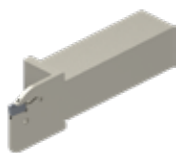


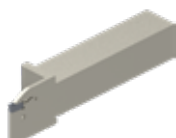
New products for machining technicians



NEW MonoClamp – Radial Monoholder SX-DC

DirectCooling – dual cooling of the grooving insert via the rake face and flank. For grooving and parting off up to a diameter of 80 mm.

20



NEW MonoClamp – Radial Monoholder SX

Proven single-edged grooving and turning system with a completely updated design. Elastic insert clamping with assembly key.

21



NEW MonoClamp – Axial Monoholder AX

For axial grooves from a diameter of 10 mm. Suitable for 0° and 90° versions with groove depths up to 15 mm.

77+78





Solid drilling and bore machining	1	HSS drilling	
	2	Solid carbide drilling	
	3	Indexable insert drilling	
	4	Reaming and Countersinking	
	5	Spindle Tooling	
Threading	6	Taps and thread formers	
	7	Circular and Thread Milling	
	8	Thread turning	
Turning	9	Turning Tools	
	10	EcoCut	
	11	Grooving Tools	11
	12	Miniature turning tools	
Milling	13	HSS Milling Cutters	
	14	Solid Carbide milling cutters	
	15	Milling tools with indexable inserts	
Tool Clamping	16	Adapters	
	17	Accessories	
	18	Material examples and article no. index	

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Toolfinder – Internal Machining	6+7
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Cutting Data	100–102
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Comparison threading system with TC and conventional	111
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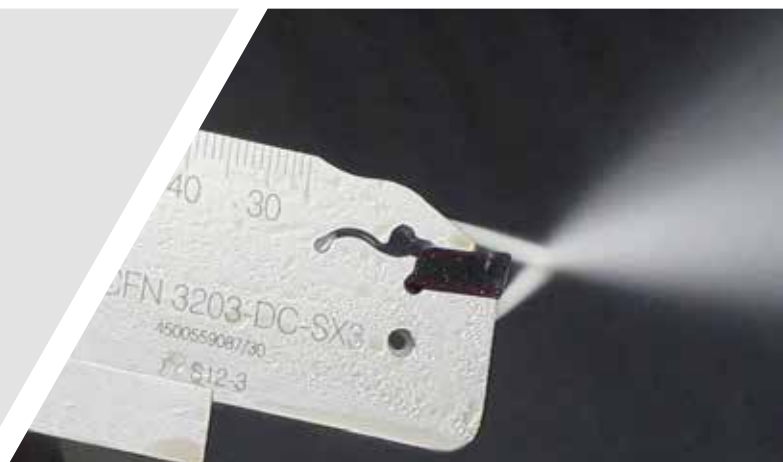
CERATIZIT \ Performance

Premium quality tools for high performance.

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

Advantages of the DirectCooling blade

- ▲ The best machining results, even with reduced pump output
Highest flow volume of all thro' coolant blades on the market
- ▲ User friendly
Reinforced blades without sealing screw
- ▲ Process-secure spare part for easy handling and a long service life
Single-piece sealing screw made from steel (for standard blades)



Symbol explanation



Grooving



Main Application



Turning



Extended application



Face turning



Repeatability



Axial grooving



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



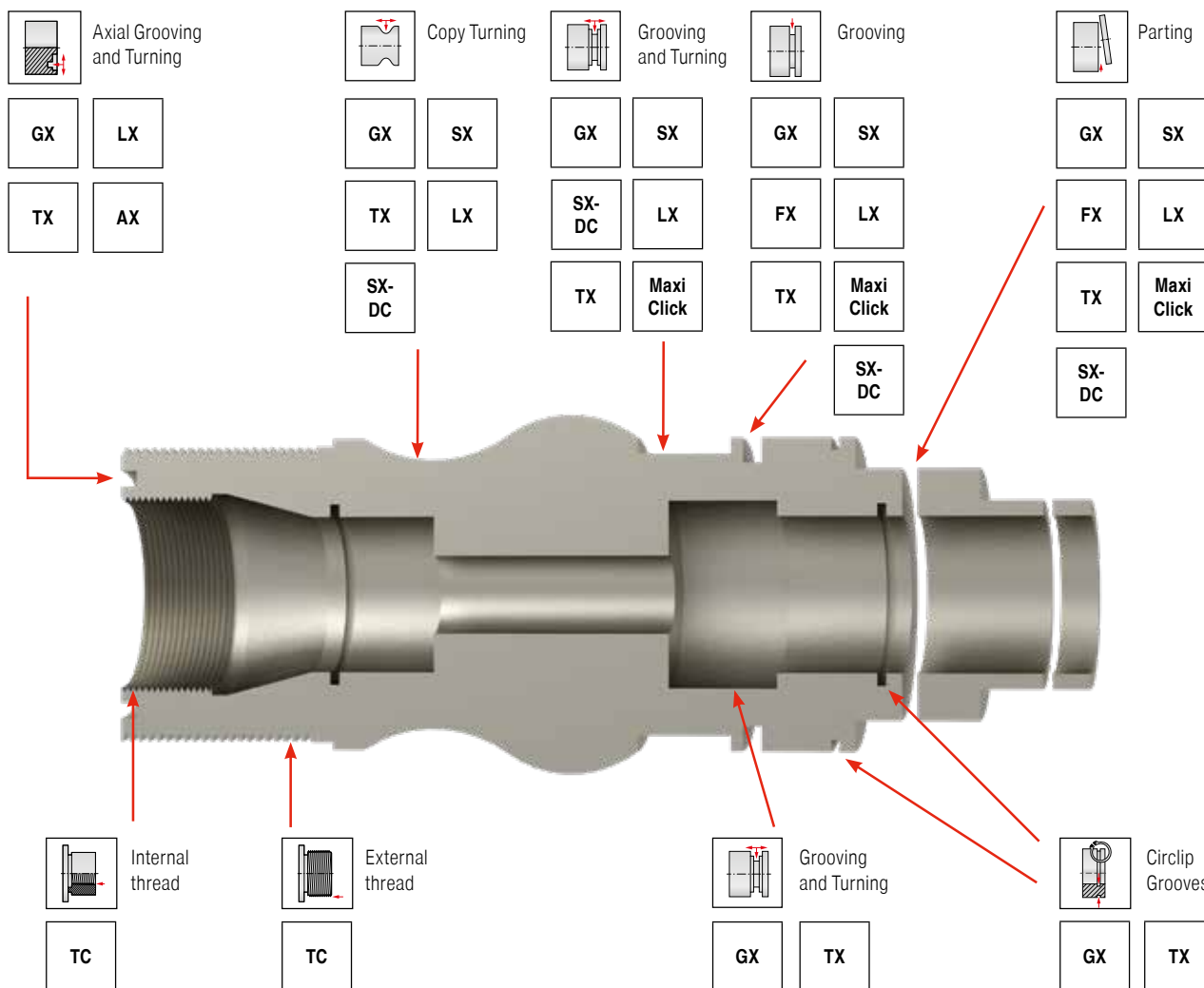
Smooth cut
Irregular cutting depth
Interrupted cut

CTCP325

Carbide Grade

HCR1325

Toolfinder – System Overview

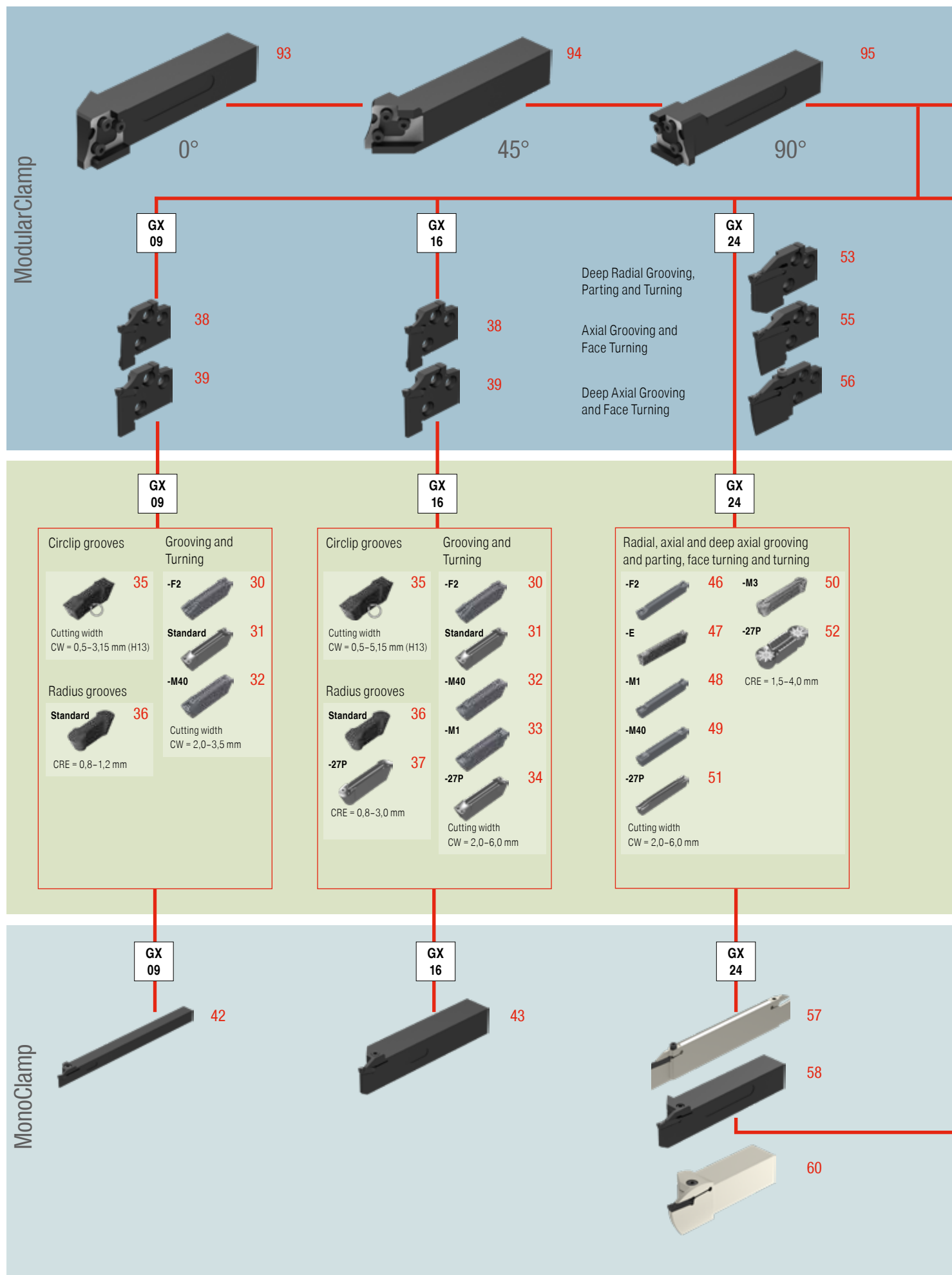


System Description

Pages

SX	The single edged SX grooving system is even more versatile with the -M3 chip breaker. Besides grooving / parting with the -F2, -M2, or -27P chip breakers, the SX -M3 type also allows copying turning operations with the highest chip control. With this additional option, the SX grooving system can cover all areas of grooving making it a universal grooving tool. Available as a Modular or Mono system.	8-21
SX-DC	Our tried-and-tested single-edged SX grooving system is now available with targeted DirectCooling (DC) thro' coolant supply. The coolant is guided through two coolant holes – one above and one below the grooving insert – straight to the point where it will be most effective: the cutting edge itself.	14-21
FX	A single-edged grooving system with a variety of specialized chip geometries. From fine machining in unstable parts through to high-performance machining under stable conditions. Available as a Modular or Mono system.	22-29
GX	Double edged grooving system for grooving, parting off, turning and for producing circlip grooves. Available in sizes GX 09, GX 16 and GX 24. Available as a Modular or Mono system.	30-60
TX	Three-edged system for parting, grooving, axial grooving, radial grooving, and fine turning. Positive ground cutting geometries, with a very soft cut with minimum cutting forces. Universally applicable for almost all materials. Available as a Monosystem.	61-70
LX	Single edged system for extreme applications starting from a cutting width of 8.0 mm. The LX system is for use in stable conditions. Available as a Modular or Mono system	71-74
AX	Double-edged Axial grooving system for grooving and groove turning with high precision. Due to the three different depths (5 mm, 10 mm and 15 mm) stable tools are available for each application.	75-78
TC	Double-edged thread turning system for the production of external and internal threads. Advantage is the use without pitch angle correction and in narrow or difficult areas of application. Available as a Modular or Mono system.	79-87
Maxi Click	Five-edged grooving system for grooving and parting.	88-92

Toolfinder – External Machining





0°



90°

* These articles can be found in → Chapter 16

SX



13

FX



27

LX



73

TC



84

AX



76

SX

Parting, Grooving and Turning



8

Parting and Grooving



9



10

Cutting width
CW = 2,0–6,0 mm



11

Grooving and copy turning



12

CRE = 1,5–3,0 mm

FX

Parting and Grooving



22

23+24



25



26

Cutting width
CW = 2,2–9,7 mm

LX

Deep Parting and Grooving



71



72

Cutting width
CW = 8,0–10,0 mm

TC

Thread turning

Full profile



79



82

Partial profile



81



83

AX

Axial Grooving and Turning



75

Groove width
CW = 3,0 mm

TX

Parting



61

Circlip Grooves



62

Corner undercut



63

Fine and copy turning



64

Axial grooving



65

Maxi Click

-F2 5 mm



88

-F2 10 mm



89

-F3 10 mm

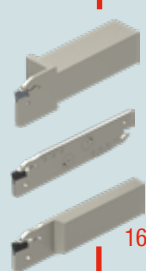


90

Cutting width
CW = 1,0–2,5 mm

SX

DC



20

14

16+18

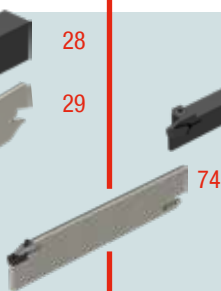
FX



28

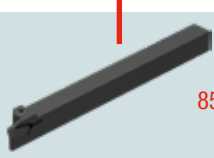
29

LX



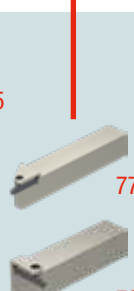
74

TC



85

AX



77

78

TX



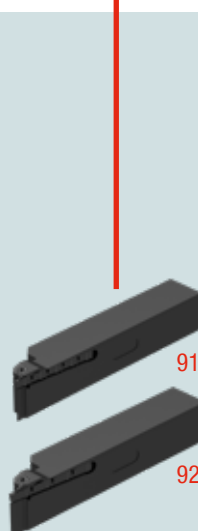
66

67

68

69

Maxi Click



91

92

*

0°



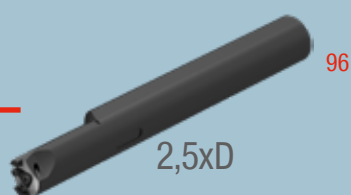
97



98



99



GX
24



TC



GX
24

Radial, axial and deep axial grooving and parting, face turning and turning

-M1	48	-M3	50
-M40	49	-27PF	52
-E	47		CRE = 1,5 - 4,0 mm
-F2	46		
-27P	51		
Cutting width CW = 2,0 - 6,0 mm			

TC

Thread turning

Partial profile 60°	81
Full profile 60°	80
Full profile 55°	82
Partial profile 55°	83

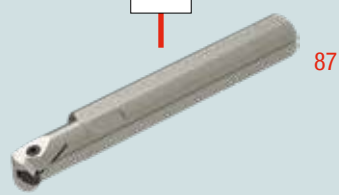
TX

Parting	61
Circlip Grooving Inserts	62
For corner relief	63
Fine and copy turning	64
Axial grooving	65

GX
24



TC

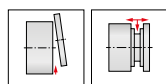


TX

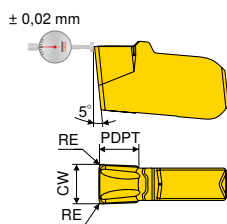


Insert SX

▲ High Precision polished geometry



F	M	R



-F2 CTCP325	-F2 CTCP335	-F2 CTPP345	-F2 CTP1340
-F2 HCR1325	-F2 HCR1335	-F2 HCN1345	-F2 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	CW $\pm 0,02$ mm	RE $\pm 0,05$ mm	PDPT mm	for tool holder	1C/72 Article no. 70 346 ... EUR	1C/72 Article no. 70 346 ... EUR	1C/72 Article no. 70 346 ... EUR	1C/72 Article no. 70 346 ... EUR
SX E2.00 N 0.20	2	0,2	1,5	-SX2			18,01 822	18,01 622
SX E3.00 N 0.30	3	0,3	2,0	-SX3	19,36 923	19,36 523	19,36 823	19,36 623
SX E4.00 N 0.40	4	0,4	2,5	-SX4			20,48 824	20,48 624

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

→ v_c Page 101

→ Application recommendation on page 107

Internal machining

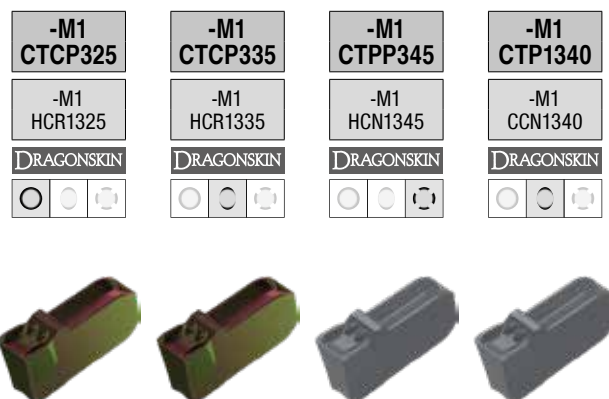
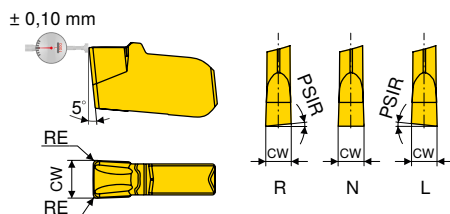
External machining

		→ 13	→ 14-19	→ 20+21				

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



F	M	R
		

11

→ v: Page 101

→ Application recommendation on page 108

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

Internal machining

External machining



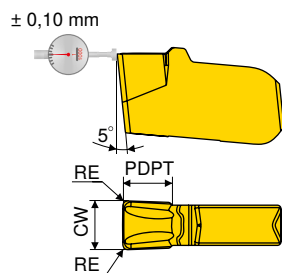
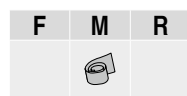
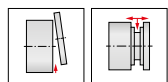
→ 13

→ 14-19

→ 20+21

Insert SX

▲ All purpose geometry for parting, grooving & turning.



-M2 CTCP325	-M2 CTCP335	-M2 CTPP345	-M2 CTP1340
-M2 HCR1325	-M2 HCR1335	-M2 HCN1345	-M2 CCN1340
DRAGONSkin	DRAGONSkin	DRAGONSkin	DRAGONSkin



Designation	CW $\pm 0,05$	RE $\pm 0,05$	PDPT	for tool holder	1C/72		1C/72		1C/72		1C/72	
					Article no. 70 343 ...	EUR	Article no. 70 343 ...	EUR	Article no. 70 343 ...	EUR	Article no. 70 343 ...	EUR
SX E2.00 N 0.20	2	0,2	1,5	-SX2	12,08	922	12,08	522	12,08	822	12,08	622
SX E3.00 N 0.30	3	0,3	2,0	-SX3	12,86	923	12,86	523	12,86	823	12,86	623
SX E4.00 N 0.40	4	0,4	2,5	-SX4	13,54	924	13,54	524	13,54	824	13,54	624
SX E5.00 N 0.40	5	0,4	2,7	-SX5	14,42	925	14,42	525	14,42	825	14,42	625
SX E6.00 N 0.50	6	0,5	3,0	-SX6	15,55	926	15,55	526	15,55	826	15,55	626

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

→ v_c Page 101

→ Application recommendation on page 107

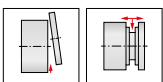
Internal machining

External machining

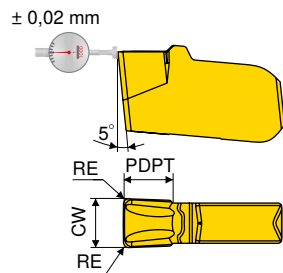
→ 13	→ 14-19	→ 20+21

Insert SX

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



F	M	R



-27P
H216T

-ALP
CWK26



Designation	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder
	mm	mm	mm	
SX E2.00 N 0.20	2	0,2	2,0	-SX2
SX E3.00 N 0.30	3	0,3	2,5	-SX3
SX E4.00 N 0.40	4	0,4	3,0	-SX4

1C/72

Article no.
70 349 ...

EUR

14,32 122

15,33 123

16,23 124

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

→ v_c Page 101

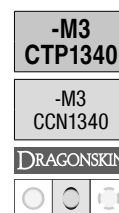
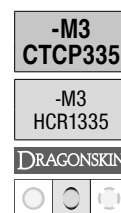
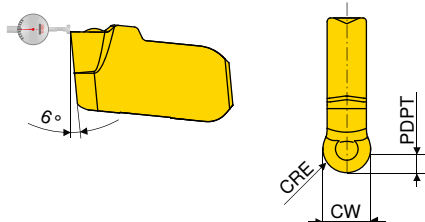
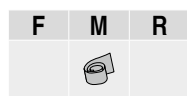
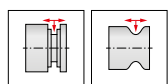
→ Application recommendation on page 107

Internal machining

External machining

		→ 13	→ 14-19	→ 20+21				

- ▲ For grooving and copy turning
- ▲ Very good chip control



1C/72		1C/72	
Article no.		Article no.	
70 344 ...		70 344 ...	
EUR		EUR	
13,66	531	13,66	631
14,42	532	14,42	632
15,23	533	15,23	633
		16,56	634

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

→ v_c Page 101

→ Application recommendation on page 108

External machining



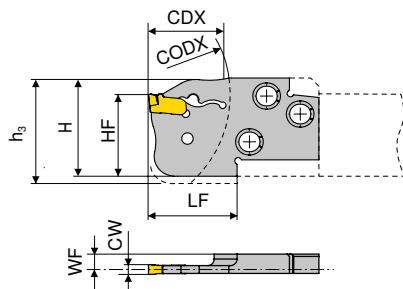
→ 13

→ 14-19

→ 20+21

ModularClamp MSS – Radial grooving module SX

▲ For parting, grooving and finish turning



Illustrations show right-hand versions

Designation	HF	CW	WF	LF	H	h ₃	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
										2C/71	Article no.	2C/71	Article no.
E20 R/L 20-SX2	20	2	3,57	22	24	27	60	20	SX .2..	EUR	70 897 ...	EUR	70 896 ...
E20 R/L 20-SX3	20	3	3,20	22	24	27	60	20	SX .3..	EUR	020	EUR	020
E25 R/L 20-SX2	25	2	5,07	22	30		75	20	SX .2..	EUR	025	EUR	025
E25 R/L 25-SX3	25	3	4,70	27	30		75	25	SX .3..	EUR	125	EUR	125
E25 R/L 35-SX3	25	3	4,70	37	30		75	35	SX .3..	EUR	225	EUR	225
E25 R/L 25-SX4	25	4	4,30	27	30		75	25	SX .4..	EUR	325	EUR	325
E25 R/L 35-SX4	25	4	4,30	37	30		75	35	SX .4..	EUR	425	EUR	425
E32 R/L 35-SX3	32	3	4,70	37	38		96	35	SX .3..	EUR	032	EUR	032
E32 R/L 35-SX4	32	4	4,30	37	38		96	35	SX .4..	EUR	132	EUR	132

Spare parts

for grooving inserts

SX .2..	SX 2-3	EUR	836
SX .3..	SX 2-3	EUR	836
SX .4..	SX 4-6	EUR	837

2A/28



Ejector SX

Article no.
70 950 ...

EUR

836

836

837



→ 8-12

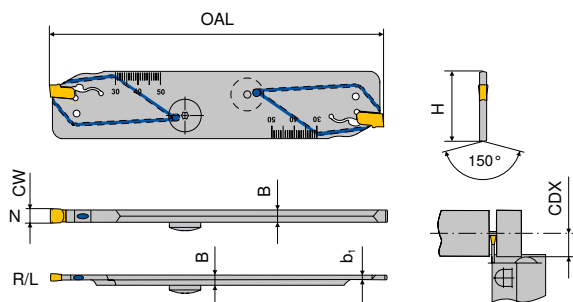
→ 93-95

→ Chapter 16



Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX-DC Standard



Designation	CW	H	B	OAL	b ₁	CDX	for grooving inserts	R/L/N	2A/25	
									Article no.	
	mm	mm	mm	mm	mm	mm			70 884 ...	
									EUR	
XLCF L 2602-DC-SX2	2	26	2,4	110	1,6	25	SX .2..	L	151,00	712
XLCF L 3202-DC-SX2	2	32	2,4	150	1,6	26	SX .2..	L	163,60	702
XLCF R 2602-DC-SX2	2	26	2,4	110	1,6	25	SX .2..	R	151,00	512
XLCF R 3202-DC-SX2	2	32	2,4	150	1,6	26	SX .2..	R	163,60	502
XLCF N 2603-DC-SX3	3	26	2,5	110		35	SX .3..	N	151,00	613
XLCF N 3203-DC-SX3	3	32	2,5	150		50	SX .3..	N	163,60	603
XLCF N 2604-DC-SX4	4	26	3,3	110		40	SX .4..	N	151,00	614
XLCF N 3204-DC-SX4	4	32	3,3	150		50	SX .4..	N	163,60	604
XLCF N 3205-DC-SX5	5	32	4,3	150		55	SX .5..	N	163,60	605
XLCF N 3206-DC-SX6	6	32	5,2	150		60	SX .6..	N	163,60	606

Spare parts

for grooving inserts

		Y7		2A/28		2A/28	
		Article no.		Article no.		Article no.	
		80 950 ...		70 950 ...		70 950 ...	
		EUR		EUR		EUR	
SX .2..	T15 - IP	11,89	128	SX 2-3	26,59	836	M4 x 3
SX .3..	T15 - IP	11,89	128	SX 2-3	26,59	836	M4 x 3
SX .4..	T15 - IP	11,89	128	SX 4-6	27,13	837	M4 x 3
SX .5..	T15 - IP	11,89	128	SX 4-6	27,13	837	M4 x 3
SX .6..	T15 - IP	11,89	128	SX 4-6	27,13	837	M4 x 3



→ 8-12

→ 97

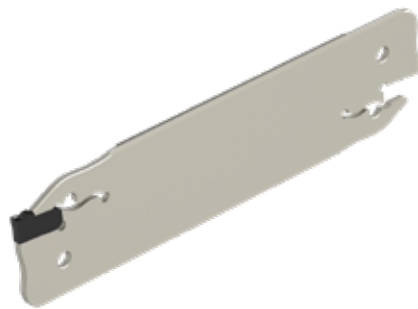
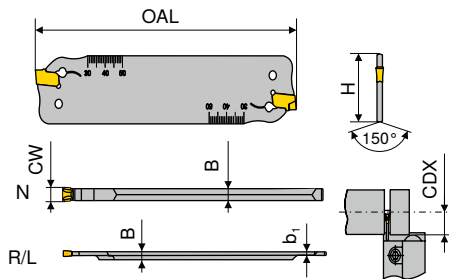
→ Chapter 16

→ Chapter 16



Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX Standard



Designation	CW	H	B	OAL	b ₁	CDX	for grooving inserts	R/L/N	2A/25	
									Article no.	
	mm	mm	mm	mm	mm	mm			70 884 ...	
									EUR	
XLCF L 2602-SX2	2	26	2,4	110	1,5	25	SX .2..	L	88,49	212
XLCF L 3202-SX2	2	32	2,4	150	1,5	25	SX .2..	L	92,59	202
XLCF R 2602-SX2	2	26	2,4	110	1,5	25	SX .2..	R	88,49	012
XLCF R 3202-SX2	2	32	2,4	150	1,5	25	SX .2..	R	92,59	002
XLCF N 2603-SX3	3	26	2,4	110		35	SX .3..	N	88,49	113
XLCF N 3203-SX3	3	32	2,4	150		50	SX .3..	N	92,59	103
XLCF N 2604-SX4	4	26	3,2	110		40	SX .4..	N	88,49	114
XLCF N 3204-SX4	4	32	3,2	150		50	SX .4..	N	92,59	104
XLCF N 3205-SX5	5	32	4,2	150		55	SX .5..	N	92,59	105
XLCF N 3206-SX6	6	32	5,2	150		60	SX .6..	N	92,59	106

2A/28



Ejector SX

Spare parts

for grooving inserts

			Article no.	
			70 950 ...	
			EUR	
SX .2..	SX 2-3	26,59	836	
SX .3..	SX 2-3	26,59	836	
SX .4..	SX 4-6	27,13	837	
SX .5..	SX 4-6	27,13	837	
SX .6..	SX 4-6	27,13	837	



→ 8-12

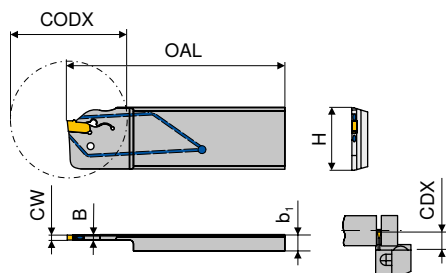
→ 98+99

→ Chapter 16

→ Chapter 16

i Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX-DC reinforced



Illustrations show right-hand versions



Designation	CW	H	B	OAL	b ₁	CODX	CDX	for grooving inserts	R/L/N	2A/25 Article no. 70 879 ... EUR
XLCF L 2608-DC-SX3	3	26	2,5	110	8	66	33	SX .3..	L	151,00 713
XLCF L 3208-DC-SX3	3	32	2,5	110	8	66	33	SX .3..	L	163,60 703
XLCF R 2608-DC-SX3	3	26	2,5	110	8	66	33	SX .3..	R	151,00 513
XLCF R 3208-DC-SX3	3	32	2,5	110	8	66	33	SX .3..	R	163,60 503

Spare parts

for grooving inserts

		Article no. 70 950 ... EUR
SX .2..	SX 2-3	26,59 836
SX .3..	SX 2-3	26,59 836
SX .4..	SX 4-6	27,13 837

2A/28



Ejector SX



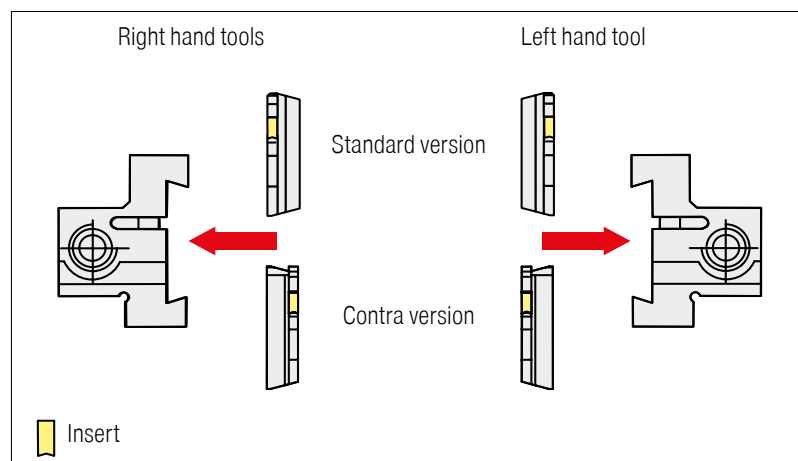
→ 8-12

→ 97

→ Chapter 16

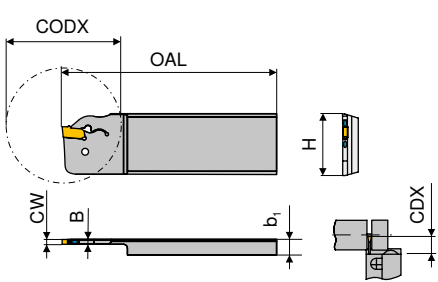
→ Chapter 16

Correct Tool Selection



i Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX reinforced



Illustrations show right-hand versions

Designation	CW	H	B	OAL	b ₁	CODX	CDX	for grooving inserts	R/L/N	2A/25	
										Article no. 70 879 ...	
	mm	mm	mm	mm	mm	mm	mm			EUR	
XLCF L 2608-SX2	2	26	1,5	110	8	44	22	SX .2..	L	135,50	212 ¹⁾
XLCF L 2608-SX3	3	26	2,5	110	8	44	22	SX .3..	L	135,50	213 ¹⁾
XLCF L 3208-SX3	3	32	2,5	110	8	66	33	SX .3..	L	127,40	203
XLCF L 3208-SX4	4	32	3,4	110	8	66	33	SX .4..	L	127,40	204
XLCF R 2608-SX2	2	26	1,5	110	8	44	22	SX .2..	R	135,50	012 ¹⁾
XLCF R 2608-SX3	3	26	2,5	110	8	44	22	SX .3..	R	135,50	013 ¹⁾
XLCF R 3208-SX3	3	32	2,5	110	8	66	33	SX .3..	R	127,40	003
XLCF R 3208-SX4	4	32	3,4	110	8	66	33	SX .4..	R	127,40	004

1) can be used in both directions



Ejector SX

Spare parts

for grooving inserts

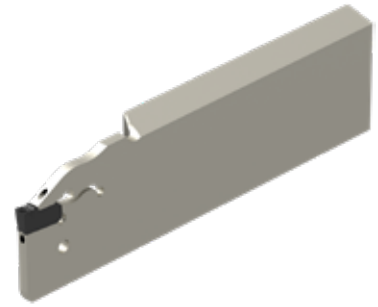
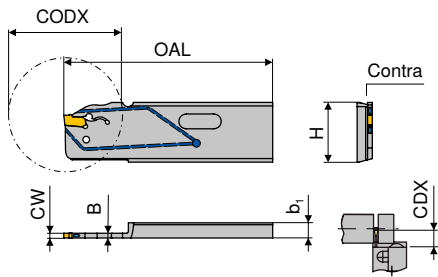
			2A/28	
			Article no. 70 950 ...	
SX .2..			EUR	
SX .3..	SX 2-3	26,59	836	
SX .4..	SX 2-3	26,59	836	
	SX 4-6	27,13	837	



→ 8-12	→ 98+99	→ Chapter 16	→ Chapter 16					
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i Please order SX assembly key separately if required.

