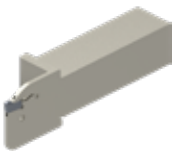
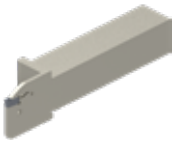
New products for machining technicians



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.

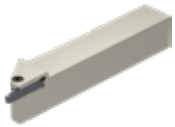
20



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

Table of contents

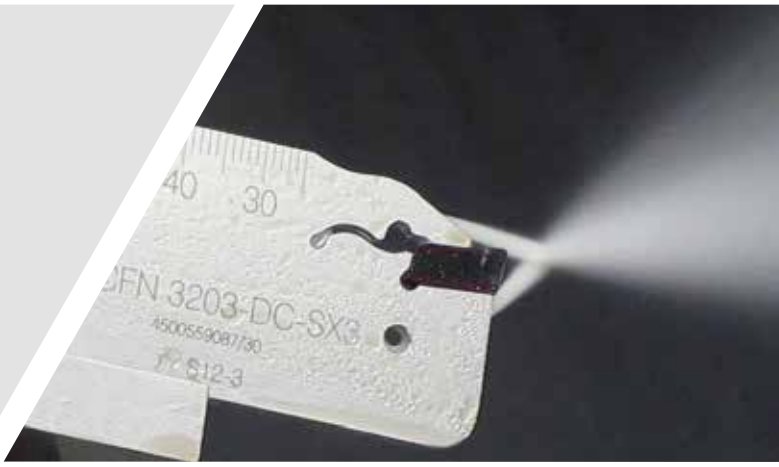
CERATIZIT \ Performance

Premium quality tools for high performance.

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

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


Turning


Face turning


Axial grooving


Main Application


Extended application


Repeatability

F	M	R

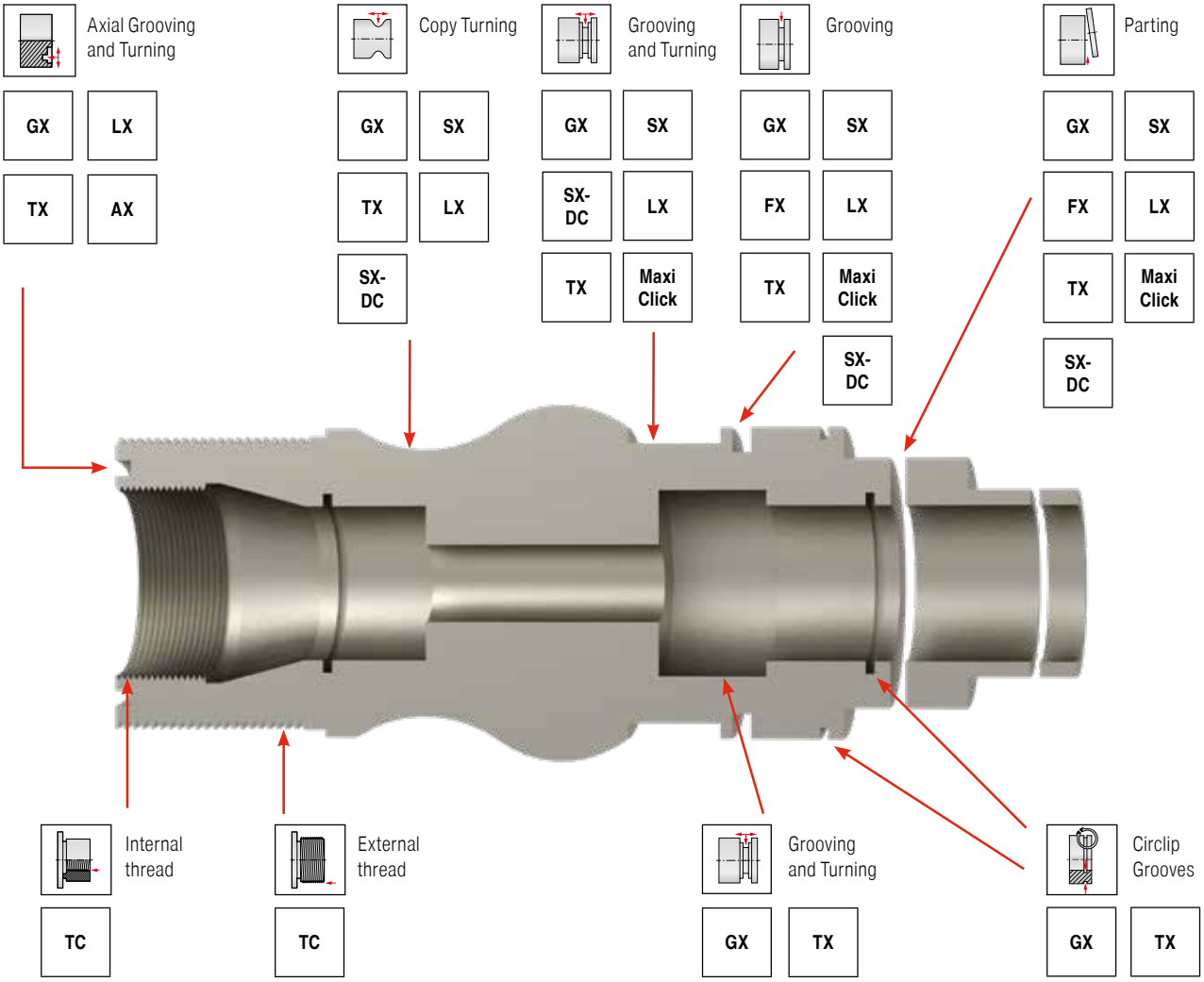
F: Fine Machining
M: Medium Machining
R: Rough Machining


Smooth cut
Irregular cutting depth
Interrupted cut

CTCP325
HCR1325

Carbide Grade

Toolfinder – System Overview

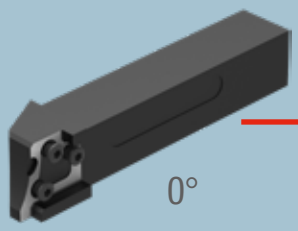


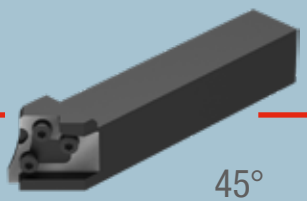
System Description

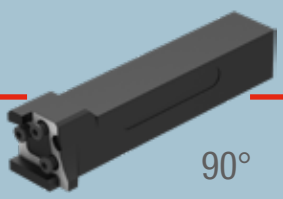
		Pages
SX	The single edged SX grooving system is even more versatile with the -M3 chip breaker. Besides grooving / parting with the -F2, -M2, or -27P chip breakers, the SX -M3 type also allows copying turning operations with the highest chip control. With this additional option, the SX grooving system 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

ModularClamp







GX 09

GX 16

Deep Radial Grooving, Parting and Turning

Axial Grooving and Face Turning

Deep Axial Grooving and Face Turning

GX 24

GX 09

Circlip grooves

Cutting width
CW = 0,5–3,15 mm (H13)

Radius grooves

CRE = 0,8–1,2 mm

Grooving and Turning

Cutting width
CW = 2,0–3,5 mm

GX 16

Circlip grooves

Cutting width
CW = 0,5–5,15 mm (H13)

Radius grooves

CRE = 0,8–3,0 mm

Grooving and Turning

Cutting width
CW = 2,0–6,0 mm

GX 24

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

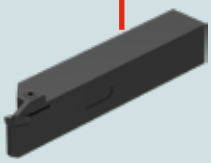
Cutting width
CW = 2,0–6,0 mm

CRE = 1,5–4,0 mm

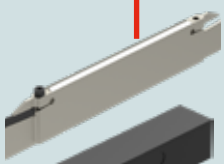
MonoClamp

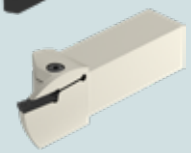
GX 09

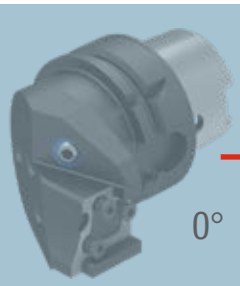
GX 16

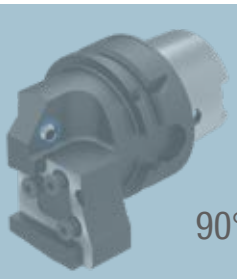


GX 24









* These articles can be found in → **Chapter 16**

SX 13 | FX 27 | LX 73 | TC 84 | AX 76





SX | FX | LX | TC | AX | TX | Maxi Click

Parting, Grooving and Turning

-F2 8 — Parting and Grooving
-27P 11 — Grooving and copy turning
-M1 9
-M3 12 — CRE = 1,5–3,0 mm
-M2 10
Cutting width CW = 2,0–6,0 mm

Parting and Grooving

-F1 22
23+24
-M1
-27P 25
-R2 26
Cutting width CW = 2,2–9,7 mm

Deep Parting and Grooving

-M2 71
-M3 72
Cutting width CW = 8,0–10,0 mm

Thread turning

Full profile
60° 79
55° 82
Partial profile
60° 81
55° 83

Axial Grooving and Turning

-F50 75
Groove width CW = 3,0 mm

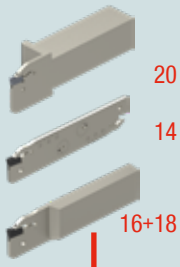
TX

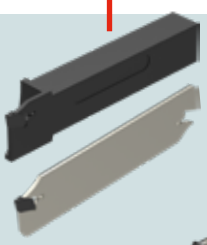
Parting 61
Circlip Grooves 62
Corner undercut 63
Fine and copy turning 64
Axial grooving 65

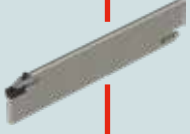
Maxi Click

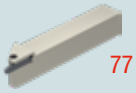
-F2 5 mm 88
-F2 10 mm 89
-F3 10 mm 90
Cutting width CW = 1,0–2,5 mm

SX - DC | FX | LX | TC | AX | TX | Maxi Click





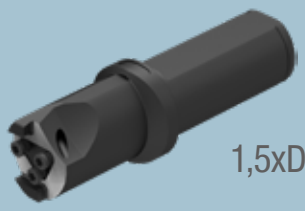




11

Toolfinder – Internal Machining

ModularClamp



96

1,5xD

GX 09

40

41

GX 16

40

41

GX 09

Circlip grooves

35

Cutting width
CW = 0,5–3,15 mm (H13)

Radius grooves

Standard

36

CRE = 0,8–1,2 mm

Grooving and Turning

-F2

30

Standard

31

-M40

32

Cutting width
CW = 2,0–3,5 mm

GX 16

Circlip grooves

35

Cutting width
CW = 0,5–5,15 mm (H13)

Radius grooves

Standard

36

-27P

37

CRE = 0,8–3,0 mm

Grooving and Turning

-F2

30

Standard

31

-M40

32

-M1

33

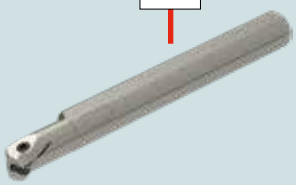
-27P

34

Cutting width
CW = 2,0–6,0 mm

MonoClamp

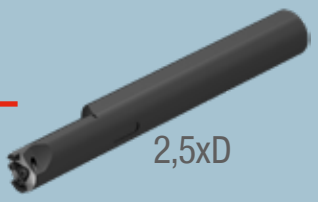
GX 09



44

GX 16

45


96

2,5xD

GX 24


54

TC


86

GX 24

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

-M1  48

-M40  49

-E  47

-F2  46

-27P  51

Cutting width
CW = 2,0–6,0 mm

-M3  50

-27PF  52

CRE = 1,5–4,0 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


59

TC


87

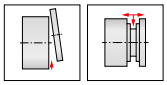
TX


70

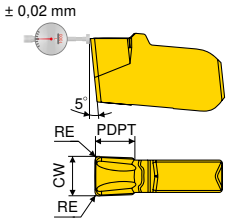
11

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 +/-0,02	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 346 ...		1C/72 Article no. 70 346 ...		1C/72 Article no. 70 346 ...		1C/72 Article no. 70 346 ...	
	mm	mm	mm		£		£		£		£	
SX E2.00 N 0.20	2	0.2	1.5	-SX2					16.37	822	16.37	622
SX E3.00 N 0.30	3	0.3	2.0	-SX3	17.60	923	17.60	523	17.60	823	17.60	623
SX E4.00 N 0.40	4	0.4	2.5	-SX4					18.62	824	18.62	624

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

→ v_c Page 101
→ Application recommendation on page 107

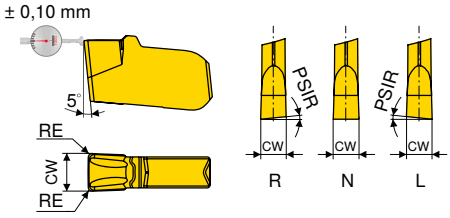
Internal machining *External machining*

→ 13 → 14–19 → 20+21

Insert SX

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

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 +/-0,05 mm	RE +/-0,05 mm	PSIR	for tool holder	1C/72 Article no. 70 342 ... £		1C/72 Article no. 70 342 ... £		1C/72 Article no. 70 342 ... £		1C/72 Article no. 70 342 ... £	
SX E2.00 L 6	L	2	0.2	6°	-SX2							10.98	612
SX E3.00 L 6	L	3	0.2	6°	-SX3	11.69	913					11.69	613
SX E4.00 L 6	L	4	0.3	6°	-SX4							12.31	614
SX E2.00 N 0.20	N	2	0.2		-SX2	10.98	922			10.98	822	10.98	622
SX E3.00 N 0.20	N	3	0.2		-SX3	11.69	923	11.69	523	11.69	823	11.69	623
SX E4.00 N 0.30	N	4	0.3		-SX4	12.31	924	12.31	524	12.31	824	12.31	624
SX E5.00 N 0.30	N	5	0.3		-SX5	13.11	925			13.11	825	13.11	625
SX E6.00 N 0.40	N	6	0.4		-SX6	14.14	926			14.14	826	14.14	626
SX E2.00 R 6	R	2	0.2	6°	-SX2							10.98	602
SX E3.00 R 6	R	3	0.2	6°	-SX3	11.69	903					11.69	603
SX E4.00 R 6	R	4	0.3	6°	-SX4							12.31	604

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

→ v_c Page 101
→ Application recommendation on page 108

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

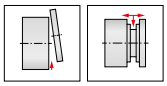
Internal machining *External machining*

→ 13 → 14–19 → 20+21

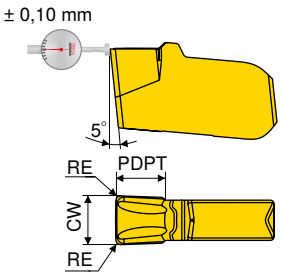
11

Insert SX

▲ All purpose geometry for parting, grooving & turning.



F	M	R



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

Designation	CW +/-0,05	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 343 ...		1C/72 Article no. 70 343 ...		1C/72 Article no. 70 343 ...		1C/72 Article no. 70 343 ...	
	mm	mm	mm		£		£		£		£	
SX E2.00 N 0.20	2	0.2	1.5	-SX2	10.98	**922**	10.98	**522**	10.98	**822**	10.98	**622**
SX E3.00 N 0.30	3	0.3	2.0	-SX3	11.69	**923**	11.69	**523**	11.69	**823**	11.69	**623**
SX E4.00 N 0.40	4	0.4	2.5	-SX4	12.31	**924**	12.31	**524**	12.31	**824**	12.31	**624**
SX E5.00 N 0.40	5	0.4	2.7	-SX5	13.11	**925**	13.11	**525**	13.11	**825**	13.11	**625**
SX E6.00 N 0.50	6	0.5	3.0	-SX6	14.14	**926**	14.14	**526**	14.14	**826**	14.14	**626**

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

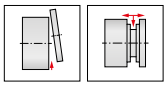
→ v_c Page 101
→ Application recommendation on page 107

Internal machining | *External machining*

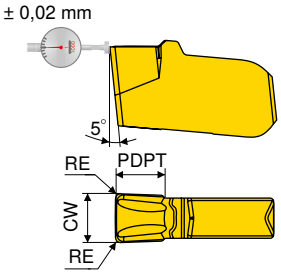
→ 13 | → 14–19 | → 20+21

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

1C/72

Designation	CW +/-0,02 mm	RE +/-0,05 mm	PDPT mm	for tool holder	Article no. 70 349 ... £	
SX E2.00 N 0.20	2	0.2	2.0	-SX2	13.02	**122**
SX E3.00 N 0.30	3	0.3	2.5	-SX3	13.94	**123**
SX E4.00 N 0.40	4	0.4	3.0	-SX4	14.75	**124**

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

→ v_c Page 101
→ Application recommendation on page 107

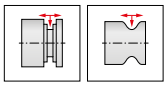
Internal machining | *External machining*

→ 13 | → 14–19 | → 20+21

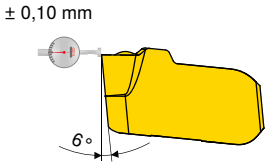
11

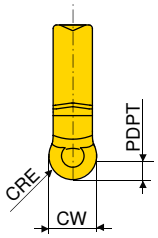
Radius Grooving Insert SX

- For grooving and copy turning
- Very good chip control



F	M	R





-M3 CTCP335	-M3 CTP1340
-M3 HCR1335	-M3 CCN1340
DRAGONSKIN	DRAGONSKIN

Designation	CW +/-0,05	CRE	PDPT	for tool holder	1C/72 Article no. 70 344 ...		1C/72 Article no. 70 344 ...	
	mm	mm	mm		£		£	
SX R3.00 N 1.50	3	1.5	1.5	-SX3	12.42	531	12.42	631
SX R4.00 N 2.00	4	2.0	2.0	-SX4	13.11	532	13.11	632
SX R5.00 N 2.50	5	2.5	2.5	-SX5	13.85	533	13.85	633
SX R6.00 N 3.00	6	3.0	3.0	-SX6			15.05	634

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

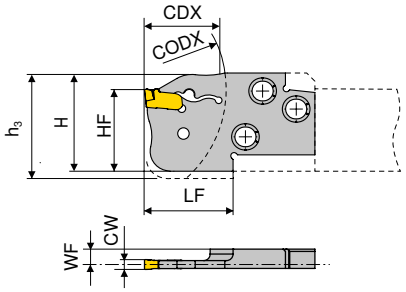
→ v_c Page 101
→ Application recommendation on page 108

Internal machining | *External machining*

→ 13 → 14–19 → 20+21

ModularClamp MSS – Radial grooving module SX

▲ For parting, grooving and finish turning



Illustrations show right-hand versions

Designation	HF mm	CW mm	WF mm	LF mm	H mm	h_3 mm	CODX mm	CDX mm	for grooving inserts	Left-hand 2C/71 Article no. 70 897 ... £		Right-hand 2C/71 Article no. 70 896 ... £	
E20 R/L 20-SX2	20	2	3.57	22	24	27	60	20	SX .2..	78.07	**020**	78.07	**020**
E20 R/L 20-SX3	20	3	3.20	22	24	27	60	20	SX .3..	78.07	**120**	78.07	**120**
E25 R/L 20-SX2	25	2	5.07	22	30		75	20	SX .2..	78.65	**025**	78.65	**025**
E25 R/L 25-SX3	25	3	4.70	27	30		75	25	SX .3..	78.65	**125**	78.65	**125**
E25 R/L 35-SX3	25	3	4.70	37	30		75	35	SX .3..	79.40	**225**	79.40	**225**
E25 R/L 25-SX4	25	4	4.30	27	30		75	25	SX .4..	78.65	**325**	78.65	**325**
E25 R/L 35-SX4	25	4	4.30	37	30		75	35	SX .4..	79.40	**425**	79.40	**425**
E32 R/L 35-SX3	32	3	4.70	37	38		96	35	SX .3..	80.84	**032**	80.84	**032**
E32 R/L 35-SX4	32	4	4.30	37	38		96	35	SX .4..	80.84	**132**	80.84	**132**

2A/28

Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .2..	SX 2-3	24.17	**836**
SX .3..	SX 2-3	24.17	**836**
SX .4..	SX 4-6	24.66	**837**

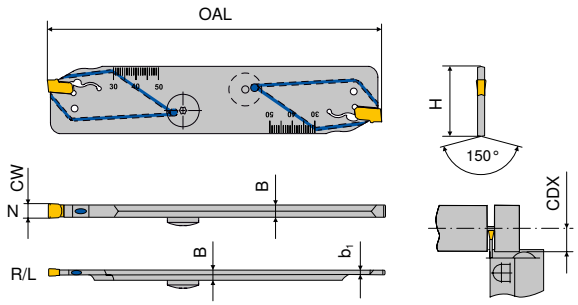


→ 8–12 → 93–95 → **Chapter 16**

Please order SX assembly key separately if required.

11

MonoClamp – Radial Blade SX-DC Standard



Designation	CW mm	H mm	B mm	OAL mm	b_1 mm	CDX mm	for grooving inserts	R/L/N	2A/25 Article no. 70 884 ... £	
XLCF L 2602-DC-SX2	2	26	2.4	110	1.6	25	SX .2..	L	137.27	**712**
XLCF L 3202-DC-SX2	2	32	2.4	150	1.6	26	SX .2..	L	148.73	**702**
XLCF R 2602-DC-SX2	2	26	2.4	110	1.6	25	SX .2..	R	137.27	**512**
XLCF R 3202-DC-SX2	2	32	2.4	150	1.6	26	SX .2..	R	148.73	**502**
XLCF N 2603-DC-SX3	3	26	2.5	110		35	SX .3..	N	137.27	**613**
XLCF N 3203-DC-SX3	3	32	2.5	150		50	SX .3..	N	148.73	**603**
XLCF N 2604-DC-SX4	4	26	3.3	110		40	SX .4..	N	137.27	**614**
XLCF N 3204-DC-SX4	4	32	3.3	150		50	SX .4..	N	148.73	**604**
XLCF N 3205-DC-SX5	5	32	4.3	150		55	SX .5..	N	148.73	**605**
XLCF N 3206-DC-SX6	6	32	5.2	150		60	SX .6..	N	148.73	**606**

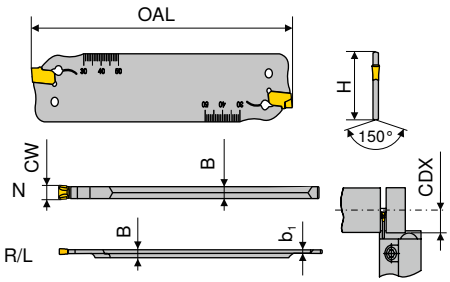
Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £			2A/28 Ejector SX Article no. 70 950 ... £			2A/28 Sealing screw Article no. 70 950 ... £	
SX .2..	T15 - IP	15.77	**128**	SX 2-3	24.17	**836**	M4 x 3	11.72	**450**
SX .3..	T15 - IP	15.77	**128**	SX 2-3	24.17	**836**	M4 x 3	11.72	**450**
SX .4..	T15 - IP	15.77	**128**	SX 4-6	24.66	**837**	M4 x 3	11.72	**450**
SX .5..	T15 - IP	15.77	**128**	SX 4-6	24.66	**837**	M4 x 3	11.72	**450**
SX .6..	T15 - IP	15.77	**128**	SX 4-6	24.66	**837**	M4 x 3	11.72	**450**

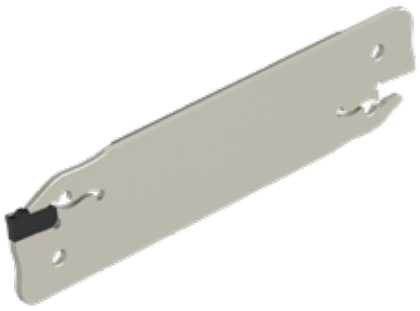



→ 8–12 → 97 → **Chapter 16** → **Chapter 16**

Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX Standard





2A/25

Designation	CW mm	H mm	B mm	OAL mm	b_1 mm	CDX mm	for grooving inserts	R/L/N	Article no. 70 884 ...	£
XLCF L 2602-SX2	2	26	2.4	110	1.5	25	SX .2..	L	80.45	**212**
XLCF L 3202-SX2	2	32	2.4	150	1.5	25	SX .2..	L	84.17	**202**
XLCF R 2602-SX2	2	26	2.4	110	1.5	25	SX .2..	R	80.45	**012**
XLCF R 3202-SX2	2	32	2.4	150	1.5	25	SX .2..	R	84.17	**002**
XLCF N 2603-SX3	3	26	2.4	110		35	SX .3..	N	80.45	**113**
XLCF N 3203-SX3	3	32	2.4	150		50	SX .3..	N	84.17	**103**
XCLF N 2604-SX4	4	26	3.2	110		40	SX .4..	N	80.45	**114**
XLCF N 3204-SX4	4	32	3.2	150		50	SX .4..	N	84.17	**104**
XLCF N 3205-SX5	5	32	4.2	150		55	SX .5..	N	84.17	**105**
XLCF N 3206-SX6	6	32	5.2	150		60	SX .6..	N	84.17	**106**

2A/28

Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .2..	SX 2-3	24.17	**836**
SX .3..	SX 2-3	24.17	**836**
SX .4..	SX 4-6	24.66	**837**
SX .5..	SX 4-6	24.66	**837**
SX .6..	SX 4-6	24.66	**837**

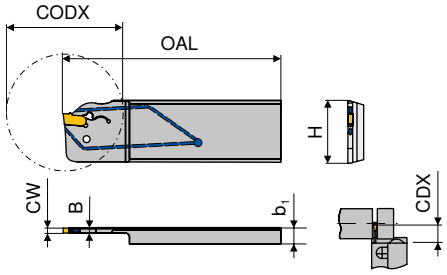



→ 8-12 → 98+99 → **Chapter 16** → **Chapter 16**

Please order SX assembly key separately if required.

11

MonoClamp – Radial Blade SX-DC reinforced



Illustrations show right-hand versions

2A/25

Designation	CW	H	B	OAL	b_1	CODX	CDX	for grooving inserts	R/L/N	Article no. 70 879 ...	
	mm	mm	mm	mm	mm	mm	mm			£	
XLCF L 2608-DC-SX3	3	26	2.5	110	8	66	33	SX .3..	L	137.27	**713**
XLCF L 3208-DC-SX3	3	32	2.5	110	8	66	33	SX .3..	L	148.73	**703**
XLCF R 2608-DC-SX3	3	26	2.5	110	8	66	33	SX .3..	R	137.27	**513**
XLCF R 3208-DC-SX3	3	32	2.5	110	8	66	33	SX .3..	R	148.73	**503**

2A/28

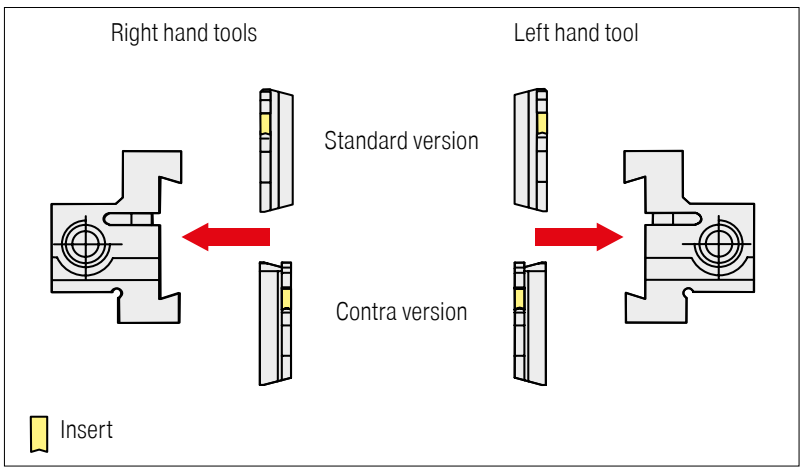
Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ...	
		£	
SX .2..	SX 2-3	24.17	**836**
SX .3..	SX 2-3	24.17	**836**
SX .4..	SX 4-6	24.66	**837**



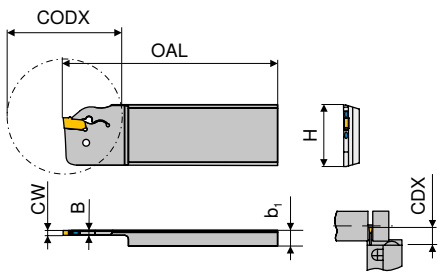

→ 8–12 → 97 → **Chapter 16** → **Chapter 16**

Correct Tool Selection



Please order SX assembly key separately if required.

