C.P.T.
Präzisions Werkzeuge

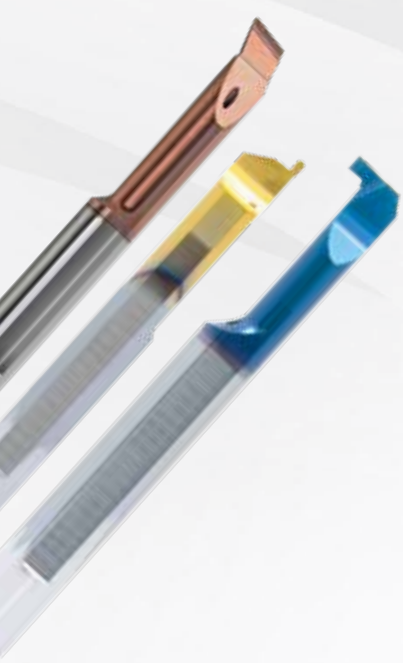
Promotion valid from
01.09 – 30.11.2024

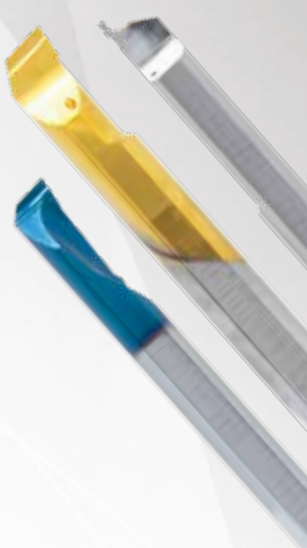
Promo koda
Tiny-24

TINY TOOLS PROMO

BUY 20 TINY TOOLS, PAY ONLY 15

(The 5 cheapest ones are for free.)





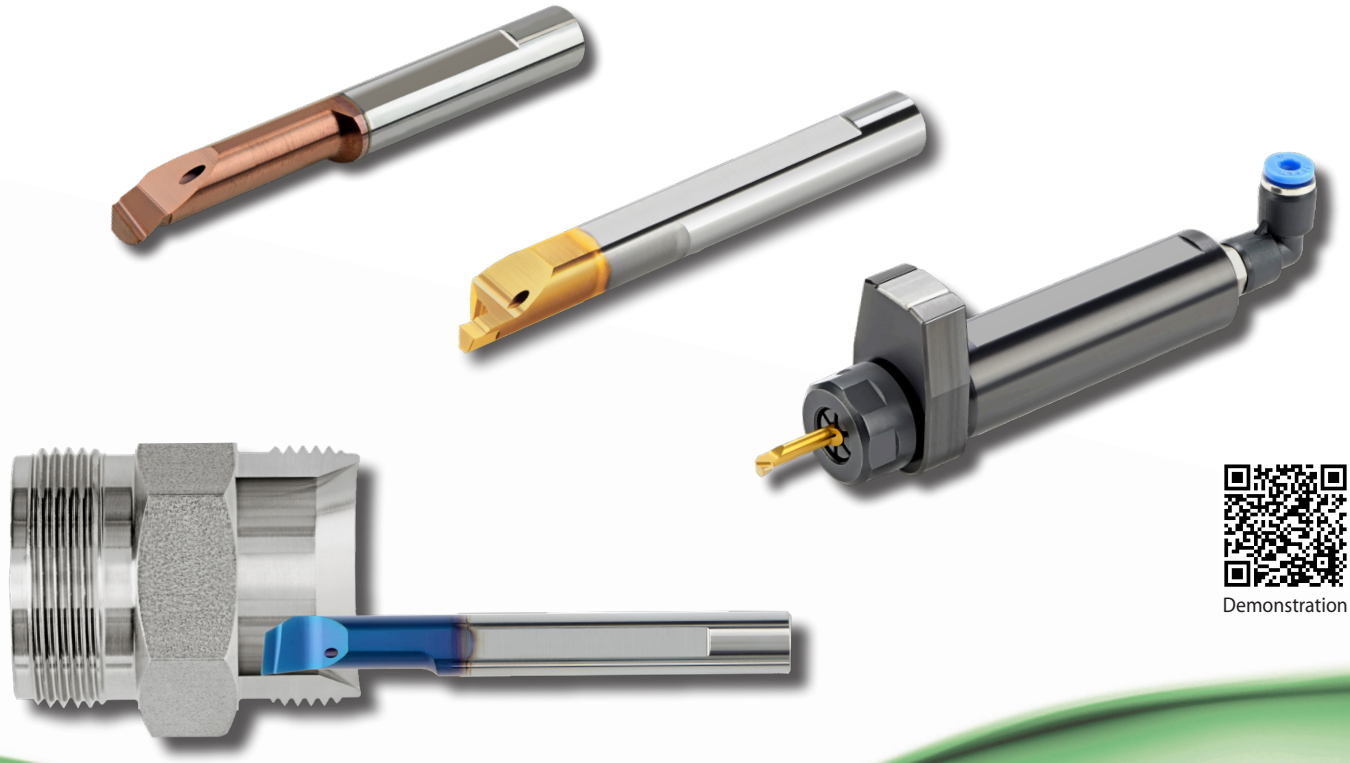
When ordering 20 Tiny Tools (free choice), the 5 cheapest ones are for free.
Can not be combined with the tiny tool + holder promo (TinyH-24).

C.P.T.
Präzisions Werkzeuge
info@cpt-werkzeuge.de
www.cpt-werkzeuge.de

Supervised by:

ZIBTRPRO
tehnologija obdelave · vpenjalni sistemi

Please specify in your order the article numbers of the choosen tiny tools and the promotion code: **Tiny-24**.