MonoClamp – SX-DC reinforced Contra radial blade



Illustrations show right-hand versions

Designation	CW	H	B	OAL	b ₁	CODX	CDX	for grooving inserts	R/L/N	2A/25 Article no. 70 877 ... EUR 163,60	703
XLCF L 3208C-DC-SX3	3	32	2,5	110	8	66	33	SX .3..	L	163,60	703
XLCF R 3208C-DC-SX3	3	32	2,5	110	8	66	33	SX .3..	R	163,60	503

Spare parts

for grooving inserts
SX .3..

SX 2-3

2A/28



Ejector SX

Article no.
70 950 ...
EUR
26,59

836



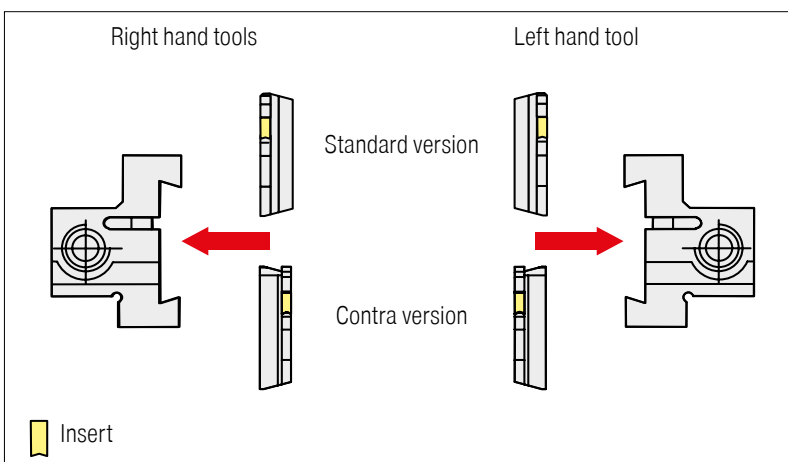
→ 8-12

→ 97

→ Chapter 16

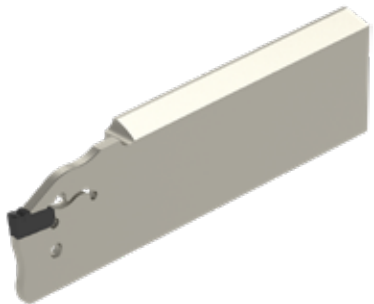
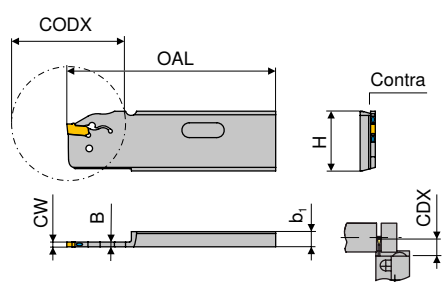
→ Chapter 16

Correct Tool Selection



i Please order SX assembly key separately if required.

MonoClamp – SX reinforced Contra radial blade



Illustrations show right-hand versions

Designation	CW	H	B	OAL	b ₁	CODX	CDX	for grooving inserts	R/L/N	2A/25	
	mm	mm	mm	mm	mm	mm	mm			Article no.	
XLCF L 3208C-SX3	3	32	2,5	110	8	66	33	SX .3..	L	70 877 ...	203
XLCF R 3208C-SX3	3	32	2,5	110	8	66	33	SX .3..	R	EUR 127,40	003

Spare parts

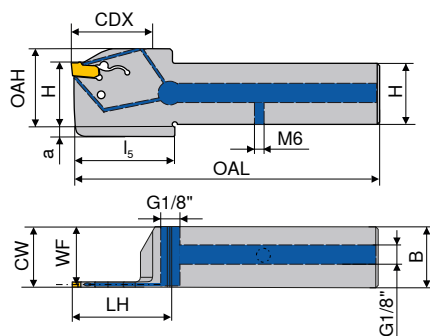
for grooving inserts										2A/28	
SX .3..										Article no.	
										70 950 ...	
										EUR 26,59	836



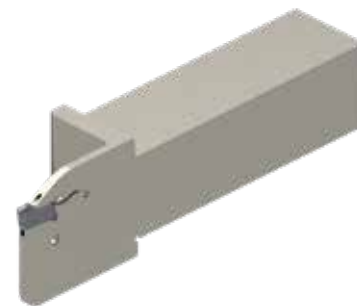
→ 8-12	→ 98+99	→ Chapter 16	→ Chapter 16						
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i Please order SX assembly key separately if required.

MonoClamp – Radial Monoholder SX-DC



Illustrations show right-hand versions

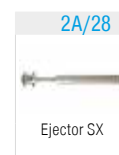


Designation	H	B	CW	WF	OAL	LH	l ₅	OAH	CDX	a	for grooving inserts	Left-hand		Right-hand	
												NEW	2C/71	NEW	2C/71
												Article no.	70 847 ...	Article no.	70 847 ...
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
E12 R/L 0022-1212X-K-DC-SX2	12	12	2	11,2	71	27	28	22	22	5	SX .2..	146,10	21201	146,10	21200
E16 R/L 0026-1616X-K-DC-SX2	16	16	2	15,2	87	32	33	26	26	4	SX .2..	154,40	21601	154,40	21600
E20 R/L 0026-2020X-K-DC-SX2	20	20	2	19,2	102	32	33	31	26	5	SX .2..	174,90	22001	174,90	22000
E25 R/L 0033-2525X-K-DC-SX2	25	25	2	24,2	126	41	42	36	33	5	SX .2..	188,30	22501	188,30	22500
E16 R/L 0026-1616X-K-DC-SX3	16	16	3	14,8	87	32	33	26	26	4	SX .3..	154,40	31601	154,40	31600
E20 R/L 0026-2020X-K-DC-SX3	20	20	3	18,8	102	32	33	31	26	5	SX .3..	174,90	32001	174,90	32000
E25 R/L 0026-2525X-K-DC-SX3	25	25	3	23,8	117	33	33	31	26	5	SX .3..	188,30	32501	188,30	32500
E25 R/L 0033-2525X-K-DC-SX3	25	25	3	23,8	126	41	42	36	33	5	SX .3..	188,30	32601	188,30	32600
E20 R/L 0033-2020X-K-DC-SX4	20	20	4	18,3	109	39	40	32	33	5	SX .4..	174,90	42001	174,90	42000
E25 R/L 0033-2525X-K-DC-SX4	25	25	4	23,3	126	41	42	36	33	5	SX .4..	188,30	42501	188,30	42500
E25 R/L 0040-2525X-K-DC-SX4	25	25	4	23,3	133	48	49	38	40	6	SX .4..	188,30	42601	188,30	42600
E25 R/L 0040-2525X-K-DC-SX5	25	25	5	22,9	133	48	49	38	40	6	SX .5..	188,30	52501	188,30	52500
E25 R/L 0040-2525X-K-DC-SX6	25	25	6	22,4	133	48	49	38	40	6	SX .6..	188,30	62501	188,30	62500

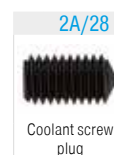
Spare parts

for grooving inserts

		Article no.		Article no.	
		70 950 ...		70 950 ...	
		EUR		EUR	
SX .2..	SX 2-3	26,59	836	G 1/8"	3,56 294
SX .3..	SX 2-3	26,59	836	G 1/8"	3,56 294
SX .4..	SX 4-6	27,13	837	G 1/8"	3,56 294
SX .5..	SX 4-6	27,13	837	G 1/8"	3,56 294
SX .6..	SX 4-6	27,13	837	G 1/8"	3,56 294



Ejector SX



Coolant screw plug

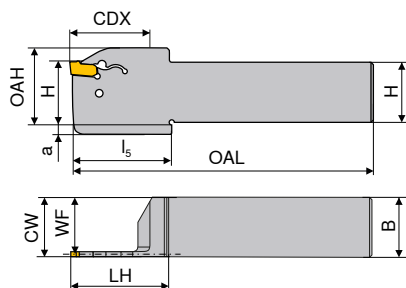


→ 8-12

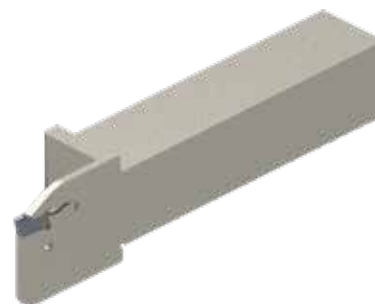


Please order SX assembly key separately if required.

MonoClamp – Radial Monoholder SX



Illustrations show right-hand versions



Designation	H	B	CW	WF	OAL	LH	I ₅	OAH	CDX	a	for grooving inserts	Left-hand		Right-hand	
												NEW 2C/71	Article no.	NEW 2C/71	Article no.
												70 846 ...	EUR	70 846 ...	EUR
E12 R/L 0022-1212K-K-SX2	12	12	2	11,2	125	27	28	22	22	5	SX .2..	98,78	21201	98,78	21200
E16 R/L 0026-1616K-K-SX2	16	16	2	15,2	125	33	33	26	26	4	SX .2..	100,80	21601	100,80	21600
E20 R/L 0026-2020K-K-SX2	20	20	2	19,2	125	33	33	31	26	5	SX .2..	118,30	22001	118,30	22000
E25 R/L 0033-2525M-K-SX2	25	25	2	24,2	150	42	42	36	33	5	SX .2..	125,50	22501	125,50	22500
E16 R/L 0026-1616K-K-SX3	16	16	3	14,8	125	33	33	26	26	4	SX .3..	100,80	31601	100,80	31600
E20 R/L 0026-2020K-K-SX3	20	20	3	18,8	125	31	33	31	26	5	SX .3..	118,30	32001	118,30	32000
E25 R/L 0026-2525M-K-SX3	25	25	3	23,8	150	33		31	26		SX .3..	125,50	32501	125,50	32500
E25 R/L 0033-2525M-K-SX3	25	25	3	23,8	150	42	42	36	33	5	SX .3..	125,50	32601	125,50	32600
E20 R/L 0033-2020K-K-SX4	20	20	4	18,3	125	40	40	32	33	5	SX .4..	118,30	42001	118,30	42000
E25 R/L 0033-2525M-K-SX4	25	25	4	23,3	150	42	42	36	33	5	SX .4..	125,50	42501	125,50	42500
E25 R/L 0040-2525M-K-SX4	25	25	4	23,3	150	49	49	38	40	6	SX .4..	125,50	42601	125,50	42600
E25 R/L 0040-2525M-K-SX5	25	25	5	22,9	150	49	49	38	40	6	SX .5..	125,50	52501	125,50	52500
E25 R/L 0040-2525M-K-SX6	25	25	6	22,4	150	49	49	38	40	6	SX .6..	125,50	62501	125,50	62500

Spare parts

for grooving inserts

	Article no.	EUR	
SX .2..	SX 2-3	26,59	836
SX .3..	SX 2-3	26,59	836
SX .4..	SX 4-6	27,13	837
SX .5..	SX 4-6	27,13	837
SX .6..	SX 4-6	27,13	837

2A/28



Ejector SX

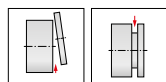


→ 8-12

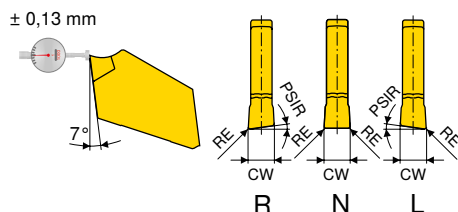
i Please order SX assembly key separately if required.

Insert FX

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



F	M	R



-F1 CTCP325	-F1 CTPP345	-F1 CTP1340
-F1 HCR1325	-F1 HCN1345	-F1 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	IH	CW _{-0,1}	RE _{+/-0,05}	PSIR	for tool holder	1A/15 Article no. 70 331 ... EUR	1A/15 Article no. 70 331 ... EUR	1A/15 Article no. 70 331 ... EUR
FX 2.2 L 5-F1	L	2,2	0,15	5°	-FX 2.2		13,76 847	13,76 647
FX 3.1 L 5-F1	L	3,1	0,20	5°	-FX 3.1		13,76 851	13,76 651
FX 3.1 L 8-F1	L	3,1	0,20	8°	-FX 3.1		13,76 855	
FX 2.2 N 0.15-F1	N	2,2	0,15		-FX 2.2	13,76 998	13,76 848	13,76 648
FX 3.1 N 0.40-F1	N	3,1	0,40		-FX 3.1	13,76 906	13,76 856	13,76 656
FX 3.1 N 0.20-F1	N	3,1	0,20		-FX 3.1	13,76 902	13,76 852	13,76 652
FX 4.1 N 0.20-F1	N	4,1	0,20		-FX 4.1		14,77 860	14,77 660
FX 4.1 N 0.50-F1	N	4,1	0,50		-FX 4.1		14,77 864	
FX 2.2 R 5-F1	R	2,2	0,15	5°	-FX 2.2		13,76 849	13,76 649
FX 3.1 R 8-F1	R	3,1	0,20	8°	-FX 3.1		13,76 857	
FX 3.1 R 5-F1	R	3,1	0,20	5°	-FX 3.1		13,76 853	13,76 653
Steel						●	●	●
Stainless steel						○	●	●
Cast iron						●		●
Non ferrous metals								○
Heat resistant alloys							○	●
hardened materials						○		

→ v_c Page 101

→ Application recommendation on page 109

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

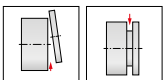
Internal machining

External machining

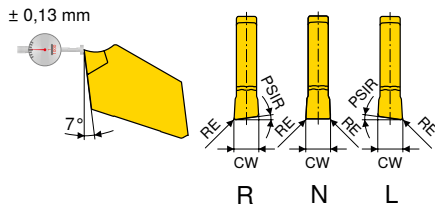
		→ 27	→ 29	→ 28				

Insert FX

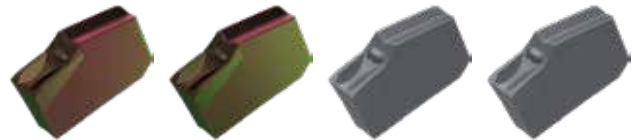
▲ Narrow version



F	M	R



-M1 CTCP325	-M1 CTCP335	-M1 CTPP345	-M1 CTP1340
-M1 HCR1325	-M1 HCR1335	-M1 HCN1345	-M1 CCN1340
DRAGONSkin	DRAGONSkin	DRAGONSkin	DRAGONSkin



Designation	IH	CW _{-0,1}	RE _{±0,05}	PSIR	for tool holder	1A/15 Article no. 70 330 ... EUR	1A/15 Article no. 70 330 ... EUR	1A/15 Article no. 70 330 ... EUR	1A/15 Article no. 70 330 ... EUR
FX 2.2 L 4-M1	L	2,2	0,1	4°	-FX 2.2	13,76 902	13,76 550	13,76 800	13,76 600
FX 2.2 N 0.10-M1	N	2,2	0,1		-FX 2.2	13,76 902	13,76 552	13,76 802	13,76 602
FX 2.2 R 4-M1	R	2,2	0,1	4°	-FX 2.2		13,76 554	13,76 804	13,76 604
Steel						●	●	●	●
Stainless steel						○	○	●	●
Cast iron						●	●		●
Non ferrous metals									○
Heat resistant alloys								○	●
hardened materials						○			

→ v_c Page 101

→ Application recommendation on page 109

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

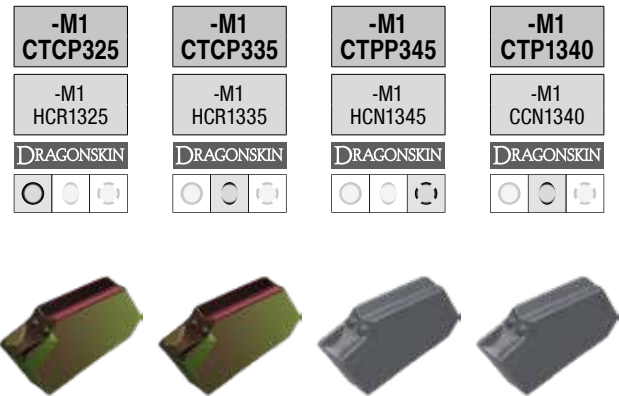
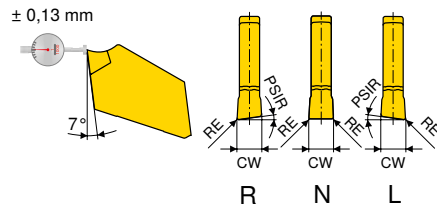
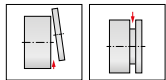
Internal machining

External machining

		→ 27	→ 29	→ 28					

Insert FX

▲ Wide version



Designation	IH	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	PSIR	for tool holder	1A/15		1A/15		1A/15		1A/15	
						Article no. 70 332 ...	EUR	Article no. 70 332 ...	EUR	Article no. 70 332 ...	EUR	Article no. 70 332 ...	EUR
FX 3.1 L 6-M1	L	3,1	0,15	6°	-FX 3.1	13,76	900	13,76	550	13,76	800	13,76	600
FX 4.1 L 6-M1	L	4,1	0,20	6°	-FX 4.1	14,77		14,77	556	14,77	806	14,77	606
FX 3.1 N 0.15-M1	N	3,1	0,15		-FX 3.1	13,76	902	13,76	552	13,76	802	13,76	602
FX 4.1 N 0.20-M1	N	4,1	0,20		-FX 4.1	14,77	908	14,77	558	14,77	808	14,77	608
FX 5.1 N 0.25-M1	N	5,1	0,25		-FX 5.1	15,78	914	15,78	564	15,78	814	15,78	614
FX 6.5 N 0.30-M1	N	6,5	0,30		-FX 6.5	16,23	920	16,23	570			16,23	620
FX 8.2 N 0.40-M1	N	8,2	0,40		blades XLCEN 4608	18,46	924	18,46	574			18,46	624
FX 9.7 N 0.40-M1	N	9,7	0,40		blades XLCEN 4609	26,74	926	26,74	576			26,74	626
FX 3.1 R 6-M1	R	3,1	0,15	6°	-FX 3.1	13,76	904	13,76	554	13,76	804	13,76	604
FX 4.1 R 6-M1	R	4,1	0,20	6°	-FX 4.1	14,77		14,77	560	14,77	810	14,77	610
FX 5.1 R 6-M1	R	5,1	0,25	6°	-FX 5.1					15,78	816		

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

→ v_c Page 101

→ Application recommendation on page 109

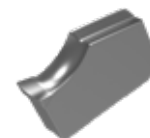
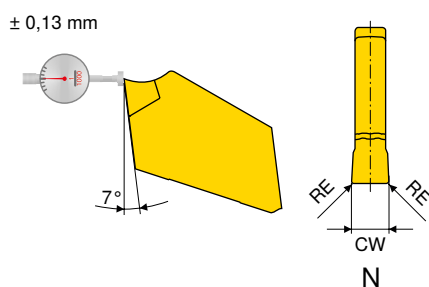
Note: reduce feed rate by 20–50 % with R/L version!

Internal machining

External machining



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



1A/90	
Article no.	
70 334 ...	
EUR	
12,86	650
12,86	652
13,76	654

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

→ Application recommendation on page 109

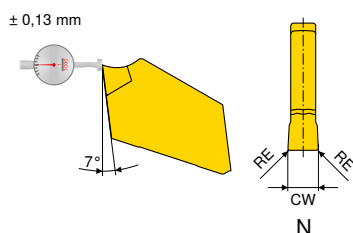
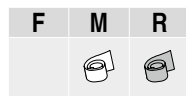
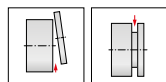
External machining



→ 28

Insert FX

- ▲ Insert with excellent swarf control for a wide range of feed rates
- ▲ Very stable cutting edge



-R2 CTCP325	-R2 CTPP345	-R2 CTP1340
-R2 HCR1325	-R2 HCN1345	-R2 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	IH	CW _{-0,1}	RE _{+/-0,05}	for tool holder
		mm	mm	
FX 3.1 N 0.40-R2	N	3,1	0,4	-FX 3.1
FX 4.1 N 0.50-R2	N	4,1	0,5	-FX 4.1

1A/15	1A/15	1A/15
Article no.	Article no.	Article no.
70 335 ...	70 335 ...	70 335 ...
EUR	EUR	EUR
13,76 902	13,76 852	13,76 652
14,77 908	14,77 858	14,77 658

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

→ v_c Page 101

→ Application recommendation on page 109

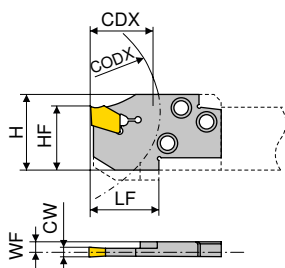
Internal machining

External machining

		→ 27	→ 29	→ 28			

ModularClamp MSS – Radial grooving module FX short/long

▲ For parting and grooving



Illustrations show right-hand versions

Designation	HF	CW	WF	LF	H	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no. 70 876 ...	EUR	Article no. 70 875 ...	EUR
E20 R/L 20-FX 2.2	23	2,2	3,58	22	27	60	20	FX 2.2 ..	85,88	020	85,88	020
E20 R/L 20-FX 3.1	23	3,1	3,20	22	27	60	20	FX 3.1 ..	85,88	120	85,88	120
E20 R/L 20-FX 4.1	23	4,1	2,80	22	27	60	20	FX 4.1 ..	85,88	220	85,88	220
E25 R/L 20-FX 2.2	25	2,2	5,08	22	30	75	20	FX 2.2 ..	86,51	025	86,51	025
E25 R/L 25-FX 3.1	25	3,1	4,70	27	30	75	25	FX 3.1 ..	86,51	125	86,51	125
E25 R/L 25-FX 4.1	25	4,1	4,30	27	30	75	25	FX 4.1 ..	86,51	225	86,51	225
E25 R/L 25-FX 5.1	25	5,1	3,90	27	30	75	25	FX 5.1 ..	86,51	325	86,51	325
E25 R/L 25-FX 6.5	25	6,5	3,30	27	30	75	25	FX 6.5 ..	86,51	425	86,51	425
E25 R/L 35-FX 3.1	25	3,1	4,70	37	30	75	35	FX 3.1 ..	87,34	525	87,34	525
E25 R/L 35-FX 4.1	25	4,1	4,30	37	30	75	35	FX 4.1 ..	87,34	625	87,34	625
E25 R/L 35-FX 5.1	25	5,1	3,90	37	30	75	35	FX 5.1 ..	87,34	725	87,34	725
E25 R/L 35-FX 6.5	25	6,5	3,30	37	30	75	35	FX 6.5 ..	87,34	825	87,34	825
E32 R/L 32-FX 3.1	32	3,1	4,70	34	38	96	32	FX 3.1 ..	88,92	032	88,92	032
E32 R/L 32-FX 4.1	32	4,1	4,30	34	38	96	32	FX 4.1 ..	88,92	132	88,92	132
E32 R/L 32-FX 5.1	32	5,1	3,90	34	38	96	32	FX 5.1 ..	88,92	232	88,92	232
E32 R/L 32-FX 6.5	32	6,5	3,30	34	38	96	32	FX 6.5 ..	88,92	332	88,92	332
E32 R/L 45-FX 3.1	32	3,1	4,70	47	38	96	45	FX 3.1 ..	90,39	432	90,39	432
E32 R/L 45-FX 4.1	32	4,1	4,30	47	38	96	45	FX 4.1 ..	90,39	532	90,39	532
E32 R/L 45-FX 5.1	32	5,1	3,90	47	38	96	45	FX 5.1 ..	90,39	632	90,39	632
E32 R/L 45-FX 6.5	32	6,5	3,30	47	38	96	45	FX 6.5 ..	90,39	732	90,39	732

Spare parts

for grooving inserts

	EUR	
FX 2.2 ..	4,35	375
FX 3.1 ..	4,35	376
FX 4.1 ..	4,35	376
FX 5.1 ..	4,35	376
FX 6.5 ..	4,35	376

2A/28



Ejector

Article no.
70 950 ...

EUR	
4,35	375
4,35	376
4,35	376
4,35	376
4,35	376



→ 22-26

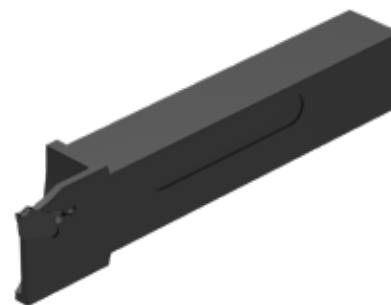
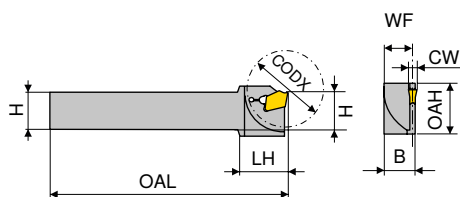
→ 93-95

→ Chapter 16

MonoClamp – Radial Monoholder FX

Scope of supply:

Blade and ejector



Illustrations show right-hand versions

Designation	H	B	OAL	LH	OAH	CW	WF	CODX	for grooving inserts	Left-hand		Right-hand	
										2A/25		2A/25	
										Article no. 70 837 ...		Article no. 70 836 ...	
	mm	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
XLCE R/L 1010 M-FX2.2	10	10	150	19,4	21	2,2	9,18	30	FX 2.2 ..	99,30	101	99,30	101
XLCE R/L 1212 F-FX2.2	12	12	80	21,0	21	2,2	11,18	30	FX 2.2 ..	99,30	102	94,37	102
XLCE R/L 1212 M-FX2.2	12	12	150	19,4	21	2,2	11,18	30	FX 2.2 ..	99,30	103	99,30	103
XLCE R/L 1414 M-FX2.2	14	14	150	19,4	21	2,2	13,18	30	FX 2.2 ..	102,30	104	102,30	104
XLCE R/L 1612 H-FX2.2	16	12	100	21,0	21	2,2	11,18	30	FX 2.2 ..	94,37	105	94,37	105
XLCE R/L 1612 H-FX3.1	16	12	100	21,4	25	3,1	10,80	35	FX 3.1 ..	94,37	106	94,37	106
XLCE R/L 2016 K-FX3.1	20	16	125	26,4	26	3,1	14,80	40	FX 3.1 ..	105,30	107	105,30	107
XLCE R/L 2520 M-FX3.1	25	20	150	35,2	34	3,1	18,80	50	FX 3.1 ..	108,20	108	108,20	108
XLCE R/L 2016 K-FX4.1	20	16	125	26,4	26	4,1	14,40	40	FX 4.1 ..	105,30	109	105,30	109
XLCE R/L 2520 M-FX4.1	25	20	150	35,2	34	4,1	18,40	50	FX 4.1 ..	108,20	110	108,20	110

Spare parts

for grooving inserts

FX 2.2 ..	4,35	375
FX 3.1 ..	4,35	376
FX 4.1 ..	4,35	376

Article no.
70 950 ...

