	7.8	16	90	60	22	6.0	15.0	5	203.22	122
09	9,00/16.N.14.1,8	8.6	16	95	60	14	7.4	15.0	5	160.63	014
	9,00/16.N.25.1,8	8.6	16	105	60	25	7.4	15.0	5	184.17	125
11	11,00/16.N.16.2,3	10.7	16	97	60	16	8.0	14.5	5	177.11	016
	11,00/16.N.29.2,3	10.7	16	110	60	29	8.0	14.5	5	203.22	129
14	14,00/16.N.18.4,0	13.8	16	100	60	18	11.0	14.5	5	203.22	018
	14,00/16.N.38.4,0	13.8	16	120	60	38	11.0	14.5	5	203.22	138



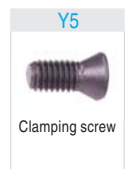
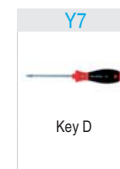
**Spare parts**  
Size

Size	Article no. 80 950 ...	£	110	Article no. 73 082 ...	£	110	112	113	M2,6	M3,5	M4	002	003	004
08	T08	9.52	110	M2,6	6.60	002								
09	T08	9.52	110	M2,6	6.60	002								
11	T10	11.15	112	M3,5	6.60	003								
14	T15	11.34	113	M4	6.60	004								

# MiniCut - Solid Carbide Tool holder - vibration damped

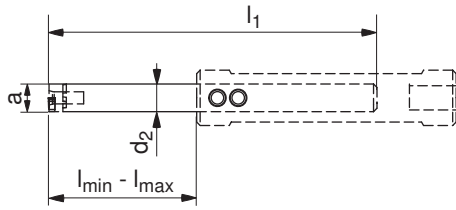


Size	Designation	a WF mm	d <sub>2 17</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>2</sub> LDRED mm	l <sub>3</sub> LH mm	d <sub>1</sub> DCONWS mm	h H mm	b mm	Y5	
										Article no. 73 520 ...	£
08	8,00/12.N.21.1,0 HM	7.8	12	80	48	21	6.0	11.0	5	286.51	021
	8,00/12.N.30.1,0 HM	7.8	12	90	48	30	6.0	11.0	5	309.84	030
	8,00/12.N.42.1,0 HM	7.8	12	100	48	42	6.0	11.0	5	364.52	042
	8,00/12.N.50.1,0 HM	7.8	12	115	48	50	6.0	11.0	5	416.44	050
09	9,00/12.N.22.1,0 HM	8.6	12	90	60	22	7.4	11.0	5	287.93	222
	9,00/12.N.30.2,0 HM	8.6	12	98	60	30	7.4	11.0	5	335.91	230
	9,00/12.N.42.3,0 HM	8.6	12	110	60	42	7.4	11.0	5	377.91	242
	9,00/12.N.56.4,0 HM	8.6	12	122	60	56	7.4	11.0	5	427.89	256
11	11,00/12.N.29.2,3 HM	10.7	12	95	60	29	8.0	10.5	5	286.51	129
	11,00/12.N.42.2,3 HM	10.7	12	110	60	42	8.0	10.5	5	309.84	142
	11,00/12.N.56.2,3 HM	10.7	12	120	60	56	8.0	10.5	5	364.52	156
	11,00/12.N.64.2,3 HM	10.7	12	130	60	64	8.0	10.5	5	416.44	164
14	14,00/12.N.34.4,0 HM	13.8	12	100	60	34	11.0	10.5	5	348.70	234
	14,00/12.N.45.4,0 HM	13.8	12	110	60	45	11.0	10.5	5	392.97	245
	14,00/12.N.64.4,0 HM	13.8	12	130	60	64	11.0	10.5	5	463.35	264
	14,00/16.N.34.4,0 HM	13.8	16	100	60	34	11.0	14.5	5	408.68	334
	14,00/16.N.45.4,0 HM	13.8	16	110	60	45	11.0	14.5	5	465.87	345
	14,00/16.N.64.4,0 HM	13.8	16	130	60	64	11.0	14.5	5	535.84	364
	14,00/16.N.75.4,0 HM	13.8	16	145	60	75	11.0	14.5	5	572.46	375



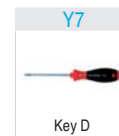
Spare parts Size	Article no. 80 950 ...			Article no. 73 082 ...		
		£			£	
08	T08	9.52	110	M2,6	6.60	002
09	T08	9.52	110	M2,6	6.60	002
11	T10	11.15	112	M3,5	6.60	003
14	T15	11.34	113	M4	6.60	004