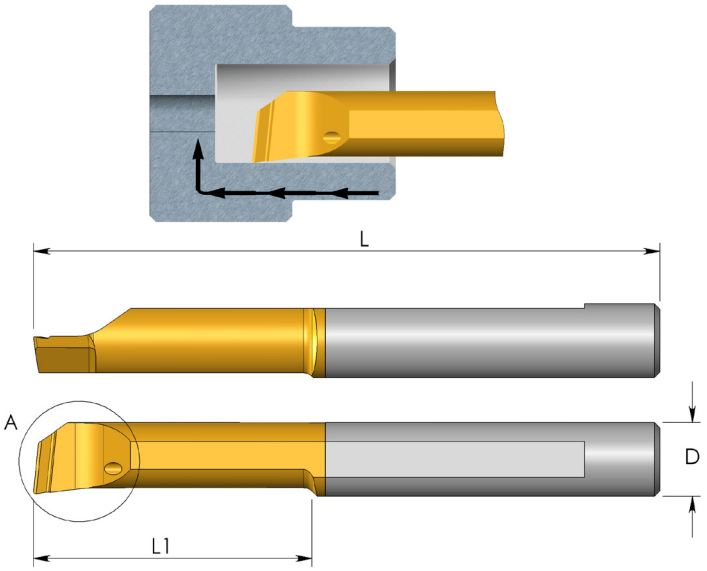


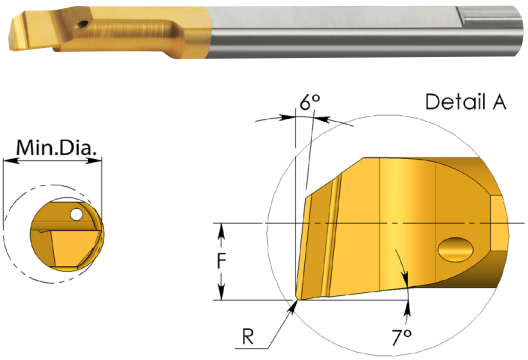
Demonstration

Solid Carbide tools for working in small bores

These tools are made for the high-tech, medical and small component industry. All tools include through coolant enabling the cooling fluid to reach the cutting edge efficiently, for easy chip removal and smooth cutting operations.

MTR Bars Boring





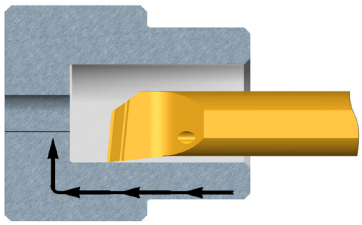
Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

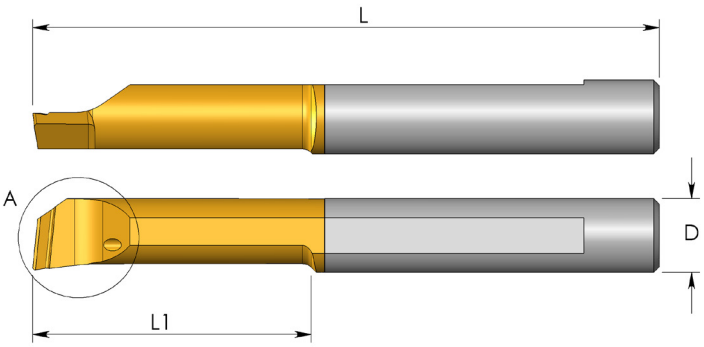
D	Ordering Code	L	L1	R	F	Min. Dia.	Holder
3.0	MTR 1 R0 L6	39	6	0	0.5	1.0	SIM ... H3
	MTR 1 R0.05 L4	39	4	0.05	0.5	1.0	
	MTR 1 R0.05 L6	39	6	0.05	0.5	1.0	
3.0	MTR 1.2 R0 L7	39	7	0	0.6	1.2	SIM ... H3
	MTR 1.2 R0 L9	39	9	0	0.6	1.2	
3.0	MTR 1.5 R0 L6	39	6	0	0.7	1.5	SIM ... H3
	MTR 1.5 R0.1 L6	39	6	0.10	0.7	1.5	
3.0	MTR 2 R0 L10	39	10	0	0.8	2.1	SIM ... H3
	MTR 2 R0.05 L5	39	5	0.05	0.8	2.1	
	MTR 2 R0.05 L10	39	10	0.05	0.8	2.1	
	MTR 2 R0.1 L10	39	10	0.10	0.8	2.1	
	MTR 2 R0.1 L15	39	15	0.10	0.8	2.1	
	MTR 2 R0.15 L5	39	5	0.15	0.8	2.1	
	MTR 2 R0.15 L10	39	10	0.15	0.8	2.1	
4.0	MTR 2.5 R0 L10	51	10	0	1.0	2.5	SIM ... H4
	MTR 2.5 R0.1 L10	51	10	0.10	1.0	2.5	
	MTR 2.5 R0.1 L15	51	15	0.10	1.0	2.5	
3.0	MTR 3 R0.05 L10	39	10	0.05	1.3	3.1	SIM ... H3
	MTR 3 R0.05 L15	39	15	0.05	1.3	3.1	
	MTR 3 R0.1 L10	39	10	0.10	1.3	3.1	
	MTR 3 R0.1 L15	39	15	0.10	1.3	3.1	
	MTR 3 R0.2 L10	39	10	0.20	1.3	3.1	
	MTR 3 R0.2 L15	39	15	0.20	1.3	3.1	
4.0	MTR 4 R0.05 L15	51	15	0.05	1.7	4.1	SIM ... H4
	MTR 4 R0.05 L22	51	22	0.05	1.7	4.1	
	MTR 4 R0.1 L10	51	10	0.10	1.7	4.1	
	MTR 4 R0.1 L15	51	15	0.10	1.7	4.1	
	MTR 4 R0.1 L22	51	22	0.10	1.7	4.1	
	MTR 4 R0.2 L10	51	10	0.20	1.7	4.1	
	MTR 4 R0.2 L15	51	15	0.20	1.7	4.1	
	MTR 4 R0.2 L22	51	22	0.20	1.7	4.1	
	MTR 4 R0.2 L30	62	30	0.20	1.7	4.1	