MonoClamp – Radial Blade SX reinforced



Illustrations show right-hand versions

2A/25

Designation	CW mm	H mm	B mm	OAL mm	b_1 mm	CODX mm	CDX mm	for grooving inserts	R/L/N	Article no. 70 879 ... £	
XLCF L 2608-SX2	2	26	1.5	110	8	44	22	SX .2..	L	123.18	**212** 1)
XLCF L 2608-SX3	3	26	2.5	110	8	44	22	SX .3..	L	123.18	**213** 1)
XLCF L 3208-SX3	3	32	2.5	110	8	66	33	SX .3..	L	115.82	**203**
XLCF L 3208-SX4	4	32	3.4	110	8	66	33	SX .4..	L	115.82	**204**
XLCF R 2608-SX2	2	26	1.5	110	8	44	22	SX .2..	R	123.18	**012** 1)
XLCF R 2608-SX3	3	26	2.5	110	8	44	22	SX .3..	R	123.18	**013** 1)
XLCF R 3208-SX3	3	32	2.5	110	8	66	33	SX .3..	R	115.82	**003**
XLCF R 3208-SX4	4	32	3.4	110	8	66	33	SX .4..	R	115.82	**004**

1) can be used in both directions

2A/28

Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .2..	SX 2-3	24.17	**836**
SX .3..	SX 2-3	24.17	**836**
SX .4..	SX 4-6	24.66	**837**

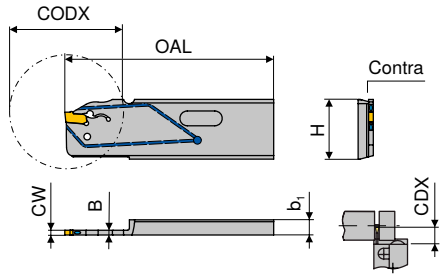



→ 8–12 | → 98+99 | → **Chapter 16** | → **Chapter 16**

Please order SX assembly key separately if required.

11

MonoClamp – SX-DC reinforced Contra radial blade

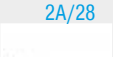


Illustrations show right-hand versions

2A/25

Designation	CW mm	H mm	B mm	OAL mm	b_1 mm	CODX mm	CDX mm	for grooving inserts	R/L/N	Article no. 70 877 ... £	
XLCF L 3208C-DC-SX3	3	32	2.5	110	8	66	33	SX .3..	L	148.73	**703**
XLCF R 3208C-DC-SX3	3	32	2.5	110	8	66	33	SX .3..	R	148.73	**503**

2A/28

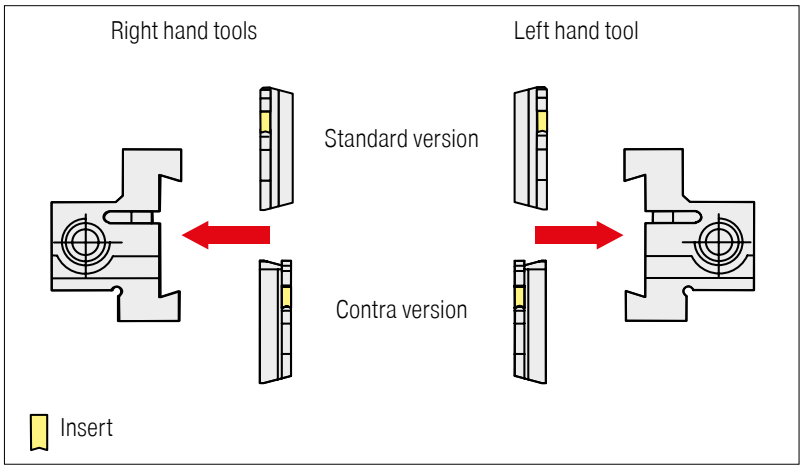


Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .3..	SX 2-3	24.17	**836**

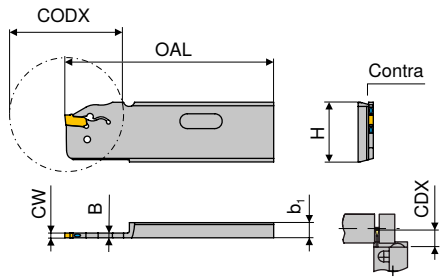
→ 8–12 | → 97 | → **Chapter 16** | → **Chapter 16**

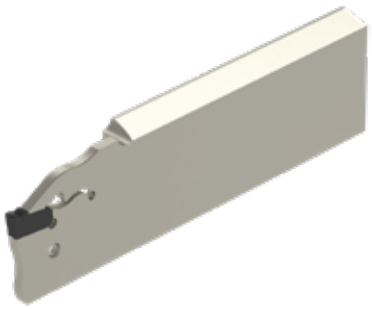
Correct Tool Selection



Please order SX assembly key separately if required.

MonoClamp – SX reinforced Contra radial blade





Illustrations show right-hand versions

2A/25

Designation	CW mm	H mm	B mm	OAL mm	b_1 mm	CODX mm	CDX mm	for grooving inserts	R/L/N	Article no. 70 877 ... £	
XLCF L 3208C-SX3	3	32	2.5	110	8	66	33	SX .3..	L	115.82	**203**
XLCF R 3208C-SX3	3	32	2.5	110	8	66	33	SX .3..	R	115.82	**003**

2A/28

Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .3..	SX 2-3	24.17	**836**

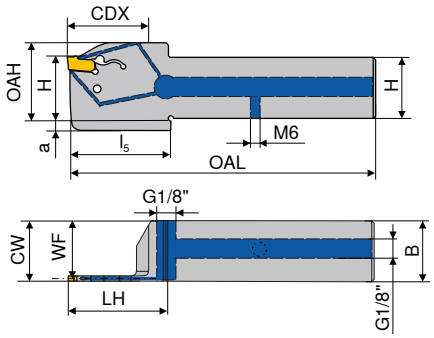


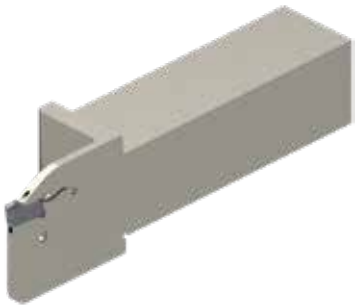

→ 8–12 | → 98+99 | → **Chapter 16** | → **Chapter 16**

Please order SX assembly key separately if required.

11

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 NEW 2C/71 Article no. 70 847 ...	£	Right-hand NEW 2C/71 Article no. 70 847 ...	£
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm					
E12 R/L 0022-1212X-K-DC-SX2	12	12	2	11.2	71	27	28	22	22	5	SX .2..	132.82	**21201**	132.82	**21200**
E16 R/L 0026-1616X-K-DC-SX2	16	16	2	15.2	87	32	33	26	26	4	SX .2..	140.36	**21601**	140.36	**21600**
E20 R/L 0026-2020X-K-DC-SX2	20	20	2	19.2	102	32	33	31	26	5	SX .2..	159.00	**22001**	159.00	**22000**
E25 R/L 0033-2525X-K-DC-SX2	25	25	2	24.2	126	41	42	36	33	5	SX .2..	171.18	**22501**	171.18	**22500**
E16 R/L 0026-1616X-K-DC-SX3	16	16	3	14.8	87	32	33	26	26	4	SX .3..	140.36	**31601**	140.36	**31600**
E20 R/L 0026-2020X-K-DC-SX3	20	20	3	18.8	102	32	33	31	26	5	SX .3..	159.00	**32001**	159.00	**32000**
E25 R/L 0026-2525X-K-DC-SX3	25	25	3	23.8	117	33		31	26		SX .3..	171.18	**32501**	171.18	**32500**
E25 R/L 0033-2525X-K-DC-SX3	25	25	3	23.8	126	41	42	36	33	5	SX .3..	171.18	**32601**	171.18	**32600**
E20 R/L 0033-2020X-K-DC-SX4	20	20	4	18.3	109	39	40	32	33	5	SX .4..	159.00	**42001**	159.00	**42000**
E25 R/L 0033-2525X-K-DC-SX4	25	25	4	23.3	126	41	42	36	33	5	SX .4..	171.18	**42501**	171.18	**42500**
E25 R/L 0040-2525X-K-DC-SX4	25	25	4	23.3	133	48	49	38	40	6	SX .4..	171.18	**42601**	171.18	**42600**
E25 R/L 0040-2525X-K-DC-SX5	25	25	5	22.9	133	48	49	38	40	6	SX .5..	171.18	**52501**	171.18	**52500**
E25 R/L 0040-2525X-K-DC-SX6	25	25	6	22.4	133	48	49	38	40	6	SX .6..	171.18	**62501**	171.18	**62500**

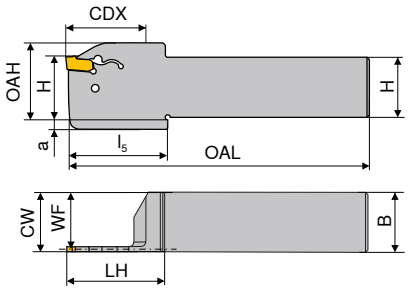
Spare parts

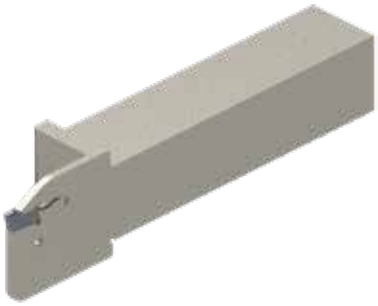
for grooving inserts	2A/28 Ejector SX Article no. 70 950 ...	£		2A/28 Coolant screw plug Article no. 70 950 ...	£	
SX .2..	SX 2-3	24.17	**836**	G 1/8"	3.24	**294**
SX .3..	SX 2-3	24.17	**836**	G 1/8"	3.24	**294**
SX .4..	SX 4-6	24.66	**837**	G 1/8"	3.24	**294**
SX .5..	SX 4-6	24.66	**837**	G 1/8"	3.24	**294**
SX .6..	SX 4-6	24.66	**837**	G 1/8"	3.24	**294**

→ 8–12

Please order SX assembly key separately if required.

MonoClamp – Radial Monoholder SX





Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAL mm	LH mm	l_5 mm	OAH mm	CDX mm	a mm	for grooving inserts	Left-hand NEW 2C/71 Article no. 70 846 ... £		Right-hand NEW 2C/71 Article no. 70 846 ... £	
E12 R/L 0022-1212K-K-SX2	12	12	2	11.2	125	27	28	22	22	5	SX .2..	89.80	**21201**	89.80	**21200**
E16 R/L 0026-1616K-K-SX2	16	16	2	15.2	125	33	33	26	26	4	SX .2..	91.64	**21601**	91.64	**21600**
E20 R/L 0026-2020K-K-SX2	20	20	2	19.2	125	33	33	31	26	5	SX .2..	107.55	**22001**	107.55	**22000**
E25 R/L 0033-2525M-K-SX2	25	25	2	24.2	150	42	42	36	33	5	SX .2..	114.09	**22501**	114.09	**22500**
E16 R/L 0026-1616K-K-SX3	16	16	3	14.8	125	33	33	26	26	4	SX .3..	91.64	**31601**	91.64	**31600**
E20 R/L 0026-2020K-K-SX3	20	20	3	18.8	125	31	33	31	26	5	SX .3..	107.55	**32001**	107.55	**32000**
E25 R/L 0026-2525M-K-SX3	25	25	3	23.8	150	33		31	26		SX .3..	114.09	**32501**	114.09	**32500**
E25 R/L 0033-2525M-K-SX3	25	25	3	23.8	150	42	42	36	33	5	SX .3..	114.09	**32601**	114.09	**32600**
E20 R/L 0033-2020K-K-SX4	20	20	4	18.3	125	40	40	32	33	5	SX .4..	107.55	**42001**	107.55	**42000**
E25 R/L 0033-2525M-K-SX4	25	25	4	23.3	150	42	42	36	33	5	SX .4..	114.09	**42501**	114.09	**42500**
E25 R/L 0040-2525M-K-SX4	25	25	4	23.3	150	49	49	38	40	6	SX .4..	114.09	**42601**	114.09	**42600**
E25 R/L 0040-2525M-K-SX5	25	25	5	22.9	150	49	49	38	40	6	SX .5..	114.09	**52501**	114.09	**52500**
E25 R/L 0040-2525M-K-SX6	25	25	6	22.4	150	49	49	38	40	6	SX .6..	114.09	**62501**	114.09	**62500**

2A/28

Ejector SX

Spare parts for grooving inserts		Article no. 70 950 ... £	
SX .2..	SX 2-3	24.17	**836**
SX .3..	SX 2-3	24.17	**836**
SX .4..	SX 4-6	24.66	**837**
SX .5..	SX 4-6	24.66	**837**
SX .6..	SX 4-6	24.66	**837**

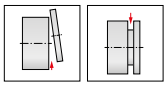
→ 8-12

Please order SX assembly key separately if required.

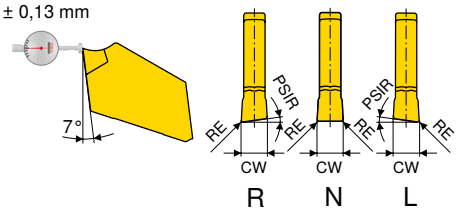
11

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 $_{-0,1}$ mm	RE $_{+/-0,05}$ mm	PSIR	for tool holder	1A/15 Article no. 70 331 ... £		1A/15 Article no. 70 331 ... £		1A/15 Article no. 70 331 ... £	
FX 2.2 L 5-F1	L	2.2	0.15	5°	-FX 2.2			12.51	847	12.51	647
FX 3.1 L 5-F1	L	3.1	0.20	5°	-FX 3.1			12.51	851	12.51	651
FX 3.1 L 8-F1	L	3.1	0.20	8°	-FX 3.1			12.51	855		
FX 2.2 N 0.15-F1	N	2.2	0.15		-FX 2.2	12.51	998	12.51	848	12.51	648
FX 3.1 N 0.40-F1	N	3.1	0.40		-FX 3.1	12.51	906	12.51	856	12.51	656
FX 3.1 N 0.20-F1	N	3.1	0.20		-FX 3.1	12.51	902	12.51	852	12.51	652
FX 4.1 N 0.20-F1	N	4.1	0.20		-FX 4.1			13.43	860	13.43	660
FX 4.1 N 0.50-F1	N	4.1	0.50		-FX 4.1			13.43	864		
FX 2.2 R 5-F1	R	2.2	0.15	5°	-FX 2.2			12.51	849	12.51	649
FX 3.1 R 8-F1	R	3.1	0.20	8°	-FX 3.1			12.51	857		
FX 3.1 R 5-F1	R	3.1	0.20	5°	-FX 3.1			12.51	853	12.51	653
Steel						●		●		●	
Stainless steel						○		●		●	
Cast iron						●				●	
Non ferrous metals										○	
Heat resistant alloys								○		●	
hardened materials						○					

→ v_c Page 101
→ Application recommendation on page 109

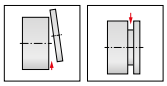
Note: reduce feed rate by 20–50 % with R/L version!

Internal machining *External machining*

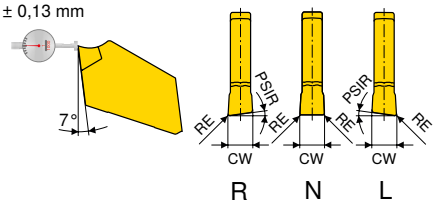
→ 27 → 29 → 28

Insert FX

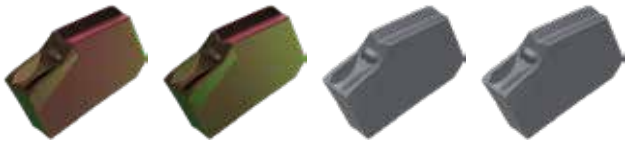
▲ Narrow version



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 $_{-0,1}$ mm	RE $_{+/-0,05}$ mm	PSIR	for tool holder	1A/15 Article no. 70 330 ... £		1A/15 Article no. 70 330 ... £		1A/15 Article no. 70 330 ... £		1A/15 Article no. 70 330 ... £	
FX 2.2 L 4-M1	L	2.2	0.1	4°	-FX 2.2			12.51	550	12.51	800	12.51	600
FX 2.2 N 0.10-M1	N	2.2	0.1		-FX 2.2	12.51	902	12.51	552	12.51	802	12.51	602
FX 2.2 R 4-M1	R	2.2	0.1	4°	-FX 2.2			12.51	554	12.51	804	12.51	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!

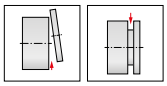
11

Internal machining *External machining*

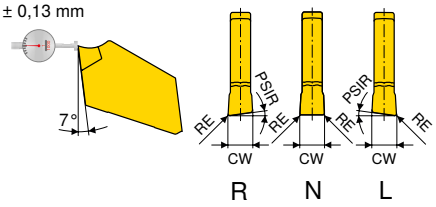
→ 27 → 29 → 28

Insert FX

▲ Wide 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 +/-0,05 mm	RE +/-0,05 mm	PSIR	for tool holder	1A/15 Article no. 70 332 ... £		1A/15 Article no. 70 332 ... £		1A/15 Article no. 70 332 ... £		1A/15 Article no. 70 332 ... £	
FX 3.1 L 6-M1	L	3.1	0.15	6°	-FX 3.1	12.51	900	12.51	550	12.51	800	12.51	600
FX 4.1 L 6-M1	L	4.1	0.20	6°	-FX 4.1			13.43	556	13.43	806	13.43	606
FX 3.1 N 0.15-M1	N	3.1	0.15		-FX 3.1	12.51	902	12.51	552	12.51	802	12.51	602
FX 4.1 N 0.20-M1	N	4.1	0.20		-FX 4.1	13.43	908	13.43	558	13.43	808	13.43	608
FX 5.1 N 0.25-M1	N	5.1	0.25		-FX 5.1	14.35	914	14.35	564	14.35	814	14.35	614
FX 6.5 N 0.30-M1	N	6.5	0.30		-FX 6.5	14.75	920	14.75	570			14.75	620
FX 8.2 N 0.40-M1	N	8.2	0.40		blades XLCEN 4608	16.78	924	16.78	574			16.78	624
FX 9.7 N 0.40-M1	N	9.7	0.40		blades XLCEN 4609	24.31	926	24.31	576			24.31	626
FX 3.1 R 6-M1	R	3.1	0.15	6°	-FX 3.1	12.51	904	12.51	554	12.51	804	12.51	604
FX 4.1 R 6-M1	R	4.1	0.20	6°	-FX 4.1			13.43	560	13.43	810	13.43	610
FX 5.1 R 6-M1	R	5.1	0.25	6°	-FX 5.1					14.35	816		

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

→ v_c Page 101
→ Application recommendation on page 109

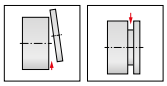
Note: reduce feed rate by 20–50 % with R/L version!

Internal machining *External machining*

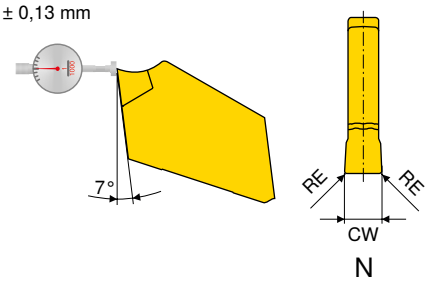
→ 27 → 29 → 28

Insert FX

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



F	M	R



N

-27P
H216T

-ALP
CWK26

1A/90

Designation	IH	CW $_{-0,1}$ mm	RE $_{+/-0,05}$ mm	for tool holder	Article no. 70 334 ...	£
FX 2.2 N 0.10	N	2.2	0.10	-FX 2.2	11.69	**650**
FX 3.1 N 0.15	N	3.1	0.15	-FX 3.1	11.69	**652**
FX 4.1 N 0.15	N	4.1	0.15	-FX 4.1	12.51	**654**

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

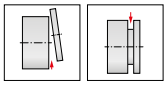
→ v_c Page 101
→ Application recommendation on page 109

Internal machining	*External machining*						
							
	→ 27	→ 29	→ 28				

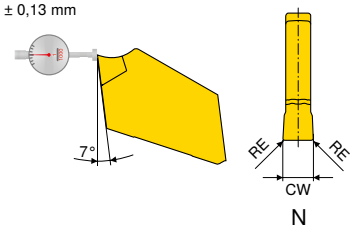
11

Insert FX

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



F	M	R
		



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

Designation	IH	$CW_{-0,1}$ mm	$RE_{+/-0,05}$ mm	for tool holder	1A/15 Article no. 70 335 ... £		1A/15 Article no. 70 335 ... £		1A/15 Article no. 70 335 ... £	
FX 3.1 N 0.40-R2	N	3.1	0.4	-FX 3.1	12.51	**902**	12.51	**852**	12.51	**652**
FX 4.1 N 0.50-R2	N	4.1	0.5	-FX 4.1	13.43	**908**	13.43	**858**	13.43	**658**

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

→ v_c Page 101
→ Application recommendation on page 109

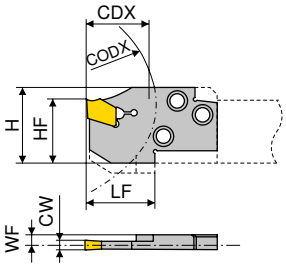
Internal machining *External machining*



→ 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 2C/71 Article no. 70 876 ... £		Right-hand 2C/71 Article no. 70 875 ... £	
	mm	mm	mm	mm	mm	mm	mm					
E20 R/L 20-FX 2.2	23	2.2	3.58	22	27	60	20	FX 2.2 ..	78.07	020	78.07	020
E20 R/L 20-FX 3.1	23	3.1	3.20	22	27	60	20	FX 3.1 ..	78.07	120	78.07	120
E20 R/L 20-FX 4.1	23	4.1	2.80	22	27	60	20	FX 4.1 ..	78.07	220	78.07	220
E25 R/L 20-FX 2.2	25	2.2	5.08	22	30	75	20	FX 2.2 ..	78.65	025	78.65	025
E25 R/L 25-FX 3.1	25	3.1	4.70	27	30	75	25	FX 3.1 ..	78.65	125	78.65	125
E25 R/L 25-FX 4.1	25	4.1	4.30	27	30	75	25	FX 4.1 ..	78.65	225	78.65	225
E25 R/L 25-FX 5.1	25	5.1	3.90	27	30	75	25	FX 5.1 ..	78.65	325	78.65	325
E25 R/L 25-FX 6.5	25	6.5	3.30	27	30	75	25	FX 6.5 ..	78.65	425	78.65	425
E25 R/L 35-FX 3.1	25	3.1	4.70	37	30	75	35	FX 3.1 ..	79.40	525	79.40	525
E25 R/L 35-FX 4.1	25	4.1	4.30	37	30	75	35	FX 4.1 ..	79.40	625	79.40	625
E25 R/L 35-FX 5.1	25	5.1	3.90	37	30	75	35	FX 5.1 ..	79.40	725	79.40	725
E25 R/L 35-FX 6.5	25	6.5	3.30	37	30	75	35	FX 6.5 ..	79.40	825	79.40	825
E32 R/L 32-FX 3.1	32	3.1	4.70	34	38	96	32	FX 3.1 ..	80.84	032	80.84	032
E32 R/L 32-FX 4.1	32	4.1	4.30	34	38	96	32	FX 4.1 ..	80.84	132	80.84	132
E32 R/L 32-FX 5.1	32	5.1	3.90	34	38	96	32	FX 5.1 ..	80.84	232	80.84	232
E32 R/L 32-FX 6.5	32	6.5	3.30	34	38	96	32	FX 6.5 ..	80.84	332	80.84	332
E32 R/L 45-FX 3.1	32	3.1	4.70	47	38	96	45	FX 3.1 ..	82.17	432	82.17	432
E32 R/L 45-FX 4.1	32	4.1	4.30	47	38	96	45	FX 4.1 ..	82.17	532	82.17	532
E32 R/L 45-FX 5.1	32	5.1	3.90	47	38	96	45	FX 5.1 ..	82.17	632	82.17	632
E32 R/L 45-FX 6.5	32	6.5	3.30	47	38	96	45	FX 6.5 ..	82.17	732	82.17	732

11

2A/28

Ejector

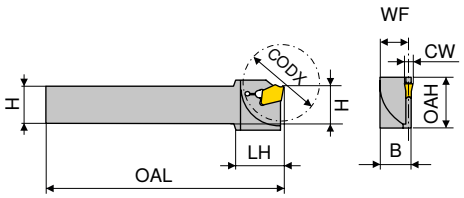
Spare parts for grooving inserts	Article no. 70 950 ... £	
FX 2.2 ..	3.95	375
FX 3.1 ..	3.95	376
FX 4.1 ..	3.95	376
FX 5.1 ..	3.95	376
FX 6.5 ..	3.95	376

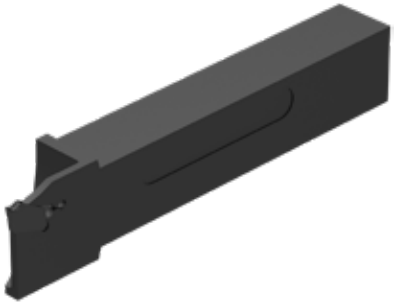


→ 22–26 → 93–95 → Chapter 16

MonoClamp – Radial Monoholder FX

Scope of supply:
Blade and ejector





Illustrations show right-hand versions

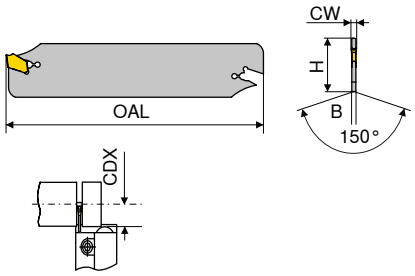
Designation	H	B	OAL	LH	OAH	CW	WF	CODX	for grooving inserts	Left-hand 2A/25 Article no. 70 837 ... £		Right-hand 2A/25 Article no. 70 836 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm					
XLCE R/L 1010 M-FX2.2	10	10	150	19.4	21	2.2	9.18	30	FX 2.2 ..	90.27	101	90.27	101
XLCE R/L 1212 F-FX2.2	12	12	80	21.0	21	2.2	11.18	30	FX 2.2 ..	90.27	102	85.79	102
XLCE R/L 1212 M-FX2.2	12	12	150	19.4	21	2.2	11.18	30	FX 2.2 ..	90.27	103	90.27	103
XLCE R/L 1414 M-FX2.2	14	14	150	19.4	21	2.2	13.18	30	FX 2.2 ..	93.00	104	93.00	104
XLCE R/L 1612 H-FX2.2	16	12	100	21.0	21	2.2	11.18	30	FX 2.2 ..	85.79	105	85.79	105
XLCF R/L 1612 H-FX3.1	16	12	100	21.4	25	3.1	10.80	35	FX 3.1 ..	85.79	106	85.79	106
XLCF R/L 2016 K-FX3.1	20	16	125	26.4	26	3.1	14.80	40	FX 3.1 ..	95.73	107	95.73	107
XLCF R/L 2520 M-FX3.1	25	20	150	35.2	34	3.1	18.80	50	FX 3.1 ..	98.36	108	98.36	108
XLCF R/L 2016 K-FX4.1	20	16	125	26.4	26	4.1	14.40	40	FX 4.1 ..	95.73	109	95.73	109
XLCF R/L 2520 M-FX4.1	25	20	150	35.2	34	4.1	18.40	50	FX 4.1 ..	98.36	110	98.36	110

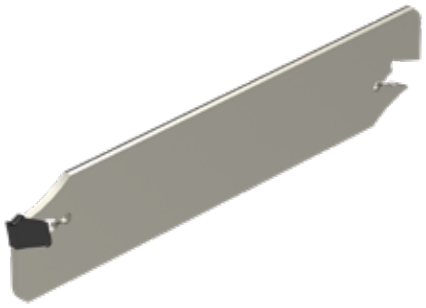
Spare parts for grooving inserts	2A/28 Ejector Article no. 70 950 ... £	
FX 2.2 ..	3.95	375
FX 3.1 ..	3.95	376
FX 4.1 ..	3.95	376