EUR

4,35 375

4,35 376

4,35 376

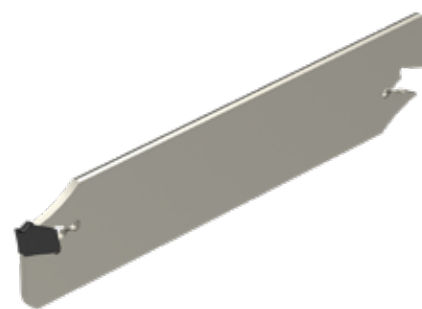
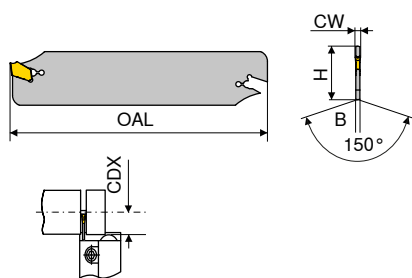


→ 22-26

MonoClamp – Radial Blade FX

Scope of supply:

Blade and ejector



Designation	H	B	OAL	CW	CDX	for grooving inserts	2A/25	
							Article no.	
	mm	mm	mm	mm	mm		70 832 ...	
							EUR	
XLCEN 2602 J 22 FX	26	1,65	110	2,2	25	FX 2.2 ..	80,95	101
XLCFN 2603 J 31 FX	26	2,40	110	3,1	35	FX 3.1 ..	79,27	102
XLCFN 2604 J 41 FX	26	3,20	110	4,1	40	FX 4.1 ..	79,27	103
XLCEN 3202 M 22 FX	32	1,65	150	2,2	30	FX 2.2 ..	80,95	004
XLCFN 3203 M 31 FX	32	2,40	150	3,1	50	FX 3.1 ..	82,21	104
XLCFN 3204 M 41 FX	32	3,20	150	4,1	50	FX 4.1 ..	88,71	105
XLCFN 3205 M 51 FX	32	4,00	150	5,1	55	FX 5.1 ..	97,30	106
XLCFN 3206 M 65 FX	32	5,20	150	6,5	55	FX 6.5 ..	105,30	107
XLCEN 4608 S 82 FX	46	6,80	250	8,2	80	FX 8.2 ..	251,30	108
XLCEN 4609 S 97 FX	46	8,00	250	9,7	80	FX 9.7 ..	251,30	109

Spare parts

for grooving inserts

	2A/28	
	Ejector	
	Article no.	
	70 950 ...	
	EUR	
FX 2.2 ..	4,35	375
FX 3.1 ..	4,35	376
FX 4.1 ..	4,35	376
FX 5.1 ..	4,35	376
FX 6.5 ..	4,35	376
FX 8.2 ..	5,44	377
FX 9.7 ..	5,44	377

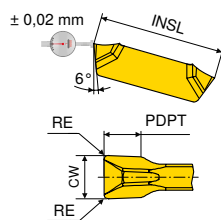
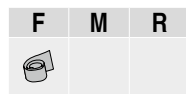
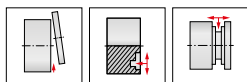


→ 22-26

→ 98+99

Insert GX 09/16

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

-F2
CTP1340-F2
CCN1340

DRAGONSKIN



Designation	INSL	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder	1C/72	
	mm	mm	mm	mm		Article no.	
GX 09-1 E2.00 N 0.20	9	2,0	0,2	1,5	GX 09-1	70 360 ...	
GX 09-1 E2.50 N 0.20	9	2,5	0,2	1,5	GX 09-1	EUR 25,90	600
GX 09-2 E3.00 N 0.30	9	3,0	0,3	2,0	GX 09-2	25,90	602
						25,90	604
GX 16-1 E2.00 N 0.20	16	2,0	0,2	2,5	GX 16-1	26,34	650
GX 16-2 E3.00 N 0.30	16	3,0	0,3	3,0	GX 16-2	26,34	652
GX 16-3 E4.00 N 0.40	16	4,0	0,4	3,5	GX 16-3	28,84	654
GX 16-3 E5.00 N 0.40	16	5,0	0,4	3,5	GX 16-3	28,84	656

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

→ v_c Page 101

→ Application recommendation on page 103

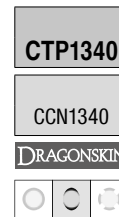
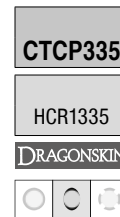
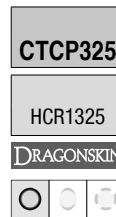
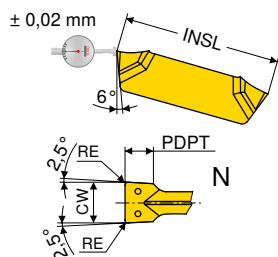
Internal machining

External machining

→ 40+41	→ 44+45	→ 38+39	→ 42+43					

Insert GX 09/16 – Standard

▲ Suitable for parting thin-walled workpieces



Designation	INSL	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder	1C/72 Article no. 70 350 ... EUR	1C/72 Article no. 70 350 ... EUR	1C/72 Article no. 70 350 ... EUR
GX 09-1 E2.00 N 0.20	9	2,0	0,2	1,5	GX 09-1	25,90 984		25,90 634
GX 09-1 E2.50 N 0.20	9	2,5	0,2	1,5	GX 09-1	25,90 988		25,90 638
GX 09-2 E3.00 N 0.30	9	3,0	0,3	2,0	GX 09-2	25,90 992		25,90 642
GX 16-1 E2.00 N 0.20	16	2,0	0,2	2,5	GX 16-1	26,34 900	26,34 500	26,34 600
GX 16-1 E2.50 N 0.20	16	2,5	0,2	2,5	GX 16-1	26,34 904	26,34 504	26,34 604
GX 16-2 E3.00 N 0.30	16	3,0	0,3	3,0	GX 16-2	26,34 908	26,34 508	26,34 608
GX 16-2 E3.00 N 0.50	16	3,0	0,5	3,0	GX 16-2	26,34 910		
GX 16-2 E3.50 N 0.30	16	3,5	0,3	3,0	GX 16-2	26,34 912	26,34 512	26,34 612
GX 16-3 E4.00 N 0.60	16	4,0	0,6	3,5	GX 16-3	28,84 918		
GX 16-3 E4.00 N 0.40	16	4,0	0,4	3,5	GX 16-3	28,84 916	28,84 516	28,84 616
GX 16-3 E5.00 N 0.40	16	5,0	0,4	3,5	GX 16-3	28,84 924	28,84 524	28,84 624
GX 16-4 E6.00 N 0.50	16	6,0	0,5	4,0	GX 16-4	30,44 928		30,44 628
GX 16-4 E6.00 N 0.80	16	6,0	0,8	4,0	GX 16-4	30,44 930		

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

→ v_c Page 101

→ Application recommendation on page 103

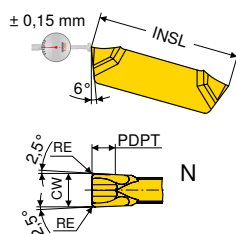
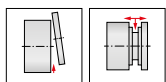
Internal machining

External machining

→ 40+41	→ 44+45	→ 38+39	→ 42+43					

Insert GX 09/16

▲ Very good swarf control



-M40 CTCP325	-M40 CTPP345	-M40 CTP1340
-M40 HCR1325	-M40 HCN1345	-M40 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL	CW $\pm 0,05$	RE $\pm 0,05$	PDPT	for tool holder	1C/72		1C/72		1C/72	
						Article no. 70 351 ...		Article no. 70 351 ...		Article no. 70 351 ...	
	mm	mm	mm	mm		EUR		EUR		EUR	
GX 09-1 E2.00 N 0.20	9	2	0,2	1,5	GX 09-1	16,92	986	16,92	886	16,92	686
GX 09-2 E3.00 N 0.30	9	3	0,3	2,0	GX 09-2	16,92	994	16,92	894	16,92	694
GX 16-1 E2.00 N 0.20	16	2	0,2	2,5	GX 16-1	17,14	902	17,14	802	17,14	602
GX 16-2 E3.00 N 0.30	16	3	0,3	3,0	GX 16-2	17,14	910	17,14	810	17,14	610
GX 16-3 E4.00 N 0.40	16	4	0,4	3,5	GX 16-3	19,08	918	19,08	818	19,08	618
GX 16-3 E5.00 N 0.40	16	5	0,4	3,5	GX 16-3	21,02	926	21,02	826	21,02	626
GX 16-4 E6.00 N 0.50	16	6	0,5	4,0	GX 16-4	22,93	930	22,93	830	22,93	630

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

→ v_c Page 101

→ Application recommendation on page 103

Internal machining

External machining

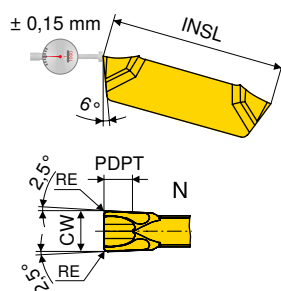
→ 40+41	→ 44+45	→ 38+39	→ 42+43					

Insert GX 16

▲ Very good swarf control



F	M	R



-M1 CTCP325	-M1 CTPP345	-M1 CTP1340
-M1 HCR1325	-M1 HCN1345	-M1 CCN1340
DRAGONSkin	DRAGONSkin	DRAGONSkin



Designation	INSL	CW $\pm 0,05$	RE $\pm 0,05$	PDPT	for tool holder	1C/72		1C/72		1C/72	
						Article no. 70 362 ...	EUR	Article no. 70 362 ...	EUR	Article no. 70 362 ...	EUR
GX 16-1 E2.00 N 0.20	16	2	0,2	2,0	GX 16-1	17,14	902	17,14	800	17,14	600
GX 16-2 E3.00 N 0.20	16	3	0,2	2,5	GX 16-2	17,14	802	17,14	802	17,14	602
GX 16-3 E4.00 N 0.30	16	4	0,3	3,0	GX 16-3	19,08	904	19,08	804	19,08	604
Steel						●		●		●	
Stainless steel						○		●		●	
Cast iron						●		○		●	
Non ferrous metals										○	
Heat resistant alloys								○		●	
hardened materials						○					

→ v_c Page 101

→ Application recommendation on page 104

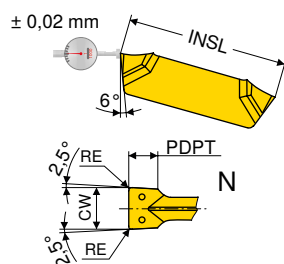
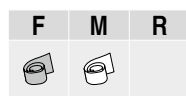
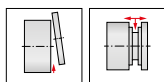
Internal machining

External machining

→ 40+41	→ 45	→ 38+39	→ 43						

Insert GX 16

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ Ground periphery



**-27P
H216T**

**-ALP
CWK26**



Designation	INSL	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder
	mm	mm	mm	mm	
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
GX 16-3 E4.00 N 0.40	16	4	0,4	3,5	GX 16-3
GX 16-4 E6.00 N 0.50	16	6	0,5	4,0	GX 16-4

1C/72

Article no.
70 350 ...

EUR

19,99 650

19,99 658

21,80 670

22,93 678

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

hardened materials

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→ Application recommendation on page 103

Internal machining

External machining



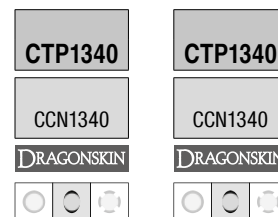
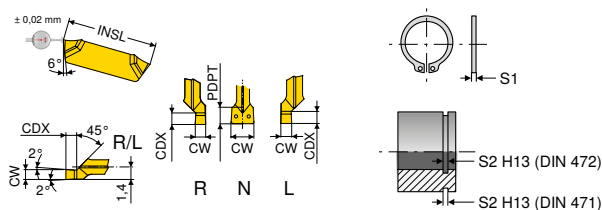
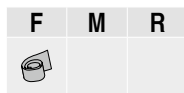
→ 40+41

→ 45

→ 38+39

→ 43

Circlip groove insert GX 09/16 – Standard



Designation	IH	INSL	S ₁	S ₂	CW $\pm 0,02$	RE $\pm 0,05$	CDX	PDPT	for tool holder	Article no. 70 352 ... EUR	Article no. 70 352 ... EUR
GX 09-1 S0.60 L	L	9	0,40	0,50	0,60		0,75		R/L 02-GX 09-1		25,90
GX 09-1 S0.80 L	L	9	0,60	0,70	0,80		0,94		R/L 02-GX 09-1		25,90
GX 09-1 S0.90 L	L	9	0,70	0,80	0,90		1,04		R/L 02-GX 09-1		25,90
GX 09-1 S1.00 L	L	9	0,80	0,90	1,00		1,14		R/L 02-GX 09-1		25,90
GX 09-1 S1.20 L	L	9	1,00	1,10	1,20		1,34		R/L 02-GX 09-1		25,90
GX 09-1 S1.40 L	L	9	1,20	1,30	1,40		1,53		R/L 02-GX 09-1		25,90
GX 09-1 S1.70 L	L	9	1,50	1,60	1,70		1,82		R/L 02-GX 09-1		25,90
GX 16-2 S0.60 L	L	16	0,40	0,50	0,60		0,75		R/L 03-GX 16-2		26,34
GX 16-2 S0.80 L	L	16	0,60	0,70	0,80		0,94		R/L 03-GX 16-2		26,34
GX 16-2 S0.90 L	L	16	0,70	0,80	0,90		1,04		R/L 03-GX 16-2		26,34
GX 16-2 S1.00 L	L	16	0,80	0,90	1,00		1,14		R/L 03-GX 16-2		26,34
GX 16-2 S1.20 L	L	16	1,00	1,10	1,20		1,34		R/L 03-GX 16-2		26,34
GX 16-2 S1.40 L	L	16	1,20	1,30	1,40		1,53		R/L 03-GX 16-2		26,34
GX 16-2 S1.70 L	L	16	1,50	1,60	1,70		1,82		R/L 03-GX 16-2		26,34
GX 16-2 S1.95 L	L	16	1,75	1,85	1,95		2,07		R/L 03-GX 16-2		26,34
GX 16-2 S2.25 L	L	16	2,00	2,15	2,25		2,36		R/L 03-GX 16-2		26,34
GX 09-1 S1.95 N	N	9	1,75	1,85	1,95	0,1		2,0	GX 09-1	25,90	692
GX 09-1 S2.25 N	N	9	2,00	2,15	2,25	0,1		2,0	GX 09-1	25,90	694
GX 09-2 S2.75 N	N	9	2,50	2,65	2,75	0,1		2,0	GX 09-2	25,90	696
GX 09-2 S3.25 N	N	9	3,00	3,15	3,25	0,1		2,0	GX 09-2	25,90	698
GX 16-2 S2.75 N	N	16	2,50	2,65	2,75	0,1		3,0	GX 16-2	26,34	624
GX 16-2 S3.25 N	N	16	3,00	3,15	3,25	0,1		3,0	GX 16-2	26,34	626
GX 16-3 S4.25 N	N	16	4,00	4,15	4,25	0,2		3,5	GX 16-3	28,84	628
GX 16-4 S5.25 N	N	16	5,00	5,15	5,25	0,2		4,0	GX 16-4	30,44	630
GX 09-1 S0.60 R	R	9	0,40	0,50	0,60		0,75		R/L 02-GX 09-1		25,90
GX 09-1 S0.80 R	R	9	0,60	0,70	0,80		0,94		R/L 02-GX 09-1		25,90
GX 09-1 S0.90 R	R	9	0,70	0,80	0,90		1,04		R/L 02-GX 09-1		25,90
GX 09-1 S1.00 R	R	9	0,80	0,90	1,00		1,14		R/L 02-GX 09-1		25,90
GX 09-1 S1.20 R	R	9	1,00	1,10	1,20		1,34		R/L 02-GX 09-1		25,90
GX 09-1 S1.40 R	R	9	1,20	1,30	1,40		1,53		R/L 02-GX 09-1		25,90
GX 09-1 S1.70 R	R	9	1,50	1,60	1,70		1,82		R/L 02-GX 09-1		25,90
GX 16-2 S0.60 R	R	16	0,40	0,50	0,60		0,75		R/L 03-GX 16-2		26,34
GX 16-2 S0.80 R	R	16	0,60	0,70	0,80		0,94		R/L 03-GX 16-2		26,34
GX 16-2 S0.90 R	R	16	0,70	0,80	0,90		1,04		R/L 03-GX 16-2		26,34
GX 16-2 S1.00 R	R	16	0,80	0,90	1,00		1,14		R/L 03-GX 16-2		26,34
GX 16-2 S1.20 R	R	16	1,00	1,10	1,20		1,34		R/L 03-GX 16-2		26,34
GX 16-2 S1.40 R	R	16	1,20	1,30	1,40		1,53		R/L 03-GX 16-2		26,34
GX 16-2 S1.70 R	R	16	1,50	1,60	1,70		1,82		R/L 03-GX 16-2		26,34
GX 16-2 S1.95 R	R	16	1,75	1,85	1,95		2,07		R/L 03-GX 16-2		26,34
GX 16-2 S2.25 R	R	16	2,00	2,15	2,25		2,36		R/L 03-GX 16-2		26,34

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

→ v_c Page 101

→ Application recommendation on page 104

i Attention – applies only to internal machining:

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

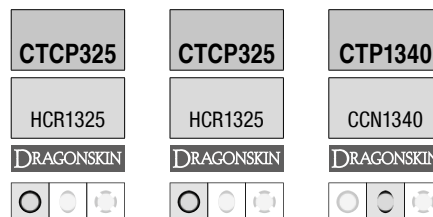
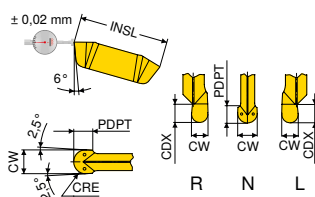
Left-hand insert → right-hand module or monobloc boring bar

Internal machining

External machining

→ 40+41	→ 44+45	→ 38+39	→ 42+43						

Radius groove insert GX 09/16



Designation	IH	INSL	CW $\pm 0,02$	CRE	PDPT	CDX	for tool holder	1C/72 Article no. 70 354 ... EUR	1C/72 Article no. 70 354 ... EUR	1C/72 Article no. 70 354 ... EUR
GX 09-1 R0.80 L	L	9	1,6	0,8		1,78	R/L 02-GX 09-1	31,23 988		
GX 16-2 R0.80 L	L	16	1,6	0,8		1,78	R/L 03-GX 16-2	32,02 912		
GX 16-2 R1.00 L	L	16	2,0	1,0		2,18	R/L 03-GX 16-2	32,02 916		
GX 16-2 R1.20 L	L	16	2,4	1,2		2,58	R/L 03-GX 16-2	32,02 920		
GX 09-1 R1.00 N	N	9	2,0	1,0	1,0		GX 09-1		31,23 992	
GX 09-1 R1.20 N	N	9	2,4	1,2	1,2		GX 09-1		31,23 996	
GX 16-2 R1.50 N	N	16	3,0	1,5	1,5		GX 16-2		32,02 924	32,02 624
GX 16-3 R2.00 N	N	16	4,0	2,0	2,0		GX 16-3		34,76 928	34,76 628
GX 16-3 R2.50 N	N	16	5,0	2,5	2,5		GX 16-3		34,76 932	34,76 632
GX 16-4 R3.00 N	N	16	6,0	3,0	3,0		GX 16-4		36,35 936	36,35 636
GX 09-1 R0.80 R	R	9	1,6	0,8		1,78	R/L 02-GX 09-1	31,23 984		
GX 16-2 R0.80 R	R	16	1,6	0,8		1,78	R/L 03-GX 16-2	32,02 900		
GX 16-2 R1.00 R	R	16	2,0	1,0		2,18	R/L 03-GX 16-2	32,02 904		
GX 16-2 R1.20 R	R	16	2,4	1,2		2,58	R/L 03-GX 16-2	32,02 908		
Steel								•	•	•
Stainless steel								○	○	•
Cast iron								•	•	•
Non ferrous metals										○
Heat resistant alloys										•
hardened materials								○	○	

→ v_c Page 101

→ Application recommendation on page 104

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

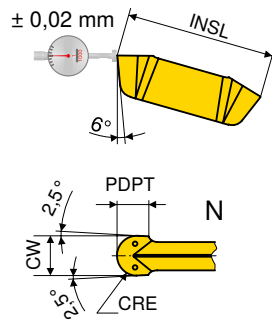
→ 40+41	→ 44+45	→ 38+39	→ 42+43						

Radius groove insert GX 16

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ Ground periphery



F	M	R



-27P
H216T

-ALP
CWK26



Designation	INSL	CW $\pm 0,02$	CRE	PDPT	for tool holder
	mm	mm	mm	mm	
GX 16-2 R1.50 N	16	3	1,5	1,5	GX 16-2
GX 16-3 R2.00 N	16	4	2,0	2,0	GX 16-3
GX 16-3 R2.50 N	16	5	2,5	2,5	GX 16-3

1C/72

Article no.
70 354 ...

EUR	
24,07	674
26,01	678
26,01	682

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

→ v_c Page 101

→ Application recommendation on page 104

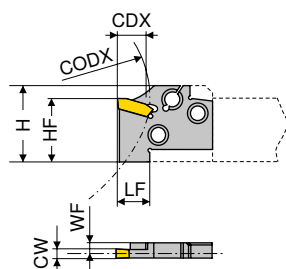
Internal machining

External machining

→ 40+41	→ 45	→ 38+39	→ 43						

ModularClamp MSS – Radial grooving module GX 09/16

- ▲ For circlip grooves = 2,75 mm
- ▲ For radius grooves up to = 1,2 mm
- ▲ For external recessing



Illustrations show right-hand versions



Designation	CW	WF	LF	HF	H	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
									2C/71	Article no.	2C/71	Article no.
	mm	mm	mm	mm	mm	mm	mm			70 871 ...		70 870 ...
									EUR		EUR	
E12 R/L 02-GX 09-1	<1,95	3,15	8	12	14,5	36	2	GX 09-1 ..R/L	84,93	112	84,93	112
E16 R/L 02-GX 09-1	<1,95	3,15	8	16	19,5	48	2	GX 09-1 ..R/L	85,88	116	85,88	116
E20 R/L 03-GX 16-2	<2,75	3,40	13	20	24,0	60	3	GX 16-2 ..R/L	85,88	120	85,88	120
E25 R/L 03-GX 16-2	<2,75	4,90	13	25	30,0	75	3	GX 16-2 ..R/L	86,51	125	86,51	125
E32 R/L 03-GX 16-2	<2,75	4,90	13	32	38,0	96	3	GX 16-2 ..R/L	87,34	132	87,34	132



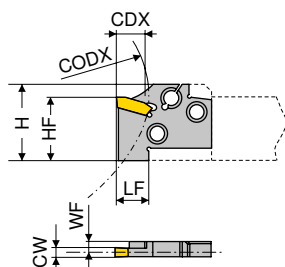
→ 30-37

→ 93-95

→ Chapter 16

ModularClamp MSS – Radial grooving module GX 09/16

- ▲ For grooving and turning
- ▲ For circlip grooves = 5,25 mm
- ▲ For radius grooves up to = 2,5 mm
- ▲ For external recessing



Illustrations show right-hand versions



Designation	CW	WF	LF	HF	H	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no. 70 866 ...		Article no. 70 865 ...	
	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
E12 R/L 07-GX 09-1	2,00 - 2,75	3,15	8	12	14,5	36	7	GX 09-1 ..N	84,93	012	84,93	012
E12 R/L 07-GX 09-2	2,76 - 3,75	3,15	8	12	14,5	36	7	GX 09-2 ..N	84,93	112	84,93	112
E16 R/L 07-GX 09-1	2,00 - 2,75	3,15	8	16	19,5	48	7	GX 09-1 ..N	85,88	016	85,88	016
E16 R/L 07-GX 09-2	2,76 - 3,75	3,15	8	16	19,5	48	7	GX 09-2 ..N	85,88	116	85,88	116
E20 R/L 12-GX 16-1	2,00 - 2,75	3,75	13	20	24,0	60	12	GX 16-1 ..N	85,88	020	85,88	020
E20 R/L 12-GX 16-2	2,76 - 3,75	3,40	13	20	24,0	60	12	GX 16-2 ..N	85,88	120	85,88	120
E20 R/L 12-GX 16-3	3,76 - 5,00	2,93	13	20	24,0	60	12	GX 16-3 ..N	85,88	220	85,88	220
E25 R/L 12-GX 16-1	2,00 - 2,75	5,25	13	25	30,0	75	12	GX 16-1 ..N	86,51	025	86,51	025
E25 R/L 12-GX 16-2	2,76 - 3,75	4,90	13	25	30,0	75	12	GX 16-2 ..N	86,51	125	86,51	125
E25 R/L 12-GX 16-3	3,76 - 5,00	4,43	13	25	30,0	75	12	GX 16-3 ..N	86,51	225	86,51	225
E25 R/L 12-GX 16-4	5,01 - 6,50	3,80	13	25	30,0	75	12	GX 16-4 ..N	86,51	325	86,51	325
E32 R/L 12-GX 16-2	2,76 - 3,75	4,90	13	32	38,0	96	12	GX 16-2 ..N	87,34	132	87,34	132
E32 R/L 12-GX 16-3	3,76 - 5,00	4,43	13	32	38,0	96	12	GX 16-3 ..N	87,34	232	87,34	232
E32 R/L 12-GX 16-4	5,01 - 6,50	3,80	13	32	38,0	96	12	GX 16-4 ..N	87,34	332	87,34	332



→ 30-37

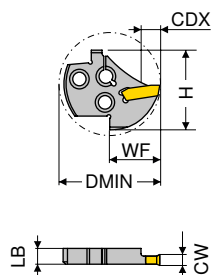
→ 93-95

→ Chapter 16

ModularClamp MSS – Radial Grooving module GX 09/16 for Internal machining

▲ For circlip grooves = 2,75 mm

▲ For radius grooves up to = 1,2 mm



Illustrations show right-hand versions

Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	Left-hand		Right-hand	
								2C/71 Article no. 70 886 ... EUR		2C/71 Article no. 70 885 ... EUR	
I16 R/L 02-GX 09-1	<1,95	3,8	10,0	16,4	2	20	GX 09-1 ..R/L	85,88	016	85,88	016
I20 R/L 02-GX 09-1	<1,95	3,8	12,0	20,3	2	25	GX 09-1 ..R/L	85,88	020	85,88	020
I25 R/L 02-GX 09-1	<1,95	3,8	15,5	24,9	2	32	GX 09-1 ..R/L	86,51	025	86,51	025
I32 R/L 03-GX 16-2	<2,75	5,9	20,0	32,2	3	40	GX 16-2 ..R/L	87,34	032	87,34	032
I40 R/L 03-GX 16-2	<2,75	5,9	24,5	39,6	3	50	GX 16-2 ..R/L	88,08	040	88,08	040



Right hand module → left hand insert only

Left hand module → right hand insert only



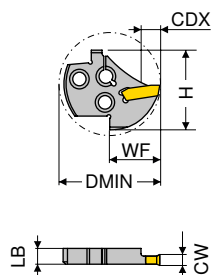
→ 30-37

→ 96

ModularClamp MSS – Radial Grooving module 09/16 for Internal machining

▲ For circlip grooves = 5,25 mm

▲ For radius grooves up to = 2,5 mm



Illustrations show right-hand versions



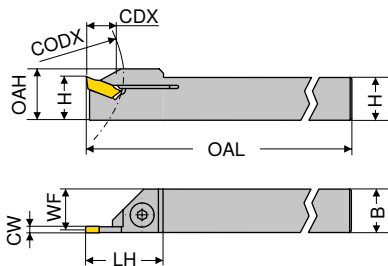
Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	Left-hand		Right-hand	
								2C/71		2C/71	
								Article no. 70 881 ...		Article no. 70 880 ...	
	mm	mm	mm	mm	mm	mm		EUR		EUR	
I16 R/L 04-GX 09-1	2,00 - 2,75	3,8	10,0	16,4	4	20	GX 09-1 ..N	85,88	017	85,88	017
I16 R/L 04-GX 09-2	2,76 - 3,75	3,8	10,0	16,4	4	20	GX 09-2 ..N	85,88	117	85,88	117
I20 R/L 05-GX 09-1	2,00 - 2,75	3,8	12,0	20,3	5	25	GX 09-1 ..N	85,88	021	85,88	021
I20 R/L 05-GX 09-2	2,76 - 3,75	3,8	12,0	20,3	5	25	GX 09-2 ..N	85,88	121	85,88	121
I25 R/L 06-GX 09-1	2,00 - 2,75	3,8	15,5	24,9	6	32	GX 09-1 ..N	86,51	026	86,51	026
I25 R/L 06-GX 09-2	2,76 - 3,75	3,8	15,5	24,9	6	32	GX 09-2 ..N	86,51	126	86,51	126
I32 R/L 09-GX 16-1	2,00 - 2,75	5,9	20,0	32,2	9	40	GX 16-1 ..N	87,34	033	87,34	033
I32 R/L 09-GX 16-2	2,76 - 3,75	5,9	20,0	32,2	9	40	GX 16-2 ..N	87,34	133	87,34	133
I32 R/L 09-GX 16-3	3,76 - 5,00	5,9	20,0	32,2	9	40	GX 16-3 ..N	87,34	233	87,34	233
I32 R/L 09-GX 16-4	5,01 - 6,50	5,9	20,0	32,2	9	40	GX 16-4 ..N	87,34	333	87,34	333
I40 R/L 10-GX 16-1	2,00 - 2,75	5,9	24,5	39,6	10	50	GX 16-1 ..N	88,08	041	88,08	041
I40 R/L 10-GX 16-2	2,76 - 3,75	5,9	24,5	39,6	10	50	GX 16-2 ..N	88,08	141	88,08	141
I40 R/L 10-GX 16-3	3,76 - 5,00	5,9	24,5	39,6	10	50	GX 16-3 ..N	88,08	241	88,08	241
I40 R/L 10-GX 16-4	5,01 - 6,50	5,9	24,5	39,6	10	50	GX 16-4 ..N	88,08	341	88,08	341



→ 30-37

→ 96

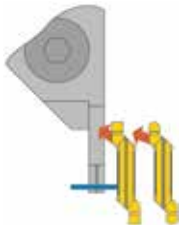
MonoClamp – Radial Monoholder GX 09



Illustrations show right-hand versions

Designation	H	B	CW	WF	OAH	OAL	LH	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
											2C/71		2C/71	
											Article no.		Article no.	
E10 R/L 00-1010M-GX09	10	10	2,00 - 3,50	9,35	12	150	18	30	7	GX 09 ..	70 863 ...		70 862 ...	
	mm	mm	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
											123,50	010	123,50	010

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



Spare parts

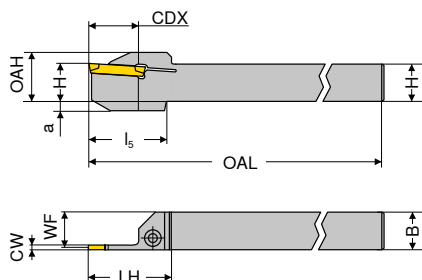
for grooving inserts
GX 09 ..

	Y7		2A/28	
				
	Key D		Clamping screw	
	Article no.		Article no.	
	80 950 ...		70 950 ...	
	EUR		EUR	
T15	9,28	113	M4x11	10,34 442



→ 30-36

MonoClamp – Radial Monoholder GX 16

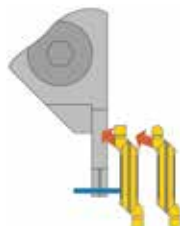


Illustrations show right-hand versions



Designation	H	B	CW	WF	OAH	OAL	LH	l ₅	a	CDX	for grooving inserts	Left-hand		Right-hand	
												2C/71		2C/71	
												Article no. 70 889 ...		Article no. 70 888 ...	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
E12 R/L 0012-1212K-GX16-1	12	12	2,00 - 2,75	11,35	17	125	26	24	4	12	GX 16-1	91,12	212	91,12	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	91,12	312	91,12	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	97,30	216	97,30	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	97,30	316	97,30	316
E16 R/L 0012-1616K-GX16-3	16	16	3,76 - 5,00	14,53	21	125	26	24	4	12	GX 16-3	97,30	416	97,30	416
E20 R/L 0012-2020K-GX16-1	20	20	2,00 - 2,75	19,35	25	125	26			12	GX 16-1	112,00	220	112,00	220
E20 R/L 0012-2020K-GX16-2	20	20	2,76 - 3,75	19,00	25	125	26			12	GX 16-2	112,00	320	112,00	320
E20 R/L 0012-2020K-GX16-3	20	20	3,76 - 5,00	18,53	25	125	26			12	GX 16-3	112,00	420	112,00	420
E25 R/L 0012-2525M-GX16-2	25	25	2,76 - 3,75	24,00	30	150	26			12	GX 16-2	119,10	325	119,10	325
E25 R/L 0012-2525M-GX16-3	25	25	3,76 - 5,00	23,53	30	150	26			12	GX 16-3	119,10	425	119,10	425

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

		Article no. 80 950 ...		Article no. 70 950 ...	
		EUR		EUR	
GX 16-1	T15	9,28	113	M3,5x14	4,09 160
GX 16-2	T15	9,28	113	M3,5x14	4,09 160
GX 16-3	T15	9,28	113	M3,5x14	4,09 160



→ 30-37

Y7



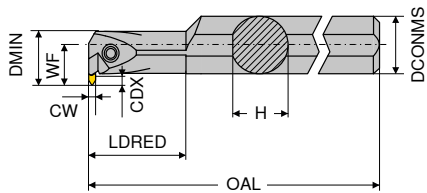
Key D

2A/28



Clamping screw

MonoClamp – Radial Mono-boring bars GX 09

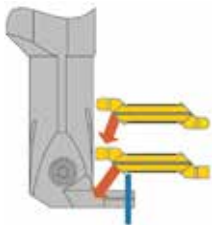


Illustrations show right-hand versions

Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand		Right-hand	
										2C/71		2C/71	
	mm	mm	mm	mm	mm	mm	mm	mm		Article no.		Article no.	
I12 R/L 90-2,5D-GX09	15,25	16	16	2,00 - 3,75	3	11	150	30	GX 09 ..	70 859 ...		70 858 ...	
										EUR		EUR	
										151,40	012	151,40	012

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

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



Spare parts

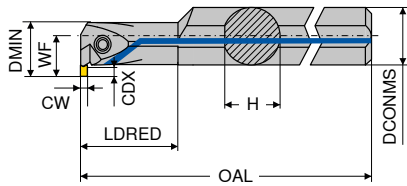
for grooving inserts
GX 09 ..