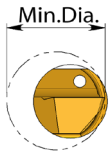
For additional holders see page A06-32 to 41

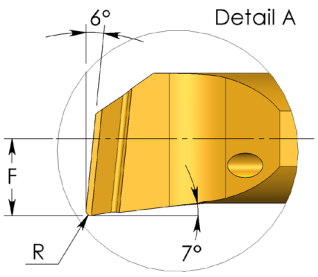
● First choice ○ Alternative

MTR Bars Boring







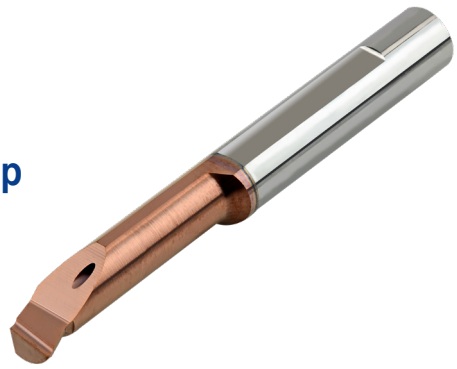


D	Ordering Code	L	L1	R	F	Min Dia.	Holder
5.0	MTR 5 R0.05 L15	51	15	0.05	2.1	5.1	SIM ... H5
	MTR 5 R0.1 L15	51	15	0.10	2.1	5.1	
	MTR 5 R0.1 L22	51	22	0.10	2.1	5.1	
	MTR 5 R0.1 L30	76	30	0.10	2.1	5.1	
	MTR 5 R0.2 L10	51	10	0.20	2.1	5.1	
	MTR 5 R0.2 L15	51	15	0.20	2.1	5.1	
	MTR 5 R0.2 L22	51	22	0.20	2.1	5.1	
	MTR 5 R0.2 L30	76	30	0.20	2.1	5.1	
	MTR 5 R0.2 L40	76	40	0.20	2.1	5.1	
6.0	MTR 6 R0.05 L15	51	15	0.05	2.8	6.1	SIM ... H6
	MTR 6 R0.05 L22	51	22	0.05	2.8	6.1	
	MTR 6 R0.1 L15	51	15	0.10	2.8	6.1	
	MTR 6 R0.1 L22	51	22	0.10	2.8	6.1	
	MTR 6 R0.2 L15	51	15	0.20	2.8	6.1	
	MTR 6 R0.2 L22	51	22	0.20	2.8	6.1	
	MTR 6 R0.2 L30	58	30	0.20	2.8	6.1	
	MTR 6 R0.2 L35	76	35	0.20	2.8	6.1	
	MTR 6 R0.2 L40	76	40	0.20	2.8	6.1	
7.0	MTR 7 R0.2 L22	62	22	0.20	3.3	7.1	SIM ... H7
	MTR 7 R0.2 L30	62	30	0.20	3.3	7.1	
8.0	MTR 8 R0.2 L15	64	15	0.20	3.8	8.1	SIM ... H8
	MTR 8 R0.2 L22	64	22	0.20	3.8	8.1	
	MTR 8 R0.2 L35	76	35	0.20	3.8	8.1	
10.0	MTR 10 R0.2 L35	73	35	0.20	4.8	10.1	SIM ... H10

Order example: MTR 4 R0.2 L15 BXC
For L.H. bars specify MTL instead of MTR
For additional holders see page A06-32 to 41

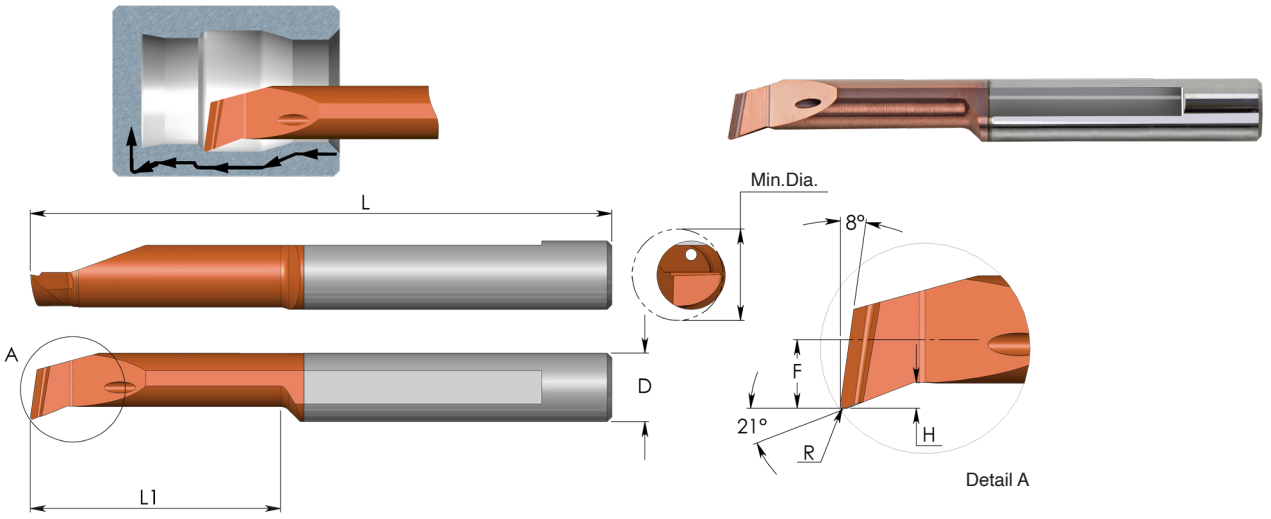
CBR Bars *Profiling and Boring*

With advanced Chip Breaker



Chip evacuation is obtained thanks to advanced Chip Breaker and the internal coolant through the tool, pushing the chips out of the hole.