→ 22–26

MonoClamp – Radial Blade FX

Scope of supply:
Blade and ejector





2A/25

Designation	H	B	OAL	CW	CDX	for grooving inserts	Article no. 70 832 ...	
	mm	mm	mm	mm	mm		£	
XLCEN 2602 J 22 FX	26	1.65	110	2.2	25	FX 2.2 ..	73.59	**101**
XLCFN 2603 J 31 FX	26	2.40	110	3.1	35	FX 3.1 ..	72.06	**102**
XLCFN 2604 J 41 FX	26	3.20	110	4.1	40	FX 4.1 ..	72.06	**103**
XLCEN 3202 M 22 FX	32	1.65	150	2.2	30	FX 2.2 ..	73.59	**004**
XLCFN 3203 M 31 FX	32	2.40	150	3.1	50	FX 3.1 ..	74.74	**104**
XLCFN 3204 M 41 FX	32	3.20	150	4.1	50	FX 4.1 ..	80.65	**105**
XLCFN 3205 M 51 FX	32	4.00	150	5.1	55	FX 5.1 ..	88.45	**106**
XLCFN 3206 M 65 FX	32	5.20	150	6.5	55	FX 6.5 ..	95.73	**107**
XLCEN 4608 S 82 FX	46	6.80	250	8.2	80	FX 8.2 ..	228.45	**108**
XLCEN 4609 S 97 FX	46	8.00	250	9.7	80	FX 9.7 ..	228.45	**109**

2A/28

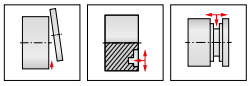

Ejector

Spare parts for grooving inserts	Article no. 70 950 ... £	
FX 2.2 ..	3.95	**375**
FX 3.1 ..	3.95	**376**
FX 4.1 ..	3.95	**376**
FX 5.1 ..	3.95	**376**
FX 6.5 ..	3.95	**376**
FX 8.2 ..	4.95	**377**
FX 9.7 ..	4.95	**377**

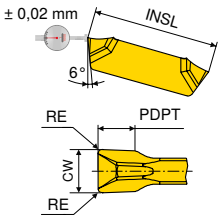

→ 22–26 → 98+99

Insert GX 09/16

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



F	M	R



-F2 CTP1340

-F2 CCN1340

DRAGONSKIN

Designation	INSL	CW +/-0,02	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 360 ... £	
	mm	mm	mm	mm			
GX 09-1 E2.00 N 0.20	9	2.0	0.2	1.5	GX 09-1	23.55	**600**
GX 09-1 E2.50 N 0.20	9	2.5	0.2	1.5	GX 09-1	23.55	**602**
GX 09-2 E3.00 N 0.30	9	3.0	0.3	2.0	GX 09-2	23.55	**604**
GX 16-1 E2.00 N 0.20	16	2.0	0.2	2.5	GX 16-1	23.95	**650**
GX 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2	23.95	**652**
GX 16-3 E4.00 N 0.40	16	4.0	0.4	3.5	GX 16-3	26.22	**654**
GX 16-3 E5.00 N 0.40	16	5.0	0.4	3.5	GX 16-3	26.22	**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

→ 40+41

→ 44+45

External machining

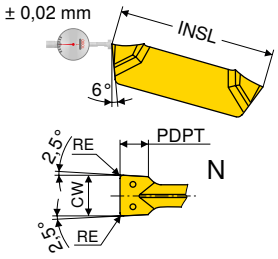
→ 38+39

→ 42+43

Insert GX 09/16 – Standard

▲ Suitable for parting thin-walled workpieces

F	M	R
		



CTCP325	CTCP335	CTP1340
HCR1325	HCR1335	CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		

Designation	INSL	CW +/-0,02	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 350 ...		1C/72 Article no. 70 350 ...		1C/72 Article no. 70 350 ...	
	mm	mm	mm	mm		£		£		£	
GX 09-1 E2.00 N 0.20	9	2.0	0.2	1.5	GX 09-1	23.55	**984**			23.55	**634**
GX 09-1 E2.50 N 0.20	9	2.5	0.2	1.5	GX 09-1	23.55	**988**			23.55	**638**
GX 09-2 E3.00 N 0.30	9	3.0	0.3	2.0	GX 09-2	23.55	**992**			23.55	**642**
GX 16-1 E2.00 N 0.20	16	2.0	0.2	2.5	GX 16-1	23.95	**900**	23.95	**500**	23.95	**600**
GX 16-1 E2.50 N 0.20	16	2.5	0.2	2.5	GX 16-1	23.95	**904**	23.95	**504**	23.95	**604**
GX 16-2 E3.00 N 0.30	16	3.0	0.3	3.0	GX 16-2	23.95	**908**	23.95	**508**	23.95	**608**
GX 16-2 E3.00 N 0.50	16	3.0	0.5	3.0	GX 16-2	23.95	**910**				
GX 16-2 E3.50 N 0.30	16	3.5	0.3	3.0	GX 16-2	23.95	**912**	23.95	**512**	23.95	**612**
GX 16-3 E4.00 N 0.60	16	4.0	0.6	3.5	GX 16-3	26.22	**918**				
GX 16-3 E4.00 N 0.40	16	4.0	0.4	3.5	GX 16-3	26.22	**916**	26.22	**516**	26.22	**616**
GX 16-3 E5.00 N 0.40	16	5.0	0.4	3.5	GX 16-3	26.22	**924**	26.22	**524**	26.22	**624**
GX 16-4 E6.00 N 0.50	16	6.0	0.5	4.0	GX 16-4	27.67	**928**			27.67	**628**
GX 16-4 E6.00 N 0.80	16	6.0	0.8	4.0	GX 16-4	27.67	**930**				

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

→ v_c Page 101
→ Application recommendation on page 103

11

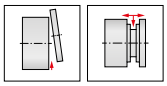
Internal machining *External machining*



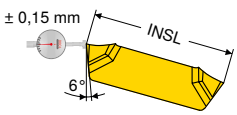

→ 40+41 → 44+45 → 38+39 → 42+43

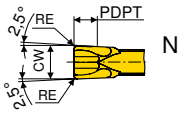
Insert GX 09/16

▲ Very good swarf control



F	M	R





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



Designation	INSL mm	CW +/-0,05 mm	RE +/-0,05 mm	PDPT mm	for tool holder	1C/72 Article no. 70 351 ... £		1C/72 Article no. 70 351 ... £		1C/72 Article no. 70 351 ... £	
GX 09-1 E2.00 N 0.20	9	2	0.2	1.5	GX 09-1	15.38	**986**	15.38	**886**	15.38	**686**
GX 09-2 E3.00 N 0.30	9	3	0.3	2.0	GX 09-2	15.38	**994**	15.38	**894**	15.38	**694**
GX 16-1 E2.00 N 0.20	16	2	0.2	2.5	GX 16-1	15.58	**902**	15.58	**802**	15.58	**602**
GX 16-2 E3.00 N 0.30	16	3	0.3	3.0	GX 16-2	15.58	**910**	15.58	**810**	15.58	**610**
GX 16-3 E4.00 N 0.40	16	4	0.4	3.5	GX 16-3	17.35	**918**	17.35	**818**	17.35	**618**
GX 16-3 E5.00 N 0.40	16	5	0.4	3.5	GX 16-3	19.11	**926**	19.11	**826**	19.11	**626**
GX 16-4 E6.00 N 0.50	16	6	0.5	4.0	GX 16-4	20.85	**930**	20.85	**830**	20.85	**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*

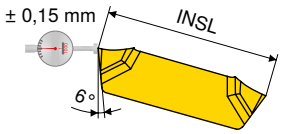


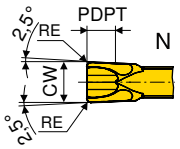

→ 40+41 | → 44+45 | → 38+39 | → 42+43

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 +/-0,05	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 362 ...		1C/72 Article no. 70 362 ...		1C/72 Article no. 70 362 ...	
	mm	mm	mm	mm		£		£		£	
GX 16-1 E2.00 N 0.20	16	2	0.2	2.0	GX 16-1			15.58	**800**	15.58	**600**
GX 16-2 E3.00 N 0.20	16	3	0.2	2.5	GX 16-2	15.58	**902**	15.58	**802**	15.58	**602**
GX 16-3 E4.00 N 0.30	16	4	0.3	3.0	GX 16-3	17.35	**904**			17.35	**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*

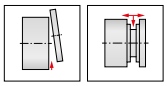



→ 40+41 | → 45 | → 38+39 | → 43

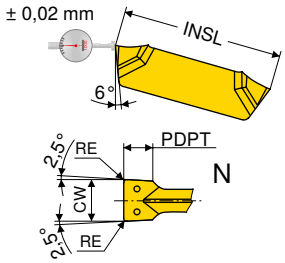
11

Insert GX 16

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



F	M	R



-27P
H216T

-ALP
CWK26

1C/72

Designation	INSL	CW +/-0,02	RE +/-0,05	PDPT	for tool holder	Article no. 70 350 ...	
	mm	mm	mm	mm		£	
GX 16-1 E2.00 N 0.20	16	2	0.2	2.5	GX 16-1	18.17	**650**
GX 16-2 E3.00 N 0.30	16	3	0.3	3.0	GX 16-2	18.17	**658**
GX 16-3 E4.00 N 0.40	16	4	0.4	3.5	GX 16-3	19.82	**670**
GX 16-4 E6.00 N 0.50	16	6	0.5	4.0	GX 16-4	20.85	**678**

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

→ v_c Page 101
→ Application recommendation on page 103

Internal machining

→ 40+41

→ 45

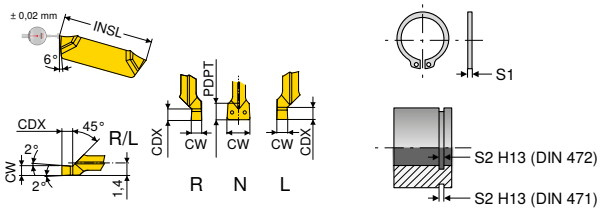
External machining

→ 38+39

→ 43

Circlip groove insert GX 09/16 – Standard

F	M	R
		



Designation	IH	INSL	s_1	s_2	CW +/-0,02	RE +/-0,05	CDX	PDPT	for tool holder	1C/72 Article no. 70 352 ... £		1C/72 Article no. 70 352 ... £	
		mm	mm	mm	mm	mm	mm	mm					
GX 09-1 S0.60 L	L	9	0.40	0.50	0.60		0.75		R/L 02-GX 09-1			23.55	**679**
GX 09-1 S0.80 L	L	9	0.60	0.70	0.80		0.94		R/L 02-GX 09-1			23.55	**681**
GX 09-1 S0.90 L	L	9	0.70	0.80	0.90		1.04		R/L 02-GX 09-1			23.55	**683**
GX 09-1 S1.00 L	L	9	0.80	0.90	1.00		1.14		R/L 02-GX 09-1			23.55	**684**
GX 09-1 S1.20 L	L	9	1.00	1.10	1.20		1.34		R/L 02-GX 09-1			23.55	**686**
GX 09-1 S1.40 L	L	9	1.20	1.30	1.40		1.53		R/L 02-GX 09-1			23.55	**688**
GX 09-1 S1.70 L	L	9	1.50	1.60	1.70		1.82		R/L 02-GX 09-1			23.55	**690**
GX 16-2 S0.60 L	L	16	0.40	0.50	0.60		0.75		R/L 03-GX 16-2			23.95	**607**
GX 16-2 S0.80 L	L	16	0.60	0.70	0.80		0.94		R/L 03-GX 16-2			23.95	**609**
GX 16-2 S0.90 L	L	16	0.70	0.80	0.90		1.04		R/L 03-GX 16-2			23.95	**611**
GX 16-2 S1.00 L	L	16	0.80	0.90	1.00		1.14		R/L 03-GX 16-2			23.95	**612**
GX 16-2 S1.20 L	L	16	1.00	1.10	1.20		1.34		R/L 03-GX 16-2			23.95	**614**
GX 16-2 S1.40 L	L	16	1.20	1.30	1.40		1.53		R/L 03-GX 16-2			23.95	**616**
GX 16-2 S1.70 L	L	16	1.50	1.60	1.70		1.82		R/L 03-GX 16-2			23.95	**618**
GX 16-2 S1.95 L	L	16	1.75	1.85	1.95		2.07		R/L 03-GX 16-2			23.95	**620**
GX 16-2 S2.25 L	L	16	2.00	2.15	2.25		2.36		R/L 03-GX 16-2			23.95	**622**
GX 09-1 S1.95 N	N	9	1.75	1.85	1.95	0.1		2.0	GX 09-1	23.55	**692**		
GX 09-1 S2.25 N	N	9	2.00	2.15	2.25	0.1		2.0	GX 09-1	23.55	**694**		
GX 09-2 S2.75 N	N	9	2.50	2.65	2.75	0.1		2.0	GX 09-2	23.55	**696**		
GX 09-2 S3.25 N	N	9	3.00	3.15	3.25	0.1		2.0	GX 09-2	23.55	**698**		
GX 16-2 S2.75 N	N	16	2.50	2.65	2.75	0.1		3.0	GX 16-2	23.95	**624**		
GX 16-2 S3.25 N	N	16	3.00	3.15	3.25	0.1		3.0	GX 16-2	23.95	**626**		
GX 16-3 S4.25 N	N	16	4.00	4.15	4.25	0.2		3.5	GX 16-3	26.22	**628**		
GX 16-4 S5.25 N	N	16	5.00	5.15	5.25	0.2		4.0	GX 16-4	27.67	**630**		
GX 09-1 S0.60 R	R	9	0.40	0.50	0.60		0.75		R/L 02-GX 09-1			23.55	**670**
GX 09-1 S0.80 R	R	9	0.60	0.70	0.80		0.94		R/L 02-GX 09-1			23.55	**672**
GX 09-1 S0.90 R	R	9	0.70	0.80	0.90		1.04		R/L 02-GX 09-1			23.55	**674**
GX 09-1 S1.00 R	R	9	0.80	0.90	1.00		1.14		R/L 02-GX 09-1			23.55	**676**
GX 09-1 S1.20 R	R	9	1.00	1.10	1.20		1.34		R/L 02-GX 09-1			23.55	**678**
GX 09-1 S1.40 R	R	9	1.20	1.30	1.40		1.53		R/L 02-GX 09-1			23.55	**680**
GX 09-1 S1.70 R	R	9	1.50	1.60	1.70		1.82		R/L 02-GX 09-1			23.55	**682**
GX 16-2 S0.60 R	R	16	0.40	0.50	0.60		0.75		R/L 03-GX 16-2			23.95	**695**
GX 16-2 S0.80 R	R	16	0.60	0.70	0.80		0.94		R/L 03-GX 16-2			23.95	**697**
GX 16-2 S0.90 R	R	16	0.70	0.80	0.90		1.04		R/L 03-GX 16-2			23.95	**699**
GX 16-2 S1.00 R	R	16	0.80	0.90	1.00		1.14		R/L 03-GX 16-2			23.95	**600**
GX 16-2 S1.20 R	R	16	1.00	1.10	1.20		1.34		R/L 03-GX 16-2			23.95	**602**
GX 16-2 S1.40 R	R	16	1.20	1.30	1.40		1.53		R/L 03-GX 16-2			23.95	**604**
GX 16-2 S1.70 R	R	16	1.50	1.60	1.70		1.82		R/L 03-GX 16-2			23.95	**606**
GX 16-2 S1.95 R	R	16	1.75	1.85	1.95		2.07		R/L 03-GX 16-2			23.95	**608**
GX 16-2 S2.25 R	R	16	2.00	2.15	2.25		2.36		R/L 03-GX 16-2			23.95	**610**

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

→ v_c Page 101
→ Application recommendation on page 104

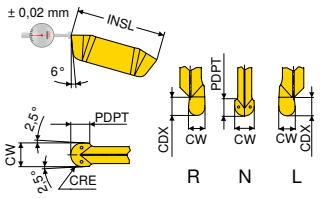
Attention – applies only to internal machining:
Right-hand insert → left-hand module or monobloc boring bar
Left-hand insert → right-hand module or monobloc boring bar

Internal machining *External machining*

→ 40+41 → 44+45 → 38+39 → 42+43

Radius groove insert GX 09/16

F	M	R
		



CTCP325	CTCP325	CTP1340
HCR1325	HCR1325	CCN1340
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		

Designation	IH	INSL	CW +/-0,02	CRE	PDPT	CDX	for tool holder	1C/72 Article no. 70 354 ...		1C/72 Article no. 70 354 ...		1C/72 Article no. 70 354 ...	
		mm	mm	mm	mm	mm		£		£		£	
GX 09-1 R0.80 L	L	9	1.6	0.8		1.78	R/L 02-GX 09-1	28.39	**988**				
GX 16-2 R0.80 L	L	16	1.6	0.8		1.78	R/L 03-GX 16-2	29.11	**912**				
GX 16-2 R1.00 L	L	16	2.0	1.0		2.18	R/L 03-GX 16-2	29.11	**916**				
GX 16-2 R1.20 L	L	16	2.4	1.2		2.58	R/L 03-GX 16-2	29.11	**920**				
GX 09-1 R1.00 N	N	9	2.0	1.0	1.0		GX 09-1			28.39	**992**		
GX 09-1 R1.20 N	N	9	2.4	1.2	1.2		GX 09-1			28.39	**996**		
GX 16-2 R1.50 N	N	16	3.0	1.5	1.5		GX 16-2			29.11	**924**	29.11	**624**
GX 16-3 R2.00 N	N	16	4.0	2.0	2.0		GX 16-3			31.60	**928**	31.60	**628**
GX 16-3 R2.50 N	N	16	5.0	2.5	2.5		GX 16-3			31.60	**932**	31.60	**632**
GX 16-4 R3.00 N	N	16	6.0	3.0	3.0		GX 16-4			33.05	**936**	33.05	**636**
GX 09-1 R0.80 R	R	9	1.6	0.8		1.78	R/L 02-GX 09-1	28.39	**984**				
GX 16-2 R0.80 R	R	16	1.6	0.8		1.78	R/L 03-GX 16-2	29.11	**900**				
GX 16-2 R1.00 R	R	16	2.0	1.0		2.18	R/L 03-GX 16-2	29.11	**904**				
GX 16-2 R1.20 R	R	16	2.4	1.2		2.58	R/L 03-GX 16-2	29.11	**908**				

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

→ v_c Page 101
→ Application recommendation on page 104

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*

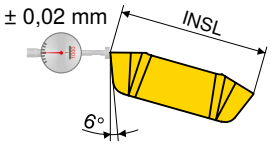


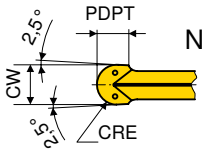

→ 40+41 → 44+45 → 38+39 → 42+43

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

1C/72

Designation	INSL mm	CW +/-0,02 mm	CRE mm	PDPT mm	for tool holder	Article no. 70 354 ...	£	
GX 16-2 R1.50 N	16	3	1.5	1.5	GX 16-2		21.88	**674**
GX 16-3 R2.00 N	16	4	2.0	2.0	GX 16-3		23.65	**678**
GX 16-3 R2.50 N	16	5	2.5	2.5	GX 16-3		23.65	**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

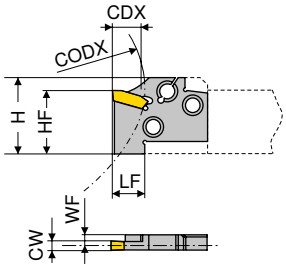

→ 38+39


→ 43

11

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

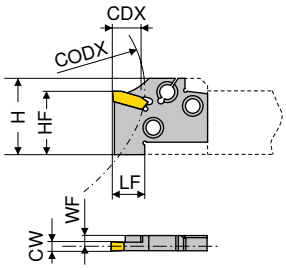
Designation	CW	WF	LF	HF	H	CODX	CDX	for grooving inserts	Left-hand 2C/71 Article no. 70 871 ...		Right-hand 2C/71 Article no. 70 870 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
E12 R/L 02-GX 09-1	<1,95	3.15	8	12	14.5	36	2	GX 09-1 ..R/L	77.21	**112**	77.21	**112**
E16 R/L 02-GX 09-1	<1,95	3.15	8	16	19.5	48	2	GX 09-1 ..R/L	78.07	**116**	78.07	**116**
E20 R/L 03-GX 16-2	<2,75	3.40	13	20	24.0	60	3	GX 16-2 ..R/L	78.07	**120**	78.07	**120**
E25 R/L 03-GX 16-2	<2,75	4.90	13	25	30.0	75	3	GX 16-2 ..R/L	78.65	**125**	78.65	**125**
E32 R/L 03-GX 16-2	<2,75	4.90	13	32	38.0	96	3	GX 16-2 ..R/L	79.40	**132**	79.40	**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

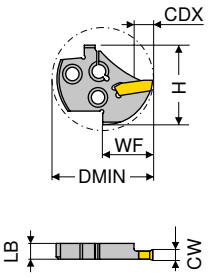
Designation	CW	WF	LF	HF	H	CODX	CDX	for grooving inserts	Left-hand 2C/71 Article no. 70 866 ... £		Right-hand 2C/71 Article no. 70 865 ... £	
	mm	mm	mm	mm	mm	mm	mm					
E12 R/L 07-GX 09-1	2,00 - 2,75	3.15	8	12	14.5	36	7	GX 09-1 ..N	77.21	**012**	77.21	**012**
E12 R/L 07-GX 09-2	2,76 - 3,75	3.15	8	12	14.5	36	7	GX 09-2 ..N	77.21	**112**	77.21	**112**
E16 R/L 07-GX 09-1	2,00 - 2,75	3.15	8	16	19.5	48	7	GX 09-1 ..N	78.07	**016**	78.07	**016**
E16 R/L 07-GX 09-2	2,76 - 3,75	3.15	8	16	19.5	48	7	GX 09-2 ..N	78.07	**116**	78.07	**116**
E20 R/L 12-GX 16-1	2,00 - 2,75	3.75	13	20	24.0	60	12	GX 16-1 ..N	78.07	**020**	78.07	**020**
E20 R/L 12-GX 16-2	2,76 - 3,75	3.40	13	20	24.0	60	12	GX 16-2 ..N	78.07	**120**	78.07	**120**
E20 R/L 12-GX 16-3	3,76 - 5,00	2.93	13	20	24.0	60	12	GX 16-3 ..N	78.07	**220**	78.07	**220**
E25 R/L 12-GX 16-1	2,00 - 2,75	5.25	13	25	30.0	75	12	GX 16-1 ..N	78.65	**025**	78.65	**025**
E25 R/L 12-GX 16-2	2,76 - 3,75	4.90	13	25	30.0	75	12	GX 16-2 ..N	78.65	**125**	78.65	**125**
E25 R/L 12-GX 16-3	3,76 - 5,00	4.43	13	25	30.0	75	12	GX 16-3 ..N	78.65	**225**	78.65	**225**
E25 R/L 12-GX 16-4	5,01 - 6,50	3.80	13	25	30.0	75	12	GX 16-4 ..N	78.65	**325**	78.65	**325**
E32 R/L 12-GX 16-2	2,76 - 3,75	4.90	13	32	38.0	96	12	GX 16-2 ..N	79.40	**132**	79.40	**132**
E32 R/L 12-GX 16-3	3,76 - 5,00	4.43	13	32	38.0	96	12	GX 16-3 ..N	79.40	**232**	79.40	**232**
E32 R/L 12-GX 16-4	5,01 - 6,50	3.80	13	32	38.0	96	12	GX 16-4 ..N	79.40	**332**	79.40	**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

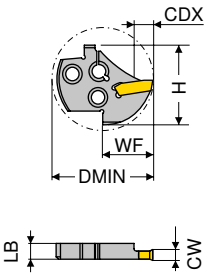
Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	Left-hand 2C/71 Article no. 70 886 ... £		Right-hand 2C/71 Article no. 70 885 ... £	
	mm	mm	mm	mm	mm	mm					
I16 R/L 02-GX 09-1	<1,95	3.8	10.0	16.4	2	20	GX 09-1 ..R/L	78.07	**016**	78.07	**016**
I20 R/L 02-GX 09-1	<1,95	3.8	12.0	20.3	2	25	GX 09-1 ..R/L	78.07	**020**	78.07	**020**
I25 R/L 02-GX 09-1	<1,95	3.8	15.5	24.9	2	32	GX 09-1 ..R/L	78.65	**025**	78.65	**025**
I32 R/L 03-GX 16-2	<2,75	5.9	20.0	32.2	3	40	GX 16-2 ..R/L	79.40	**032**	79.40	**032**
I40 R/L 03-GX 16-2	<2,75	5.9	24.5	39.6	3	50	GX 16-2 ..R/L	80.07	**040**	80.07	**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



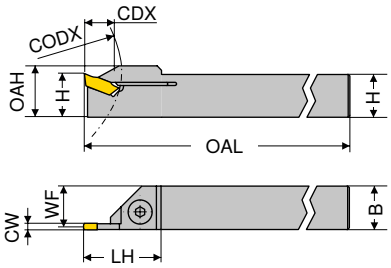
Illustrations show right-hand versions

Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	Left-hand 2C/71 Article no. 70 881 ... £		Right-hand 2C/71 Article no. 70 880 ... £	
	mm	mm	mm	mm	mm	mm					
I16 R/L 04-GX 09-1	2,00 - 2,75	3.8	10.0	16.4	4	20	GX 09-1 ..N	78.07	**017**	78.07	**017**
I16 R/L 04-GX 09-2	2,76 - 3,75	3.8	10.0	16.4	4	20	GX 09-2 ..N	78.07	**117**	78.07	**117**
I20 R/L 05-GX 09-1	2,00 - 2,75	3.8	12.0	20.3	5	25	GX 09-1 ..N	78.07	**021**	78.07	**021**
I20 R/L 05-GX 09-2	2,76 - 3,75	3.8	12.0	20.3	5	25	GX 09-2 ..N	78.07	**121**	78.07	**121**
I25 R/L 06-GX 09-1	2,00 - 2,75	3.8	15.5	24.9	6	32	GX 09-1 ..N	78.65	**026**	78.65	**026**
I25 R/L 06-GX 09-2	2,76 - 3,75	3.8	15.5	24.9	6	32	GX 09-2 ..N	78.65	**126**	78.65	**126**
I32 R/L 09-GX 16-1	2,00 - 2,75	5.9	20.0	32.2	9	40	GX 16-1 ..N	79.40	**033**	79.40	**033**
I32 R/L 09-GX 16-2	2,76 - 3,75	5.9	20.0	32.2	9	40	GX 16-2 ..N	79.40	**133**	79.40	**133**
I32 R/L 09-GX 16-3	3,76 - 5,00	5.9	20.0	32.2	9	40	GX 16-3 ..N	79.40	**233**	79.40	**233**
I32 R/L 09-GX 16-4	5,01 - 6,50	5.9	20.0	32.2	9	40	GX 16-4 ..N	79.40	**333**	79.40	**333**
I40 R/L 10-GX 16-1	2,00 - 2,75	5.9	24.5	39.6	10	50	GX 16-1 ..N	80.07	**041**	80.07	**041**
I40 R/L 10-GX 16-2	2,76 - 3,75	5.9	24.5	39.6	10	50	GX 16-2 ..N	80.07	**141**	80.07	**141**
I40 R/L 10-GX 16-3	3,76 - 5,00	5.9	24.5	39.6	10	50	GX 16-3 ..N	80.07	**241**	80.07	**241**
I40 R/L 10-GX 16-4	5,01 - 6,50	5.9	24.5	39.6	10	50	GX 16-4 ..N	80.07	**341**	80.07	**341**

→ 30–37 → 96

11

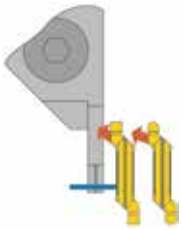
MonoClamp – Radial Monoholder GX 09



Illustrations show right-hand versions

Designation	H	B	CW	WF	OAH	OAL	LH	CODX	CDX	for grooving inserts	Left-hand 2C/71 Article no. 70 863 ... £		Right-hand 2C/71 Article no. 70 862 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm	mm					
E10 R/L 00-1010M-GX09	10	10	2,00 - 3,50	9.35	12	150	18	30	7	GX 09 ..	112.27	**010**	112.27	**010**

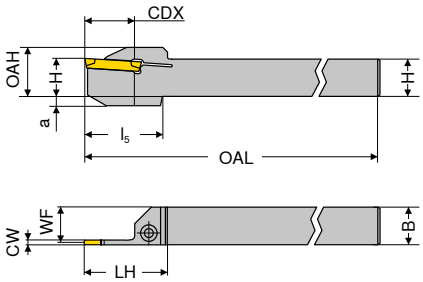
When using „R“ or „L“ tools the tool must be modified at the end face to ensure cutting clerance.



Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
GX 09 ..	T15	12.26	**113**	M4x11	9.40 **442**

→ 30–36

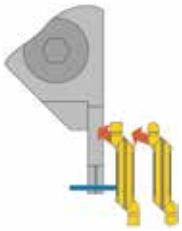
MonoClamp – Radial Monoholder GX 16



Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	l_5 mm	a mm	CDX mm	for grooving inserts	Left-hand 2C/71 Article no. 70 889 ... £		Right-hand 2C/71 Article no. 70 888 ... £	
E12 R/L 0012-1212K-GX16-1	12	12	2,00 - 2,75	11.35	17	125	26	24	4	12	GX 16-1	82.84	**212**	82.84	**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	82.84	**312**	82.84	**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	88.45	**216**	88.45	**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	88.45	**316**	88.45	**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	88.45	**416**	88.45	**416**
E20 R/L 0012-2020K-GX16-1	20	20	2,00 - 2,75	19.35	25	125	26			12	GX 16-1	101.82	**220**	101.82	**220**
E20 R/L 0012-2020K-GX16-2	20	20	2,76 - 3,75	19.00	25	125	26			12	GX 16-2	101.82	**320**	101.82	**320**
E20 R/L 0012-2020K-GX16-3	20	20	3,76 - 5,00	18.53	25	125	26			12	GX 16-3	101.82	**420**	101.82	**420**
E25 R/L 0012-2525M-GX16-2	25	25	2,76 - 3,75	24.00	30	150	26			12	GX 16-2	108.27	**325**	108.27	**325**
E25 R/L 0012-2525M-GX16-3	25	25	3,76 - 5,00	23.53	30	150	26			12	GX 16-3	108.27	**425**	108.27	**425**

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

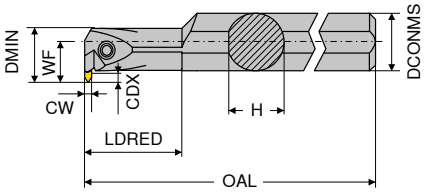


11

Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
GX 16-1	T15	12.26	**113**	M3,5x14	3.72 **160**
GX 16-2	T15	12.26	**113**	M3,5x14	3.72 **160**
GX 16-3	T15	12.26	**113**	M3,5x14	3.72 **160**

→ 30–37

MonoClamp – Radial Mono-boring bars GX 09

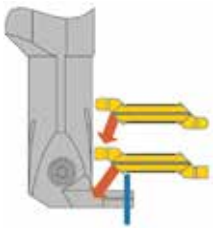


Illustrations show right-hand versions

Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand 2C/71 Article no. 70 859 ... £		Right-hand 2C/71 Article no. 70 858 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm					
I12 R/L 90-2,5D-GX09	15.25	16	16	2,00 - 3,75	3	11	150	30	GX 09 ..	137.64	**012**	137.64	**012**

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

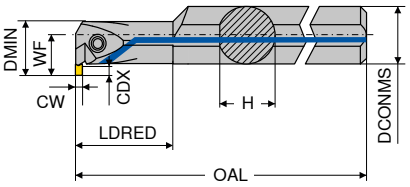
When using „R“ or „L“ tools the insert support seat requires modification to prevent the insert fouling.



Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
GX 09 ..	T15	12.26	**113**	M3,5x12,5	8.15 **441**

→ 30–36

MonoClamp – Radial Mono-boring bars GX 16

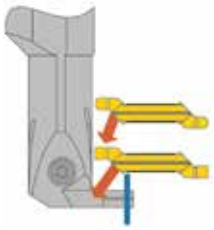


Illustrations show right-hand versions

Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand 2C/71 Article no. 70 893 ... £		Right-hand 2C/71 Article no. 70 892 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm					
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	121.18	**516**	121.18	**516**
I16 R/L 90-2.0D-GX16-2	15.25	16	20.5	2,76 - 3,75	5.0	13.5	150	32	GX 16-2	121.18	**616**	121.18	**616**
I20 R/L 90-2.0D-GX16-2	19.00	20	25.0	2,76 - 3,75	5.5	15.5	180	40	GX 16-2	130.91	**620**	130.91	**620**
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	152.18	**625**	152.18	**625**
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	152.18	**725**	152.18	**725**
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	176.91	**632**	176.91	**632**
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	176.91	**732**	176.91	**732**

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

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



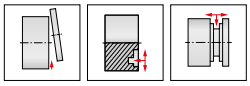
11

Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
GX 16-1	T15	12.26	**113**	M4x14	7.80 **403**
GX 16-2	T15	12.26	**113**	M4x14	7.80 **403**
GX 16-3	T15	12.26	**113**	M4x14	7.80 **403**

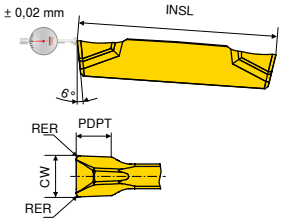
→ 30–37

Insert GX 24

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



F	M	R



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

Designation	INSL	CW +/-0,02	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 350 ...	£	1C/72 Article no. 70 350 ...	£	1C/72 Article no. 70 350 ...	£
	mm	mm	mm	mm							
GX 24-2 E3.00 N 0.30	24	3.0	0.3	2.5	GX 24-2	24.67	**962**	24.67	**862**	24.67	**662**
GX 24-2 E3.50 N 0.30	24	3.5	0.3	2.5	GX 24-2			24.67	**864**		
GX 24-3 E4.00 N 0.40	24	4.0	0.4	3.0	GX 24-3	26.63	**966**	26.63	**866**	26.63	**666**
GX 24-3 E5.00 N 0.40	24	5.0	0.4	3.5	GX 24-3	29.22	**970**	29.22	**870**	29.22	**671**
GX 24-4 E6.00 N 0.50	24	6.0	0.5	4.0	GX 24-4			32.11	**872**	32.11	**672**

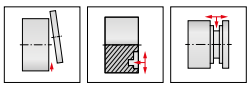
Steel	●	●	●
Stainless steel	○	●	●
Cast iron	●		●
Non ferrous metals			○
Heat resistant alloys		○	●
hardened materials	○		

→ v_c Page 101
→ Application recommendation on page 103

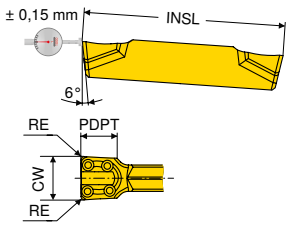
Internal machining *External machining*

→ 54 → 59 → 53–56 → 57 → 58 → 60

Insert GX 24 -E



F	M	R
		



Designation	INSL	CW +/-0,05	RE +/-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 ...	
	mm	mm	mm	mm		£		£		£		£	
GX 24-2 E3.00 N 0.30	24	3	0.3	2.5	GX 24-2	16.61	**932**	16.61	**532**	16.37	**832**	16.61	**632**
GX 24-3 E4.00 N 0.40	24	4	0.4	3.0	GX 24-3	18.17	**936**	18.17	**536**	18.17	**836**	18.17	**636**
GX 24-3 E5.00 N 0.40	24	5	0.4	3.0	GX 24-3	19.82	**940**	19.82	**540**	19.82	**840**	19.82	**640**
GX 24-4 E6.00 N 0.50	24	6	0.5	3.5	GX 24-4	21.78	**944**	21.78	**544**	21.78	**844**	21.78	**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*

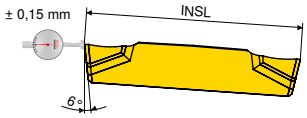
→ 54 | → 59 | → 53–56 | → 57 | → 58 | → 60

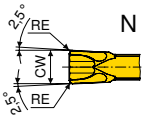
11

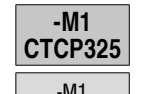
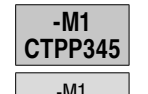
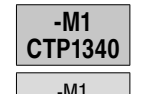
Insert GX 24

▲ Very good swarf control

F	M	R
		





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

Designation	INSL mm	CW +/-0,05 mm	RE +/-0,05 mm	for tool holder	1C/72 Article no. 70 363 ... £		1C/72 Article no. 70 363 ... £		1C/72 Article no. 70 363 ... £	
GX 24-1 E2.00 N 0.20	24	2	0.2	GX 24-1	16.61	**900**	16.61	**800**	16.61	**600**
GX 24-2 E3.00 N 0.20	24	3	0.2	GX 24-2	16.61	**902**	16.61	**802**	16.61	**602**
GX 24-3 E4.00 N 0.30	24	4	0.3	GX 24-3	18.17	**904**	18.17	**804**	18.17	**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*

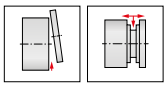




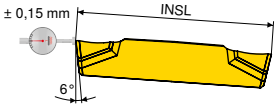

→ 54 → 59 → 53–56 → 57 → 58 → 60

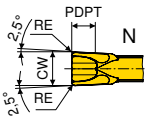
Insert GX 24

▲ Very good swarf control



F	M	R
		





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

Designation	INSL	CW +/-0,05	RE +/-0,05	PDPT	for tool holder	1C/72 Article no. 70 364 ...		1C/72 Article no. 70 364 ...		1C/72 Article no. 70 364 ...	
	mm	mm	mm	mm		£		£		£	
GX 24-2 E3.00 N 0.30	24	3	0.3	3.5	GX 24-2	16.61	**900**	16.61	**800**	16.61	**600**
GX 24-3 E4.00 N 0.40	24	4	0.4	4.0	GX 24-3	18.17	**902**	18.17	**802**	18.17	**602**
GX 24-3 E5.00 N 0.40	24	5	0.4	4.0	GX 24-3	19.82	**904**	19.82	**804**	19.82	**604**
GX 24-4 E6.00 N 0.50	24	6	0.5	4.0	GX 24-4	21.78	**906**	21.78	**806**	21.78	**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*

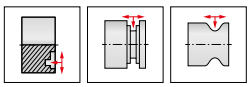




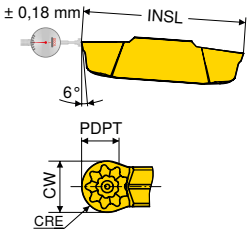

→ 54 → 59 → 53–56 → 57 → 58 → 60

11

Radius groove insert GX 24



F	M	R



-M3 CTCP325	-M3 CTCP335
-M3 HCR1325	-M3 HCR1335
DRAGONSKIN	DRAGONSKIN


Designation	INSL	CW +/-0,05	CRE	PDPT	for tool holder	1C/72 Article no. 70 354 ... £		1C/72 Article no. 70 354 ... £	
	mm	mm	mm	mm					
GX 24-2 R1.50 N	24.4	3	1.5	1.5	GX 24-2	22.09	**952**	22.09	**552**
GX 24-3 R2.00 N	24.4	4	2.0	2.5	GX 24-3	23.65	**954**	23.65	**554**
GX 24-3 R2.50 N	24.4	5	2.5	3.0	GX 24-3	24.67	**956**	24.67	**556**
GX 24-4 R3.00 N	24.4	6	3.0	4.0	GX 24-4	26.53	**958**	26.53	**558**

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

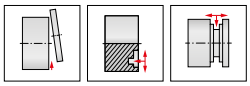
→ v_c Page 101
→ Application recommendation on page 104

Internal machining *External machining*

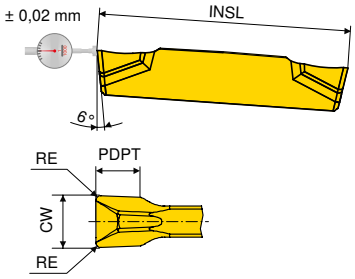
→ 54 → 59 → 53–56 → 57 → 58 → 60

Insert GX 24

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



F	M	R



-27P
H216T

-ALP
CWK26

1C/72

Designation	INSL mm	CW +/-0,02 mm	RE +/-0,05 mm	PDPT mm	for tool holder	Article no. 70 350 ... £	
GX 24-2 E3.00 N 0.30	24	3	0.3	2.5	GX 24-2	19.82	**682**
GX 24-3 E4.00 N 0.40	24	4	0.4	3.0	GX 24-3	21.78	**684**
GX 24-3 E5.00 N 0.40	24	5	0.4	3.5	GX 24-3	22.71	**686**
GX 24-4 E6.00 N 0.50	24	6	0.5	4.0	GX 24-4	23.55	**688**

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

→ v_c Page 101
→ Application recommendation on page 103

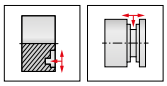
Internal machining *External machining*

→ 54 | → 59 | → 53–56 | → 57 | → 58 | → 60

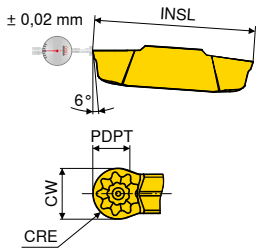
11

Radius grooving insert GX 24

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



F	M	R



-27PF
H216T

-ALP-F
CWK26

1C/72

Designation	INSL mm	CW +/-0,02 mm	CRE mm	PDPT mm	for tool holder	Article no. 70 353 ... £	
GX 24-4 R3.00 N	25.4	6	3	4	GX 24-4	29.62	**500**
GX 24-5 R4.00 N	25.4	8	4	5	GX 24-5	31.27	**506**

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

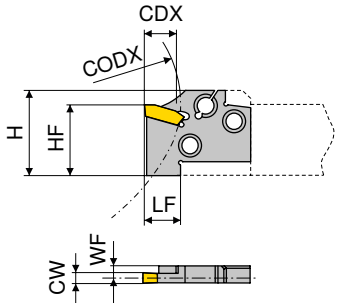
→ v_c Page 101
→ Application recommendation on page 104

Internal machining | *External machining*

→ 54 | → 59 | → 53–56 | → 57 | → 58 | → 60

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 2C/71 Article no. 70 868 ... £		Right-hand 2C/71 Article no. 70 867 ... £	
	mm	mm	mm	mm	mm	mm	mm					
E20 R/L 21-GX 24-1	2,00 - 2,75	3.85	22	20	24	60	21	GX 24-1	78.07	**020**	78.07	**020**
E20 R/L 21-GX 24-2	3	3.40	22	20	24	60	21	GX 24-2	78.07	**120**	78.07	**120**
E25 R/L 21-GX 24-1	2,00 - 2,75	5.10	22	25	30	75	21	GX 24-1	78.65	**025**	78.65	**025**
E25 R/L 21-GX 24-2	3	4.90	22	25	30	75	21	GX 24-2	78.65	**125**	78.65	**125**
E25 R/L 21-GX 24-3	4/5	4.43	22	25	30	75	21	GX 24-3	78.65	**225**	78.65	**225**
E25 R/L 21-GX 24-4	6	3.80	22	25	30	75	21	GX 24-4	78.65	**325**	78.65	**325**
E25 R/L 21-GX 24-5	8	2.95	22	25	30	75	21	GX 24-5	78.65	**425**	78.65	**425**
E32 R/L 21-GX 24-3	4/5	4.43	22	32	38	96	21	GX 24-3	79.40	**232**	79.40	**232**
E32 R/L 21-GX 24-4	6	3.80	22	32	38	96	21	GX 24-4	79.40	**332**	79.40	**332**

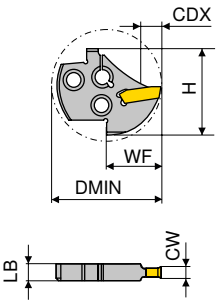


→ 46–52 → 93–95 → **Chapter 16**

11

ModularClamp MSS – Radial Grooving module GX 24 for Internal machining

▲ For grooving and turning



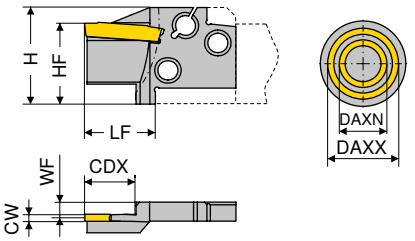
Neutral

Designation	CW	LB	WF	H	CDX	DMIN	for grooving inserts	2C/71 Article no. 70 880 ...	
	mm	mm	mm	mm	mm	mm		£	
I40 N 19-GX 24-2	2,76 - 3,75	6.2	33.5	40.7	19	60	GX 24-2 ..N	90.91	**340**
I40 N 19-GX 24-3	3,76 - 5,00	6.2	33.5	40.7	19	60	GX 24-3 ..N	90.91	**440**
I40 N 19-GX 24-4	5,01 - 6,50	6.2	33.5	40.7	19	60	GX 24-4 ..N	90.91	**540**

→ 46–52 → 96

ModularClamp MSS – Axial grooving module GX 24 short

- For axial grooving
- For face turning



Illustrations show right-hand versions

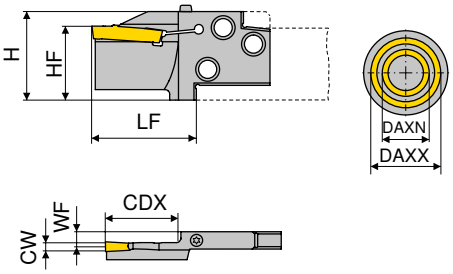
Designation	DAXN	DAXX	CW	WF	LF	HF	H	CDX	for grooving inserts	Left-hand 2C/71 Article no. 70 891 ... £		Right-hand 2C/71 Article no. 70 890 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm					
E20 R/L 14-GX 24-2 A	50	70	3	3.40	22	20	24	14	GX 24-2	101.36	**100**	101.36	**100**
E20 R/L 14-GX 24-2 A	70	100	3	3.40	22	20	24	14	GX 24-2	101.36	**102**	101.36	**102**
E20 R/L 14-GX 24-2 A	100	150	3	3.40	22	20	24	14	GX 24-2	101.36	**104**	101.36	**104**
E25 R/L 15-GX 24-2 A	50	70	3	4.90	22	25	30	15	GX 24-2	102.27	**200**	102.27	**200**
E25 R/L 15-GX 24-2 A	70	100	3	4.90	22	25	30	15	GX 24-2	102.27	**202**	102.27	**202**
E25 R/L 15-GX 24-2 A	100	150	3	4.90	22	25	30	15	GX 24-2	102.27	**204**	102.27	**204**
E25 R/L 15-GX 24-3 A	50	70	4/5	4.43	22	25	30	15	GX 24-3	102.27	**206**	102.27	**206**
E25 R/L 15-GX 24-3 A	70	100	4/5	4.43	22	25	30	15	GX 24-3	102.27	**208**	102.27	**208**
E25 R/L 15-GX 24-3 A	100	150	4/5	4.43	22	25	30	15	GX 24-3	102.27	**210**	102.27	**210**
E25 R/L 15-GX 24-3 A	150	300	4/5	4.43	22	25	30	15	GX 24-3	102.27	**212**	102.27	**212**
E25 R/L 15-GX 24-4 A	50	70	6	3.80	22	25	30	15	GX 24-4	102.27	**214**	102.27	**214**
E25 R/L 15-GX 24-4 A	70	100	6	3.80	22	25	30	15	GX 24-4	102.27	**216**	102.27	**216**
E25 R/L 15-GX 24-4 A	100	150	6	3.80	22	25	30	15	GX 24-4	102.27	**218**	102.27	**218**
E25 R/L 15-GX 24-4 A	150	300	6	3.80	22	25	30	15	GX 24-4	102.27	**220**	102.27	**220**
E32 R/L 15-GX 24-3 A	70	100	4/5	4.43	22	32	38	15	GX 24-3	103.09	**300**	103.09	**300**
E32 R/L 15-GX 24-3 A	100	150	4/5	4.43	22	32	38	15	GX 24-3	103.09	**302**	103.09	**302**
E32 R/L 15-GX 24-3 A	150	300	4/5	4.43	22	32	38	15	GX 24-3	103.09	**304**	103.09	**304**
E32 R/L 15-GX 24-4 A	70	100	6	3.80	22	32	38	15	GX 24-4	103.09	**306**	103.09	**306**
E32 R/L 15-GX 24-4 A	100	150	6	3.80	22	32	38	15	GX 24-4	103.09	**308**	103.09	**308**
E32 R/L 15-GX 24-4 A	150	300	6	3.80	22	32	38	15	GX 24-4	103.09	**310**	103.09	**310**
E32 R/L 15-GX 24-4 A	300	900	6	3.80	22	32	38	15	GX 24-4	103.09	**312**	103.09	**312**



→ 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 2C/71 Article no. 70 895 ... £		Right-hand 2C/71 Article no. 70 894 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm					
E25 R/L 21-GX 24-3 AS	50	70	4/5	4.53	35	25	30	21	GX 24-3	104.36	**200**	104.36	**200**
E25 R/L 21-GX 24-3 AS	70	100	4/5	4.53	35	25	30	21	GX 24-3	104.36	**202**	104.36	**202**
E25 R/L 21-GX 24-3 AS	100	150	4/5	4.53	35	25	30	21	GX 24-3	104.36	**204**	104.36	**204**
E25 R/L 21-GX 24-3 AS	150	300	4/5	4.53	35	25	30	21	GX 24-3	104.36	**206**	104.36	**206**
E25 R/L 25-GX 24-4 AS	50	70	6	3.90	35	25	30	25	GX 24-4	104.36	**210**	104.36	**210**
E25 R/L 25-GX 24-4 AS	70	100	6	3.90	35	25	30	25	GX 24-4	104.36	**212**	104.36	**212**
E25 R/L 25-GX 24-4 AS	100	150	6	3.90	35	25	30	25	GX 24-4	104.36	**214**	104.36	**214**
E25 R/L 25-GX 24-4 AS	150	300	6	3.90	35	25	30	25	GX 24-4	104.36	**216**	104.36	**216**

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


Key D


Clamping screw

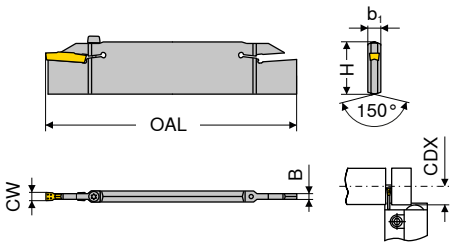
Spare parts for grooving inserts		Y7 Article no. 80 950 ... £			2A/28 Article no. 70 950 ... £	
GX 24-3	T15	12.26	**113**	M3,5x14	3.72	**160**
GX 24-4	T15	12.26	**113**	M3,5x14	3.72	**160**

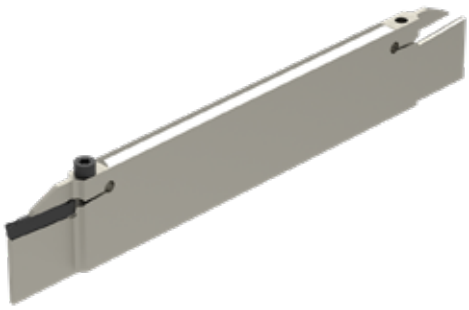


→ 46–52 → 93–95 → **Chapter 16**

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. 70 834 ...	
	mm	mm	mm	mm	mm	mm		£	
XLCF N 3203-GX24-1S	2	32	1.05	6.2	180	21	GX 24-1	76.16	**102**
XLCF N 3203-GX24-2S	3	32	2.10	6.2	180	21	GX 24-2	77.31	**103**
XLCF N 3204-GX24-3S	4/5	32	3.05	6.2	180	21	GX 24-3	82.45	**104**
XLCF N 3206-GX24-4S	6	32	4.20	6.2	180	21	GX 24-4	97.45	**106**


Key D


Clamping screw

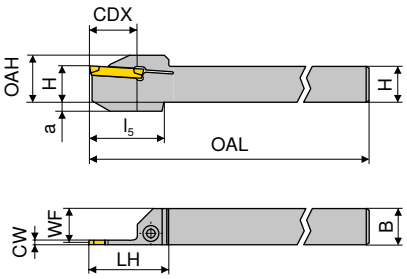
Spare parts for grooving inserts		Y7 Article no. 80 950 ... £		2A/28 Article no. 70 950 ... £	
GX 24-1	T15	12.26	**113**	M3,5x14	3.72 **160**
GX 24-2	T15	12.26	**113**	M3,5x14	3.72 **160**
GX 24-3	T15	12.26	**113**	M3,5x14	3.72 **160**
GX 24-4	T15	12.26	**113**	M3,5x14	3.72 **160**



→ 46–52 → 98+99 → **Chapter 16**

11

MonoClamp – Radial Monoholder GX 24



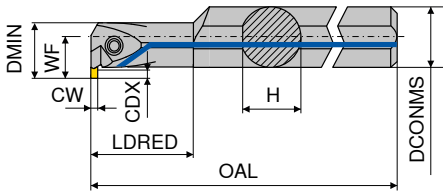
Illustrations show right-hand versions

Designation	H mm	B mm	CW mm	WF mm	OAH mm	OAL mm	LH mm	l_5 mm	CDX mm	a mm	for grooving inserts	Left-hand 2C/71 Article no. 70 863 ... £		Right-hand 2C/71 Article no. 70 862 ... £	
E16 R/L 0021-1616K-GX24-1	16	16	2,00 - 2,75	15.20	21	125	35	32	21	4	GX 24-1	95.09	**160**	95.09	**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	95.09	**016**	95.09	**016**
E20 R/L 0021-2020K-GX24-1	20	20	2,00 - 2,75	19.20	25	125	35		21		GX 24-1	109.45	**200**	109.45	**200**
E20 R/L 0021-2020K-GX24-2	20	20	2,76 - 3,75	19.00	25	125	35		21		GX 24-2	109.45	**020**	109.45	**020**
E20 R/L 0021-2020K-GX24-3	20	20	3,76 - 5,00	18.53	25	125	35		21		GX 24-3	109.45	**120**	109.45	**120**
E25 R/L 0021-2525M-GX24-2	25	25	2,76 - 3,75	24.00	30	150	35		21		GX 24-2	117.00	**025**	117.00	**025**
E25 R/L 0021-2525M-GX24-3	25	25	3,76 - 5,00	23.53	30	150	35		21		GX 24-3	117.00	**125**	117.00	**125**
E25 R/L 0021-2525M-GX24-4	25	25	5,01 - 6,50	22.90	30	150	35		21		GX 24-4	117.00	**225**	117.00	**225**
E32 R/L 0021-3225P-GX24-2	32	25	2,76 - 3,75	24.00	37	170	35		21		GX 24-2	125.00	**032**	125.00	**032**
E32 R/L 0021-3225P-GX24-3	32	25	3,76 - 5,00	23.53	37	170	35		21		GX 24-3	125.00	**132**	125.00	**132**
E32 R/L 0021-3225P-GX24-4	32	25	5,01 - 6,50	22.90	37	170	35		21		GX 24-4	125.00	**232**	125.00	**232**

Spare parts for grooving inserts	Y7 Key D Article no. 80 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£	
GX 24-1	T20	13.11	**114**	M4x18	4.33	**204**
GX 24-2	T20	13.11	**114**	M4x18	4.33	**204**
GX 24-3	T20	13.11	**114**	M4x18	4.33	**204**
GX 24-4	T20	13.11	**114**	M4x18	4.33	**204**

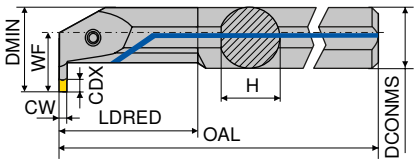
→ 46–52

MonoClamp – Radial Mono-boring bars GX 24



Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand 2C/71 Article no. 70 895 ...		Right-hand 2C/71 Article no. 70 894 ...	
	mm	mm	mm	mm	mm	mm	mm	mm		£		£	
I32 R/L 90-2.0D-GX24-2	31.0	32	42	2,76 - 3,75	11	27.5	250	64	GX 24-2	176.91	**132**	176.91	**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	176.91	**232**	176.91	**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	219.82	**240**	219.82	**240**

MonoClamp – Radial Mono-boring bars GX 24



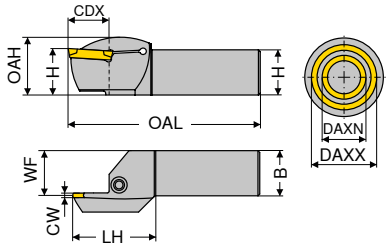
Designation	H	DCONMS	DMIN	CW	CDX	WF	OAL	LDRED	for grooving inserts	Left-hand 2C/71 Article no. 70 895 ...		Right-hand 2C/71 Article no. 70 894 ...	
	mm	mm	mm	mm	mm	mm	mm	mm		£		£	
I32 R/L 90-2.0D-GX24-4	31.0	32	47	5,01 - 6,50	17.5	30.4	250	64	GX 24-4	176.91	**332**	176.91	**332**
I40 R/L 90-2.0D-GX24-4	38.5	40	57	5,01 - 6,50	17.5	34.4	300	80	GX 24-4	219.82	**340**	219.82	**340**

11

Spare parts for grooving inserts	Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...	
	£		£	
GX 24-2	13.11	**114**	5.20	**404**
GX 24-3	13.11	**114**	5.20	**404**
GX 24-4	13.11	**114**	5.20	**404**