	T15	Y7		M3,5x12,5	2A/28	
		Key D			Clamping screw	
		Article no.			Article no.	
		80 950 ...			70 950 ...	
		EUR			EUR	
		9,28	113		8,97	441



→ 30-36

MonoClamp – Radial Mono-boring bars GX 16

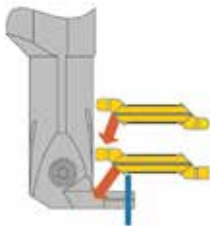


Illustrations show right-hand versions

Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand	Right-hand
										2C/71	2C/71
										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	EUR 133,30	EUR 133,30
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	EUR 133,30	EUR 133,30
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	EUR 144,00	EUR 144,00
I25 R/L 90-2.0D-GX16-2	24,00	25	32,0	2,76 - 3,75	8,0	20,5	200	50	GX 16-2	EUR 167,40	EUR 167,40
I25 R/L 90-2.0D-GX16-3	24,00	25	32,0	3,76 - 5,00	10,0	22,5	200	50	GX 16-3	EUR 167,40	EUR 167,40
I32 R/L 90-2.0D-GX16-2	31,00	32	42,0	2,76 - 3,75	11,0	27,5	250	64	GX 16-2	EUR 194,60	EUR 194,60
I32 R/L 90-2.0D-GX16-3	31,00	32	42,0	3,76 - 5,00	11,0	27,5	250	64	GX 16-3	EUR 194,60	EUR 194,60

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

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



Spare parts

for grooving inserts

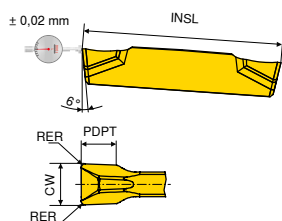
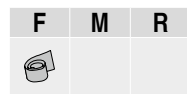
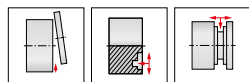
		Article no. 80 950 ...	Article no. 70 950 ...
GX 16-1	T15	EUR 9,28 113	M4x14 EUR 8,58 403
GX 16-2	T15	EUR 9,28 113	M4x14 EUR 8,58 403
GX 16-3	T15	EUR 9,28 113	M4x14 EUR 8,58 403



→ 30-37

Insert GX 24

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



-F2 CTCP325	-F2 CTPP345	-F2 CTP1340
-F2 HCR1325	-F2 HCN1345	-F2 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder	1C/72		1C/72		1C/72	
						Article no. 70 350 ...	EUR	Article no. 70 350 ...	EUR	Article no. 70 350 ...	EUR
GX 24-2 E3.00 N 0.30	24	3,0	0,3	2,5	GX 24-2	27,14	962	27,14	862	27,14	662
GX 24-2 E3.50 N 0.30	24	3,5	0,3	2,5	GX 24-2	27,14	864	27,14	864	27,14	664
GX 24-3 E4.00 N 0.40	24	4,0	0,4	3,0	GX 24-3	29,29	966	29,29	866	29,29	666
GX 24-3 E5.00 N 0.40	24	5,0	0,4	3,5	GX 24-3	32,14	970	32,14	870	32,14	671
GX 24-4 E6.00 N 0.50	24	6,0	0,5	4,0	GX 24-4	35,32	872	35,32	872	35,32	672
Steel						●		●		●	
Stainless steel						○		●		●	
Cast iron						●		○		●	
Non ferrous metals										○	
Heat resistant alloys								○		●	
hardened materials						○					

→ v_c Page 101

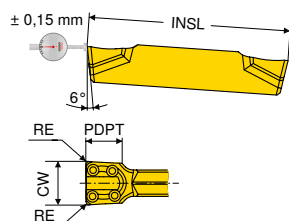
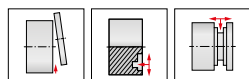
→ Application recommendation on page 103

Internal machining

External machining



Insert GX 24 -E



Designation	INSL	CW $\pm 0,05$	RE $\pm 0,05$	PDPT	for tool holder	1C/72 Article no. 70 350 ...		1C/72 Article no. 70 350 ...		1C/72 Article no. 70 350 ...		1C/72 Article no. 70 350 ...	
						EUR		EUR		EUR		EUR	
GX 24-2 E3.00 N 0.30	24	3	0,3	2,5	GX 24-2	18,27	932	18,27	532	18,01	832	18,27	632
GX 24-3 E4.00 N 0.40	24	4	0,4	3,0	GX 24-3	19,99	936	19,99	536	19,99	836	19,99	636
GX 24-3 E5.00 N 0.40	24	5	0,4	3,0	GX 24-3	21,80	940	21,80	540	21,80	840	21,80	640
GX 24-4 E6.00 N 0.50	24	6	0,5	3,5	GX 24-4	23,96	944	23,96	544	23,96	844	23,96	644

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

→ v_c Page 101

→ Application recommendation on page 103

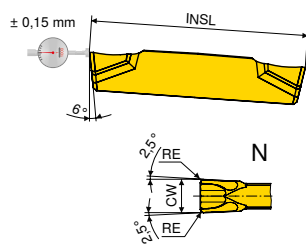
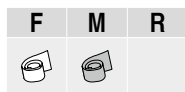
Internal machining

External machining

→ 54	→ 59	→ 53-56	→ 57	→ 58	→ 60			

Insert GX 24

▲ Very good swarf control

**-M1
CTCP325****-M1
HCR1325****DRAGONSkin****-M1
CTPP345****-M1
HCN1345****DRAGONSkin****-M1
CTP1340****-M1
CCN1340****DRAGONSkin**

Designation	INSL mm	CW $\pm 0,05$ mm	RE $\pm 0,05$ mm	for tool holder	1C/72 Article no. 70 363 ... EUR		1C/72 Article no. 70 363 ... EUR		1C/72 Article no. 70 363 ... EUR	
GX 24-1 E2.00 N 0.20	24	2	0,2	GX 24-1	18,27	900	18,27	800	18,27	600
GX 24-2 E3.00 N 0.20	24	3	0,2	GX 24-2	18,27	902	18,27	802	18,27	602
GX 24-3 E4.00 N 0.30	24	4	0,3	GX 24-3	19,99	904	19,99	804	19,99	604
Steel					●		●		●	
Stainless steel					○		●		●	
Cast iron					●				●	
Non ferrous metals										○
Heat resistant alloys							○		●	
hardened materials					○					

→ v_c Page 101

→ Application recommendation on page 104

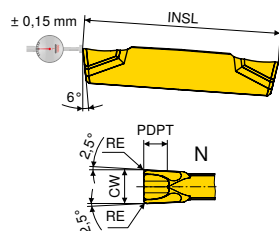
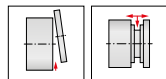
Internal machining

External machining

								
→ 54	→ 59	→ 53-56	→ 57	→ 58	→ 60			

Insert GX 24

▲ Very good swarf control

**-M40
CTCP325****-M40
HCR1325****-M40
CTPP345****-M40
HCN1345****-M40
CTP1340****-M40
CCN1340**

Designation	INSL	CW $\pm 0,05$	RE $\pm 0,05$	PDPT	for tool holder	1C/72		1C/72		1C/72	
						Article no. 70 364 ...	EUR	Article no. 70 364 ...	EUR	Article no. 70 364 ...	EUR
GX 24-2 E3.00 N 0.30	24	3	0,3	3,5	GX 24-2	18,27	900	18,27	800	18,27	600
GX 24-3 E4.00 N 0.40	24	4	0,4	4,0	GX 24-3	19,99	902	19,99	802	19,99	602
GX 24-3 E5.00 N 0.40	24	5	0,4	4,0	GX 24-3	21,80	904	21,80	804	21,80	604
GX 24-4 E6.00 N 0.50	24	6	0,5	4,0	GX 24-4	23,96	906	23,96	806	23,96	606

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

→ v_c Page 101

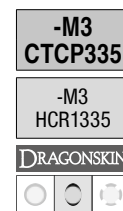
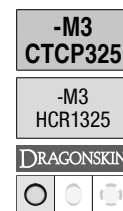
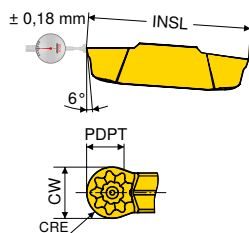
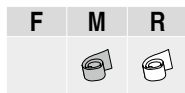
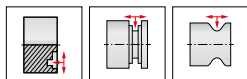
→ Application recommendation on page 103

Internal machining

External machining

→ 54	→ 59	→ 53-56	→ 57	→ 58	→ 60				

Radius groove insert GX 24



Designation	INSL	CW $\pm 0,05$	CRE	PDPT	for tool holder
	mm	mm	mm	mm	
GX 24-2 R1.50 N	24,4	3	1,5	1,5	GX 24-2
GX 24-3 R2.00 N	24,4	4	2,0	2,5	GX 24-3
GX 24-3 R2.50 N	24,4	5	2,5	3,0	GX 24-3
GX 24-4 R3.00 N	24,4	6	3,0	4,0	GX 24-4

1C/72	Article no.
70 354 ...	EUR
24,30	952
26,01	954
27,14	956
29,18	958

1C/72	Article no.
70 354 ...	EUR
24,30	552
26,01	554
27,14	556
29,18	558

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

→ v_c Page 101

→ Application recommendation on page 104

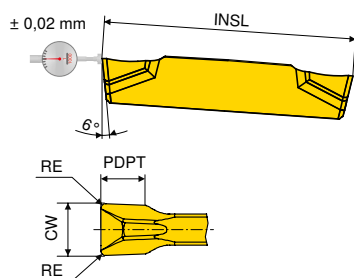
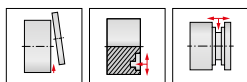
Internal machining

External machining

→ 54	→ 59	→ 53-56	→ 57	→ 58	→ 60			

Insert GX 24

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



-27P
H216T

-ALP
CWK26



Designation	INSL	CW $\pm 0,02$	RE $\pm 0,05$	PDPT	for tool holder
	mm	mm	mm	mm	
GX 24-2 E3.00 N 0.30	24	3	0,3	2,5	GX 24-2
GX 24-3 E4.00 N 0.40	24	4	0,4	3,0	GX 24-3
GX 24-3 E5.00 N 0.40	24	5	0,4	3,5	GX 24-3
GX 24-4 E6.00 N 0.50	24	6	0,5	4,0	GX 24-4

1C/72

Article no.
70 350 ...

EUR

21,80	682
23,96	684
24,98	686
25,90	688

Steel

Stainless steel

Cast iron

Non ferrous metals

Heat resistant alloys

hardened materials

→ v_c Page 101

→ Application recommendation on page 103

Internal machining

External machining



→ 54

→ 59

→ 53-56

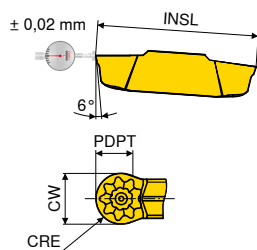
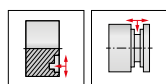
→ 57

→ 58

→ 60

Radius grooving insert GX 24

- ▲ Insert with highly positive cutting edge geometry and sharp cutting edge
- ▲ Ground periphery



-27PF
H216T

-ALP-F
CWK26



Designation	INSL	CW $\pm 0,02$	CRE	PDPT	for tool holder
	mm	mm	mm	mm	
GX 24-4 R3.00 N	25,4	6	3	4	GX 24-4
GX 24-5 R4.00 N	25,4	8	4	5	GX 24-5

1C/72

Article no.
70 353 ...

EUR

32,58

34,40

500

506

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

→ v_c Page 101

→ Application recommendation on page 104

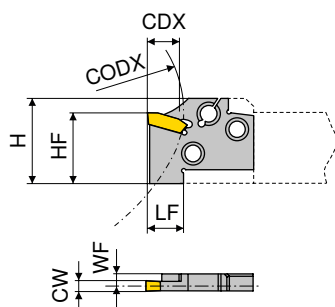
Internal machining

External machining



ModularClamp MSS – Radial grooving module GX 24

- ▲ For deep radial parting and grooving
- ▲ For turning



Illustrations show right-hand versions



Designation	CW	WF	LF	HF	H	CODX	CDX	for grooving inserts	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no.		Article no.	
	mm	mm	mm	mm	mm	mm	mm		70 868 ...		70 867 ...	
									EUR		EUR	
E20 R/L 21-GX 24-1	2,00 - 2,75	3,85	22	20	24	60	21	GX 24-1	85,88	020	85,88	020
E20 R/L 21-GX 24-2	3	3,40	22	20	24	60	21	GX 24-2	85,88	120	85,88	120
E25 R/L 21-GX 24-1	2,00 - 2,75	5,10	22	25	30	75	21	GX 24-1	86,51	025	86,51	025
E25 R/L 21-GX 24-2	3	4,90	22	25	30	75	21	GX 24-2	86,51	125	86,51	125
E25 R/L 21-GX 24-3	4/5	4,43	22	25	30	75	21	GX 24-3	86,51	225	86,51	225
E25 R/L 21-GX 24-4	6	3,80	22	25	30	75	21	GX 24-4	86,51	325	86,51	325
E25 R/L 21-GX 24-5	8	2,95	22	25	30	75	21	GX 24-5	86,51	425	86,51	425
E32 R/L 21-GX 24-3	4/5	4,43	22	32	38	96	21	GX 24-3	87,34	232	87,34	232
E32 R/L 21-GX 24-4	6	3,80	22	32	38	96	21	GX 24-4	87,34	332	87,34	332



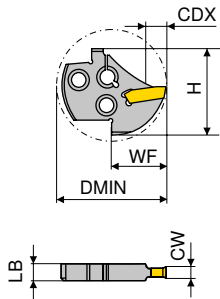
→ 46-52

→ 93-95

→ Chapter 16

ModularClamp MSS – Radial Grooving module GX 24 for Internal machining

▲ For grooving and turning



Neutral

Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	Neutral	
	mm	mm	mm	mm	mm	mm		2C/71	Article no.
I40 N 19-GX 24-2	2,76 - 3,75	6,2	33,5	40,7	19	60	GX 24-2 ..N	EUR	70 880 ...
I40 N 19-GX 24-3	3,76 - 5,00	6,2	33,5	40,7	19	60	GX 24-3 ..N	100,00	340
I40 N 19-GX 24-4	5,01 - 6,50	6,2	33,5	40,7	19	60	GX 24-4 ..N	100,00	440
								100,00	540

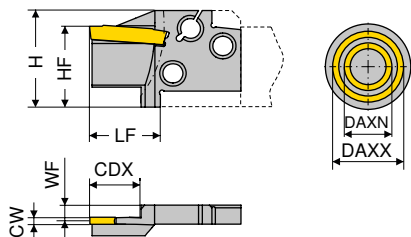


→ 46-52

→ 96

ModularClamp MSS – Axial grooving module GX 24 short

- ▲ For axial grooving
▲ For face turning



Illustrations show right-hand versions

Designation	DAXN	DAXX	CW	WF	LF	HF	H	CDX	for grooving inserts	Left-hand		Right-hand	
										2C/71		2C/71	
										Article no.	EUR	Article no.	EUR
E20 R/L 14-GX 24-2 A	50	70	3	3,40	22	20	24	14	GX 24-2	70 891 ...	111,50	70 890 ...	111,50
E20 R/L 14-GX 24-2 A	70	100	3	3,40	22	20	24	14	GX 24-2	100	111,50	102	111,50
E20 R/L 14-GX 24-2 A	100	150	3	3,40	22	20	24	14	GX 24-2	102	111,50	104	111,50
E25 R/L 15-GX 24-2 A	50	70	3	4,90	22	25	30	15	GX 24-2	200	112,50	200	112,50
E25 R/L 15-GX 24-2 A	70	100	3	4,90	22	25	30	15	GX 24-2	202	112,50	202	112,50
E25 R/L 15-GX 24-2 A	100	150	3	4,90	22	25	30	15	GX 24-2	204	112,50	204	112,50
E25 R/L 15-GX 24-3 A	50	70	4/5	4,43	22	25	30	15	GX 24-3	206	112,50	206	112,50
E25 R/L 15-GX 24-3 A	70	100	4/5	4,43	22	25	30	15	GX 24-3	208	112,50	208	112,50
E25 R/L 15-GX 24-3 A	100	150	4/5	4,43	22	25	30	15	GX 24-3	210	112,50	210	112,50
E25 R/L 15-GX 24-3 A	150	300	4/5	4,43	22	25	30	15	GX 24-3	212	112,50	212	112,50
E25 R/L 15-GX 24-4 A	50	70	6	3,80	22	25	30	15	GX 24-4	214	112,50	214	112,50
E25 R/L 15-GX 24-4 A	70	100	6	3,80	22	25	30	15	GX 24-4	216	112,50	216	112,50
E25 R/L 15-GX 24-4 A	100	150	6	3,80	22	25	30	15	GX 24-4	218	112,50	218	112,50
E25 R/L 15-GX 24-4 A	150	300	6	3,80	22	25	30	15	GX 24-4	220	112,50	220	112,50
E32 R/L 15-GX 24-3 A	70	100	4/5	4,43	22	32	38	15	GX 24-3	300	113,40	300	113,40
E32 R/L 15-GX 24-3 A	100	150	4/5	4,43	22	32	38	15	GX 24-3	302	113,40	302	113,40
E32 R/L 15-GX 24-3 A	150	300	4/5	4,43	22	32	38	15	GX 24-3	304	113,40	304	113,40
E32 R/L 15-GX 24-4 A	70	100	6	3,80	22	32	38	15	GX 24-4	306	113,40	306	113,40
E32 R/L 15-GX 24-4 A	100	150	6	3,80	22	32	38	15	GX 24-4	308	113,40	308	113,40
E32 R/L 15-GX 24-4 A	150	300	6	3,80	22	32	38	15	GX 24-4	310	113,40	310	113,40
E32 R/L 15-GX 24-4 A	300	900	6	3,80	22	32	38	15	GX 24-4	312	113,40	312	113,40



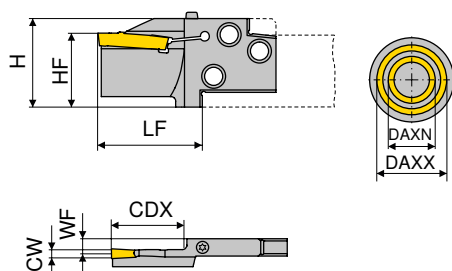
→ 46-52

→ 93-95

→ Chapter 16

ModularClamp MSS – Axial grooving module GX 24 long

- ▲ For axial grooving
- ▲ For face turning



Illustrations show right-hand versions

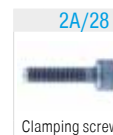
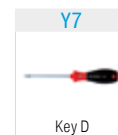
Designation	DAXN	DAXX	CW	WF	LF	HF	H	CDX	for grooving inserts	Left-hand	Right-hand
										2C/71 Article no. 70 895 ... EUR	2C/71 Article no. 70 894 ... EUR
E25 R/L 21-GX 24-3 AS	50	70	4/5	4,53	35	25	30	21	GX 24-3	114,80 200	114,80 200
E25 R/L 21-GX 24-3 AS	70	100	4/5	4,53	35	25	30	21	GX 24-3	114,80 202	114,80 202
E25 R/L 21-GX 24-3 AS	100	150	4/5	4,53	35	25	30	21	GX 24-3	114,80 204	114,80 204
E25 R/L 21-GX 24-3 AS	150	300	4/5	4,53	35	25	30	21	GX 24-3	114,80 206	114,80 206
E25 R/L 25-GX 24-4 AS	50	70	6	3,90	35	25	30	25	GX 24-4	114,80 210	114,80 210
E25 R/L 25-GX 24-4 AS	70	100	6	3,90	35	25	30	25	GX 24-4	114,80 212	114,80 212
E25 R/L 25-GX 24-4 AS	100	150	6	3,90	35	25	30	25	GX 24-4	114,80 214	114,80 214
E25 R/L 25-GX 24-4 AS	150	300	6	3,90	35	25	30	25	GX 24-4	114,80 216	114,80 216

i Axial modules version „GX 24 long“ can be clamped on both sides.

Spare parts

for grooving inserts

		Article no. 80 950 ... EUR	Article no. 70 950 ... EUR
GX 24-3	T15	9,28 113	M3,5x14 4,09 160
GX 24-4	T15	9,28 113	M3,5x14 4,09 160



→ 46-52

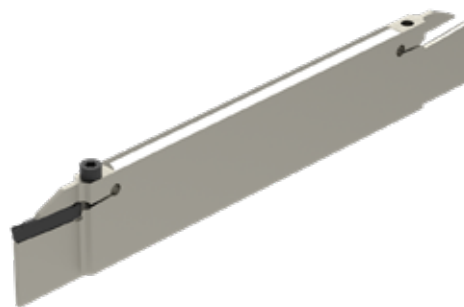
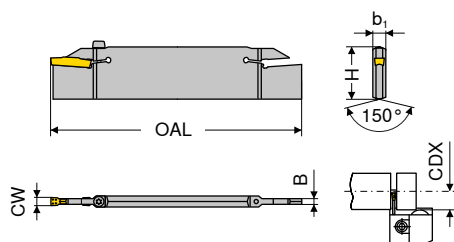
→ 93-95

→ Chapter 16

MonoClamp – Radial Blade GX 24

Scope of supply:

Blade incl. clamping screw and tightening wrench



Designation	CW	H	B	b ₁	OAL	CDX	for grooving inserts	2A/25	
								Article no.	
	mm	mm	mm	mm	mm	mm		70 834 ...	
XLCF N 3203-GX24-1S	2	32	1,05	6,2	180	21	GX 24-1	EUR 83,78	102
XLCF N 3203-GX24-2S	3	32	2,10	6,2	180	21	GX 24-2	EUR 85,04	103
XLCF N 3204-GX24-3S	4/5	32	3,05	6,2	180	21	GX 24-3	EUR 90,70	104
XLCF N 3206-GX24-4S	6	32	4,20	6,2	180	21	GX 24-4	EUR 107,20	106

Spare parts

for grooving inserts

		Y7		2A/28	
		Key D		Clamping screw	
		Article no.		Article no.	
		80 950 ...		70 950 ...	
		EUR		EUR	
GX 24-1	T15	9,28	113	M3,5x14	4,09 160
GX 24-2	T15	9,28	113	M3,5x14	4,09 160
GX 24-3	T15	9,28	113	M3,5x14	4,09 160
GX 24-4	T15	9,28	113	M3,5x14	4,09 160

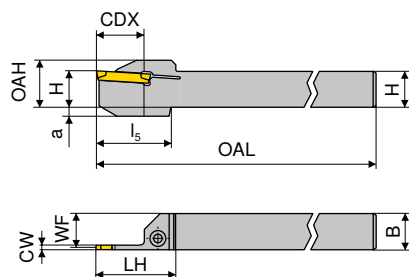


→ 46-52

→ 98+99

→ Chapter 16

MonoClamp – Radial Monoholder GX 24



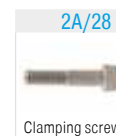
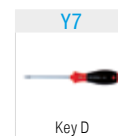
Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	I ₅ mm	CDX mm	a mm	for grooving inserts	Left-hand		Right-hand	
												2C/71		2C/71	
												Article no. 70 863 ...		Article no. 70 862 ...	
												EUR		EUR	
E16 R/L 0021-1616K-GX24-1	16	16	2,00 - 2,75	15,20	21	125	35	32	21	4	GX 24-1	104,60	160	104,60	160
E16 R/L 0021-1616K-GX24-2	16	16	2,76 - 3,75	15,00	21	125	35	32	21	4	GX 24-2	104,60	016	104,60	016
E20 R/L 0021-2020K-GX24-1	20	20	2,00 - 2,75	19,20	25	125	35		21		GX 24-1	120,40	200	120,40	200
E20 R/L 0021-2020K-GX24-2	20	20	2,76 - 3,75	19,00	25	125	35		21		GX 24-2	120,40	020	120,40	020
E20 R/L 0021-2020K-GX24-3	20	20	3,76 - 5,00	18,53	25	125	35		21		GX 24-3	120,40	120	120,40	120
E25 R/L 0021-2525M-GX24-2	25	25	2,76 - 3,75	24,00	30	150	35		21		GX 24-2	128,70	025	128,70	025
E25 R/L 0021-2525M-GX24-3	25	25	3,76 - 5,00	23,53	30	150	35		21		GX 24-3	128,70	125	128,70	125
E25 R/L 0021-2525M-GX24-4	25	25	5,01 - 6,50	22,90	30	150	35		21		GX 24-4	128,70	225	128,70	225
E32 R/L 0021-3225P-GX24-2	32	25	2,76 - 3,75	24,00	37	170	35		21		GX 24-2	137,50	032	137,50	032
E32 R/L 0021-3225P-GX24-3	32	25	3,76 - 5,00	23,53	37	170	35		21		GX 24-3	137,50	132	137,50	132
E32 R/L 0021-3225P-GX24-4	32	25	5,01 - 6,50	22,90	37	170	35		21		GX 24-4	137,50	232	137,50	232

Spare parts

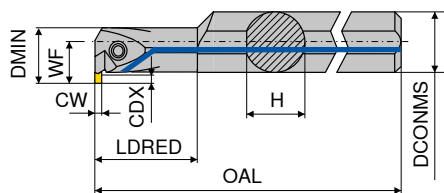
for grooving inserts

		Article no. 80 950 ...		Article no. 70 950 ...	
		EUR		EUR	
GX 24-1	T20	9,95	114	4,76	204
GX 24-2	T20	9,95	114	4,76	204
GX 24-3	T20	9,95	114	4,76	204
GX 24-4	T20	9,95	114	4,76	204



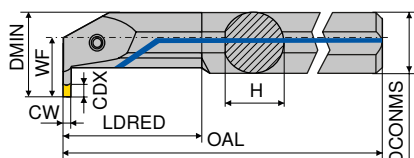
→ 46-52

MonoClamp – Radial Mono-boring bars GX 24



Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand	Right-hand
										2C/71 Article no. 70 895 ... EUR	2C/71 Article no. 70 894 ... EUR
I32 R/L 90-2.0D-GX24-2	31,0	32	42	2,76 - 3,75	11	27,5	250	64	GX 24-2	132	132
I32 R/L 90-2.0D-GX24-3	31,0	32	42	3,76 - 5,00	11	27,5	250	64	GX 24-3	232	232
I40 R/L 90-2.0D-GX24-3	38,5	40	53	3,76 - 5,00	12	32,5	300	80	GX 24-3	240	240

MonoClamp – Radial Mono-boring bars GX 24



Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand	Right-hand
										2C/71 Article no. 70 895 ... EUR	2C/71 Article no. 70 894 ... EUR
I32 R/L 90-2.0D-GX24-4	31,0	32	47	5,01 - 6,50	17,5	30,4	250	64	GX 24-4	332	332
I40 R/L 90-2.0D-GX24-4	38,5	40	57	5,01 - 6,50	17,5	34,4	300	80	GX 24-4	340	340

Spare parts

for grooving inserts

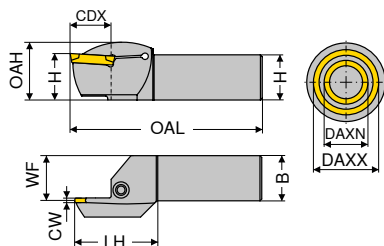
	Article no.	EUR	Article no.	EUR
GX 24-2	80 950 ...	9,95	70 950 ...	5,72
GX 24-3	114	9,95	404	5,72
GX 24-4	114	9,95	404	5,72



Article no.	EUR	Article no.	EUR
80 950 ...	9,95	70 950 ...	5,72
114	9,95	404	5,72
114	9,95	404	5,72



MonoClamp – Axial Monoholder GX24



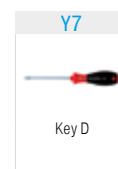
Illustrations show right-hand versions

Designation	H	B	CW	WF	DAXN	DAXX	OAH	OAL	LH	CDX	for grooving inserts	Left-hand		Right-hand	
												2C/71		2C/71	
												Article no.		Article no.	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		70 904 ...		70 903 ...	
												EUR		EUR	
E25 R/L 0012-2525X-GX24-2	25	25	3	24,7	40	45	32	115	45	12	GX 24-2	131,10	200	131,10	200
E25 R/L 0012-2525X-GX24-2	25	25	3	24,7	45	50	32	115	45	12	GX 24-2	131,10	202	131,10	202
E25 R/L 0016-2525X-GX24-2	25	25	3	24,7	50	60	32	115	45	16	GX 24-2	131,10	204	131,10	204
E25 R/L 0019-2525X-GX24-2	25	25	3	24,7	60	75	32	115	45	19	GX 24-2	131,10	206	131,10	206
E25 R/L 0019-2525X-GX24-2	25	25	3	24,7	75	100	32	115	45	19	GX 24-2	131,10	208	131,10	208
E25 R/L 0022-2525X-GX24-2	25	25	3	24,7	100	130	32	115	45	22	GX 24-2	131,10	210	131,10	210
E25 R/L 0022-2525X-GX24-2	25	25	3	24,7	130	180	32	115	45	22	GX 24-2	131,10	212	131,10	212
E25 R/L 0022-2525X-GX24-2	25	25	3	24,7	180	300	32	115	45	22	GX 24-2	131,10	214	131,10	214
E25 R/L 0012-2525X-GX24-3	25	25	4+5	24,2	40	45	32	115	45	12	GX 24-3	131,10	230	131,10	230
E25 R/L 0012-2525X-GX24-3	25	25	4+5	24,2	45	50	32	115	45	12	GX 24-3	131,10	232	131,10	232
E25 R/L 0020-2525X-GX24-3	25	25	4+5	24,2	50	60	32	115	45	20	GX 24-3	131,10	234	131,10	234
E25 R/L 0020-2525X-GX24-3	25	25	4+5	24,2	60	75	32	115	45	20	GX 24-3	131,10	236	131,10	236
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24,2	75	100	32	115	45	22	GX 24-3	131,10	238	131,10	238
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24,2	100	150	32	115	45	22	GX 24-3	131,10	240	131,10	240
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24,2	150	300	32	115	45	22	GX 24-3	131,10	242	131,10	242
E25 R/L 0020-2525X-GX24-4	25	25	6	23,2	40	50	32	115	45	20	GX 24-4	131,10	260	131,10	260
E25 R/L 0022-2525X-GX24-4	25	25	6	23,2	50	70	32	115	45	22	GX 24-4	131,10	262	131,10	262
E25 R/L 0025-2525X-GX24-4	25	25	6	23,2	70	100	32	115	45	25	GX 24-4	131,10	264	131,10	264
E25 R/L 0025-2525X-GX24-4	25	25	6	23,2	100	150	32	115	45	25	GX 24-4	131,10	266	131,10	266
E25 R/L 0025-2525X-GX24-4	25	25	6	23,2	150	300	32	115	45	25	GX 24-4	131,10	268	131,10	268

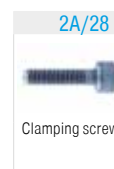
Spare parts

for grooving inserts

		Article no.		Article no.	
		80 950 ...		70 950 ...	
		EUR		EUR	
GX 24-2	T15 - IP	11,89 128	M5x18	9,54 865	
GX 24-3	T15 - IP	11,89 128	M5x18	9,54 865	
GX 24-4	T15 - IP	11,89 128	M5x18	9,54 865	



Key D



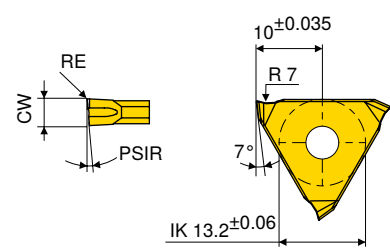
Clamping screw



→ 46-52

TX Insert for parting

- ▲ Cutting depth 5.0 mm
- ▲ Cutting width 1.99–2.79 mm



Illustrations show right-hand versions

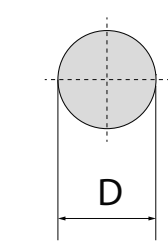
Designation	CW _{-0,05} mm	RE mm	PSIR °	for tool holder	Left-hand		Right-hand	
					Y6 Article no. 73 302 ... EUR 24,53		Y6 Article no. 73 301 ... EUR 24,53	
TX R/L 0518.00.1	1,99	0,1	5°	R/L 207 ... / 780 ... 1	204		204	
TX R/L 0521.00.2	2,29	0,1	5°	R/L 207 ... / 780 ... 2	206		206	
TX R/L 0526.00.2	2,79	0,1	5°	R/L 207 ... / 780 ... 2	208		208	

→ v_c Page 102

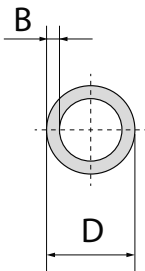
Grooving depth

Full material

Pipe



max. 10 mm



D ≥ 50 mm: Wall thickness B = approx. 5 mm
D ≤ 50 mm: Wall thickness B = approx. 4 mm

Internal machining

External machining

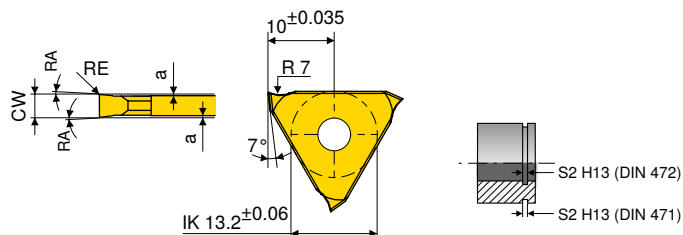


→ 66-70

TX insert for circlip grooves

▲ For circlip grooves according to DIN 471 / 472

CWX500



Neutral

Y6

Article no.
73 300 ...

EUR

Designation	S ₂ mm	CW _{-0,05} mm	RE mm	RA	a _{+/-0,02} mm	for tool holder		
TX N 0050.00.1	0,50	0,57	0,1	1	0,07	R/L ... 1	16,75	204
TX N 0060.00.1	0,60	0,67	0,1	1	0,07	R/L ... 1	16,75	206
TX N 0070.00.1	0,70	0,77	0,1	1	0,08	R/L ... 1	16,75	208
TX N 0080.00.1	0,80	0,87	0,1	1	0,08	R/L ... 1	16,75	210
TX N 0090.00.1	0,90	0,97	0,1	1	0,08	R/L ... 1	16,75	212
TX N 0100.00.1	1,00	1,07	0,1	1	0,09	R/L ... 1	16,75	214
TX N 0110.00.1	1,10	1,24	0,1	3	0,15	R/L ... 1	16,75	216
TX N 0130.00.1	1,30	1,44	0,1	3	0,15	R/L ... 1	16,75	218
TX N 0160.00.1	1,60	1,74	0,1	3	0,20	R/L ... 1	16,75	220
TX N 0185.00.1	1,85	1,99	0,1	3	0,20	R/L ... 1	16,75	222
TX N 0215.00.2	2,15	2,29	0,1	3	0,20	R/L ... 2	16,75	224
TX N 0265.00.2	2,65	2,79	0,1	3	0,20	R/L ... 2	16,75	226
TX N 0315.00.3	3,15	3,29	0,1	3	0,20	R/L ... 3	17,62	228
TX N 0415.00.4	4,15	4,29	0,1	3	0,20	R/L ... 4	17,72	230
TX N 0515.00.4	5,15	5,29	0,1	3	0,20	R/L ... 4	18,26	232

→ v_c Page 102

Internal machining

External machining

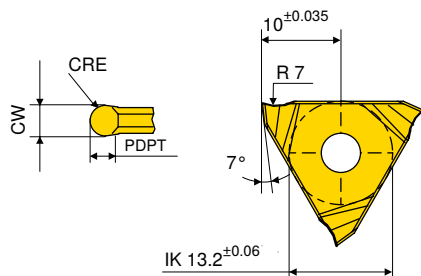


→ 70

→ 66-69

Radial TX insert for corner recessing

▲ Full radius for cutting width 0.5–5.0 mm



CWX500



Neutral

Y6

Article no.
73 304 ...