Excellent solution for machining stainless steels, super alloys and other "difficult" materials that create curly chips around the tool and the application. Can be used also as general purpose for a wide range of materials.



Grade	P	M	K	N	S	H
TNX	●	●	●	●	●	●

D	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
4.0	**CBR 4 R0.2 L10**	51	10	0.2	0.4	1.8	4.1	SIM ... H4
	CBR 4 R0.2 L15	51	15	0.2	0.4	1.8	4.1	
5.0	**CBR 5 R0.2 L15**	51	15	0.2	0.8	2.3	5.1	SIM ... H5
	CBR 5 R0.2 L22	51	22	0.2	0.8	2.3	5.1	
6.0	**CBR 6 R0.2 L15**	51	15	0.2	1.0	2.8	6.1	SIM ... H6
	CBR 6 R0.2 L22	51	22	0.2	1.0	2.8	6.1	

Order example: CBR 5 R0.2 L15 TNX

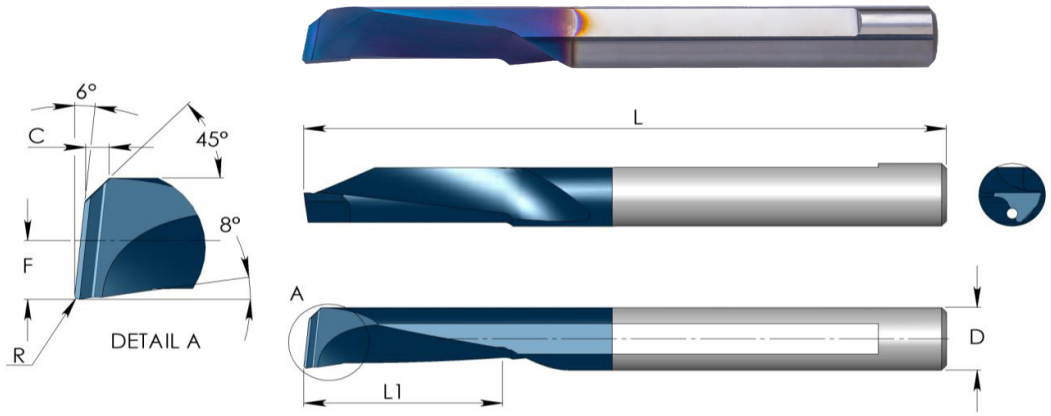
For L.H. bars specify CBL instead of CBR

For additional holders see page A06-32 to 41

● First choice ○ Alternative

CMR Multi-Task Tiny Bars

Multi-Task Tiny Tool CMR for Boring, Turning, Facing and Chamfering with a single tool



Grade	P	M	K	N	S	H
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	F	C	Hole Dia.*	Holder
4.0	**CMR 4 R0.1 L10**	51	10	0.1	1.8	1.1	4.0	SIM...H4
	CMR 4 R0.1 L15	51	15	0.1	1.8	1.1	4.0	
5.0	**CMR 5 R0.2 L10**	51	10	0.2	2.1	1.3	5.0	SIM...H5
	CMR 5 R0.2 L15	51	15	0.2	2.1	1.3	5.0	
6.0	**CMR 6 R0.2 L12**	58	12	0.2	2.8	1.5	6.0	SIM...H6
	CMR 6 R0.2 L18	58	18	0.2	2.8	1.5	6.0	

Order example: CMR 6 R0.2 L12 BMK

● First choice ○ Alternative

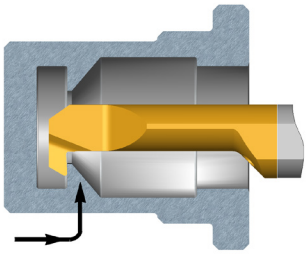
For L.H. bars specify CML instead of CMR

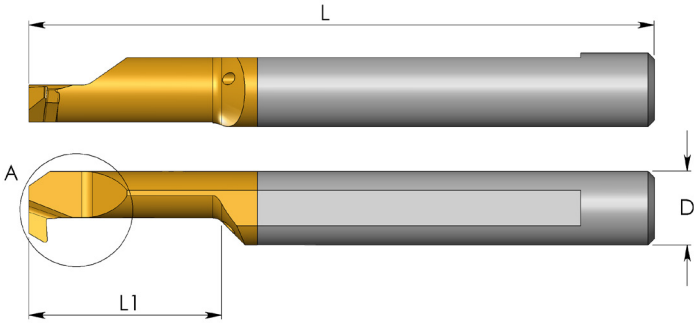
* The minimum diameter the tool can produce from full material

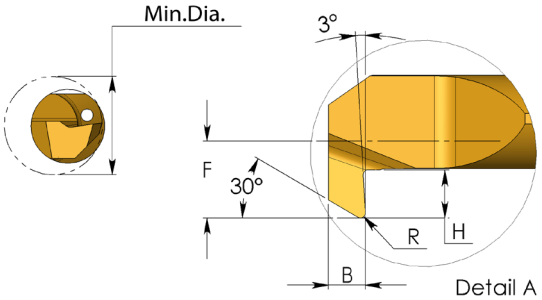
For additional holders see page A06-32 to 41

Demonstration

MXR Bars Back Turning







Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	B	R	H	F	Min. Dia.	Holder
4.0	**MXR 4 R0.1 L10**	51	10	1.3	0.10	0.5	1.3	3.1	SIM ... H4
4.0	**MXR 4 R0.15 L10**	51	10	1.3	0.15	0.8	1.7	4.1	SIM ... H4
	MXR 4 R0.15 L15	51	15	1.3	0.15	0.8	1.7	4.1	
5.0	**MXR 5 R0.2 L15**	51	15	1.5	0.20	1.0	2.3	5.1	SIM ... H5
	MXR 5 R0.2 L22	51	22	1.5	0.20	1.0	2.3	5.1	
6.0	**MXR 6 R0.2 L15**	51	15	1.5	0.20	1.8	2.8	6.1	SIM ... H6
	MXR 6 R0.2 L22	51	22	1.5	0.20	1.8	2.8	6.1	