# MiniCut - HM - Flexholder



Size	Designation	d <sub>2</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>min</sub> LFN mm	l <sub>max</sub> LF mm	a WF mm	Y5	
							Article no. 73 525 ...	£
08	8,0/6.N16/2	6	85	18	42	8	405.90	818
	8,0/6.N40/4	6	103	40	80	8	461.88	840
11	11,0/8.N20/2	8	79	20	55	11	513.87	120 <sup>1)</sup>
	11,0/8.N50/4	8	129	50	105	11	583.85	150 <sup>1)</sup>

1) with thro' coolant



Key D

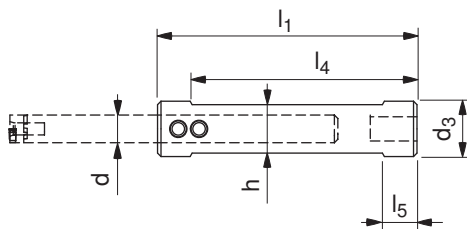


Clamping screw

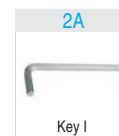
## Spare parts

Size	Article no.	£	Quantity	Thread	Article no.	£	Quantity
08	T08	9.52	110	M2,6	73 082 ...	6.60	002
11	T10	11.15	112	M3,5	73 082 ...	6.60	003

# MiniCut - Base holder for solid carbide Flexholder



Size	Designation	d DCONWS mm	d <sub>3</sub> DCONMS mm	h H mm	l <sub>1</sub> OAL mm	l <sub>4</sub> mm	l <sub>5</sub> mm	Y5	
								Article no. 73 526 ...	£
08	8/16.75	6	16	14	75	55	10	243.94	816
	8/20.90	6	20	18	90	70	10	243.94	820
11	11/16.75	8	16	14	75	55	10	243.94	116
	11/20.90	8	20	18	90	70	10	243.94	120



Key I



Clamping screw

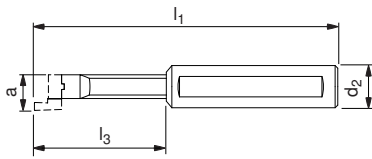
## Spare parts for Article no.

Article no.	£	Quantity	Thread	Article no.	£	Quantity
73 526 816	2.12	175	M5x0,5x6	73 082 ...	4.25	010
73 526 820	2.12	175	M5x0,5x6	73 082 ...	4.25	010
73 526 116	2.12	175	M5x0,5x4	73 082 ...	4.25	009
73 526 120	2.12	175	M5x0,5x6	73 082 ...	4.25	010



# MiniCut - Steel holder

▪ for axial machining

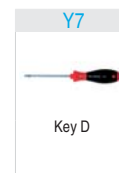


Illustrations show right-hand versions

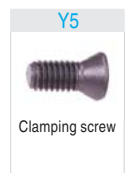
Size	Designation	a WF mm	d <sub>2</sub> DCONMS mm	l <sub>1</sub> OAL mm	l <sub>3</sub> LH mm	Left-hand		Right-hand	
						Y5	Y5	Y5	Y5
						<b>Article no.</b> <b>73 523 ...</b>		<b>Article no.</b> <b>73 524 ...</b>	
						£		£	
14	14,0/16. R/L .25.1,0	13.5	16	90	25	217.95	025	217.95	025
	14,0/16. R/L .45.1,0	13.5	16	110	45	231.93	145	231.93	145

Spare parts  
Size

Size	Article no.	£	Article no.	£
14	<b>80 950 ...</b>	11.34	<b>73 082 ...</b>	6.60