→ 46–52

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 2C/71 Article no. 70 904 ... £		Right-hand 2C/71 Article no. 70 903 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm					
E25 R/L 0012-2525X-GX24-2	25	25	3	24.7	40	45	32	115	45	12	GX 24-2	119.18	**200**	119.18	**200**
E25 R/L 0012-2525X-GX24-2	25	25	3	24.7	45	50	32	115	45	12	GX 24-2	119.18	**202**	119.18	**202**
E25 R/L 0016-2525X-GX24-2	25	25	3	24.7	50	60	32	115	45	16	GX 24-2	119.18	**204**	119.18	**204**
E25 R/L 0019-2525X-GX24-2	25	25	3	24.7	60	75	32	115	45	19	GX 24-2	119.18	**206**	119.18	**206**
E25 R/L 0019-2525X-GX24-2	25	25	3	24.7	75	100	32	115	45	19	GX 24-2	119.18	**208**	119.18	**208**
E25 R/L 0022-2525X-GX24-2	25	25	3	24.7	100	130	32	115	45	22	GX 24-2	119.18	**210**	119.18	**210**
E25 R/L 0022-2525X-GX24-2	25	25	3	24.7	130	180	32	115	45	22	GX 24-2	119.18	**212**	119.18	**212**
E25 R/L 0022-2525X-GX24-2	25	25	3	24.7	180	300	32	115	45	22	GX 24-2	119.18	**214**	119.18	**214**
E25 R/L 0012-2525X-GX24-3	25	25	4+5	24.2	40	45	32	115	45	12	GX 24-3	119.18	**230**	119.18	**230**
E25 R/L 0012-2525X-GX24-3	25	25	4+5	24.2	45	50	32	115	45	12	GX 24-3	119.18	**232**	119.18	**232**
E25 R/L 0020-2525X-GX24-3	25	25	4+5	24.2	50	60	32	115	45	20	GX 24-3	119.18	**234**	119.18	**234**
E25 R/L 0020-2525X-GX24-3	25	25	4+5	24.2	60	75	32	115	45	20	GX 24-3	119.18	**236**	119.18	**236**
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24.2	75	100	32	115	45	22	GX 24-3	119.18	**238**	119.18	**238**
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24.2	100	150	32	115	45	22	GX 24-3	119.18	**240**	119.18	**240**
E25 R/L 0022-2525X-GX24-3	25	25	4+5	24.2	150	300	32	115	45	22	GX 24-3	119.18	**242**	119.18	**242**
E25 R/L 0020-2525X-GX24-4	25	25	6	23.2	40	50	32	115	45	20	GX 24-4	119.18	**260**	119.18	**260**
E25 R/L 0022-2525X-GX24-4	25	25	6	23.2	50	70	32	115	45	22	GX 24-4	119.18	**262**	119.18	**262**
E25 R/L 0025-2525X-GX24-4	25	25	6	23.2	70	100	32	115	45	25	GX 24-4	119.18	**264**	119.18	**264**
E25 R/L 0025-2525X-GX24-4	25	25	6	23.2	100	150	32	115	45	25	GX 24-4	119.18	**266**	119.18	**266**
E25 R/L 0025-2525X-GX24-4	25	25	6	23.2	150	300	32	115	45	25	GX 24-4	119.18	**268**	119.18	**268**

Key D

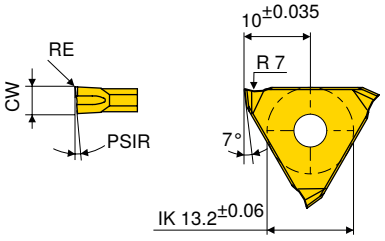
Clamping screw

Spare parts for grooving inserts	Y7 Article no. 80 950 ...	£		2A/28 Article no. 70 950 ...	£	
GX 24-2	T15 - IP	15.77	**128**	M5x18	8.67	**865**
GX 24-3	T15 - IP	15.77	**128**	M5x18	8.67	**865**
GX 24-4	T15 - IP	15.77	**128**	M5x18	8.67	**865**

→ 46–52

TX Insert for parting

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



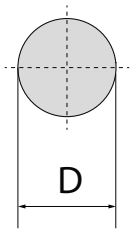
Illustrations show right-hand versions

Designation	CW -0,05	RE	PSIR	for tool holder	Left-hand Y6 Article no. 73 302 ... £		Right-hand Y6 Article no. 73 301 ... £	
	mm	mm						
TX R/L 0518.00.1	1.99	0.1	5°	R/L 207 .. . / 780 .. . 1	46.09	**204**	44.83	**204**
TX R/L 0521.00.2	2.29	0.1	5°	R/L 207 .. . / 780 .. . 2	44.36	**206**	46.29	**206**
TX R/L 0526.00.2	2.79	0.1	5°	R/L 207 .. . / 780 .. . 2	44.36	**208**	46.29	**208**

→ v_c Page 102

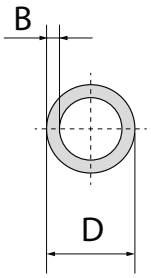
Grooving depth

Full material



max. 10 mm

Pipe



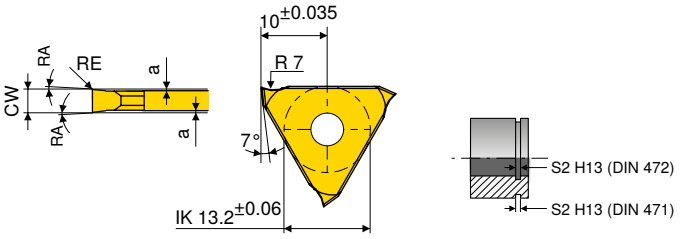
D ≥ 50 mm: Wall thickness B = approx. 5 mm
D ≤ 50 mm: Wall thickness B = approx. 4 mm

Internal machining	*External machining*
	
	→ 66–70

11

TX insert for circlip grooves

▲ For circlip grooves according to DIN 471 / 472



CWX500

Designation	s_2 mm	CW $_{-0,05}$ mm	RE mm	RA	a $_{+/-0,02}$ mm	for tool holder	Neutral Y6 Article no. 73 300 ... £	
TX N 0050.00.1	0.50	0.57	0.1	1	0.07	R/L .. .1	30.63	**204**
TX N 0060.00.1	0.60	0.67	0.1	1	0.07	R/L .. .1	30.63	**206**
TX N 0070.00.1	0.70	0.77	0.1	1	0.08	R/L .. .1	30.63	**208**
TX N 0080.00.1	0.80	0.87	0.1	1	0.08	R/L .. .1	30.63	**210**
TX N 0090.00.1	0.90	0.97	0.1	1	0.08	R/L .. .1	30.63	**212**
TX N 0100.00.1	1.00	1.07	0.1	1	0.09	R/L .. .1	30.63	**214**
TX N 0110.00.1	1.10	1.24	0.1	3	0.15	R/L .. .1	30.63	**216**
TX N 0130.00.1	1.30	1.44	0.1	3	0.15	R/L .. .1	30.63	**218**
TX N 0160.00.1	1.60	1.74	0.1	3	0.20	R/L .. .1	30.63	**220**
TX N 0185.00.1	1.85	1.99	0.1	3	0.20	R/L .. .1	30.63	**222**
TX N 0215.00.2	2.15	2.29	0.1	3	0.20	R/L .. .2	30.63	**224**
TX N 0265.00.2	2.65	2.79	0.1	3	0.20	R/L .. .2	30.63	**226**
TX N 0315.00.3	3.15	3.29	0.1	3	0.20	R/L .. .3	34.94	**228**
TX N 0415.00.4	4.15	4.29	0.1	3	0.20	R/L .. .4	35.13	**230**
TX N 0515.00.4	5.15	5.29	0.1	3	0.20	R/L .. .4	36.25	**232**

→ v_c Page 102

Internal machining

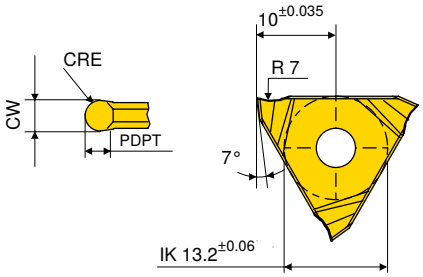
→ 70

External machining

→ 66-69

Radial TX insert for corner recessing

▲ Full radius for cutting width 0.5–5.0 mm



CWX500

Designation	CRE	CW +/-0,05	PDPT	for tool holder	Neutral Y6 Article no. 73 304 ... £	
	mm	mm	mm			
TX N 0002.05.1	0.25	0.5	0.20	R/L .. .1	44.55	**212**
TX N 0005.10.1	0.50	1.0	0.35	R/L .. .1	44.55	**214**
TX N 0006.12.1	0.60	1.2	0.40	R/L .. .1	44.55	**216**
TX N 0008.16.1	0.80	1.6	0.55	R/L .. .1	44.55	**218**
TX N 0010.20.2	1.00	2.0	0.70	R/L .. .2	46.49	**204**
TX N 0012.25.2	1.25	2.5	0.85	R/L .. .2	51.53	**220**
TX N 0015.30.3	1.50	3.0	1.00	R/L .. .3	49.15	**206**
TX N 0020.40.4	2.00	4.0	1.20	R/L .. .4	48.81	**208**
TX N 0025.50.4	2.50	5.0	1.50	R/L .. .4	49.63	**210**

→ v_c Page 102

Internal machining

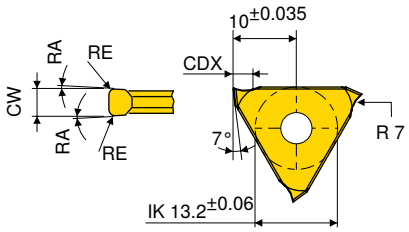
→ 70

External machining

→ 66–69

TX insert for fine and copy turning

CWX500



Designation	CW +0,03 mm	RE mm	RA	for tool holder	Neutral Y6 Article no. 73 303 ... £	
TX N 0150.02.1	1.5	0.2	3	R/L 207 .. . / 738 .. . / 660 .. . 1	38.23	**204**
TX N 0200.02.1	2.0	0.2	3	R/L 207 .. . / 738 .. . / 660 .. . 1	38.23	**206**
TX N 0200.04.1	2.0	0.4	3	R/L 207 .. . / 738 .. . / 660 .. . 1	39.26	**208**
TX N 0300.06.2	3.0	0.6	3	R/L 207 .. . / 738 .. . / 660 .. . 2	40.31	**212**
TX N 0300.08.2	3.0	0.8	3	R/L 207 .. . / 738 .. . / 660 .. . 2	40.31	**214**
TX N 0300.02.2	3.0	0.2	3	R/L 207 .. . / 738 .. . / 660 .. . 2	39.26	**210**
TX N 0400.02.3	4.0	0.2	3	R/L 207 .. . / 738 .. . / 660 .. . 3	40.66	**216**
TX N 0400.12.3	4.0	1.2	3	R/L 207 .. . / 738 .. . / 660 .. . 3	40.66	**220**
TX N 0400.08.3	4.0	0.8	3	R/L 207 .. . / 738 .. . / 660 .. . 3	40.66	**218**

→ v_c Page 102

Internal machining

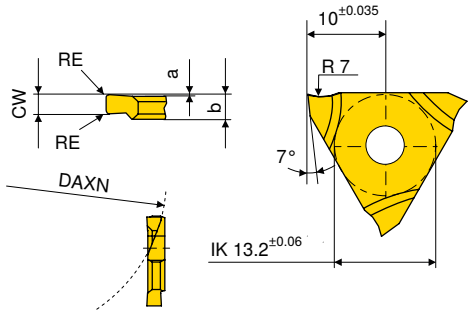
→ 70

External machining

→ 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



CWX500

CWX500

Illustrations show right-hand versions

Designation	CW	b	a	DAXN	RE	for tool holder	Left-hand		Right-hand	
							Y6		Y6	
							Article no. 73 306 ...		Article no. 73 305 ...	
	mm	mm	mm	mm	mm		£		£	
TX R/L 2015.2.2	1.5	2.7	0.2	20	0.2	R/L 207 .. . 2	43.83	**204**	43.83	**204**
TX R/L 3020.2.2	2.0	2.7	0.2	30	0.2	R/L 207 .. . 2	43.83	**206**	43.83	**206**
TX R/L 3030.2.3	3.0	3.7	0.2	30	0.2	R/L 207 .. . 3	44.33	**208**	44.33	**208**
TX R/L 3040.2.4	4.0	4.3	0.2	30	0.2	R/L 207 .. . 4	44.83	**210**	44.83	**210**
TX R/L 3050.2.4	5.0	5.3	0.2	30	0.2	R/L 207 .. . 4	46.88	**212**	46.88	**212**

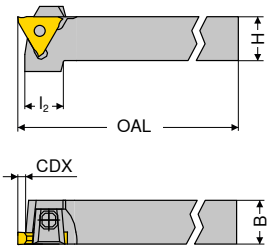
→ v_c Page 102

Internal machining	*External machining*
	
	→ 66

11

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

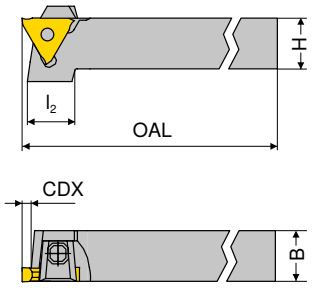
Designation	H	$B_{+/-0,1}$	OAL	l_2	CDX	for grooving inserts	Left-hand Y6 Article no. 73 501 ... £		Right-hand Y6 Article no. 73 500 ... £	
	mm	mm	mm	mm	mm					
R/L 207.1212.1	12	12	100	24	4	TX R/N/L ...1	195.90	**112**	193.78	**112**
R/L 207.1616.1	16	16	125	22	4	TX R/N/L ...1	174.80	**116**	172.95	**116**
R/L 207.2020.1	20	20	125	21	4	TX R/N/L ...1	135.55	**120**	134.12	**120**
R/L 207.2525.1	25	25	150		4	TX R/N/L ...1	142.59	**125**	141.14	**125**
R/L 207.3232.1	32	32	170		4	TX R/N/L ...1	165.72	**132**	164.05	**132**
R/L 207.1212.2	12	12	100	24	6	TX R/N/L ...2	195.90	**212**	193.78	**212**
R/L 207.1616.2	16	16	125	22	6	TX R/N/L ...2	174.80	**216**	172.95	**216**
R/L 207.2020.2	20	20	125	21	6	TX R/N/L ...2	135.55	**220**	134.12	**220**
R/L 207.2525.2	25	25	150		6	TX R/N/L ...2	142.59	**225**	141.14	**225**
R/L 207.3232.2	32	32	170		6	TX R/N/L ...2	165.72	**232**	164.05	**232**
R/L 207.1212.3	12	12	100	24	6	TX R/N/L ...3	195.90	**312**	193.78	**312**
R/L 207.1616.3	16	16	125	22	6	TX R/N/L ...3	174.80	**316**	172.95	**316**
R/L 207.2020.3	20	20	125	21	6	TX R/N/L ...3	135.55	**320**	134.12	**320**
R/L 207.2525.3	25	25	150		6	TX R/N/L ...3	142.59	**325**	141.14	**325**
R/L 207.3232.3	32	32	170		6	TX R/N/L ...3	165.72	**332**	164.05	**332**
R/L 207.1616.4	16	16	125	22	6	TX R/N/L ...4	174.80	**416**	174.80	**416**
R/L 207.2020.4	20	20	125	21	6	TX R/N/L ...4	135.55	**420**	135.55	**420**
R/L 207.2525.4	25	25	150		6	TX R/N/L ...4	142.59	**425**	142.59	**425**
R/L 207.3232.4	32	32	170		6	TX R/N/L ...4	165.72	**432**	165.72	**432**

Spare parts for grooving inserts		2A/28 Key I Article no. 70 950 ... £		Y6 right hand Article no. 73 950 ... £		Y6 left hand Article no. 73 950 ... £			Y6 Clamping screw Article no. 73 950 ... £			Y6 Guide pin Article no. 73 950 ... £	
TX R/N/L ...1	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...1	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...2	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...2	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**			43.77	**026**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**	43.77	**022**			M6x20	8.29	**028**	Ø 4x18	1.00	**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	$B_{+/-0,1}$	OAL	l_2	CDX	for grooving inserts	Left-hand Y6 Article no. 73 503 ... £		Right-hand Y6 Article no. 73 502 ... £	
	mm	mm	mm	mm	mm					
R/L 780.2020.2	20	20	125	24	8	TX R/N/L ...2	144.45	**120**	144.45	**120**
R/L 780.2525.2	25	25	150		8	TX R/N/L ...2	152.44	**125**	152.44	**125**
R/L 780.3232.2	32	32	170		8	TX R/N/L ...2	181.97	**132**	181.97	**132**
R/L 780.2020.3	20	20	125	24	8	TX R/N/L ...3	144.45	**220**	144.45	**220**
R/L 780.2525.3	25	25	150		8	TX R/N/L ...3	152.44	**225**	152.44	**225**
R/L 780.3232.3	32	32	170		8	TX R/N/L ...3	181.97	**232**	181.97	**232**
R/L 780.2020.4	20	20	125	24	8	TX R/N/L ...4	144.45	**320**	144.45	**320**
R/L 780.2525.4	25	25	150		8	TX R/N/L ...4	152.44	**325**	152.44	**325**
R/L 780.3232.4	32	32	170		8	TX R/N/L ...4	181.97	**332**	181.97	**332**


Key I


right hand


left hand


Clamping screw


Guide pin

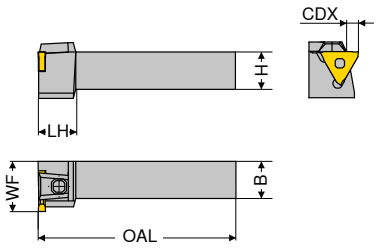
Spare parts for grooving inserts		2A/28 Article no. 70 950 ... £		Y6 Article no. 73 950 ... £		Y6 Article no. 73 950 ... £		Y6 Article no. 73 950 ... £			Y6 Article no. 73 950 ... £	
TX R/N/L ...2	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00 **030**
TX R/N/L ...2	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00 **030**
TX R/N/L ...3	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00 **030**
TX R/N/L ...3	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00 **030**
TX R/N/L ...4	SW03	2.23	**176**			43.77	**026**	M6x20	8.29	**028**	Ø 4x18	1.00 **030**
TX R/N/L ...4	SW03	2.23	**176**	43.77	**022**			M6x20	8.29	**028**	Ø 4x18	1.00 **030**

→ 61–63

11

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	B +/-0,1	OAL	LH	WF +/-0,07	CDX	for grooving inserts	Left-hand Y6 Article no. 73 505 ... £		Right-hand Y6 Article no. 73 504 ... £	
	mm	mm	mm	mm	mm	mm					
R/L 738.2020.1	20	20	150	20	27	4	TX R/N/L ...1	168.70	**120**	168.70	**120**
R/L 738.2525.1	25	25	150		32	4	TX R/N/L ...1	162.43	**125**	174.80	**125**
R/L 738.2020.2	20	20	150	20	27	6	TX R/N/L ...2	168.70	**220**	168.70	**220**
R/L 738.2525.2	25	25	150		32	6	TX R/N/L ...2	174.80	**225**	174.80	**225**
R/L 738.2020.3	20	20	150	20	27	6	TX R/N/L ...3	171.66	**320**	168.70	**320**
R/L 738.2525.3	25	25	150		32	6	TX R/N/L ...3	174.80	**325**	174.80	**325**
R/L 738.2020.4	20	20	150	20	27	6	TX R/N/L ...4	168.70	**420**	164.21	**420**
R/L 738.2525.4	25	25	150		32	6	TX R/N/L ...4	174.80	**425**	174.80	**425**


Key I


right hand


left hand


Clamping screw

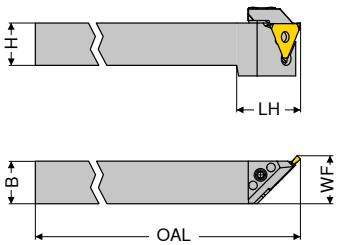

Guide pin

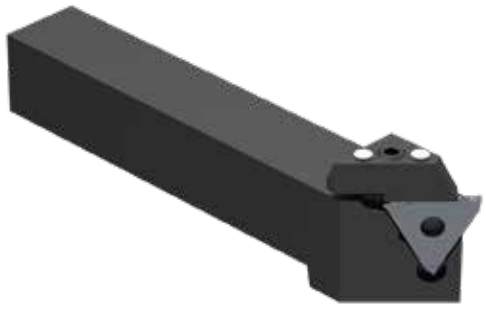
Spare parts for grooving inserts		2A/28 Article no. 70 950 ... £		Y6 Article no. 73 950 ... £		Y6 Article no. 73 950 ... £			Y6 Article no. 73 950 ... £			Y6 Article no. 73 950 ... £	
TX R/N/L ...1	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...1	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...2	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...2	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**			39.40	**024**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**	39.40	**020**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**			43.77	**026**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**	43.77	**022**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**

→ 62–64

MonoClamp – Tool holder TX 45°

- For recessing
- Cutting width 1.9–6.3 mm





Illustrations show right-hand versions

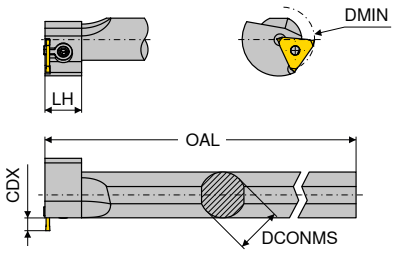
Designation	H	B +/-0,1	OAL	LH	for grooving inserts	Left-hand Y6 Article no. 73 507 ... £		Right-hand Y6 Article no. 73 506 ... £	
	mm	mm	mm	mm					
R/L 618.2020.2	20	20	125	30	TX R/N/L ...2	195.90	**120**	195.90	**120**
R/L 618.2525.2	25	25	150		TX R/N/L ...2	204.31	**125**	204.31	**125**
R/L 618.3232.2	32	32	170		TX R/N/L ...2	229.51	**132**	229.51	**132**
R/L 618.2020.3	20	20	125	30	TX R/N/L ...3	195.90	**220**	182.02	**220**
R/L 618.2525.3	25	25	150		TX R/N/L ...3	204.31	**225**	204.31	**225**
R/L 618.3232.3	32	32	170		TX R/N/L ...3	229.51	**232**	229.51	**232**
R/L 618.2020.4	20	20	125	30	TX R/N/L ...4	195.90	**320**	195.90	**320**
R/L 618.2525.4	25	25	150		TX R/N/L ...4	204.31	**325**	204.31	**325**
R/L 618.3232.4	32	32	170		TX R/N/L ...4	229.51	**332**	229.51	**332**

Spare parts for grooving inserts		2A/28 Key I Article no. 70 950 ... £		Y6 right hand Article no. 73 950 ... £		Y6 left hand Article no. 73 950 ... £			Y6 Clamping screw Article no. 73 950 ... £			Y6 Guide pin Article no. 73 950 ... £	
TX R/N/L ...2	SW03	2.23	**176**	57.08	**001**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...2	SW03	2.23	**176**			57.08	**005**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**	57.08	**001**			M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...3	SW03	2.23	**176**			57.08	**005**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**			57.08	**007**	M6x20	8.29	**028**	Ø 4x18	1.00	**030**
TX R/N/L ...4	SW03	2.23	**176**	57.08	**002**			M6x20	8.29	**028**	Ø 4x18	1.00	**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 Y6 Article no. 73 511 ...		Right-hand Y6 Article no. 73 510 ...	
	mm	mm	mm	mm	mm		£		£	
R/L 660.0025.1	25	46	170	20	2	TX R/N/L ...1	238.32	**125**	233.75	**125**
R/L 660.0032.1	32	46	200	20	2	TX R/N/L ...1	284.99	**132**	289.57	**132**
R/L 660.0040.1	40	46	250		2	TX R/N/L ...1	284.99	**140**	284.22	**140**
R/L 660.0025.2	25	46	170	20	2	TX R/N/L ...2	234.18	**225**	233.75	**225**
R/L 660.0032.2	32	46	200	20	2	TX R/N/L ...2	284.99	**232**	289.57	**232**
R/L 660.0040.2	40	46	250		2	TX R/N/L ...2	284.99	**240**	284.22	**240**
R/L 660.0025.3	25	46	170	20	2	TX R/N/L ...3	234.18	**325**	233.75	**325**
R/L 660.0032.3	32	46	200	20	2	TX R/N/L ...3	284.99	**332**	289.57	**332**
R/L 660.0040.3	40	46	250		2	TX R/N/L ...3	284.99	**340**	284.22	**340**
R/L 660.0025.4	25	46	170	20	2	TX R/N/L ...4	234.18	**425**	233.75	**425**
R/L 660.0032.4	32	46	200	20	2	TX R/N/L ...4	284.99	**432**	289.57	**432**
R/L 660.0040.4	40	46	250		2	TX R/N/L ...4	284.99	**440**	284.22	**440**

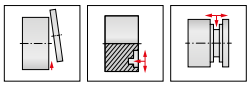
Bore-Ø$_{min.}$ in mm	46	50	60	80	100	for grooving insert
$T_{max.}$ (mm)	2	3	4	4,5	5	TX R/N/L ...1
	2	3	4	4,5	5	TX R/N/L ...2
	2	3	4	4,5	5	TX R/N/L ...3
	2	3	4	4,5	5	TX R/N/L ...4

Spare parts for grooving inserts	Y6  Clamping element Article no. 73 950 ... £		2A/28  Key I Article no. 70 950 ... £		Y6  Clamping screw Article no. 73 950 ... £	
TX R/N/L ...1	48.62	**011**	SW03	2.23 **176**	M6x30	8.29 **009**
TX R/N/L ...2	48.62	**011**	SW03	2.23 **176**	M6x30	8.29 **009**
TX R/N/L ...3	48.62	**011**	SW03	2.23 **176**	M6x30	8.29 **009**
TX R/N/L ...4	48.62	**011**	SW03	2.23 **176**	M6x30	8.29 **009**

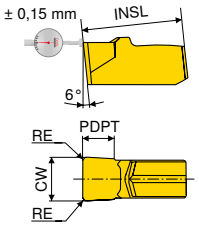
→ 62–64

Insert LX

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



F	M	R



-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 ...	£		1A/15 Article no. 70 337 ...	£		1A/15 Article no. 70 337 ...	£	
	mm	mm	mm	mm										
LXE 8.00N0.80-M2	19	8	0.8	5	E32 N ..-LX		17.08	**928**		17.08	**578**		17.08	**682**
LXE 10.00N0.80-M2	19	10	0.8	5	E32 N ..-LX		22.77	**932**		22.77	**582**		22.77	**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

→ 73

External machining

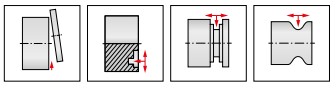
→ 73

→ 74

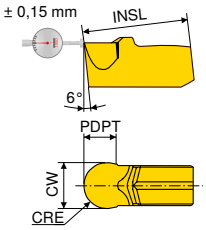
11

Radial Grooving Insert LX

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



F	M	R



-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	1A/15 Article no. 70 337 ...		1A/15 Article no. 70 337 ...		1A/15 Article no. 70 337 ...	
	mm	mm	mm	mm		£		£		£	
LXR 4.00N-M3	19	8	4	5	E32 N ..-LX	18.21	**908**	18.21	**518**	18.21	**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

→ 73

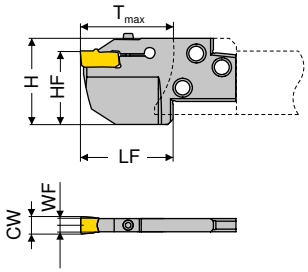
External machining

→ 73

→ 74

ModularClamp MSS – Axial and radial grooving module LX

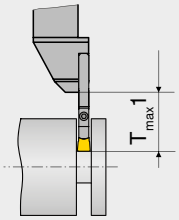
- Grooving width 8 and 10 mm
- Axial grooving from Ø 500 mm onwards
- Internal grooving and turning, from Ø 200 mm onwards



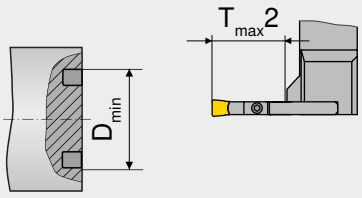
Neutral

Designation	CW	WF	LF	HF	H	T max. 1	T max. 2	T max. 3	for grooving inserts	2C/71 Article no. 70 835 ...	
	mm	mm	mm	mm	mm	mm	mm	mm		£	
E32 N 25-LX	8 / 10	3.4	27	32	44	25	19	14	LX ..	87.13	**032**
E32 N 32-LX	8 / 10	3.4	37	32	44	32	26	21	LX ..	87.13	**132**
E32 N 45-LX	8 / 10	3.4	47	32	44	45	39	34	LX ..	87.13	**232**