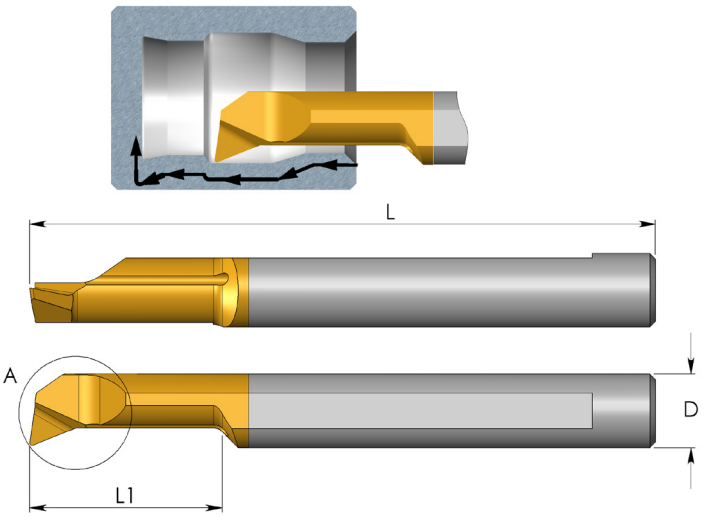
Order example: MXR 4 R0.15 L15 BXC

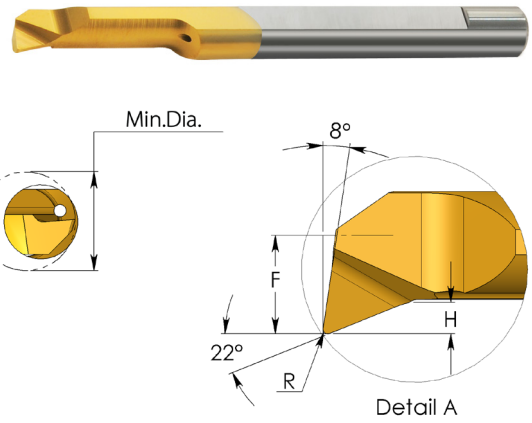
● First choice ○ Alternative

For L.H. bars specify MXL instead of MXR

For additional holders see page A06-32 to 41

MPR Bars *Profiling and Boring*





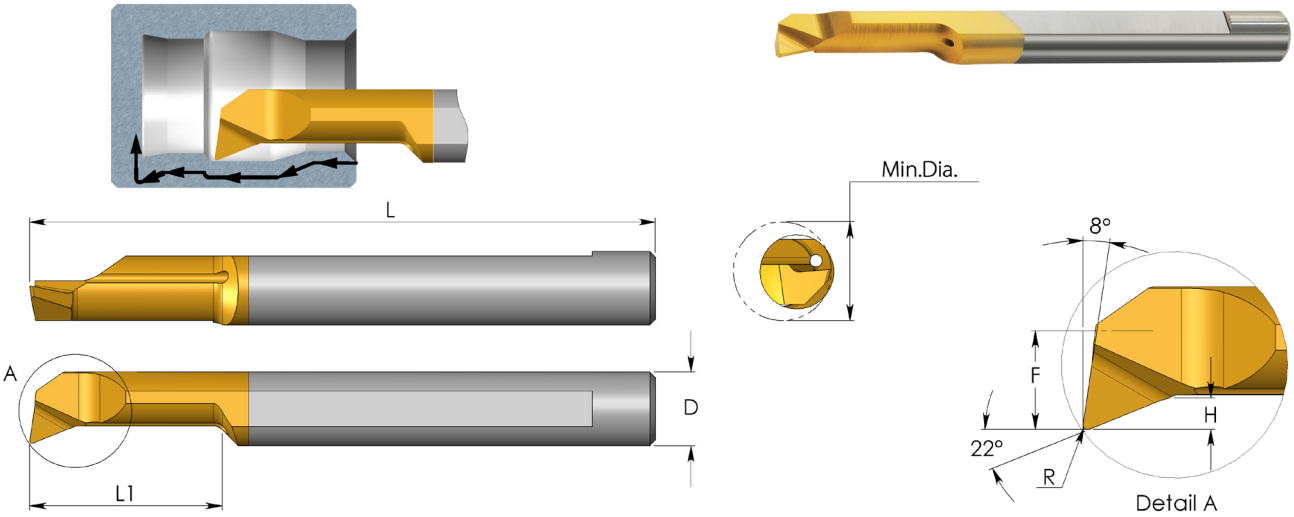
Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
3.0	MPR 1 R0.05 L4	39	4	0.05	0.2	0.5	1.0	SIM ... H3
	MPR 1 R0.05 L8	39	8	0.05	0.2	0.5	1.0	
3.0	MPR 1.2 R0.1 L5	39	5	0.10	0.3	0.6	1.2	SIM ... H3
	MPR 1.2 R0.1 L9	39	9	0.10	0.3	0.6	1.2	
3.0	MPR 1.5 R0.05 L10	39	10	0.05	0.3	0.7	1.5	SIM ... H3
	MPR 1.5 R0.1 L6	39	6	0.10	0.3	0.7	1.5	
	MPR 1.5 R0.1 L10	39	10	0.10	0.3	0.7	1.5	
3.0	MPR 2 R0.05 L10	39	10	0.05	0.5	0.8	2.1	SIM ... H3
	MPR 2 R0.1 L10	39	10	0.10	0.5	0.8	2.1	
	MPR 2 R0.15 L5	39	5	0.15	0.5	0.8	2.1	
	MPR 2 R0.15 L10	39	10	0.15	0.5	0.8	2.1	
	MPR 2 R0.15 L15	39	15	0.15	0.5	0.8	2.1	
4.0	MPR 2.5 R0.1 L10	51	10	0.10	0.6	1.0	2.5	SIM ... H4
	MPR 2.5 R0.1 L15	51	15	0.10	0.6	1.0	2.5	
3.0	MPR 3 R0.05 L10	39	10	0.05	0.7	1.3	3.1	SIM ... H3
	MPR 3 R0.05 L15	39	15	0.05	0.7	1.3	3.1	
	MPR 3 R0.1 L10	39	10	0.10	0.7	1.3	3.1	
	MPR 3 R0.1 L15	39	15	0.10	0.7	1.3	3.1	
	MPR 3 R0.1 L22	47	22	0.10	0.7	1.3	3.1	
	MPR 3 R0.2 L10	39	10	0.20	0.7	1.3	3.1	
	MPR 3 R0.2 L15	39	15	0.20	0.7	1.3	3.1	
	MPR 3 R0.2 L22	47	22	0.20	0.7	1.3	3.1	
4.0	MPR 4 R0.1 L10	51	10	0.10	0.8	1.7	4.1	SIM ... H4
	MPR 4 R0.1 L15	51	15	0.10	0.8	1.7	4.1	
	MPR 4 R0.1 L22	51	22	0.10	0.8	1.7	4.1	
	MPR 4 R0.2 L10	51	10	0.20	0.8	1.7	4.1	
	MPR 4 R0.2 L15	51	15	0.20	0.8	1.7	4.1	
	MPR 4 R0.2 L22	51	22	0.20	0.8	1.7	4.1	
	MPR 4 R0.2 L30	62	30	0.20	0.8	1.7	4.1	