EUR

Designation	CRE	CW ± 0.05	PDPT	for tool holder		
	mm	mm	mm			
TX N 0002.05.1	0,25	0,5	0,20	R/L ...1	23,14	212
TX N 0005.10.1	0,50	1,0	0,35	R/L ...1	23,14	214
TX N 0006.12.1	0,60	1,2	0,40	R/L ...1	23,14	216
TX N 0008.16.1	0,80	1,6	0,55	R/L ...1	23,14	218
TX N 0010.20.2	1,00	2,0	0,70	R/L ...2	25,62	204
TX N 0012.25.2	1,25	2,5	0,85	R/L ...2	26,81	220
TX N 0015.30.3	1,50	3,0	1,00	R/L ...3	27,35	206
TX N 0020.40.4	2,00	4,0	1,20	R/L ...4	27,13	208
TX N 0025.50.4	2,50	5,0	1,50	R/L ...4	27,56	210

→ v_c Page 102

Internal machining

External machining

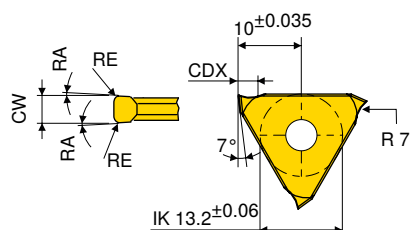


→ 70

→ 66-69

TX insert for fine and copy turning

CWX500



Neutral

Y6

Article no.
73 303 ...

EUR

Designation	CW _{+0.03}	RE	RA	for tool holder		
	mm	mm				
TX N 0150.02.1	1,5	0,2	3	R/L 207 ... / 738 ... / 660 ... 1	20,75	204
TX N 0200.02.1	2,0	0,2	3	R/L 207 ... / 738 ... / 660 ... 1	20,75	206
TX N 0200.04.1	2,0	0,4	3	R/L 207 ... / 738 ... / 660 ... 1	21,52	208
TX N 0300.06.2	3,0	0,6	3	R/L 207 ... / 738 ... / 660 ... 2	21,83	212
TX N 0300.08.2	3,0	0,8	3	R/L 207 ... / 738 ... / 660 ... 2	21,83	214
TX N 0300.02.2	3,0	0,2	3	R/L 207 ... / 738 ... / 660 ... 2	21,52	210
TX N 0400.02.3	4,0	0,2	3	R/L 207 ... / 738 ... / 660 ... 3	22,06	216
TX N 0400.12.3	4,0	1,2	3	R/L 207 ... / 738 ... / 660 ... 3	22,06	220
TX N 0400.08.3	4,0	0,8	3	R/L 207 ... / 738 ... / 660 ... 3	22,06	218

→ v_c Page 102

Internal machining

External machining

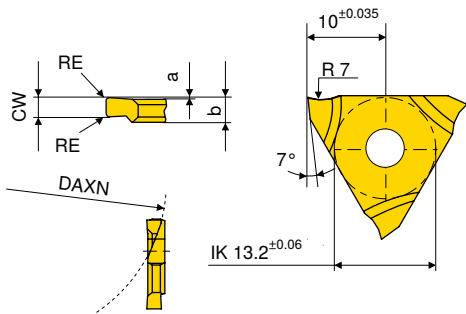


→ 70

→ 66-68

TX insert for axial grooving

- ▲ Up to cutting depth 3.5 mm
- ▲ Cutting width 1.5–5.0 mm
- ▲ Groove-Ø external $D_a \geq 20$ mm



Illustrations show right-hand versions

Designation	CW	b	a	DAXN	RE	for tool holder
	mm	mm	mm	mm	mm	
TX R/L 2015.2.2	1,5	2,7	0,2	20	0,2	R/L 207 ... 2
TX R/L 3020.2.2	2,0	2,7	0,2	30	0,2	R/L 207 ... 2
TX R/L 3030.2.3	3,0	3,7	0,2	30	0,2	R/L 207 ... 3
TX R/L 3040.2.4	4,0	4,3	0,2	30	0,2	R/L 207 ... 4
TX R/L 3050.2.4	5,0	5,3	0,2	30	0,2	R/L 207 ... 4



Left-hand		Right-hand	
Y6		Y6	
Article no.		Article no.	
73 306 ...		73 305 ...	
EUR		EUR	
24,43	204	24,43	204
24,43	206	24,43	206
24,64	208	24,64	208
24,97	210	24,97	210
25,07	212	25,07	212

→ v_c Page 102

Internal machining

External machining

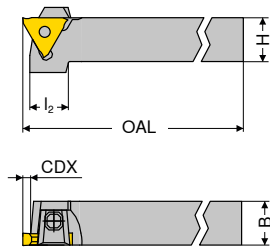


→ 66

MonoClamp – Radial/Axial TX Grooving Holder 0°, 6 mm cutting depth

▲ For radial and axial grooving

▲ Cutting width 0.5–6.3 mm



Illustrations show right-hand versions

Designation	H mm	B _{+/-0,1} mm	OAL mm	I ₂ mm	CDX mm	for grooving inserts	Left-hand		Right-hand	
							Y6		Y6	
							Article no. 73 501 ...		Article no. 73 500 ...	
							EUR		EUR	
R/L 207.1212.1	12	12	100	24	4	TX R/N/L ...1	104,80	112	104,80	112
R/L 207.1616.1	16	16	125	22	4	TX R/N/L ...1	93,42	116	93,42	116
R/L 207.2020.1	20	20	125	21	4	TX R/N/L ...1	72,45	120	72,45	120
R/L 207.2525.1	25	25	150		4	TX R/N/L ...1	76,02	125	76,02	125
R/L 207.3232.1	32	32	170		4	TX R/N/L ...1	88,71	132	88,71	132
R/L 207.1212.2	12	12	100	24	6	TX R/N/L ...2	104,80	212	104,80	212
R/L 207.1616.2	16	16	125	22	6	TX R/N/L ...2	93,42	216	93,42	216
R/L 207.2020.2	20	20	125	21	6	TX R/N/L ...2	72,45	220	72,45	220
R/L 207.2525.2	25	25	150		6	TX R/N/L ...2	76,02	225	76,02	225
R/L 207.3232.2	32	32	170		6	TX R/N/L ...2	88,71	232	88,71	232
R/L 207.1212.3	12	12	100	24	6	TX R/N/L ...3	104,80	312	104,80	312
R/L 207.1616.3	16	16	125	22	6	TX R/N/L ...3	93,42	316	93,42	316
R/L 207.2020.3	20	20	125	21	6	TX R/N/L ...3	72,45	320	72,45	320
R/L 207.2525.3	25	25	150		6	TX R/N/L ...3	76,02	325	76,02	325
R/L 207.3232.3	32	32	170		6	TX R/N/L ...3	88,71	332	88,71	332
R/L 207.1616.4	16	16	125	22	6	TX R/N/L ...4	93,42	416	93,42	416
R/L 207.2020.4	20	20	125	21	6	TX R/N/L ...4	72,45	420	72,45	420
R/L 207.2525.4	25	25	150		6	TX R/N/L ...4	76,02	425	76,02	425
R/L 207.3232.4	32	32	170		6	TX R/N/L ...4	88,71	432	88,71	432

		2A/28  Key I		Y6  right hand		Y6  left hand				Y6  Clamping screw				Y6  Guide pin	
Spare parts		Article no. 70 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...			
for grooving inserts		EUR		EUR		EUR		EUR		EUR		EUR			
TX R/N/L ...1	SW03	2,45	176	20,97	020			M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...1	SW03	2,45	176			20,97	024	M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...2	SW03	2,45	176			20,97	024	M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...2	SW03	2,45	176	20,97	020			M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...3	SW03	2,45	176			20,97	024	M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...3	SW03	2,45	176	20,97	020			M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...4	SW03	2,45	176			23,28	026	M6x20	4,30	028		Ø 4x18	0,39	030	
TX R/N/L ...4	SW03	2,45	176	23,28	022			M6x20	4,30	028		Ø 4x18	0,39	030	

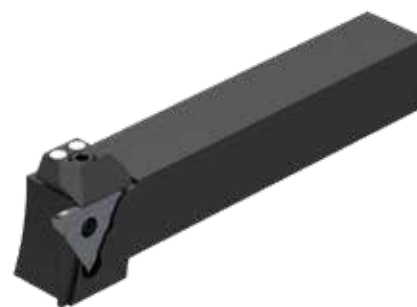
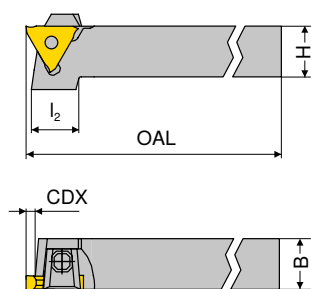


→ 61-65

MonoClamp – Radial TX Grooving holder 0°, 8 mm cutting depth

▲ For radial parting and grooving

▲ Cutting width 1.9–6.3 mm



Illustrations show right-hand versions

Designation	H mm	B $\pm 0,1$ mm	OAL mm	l ₂ mm	CDX mm	for grooving inserts	Left-hand		Right-hand	
							Y6		Y6	
							Article no. 73 503 ...		Article no. 73 502 ...	
							EUR		EUR	
R/L 780.2020.2	20	20	125	24	8	TX R/N/L ...2	77,48	120	77,48	120
R/L 780.2525.2	25	25	150		8	TX R/N/L ...2	81,36	125	81,36	125
R/L 780.3232.2	32	32	170		8	TX R/N/L ...2	97,20	132	97,20	132
R/L 780.2020.3	20	20	125	24	8	TX R/N/L ...3	77,48	220	77,48	220
R/L 780.2525.3	25	25	150		8	TX R/N/L ...3	81,36	225	81,36	225
R/L 780.3232.3	32	32	170		8	TX R/N/L ...3	97,20	232	97,20	232
R/L 780.2020.4	20	20	125	24	8	TX R/N/L ...4	77,48	320	77,48	320
R/L 780.2525.4	25	25	150		8	TX R/N/L ...4	81,36	325	81,36	325
R/L 780.3232.4	32	32	170		8	TX R/N/L ...4	97,20	332	97,20	332

Spare parts	2A/28		Y6		Y6		Y6		Y6	
										
	Key I		right hand		left hand		Clamping screw		Guide pin	
for grooving inserts	Article no. 70 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...	
	EUR		EUR		EUR		EUR		EUR	
TX R/N/L ...2	SW03	2,45 176	20,97 020				M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...2	SW03	2,45 176		20,97 024			M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...3	SW03	2,45 176	20,97 020				M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...3	SW03	2,45 176			20,97 024		M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...4	SW03	2,45 176			23,28 026		M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...4	SW03	2,45 176	23,28 022				M6x20	4,30 028	Ø 4x18	0,39 030

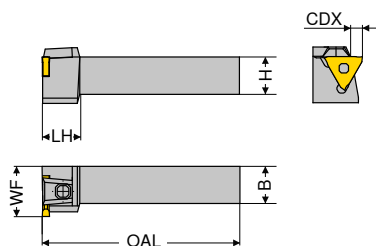


→ 61-63

MonoClamp – Radial TX Grooving holder 90°, 6 mm cutting depth

▲ For radial grooving

▲ Cutting width 0.5–6.3 mm



Illustrations show right-hand versions

Designation	H mm	B $\pm 0,1$ mm	OAL mm	LH mm	WF $\pm 0,07$ mm	CDX mm	for grooving inserts	Left-hand		Right-hand	
								Y6		Y6	
								Article no. 73 505 ...		Article no. 73 504 ...	
								EUR		EUR	
R/L 738.2020.1	20	20	150	20	27	4	TX R/N/L ...1	90,28	120	90,28	120
R/L 738.2525.1	25	25	150		32	4	TX R/N/L ...1	93,42	125	93,42	125
R/L 738.2020.2	20	20	150	20	27	6	TX R/N/L ...2	90,28	220	90,28	220
R/L 738.2525.2	25	25	150		32	6	TX R/N/L ...2	93,42	225	93,42	225
R/L 738.2020.3	20	20	150	20	27	6	TX R/N/L ...3	90,28	320	90,28	320
R/L 738.2525.3	25	25	150		32	6	TX R/N/L ...3	93,42	325	93,42	325
R/L 738.2020.4	20	20	150	20	27	6	TX R/N/L ...4	90,28	420	90,28	420
R/L 738.2525.4	25	25	150		32	6	TX R/N/L ...4	93,42	425	93,42	425

		2A/28  Key I		Y6  right hand		Y6  left hand				Y6  Clamping screw				Y6  Guide pin	
Spare parts		Article no. 70 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ..			
for grooving inserts		EUR		EUR		EUR		EUR		EUR		EUR			
TX R/N/L ...1	SW03	2,45	176	20,97	020			M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...1	SW03	2,45	176			20,97	024	M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...2	SW03	2,45	176			20,97	024	M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...2	SW03	2,45	176	20,97	020			M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...3	SW03	2,45	176			20,97	024	M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...3	SW03	2,45	176	20,97	020			M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...4	SW03	2,45	176			23,28	026	M6x20	4,30	028	Ø 4x18	0,39	030		
TX R/N/L ...4	SW03	2,45	176	23,28	022			M6x20	4,30	028	Ø 4x18	0,39	030		

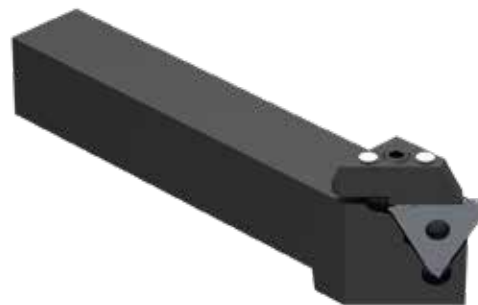
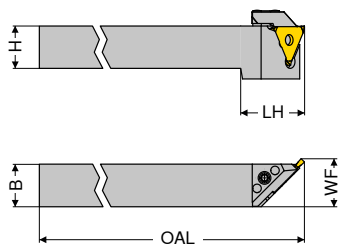


→ 62-64

MonoClamp – Tool holder TX 45°

▲ For recessing

▲ Cutting width 1.9–6.3 mm



Illustrations show right-hand versions

Designation	H mm	B _{+/-0,1} mm	OAL mm	LH mm	for grooving inserts	Left-hand		Right-hand	
						Y6		Y6	
						Article no. 73 507 ...		Article no. 73 506 ...	
						EUR		EUR	
R/L 618.2020.2	20	20	125	30	TX R/N/L ...2	104,80	120	104,80	120
R/L 618.2525.2	25	25	150		TX R/N/L ...2	109,10	125	109,10	125
R/L 618.3232.2	32	32	170		TX R/N/L ...2	122,70	132	122,70	132
R/L 618.2020.3	20	20	125	30	TX R/N/L ...3	104,80	220	104,80	220
R/L 618.2525.3	25	25	150		TX R/N/L ...3	109,10	225	109,10	225
R/L 618.3232.3	32	32	170		TX R/N/L ...3	122,70	232	122,70	232
R/L 618.2020.4	20	20	125	30	TX R/N/L ...4	104,80	320	104,80	320
R/L 618.2525.4	25	25	150		TX R/N/L ...4	109,10	325	109,10	325
R/L 618.3232.4	32	32	170		TX R/N/L ...4	122,70	332	122,70	332

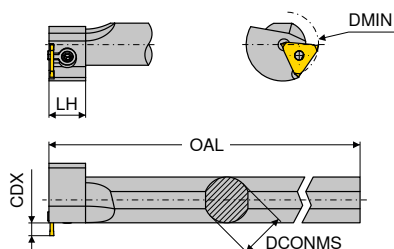
Spare parts	2A/28		Y6		Y6		Y6		Y6	
	Key I		right hand		left hand		Clamping screw		Guide pin	
	Article no. 70 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...		Article no. 73 950 ...	
for grooving inserts	EUR		EUR		EUR		EUR		EUR	
TX R/N/L ...2	SW03	2,45 176	30,41 001				M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...2	SW03	2,45 176		30,41 005			M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...3	SW03	2,45 176	30,41 001				M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...3	SW03	2,45 176		30,41 005			M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...4	SW03	2,45 176		30,41 007			M6x20	4,30 028	Ø 4x18	0,39 030
TX R/N/L ...4	SW03	2,45 176	30,41 002				M6x20	4,30 028	Ø 4x18	0,39 030



→ 62+63

MonoClamp – Radial Boring bar TX

- ▲ For radial internal grooving
- ▲ Cutting width 0,5–6,3 mm



Illustrations show right-hand versions

Designation	DCONMS _{g7}	DMIN	OAL	LH	CDX	for grooving inserts	Left-hand		Right-hand	
							Y6		Y6	
							Article no. 73 511 ...		Article no. 73 510 ...	
	mm	mm	mm	mm	mm		EUR		EUR	
R/L 660.0025.1	25	46	170	20	2	TX R/N/L ...1	123,70	125	123,70	125
R/L 660.0032.1	32	46	200	20	2	TX R/N/L ...1	152,10	132	152,10	132
R/L 660.0040.1	40	46	250		2	TX R/N/L ...1	153,10	140	153,10	140
R/L 660.0025.2	25	46	170	20	2	TX R/N/L ...2	123,70	225	123,70	225
R/L 660.0032.2	32	46	200	20	2	TX R/N/L ...2	152,10	232	152,10	232
R/L 660.0040.2	40	46	250		2	TX R/N/L ...2	153,10	240	153,10	240
R/L 660.0025.3	25	46	170	20	2	TX R/N/L ...3	123,70	325	123,70	325
R/L 660.0032.3	32	46	200	20	2	TX R/N/L ...3	152,10	332	152,10	332
R/L 660.0040.3	40	46	250		2	TX R/N/L ...3	153,10	340	153,10	340
R/L 660.0025.4	25	46	170	20	2	TX R/N/L ...4	123,70	425	123,70	425
R/L 660.0032.4	32	46	200	20	2	TX R/N/L ...4	152,10	432	152,10	432
R/L 660.0040.4	40	46	250		2	TX R/N/L ...4	153,10	440	153,10	440

Bore-Ø _{min} in mm	46	50	60	80	100	for grooving insert
T _{max} (mm)	2	3	4	4,5	5	TX R/N/L ...1
	2	3	4	4,5	5	TX R/N/L ...2
	2	3	4	4,5	5	TX R/N/L ...3
	2	3	4	4,5	5	TX R/N/L ...4

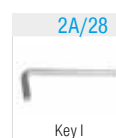
Spare parts

for grooving inserts

	Article no. 73 950 ...		Article no. 70 950 ...		Article no. 73 950 ...	
	EUR		EUR		EUR	
TX R/N/L ...1	25,90	011	2,45	176	4,30	009
TX R/N/L ...2	25,90	011	2,45	176	4,30	009
TX R/N/L ...3	25,90	011	2,45	176	4,30	009
TX R/N/L ...4	25,90	011	2,45	176	4,30	009



Clamping element



Key I

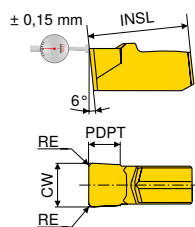
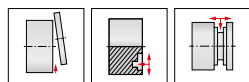


Clamping screw

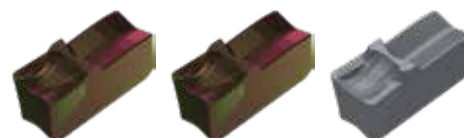
→ 62-64

Insert LX

- ▲ Grooving width 8 and 10 mm
- ▲ Axial grooving from Ø 500 mm onwards
- ▲ Internal grooving and turning, from Ø 200 mm onwards



-M2 CTCP325	-M2 CTCP335	-M2 CTP1340
-M2 HCR1325	-M2 HCR1335	-M2 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL	CW $-/+0,08$	RE $+/-0,1$	PDPT	for tool holder	1A/15 Article no. 70 337 ... EUR	1A/15 Article no. 70 337 ... EUR	1A/15 Article no. 70 337 ... EUR
LXE 8.00N0.80-M2	19	8	0,8	5	E32 N ..-LX	18,79 928	18,79 578	18,79 682
LXE 10.00N0.80-M2	19	10	0,8	5	E32 N ..-LX	25,05 932	25,05 582	25,05 678

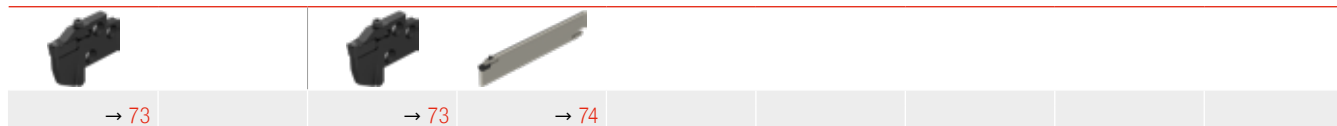
Steel	●	●	●
Stainless steel	○	○	●
Cast iron	●	●	●
Non ferrous metals			○
Heat resistant alloys			●
hardened materials	○		

→ v_c Page 101

→ Application recommendation on page 108

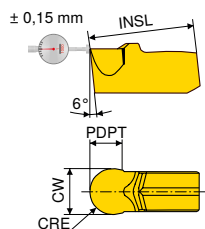
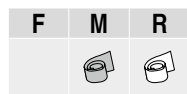
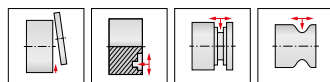
Internal machining

External machining



Radial Grooving Insert LX

- ▲ Grooving width 8 mm
- ▲ Axial grooving from Ø 500 mm
- ▲ Internal grooving and turning, from Ø 200 mm



-M3 CTCP325	-M3 CTCP335	-M3 CTP1340
-M3 HCR1325	-M3 HCR1335	-M3 CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN



Designation	INSL	CW $-/+0,08$	CRE	PDPT	for tool holder
	mm	mm	mm	mm	
LXR 4.00N-M3	19	8	4	5	E32 N ..-LX

1A/15	1A/15	1A/15
Article no. 70 337 ...	Article no. 70 337 ...	Article no. 70 337 ...
EUR 20,03	EUR 20,03	EUR 20,03
908	518	618

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

→ v_c Page 101

→ Application recommendation on page 108

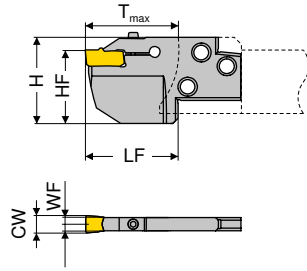
Internal machining

External machining

→ 73	→ 73	→ 74					

ModularClamp MSS – Axial and radial grooving module LX

- ▲ Grooving width 8 and 10 mm
- ▲ Axial grooving from Ø 500 mm onwards
- ▲ Internal grooving and turning, from Ø 200 mm onwards



Neutral

Designation	CW	WF	LF	HF	H	T _{max. 1}	T _{max. 2}	T _{max. 3}	for grooving inserts	2C/71	
										Article no.	
E32 N 25-LX	8 / 10	3,4	27	32	44	25	19	14	LX ..	70 835 ...	
E32 N 32-LX	8 / 10	3,4	37	32	44	32	26	21	LX ..	EUR	032
E32 N 45-LX	8 / 10	3,4	47	32	44	45	39	34	LX ..	95,84	132
										95,84	232

Radial grooving

Axial grooving

D_{min} > 500 mm

Internal grooving

D_{min} > 200 mm

Spare parts	Y7		2A/28	
	Key D		Clamping screw	
for grooving inserts	Article no. 80 950 ...		Article no. 70 950 ...	
LX ..	EUR 9,95 114		EUR 4,76 204	
	T20		M4x18	

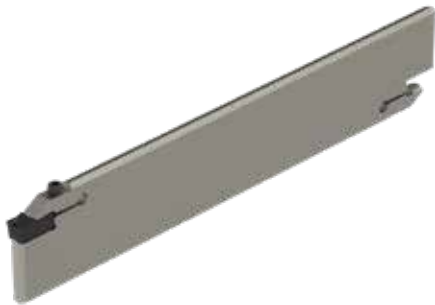
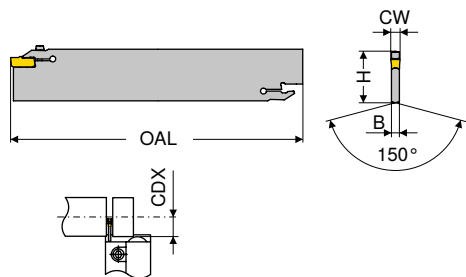


→ 71+72	→ 93-95								
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MonoClamp – Blade LX

Scope of supply:

Blade incl. clamping screw and tightening wrench

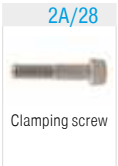
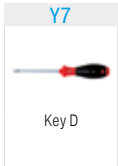


Designation	H	B	OAL	CW	CDX	for grooving inserts	2A/25 Article no. 70 833 ... EUR 251,30	108
XLCEN 4608-LX	46 mm	6,8 mm	250 mm	8/10 mm	80 mm	LX ..		

Spare parts

for grooving inserts

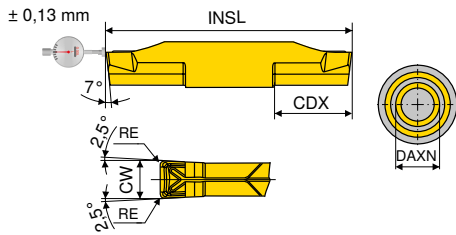
LX ..	T20	Article no. 80 950 ... EUR 9,95	114	M4x18	Article no. 70 950 ... EUR 4,76	204
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→ 71+72	→ 98+99	→ Chapter 16						
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Grooving insert AX

- ▲ Very good chip control
- ▲ DAXN minimum groove diameter refers to the outside diameter



-F50
CTP1340

-F50
CCN1340

DRAGONSKIN



Designation	IH	INSL	CW $\pm 0,02$	RE $\pm 0,05$	CDX	DAXN	for tool holder
		mm	mm	mm	mm	mm	
AX 05 E3.00 N 0.30	N	24	3	0,3	5	10	E.. R/L...-AX 05
AX 10 E3.00 N 0.30	N	34	3	0,3	10	20	E.. R/L...-AX 10
AX 15 E3.00 N 0.30	N	44	3	0,3	15	30	E.. R/L...-AX 15

1C/72

Article no.
70 327 ...

EUR
27,49 005
28,51 010
29,98 015

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

→ v_c Page 101

→ Application recommendation on page 109

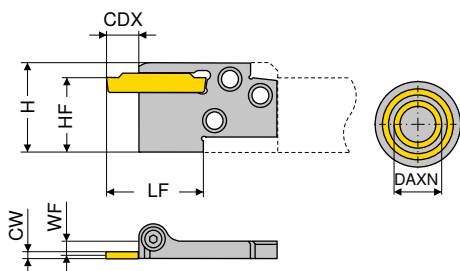
Internal machining

External machining

		→ 76	→ 77	→ 78				

ModularClamp MSS – Axial grooving module AX

▲ For axial grooving and turning



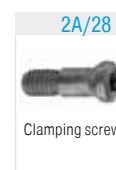
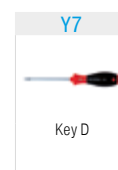
Illustrations show right-hand versions

Designation	HF	CW	WF	LF	H	DAXN	CDX	for grooving inserts	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no. 70 827 ...		Article no. 70 828 ...	
	mm	mm	mm	mm	mm	mm	mm		EUR		EUR	
E16 R/L 05-AX 05	16	3	2,5	24,0	20,5	10	5	AX05	94,37	016	94,37	016
E20 R/L 05-AX 05	20	3	3,1	28,0	25,0	10	5	AX05	94,37	020	94,37	020
E25 R/L 05-AX 05	25	3	4,6	27,5	30,0	10	5	AX05	95,42	025	95,42	025
E20 R/L 10-AX 10	20	3	3,1	33,0	25,0	20	10	AX10	94,37	120	94,37	120
E25 R/L 10-AX 10	25	3	4,6	32,5	30,0	20	10	AX10	95,42	125	95,42	125
E20 R/L 15-AX 15	20	3	3,1	44,0	25,0	30	15	AX15	94,37	220	94,37	220
E25 R/L 15-AX 15	25	3	4,6	43,5	30,0	30	15	AX15	95,42	225	95,42	225

Spare parts

for Article no.

		Article no. 80 950 ...		Article no. 70 950 ...	
		EUR		EUR	
70 827 016 / 70 828 016	T15	9,28	113	M3,5x12,5	8,97 441
70 827 020 / 70 828 020	T15	9,28	113	M4x14	8,58 403
70 827 025 / 70 828 025	T20	9,95	114	M5x18	5,72 404
70 827 120 / 70 828 120	T15	9,28	113	M4x14	8,58 403
70 827 125 / 70 828 125	T20	9,95	114	M5x18	5,72 404
70 827 220 / 70 828 220	T15	9,28	113	M4x14	8,58 403
70 827 225 / 70 828 225	T20	9,95	114	M5x18	5,72 404

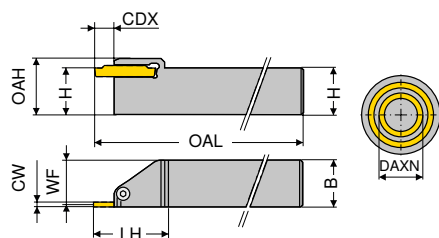


→ 75

→ 93-95

→ Chapter 16

MonoClamp – Axial AX Grooving Holder 0°, up to 15 mm groove depth



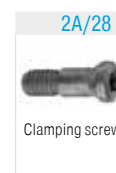
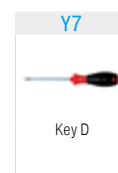
Illustrations show right-hand versions

Designation	H	B	OAL	LH	OAH	CDX	CW	WF	DAXN	for grooving inserts	Left-hand		Right-hand	
											NEW 2C/71		NEW 2C/71	
											Article no.	EUR	Article no.	EUR
E20 R/L 0005-2020-AX 05	20	20	140	28	25	5	3	18,7	10	AX05	70 823 ...	132,10	70 824 ...	132,10
E20 R/L 0010-2020-AX 10	20	20	140	38	25	10	3	18,7	20	AX10	02000	12000	02000	12000
E20 R/L 0015-2020-AX 15	20	20	140	49	25	15	3	18,7	30	AX15	132,10	22000	132,10	22000
E25 R/L 0005-2525-AX 05	25	25	160	28	30	5	3	23,7	10	AX05	141,50	02500	141,50	02500
E25 R/L 0010-2525-AX 10	25	25	160	38	30	10	3	23,7	20	AX10	141,50	12500	141,50	12500
E25 R/L 0015-2525-AX 15	25	25	160	49	30	15	3	23,7	30	AX15	141,50	22500	141,50	22500

Spare parts

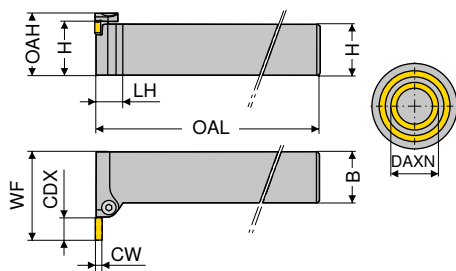
for Article no.

		Article no. 80 950 ...		Article no. 70 950 ...	
		EUR		EUR	
70 824 02000 / 70 823 02000	T20	7,52	106	5,72	404
70 824 12000 / 70 823 12000	T20	7,52	106	5,72	404
70 824 22000 / 70 823 22000	T20	7,52	106	5,72	404
70 824 02500 / 70 823 02500	T20	7,52	106	5,72	404
70 824 12500 / 70 823 12500	T20	7,52	106	5,72	404
70 824 22500 / 70 823 22500	T20	7,52	106	5,72	404



→ 75

MonoClamp – Axial AX Grooving Holder 90°, up to 15 mm groove depth



Illustrations show right-hand versions

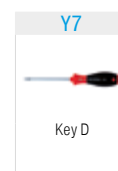


Designation	H	B	WF	OAH	OAL	LH	CDX	DAXN	CW	Left-hand		Right-hand	
										NEW 2C/71	Article no.	NEW 2C/71	Article no.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	70 825 ...		70 826 ...	
										EUR		EUR	
E20 R/L 9005-2020-AX 05	20	20	28	25	110	12	5	10	3	132,10	02000	132,10	02000
E20 R/L 9010-2020-AX 10	20	20	38	25	110	13	10	20	3	132,10	12000	132,10	12000
E20 R/L 9015-2020-AX 15	20	20	49	25	110	13	15	30	3	132,10	22000	132,10	22000
E25 R/L 9005-2525-AX 05	25	25	33	30	140	12	5	10	3	141,50	02500	141,50	02500
E25 R/L 9010-2525-AX 10	25	25	43	30	110	13	10	20	3	141,50	12500	141,50	12500
E25 R/L 9015-2525-AX 15	25	25	49	30	140	13	15	30	3	141,50	22500	141,50	22500

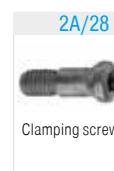
Spare parts

for Article no.