Y7	<b>Article no.</b> <b>80 950 ...</b>	£	113
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Y5	<b>Article no.</b> <b>73 082 ...</b>	£	004
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# Material examples referring to the WNT cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	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/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	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/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5% Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0,5- 10% Si	< 400 N/mm²	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/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15% Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	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-A111 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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	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/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	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/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	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 <sub>c</sub> in m/min				
1.1	30-130	<b>30-180</b>	<b>80-200</b>	<b>80-200</b>	<b>80-200</b>
1.2	30-130	<b>40-200</b>	<b>80-200</b>	<b>80-200</b>	<b>80-200</b>
1.3	30-130	<b>40-180</b>	<b>80-200</b>	<b>80-200</b>	<b>80-200</b>
1.4	15-90	<b>30-140</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
1.5	15-90	<b>30-100</b>		<b>80-140</b>	
1.6	15-90	<b>30-100</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
1.7	30-130	<b>30-100</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
1.8	15-90	<b>30-100</b>	<b>80-150</b>	<b>80-150</b>	<b>80-150</b>
1.9	30-130	<b>40-200</b>	<b>80-200</b>	<b>80-200</b>	<b>80-200</b>
1.10	15-90	<b>30-100</b>	<b>70-140</b>	<b>70-140</b>	<b>70-140</b>
1.11	15-90	<b>30-100</b>	<b>70-140</b>	<b>70-140</b>	<b>70-140</b>
1.12	15-90	<b>30-100</b>	<b>70-140</b>	<b>70-140</b>	<b>70-140</b>
1.13					
1.14					
1.15	15-45	<b>30-100</b>			
1.16	15-45	<b>30-100</b>			
2.1		<b>30-100</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
2.2		<b>30-100</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
2.3		<b>30-100</b>	<b>80-160</b>	<b>80-160</b>	<b>80-160</b>
2.4		<b>20-90</b>	<b>20-85</b>	<b>20-85</b>	<b>20-85</b>
2.5		<b>20-65</b>	<b>20-75</b>	<b>20-75</b>	<b>20-75</b>
2.6		<b>20-80</b>	<b>20-65</b>	<b>20-65</b>	<b>20-65</b>
2.7		<b>20-80</b>	<b>20-65</b>	<b>20-65</b>	<b>20-65</b>
3.1	30-110	70-150	<b>30-180</b>	<b>30-180</b>	<b>30-180</b>
3.2	30-90	50-120	<b>30-150</b>	<b>30-150</b>	<b>30-150</b>
3.3	25-110	30-130	<b>30-180</b>	<b>30-180</b>	<b>30-180</b>
3.4	25-80	30-110	<b>30-120</b>	<b>30-120</b>	<b>30-120</b>
3.5	30-110	30-100	<b>30-90</b>	<b>30-90</b>	<b>30-90</b>
3.6	30-90	30-90	<b>20-80</b>	<b>20-80</b>	<b>20-80</b>
3.7	30-110	30-100	<b>30-90</b>	<b>30-90</b>	<b>30-90</b>
3.8	30-90	30-90	<b>20-80</b>	<b>20-80</b>	<b>20-80</b>
4.1	<b>110-210</b>	100-600	<b>120-600</b>	<b>120-600</b>	<b>120-600</b>
4.2	<b>90-200</b>	100-600	<b>120-600</b>	<b>120-600</b>	<b>120-600</b>
4.3	<b>90-200</b>	100-500	<b>100-450</b>	<b>100-450</b>	<b>100-450</b>
4.4	<b>50-140</b>	80-350	<b>70-300</b>	<b>70-300</b>	<b>70-300</b>
4.5		80-200	<b>60-150</b>	<b>60-150</b>	<b>60-150</b>
4.6	<b>50-140</b>	70-160	<b>60-150</b>	<b>60-150</b>	<b>60-150</b>
4.7	<b>60-150</b>	80-180	<b>100-180</b>	<b>100-180</b>	<b>100-180</b>
4.8	<b>50-140</b>	80-180	<b>90-180</b>	<b>90-180</b>	<b>90-180</b>
4.9	<b>50-140</b>	80-180	<b>80-180</b>	<b>80-180</b>	<b>80-180</b>
4.10	<b>50-140</b>	80-180	<b>80-180</b>	<b>80-180</b>	<b>80-180</b>
4.11	<b>80-160</b>	100-200	<b>120-220</b>	<b>120-220</b>	<b>120-220</b>
4.12	<b>50-120</b>	80-180	<b>70-150</b>	<b>70-150</b>	<b>70-150</b>
4.13	<b>40-120</b>	70-160	<b>80-180</b>	<b>80-180</b>	<b>80-180</b>
4.14					
4.15					
4.16					
4.17					
4.18	<b>15-70</b>				
4.19					
5.1		30-80	<b>30-80</b>	30-80	<b>30-80</b>
5.2		18-75	<b>18-75</b>	18-75	<b>18-75</b>
5.3		18-75	<b>18-75</b>	18-75	<b>18-75</b>
5.4				40-70	
5.5		18-40	<b>18-40</b>	40-70	<b>18-40</b>
5.6		18-40	<b>18-40</b>	40-70	<b>18-40</b>
5.7		15-30	<b>15-30</b>	40-70	<b>15-30</b>
5.8		15-30	<b>15-30</b>	40-70	<b>15-30</b>
5.9		15-30	<b>15-30</b>	<b>70-150</b>	<b>15-30</b>
5.10				<b>70-150</b>	
5.11				<b>70-150</b>	
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 <sub>c</sub> 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.