For additional holders see page A06-32 to 41

● First choice ○ Alternative

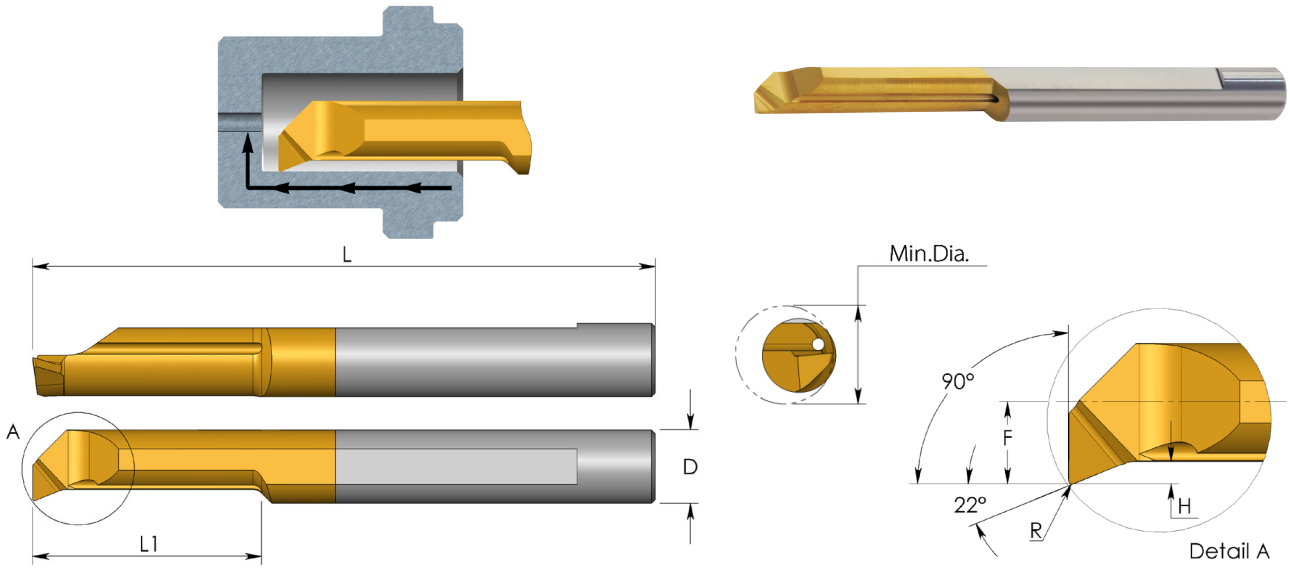
MPR Bars *Profiling and Boring*



D	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
5.0	MPR 5 R0.1 L22	51	22	0.10	1.2	2.1	5.1	SIM ... H5
	MPR 5 R0.1 L30	76	30	0.10	1.2	2.1	5.1	
	MPR 5 R0.2 L10	51	10	0.20	1.2	2.1	5.1	
	MPR 5 R0.2 L15	51	15	0.20	1.2	2.1	5.1	
	MPR 5 R0.2 L22	51	22	0.20	1.2	2.1	5.1	
	MPR 5 R0.2 L30	76	30	0.20	1.2	2.1	5.1	
	MPR 5 R0.2 L40	76	40	0.20	0.9	2.1	5.1	
6.0	MPR 6 R0.2 L10	51	10	0.20	1.4	2.8	6.1	SIM ... H6
	MPR 6 R0.2 L15	51	15	0.20	1.4	2.8	6.1	
	MPR 6 R0.2 L22	51	22	0.20	1.4	2.8	6.1	
	MPR 6 R0.2 L30	76	30	0.20	1.4	2.8	6.1	
	MPR 6 R0.2 L40	76	40	0.20	1.0	2.8	6.1	
7.0	MPR 7 R0.2 L22	62	22	0.20	1.5	3.3	7.1	SIM ... H7
	MPR 7 R0.2 L30	62	30	0.20	1.5	3.3	7.1	
	MPR 7 R0.2 L35	62	35	0.20	1.5	3.3	7.1	
8.0	MPR 8 R0.2 L15	64	15	0.20	1.6	3.8	8.1	SIM ... H8
	MPR 8 R0.2 L22	64	22	0.20	1.6	3.8	8.1	
	MPR 8 R0.2 L35	76	35	0.20	1.6	3.8	8.1	
10.0	MPR 10 R0.2 L35	73	35	0.20	2.0	4.8	10.1	SIM ... H10