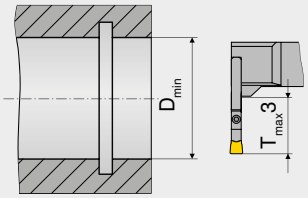
Radial grooving



Axial grooving D_{min} > 500 mm



Internal grooving D_{min} > 200 mm



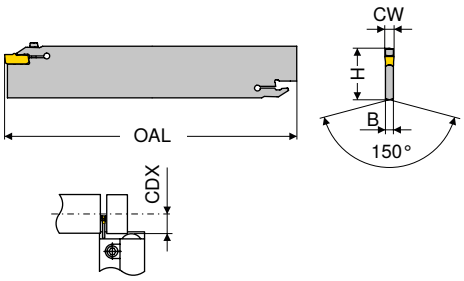
Spare parts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
for grooving inserts					
LX ..	T20	13.11	**114**	M4x18	4.33 **204**

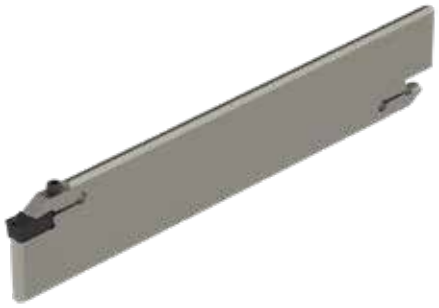
→ 71+72 → 93-95

11

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 ... £	
	mm	mm	mm	mm	mm			
XLCEN 4608-LX	46	6.8	250	8/10	80	LX ..	228.45	**108**

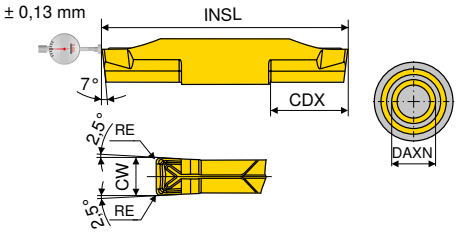
Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £			2A/28 Clamping screw Article no. 70 950 ... £	
LX ..	T20	13.11	**114**	M4x18	4.33	**204**

→ 71+72 → 98+99 → **Chapter 16**

Grooving insert AX

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

F	M	R
		



-F50
CTP1340

-F50
CCN1340

DRAGONSKIN

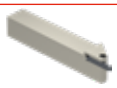
1C/72

Designation	IH	INSL	CW +/-0,02	RE +/-0,05	CDX	DAXN	for tool holder	Article no. 70 327 ... £	
		mm	mm	mm	mm	mm			
AX 05 E3.00 N 0.30	N	24	3	0.3	5	10	E.. R/L.. -AX 05	24.99	**005**
AX 10 E3.00 N 0.30	N	34	3	0.3	10	20	E.. R/L.. -AX 10	25.92	**010**
AX 15 E3.00 N 0.30	N	44	3	0.3	15	30	E.. R/L.. -AX 15	27.25	**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*

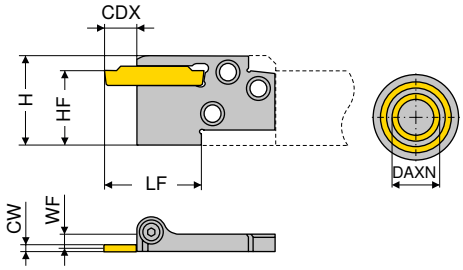




→ 76 → 77 → 78

11

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 2C/71 Article no. 70 827 ... £		Right-hand 2C/71 Article no. 70 828 ... £	
	mm	mm	mm	mm	mm	mm	mm					
E16 R/L 05-AX 05	16	3	2.5	24.0	20.5	10	5	AX05	85.79	**016**	85.79	**016**
E20 R/L 05-AX 05	20	3	3.1	28.0	25.0	10	5	AX05	85.79	**020**	85.79	**020**
E25 R/L 05-AX 05	25	3	4.6	27.5	30.0	10	5	AX05	86.75	**025**	86.75	**025**
E20 R/L 10-AX 10	20	3	3.1	33.0	25.0	20	10	AX10	85.79	**120**	85.79	**120**
E25 R/L 10-AX 10	25	3	4.6	32.5	30.0	20	10	AX10	86.75	**125**	86.75	**125**
E20 R/L 15-AX 15	20	3	3.1	44.0	25.0	30	15	AX15	85.79	**220**	85.79	**220**
E25 R/L 15-AX 15	25	3	4.6	43.5	30.0	30	15	AX15	86.75	**225**	86.75	**225**

Spare parts

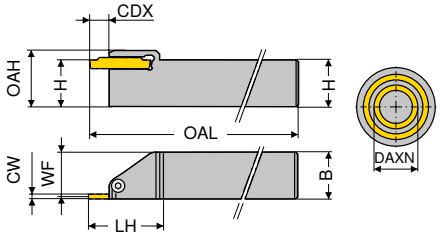
Key D

Clamping screw

for Article no.		Y7 Article no. 80 950 ... £			2A/28 Article no. 70 950 ... £	
70 827 016 / 70 828 016	T15	12.26	**113**	M3,5x12,5	8.15	**441**
70 827 020 / 70 828 020	T15	12.26	**113**	M4x14	7.80	**403**
70 827 025 / 70 828 025	T20	13.11	**114**	M5x18	5.20	**404**
70 827 120 / 70 828 120	T15	12.26	**113**	M4x14	7.80	**403**
70 827 125 / 70 828 125	T20	13.11	**114**	M5x18	5.20	**404**
70 827 220 / 70 828 220	T15	12.26	**113**	M4x14	7.80	**403**
70 827 225 / 70 828 225	T20	13.11	**114**	M5x18	5.20	**404**

→ 75 → 93–95 → **Chapter 16**

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



Illustrations show right-hand versions

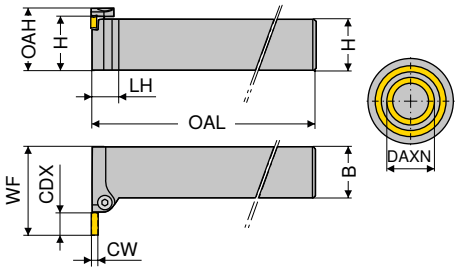
Designation	H	B	OAL	LH	OAH	CDX	CW	WF	DAXN	for grooving inserts	Left-hand NEW 2C/71 Article no. 70 823 ... £		Right-hand NEW 2C/71 Article no. 70 824 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm	mm					
E20 R/L 0005-2020-AX 05	20	20	140	28	25	5	3	18.7	10	AX05	120.09	**02000**	120.09	**02000**
E20 R/L 0010-2020-AX 10	20	20	140	38	25	10	3	18.7	20	AX10	120.09	**12000**	120.09	**12000**
E20 R/L 0015-2020-AX 15	20	20	140	49	25	15	3	18.7	30	AX15	120.09	**22000**	120.09	**22000**
E25 R/L 0005-2525-AX 05	25	25	160	28	30	5	3	23.7	10	AX05	128.64	**02500**	128.64	**02500**
E25 R/L 0010-2525-AX 10	25	25	160	38	30	10	3	23.7	20	AX10	128.64	**12500**	128.64	**12500**
E25 R/L 0015-2525-AX 15	25	25	160	49	30	15	3	23.7	30	AX15	128.64	**22500**	128.64	**22500**

Spare parts for Article no.	Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...	
		£		£
70 824 02000 / 70 823 02000	T20	9.61 **106**	M5x18	5.20 **404**
70 824 12000 / 70 823 12000	T20	9.61 **106**	M5x18	5.20 **404**
70 824 22000 / 70 823 22000	T20	9.61 **106**	M5x18	5.20 **404**
70 824 02500 / 70 823 02500	T20	9.61 **106**	M5x18	5.20 **404**
70 824 12500 / 70 823 12500	T20	9.61 **106**	M5x18	5.20 **404**
70 824 22500 / 70 823 22500	T20	9.61 **106**	M5x18	5.20 **404**

→ 75

11

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



Illustrations show right-hand versions

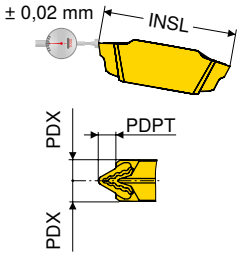
Designation	H	B	WF	OAH	OAL	LH	CDX	DAXN	CW	Left-hand NEW 2C/71 Article no. 70 825 ... £		Right-hand NEW 2C/71 Article no. 70 826 ... £	
	mm	mm	mm	mm	mm	mm	mm	mm	mm				
E20 R/L 9005-2020-AX 05	20	20	28	25	110	12	5	10	3	120.09	**02000**	120.09	**02000**
E20 R/L 9010-2020-AX 10	20	20	38	25	110	13	10	20	3	120.09	**12000**	120.09	**12000**
E20 R/L 9015-2020-AX 15	20	20	49	25	110	13	15	30	3	120.09	**22000**	120.09	**22000**
E25 R/L 9005-2525-AX 05	25	25	33	30	140	12	5	10	3	128.64	**02500**	128.64	**02500**
E25 R/L 9010-2525-AX 10	25	25	43	30	110	13	10	20	3	128.64	**12500**	128.64	**12500**
E25 R/L 9015-2525-AX 15	25	25	49	30	140	13	15	30	3	128.64	**22500**	128.64	**22500**

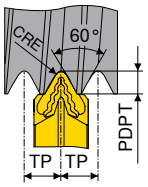
Spare parts for Article no.	Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
70 825 22000 / 70 826 22000	T20	9.61 **106**	M5x18	5.20 **404**
70 825 12000 / 70 826 12000	T20	9.61 **106**	M5x18	5.20 **404**
70 825 02000 / 70 826 02000	T15	9.36 **105**	M4x14	7.80 **403**
70 825 22500 / 70 826 22500	T20	9.61 **106**	M5x18	5.20 **404**
70 825 12500 / 70 826 12500	T20	9.61 **106**	M5x18	5.20 **404**
70 825 02500 / 70 826 02500	T15	9.36 **105**	M4x14	7.80 **403**

→ 75

Threading inserts TC full profile – External thread 60°

F	M	R
		





CTPP520	CTPP535	-27P H216T
DPX1520	DPX1535	-ALP CWK26
DRAGONSKIN	DRAGONSKIN	



Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 357 ... £		1C/84 Article no. 70 357 ... £		1C/84 Article no. 70 357 ... £	
		mm	mm	mm	mm	mm							
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	19.82	**010**	19.82	**110**	16.00	**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	19.82	**012**	19.82	**112**	16.00	**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	19.82	**014**	19.82	**114**	16.00	**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	19.82	**016**	19.82	**116**	16.00	**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	19.82	**018**	19.82	**118**	16.00	**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	19.82	**030**	19.82	**130**	16.00	**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	19.82	**032**	19.82	**132**	16.00	**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	19.82	**034**	19.82	**134**	16.00	**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	19.82	**036**	19.82	**136**	16.00	**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	19.82	**050**	19.82	**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	19.82	**052**	19.82	**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	19.82	**056**	19.82	**156**		

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

→ v_c Page 101
→ Application recommendation on page 110

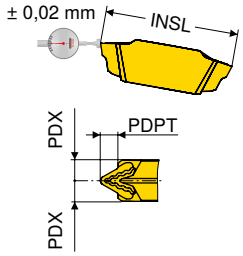
Internal machining *External machining*

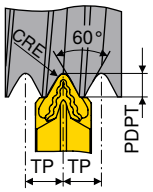

→ 84 → 85

11

Threading inserts TC full profile – Internal thread 60°

F	M	R





CTPP535	CTPP520	-27P H216T
DPX1535	DPX1520	-ALP CWK26
DRAGONSKIN	DRAGONSKIN	



Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 358 ... £		1C/84 Article no. 70 358 ... £		1C/84 Article no. 70 358 ... £	
		mm	mm	mm	mm	mm							
TC 16-1 I 1.0 ISO	TC 16-1 ...	1.00	16	0.59	1.05	0.06	I32 R/L TC 16-1	19.82	**114**	19.82	**014**	16.00	**614**
TC 16-1 I 1.25 ISO	TC 16-1 ...	1.25	16	0.74	1.05	0.07	I32 R/L TC 16-1			19.82	**016**		
TC 16-1 I 1.5 ISO	TC 16-1 ...	1.50	16	0.89	1.05	0.09	I32 R/L TC 16-1	19.82	**118**	19.82	**018**	16.00	**618**
TC 16-2 I 1.75 ISO	TC 16-2 ...	1.75	16	1.02	2.15	0.11	I32 R/L TC 16-2			19.82	**030**		
TC 16-2 I 2.0 ISO	TC 16-2 ...	2.00	16	1.17	2.15	0.13	I32 R/L TC 16-2	19.82	**132**	19.82	**032**	16.00	**632**
TC 16-2 I 3.0 ISO	TC 16-2 ...	3.00	16	1.76	2.15	0.19	I32 R/L TC 16-2	19.82	**136**	19.82	**036**	16.00	**636**

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

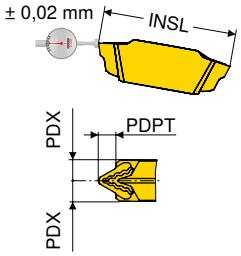
→ v_c Page 101
→ Application recommendation on page 110

Internal machining *External machining*


→ 86 → 87

Threading inserts TC partial profile 60°

F	M	R
		



CTPP535	CTPP520	-27P H216T
DPX1535	DPX1520	-ALP CWK26
DRAGONSKIN	DRAGONSKIN	

Designation	Size	TP	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 355 ... £		1C/84 Article no. 70 355 ... £		1C/84 Article no. 70 355 ... £	
		mm	mm	mm	mm	mm							
TC 16-1 EI A 60	TC 16-1 ...	0,5 - 1,5	16	1.27	1.05	0.03	E/I.. R/L TC 16-1	19.82	**110**	19.82	**010**	16.00	**610**
TC 16-2 EI G 60	TC 16-2 ...	1,75 - 3,0	16	2.49	2.15	0.11	E/I.. R/L/N TC 16-2	19.82	**130**	19.82	**030**	16.00	**630**
TC 16-2 EI AG 60	TC 16-2 ...	0,5 - 3,0	16	2.57	2.15	0.03	E/I.. R/L/N TC 16-2	19.82	**132**	19.82	**032**	16.00	**632**
TC 16-3 EI N 60	TC 16-3 ...	3,5 - 5,0	16	4.11	3.10	0.22	E/I.. N TC 16-3	19.82	**150**	19.82	**050**	16.00	**650**

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*

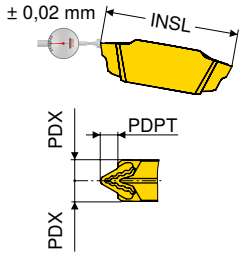



→ 86 → 87 → 84 → 85

11

Threading inserts TC full profile 55°

F	M	R



CTPP520	CTPP535	-27P H216T
DPX1520	DPX1535	-ALP CWK26
DRAGONSKIN	DRAGONSKIN	

Designation	Size	TPI	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 359 ... £		1C/84 Article no. 70 359 ... £		1C/84 Article no. 70 359 ... £	
		1/"	mm	mm	mm	mm							
TC 16-1 EI 28 W	TC 16-1 ...	28	16	0.60	1.05	0.12	E/I.. R/L TC 16-1	19.82	**010**	19.82	**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	19.82	**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	19.82	**018**	19.82	**118**	16.00	**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	19.82	**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	19.82	**030**	19.82	**130**	16.00	**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			19.82	**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	19.82	**034**	19.82	**134**	16.00	**634**
Steel									●		●		
Stainless steel									●		●		
Cast iron									●				●
Non ferrous metals									○		○		●
Heat resistant alloys									○		●		
hardened materials													

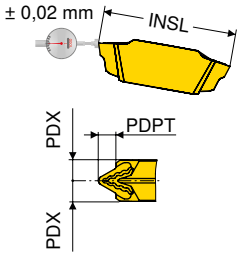
→ v_c Page 101
→ Application recommendation on page 110

Internal machining *External machining*

→ 86 → 87 → 84 → 85

Threading inserts TC partial profile 55°

F	M	R
		



Designation	Size	TPI	INSL	PDPT	PDX	CRE	for tool holder	1C/84 Article no. 70 356 ... £		1C/84 Article no. 70 356 ... £	
		1/"	mm	mm	mm	mm					
TC 16-1 EI A 55	TC 16-1 ...	28 - 16	16	1.39	1.05	0.12	E/I.. R/L TC 16-1	19.82	**110**	19.82	**010**
TC 16-2 EI AG 55	TC 16-2 ...	28 - 8	16	2.91	2.15	0.12	E/I.. R/L/N TC 16-2	19.82	**132**	19.82	**032**
TC 16-2 EI G 55	TC 16-2 ...	14 - 8	16	2.78	2.15	0.23	E/I.. R/L/N TC 16-2	19.82	**130**	19.82	**030**
TC 16-3 EI N 55	TC 16-3 ...	7 - 5	16	4.34	3.10	0.46	E/I.. N TC 16-3	19.82	**150**	19.82	**050**
Steel									●		●
Stainless steel									●		●
Cast iron											●
Non ferrous metals									○		○
Heat resistant alloys									●		○
hardened materials											

→ v_c Page 101
→ Application recommendation on page 110

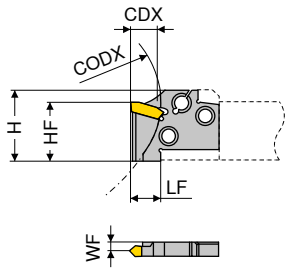
Internal machining *External machining*




→ 86 → 87 → 84 → 85

11

ModularClamp MSS – Threading module TC for external threads

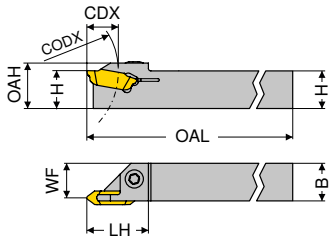


Designation	TP	TPI	WF	HF	LF	H	CODX	CDX	for grooving inserts	Left-hand 2C/82 Article no. 70 872 ... £		Neutral 2C/82 Article no. 70 872 ... £		Right-hand 2C/82 Article no. 70 872 ... £	
	mm	1/"	mm	mm	mm	mm	mm	mm							
E20 R/L TC 16-1	0,5 - 1,5	28 - 16	3.45	13	20	24	60	8	TC 16-1 ...	78.07	**120**			78.07	**020**
E20 N TC 16-2	1,75 - 3,0	14 - 8	2.20	13	20	24		12	TC 16-2 ...			78.07	**220**		
E25 R/L TC 16-1	0,5 - 1,5	28 - 16	5.20	13	25	30	75	8	TC 16-1 ...	78.65	**125**			78.65	**025**
E25 R/L TC 16-2	1,75 - 3,0	14 - 8	4.10	13	25	30	75	10	TC 16-2 ...	78.65	**325**			78.65	**225**
E25 N TC 16-3	3,5 - 5,0	7 - 5	3.10	13	25	30		12	TC 16-3 ...			78.65	**425**		



→ 79–83 → 93–95 → **Chapter 16**

MonoClamp – Monobloc tool TC for external thread cutting



Illustrations show right-hand versions

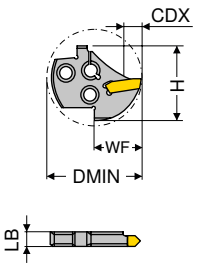
Designation	TP	TPI	H	B	OAL	LH	OAH	WF	CODX	for grooving inserts	Left-hand 2C/83 Article no. 70 883 ... £		Right-hand 2C/83 Article no. 70 882 ... £	
	mm	1/"	mm	mm	mm	mm	mm	mm	mm					
E12 R/L 00-1212 TC16	0,5 - 3	28 - 8	12	12	150	20	14.5	11	30	TC16-1/2..	115.82	**012**	115.82	**012**

Spare parts for grooving inserts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
TC16-1/2..	T15	12.26	**113**	M4x11	9.40 **442**

→ 79–83

11

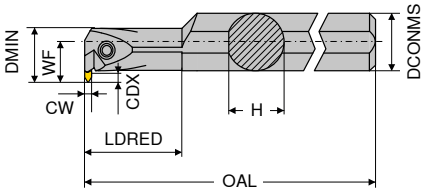
ModularClamp MSS – Threading module TC for internal threads



Designation	TP	TPI	LB	WF	H	DMIN	CDX	for grooving inserts	Left-hand 2C/82 Article no. 70 887 ... £		Neutral 2C/82 Article no. 70 887 ... £		Right-hand 2C/82 Article no. 70 887 ... £	
	mm	1/"	mm	mm	mm	mm	mm							
I32 R/L TC 16-1	0,5 - 1,5	28 - 16	6.2	5.2	32.2	40	7	TC 16-1 ...	79.40	**132**			79.40	**032**
I32 R/L TC 16-2	1,75 - 3,0	14 - 8	6.2	4.1	32.2	40	7	TC 16-2 ...	79.40	**332**			79.40	**232**
I32 N TC 16-3	3,5 - 5,0	7 - 5	6.2	3.1	32.2	40	7	TC 16-3 ...			79.40	**432**		

→ 79–83 → 96

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 2C/83 Article no. 70 857 ... £		Right-hand 2C/83 Article no. 70 856 ... £	
	mm	mm	mm	mm	mm	mm	mm					
I16 R/L 90-2D TC16	14.0	20	18	180	32	4	20	TC16-1/2..	126.09	**016**	126.09	**016**
I20 R/L 90-2D TC16	17.5	25	23	200	40	5	25	TC16-..	138.91	**020**	138.91	**020**
I25 R/L 90-2D TC16	22.0	32	30	250	50	6	32	TC16-..	157.18	**025**	157.18	**025**

Spare parts for Article no.		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
70 857 016 / 70 856 016	T15	12.26	**113**	M4x14	7.80	**403**
70 857 020 / 70 856 020	T20	13.11	**114**	M5x18	5.20	**404**
70 857 025 / 70 856 025	T25	13.49	**115**	M6x20	3.85	**405**

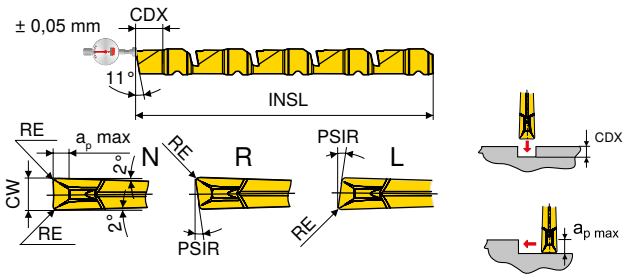
→ 79–83

11

MaxiClick – Insert – Cutting depth 5 mm

▲ 5 cutting edges

F	M	R
		



-F2 CTP1340

-F2 CCN1340

DRAGONSKIN

1C/72

Designation	IH	CW mm	RE mm	PSIR	INSL mm	$a_{p\,max}$ mm	CDX mm	for tool holder	Article no. 70 338 ... £	
MC 05-5-1.00 L 07-F2	L	1.0	0.1	7°	59.2		5	MC 05 R/L	31.64	**250**
MC 05-5-1.50 L 07-F2	L	1.5	0.1	7°	59.2		5	MC 05 R/L	31.64	**260**
MC 05-5-1.00 N 0.10-F2	N	1.0	0.1		59.2	0.5	5	MC 05 R/L	31.64	**210**
MC 05-5-1.50 N 0.10-F2	N	1.5	0.1		59.2	1.0	5	MC 05 R/L	31.64	**220**
MC 05-5-1.00 R 07-F2	R	1.0	0.1	7°	59.2		5	MC 05 R/L	31.64	**230**
MC 05-5-1.50 R 07-F2	R	1.5	0.1	7°	59.2		5	MC 05 R/L	31.64	**240**

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

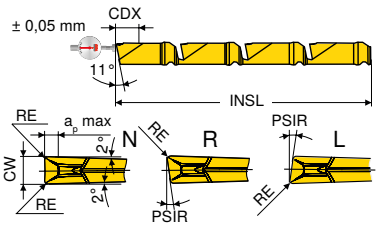
→ v_c Page 106

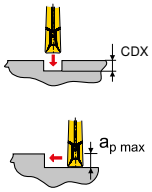
Internal machining	*External machining*
	
	→ 91

MaxiClick insert – Cutting depth 10 mm

▲ 4 cutting edges

F	M	R
	▲	





-F2
CTP1340

-F2
CCN1340

DRAGONSKIN

1C/72

Designation	IH	CW mm	RE mm	PSIR	INSL mm	$a_{p\,max}$ mm	CDX mm	for tool holder	Article no. 70 339 ... £	
MC 10-4-1.50 L 07-F2	L	1.5	0.1	7°	59.2		10	MC 10 R/L	26.04	**270**
MC 10-4-2.00 L 07-F2	L	2.0	0.1	7°	59.2		10	MC 10 R/L	26.04	**280**
MC 10-4-2.50 L 07-F2	L	2.5	0.1	7°	59.2		10	MC 10 R/L	26.04	**290**
MC 10-4-1.50 N 0.10-F2	N	1.5	0.1		59.2	1.0	10	MC 10 R/L	26.04	**210**
MC 10-4-2.00 N 0.10-F2	N	2.0	0.1		59.2	1.5	10	MC 10 R/L	26.04	**220**
MC 10-4-2.50 N 0.10-F2	N	2.5	0.1		59.2	2.0	10	MC 10 R/L	26.04	**230**
MC 10-4-1.50 R 07-F2	R	1.5	0.1	7°	59.2		10	MC 10 R/L	26.04	**240**
MC 10-4-2.00 R 07-F2	R	2.0	0.1	7°	59.2		10	MC 10 R/L	26.04	**250**
MC 10-4-2.50 R 07-F2	R	2.5	0.1	7°	59.2		10	MC 10 R/L	26.04	**260**

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

→ v_c Page 106

11

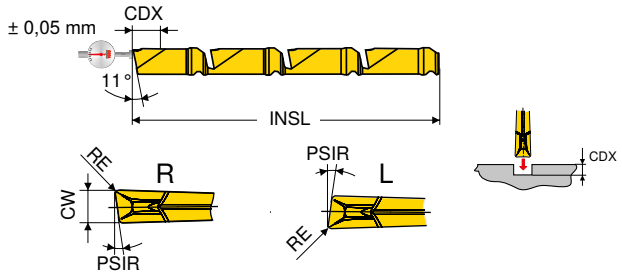
Internal machining *External machining*

→ 92

MaxiClick insert – Cutting depth 10 mm

▲ 4 cutting edges

F	M	R
		



-F3
CTP1340

-F3
CCN1340

DRAGONSKIN

1C/72

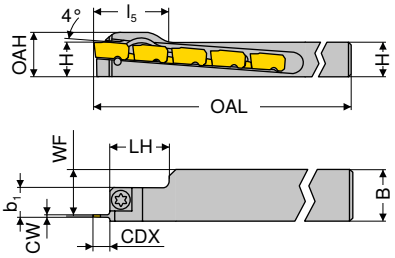
Designation	IH	CW mm	RE mm	PSIR	INSL mm	CDX mm	for tool holder	Article no. 70 340 ... £	
MC 10-4-1.50 L 12-F3	L	1.5	0.1	12°	59.2	10	MC 10 R/L	26.04	**270**
MC 10-4-2.00 L 12-F3	L	2.0	0.1	12°	59.2	10	MC 10 R/L	26.04	**280**
MC 10-4-2.50 L 12-F3	L	2.5	0.1	12°	59.2	10	MC 10 R/L	26.04	**290**
MC 10-4-1.50 R 12-F3	R	1.5	0.1	12°	59.2	10	MC 10 R/L	26.04	**240**
MC 10-4-2.00 R 12-F3	R	2.0	0.1	12°	59.2	10	MC 10 R/L	26.04	**250**
MC 10-4-2.50 R 12-F3	R	2.5	0.1	12°	59.2	10	MC 10 R/L	26.04	**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

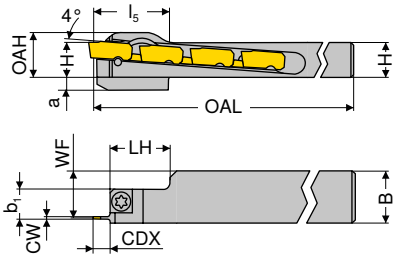
Designation	H mm	OAH mm	B mm	b_1 mm	CW mm	CDX mm	WF mm	OAL mm	LH mm	l_5 mm	for grooving inserts	Left-hand 2C/71 Article no. 70 873 ... £		Right-hand 2C/71 Article no. 70 873 ... £	
MC 05 R/L -1010K	10	13	10	10	1,00 - 1,50	5	8.5	125	23	27	MC 05	80.55	**210**	80.55	**110**
MC 05 R/L -1212K	12	15	12	12	1,00 - 1,50	5	10.5	125	23	27	MC 05	80.55	**212**	80.55	**112**
MC 05 R/L -1616K	16	19	16	12	1,00 - 1,50	5	14.5	125	23	20	MC 05	80.55	**216**	80.55	**116**
MC 05 R/L -2020K	20	23	20	12	1,00 - 1,50	5	18.8	125	23	20	MC 05	93.64	**220**	93.64	**120**
MC 05 R/L -2525M	25	28	25	12	1,00 - 1,50	5	23.5	150	23	21	MC 05	99.73	**225**	99.73	**125**