		Article no.		Article no.	
		80 950 ...		70 950 ...	
		EUR		EUR	
70 825 22000 / 70 826 22000	T20	7,52	106	M5x18	5,72 404
70 825 12000 / 70 826 12000	T20	7,52	106	M5x18	5,72 404
70 825 02000 / 70 826 02000	T15	7,05	105	M4x14	8,58 403
70 825 22500 / 70 826 22500	T20	7,52	106	M5x18	5,72 404
70 825 12500 / 70 826 12500	T20	7,52	106	M5x18	5,72 404
70 825 02500 / 70 826 02500	T15	7,05	105	M4x14	8,58 403



Key D

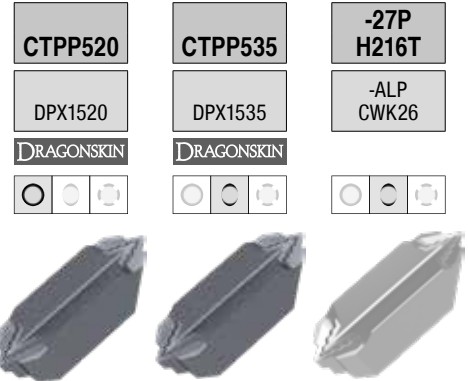
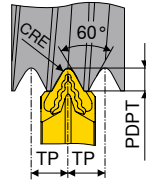
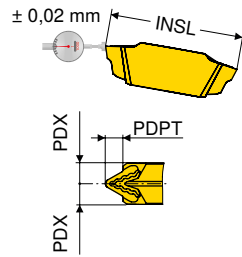


Clamping screw



→ 75

Threading inserts TC full profile – External thread 60°



Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84		1C/84		1C/84	
								Article no.		Article no.		Article no.	
								70 357 ...		70 357 ...		70 357 ...	
		mm	mm	mm	mm	mm		EUR		EUR		EUR	
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	21,80	010	21,80	110	17,60	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	21,80	012	21,80	112	17,60	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	21,80	014	21,80	114	17,60	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	21,80	016	21,80	116	17,60	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	21,80	018	21,80	118	17,60	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	21,80	030	21,80	130	17,60	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	21,80	032	21,80	132	17,60	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	21,80	034	21,80	134	17,60	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	21,80	036	21,80	136	17,60	636
TC 16-3 E 3.5 ISO	TC 16-3 ...	3,50	16	2,21	3,10	0,44	E25 N TC 16-3	21,80	050	21,80	150		
TC 16-3 E 4.0 ISO	TC 16-3 ...	4,00	16	2,53	3,10	0,50	E25 N TC 16-3	21,80	052	21,80	152		
TC 16-3 E 5.0 ISO	TC 16-3 ...	5,00	16	3,16	3,10	0,63	E25 N TC 16-3	21,80	056	21,80	156		

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

→ v_c Page 101

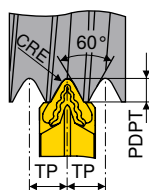
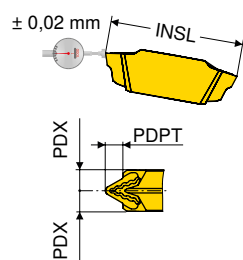
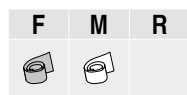
→ Application recommendation on page 110

Internal machining

External machining

		→ 84	→ 85						

Threading inserts TC full profile – Internal thread 60°



CTPP535

DPX1535

DRAGONSKIN



CTPP520

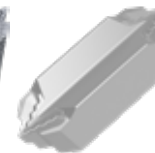
DPX1520

DRAGONSKIN



-27P
H216T

-ALP
CWK26



Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84		1C/84		1C/84	
								Article no. 70 358 ...		Article no. 70 358 ...		Article no. 70 358 ...	
		mm	mm	mm	mm	mm		EUR		EUR		EUR	
TC 16-1 1.0 ISO	TC 16-1 ...	1,00	16	0,59	1,05	0,06	I32 R/L TC 16-1	21,80	114	21,80	014	17,60	614
TC 16-1 1.25 ISO	TC 16-1 ...	1,25	16	0,74	1,05	0,07	I32 R/L TC 16-1	21,80	116	21,80	016	17,60	616
TC 16-1 1.5 ISO	TC 16-1 ...	1,50	16	0,89	1,05	0,09	I32 R/L TC 16-1	21,80	118	21,80	018	17,60	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	21,80	120	21,80	020	17,60	620
TC 16-2 2.0 ISO	TC 16-2 ...	2,00	16	1,17	2,15	0,13	I32 R/L TC 16-2	21,80	132	21,80	032	17,60	632
TC 16-2 3.0 ISO	TC 16-2 ...	3,00	16	1,76	2,15	0,19	I32 R/L TC 16-2	21,80	136	21,80	036	17,60	636
Steel								•		•		•	
Stainless steel								•		•		•	
Cast iron								•		•		•	
Non ferrous metals								○		○		○	
Heat resistant alloys								•		○		•	
hardened materials								•		○		•	

→ v_c Page 101

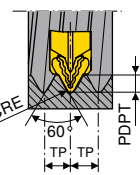
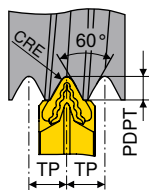
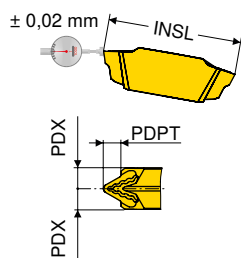
→ Application recommendation on page 110

Internal machining

External machining

→ 86		→ 87											

Threading inserts TC partial profile 60°



CTPP535

DPX1535

DRAGONSKIN



CTPP520

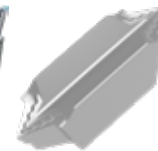
DPX1520

DRAGONSKIN



**-27P
H216T**

-ALP
CWK26



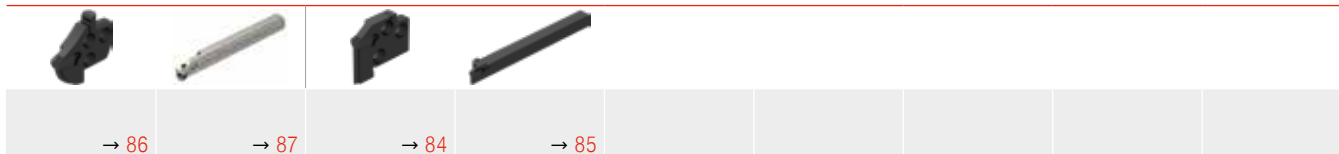
Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 355 ... EUR	1C/84 Article no. 70 355 ... EUR	1C/84 Article no. 70 355 ... EUR
TC 16-1 EI A 60	TC 16-1 ...	0,5 - 1,5	16	1,27	1,05	0,03	E/l.. R/L TC 16-1	21,80	110	17,60
TC 16-2 EI G 60	TC 16-2 ...	1,75 - 3,0	16	2,49	2,15	0,11	E/l.. R/L/N TC 16-2	21,80	130	17,60
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	21,80	132	17,60
TC 16-3 EI N 60	TC 16-3 ...	3,5 - 5,0	16	4,11	3,10	0,22	E/l.. N TC 16-3	21,80	150	17,60
Steel								•	•	
Stainless steel								•	•	
Cast iron									•	•
Non ferrous metals								○	○	•
Heat resistant alloys								•	○	
hardened materials										

→ v_c Page 101

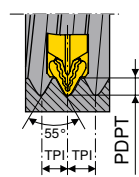
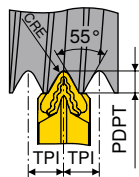
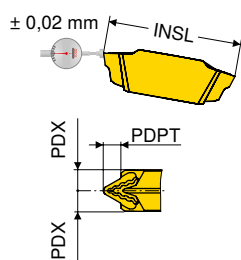
→ Application recommendation on page 110

Internal machining

External machining



Threading inserts TC full profile 55°



CTPP520

DPX1520

DRAGONSKIN



CTPP535

DPX1535

DRAGONSKIN

-27P
H216T-ALP
CWK26

Designation	Size	TPI	INSL	PDPT	PDX	CRE	for tool holder	1C/84		1C/84		1C/84	
								Article no.	Article no.	Article no.	Article no.	Article no.	Article no.
								70 359 ...	70 359 ...	70 359 ...	70 359 ...	70 359 ...	70 359 ...
		1/"	mm	mm	mm	mm		EUR	EUR	EUR	EUR	EUR	EUR
TC 16-1 EI 28 W	TC 16-1 ...	28	16	0,60	1,05	0,12	E/I.. R/L TC 16-1	21,80 010	21,80 110				
TC 16-1 EI 20 W	TC 16-1 ...	20	16	0,84	1,05	0,17	E/I.. R/L TC 16-1	21,80 016					
TC 16-1 EI 19 W	TC 16-1 ...	19	16	0,88	1,05	0,17	E/I.. R/L TC 16-1	21,80 018	21,80 118	17,60	618		
TC 16-1 EI 16 W	TC 16-1 ...	16	16	1,05	1,05	0,21	E/I.. R/L TC 16-1	21,80 022					
TC 16-2 EI 14 W	TC 16-2 ...	14	16	1,20	2,15	0,23	E/I.. R/L/N TC 16-2	21,80 030	21,80 130	17,60	630		
TC 16-2 EI 12 W	TC 16-2 ...	12	16	1,40	2,15	0,27	E/I.. R/L/N TC 16-2		21,80 132				
TC 16-2 EI 11 W	TC 16-2 ...	11	16	1,53	2,15	0,30	E/I.. R/L/N TC 16-2	21,80 034	21,80 134	17,60	634		
Steel								•	•				
Stainless steel								•	•				
Cast iron								•			•		
Non ferrous metals								○	○		•		
Heat resistant alloys								○	•				
hardened materials													

→ v_c Page 101

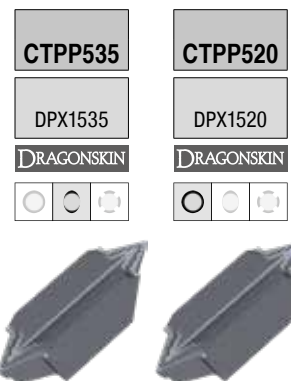
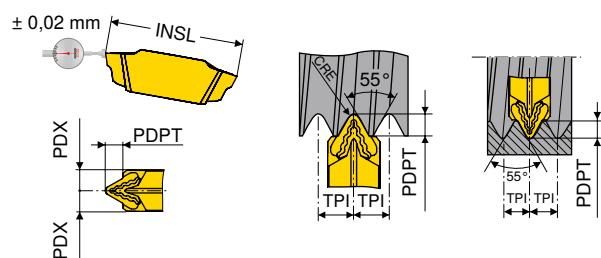
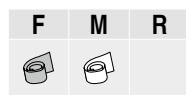
→ Application recommendation on page 110

Internal machining

External machining

→ 86	→ 87	→ 84	→ 85						

Threading inserts TC partial profile 55°



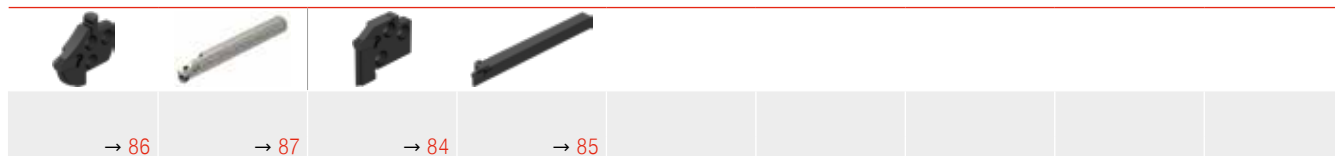
Designation	Size	TPI	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 356 ... EUR	1C/84 Article no. 70 356 ... EUR
TC 16-1 EI A 55	TC 16-1 ...	28 - 16	16	1,39	1,05	0,12	E/L. R/L TC 16-1	21,80	110
TC 16-2 EI AG 55	TC 16-2 ...	28 - 8	16	2,91	2,15	0,12	E/L. R/L/N TC 16-2	21,80	132
TC 16-2 EI G 55	TC 16-2 ...	14 - 8	16	2,78	2,15	0,23	E/L. R/L/N TC 16-2	21,80	130
TC 16-3 EI N 55	TC 16-3 ...	7 - 5	16	4,34	3,10	0,46	E/L. N TC 16-3	21,80	150
Steel								•	•
Stainless steel								•	•
Cast iron									•
Non ferrous metals								○	○
Heat resistant alloys								•	○
hardened materials									

→ v_c Page 101

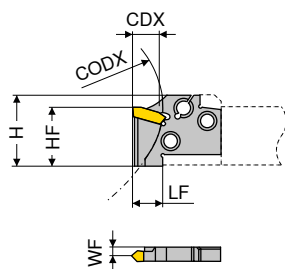
→ Application recommendation on page 110

Internal machining

External machining



ModularClamp MSS – Threading module TC for external threads



										Left-hand		Neutral		Right-hand	
										2C/82		2C/82		2C/82	
Designation	TP	TPI	WF	HF	LF	H	CODX	CDX	for grooving inserts	Article no.		Article no.		Article no.	
										70 872 ...		70 872 ...		70 872 ...	
	mm	1/"	mm	mm	mm	mm	mm	mm		EUR		EUR		EUR	
E20 R/L TC 16-1	0,5 - 1,5	28 - 16	3,45	13	20	24	60	8	TC 16-1 ...	85,88	120			85,88	020
E20 N TC 16-2	1,75 - 3,0	14 - 8	2,20	13	20	24		12	TC 16-2 ...			85,88	220		
E25 R/L TC 16-1	0,5 - 1,5	28 - 16	5,20	13	25	30	75	8	TC 16-1 ...	86,51	125			86,51	025
E25 R/L TC 16-2	1,75 - 3,0	14 - 8	4,10	13	25	30	75	10	TC 16-2 ...	86,51	325			86,51	225
E25 N TC 16-3	3.5 - 5.0	7 - 5	3.10	13	25	30		12	TC 16-3 ...			86,51	425		

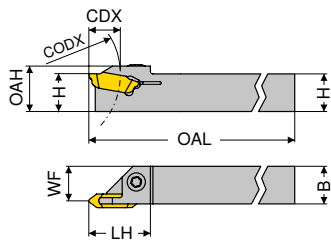


→ 79-83

→ 93-95

→ Chapter 16

MonoClamp – Monobloc tool TC for external thread cutting



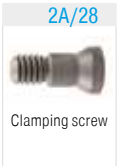
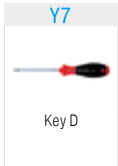
Illustrations show right-hand versions

											Left-hand		Right-hand			
Designation	TP	TPI	H	B	OAL	LH	OAH	WF	CODX	for grooving inserts	2C/83		2C/83			
											Article no.		Article no.			
											70 883 ...		70 882 ...			
	mm	1/"	mm	mm	mm	mm	mm	mm	mm	mm		EUR		EUR		
E12 R/L 00-1212 TC16	0,5 - 3	28 - 8	12	12	150	20	14,5	11	30	TC16-1/2..	EUR	127,40	012	EUR	127,40	012

Spare parts

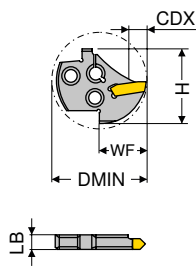
for grooving inserts

TC16-1/2..	T15	Article no.	80 950 ...	EUR	9,28	113	M4x11	Article no.	70 950 ...	EUR	10,34	442
------------	-----	-------------	------------	-----	------	-----	-------	-------------	------------	-----	-------	-----



→ 79-83												
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ModularClamp MSS – Threading module TC for internal threads

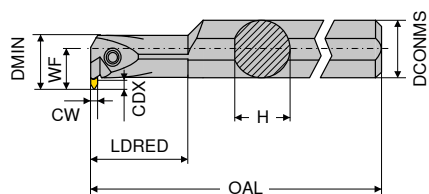


Designation	TP	TPI	LB	WF	H	DMIN	CDX	for grooving inserts	Left-hand	Neutral	Right-hand
									2C/82	2C/82	2C/82
									Article no.	Article no.	Article no.
									70 887 ...	70 887 ...	70 887 ...
I32 R/L TC 16-1	0,5 - 1,5	28 - 16	6,2	5,2	32,2	40	7	TC 16-1 ...	EUR 87,34	132	EUR 87,34 032
I32 R/L TC 16-2	1,75 - 3,0	14 - 8	6,2	4,1	32,2	40	7	TC 16-2 ...	EUR 87,34	332	EUR 87,34 232
I32 N TC 16-3	3,5 - 5,0	7 - 5	6,2	3,1	32,2	40	7	TC 16-3 ...		EUR 87,34 432	



→ 79-83	→ 96							
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MonoClamp – Monobloc Boring bar TC for internal thread cutting



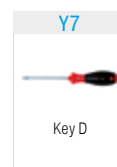
Illustrations show right-hand versions

Designation	WF	DCONMS	H	OAL	LDRED	CDX	DMIN	for grooving inserts	Left-hand		Right-hand	
									2C/83		2C/83	
	mm	mm	mm	mm	mm	mm	mm		Article no.		Article no.	
I16 R/L 90-2D TC16	14,0	20	18	180	32	4	20	TC16-1/2..	70 857 ...		70 856 ...	
I20 R/L 90-2D TC16	17,5	25	23	200	40	5	25	TC16-..	EUR		EUR	
I25 R/L 90-2D TC16	22,0	32	30	250	50	6	32	TC16-..	138,70	016	138,70	016
									152,80	020	152,80	020
									172,90	025	172,90	025

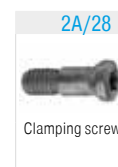
Spare parts

for Article no.

	Article no.		Article no.	
	80 950 ...		70 950 ...	
70 857 016 / 70 856 016	T15	9,28 113	M4x14	8,58 403
70 857 020 / 70 856 020	T20	9,95 114	M5x18	5,72 404
70 857 025 / 70 856 025	T25	10,22 115	M6x20	4,23 405



Key D



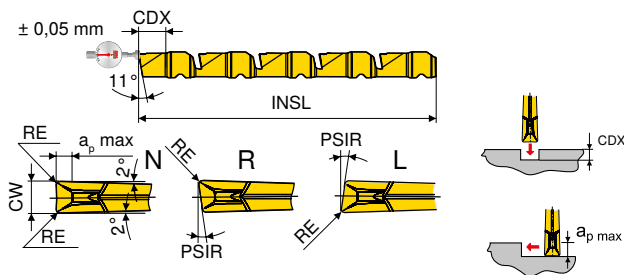
Clamping screw



→ 79-83

MaxiClick – Insert – Cutting depth 5 mm

▲ 5 cutting edges

**-F2**
CTP1340**-F2**
CCN1340**DRAGONSKIN**

Designation	IH	CW	RE	PSIR	INSL	a _{p max}	CDX	for tool holder	1C/72	
									Article no.	
		mm	mm		mm	mm	mm		70 338 ...	
MC 05-5-1.00 L 07-F2	L	1,0	0,1	7°	59,2		5	MC 05 R/L	EUR 34,80	250
MC 05-5-1.50 L 07-F2	L	1,5	0,1	7°	59,2		5	MC 05 R/L	EUR 34,80	260
MC 05-5-1.00 N 0.10-F2	N	1,0	0,1		59,2	0,5	5	MC 05 R/L	EUR 34,80	210
MC 05-5-1.50 N 0.10-F2	N	1,5	0,1		59,2	1,0	5	MC 05 R/L	EUR 34,80	220
MC 05-5-1.00 R 07-F2	R	1,0	0,1	7°	59,2		5	MC 05 R/L	EUR 34,80	230
MC 05-5-1.50 R 07-F2	R	1,5	0,1	7°	59,2		5	MC 05 R/L	EUR 34,80	240

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

→ v_c Page 106

Internal machining

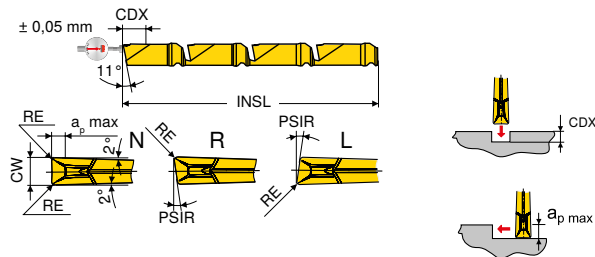
External machining



→ 91

MaxiClick insert – Cutting depth 10 mm

▲ 4 cutting edges

**-F2**
CTP1340**-F2**
CCN1340**DRAGONSKIN**

Designation	IH	CW	RE	PSIR	INSL	a _{p max}	CDX	for tool holder	1C/72	
									Article no.	
		mm	mm		mm	mm	mm		70 339 ...	
MC 10-4-1.50 L 07-F2	L	1,5	0,1	7°	59,2		10	MC 10 R/L	28,64	270
MC 10-4-2.00 L 07-F2	L	2,0	0,1	7°	59,2		10	MC 10 R/L	28,64	280
MC 10-4-2.50 L 07-F2	L	2,5	0,1	7°	59,2		10	MC 10 R/L	28,64	290
MC 10-4-1.50 N 0.10-F2	N	1,5	0,1		59,2	1,0	10	MC 10 R/L	28,64	210
MC 10-4-2.00 N 0.10-F2	N	2,0	0,1		59,2	1,5	10	MC 10 R/L	28,64	220
MC 10-4-2.50 N 0.10-F2	N	2,5	0,1		59,2	2,0	10	MC 10 R/L	28,64	230
MC 10-4-1.50 R 07-F2	R	1,5	0,1	7°	59,2		10	MC 10 R/L	28,64	240
MC 10-4-2.00 R 07-F2	R	2,0	0,1	7°	59,2		10	MC 10 R/L	28,64	250
MC 10-4-2.50 R 07-F2	R	2,5	0,1	7°	59,2		10	MC 10 R/L	28,64	260

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

→ v_c Page 106

Internal machining

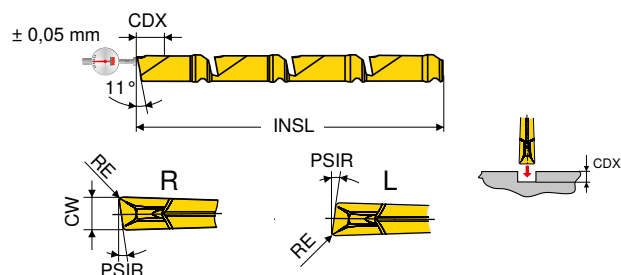
External machining



→ 92

MaxiClick insert – Cutting depth 10 mm

▲ 4 cutting edges

**-F3**
CTP1340**-F3**
CCN1340**DRAGONSKIN**

Designation	IH	CW	RE	PSIR	INSL	CDX	for tool holder	1C/72	
								Article no.	
		mm	mm		mm	mm		70 340 ...	
MC 10-4-1.50 L 12-F3	L	1,5	0,1	12°	59,2	10	MC 10 R/L	EUR 28,64	270
MC 10-4-2.00 L 12-F3	L	2,0	0,1	12°	59,2	10	MC 10 R/L	28,64	280
MC 10-4-2.50 L 12-F3	L	2,5	0,1	12°	59,2	10	MC 10 R/L	28,64	290
MC 10-4-1.50 R 12-F3	R	1,5	0,1	12°	59,2	10	MC 10 R/L	28,64	240
MC 10-4-2.00 R 12-F3	R	2,0	0,1	12°	59,2	10	MC 10 R/L	28,64	250
MC 10-4-2.50 R 12-F3	R	2,5	0,1	12°	59,2	10	MC 10 R/L	28,64	260

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

→ v_c Page 106

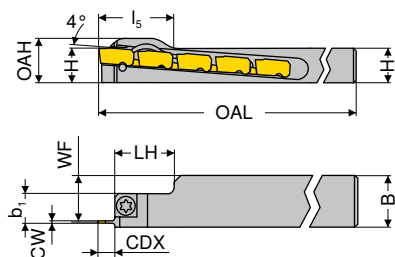
Internal machining

External machining

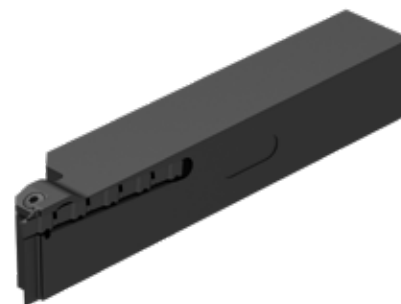


→ 92

MaxiClick – Toolholder – Cutting depth 5 mm



Illustrations show right-hand versions



Designation	H	OAH	B	b ₁	CW	CDX	WF	OAL	LH	I ₅	for grooving inserts	Left-hand		Right-hand	
												2C/71	2C/71	2C/71	2C/71
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		Article no.	Article no.	Article no.	Article no.
												70 873 ...	70 873 ...	70 873 ...	70 873 ...
												EUR	EUR	EUR	EUR
MC 05 R/L -1010K	10	13	10	10	1,00 - 1,50	5	8,5	125	23	27	MC 05	88,61	210	88,61	110
MC 05 R/L -1212K	12	15	12	12	1,00 - 1,50	5	10,5	125	23	27	MC 05	88,61	212	88,61	112
MC 05 R/L -1616K	16	19	16	12	1,00 - 1,50	5	14,5	125	23	20	MC 05	88,61	216	88,61	116
MC 05 R/L -2020K	20	23	20	12	1,00 - 1,50	5	18,8	125	23	20	MC 05	103,00	220	103,00	120
MC 05 R/L -2525M	25	28	25	12	1,00 - 1,50	5	23,5	150	23	21	MC 05	109,70	225	109,70	125

Spare parts

for grooving inserts

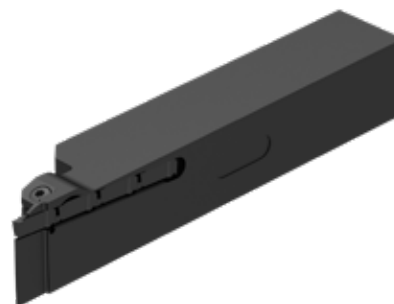
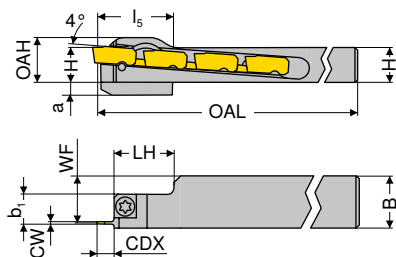
MC 05

	2A/28		2A/28	
	Key-T		Clamping screw	
	Article no.		Article no.	
	70 950 ...		70 950 ...	
	EUR		EUR	
T15	6,41	738	M4x11	3,40 174



→ 88

MaxiClick – Toolholder – Cutting depth 10 mm



Illustrations show right-hand versions

Designation	H	OAH	B	b ₁	a	CW	CDX	WF	OAL	LH	I ₅	for grooving inserts	Left-hand		Right-hand	
													2C/71		2C/71	
													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	EUR 88,61	210	EUR 88,61	110
MC 10 R/L -1010K-S	10	13	10	10	6	1,50 - 2,50	10	8,5	125	28	27	MC 10	EUR 88,61	410 ¹⁾	EUR 88,61	310 ¹⁾
MC 10 R/L -1212K	12	15	12	12		1,50 - 2,50	10	10,5	125	28		MC 10	EUR 88,61	212	EUR 88,61	112
MC 10 R/L -1212K-S	12	15	12	12	4	1,50 - 2,50	10	10,5	125	28	27	MC 10	EUR 88,61	412 ¹⁾	EUR 88,61	312 ¹⁾
MC 10 R/L -1616K	16	19	16	12		1,50 - 2,50	10	14,5	125	28	20	MC 10	EUR 88,61	216	EUR 88,61	116
MC 10 R/L -2020K	20	23	20	12		1,50 - 2,50	10	18,8	125	28	20	MC 10	EUR 103,00	220	EUR 103,00	120
MC 10 R/L -2525M	25	28	25	12		1,50 - 2,50	10	23,5	150	28	21	MC 10	EUR 109,70	225	EUR 109,70	125

1) -S = strengthened variant

Spare parts

for grooving inserts

MC 10	T15	Article no. 70 950 ... EUR 6,41	738	M4x11	Article no. 70 950 ... EUR 3,40	174
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2A/28



Key-T

2A/28

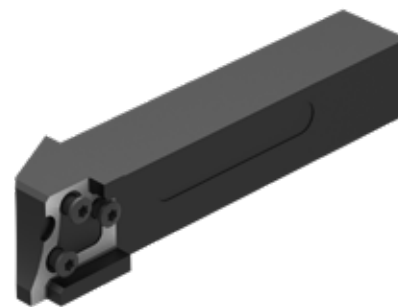
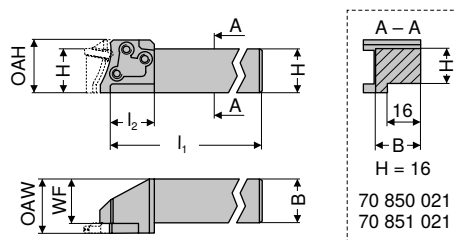


Clamping screw



→ 89+90

ModularClamp MSS – Tool holder 0°



Illustrations show right-hand versions

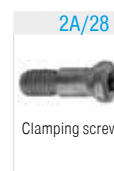
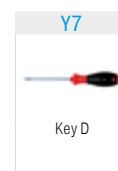
Designation	H	B	OAW	OAH	WF	l ₁	l ₂	for modules	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no.		Article no.	
	mm	mm	mm	mm	mm	mm	mm		70 851 ...		70 850 ...	
									EUR		EUR	
E12 R/L 00-1212E	12	12	15,25	14,5	11,75	70	12	E12 R/L ...	131,20	012	131,20	012
E16 R/L 00-1616G	16	16	19,25	19,5	15,75	90	16	E16 R/L ...	132,50	016	132,50	016
E20 R/L 00-1620G	16	20	24,25	24,0	20,15	90	20	E20 R/L ...	133,70	021 ¹⁾	133,70	021 ¹⁾
E20 R/L 00-2020J	20	20	24,25	24,0	20,15	110	20	E20 R/L ...	133,70	020	133,70	020
E25 R/L 00-2525L	25	25	31,00	30,0	25,50	140	25	E25 R/L ...	136,50	025	136,50	025
E32 R/L 00-3225N	32	25	31,00	38,0	25,50	160	32	E32 R/L ...	140,20	032	140,20	032

1) see view A-A

Spare parts

for Article no.

70 851 012 / 70 850 012	T08	7,80	110	M2,5x10	7,09	440
70 851 016 / 70 850 016	T15	9,28	113	M3,5x12,5	8,97	441
70 851 021 / 70 850 021	T15	9,28	113	M4x14	8,58	403
70 851 020 / 70 850 020	T15	9,28	113	M4x14	8,58	403
70 851 025 / 70 850 025	T20	9,95	114	M5x18	5,72	404
70 851 032 / 70 850 032	T25	10,22	115	M6x20	4,23	405



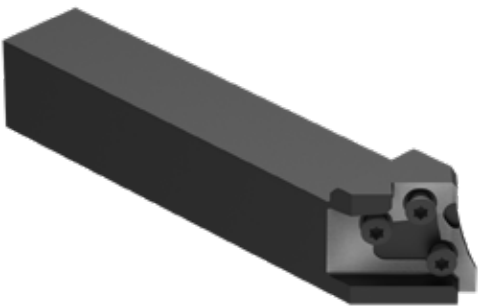
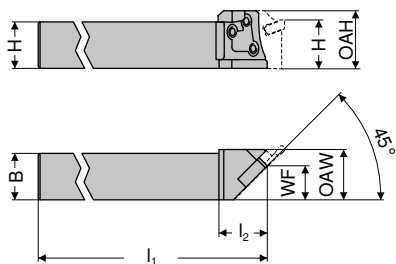
Module Overview



→ 4+5

i ModularClamp Holder with HSK-T interface can be found in → Chapter 16.