Order example: MPR 4 R0.2 L15 BXC
For L.H. Bars specify MPL instead of MPR
For additional holders see page A06-32 to 41

MUR Bars *Profiling, 90° Face Cutting*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
3.0	**MUR 3 R0.05 L10**	39	10	0.05	0.4	1.3	3.1	SIM ... H3
	MUR 3 R0.05 L15	39	15	0.05	0.4	1.3	3.1	
4.0	**MUR 4 R0.1 L10**	51	10	0.10	0.5	1.7	4.1	SIM ... H4
	MUR 4 R0.1 L15	51	15	0.10	0.5	1.7	4.1	
5.0	**MUR 5 R0.15 L15**	51	15	0.15	0.7	2.1	5.1	SIM ... H5
	MUR 5 R0.15 L22	51	22	0.15	0.7	2.1	5.1	
6.0	**MUR 6 R0.15 L15**	51	15	0.15	0.9	2.8	6.1	SIM ... H6
	MUR 6 R0.15 L22	51	22	0.15	0.9	2.8	6.1	
8.0	**MUR 8 R0.2 L22**	64	22	0.20	1.1	3.8	8.1	SIM ... H8

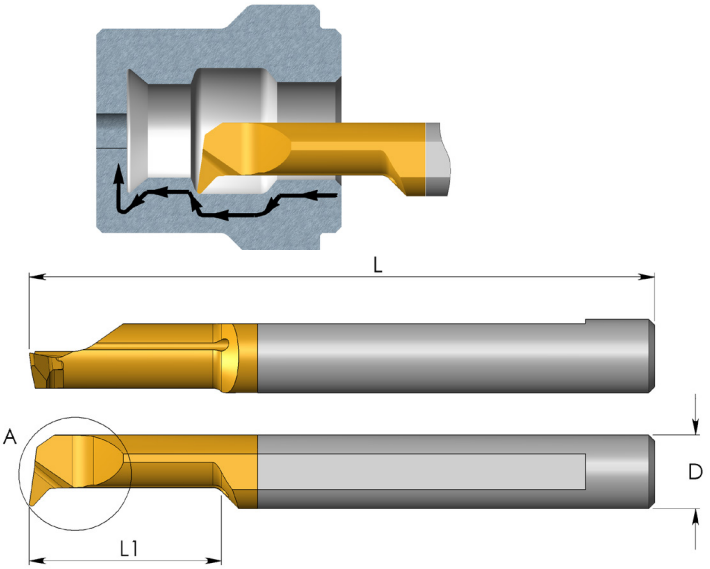
Order example: MUR 5 R0.15 L15 BXC

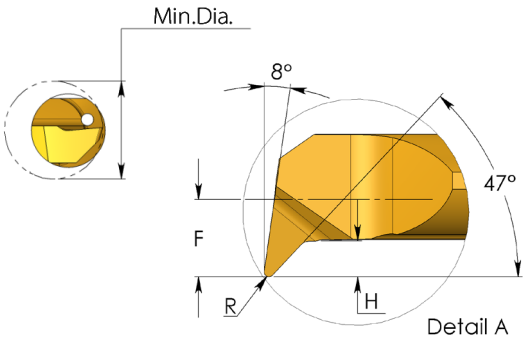
● First choice ○ Alternative

For L.H. bars specify MUL instead of MUR

For additional holders see page A06-32 to 41

MQR Bars *Profiling and Boring*





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
3.0	**MQR 3 R0.1 L10**	39	10	0.10	0.6	1.3	3.1	SIM ... H3
	MQR 3 R0.1 L15	39	15	0.10	0.6	1.3	3.1	
4.0	**MQR 4 R0.1 L22**	51	22	0.10	0.8	1.8	4.1	SIM ... H4
	MQR 4 R0.2 L10	51	10	0.20	0.8	1.8	4.1	
	MQR 4 R0.2 L15	51	15	0.20	0.8	1.8	4.1	
	MQR 4 R0.2 L22	51	22	0.20	0.8	1.8	4.1	
5.0	**MQR 5 R0.2 L15**	51	15	0.20	1.0	2.3	5.1	SIM ... H5
	MQR 5 R0.2 L22	51	22	0.20	1.0	2.3	5.1	
6.0	**MQR 6 R0.2 L15**	51	15	0.20	1.4	2.8	6.1	SIM ... H6
	MQR 6 R0.2 L22	51	22	0.20	1.4	2.8	6.1	
	MQR 6 R0.2 L30	58	30	0.20	1.4	2.8	6.1	
8.0	**MQR 8 R0.2 L22**	64	22	0.20	1.6	3.8	8.1	SIM ... H8
	MQR 8 R0.2 L27	64	27	0.20	2.0	3.8	8.1	