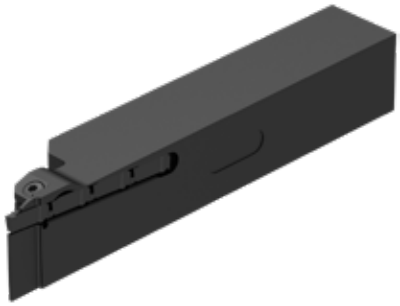
Spare parts for grooving inserts		2A/28 Key-T Article no. 70 950 ... £			2A/28 Clamping screw Article no. 70 950 ... £	
MC 05	T15	5.83	**738**	M4x11	3.09	**174**

→ 88

11

MaxiClick – Toolholder – Cutting depth 10 mm





Illustrations show right-hand versions

Designation	H	OAH	B	b_1	a	CW	CDX	WF	OAL	LH	l_5	for grooving inserts	Left-hand 2C/71 Article no. 70 874 ...	£	Right-hand 2C/71 Article no. 70 874 ...	£
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm					
MC 10 R/L -1010K	10	13	10	10		1,50 - 2,50	10	8.5	125	28		MC 10	80.55	**210**	80.55	**110**
MC 10 R/L -1010K-S	10	13	10	10	6	1,50 - 2,50	10	8.5	125	28	27	MC 10	80.55	**410** 1)	80.55	**310** 1)
MC 10 R/L -1212K	12	15	12	12		1,50 - 2,50	10	10.5	125	28		MC 10	80.55	**212**	80.55	**112**
MC 10 R/L -1212K-S	12	15	12	12	4	1,50 - 2,50	10	10.5	125	28	27	MC 10	80.55	**412** 1)	80.55	**312** 1)
MC 10 R/L -1616K	16	19	16	12		1,50 - 2,50	10	14.5	125	28	20	MC 10	80.55	**216**	80.55	**116**
MC 10 R/L -2020K	20	23	20	12		1,50 - 2,50	10	18.8	125	28	20	MC 10	93.64	**220**	93.64	**120**
MC 10 R/L -2525M	25	28	25	12		1,50 - 2,50	10	23.5	150	28	21	MC 10	99.73	**225**	99.73	**125**

1) -S = strengthened variant

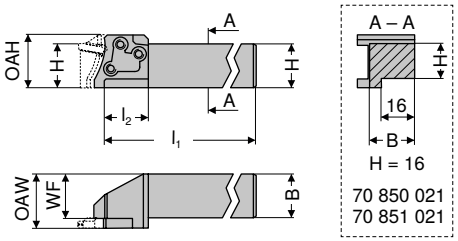

Key-T

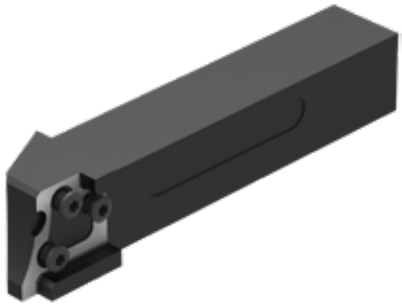

Clamping screw

Spare parts for grooving inserts		2A/28 Article no. 70 950 ...	£		2A/28 Article no. 70 950 ...	£
MC 10	T15	5.83	**738**	M4x11	3.09	**174**

→ 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 2C/71 Article no. 70 851 ...	£	Right-hand 2C/71 Article no. 70 850 ...	£
	mm	mm	mm	mm	mm	mm	mm					
E12 R/L 00-1212E	12	12	15.25	14.5	11.75	70	12	E12 R/L ...	119.27	**012**	119.27	**012**
E16 R/L 00-1616G	16	16	19.25	19.5	15.75	90	16	E16 R/L ...	120.45	**016**	120.45	**016**
E20 R/L 00-1620G	16	20	24.25	24.0	20.15	90	20	E20 R/L ...	121.55	**021** 1)	121.55	**021** 1)
E20 R/L 00-2020J	20	20	24.25	24.0	20.15	110	20	E20 R/L ...	121.55	**020**	121.55	**020**
E25 R/L 00-2525L	25	25	31.00	30.0	25.50	140	25	E25 R/L ...	124.09	**025**	124.09	**025**
E32 R/L 00-3225N	32	25	31.00	38.0	25.50	160	32	E32 R/L ...	127.45	**032**	127.45	**032**

1) see view A-A

Spare parts for Article no.		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
70 851 012 / 70 850 012	T08	10.30	**110**	M2,5x10	6.45 **440**
70 851 016 / 70 850 016	T15	12.26	**113**	M3,5x12,5	8.15 **441**
70 851 021 / 70 850 021	T15	12.26	**113**	M4x14	7.80 **403**
70 851 020 / 70 850 020	T15	12.26	**113**	M4x14	7.80 **403**
70 851 025 / 70 850 025	T20	13.11	**114**	M5x18	5.20 **404**
70 851 032 / 70 850 032	T25	13.49	**115**	M6x20	3.85 **405**

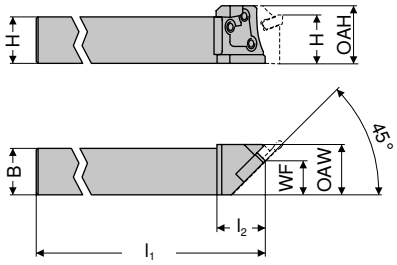
Module Overview

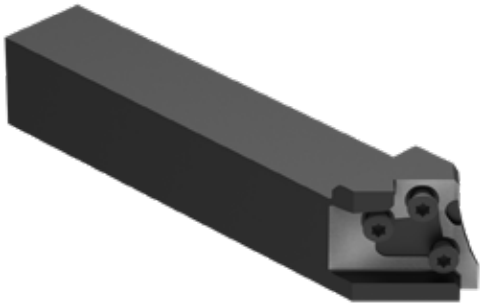
→ 4+5

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

11

ModularClamp MSS – Tool holder 45°





Illustrations show right-hand versions

Designation	H mm	B mm	OAW mm	OAH mm	WF mm	l_1 mm	l_2 mm	for modules	Left-hand 2C/71 Article no. 70 853 ... £		Right-hand 2C/71 Article no. 70 852 ... £	
E20 R/L 45-2020J	20	20	21.5	24	14.5	110	20	E20 R/L ...	121.55	**020**	121.55	**020**
E25 R/L 45-2525L	25	25	26.0	30	18.0	140	25	E25 R/L ...	124.09	**025**	124.09	**025**

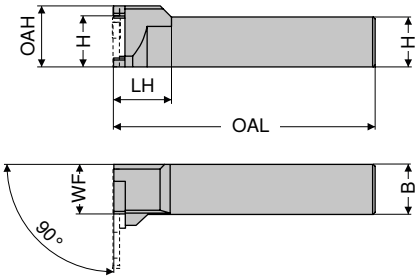
For right hand holder → left hand module only
For left hand holder → right hand module only

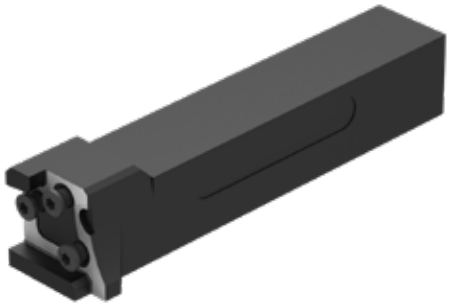
Spare parts		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
for Article no.							
70 853 020 / 70 852 020	T15	12.26	**113**	M4x11	9.40	**442**	M4x14	7.80	**403**
70 853 025 / 70 852 025	T20	13.11	**114**	M5x13,5	9.77	**513**	M5x18	5.20	**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 2C/71 Article no. 70 855 ... £		Right-hand 2C/71 Article no. 70 854 ... £	
	mm	mm	mm	mm	mm	mm					
E20 R/L 90-2020J	20	20	24	20	110	20	E20 R/L ...	121.55	020	121.55	020
E25 R/L 90-2525L	25	25	30	25	140	28	E25 R/L ...	124.09	025	124.09	025
E32 R/L 90-3225N	32	25	38	32	160	34	E32 R/L ...	127.45	032	127.45	032

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

Spare parts for Article no.		Y7 Key D Article no. 80 950 ... £			2A/28 Clamping screw Article no. 70 950 ... £	
70 855 020 / 70 854 020	T15	12.26	113	M4x14	7.80	403
70 855 025 / 70 854 025	T20	13.11	114	M5x18	5.20	404
70 855 032 / 70 854 032	T25	13.49	115	M6x20	3.85	405

Module Overview

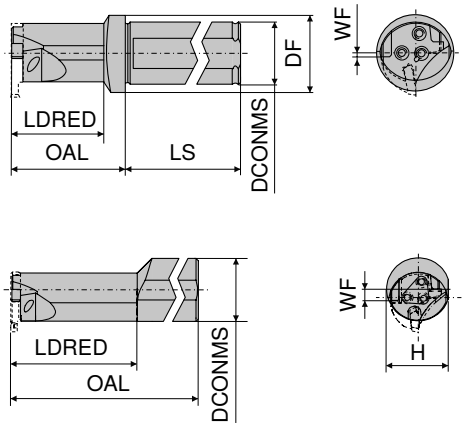
→ 4+5

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

11

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 2C/71 Article no. 70 861 ... £		Right-hand 2C/71 Article no. 70 860 ... £	
		mm	mm	mm	mm	mm	mm	mm					
≤ 1,5xD	I16 R/L 90-1,5 D-N	20	25	1.0		32	24	50	I 16 R/L	133.09	017	133.09	017
	I20 R/L 90-1,5 D-N	20	25	1.0		37	30	50	I 20 R/L	163.09	021	163.09	021
	I25 R/L 90-1,5 D-N	25	32	1.5		46	38	56	I 25 R/L	186.91	026	186.91	026
	I32 R/L 90-1,5 D-N	32	40	2.0		59	48	60	I 32 R/L	241.00	033 1)	241.00	033 1)
	I40 R/L 90-1,5 D-N	40	50	2.5		72	60	70	I 40 R/L/N	300.55	041	300.55	041
≤ 2,5xD	I16 R/L 90-2,5 D-N	20		4.5	19.0	180	40		I 16 R/L	143.45	117	143.45	117
	I20 R/L 90-2,5 D-N	25		6.0	24.0	200	50		I 20 R/L	174.45	121	174.45	121
	I25 R/L 90-2,5 D-N	32		7.0	31.0	250	63		I 25 R/L	199.64	126	199.64	126
	I32 R/L 90-2,5 D-N	40		9.5	38.0	300	80		I 32 R/L	260.36	133 1)	260.36	133 1)
	I40 R/L 90-2,5 D-N	50		11.5	48.5	350	100		I 40 R/L/N	331.55	141	331.55	141

1) with 2 clamping surfaces

Spare parts for modules		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £	
I 16 R/L	T08	10.30	110	M2,5x10	6.45	440
I 20 R/L	T10	12.05	112	M3x11	6.68	444
I 25 R/L	T15	12.26	113	M3,5x12,5	8.15	441
I 32 R/L	T20	13.11	114	M4,5x17	7.42	445
I 40 R/L/N	T20	13.11	114	M5x18	5.20	404

Module Overview

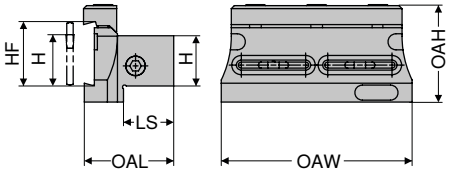
→ 6+7

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 Article no. 70 829 ...
	mm	mm	mm	mm	mm	mm		£
SBN 2020-26-DC	20	26	43.0	20	40.0	82	XLC.. 26..	217.27 **020**
SBN 2020-32-DC	20	32	43.0	20	40.0	95	XLC.. 32..	217.27 **120**
SBN 2525-32-DC	25	32	48.5	25	44.5	95	XLC.. 32..	224.09 **025**
SBN 3232-32-DC	32	32	52.0	32	51.0	95	XLC.. 32..	234.55 **032**

Spare parts		2A/28  Coolant screw plug Article no. 70 950 ...			2A/28  Clamping rail Article no. 70 950 ...			2A/28  Clamping screw Article no. 70 950 ...	
for Article no.		£			£			£	
70 829 020	G 1/8"	3.24	**294**	CU70	29.36	**290**	M6x12	2.02	**861**
70 829 120	G 1/8"	3.24	**294**	CU85	29.36	**291**	M6x12	2.02	**861**
70 829 025	G 1/8"	3.24	**294**	CU85	29.36	**291**	M6x12	2.02	**861**
70 829 032	G 1/8"	3.24	**294**	CU85	29.36	**291**	M6x12	2.02	**861**

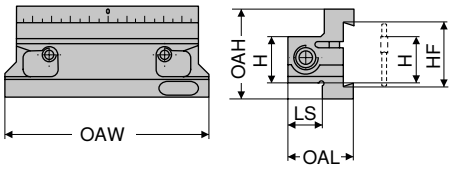
		2A/28  Key I Article no. 70 950 ...			2A/28  O-Ring Article no. 70 950 ...			2A/28  O-Ring Article no. 70 950 ...	
for Article no.		£			£			£	
70 829 020	SW5	3.35	**265**	19x2,5	3.91	**293**			
70 829 120	SW5	3.35	**265**	19x2,5	3.91	**293**	23x2,5	3.91	**292**
70 829 025	SW5	3.35	**265**				23x2,5	3.91	**292**
70 829 032	SW5	3.35	**265**				23x2,5	3.91	**292**

11

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 Article no. 70 830 ...	
	mm	mm	mm	mm	mm	mm		£	
SBN 2020-26-K	20	26	39	20	33.0	90	XLC.. 26..	149.18	**020**
SBN 2520-32-K	25	32	48	20	36.0	110	XLC.. 32..	149.18	**025**
SBN 3229-32-K	32	32	48	29	44.5	120	XLC.. 32..	152.45	**032**
SBN 3229-46-K	32	46	70	29	52.0	150	XLC.. 46..	252.36	**132**
SBN 4037-46-K	40	46	70	37	60.0	150	XLC.. 46..	306.36	**140**

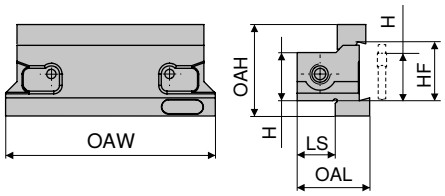
Spare parts for blades		2A/28 Key I Article no. 70 950 ... £		2A/28 Cooling agent set Article no. 70 950 ... £			2A/28 clamping screw Article no. 70 950 ... £	
XLC.. 26..	SW5	3.35	**265**	37.99	**278**	M6x25	1.87	**269**
XLC.. 32..	SW5	3.35	**265**	37.99	**278**	M6x25	1.87	**269**
XLC.. 46..	SW6	4.70	**266**	37.00	**279**	M8x35	1.87	**282**

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 Article no. 70 831 ...	
	mm	mm	mm	mm	mm	mm		£	
SBN 2020-26-KS	20	26	39	20	35.0	90	XLC.. 26..	181.27	**020**
SBN 2520-32-KS	25	32	48	20	38.0	110	XLC.. 32..	186.91	**025**
SBN 3229-32-KS	32	32	48	29	46.5	120	XLC.. 32..	193.91	**032**

Spare parts		2A/28  Key l Article no. 70 950 ...		2A/28  Cooling agent set Article no. 70 950 ...			2A/28  clamping screw Article no. 70 950 ...	
for blades		£		£			£	
XLC.. 26..	SW5	3.35	**265**	37.99	**278**	M6x25	1.87	**269**
XLC.. 32..	SW5	3.35	**265**	37.99	**278**	M6x25	1.87	**269**

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

11

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3.7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1		< 45 HRC						
	6.2		46–55 HRC						
	6.3	Tempered steel	56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

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

	DRAGONSKIN CTCP325 (HCR1325)	DRAGONSKIN CTCP335 (HCR1335)	DRAGONSKIN CTPP345 (HCN1345)	DRAGONSKIN CTPP520 (DPX1520)	DRAGONSKIN CTPP535 (DPX1535)	DRAGONSKIN 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							

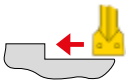
Cutting data values for TX grooving inserts

	CWX 500		
Index	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



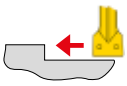
Parting / Grooving

	Depth of Cut a_p in mm							
GX Standard / GX-E	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**GX Standard / GX-E**
Cutting width in mm	Feed rate f in mm/rev.							Feed rate f in mm/rev.
2	0,10–0,15	0,05–0,15	0,05–0,12	0,05–0,10				0,05–0,20
3	0,10–0,17	0,05–0,17	0,05–0,17	0,05–0,15	0,05–0,12			0,10–0,25
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		0,10–0,25
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		0,10–0,30
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	0,15–0,35

When axial grooving reduce feed by 40 %.

GX-F2

Turning



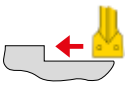
Parting / Grooving

	Depth of Cut a_p in mm								
GX-F2	**0,50**	**0,75**	**1,00**	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**GX-F2**
Cutting width in mm	Feed rate f in mm/rev.									Feed rate f in mm/rev.
2	0,03–0,15	0,03–0,15	0,03–0,15	0,03–0,10						0,05–0,15
3	0,04–0,17	0,04–0,17	0,04–0,17	0,04–0,15	0,04–0,13	0,04–0,12				0,075–0,20
4	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,17	0,05–0,15			0,10–0,25
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		0,10–0,30
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	0,15–0,325

When axial grooving reduce feed by 40 %.

GX-M40

Turning



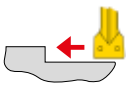
Parting / Grooving

	Depth of Cut a_p in mm								
GX-M40	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**	**GX-M40**
Cutting width in mm	Feed rate f in mm/rev.								Feed rate f in mm/rev.
2	0,10–0,20	0,05–0,20	0,05–0,17	0,05–0,15					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				0,075–0,20
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			0,10–0,25
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		0,10–0,30
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	0,15–0,325

When axial grooving reduce feed by 40 %.

GX-27P

Turning



Parting / Grooving

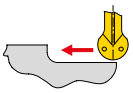
	Depth of Cut a_p in mm								
GX-27P	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**	**GX-27P**
Cutting width in mm	Feed rate f in mm/rev.								Feed rate f in mm/rev.
2	0,05–0,23	0,05–0,23	0,05–0,23	0,05–0,20					0,05–0,20
3	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,25	0,05–0,20				0,05–0,25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

When axial grooving reduce feed by 40 %.

GX – Depths of cut and feed rates

GX-M3

Turning



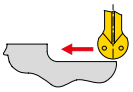
Parting / Grooving

	Depth of Cut a_p in mm							
GX-M3	**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

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

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

GX-M1

Parting / Grooving

GX-M1	
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

GX Radius grooving inserts

Parting / Grooving

GX Radius grooving insert	
Radius RE in mm	Feed rate f in mm/rev.
0,80	0,05–0,10
1,00	0,05–0,15
1,20	0,05–0,15

GX circlip grooving

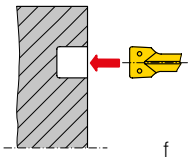
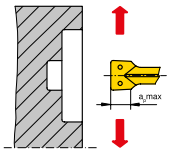
Grooving

GX circlip grooves	
Cutting width in mm	Feed rate f in mm/rev.
0,60–1,70	0,02–0,09
1,95–2,25	0,05–0,10
2,75–3,25	0,05–0,12

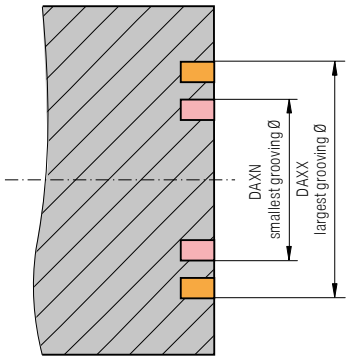
Feed guide and machining instructions for axial grooving and face turning with GX 24 axial

Approximate feed rates

GX

Designation	 f in mm/rev.	 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

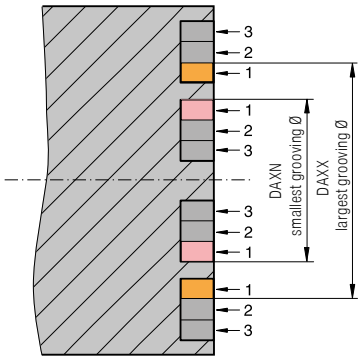
Axial grooving



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!

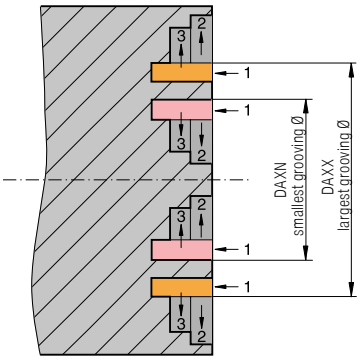
Axial grooving – Groove widening



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.

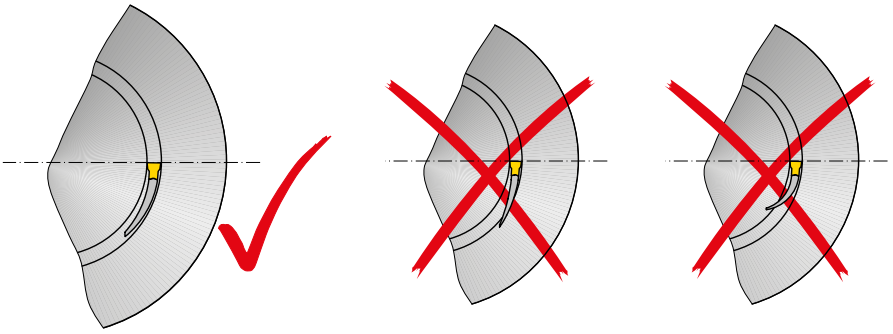
Axial grooving and face turning



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.

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

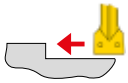
Incorrect Axial mono holder

11

MaxiClick – Depths of cut and feed rates

MaxiClick 05

Turning



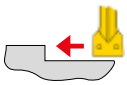
	Depth of Cut a_p in mm		
MaxiClick 05	**0,25**	**0,50**	**0,75**
Cutting width in mm	Feed rate f in mm/rev.		
1	0,02–0,15	0,02–0,10	
1,5	0,02–0,20	0,02–0,20	0,02–0,14

Parting / Grooving

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

MaxiClick 10

Turning

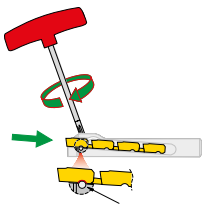


	Depth of Cut a_p in mm				
MaxiClick 10	**0,50**	**0,75**	**1,00**	**1,25**	**1,50**
Cutting width in mm	Feed rate f in mm/rev.				
1,5	0,02–0,20	0,02–0,15	0,02–0,10		
2	0,02–0,20	0,02–0,20	0,02–0,14	0,02–0,10	
2,5	0,02–0,20	0,02–0,20	0,02–0,17	0,02–0,13	0,02–0,10

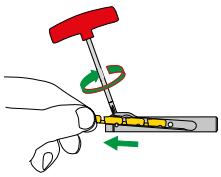
Parting / Grooving

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

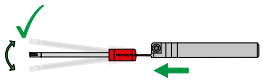
MaxiClick – System function

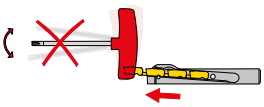


correct insert location in the seat

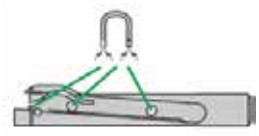


Withdraw cutting insert





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

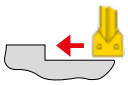


Magnets prevent the cutting insert from falling out of the tool holder during positioning

SX – Depths of cut and feed rates

SX-F2

Turning



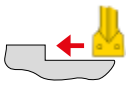
Parting / Grooving

	Depth of Cut a_p in mm								
SX-F2	**0,50**	**0,75**	**1,00**	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**
Cutting width in mm	Feed rate f in mm/rev.								
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



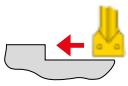
Parting / Grooving

	Depth of Cut a_p in mm							
SX-M2	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**
Cutting width in mm	Feed rate f in mm/rev.							
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

	Depth of Cut a_p in mm							
SX-27P	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**
Cutting width in mm	Feed rate f in mm/rev.							
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

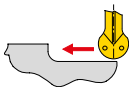
SX-M1

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



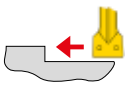
Parting / Grooving

	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		

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



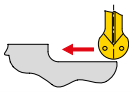
Parting / Grooving

	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

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

LX-M3

Turning



Parting / Grooving

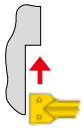
	Depth of Cut a_p in mm							
LX-M3	**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**
Radius in mm	Feed rate f in mm/rev.							
4	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,80	0,25–0,70	0,25–0,60	0,25–0,50

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

AX/FX – Depths of cut and feed rates

AX-F50

Face turning



	Depth of Cut a_p in mm			
AX-F50	**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

11

TC – Reference values for profile depth and number of passes

All listed values are guide values for steel machining

Metric ISO 60° external thread

Pitch in mm	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Number/cuts	4–6	4–7	4–8	5–9	6–10	7–11	8–12	9–14	10–18	10–18	12–20	12–20	12–20
Thread profile depth in mm	0,32	0,48	0,64	0,8	0,95	1,10	1,26	1,58	1,89	2,21	2,53	2,84	3,16

Metric ISO 60° internal thread

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

Whitworth 55° external and internal thread

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

Partial profile 60° external and internal thread

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

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

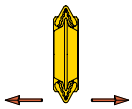
Partial profile 55° external and internal thread

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

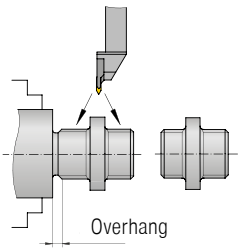
Internal	TC 16-2EI-G55						TC 16-3EI-N55		
TPI	14	12	11	10	9	8	7	6	5
Number/cuts	8–12	9–14	10–15	11–18	12–20	12–20	12–20	12–20	14–22
Thread profile depth in mm	1,22	1,46	1,56	1,80	2,03	2,31	2,40	2,89	3,56

Comparison threading system with TC and conventional

TC

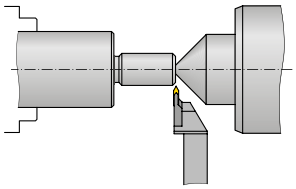


- Neutral configuration of insert makes operation in both directions possible
- Only one threading insert per pitch for partial profile and Whitworth thread; only two threading inserts (internal – external) per pitch for ISO threads
- Reduced stock holding
- Good chip formation due to chip breaker with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

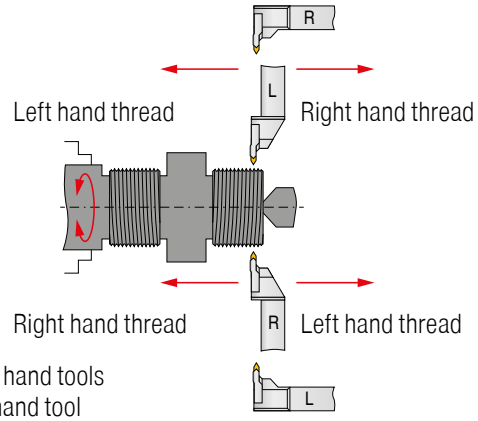


Greater efficiency through:

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



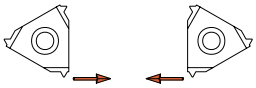
- Very good access to workpiece, therefore use of tailstock also possible with small thread diameters



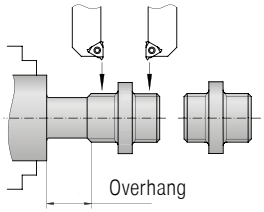
R = Right hand tools
L = Left hand tool

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

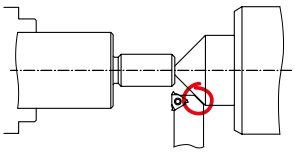
Conventional



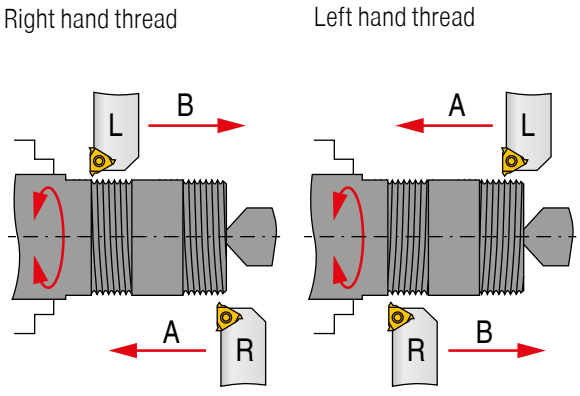
- Right-hand and left-hand version of indexable insert, therefore operation only in one direction
- For every pitch 4 threading inserts are necessary (right – left, internal – external)



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



- Poor accessibility
- Collision danger

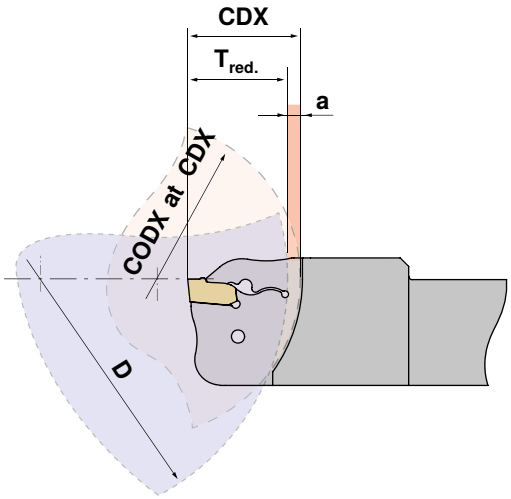


- With conventional thread turning the correction of the helix angle is necessary, therefore a high degree of application know-how is required
- Can only be operated in one direction

11

ModularClamp

GX | SX | LX | FX



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:

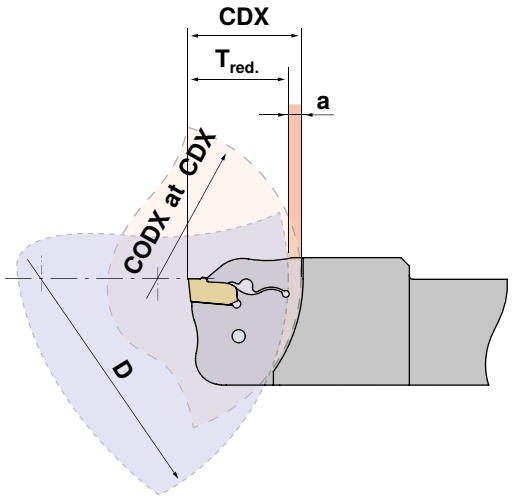
E25R**21**-GX24-3

Size 25 — CDX = 21 mm, Ø 75 mm

D = Ø 100 mm — CDX–a = $T_{red.}$ 21–2 = 19 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 = Ø 200 mm	CDX–a = $T_{red.}$ 33–1,5 = 31,5 mm

Clamping Method – SX-System

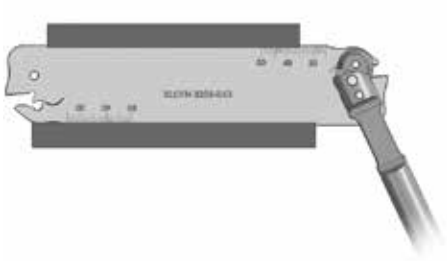
System function – inserting and removing the cutting inserts

Precision system for internal and external grooving.