ModularClamp MSS – Tool holder 45°



Illustrations show right-hand versions

Designation	H	B	OAW	OAH	WF	l ₁	l ₂	for modules	Left-hand		Right-hand	
									2C/71		2C/71	
									Article no.		Article no.	
									70 853 ...		70 852 ...	
E20 R/L 45-2020J	20	20	21,5	24	14,5	110	20	E20 R/L ...	EUR		EUR	
E25 R/L 45-2525L	25	25	26,0	30	18,0	140	25	E25 R/L ...	133,70	020	133,70	020
									136,50	025	136,50	025

i For right hand holder → left hand module only
For left hand holder → right hand module only

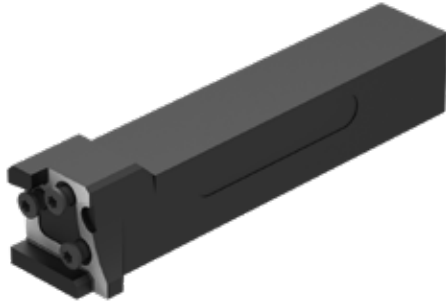
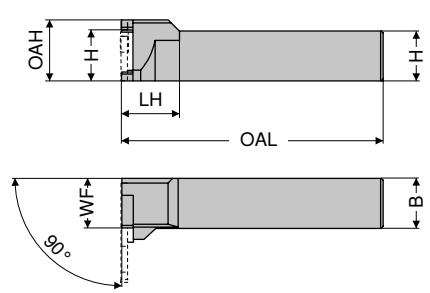
			Y7  Key D		2A/28  Clamping screw		2A/28  Clamping screw	
Spare parts			Article no. 80 950 ...		Article no. 70 950 ...		Article no. 70 950 ...	
for Article no.			EUR		EUR		EUR	
70 853 020 / 70 852 020			T15	9,28 113	M4x11	10,34 442	M4x14	8,58 403
70 853 025 / 70 852 025			T20	9,95 114	M5x13,5	10,75 513	M5x18	5,72 404

Module Overview



→ 4+5

ModularClamp MSS – Tool holder 90°



Illustrations show right-hand versions

Designation	H	B	OAH	WF	OAL	LH	for modules	Left-hand		Right-hand	
								2C/71	2C/71	2C/71	2C/71
	mm	mm	mm	mm	mm	mm		Article no.		Article no.	
E20 R/L 90-2020J	20	20	24	20	110	20	E20 R/L ...	70 855 ...		70 854 ...	
E25 R/L 90-2525L	25	25	30	25	140	28	E25 R/L ...	EUR		EUR	
E32 R/L 90-3225N	32	25	38	32	160	34	E32 R/L ...	133,70	020	133,70	020
								136,50	025	136,50	025
								140,20	032	140,20	032

i For right hand holder → left hand module only
For left hand holder → right hand module only

Spare parts

for Article no.		Article no.	EUR		Article no.	EUR	
70 855 020 / 70 854 020	T15	80 950 ...	9,28	113	M4x14	8,58	403
70 855 025 / 70 854 025	T20		9,95	114	M5x18	5,72	404
70 855 032 / 70 854 032	T25		10,22	115	M6x20	4,23	405

Module Overview

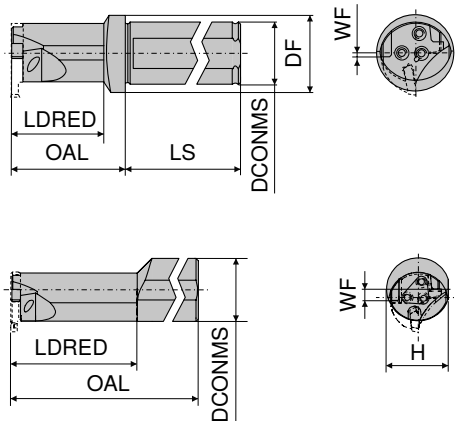


→ 4+5

i ModularClamp Holder with HSK-T interface can be found in → Chapter 16.

ModularClamp MSS – Boring bars GX / TC

▲ With internal coolant supply



Illustrations show right-hand versions

	Designation	DCONMS	DF	WF	H	OAL	LDRED	LS	for modules	Left-hand		Right-hand	
										2C/71	Article no.	2C/71	Article no.
		mm	mm	mm	mm	mm	mm	mm		70 861 ...	EUR	70 860 ...	EUR
≤ 1,5xD	I 16 R/L 90-1,5 D-N	20	25	1,0		32	24	50	I 16 R/L	146,40	017	146,40	017
	I 20 R/L 90-1,5 D-N	20	25	1,0		37	30	50	I 20 R/L	179,40	021	179,40	021
	I 25 R/L 90-1,5 D-N	25	32	1,5		46	38	56	I 25 R/L	205,60	026	205,60	026
	I 32 R/L 90-1,5 D-N	32	40	2,0		59	48	60	I 32 R/L	265,10	033 ¹⁾	265,10	033 ¹⁾
	I 40 R/L 90-1,5 D-N	40	50	2,5		72	60	70	I 40 R/L/N	330,60	041	330,60	041
≤ 2,5xD	I 16 R/L 90-2,5 D-N	20		4,5	19,0	180	40		I 16 R/L	157,80	117	157,80	117
	I 20 R/L 90-2,5 D-N	25		6,0	24,0	200	50		I 20 R/L	191,90	121	191,90	121
	I 25 R/L 90-2,5 D-N	32		7,0	31,0	250	63		I 25 R/L	219,60	126	219,60	126
	I 32 R/L 90-2,5 D-N	40		9,5	38,0	300	80		I 32 R/L	286,40	133 ¹⁾	286,40	133 ¹⁾
	I 40 R/L 90-2,5 D-N	50		11,5	48,5	350	100		I 40 R/L/N	364,70	141	364,70	141

1) with 2 clamping surfaces

Spare parts

for modules

		Article no.		Article no.	
		80 950 ...	EUR	70 950 ...	EUR
I 16 R/L	T08	7,80	110	M2,5x10	7,09 440
I 20 R/L	T10	9,14	112	M3x11	7,35 444
I 25 R/L	T15	9,28	113	M3,5x12,5	8,97 441
I 32 R/L	T20	9,95	114	M4,5x17	8,16 445
I 40 R/L/N	T20	9,95	114	M5x18	5,72 404

Module Overview



→ 6+7

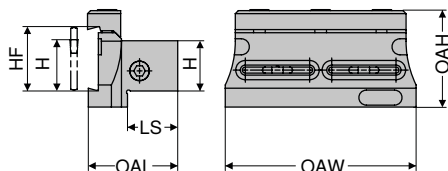


ModularClamp Holder with HSK-T interface can be found in → Chapter 16.

Split clamping block for blades DC

Scope of supply:

Complete clamping block, but without blade



Designation	H	HF	OAH	LS	OAL	OAW	for blades	2A/25	
	mm	mm	mm	mm	mm	mm		Article no. 70 829 ...	
SBN 2020-26-DC	20	26	43,0	20	40,0	82	XLC.. 26..	EUR 239,00	020
SBN 2020-32-DC	20	32	43,0	20	40,0	95	XLC.. 32..	EUR 239,00	120
SBN 2525-32-DC	25	32	48,5	25	44,5	95	XLC.. 32..	EUR 246,50	025
SBN 3232-32-DC	32	32	52,0	32	51,0	95	XLC.. 32..	EUR 258,00	032

Spare parts

for Article no.

		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...
		EUR		EUR		EUR
70 829 020	G 1/8"	3,56 294	CU70	32,30 290	M6x12	2,22 861
70 829 120	G 1/8"	3,56 294	CU85	32,30 291	M6x12	2,22 861
70 829 025	G 1/8"	3,56 294	CU85	32,30 291	M6x12	2,22 861
70 829 032	G 1/8"	3,56 294	CU85	32,30 291	M6x12	2,22 861

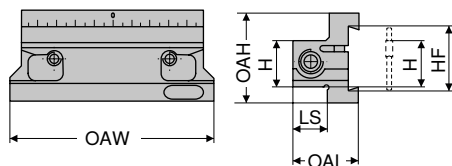
for Article no.

		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...
		EUR		EUR		EUR
70 829 020	SW5	3,68 265	19x2,5	4,30 293	23x2,5	4,30 292
70 829 120	SW5	3,68 265	19x2,5	4,30 293	23x2,5	4,30 292
70 829 025	SW5	3,68 265			23x2,5	4,30 292
70 829 032	SW5	3,68 265			23x2,5	4,30 292

Clamping block for blades GX/LX/FX/SX

Scope of supply:

Clamping block complete, but without blade and coolant set



Designation	H	HF	OAH	LS	OAL	OAW	for blades	2A/25	
	mm	mm	mm	mm	mm	mm		Article no. 70 830 ...	
SBN 2020-26-K	20	26	39	20	33,0	90	XLC.. 26..	EUR 164,10	020
SBN 2520-32-K	25	32	48	20	36,0	110	XLC.. 32..	164,10	025
SBN 3229-32-K	32	32	48	29	44,5	120	XLC.. 32..	167,70	032
SBN 3229-46-K	32	46	70	29	52,0	150	XLC.. 46..	277,60	132
SBN 4037-46-K	40	46	70	37	60,0	150	XLC.. 46..	337,00	140

Spare parts

for blades

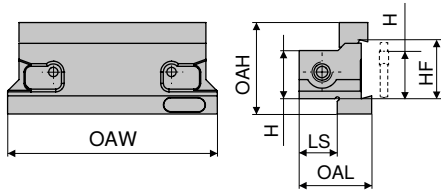
		2A/28		2A/28		2A/28	
		Key I		Cooling agent set		clamping screw	
		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...	
		EUR		EUR		EUR	
XLC.. 26..	SW5	3,68	265	41,79	278	M6x25	2,06 269
XLC.. 32..	SW5	3,68	265	41,79	278	M6x25	2,06 269
XLC.. 46..	SW6	5,17	266	40,70	279	M8x35	2,06 282

i Clamping Block for Blades with HSK-T interface can be found in → **Chapter 16.**

Split clamping block for blades GX/LX/FX/SX

Scope of supply:

Clamping block complete, but without blade and coolant set



Designation	H	HF	OAH	LS	OAL	OAW	for blades	2A/25	
	mm	mm	mm	mm	mm	mm		Article no.	
SBN 2020-26-KS	20	26	39	20	35,0	90	XLC.. 26..	70 831 ...	
								EUR	
								199,40	020
SBN 2520-32-KS	25	32	48	20	38,0	110	XLC.. 32..	205,60	025
SBN 3229-32-KS	32	32	48	29	46,5	120	XLC.. 32..	213,30	032

Spare parts

for blades

		2A/28		2A/28		2A/28	
		Key I		Cooling agent set		clamping screw	
		Article no.		Article no.		Article no.	
		70 950 ...		70 950 ...		70 950 ...	
		EUR		EUR		EUR	
XLC.. 26..	SW5	3,68	265	41,79	278	M6x25	2,06 269
XLC.. 32..	SW5	3,68	265	41,79	278	M6x25	2,06 269

i Clamping Block for Blades with HSK-T interface can be found in → Chapter 16.

Material examples referring to the cutting data tables

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

Cutting data values for grooving inserts GX/LX/FX/SX/AX/TC/MaxiClick

	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
	CTCP325 (HCR1325)	CTCP335 (HCR1335)	CTPP345 (HCN1345)	CTPP520 (DPX1520)	CTPP535 (DPX1535)	CTP1340 (CCN1340)	H216T (CWK26)
Index	v _c in m/min.						
1.1	130-260	110-190	80-150	150-200	80-150	80-180	
1.2	150-300	130-250	110-190	150-240	110-170	120-250	
1.3	130-260	110-190	80-150	100-200	80-150	60-150	
1.4	140-240	80-170	70-140	130-180	70-130	120-200	
1.5	150-300	70-170	70-140	140-220	70-130	80-180	
1.6	130-200	70-170	60-180	100-160	60-170	60-150	
1.7	150-230	110-220	70-130	140-190	70-130	80-180	
1.8	100-180	90-210	60-110	100-150	60-110	50-120	
1.9	120-180	90-180	70-130	120-170	60-100	80-150	
1.10	120-180	70-160	60-110	120-170	70-120	50-120	
1.11	100-160	70-160	60-110	100-150	60-110	50-120	
1.12	100-160	70-160	60-110	100-150	60-110	50-120	
1.13	60-110				60-110		
1.14	60-110						
1.15	60-110	70-160	60-100	60-100	60-100	50-120	
1.16	60-110	70-160	60-100	60-100	60-100	50-120	
2.1	140-230	120-200	100-180	110-180	50-150	50-200	
2.2	140-230	120-190	100-180	110-180	50-140	50-180	
2.3	120-210	120-170	80-150	70-140	50-130	50-180	
2.4	60-110	60-90	60-90	70-100	50-80	50-80	
2.5	80-140	70-110	70-110	70-100	50-90	50-100	
2.6	80-140	70-110	70-110	70-100	50-90	50-100	
2.7	60-110	60-90	60-90		50-80	50-80	
3.1	120-210	90-180		180-220		100-200	110-180
3.2	100-170	80-150		140-180		80-160	90-150
3.3	130-210	100-160		160-200		90-190	110-180
3.4	100-170	70-140		120-180		70-160	80-140
3.5	120-250	100-200		180-240		110-230	100-200
3.6	90-190	80-150		160-200		80-160	70-160
3.7	120-240	100-200		180-240		110-230	100-200
3.8	90-190	80-150		160-200		80-160	70-160
4.1				100-1000	100-500	100-500	100-800
4.2				100-800	100-500	100-500	80-800
4.3				100-500	100-500	100-500	50-500
4.4				100-500	100-300	100-300	
4.5				100-350	100-300	100-200	
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				80-250	100-500	100-500	200-600
4.12					100-370	100-370	200-600
4.13							
4.14				80-500	80-180	80-180	80-500
4.15				80-200	60-150	60-150	60-150
4.16							
4.17							
4.18							
4.19							
5.1				25-45			
5.2			20-40	20-40	20-35	20-35	
5.3			20-30	15-25	20-40	20-40	
5.4			20-30	15-25	20-40	20-40	
5.5				10-20	15-25	15-25	
5.6				10-20	15-25	15-25	
5.7				10-20	10-20	10-20	
5.8				10-20	10-20	10-20	
5.9					50-120	50-120	
5.10					30-50	30-50	
5.11					30-50	30-50	
6.1	10-20						
6.2	10-20						
6.3							
6.4							
6.5							

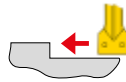
Cutting data values for TX grooving inserts

Index	CWX 500		
	V_c m/min.	f mm/rev.	Coolant
1.1	80–200	0,03–0,1	Emulsion
1.2	80–200	0,03–0,1	Emulsion
1.3	80–200	0,03–0,1	Emulsion
1.4	80–160	0,03–0,1	Emulsion
1.5	80–160	0,03–0,1	Emulsion
1.6	80–160	0,03–0,1	Emulsion
1.7	80–160	0,03–0,1	Emulsion
1.8	80–150	0,03–0,1	Emulsion
1.9	80–200	0,03–0,1	Emulsion
1.10	70–140	0,03–0,07	Emulsion
1.11	70–140	0,03–0,07	Emulsion
1.12	70–140	0,03–0,07	Emulsion
1.13	40–60	0,03–0,07	Emulsion
1.14	40–60	0,03–0,07	Emulsion
1.15	40–60	0,03–0,07	Emulsion
1.16	40–60	0,03–0,07	Emulsion
2.1	80–160	0,02–0,06	Emulsion
2.2	80–160	0,02–0,06	Emulsion
2.3	80–160	0,02–0,06	Emulsion
2.4	20–85	0,02–0,06	Emulsion
2.5	20–75	0,02–0,06	Emulsion
2.6	20–65	0,02–0,06	Emulsion
2.7	20–65	0,02–0,06	Emulsion
3.1	30–180	0,03–0,1	Emulsion
3.2	30–150	0,03–0,1	Emulsion
3.3	30–180	0,03–0,1	Emulsion
3.4	30–120	0,03–0,1	Emulsion
3.5	30–90	0,03–0,1	Emulsion
3.6	20–80	0,03–0,1	Emulsion
3.7	30–90	0,03–0,1	Emulsion
3.8	20–80	0,03–0,1	Emulsion
4.1	120–600	0,05–0,12	Petroleum
4.2	120–600	0,05–0,12	Petroleum
4.3	100–450	0,05–0,12	Petroleum
4.4	70–300	0,05–0,12	Petroleum
4.5	60–150	0,05–0,12	Petroleum
4.6	60–150	0,05–0,12	Petroleum
4.7	100–180	0,05–0,12	Petroleum
4.8	90–180	0,05–0,12	Petroleum
4.9	80–180	0,05–0,12	Emulsion
4.10	80–180	0,05–0,12	Emulsion
4.11	120–220	0,05–0,12	Emulsion
4.12	70–150	0,05–0,12	Emulsion
4.13	80–180	0,05–0,12	Emulsion
4.14	80–180	0,05–0,12	Emulsion
4.15	80–180	0,05–0,12	Emulsion
4.16	80–180	0,05–0,12	Emulsion
4.17	80–180	0,05–0,12	Emulsion
4.18	80–180	0,05–0,12	Emulsion
4.19	80–180	0,05–0,12	Emulsion
5.1	30–80	0,01–0,04	Emulsion
5.2	18–75	0,01–0,04	Emulsion
5.3	18–75	0,01–0,04	Emulsion
5.4	18–40	0,01–0,04	Emulsion
5.5	18–40	0,01–0,04	Emulsion
5.6	18–40	0,01–0,04	Emulsion
5.7	15–30	0,01–0,04	Emulsion
5.8	15–30	0,01–0,04	Emulsion
5.9	15–30	0,01–0,04	Emulsion
5.10	100–150	0,01–0,04	Emulsion
5.11	100–150	0,01–0,04	Emulsion
6.1			
6.2			
6.3			
6.4			
6.5			

GX – Speeds and Feeds

GX Standard / GX-E

Turning



Parting / Grooving



GX Standard / GX-E	Depth of Cut a_p in mm						
	0,5	1,0	1,5	2,0	2,5	3,0	3,5
Cutting width in mm	Feed rate f in mm/rev.						
2	0,10–0,15	0,05–0,15	0,05–0,12	0,05–0,10			
3	0,10–0,17	0,05–0,17	0,05–0,17	0,05–0,15	0,05–0,12		
4	0,10–0,20	0,07–0,20	0,07–0,20	0,07–0,20	0,07–0,17	0,07–0,15	
5	0,10–0,25	0,10–0,25	0,07–0,25	0,07–0,25	0,07–0,22	0,07–0,20	
6	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,25	0,15–0,22

GX Standard / GX-E
Feed rate f in mm/rev.
0,05–0,20
0,10–0,25
0,10–0,25
0,10–0,30
0,15–0,35



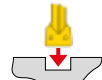
When axial grooving reduce feed by 40 %.

GX-F2

Turning



Parting / Grooving



GX-F2	Depth of Cut a_p in mm								
	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50
Cutting width in mm	Feed rate f in mm/rev.								
2	0,03–0,15	0,03–0,15	0,03–0,15	0,03–0,10					
3	0,04–0,17	0,04–0,17	0,04–0,17	0,04–0,15	0,04–0,13	0,04–0,12			
4	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,17	0,05–0,15		
5	0,07–0,20	0,07–0,20	0,07–0,20	0,07–0,20	0,07–0,20	0,07–0,20	0,07–0,17	0,07–0,15	
6	0,10–0,23	0,10–0,23	0,10–0,23	0,10–0,23	0,10–0,23	0,10–0,23	0,10–0,23	0,10–0,19	0,10–0,15

GX-F2
Feed rate f in mm/rev.
0,05–0,15
0,075–0,20
0,10–0,25
0,10–0,30
0,15–0,325



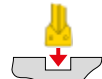
When axial grooving reduce feed by 40 %.

GX-M40

Turning



Parting / Grooving



GX-M40	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,10–0,20	0,05–0,20	0,05–0,17	0,05–0,15				
3	0,10–0,22	0,10–0,22	0,10–0,21	0,10–0,20	0,10–0,17			
4	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,22	0,10–0,17		
5	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,27	0,10–0,23	0,10–0,20	
6	0,10–0,35	0,10–0,35	0,10–0,35	0,10–0,35	0,10–0,32	0,10–0,27	0,10–0,23	0,10–0,20

GX-M40
Feed rate f in mm/rev.
0,05–0,15
0,075–0,20
0,10–0,25
0,10–0,30
0,15–0,325



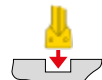
When axial grooving reduce feed by 40 %.

GX-27P

Turning



Parting / Grooving



GX-27P	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,05–0,23	0,05–0,23	0,05–0,23	0,05–0,20				
3	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,20			
4	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,25		
5	0,10–0,35	0,10–0,35	0,10–0,35	0,10–0,35	0,10–0,35	0,10–0,32	0,10–0,30	
6	0,10–0,40	0,10–0,40	0,10–0,40	0,10–0,40	0,10–0,40	0,10–0,36	0,10–0,33	0,10–0,30

GX-27P
Feed rate f in mm/rev.
0,05–0,20
0,05–0,25
0,05–0,30
0,10–0,35
0,10–0,40

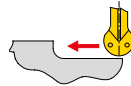


When axial grooving reduce feed by 40 %.

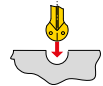
GX – Depths of cut and feed rates

GX-M3

Turning



Parting / Grooving

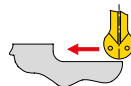


GX-M3	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius RE in mm	Feed rate f in mm/rev.							
1,5	0,15–0,35	0,15–0,35	0,15–0,30					
2	0,15–0,40	0,15–0,40	0,15–0,40	0,15–0,30				
2,5	0,15–0,50	0,15–0,50	0,15–0,50	0,15–0,40	0,15–0,35			
3	0,20–0,70	0,20–0,70	0,20–0,70	0,20–0,60	0,20–0,50	0,20–0,40		

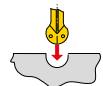
GX-M3
Feed rate f in mm/rev.
0,05–0,20
0,10–0,25
0,10–0,25
0,10–0,35

GX-27P Full Radius

Turning



Parting / Grooving



GX-27P Full Radius	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius RE in mm	Feed rate f in mm/rev.							
1,5	0,10–0,45	0,05–0,45	0,05–0,40					
2	0,15–0,50	0,10–0,50	0,10–0,50	0,10–0,40				
2,5	0,15–0,60	0,10–0,60	0,10–0,60	0,10–0,50	0,10–0,45			
3	0,25–0,70	0,20–0,70	0,15–0,70	0,15–0,70	0,15–0,65	0,15–0,60	0,15–0,55	
4	0,25–0,80	0,20–0,80	0,15–0,80	0,15–0,80	0,15–0,80	0,15–0,80	0,15–0,75	0,15–0,70

GX-27P Full Radius
Feed rate f in mm/rev.
0,05–0,15
0,075–0,20
0,10–0,25
0,10–0,30
0,15–0,35

GX-M1

GX Radius grooving inserts

GX circlip grooving

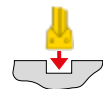
Parting / Grooving



Parting / Grooving



Grooving

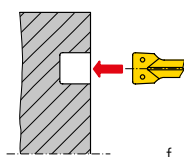
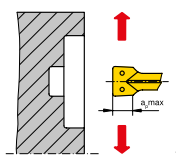


GX-M1		GX Radius grooving insert		GX circlip grooves	
Cutting width in mm	Feed rate f in mm/rev.	Radius RE in mm	Feed rate f in mm/rev.	Cutting width in mm	Feed rate f in mm/rev.
2	0,05–0,15	0,80	0,05–0,10	0,60–1,70	0,02–0,09
3	0,10–0,20	1,00	0,05–0,15	1,95–2,25	0,05–0,10
4	0,10–0,25	1,20	0,05–0,15	2,75–3,25	0,05–0,12

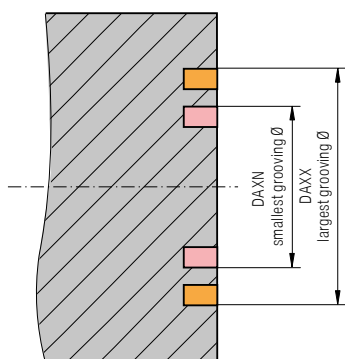
Feed guide and machining instructions for axial grooving and face turning with GX 24 axial

Approximate feed rates

GX

Designation	 f in mm/rev.	 f in mm/rev.	a _{p,max} mm
GX 24-2 E 3.00 ..	0,05–0,15	0,05–0,20	2,5
GX 24-3 E 4.00 ..	0,05–0,15	0,05–0,25	3,0
GX 24-3 E 5.00 ..	0,05–0,15	0,10–0,25	3,0
GX 24-4 E 6.00 ..	0,05–0,20	0,10–0,30	3,5

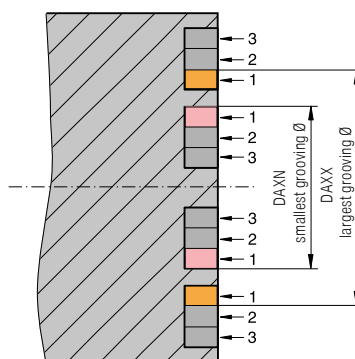
Axial grooving



It is only possible to plunge within the fixed diameter range of the axial grooving module or monoholder (e.g. 50–70 mm).

Important: The indicated diameter range is always valid for the external diameter of the groove!

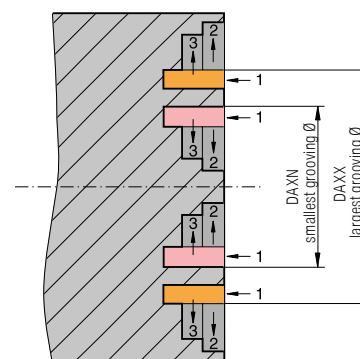
Axial grooving – Groove widening



In case of face turning it is possible to widen the groove above and below the diameter range indicated on the Axial grooving module or monoholder.

Important: Only the first groove must lie within the diameter range of the axial grooving module or axial monoholder. The depth of the widening groove must not be larger than the depth of the original groove.

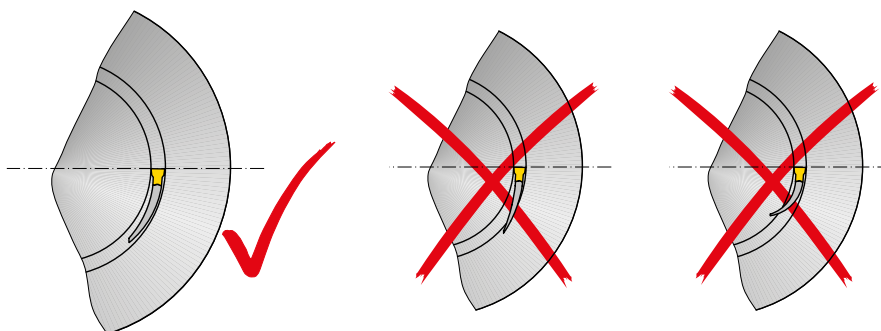
Axial grooving and face turning



Groove widening by face turning in the diameter range above and below the values specified for the Axial grooving module and Axial monoholder are possible.

Important: Only the first groove must lie within the diameter range of the module.

i Attention: The diameter of face grooves must lie within the diameter range indicated on the axial grooving module and axial monoholder. Not following this range will result in the tool being damaged or destroyed.



Correct Axial mono holder

Incorrect Axial mono holder

MaxiClick – Depths of cut and feed rates

MaxiClick 05

Turning

Depth of Cut a_p in mm

MaxiClick 05	0,25	0,50	0,75
Cutting width in mm	Feed rate f in mm/rev.		
1	0,02–0,15	0,02–0,10	
1,5	0,02–0,20	0,02–0,20	0,02–0,14

Parting / Grooving



MaxiClick 05

Feed rate f in mm/rev.

0,03–0,10
0,03–0,11

MaxiClick 10

Turning

Depth of Cut a_p in mm

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

Parting / Grooving

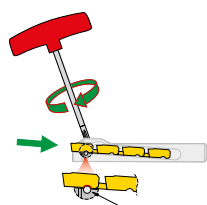


MaxiClick 10

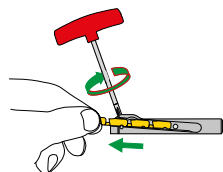
Feed rate f in mm/rev.

0,03–0,11
0,03–0,12
0,03–0,15

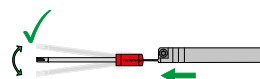
MaxiClick – System function



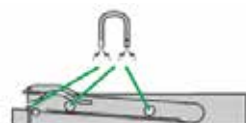
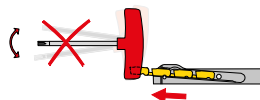
correct insert location in the seat



Withdraw cutting insert



Worn-out cutting edge is broken off towards the left or right side

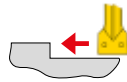


Magnets prevent the cutting insert from falling out of the tool holder during positioning

SX – Depths of cut and feed rates

SX-F2

Turning



Parting / Grooving

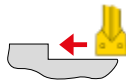


SX-F2	Depth of Cut a_p in mm								
	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50
Cutting width in mm	Feed rate f in mm/rev.								
2	0,03–0,15	0,03–0,15	0,03–0,15	0,03–0,10					
3	0,04–0,17	0,04–0,17	0,04–0,17	0,04–0,15	0,04–0,13	0,04–0,12			
4	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,17	0,05–0,15		

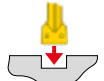
SX-F2
Feed rate f in mm/rev.
0,05–0,15
0,075–0,20
0,10–0,25

SX-M2

Turning



Parting / Grooving



SX-M2	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,05–0,17	0,05–0,13	0,05–0,10					
3	0,07–0,20	0,07–0,20	0,07–0,18	0,07–0,15				
4	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,22	0,10–0,18			
5	0,12–0,27	0,12–0,27	0,12–0,27	0,12–0,25	0,12–0,22			
6	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,25	0,15–0,20		

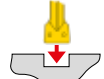
SX-M2
Feed rate f in mm/rev.
0,05–0,15
0,075–0,20
0,10–0,25
0,10–0,30
0,15–0,35

SX-27P

Turning



Parting / Grooving



SX-27P	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
2	0,05–0,23	0,05–0,23	0,05–0,23	0,05–0,20				
3	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,20			
4	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,30	0,10–0,25		

SX-27P
Feed rate f in mm/rev.
0,05–0,20
0,05–0,25
0,05–0,30

SX/LX – Depths of cut and feed rates

SX-M1

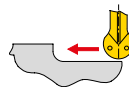
Parting / Grooving



SX-M1	
Cutting width in mm	Feed rate f in mm/rev.
2	0,05–0,15
3	0,10–0,20
4	0,10–0,25
5	0,15–0,30
6	0,15–0,35

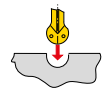
SX-M3

Turning



	Depth of Cut a_p in mm							
SX-M3	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius in mm	Feed rate f in mm/rev.							
1,5	0,15–0,35	0,15–0,35	0,15–0,30					
2	0,15–0,40	0,15–0,40	0,15–0,40	0,15–0,30				
2,5	0,15–0,50	0,15–0,50	0,15–0,50	0,15–0,40	0,15–0,35			
3	0,20–0,70	0,20–0,70	0,20–0,70	0,20–0,60	0,20–0,50	0,20–0,40		

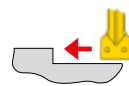
Parting / Grooving



SX-M3
Feed rate f in mm/rev.
0,05–0,20
0,10–0,25
0,10–0,25
0,10–0,35

LX-M2

Turning



	Depth of Cut a_p in mm							
LX-M2	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Cutting width in mm	Feed rate f in mm/rev.							
8	0,17–0,45	0,17–0,45	0,17–0,45	0,17–0,45	0,17–0,40	0,17–0,37	0,17–0,35	
10	0,20–0,50	0,20–0,50	0,20–0,50	0,20–0,50	0,20–0,46	0,20–0,42	0,20–0,38	0,20–0,35

Parting / Grooving



LX-M2
Feed rate f in mm/rev.
0,20–0,50
0,20–0,50

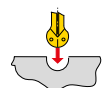
LX-M3

Turning



	Depth of Cut a_p in mm							
LX-M3	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius in mm	Feed rate f in mm/rev.							
4	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,70	0,25–0,60	0,25–0,50

Parting / Grooving

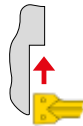


LX-M3
Feed rate f in mm/rev.
0,15–0,35

AX/FX – Depths of cut and feed rates

AX-F50

Face turning



AX-F50	Depth of Cut a_p in mm			
	0,5	1,0	1,5	2,3
Size	Feed rate f in mm/rev.			
AX 05	0,03–0,10	0,03–0,10		
AX 10	0,03–0,13	0,03–0,13	0,03–0,135	
AX 15	0,03–0,15	0,03–0,15	0,03–0,15	0,03–0,15

Axial grooving



1. Plunging	
Feed rate f in mm/rev.	Feed rate f in mm/rev.
0,025–0,080	0,025–0,20
0,025–0,065	0,05–0,25
0,025–0,050	0,05–0,30

FX-F1

Parting / Grooving



FX-F1	
Cutting width in mm	Feed rate f in mm/rev.
2,2	0,025–0,10
3,1	0,05–0,15
4,1	0,05–0,20

FX-M1

Parting / Grooving



FX-M1	
Cutting width in mm	Feed rate f in mm/rev.
2,20	0,05–0,15
3,10	0,08–0,18
4,10	0,10–0,20
5,10	0,15–0,28
6,50	0,15–0,33
8,20	0,20–0,40
9,70	0,20–0,40

FX-27P

Parting / Grooving



FX-27P	
Cutting width in mm	Feed rate f in mm/rev.
2,20	0,01–0,10
3,10	0,015–0,125
4,10	0,05–0,15

FX-R2

Grooving



FX-R2	
Cutting width in mm	Feed rate f in mm/rev.
3,10	0,10–0,275
4,10	0,15–0,35

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	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	4-8	5-9	6-10	7-11	8-12	9-14	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,32	0,48	0,64	0,8	0,95	1,10	1,26	1,58	1,89	2,21	2,53	2,84	3,16

Metric ISO 60° internal thread

Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	4-8	5-9	6-10	7-11	8-12	9-14	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,30	0,45	0,59	0,74	0,89	1,02	1,17	1,46	1,76	2,02	2,35	2,64	2,93