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

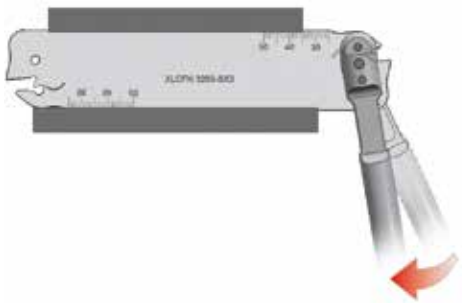
With this alternate system the material always remains in its flexible range and provides a substantial increase in tool life.

1



Locate wrench into blade with pins located in two holes

2

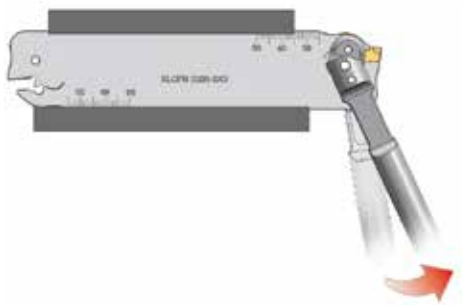


Movement of the fitting key in the direction of the insert seat opens the tool.

3

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

4



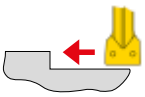
Moving the key forward causes the insert seat to close and clamp the insert.

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.

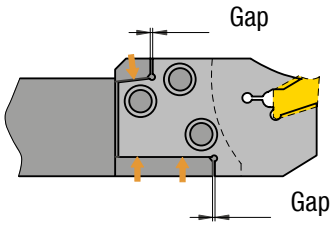
Maximum blade projection when turning

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



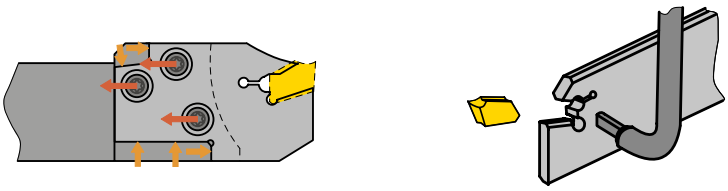
Clamping function – ModularClamp-Module

Module unclamped



- Gap between module and support face for axial clamping

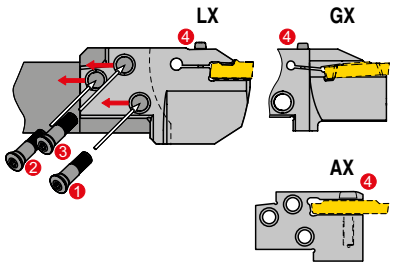
Module clamped



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

GX LX AX

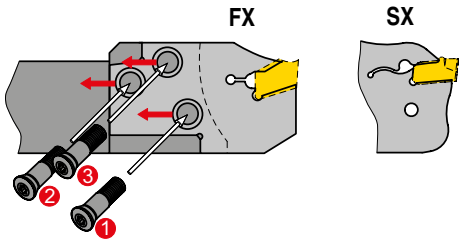
Active insert clamping



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

FX SX

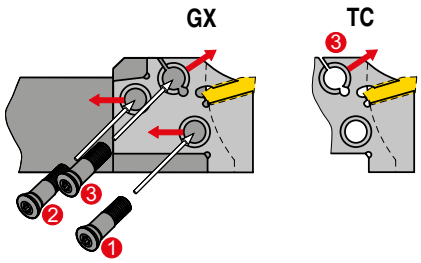
Self clamping of the insert



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

GX TC

Active insert clamping

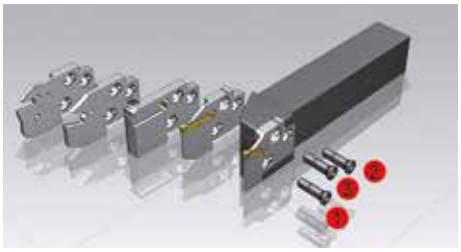


Clamping screws 1 and 2 are used for clamping the module.
Important: first tighten clamp screws 1 and 2.
Then clamp the insert with screw 3.

11

Torque Moment ModularClamp Module Screws

ModularClamp – Tool holder



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

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

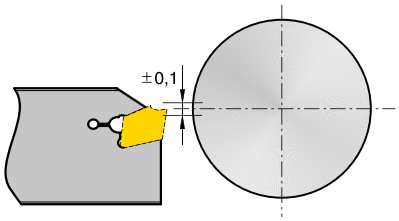
Tightening torque for the insert clamping

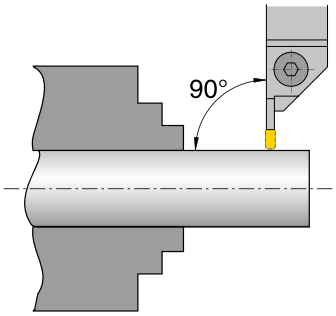
Recommended tightening torque

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

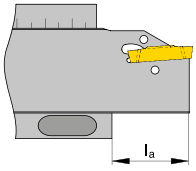
General references

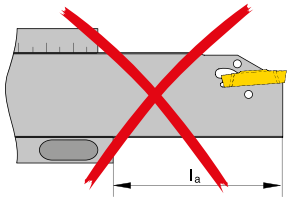
Tool position

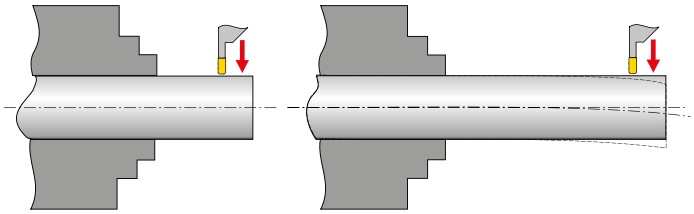




Tool overhang

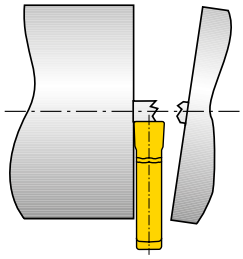




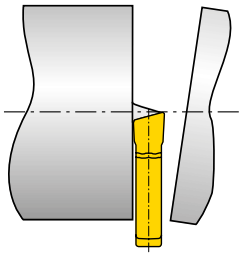


As a rule of thumb: Overhang l_a should not be greater than 8xs (Groove width).

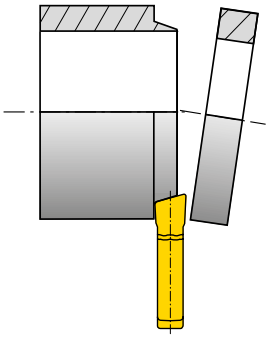
References for Parting off



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

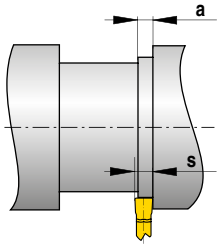


For parting pip-free, use R or L inserts. In order to minimize lateral deflection reduce feed by approx. 20–50 %.

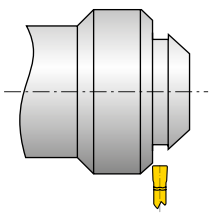


In order to prevent ring formation, use R or L inserts. Reduce feed „f“ because of lateral deflection by approx. 20–50 %.

References for grooving

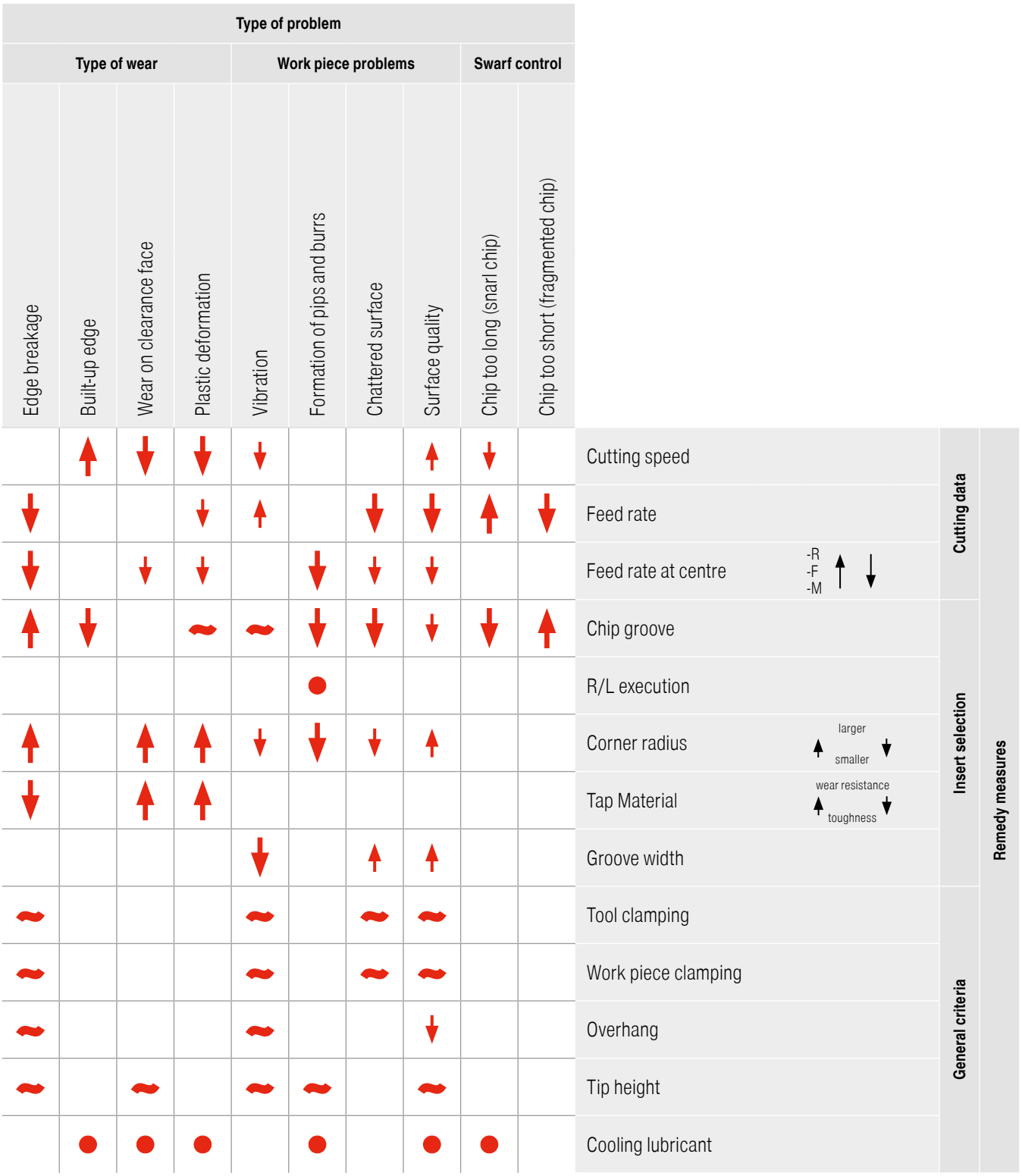


When grooving with an axial displacement the width **„a“** should amount to at least 70 % of the grooving width **„s“**.



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

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



raise, increase large influence

raise, increase small influence

avoid, reduce large influence

avoid, reduce small influence

check, optimise

use

Trouble shooting guide for TC threading

Type of problem												
Type of wear				Workpiece				Swarf control				
Wear on clearance face	Break out cut	Plastic deformation	Built-up edge	Formation of a shoulder at the external thread Ø	Profile	Surface quality	Chatter marks, vibrations	Chip too thick	Chip too thin	Chip shape (snarl chip)		
↓		↓	↑			↑	↓				Cutting speed	Cutting data
a, b	a, b		a, b	a, b		a, b	a, b	a, b		a, b	Feed (a – over the flanks; b – Alternating flanks)	Cutting data
↑	↓	↓		↓	↓	↓	↓	↓	↑	~	Feed (Cutting depth)	Cutting data
↓	↑	↑		~	~	↑	~	↑	↓	↓	Number of passes	Cutting data
				●	●	●					Spring cut (Air cut)	Cutting data
			●			●	●			●	Chip groove	Indexable insert selection
↑	↓	↑									Tap Material (wear resistance ↑ ↓ toughness)	Indexable insert selection
				●	●	●					Full profile	Indexable insert selection
											Partial profile	Indexable insert selection
	~					~	~				Stable tool holder / insert	Various criteria
	~					~	~				Stable workpiece	Various criteria
	↓					↓	↓				Overhang	Various criteria
~	~	~			~	~	~				Tip height	Various criteria
●	●	●	●	●		●					Cooling lubricant	Various criteria

Remedy measures

11

↑ raise, increase large influence
↑ raise, increase small influence
↓ avoid, reduce large influence
↓ avoid, reduce small influence
~ check, optimise
● use

Wear causes

Wear on clearance face

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

Cause

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

Remedy

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

Edge chipping

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

Cause

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

Remedy

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

Cratering

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

Cause

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

Remedy

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

Plastic deformation

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

Cause

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

Remedy

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

Built-up edge

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

Cause

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

Remedy

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

Notch wear

Contraction at maximum cutting depth.

Cause

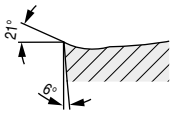
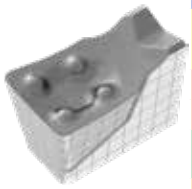
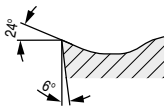
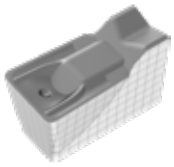
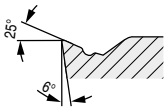
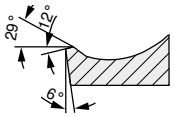
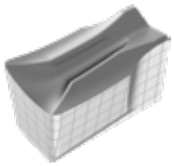
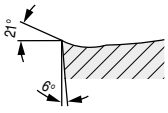
- Oxidation at the cutting edge
- Too high a temperature at the edge

Remedy

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

Chip breakers / Applications

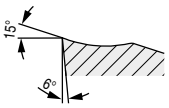
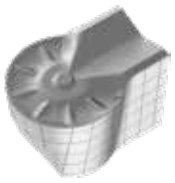
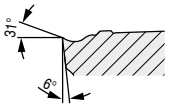
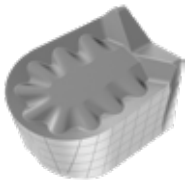
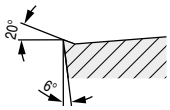
System GX

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

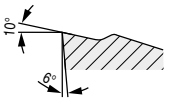
11

Chip breakers / Applications

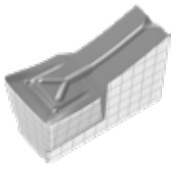
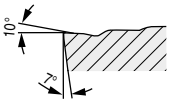
System GX

		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)** **CTP1340 (CCN1340)** CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTCP325/CTP1340 (HCR1325/CCN1340)** **CTP1340 (CCN1340)** **CTCP325/CTP1340 (HCR1325/CCN1340)** CTP1340 (CCN1340)	**CTP1340 (CCN1340)** CTP1340 (CCN1340) **CTP1340 (CCN1340)**		0,05–0,20
-M3 – Radius ▲ stable geometry ▲ medium-high feed rates ▲ high surface quality ▲ Radius grooving/copy turning		**CTCP325 (HCR1325)** CTCP335 (HCR1335) **CTCP325 (HCR1325)**	**CTCP325/CTCP335 HCR1325/HCR1335** CTCP335 (HCR1335) **CTCP325/CTCP335 (HCR1325/HCR1335)**	**CTCP335 (HCR1335)** **CTCP335 (HCR1335)**		0,07–0,20
-27P – Radius ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals		**H216T (CWK26)**	**H216T (CWK26)**	**H216T (CWK26)**		0,05–0,30

Circlip grooving

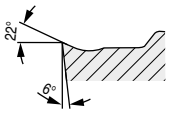
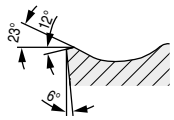
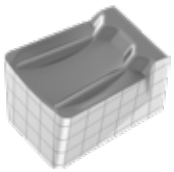
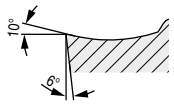
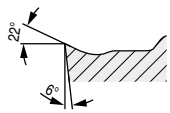
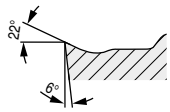
Standard ▲ positive geometry ▲ honed cuttign edge ▲ low feed rates ▲ small corner radius ▲ Circlip grooves		**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CCN1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) CTP1340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

System AX

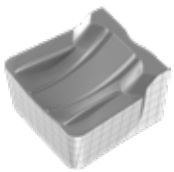
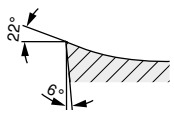
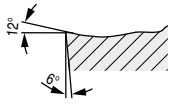
-F50 ▲ positive geometry ▲ honed cuttign edge ▲ low feed rates ▲ small corner radius ▲ Circlip grooves		**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CCN1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CCN1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340)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

Chip breakers / Applications

System SX

		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		**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340/CTPP345 (CCN1340/HCN1345)** CTP1340 (CCN1340) CTP1340/CTPP345 (CCN1340/HCN1345)	**CTPP345 (HCN1345)** **CTPP345 (HCN1345)**		0,05–0,15
-M1 ▲ very stable cutting edge ▲ medium-high feed rates ▲ for intterrupted cut ▲ for high tensile materials ▲ first choice for parting off		**CTCP325 (HCR1325)** CTCP335 (HCR1335) **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** CTP1340 (CCN1340) **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTPP345 (HCN1345)** CTPP345 (HCN1345) **CTCP325 (HCR1325)** CTPP345 (HCN1345)		0,10–0,20
-M2 ▲ stable geometry ▲ medium feed rates ▲ universal application ▲ good chip control		**CTCP325 (HCR1325)** CTCP335 (HCR1335) CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** CTP1340 (CCN1340) CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTPP345 (HCN1345)** CTPP345 (HCN1345) CTCP335 (HCR1335) CTPP345 (HCN1345)		0,075–0,20
-27P ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals		H216T (CWK26)	H216T (CWK26)	H216T (CWK26)		0,05–0,25
-M3 – Radius ▲ stable geometry ▲ medium-high feed rates ▲ high surface quality ▲ Radius grooving / Copy turning		**CTCP335 (HCR1335)** **CTCP335 (HCR1335)** **CTCP335 (HCR1335)** CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** **CTCP335/CTP1340 (HCR1335/CCN1340)** **CTCP335/CTP1340 (HCR1335/CCN1340)** CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340)		0,05–0,20

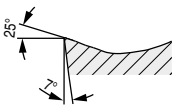
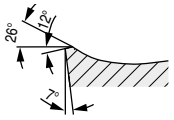
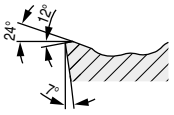
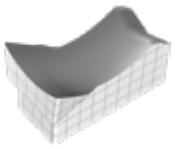
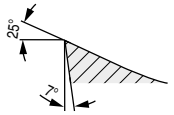
System LX

-M2 ▲ stable geometry ▲ medium feed rates ▲ universal application ▲ good chip control		**CTCP325 (HCR1325)** CTCP335 (HCR1335) **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** CTP1340 (CCN1340) **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTCP335 (HCR1335)** CTP1340 (CCN1340) **CTCP335 (HCR1335)** CTP1340 (CCN1340)		0,20–0,50
-M3 – Radius ▲ stable geometry ▲ medium-high feed rates ▲ high surface quality ▲ Radius grooving/copy turning		**CTCP325 (HCR1325)** **CTCP335 (HCR1335)** **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** **CTCP335/CTP1340 (HCR1335/CCN1340)** **CTCP335/CTP1340 (HCR1335/CCN1340)** CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340)		0,15–0,35

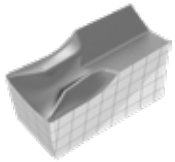
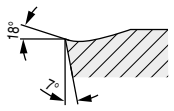
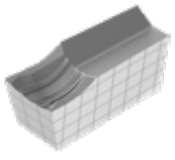
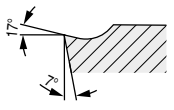
11

Chip breakers / Applications

System FX

		smooth cut	irregular cut	interrupted cut	Model	f in mm/rev.
-F1 ▲ very positive geometry ▲ low-medium feed rates ▲ low cutting forces ▲ good chip control ▲ low cutting edge build up		**CTCP325 (HCR1325)** **CTP1340 (CCN1340)** CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTP1340 (CCN1340)** **CTP1340/CTPP345 (CCN1340/HCN1345)** CTCP325/CTP1340 (HCR1325/CCN1340) CTP1340/CTPP345 (CCN1340/HCN1345)	**CTPP345 (HCN1345)** **CTPP345 (HCN1345)** CTPP345 (HCN1345)		0,05–0,15
-M1 ▲ very stable cutting edge ▲ medium-high feed rates ▲ for intterrupted cut ▲ for high tensile materials ▲ first choice for parting off		**CTCP325 (HCR1325)** **CTCP335 (HCR1335)** CTCP325 (HCR1325) CTP1340 (CCN1340)	**CTCP335/CTP1340 (HCR1335/CCN1340)** **CTP1340 (CCN1340)** **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTPP345 (HCN1345)** CTPP345 (HCN1345) **CTCP325 (HCR1325)** CTPP345 (HCN1345)		0,08–0,20
-R2 ▲ very stable cutting edge ▲ high feed rates ▲ good chip control		**CTCP325 (HCR1325)** CTP1340 (CCN1340) **CTCP325 (HCR1325)** CTP1340 (CCN1340)	**CTP1340 (CCN1340)** CTP1340/CTPP345 (CCN1340/HCN1345) **CTCP325/CTP1340 (HCR1325/CCN1340)** CTP1340/CTPP345 (CCN1340/HCN1345)	**CTPP345 (HCN1345)** CTPP345 (HCN1345) CTPP345 (HCN1345)		0,10–0,27
-27P ▲ very positive geometry ▲ ground periphery ▲ sharp cutting edge ▲ polished chip breaker ▲ first choice for non-ferrous metals		 **H216T (CWK26)** 	 **H216T (CWK26)** 	 **H216T (CWK26)** 		0,03–0,13

System MC

-F2 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ first choice for stainless materials		**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340) **CTP1340 (CCN1340)**	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340) **CTP1340 (CCN1340)**	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) 		0,05–0,10
-F3 ▲ very positive geometry ▲ honed cutting edge ▲ low feed rates ▲ low cutting forces ▲ reduced burrs / edge build up		**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340) **CTP1340 (CCN1340)**	**CTP1340 (CCN1340)** **CTP1340 (CCN1340)** CTP1340 (CCN1340) CTP1340 (CCN1340) **CTP1340 (CCN1340)**	 		0,02–0,06

Example of Coding Grooving Tools

Grooving insert

GX	16	2	E	3.00	N	0.50
Grooving system (GX)	Insert length (16 mm)	Width class of the holder / module or support surface (2 mm)	Type of insert, application	Groove width (3.0 mm)	Insert seat N = Neutral L = Left Handed R = Right Handed	Corner radius size (0.5 mm)

Module

E	25	R	12	GX	16	2
Application E = external I = internal	Size (25 mm)	Module version R = Right Handed L = Left Handed	Maximum groove depth (12 mm)	Grooving system (GX)	Insert size (16 mm)	Width class 2

Basic holder

E	25	R	00	2525	L
Application E = external I = internal	Size (25 mm)	Holder version R = Right Handed L = Left Handed	Approach angle 0°	Shank type 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 25x25 mm	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

HCR1325

- Carbide, TiCN-Al_2O_3-coated
- ISO | **P25 I K30** | M20
- The wear-resistant solution for steel and cast iron materials at high cutting speeds

CTCP335

HCR1335

- Carbide, TiCN-Al_2O_3-coated
- ISO | **P35** | M30 | **K35**
- The reliable choice for machining steel and cast iron materials

CTPP345

HCN1345

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

CTP1340

CCN1340

- 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

CTPP520

DPX1520

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

CTPP535

DPX1535

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

H216T

CWK26

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

CWX500

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

Application

Grade designation		Standard designation	ISO application range	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat resistant alloys S
Grooving								
CTCP325 (HCR1325)	DRAGONSKIN	HC-P25		●				
		HC-M20			○			
		HC-K30				●		
CTCP335 (HCR1335)	DRAGONSKIN	HC-P35		●				
		HC-K35			●			
		HC-M30				○		
CTPP345 (HCN1345)	DRAGONSKIN	HC-P45		●				
		HC-M40			●			
		HC-S40						○
CTP1340 (CCN1340)	DRAGONSKIN	HC-P30		●				
		HC-M25			●			
		HC-K30				●		
		HC-N30					○	
		HC-S30						●
H216T (CWK26)		HW-K15				●		
		HW-N15					●	
TC thread								
CTPP520 (DPX1520)	DRAGONSKIN	HC-P20		●				
		HC-M15			●			
		HC-K25				●		
		HC-N25					○	
		HC-S25						○
CTPP535 (DPX1535)	DRAGONSKIN	HC-P35		●				
		HC-M30			●			
		HC-N30					○	
		HC-S30						●
H216T (CWK26)		HW-K15				●		
		HW-N15					●	

ISO application range: 01 05 10 15 20 25 30 35 40 45 50

● Main Application
○ Extended application

wear-resistant v_c + ○ ◌ v_c – tough

11