Whitworth 55° external and internal thread

TPI	28	26	24	20	19	18	16	14	12	11	10	9	8	7	6	5
Number/cuts	5-8	5-8	5-9	5-9	6-10	6-10	7-11	8-12	9-14	9-14	10-17	10-18	10-18	12-20	12-20	12-20
Thread profile depth in mm	0,60	0,65	0,70	0,84	0,88	0,93	1,05	1,20	1,40	1,53	1,68	1,87	2,11	2,41	2,81	3,37

Partial profile 60° external and internal thread

External	TC 16-2EI-AG60									TC 16-2EI-G60				TC 16-3EI-N60			
	TC 16-1EI-A60																
Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	5-9	6-10	7-11	8-12	9-14	10-15	12-19	8-12	9-14	10-15	12-20	12-20	13-21	14-22	14-22
Thread profile depth in mm	0,33	0,52	0,71	0,90	1,09	1,28	1,47	1,84	2,22	1,23	1,42	1,79	2,17	2,45	2,83	3,21	3,59
Internal	TC 16-2EI-AG60									TC 16-2EI-G60				TC 16-3EI-N60			
	TC 16-1EI-A60																
Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4-6	4-7	5-9	6-10	7-11	8-12	9-14	10-15	12-19	8-12	9-14	10-15	12-20	12-20	13-21	14-22	14-22
Thread profile depth in mm	0,27	0,44	0,60	0,76	0,92	1,09	1,25	1,57	1,90	1,04	1,20	1,52	1,85	2,07	2,40	2,72	3,05

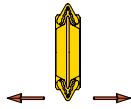
Partial profile 55° external and internal thread

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

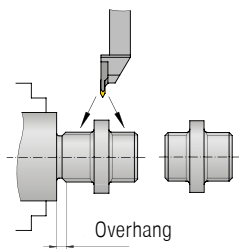
Internal	TC 16-2EI-G55							TC 16-3EI-N55		
	14	12	11	10	9	8	7	6	5	
TPI	14	12	11	10	9	8	7	6	5	
Number/cuts	8-12	9-14	10-15	11-18	12-20	12-20	12-20	12-20	14-22	
Thread profile depth in mm	1,22	1,46	1,56	1,80	2,03	2,31	2,40	2,89	3,56	

Comparison threading system with TC and conventional

TC

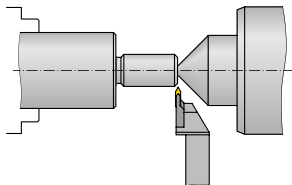


- ▲ Neutral configuration of insert makes operation in both directions possible
- ▲ Only one threading insert per pitch for partial profile and Whitworth thread; only two threading inserts (internal - external) per pitch for ISO threads
- ▲ Reduced stock holding
- ▲ good chip formation due to chip breaker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

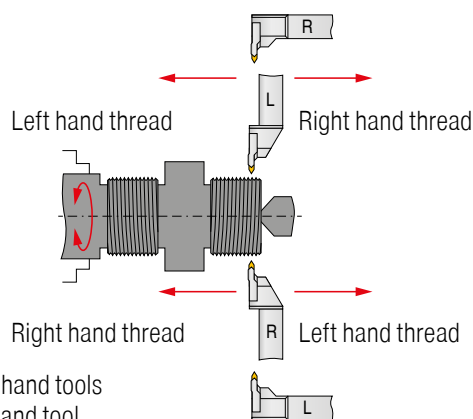


Greater efficiency through:

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

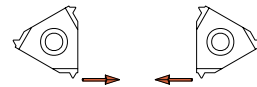


- ▲ Very good access to workpiece, therefore use of tailstock also possible with small thread diameters

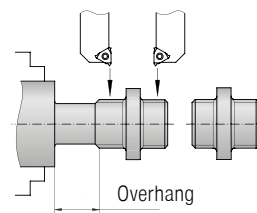


- ▲ ease of use, as the tools have no pitch angle correction they can be used in both directions

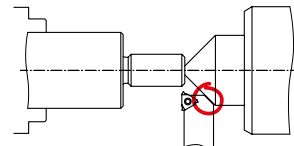
Conventional



- ▲ Right-hand and left-hand version of indexable insert, therefore operation only in one direction
- ▲ For every pitch 4 threading inserts are necessary (right - left, internal - external)



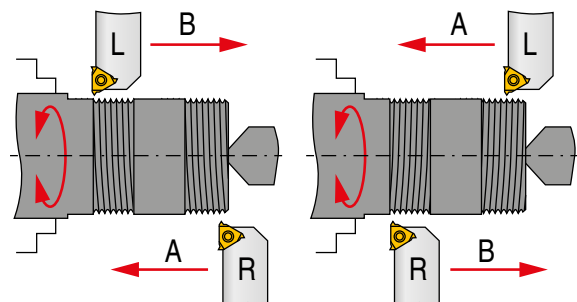
- ▲ For this machining method 2 tools are required
- ▲ additional material and stability loss with large overhang



- ▲ poor accessibility
- ▲ Collision danger

Right hand thread

Left hand thread

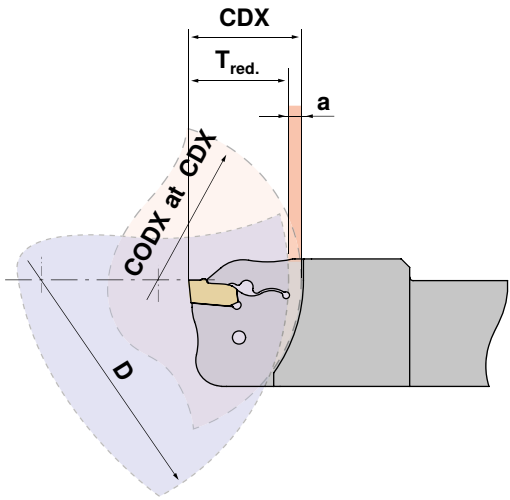


- ▲ With conventional thread turning the correction of the helix angle is necessary, therefore a high degree of application know-how is required
- ▲ Can only be operated in one direction

ModularClamp



The ModularClamp grooving modules are matched according to size on a particular workpiece diameter CODX. If the diameter of the workpiece is greater than CODX of the grooving Modules, this reduces the achievable penetration depth by the dimension „a“. The extent of reduction can be determined with the following table.



- CDX maximum plunge depth in mm
- CDOX maximum workpiece Ø with full penetration depth in mm
- a Reduction amount in mm

$T_{red.} = CDX - a$

Grooving depth reduction

	Reduction a (mm) of the maximum grooving depth (CDX)																	
Size		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5	8,0	
E12	35	40	45	60	75	115	>250											
E16	50	55	60	70	80	100	130	200	>420									
E20	60	65	70	75	85	95	110	130	165	220	>330							
E25	75	80	85	90	100	110	125	140	160	190	240	320	>500					
E32	95	100	105	110	120	125	135	145	160	180	200	225	270	320	400	530	>800	
Workpiece diameter D (mm)																		
Maximum workpiece diameter (CODX) with full penetration depth (CDX) in mm																		

Calculation example:

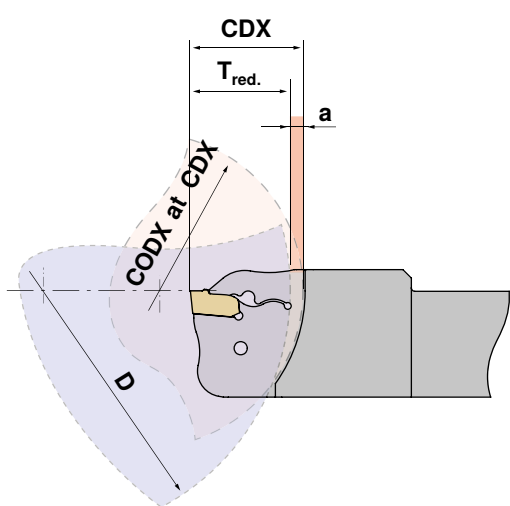
E25R21-GX24-3

Size 25 CDX = 21 mm, Ø 75 mm

$D = \text{Ø } 100 \text{ mm}$
 $CDX - a = T_{red.}$
 $21 - 2 = 19 \text{ mm}$

MonoClamp

SX



Depending on the groove width and shank size, the MonoClamp tools are designed for use with a specific workpiece diameter CDOX. If the workpiece diameter is larger than the CDOX of the grooving module, the achievable groove depth is reduced by the dimension „a“. The extent of the reduction is determined using the following table.

- CDX maximum plunge depth in mm
- CDOX maximum workpiece Ø with full penetration depth in mm
- a Reduction amount in mm

$$T_{red.} = CDX - a$$

Grooving depth reduction

	Reduction a (mm) of the maximum grooving depth (CDX)																	
Shank	0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	
E12R/L0022...	44	70	80	95	115	150	225	>450										
E16R/L0026...	52	90	105	125	155	210	305	>600										
E20R/L0026...	52	110	125	140	160	195	240	320	475	>950								
E20R/L0033...	66	110	125	140	160	195	240	320	475	>950								
E25R/L0026...	52	140	160	190	235	310	465	>930										
E25R/L0033...	66	155	175	200	230	275	340	450	675	>1350								
E25R/L0040...	80	155	175	200	230	275	340	450	675	>1350								
Workpiece diameter D (mm)																		
Maximum workpiece diameter (CODX) with full penetration depth (CDX) in mm																		

Calculation example:

E25R0033...

CDX = 33 mm, Ø 66 mm

$$D = \text{Ø } 200 \text{ mm} \quad CDX - a = T_{red.} \quad 33 - 1,5 = 31,5 \text{ mm}$$

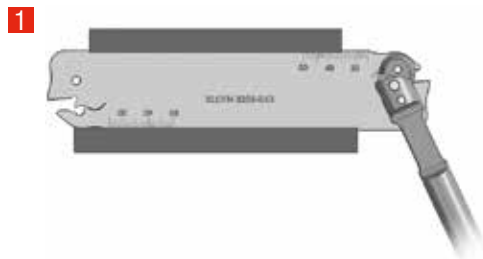
Clamping Method – SX-System

System function – inserting and removing the cutting inserts

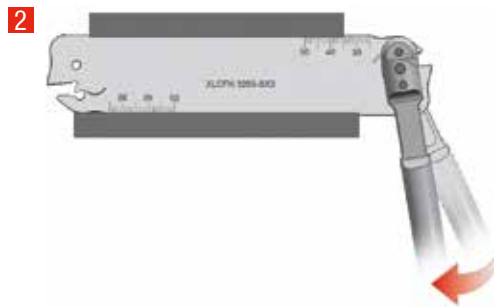
Precision system for internal and external grooving.

The key has been designed in such a way that it will not stress the material beyond its 'elastic limit'.

With this alternate system the material always remains in its flexible range and provides a substantial increase in tool life.



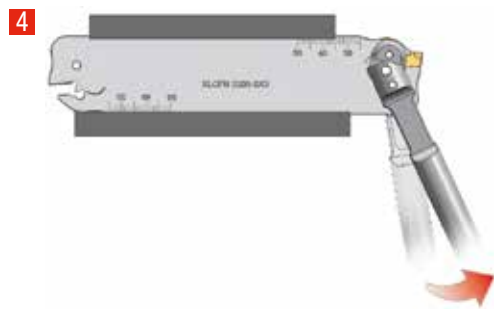
Locate wrench into blade with pins located in two holes



Movement of the fitting key in the direction of the insert seat opens the tool.



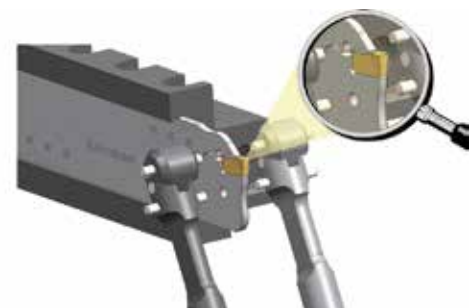
Load the grooving insert into position and press against the seat.



Moving the key forward causes the insert seat to close and clamp the insert.

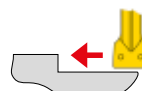
i When changing the inserts, always maintain tension on the key!

The clamp is designed so that the wrench can be inserted from both sides of the blade according to the accessibility.



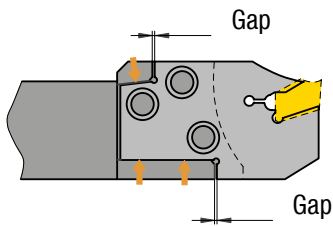
Maximum blade projection when turning

Blade	max. overhang
SX 2 – SX 3	25 mm
SX 4 – SX 5	30 mm
SX 6	35 mm



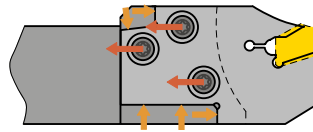
Clamping function – ModularClamp-Module

Module unclamped

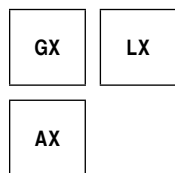
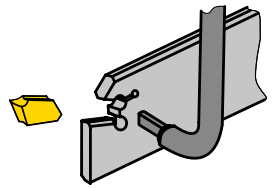


- ▲ Gap between module and support face for axial clamping

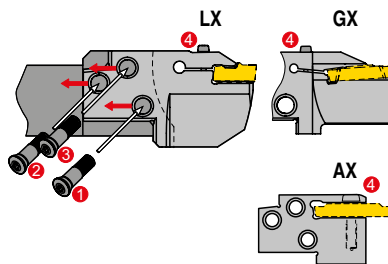
Module clamped



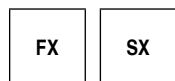
- ▲ Axial clamping with support face
- ▲ Connection free from play, therefore maximum stability



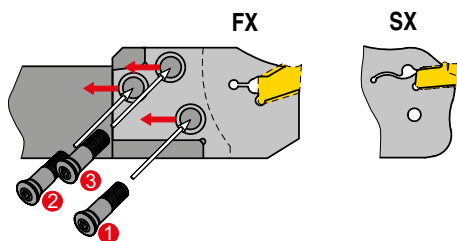
Active insert clamping



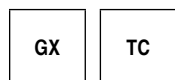
Clamping screws 1, 2 and 3 are used to clamp the modules.
The insert is clamped in the module via the additional screw 4.



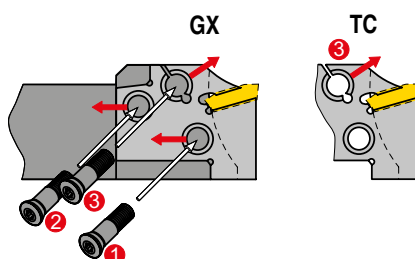
Self clamping of the insert



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



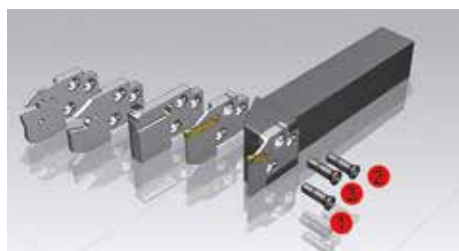
Active insert clamping



Clamping screws 1 and 2 are used for clamping the module.
Important: first tighten clamp screws 1 and 2.
Then clamp the insert with screw 3.

Torque Moment ModularClamp Module Screws

ModularClamp – Tool holder



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
E25..	M5x18	T20	5,0	44,3
E32..	M6x20	T25	6,0	53,1

ModularClamp – Boring bar



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

ModularClamp – Boring bar	Screw	Torx	Torque	
			Nm	in.lbs
I16..	M2,5x10	T08	1,2	10,6
I20..	M3x11	T10	2,0	17,7
I25..	M3,5x12,5	T15	3,2	28,3
I32..	M4,5x17	T20	4,0	35,4
I40..	M5x18	T20	5,0	44,3

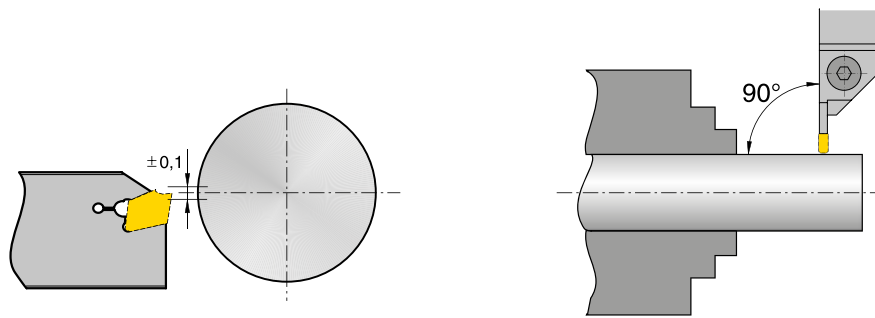
Tightening torque for the insert clamping

Recommended tightening torque

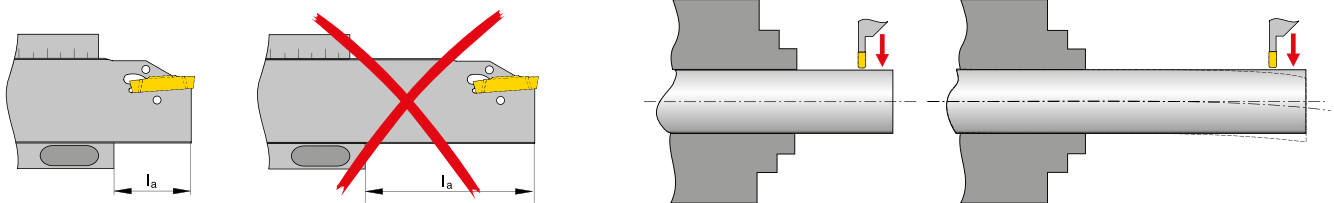
Grooving systems	Screw	Torx	Torque	
			Nm	in.lbs
GX / AX / LX	M3,5	T15	3,2	28,3
	M4,0	T15/T20	4,0	35,4
	M5,0	T20	5,0	44,3

General references

Tool position

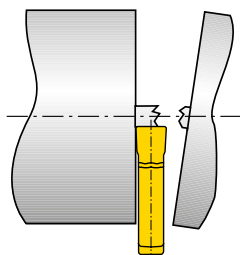


Tool overhang

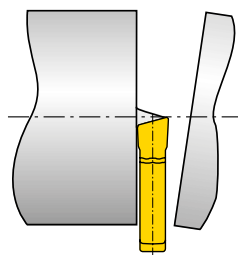


i As a rule of thumb: Overhang l_a should not be greater than 8xs (Groove width).

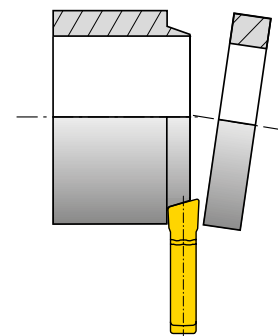
References for Parting off



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



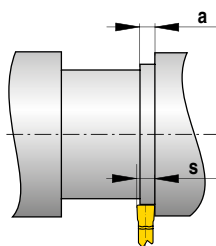
For parting pip-free, use R or L inserts. In order to minimize lateral deflection reduce feed by approx. 20–50 %.



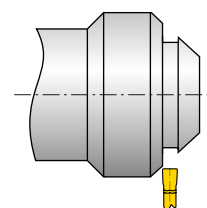
In order to prevent ring formation, use R or L inserts. Reduce feed „f“ because of lateral deflection by approx. 20–50 %.

11

References for grooving



When grooving with an axial displacement the width „a“ should amount to at least 70 % of the grooving width „s“.



When grooving oblique surfaces the feed should be reduced by approx. 20–50 % until fully engaged.

Trouble shooting guide for grooving FX/SX/GX/LX

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

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

check, optimise



use

Trouble shooting guide for TC threading

Type of problem											
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
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 resistance

↓ toughness

Wear causes

Wear on clearance face



Abrasion on the flank, normal wear after a given operation time.

Cause

- ▲ cutting speed too high
- ▲ grade with too low wear resistance
- ▲ insufficient coolant

Remedy

- ▲ Reduce the cutting speed
- ▲ select a more wear resistant grade
- ▲ Improve/check coolant feed

Edge chipping



Excessive mechanical stress on the cutting edge causing carbide particles to break out.

Cause

- ▲ too hard grade
- ▲ vibration
- ▲ too high feed and depth of cut
- ▲ chip impact

Remedy

- ▲ use tougher grade
- ▲ use negative geometry with chip breaker
- ▲ reduce overhang, check center height
- ▲ stabilize the cutting edge

Cratering



The outgoing hot chip causes cratering of the insert on the clamping surface.

Cause

- ▲ too high cutting speed, feed, or both
- ▲ too low rake angle
- ▲ grade with too low wear resistance
- ▲ incorrectly supplied cooling

Remedy

- ▲ Reduce cutting speed and / or feed
- ▲ Check coolant flow and / or increase pressure
- ▲ Use harder grade

Plastic deformation



Large mechanical load produces high temperature machining, this can lead to plastic deformation.

Cause

- ▲ too high operating temperature, thus softening the base material
- ▲ unsuitable grade
- ▲ inadequate coolant supply

Remedy

- ▲ Reduce the cutting speed
- ▲ select a more wear resistant grade
- ▲ use coolant

Built-up edge



Weld deposits of material on the cutting edge occurs when the chip does not flow caused by low average temperature.

Cause

- ▲ too low cutting speed
- ▲ too low rake angle
- ▲ Incorrect grade
- ▲ lack of cooling / lubrication

Remedy

- ▲ Increase the cutting speed
- ▲ Increase rake angle
- ▲ Use TiN coating
- ▲ increase coolant strength

Notch wear



Contraction at maximum cutting depth.

Cause

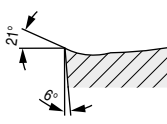
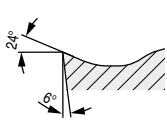
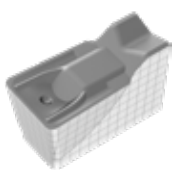
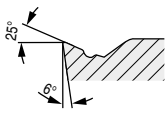
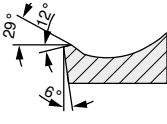
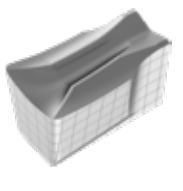
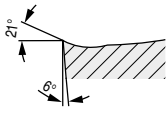
- ▲ Oxidation at the cutting edge
- ▲ Too high a temperature at the edge

Remedy

- ▲ Use different cutting depths
- ▲ Reduce cutting speed
- ▲ Improve/check coolant feed

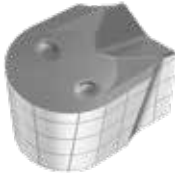
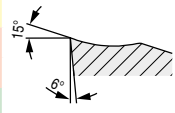
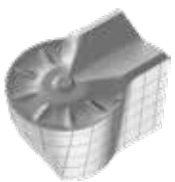
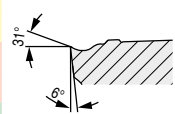
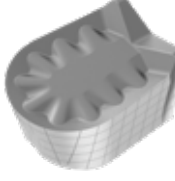
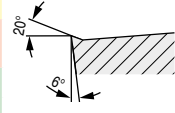
Chip breakers / Applications

System GX

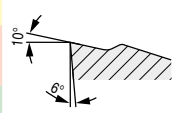
		smooth cut 	irregular cut 	interrupted cut 	Model	f in mm/rev.
-F2 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ first choice for stainless materials		CTCP325 (HCR1325)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		0,05–0,15
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
-Standard / -E ▲ positive geometry ▲ low-medium feed rates ▲ low cutting forces ▲ universal application ▲ first choice for axial grooving		CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340)	CTPP345 (HCN1345)		0,05–0,17
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
-M40 ▲ stable geometry ▲ medium feed rates ▲ universal application ▲ good chip control		CTCP325 (HCR1325)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		0,075–0,20
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
-M1 ▲ very stable cutting edge ▲ medium-high feed rates ▲ for interrupted cut ▲ for high tensile materials ▲ first choice for parting off		CTCP325 (HCR1325)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		0,1–0,20
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
-27P ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals						0,05–0,25
		H216T (CWK26)	H216T (CWK26)	H216T (CWK26)		

Chip breakers / Applications

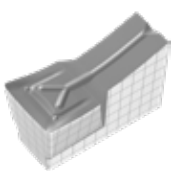
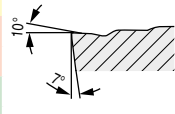
System GX

		smooth cut 	irregular cut 	interrupted cut 	Model	f in mm/rev.
Standard – Radius ▲ positive geometry ▲ honed cutting edge ▲ low-medium feed rates ▲ low cutting forces ▲ Radius grooving/copy turning		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)	CTP1340 (CCN1340)		0,05–0,20
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTP1340 (CCN1340)		
		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
-M3 – Radius ▲ stable geometry ▲ medium-high feed rates ▲ high surface quality ▲ Radius grooving/copy turning		CTCP325 (HCR1325)	CTCP325/CTCP335 HCR1325/HCR1335	CTCP335 (HCR1335)		0,07–0,20
		CTCP335 (HCR1335)	CTCP335 (HCR1335)			
		CTCP325 (HCR1325)	CTCP325/CTCP335 (HCR1325/HCR1335)	CTCP335 (HCR1335)		
-27P – Radius ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals						0,05–0,30
		H216T (CWK26)	H216T (CWK26)	H216T (CWK26)		

Circlip grooving

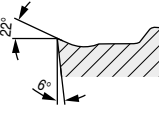
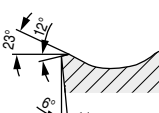
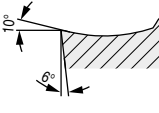
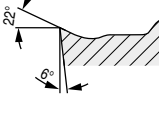
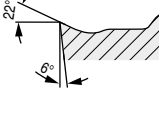
Standard ▲ positive geometry ▲ honed cutting edge ▲ low feed rates ▲ small corner radius ▲ Circlip grooves		CTP1340 (CCN1340)	CTP1340 (CCN1340)			0,05–0,30
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CCN1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			

System AX

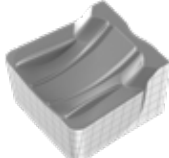
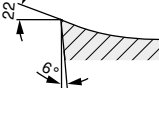
-F50 ▲ positive geometry ▲ honed cutting edge ▲ low feed rates ▲ small corner radius ▲ Circlip grooves		CTP1340 (CCN1340)	CTP1340 (CCN1340)			0,025–0,125
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CCN1340 (CCN1340)	CCN1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			

Chip breakers / Applications

System SX

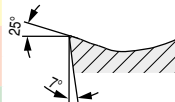
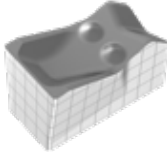
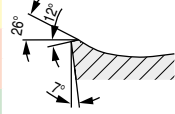
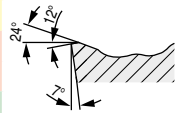
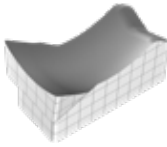
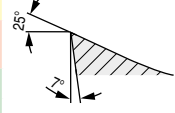
		smooth cut 	irregular cut 	interrupted cut 	Model	f in mm/rev.
-F2		CTP1340 (CCN1340) CTP1340 (CCN1340) CTCP325 (HCR1325)	CTP1340 (CCN1340) CTP1340/CTPP345 (CCN1340/HCN1345) CTP1340 (CCN1340)	CTPP345 (HCN1345) CTPP345 (HCN1345)		0,05–0,15
-M1		CTCP325 (HCR1325) CTCP335 (HCR1335) CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340) CTP1340 (CCN1340) CTCP325 (HCR1325)	CTPP345 (HCN1345) CTPP345 (HCN1345) CTCP325 (HCR1325)		0,10–0,20
-M2		CTCP325 (HCR1325) CTCP335 (HCR1335) CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340) CTP1340 (CCN1340) CTCP325 (HCR1325)	CTPP345 (HCN1345) CTPP345 (HCN1345) CTCP335 (HCR1335)		0,075–0,20
-27P						0,05–0,25
-M3 – Radius		CTCP335 (HCR1335) CTCP335 (HCR1335) CTCP335 (HCR1335)	CTCP335/CTP1340 (HCR1335/CCN1340) CTCP335/CTP1340 (HCR1335/CCN1340) CTCP335/CTP1340 (HCR1335/CCN1340)	CTP1340 (CCN1340) CTP1340 (CCN1340) CTP1340 (CCN1340)		0,05–0,20

System LX

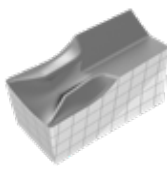
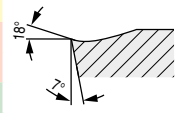
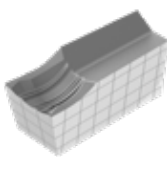
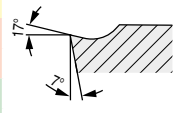
-M2		CTCP325 (HCR1325) CTCP335 (HCR1335) CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340) CTP1340 (CCN1340) CTCP325 (HCR1325)	CTCP335 (HCR1335) CTP1340 (CCN1340) CTCP335 (HCR1335)		0,20–0,50
-M3 – Radius		CTCP325 (HCR1325) CTCP335 (HCR1335) CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340) CTCP335/CTP1340 (HCR1335/CCN1340) CTCP335/CTP1340 (HCR1335/CCN1340)	CTP1340 (CCN1340) CTP1340 (CCN1340) CTP1340 (CCN1340)		0,15–0,35

Chip breakers / Applications

System FX

		smooth cut 	irregular cut 	interrupted cut 	Model	f in mm/rev.
-F1		CTCP325 (HCR1325)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		0,05–0,15
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)			
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
-M1		CTCP325 (HCR1325)	CTCP335/CTP1340 (HCR1335/CCN1340)	CTPP345 (HCN1345)		0,08–0,20
		CTCP335 (HCR1335)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP325 (HCR1325)	CTCP325 (HCR1325)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		
-R2		CTCP325 (HCR1325)	CTP1340 (CCN1340)	CTPP345 (HCN1345)		0,10–0,27
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
		CTCP325 (HCR1325)	CTCP325/CTP1340 (HCR1325/CCN1340)			
		CTP1340 (CCN1340)	CTP1340/CTPP345 (CCN1340/HCN1345)	CTPP345 (HCN1345)		
-27P						0,03–0,13
		H216T (CWK26)	H216T (CWK26)	H216T (CWK26)		

System MC

-F2		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTP1340 (CCN1340)		0,05–0,10
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)	CTP1340 (CCN1340)		
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
-F3		CTP1340 (CCN1340)	CTP1340 (CCN1340)			0,02–0,06
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			
		CTP1340 (CCN1340)	CTP1340 (CCN1340)			

Example of Coding Grooving Tools
Grooving insert

GX	16	E	2	3.00	N	0.50
Grooving system (GX)	Insert length (16 mm)	Width class of the holder / module or support surface (2 mm)	Type of insert, application	Groove width (3.0 mm)	Insert seat N = Neutral L = Left Handed R = Right Handed	Corner radius size (0.5 mm)
Module						
E	25	R	12	GX	16	2
Application E = external I = internal	Size (25 mm)	Module version R = Right Handed L = Left Handed	Maximum groove depth (12 mm)	Grooving system (GX)	Insert size (16 mm)	Width class 2

Basic holder

E	25	R	00	2525	L
Application E = external I = internal	Size (25 mm)	Holder version R = Right Handed L = Left Handed	Approach angle 0°	Shank type 25x25mm	Shank length L = (sh. ISO)

Monobloc tool holder

E	25	R	00	33	2525	M	K	DC	SX3
Application E = external I = internal	Size (25 mm)	Holder version R = Right Handed L = Left Handed	Approach angle 0°	Groove depth (33 mm)	Shank type 25x25mm	Shank length M = (sh. ISO)	Insert clamping K = Key	Cooling system DC = DirectCooling	Grooving system/ width (3.0 mm)



Compilation

Basic holder

E25 R 00 - 2525L

Module

E25 R 12 - GX 16-2

Grooving insert

GX 16-2 E3.00 N 0.50

Grades Overview

CTCP325

- ▲ Carbide, TiCN-Al₂O₃-coated
- ▲ ISO | **P25** | **K30** | M20
- ▲ The wear-resistant solution for steel and cast iron materials at high cutting speeds

HCR1325

CTCP335

- ▲ Carbide, TiCN-Al₂O₃-coated
- ▲ ISO | **P35** | M30 | **K35**
- ▲ The reliable choice for machining steel and cast iron materials

HCR1335

CTPP345

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P45** | **M40** | S40
- ▲ The reliable solution for steel materials and austenitic steels under unstable conditions

HCN1345

CTP1340

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P30** | **M25** | **K30** | **S30** | N30
- ▲ The universal high-performance grade for steel materials, austenitic steel, cast iron materials and heat-resistant alloys

CCN1340

CTPP520

- ▲ Carbide, TiAlTaN-coated
- ▲ ISO | **P20** | **M15** | **K25** | N25 | S25
- ▲ The wear-resistant grade for wet machining of steels

DPX1520

CTPP535

- ▲ Carbide, AlTiN-coated
- ▲ ISO | **P35** | **M30** | **S30** | N30
- ▲ The tough thread turning grade for universal application

DPX1535

H216T

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

CWK26

CWX500

- ▲ Carbide, TiAlN-coated
- ▲ ISO | **K30**
- ▲ The universal carbide grade for almost all materials

Application