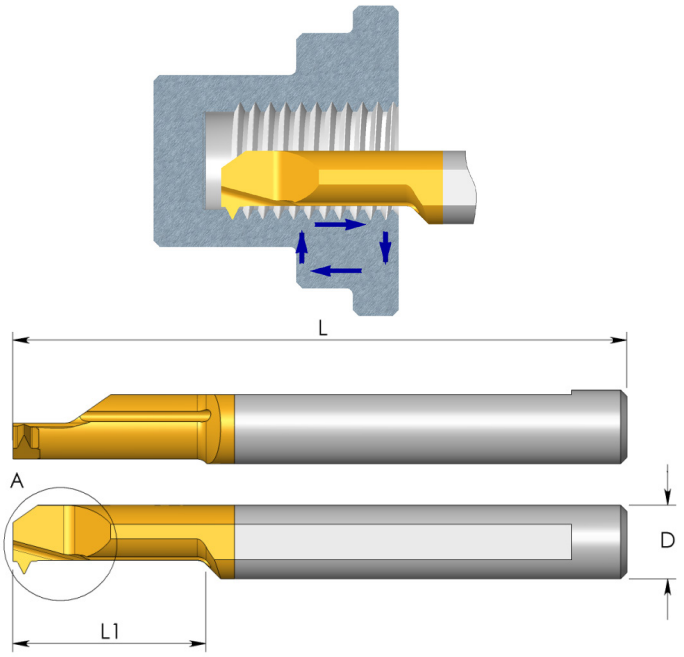
Order example: MQR 5 R0.2 L15 BXC

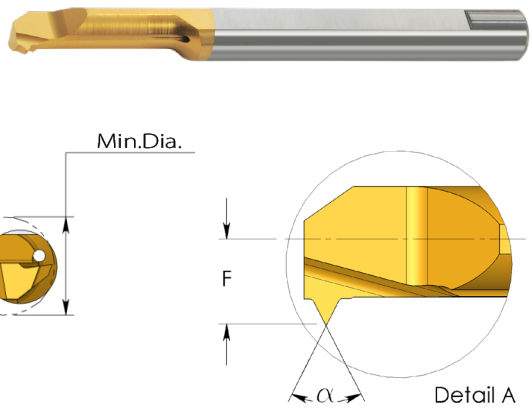
● First choice ○ Alternative

For L.H. bars specify MQL instead of MQR

For additional holders see page A06-32 to 41

MIR Bars *Threading*





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Partial Profile 55°

D	Ordering Code	Pitch Range mm	Pitch Range TPI	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 3 L15 A55**	0.5 - 1.0	48 - 24	39	15	55	1.4	3.2	SIM ... H3
4.0	**MIR 4 L15 A55**	0.5 - 1.0	48 - 24	51	15	55	1.8	4.1	SIM ... H4
5.0	**MIR 5 L15 A55**	0.5 - 1.25	48 - 20	51	15	55	2.3	5.1	SIM ... H5
	MIR 5 L22 A55	0.5 - 1.25	48 - 20	51	22	55	2.3	5.1	
6.0	**MIR 6 L15 A55**	0.5 - 1.5	48 - 16	51	15	55	2.6	6.0	SIM ... H6
	MIR 6 L22 A55	0.5 - 1.5	48 - 16	51	22	55	2.6	6.0	

Order example: MIR 5 L15 A55 BXC

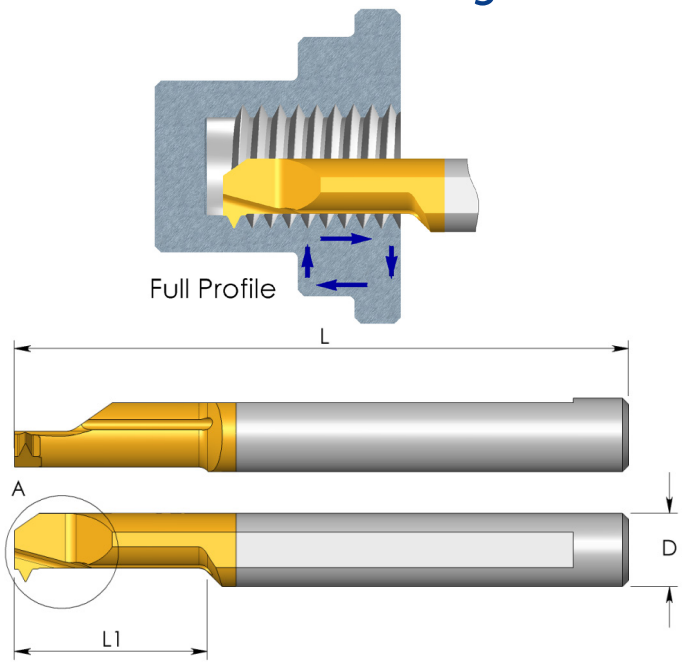
Partial Profile 60°

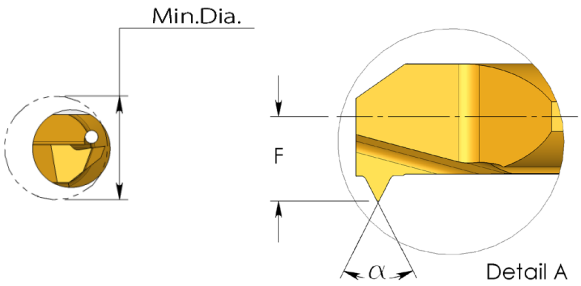
D	Ordering Code	Pitch Range mm	Pitch Range TPI	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 1 L5 A60**	0.25 - 0.35	100 - 72	39	4.8	60	0.55	1.2	SIM ... H3
	MIR 1.5 L6 A60	0.35 - 0.45	72 - 56	39	6.3	60	0.65	1.4	
3.0	**MIR 2 L8 A60**	0.45 - 0.7	56 - 32	39	8	60	1.0	2.1	SIM ... H3
3.0	**MIR 3 L15 A60**	0.7 - 1.0	32 - 24	39	15	60	1.4	3.2	SIM ... H3
4.0	**MIR 4 L17 A60**	0.35 - 0.45	72 - 56	51	17	60	1.8	4.1	SIM ... H4
	MIR 4 L15 A60	0.8 - 1.0	32 - 24	51	15	60	1.8	4.1	
5.0	**MIR 5 L15 A60**	1.0 - 1.25	24 - 20	51	15	60	2.3	5.1	SIM ... H5
	MIR 5 L22 A60	1.0 - 1.25	24 - 20	51	22	60	2.3	5.1	
6.0	**MIR 6 L15 A60**	1.0 - 1.5	24 - 16	51	15	60	2.6	6.0	SIM ... H6
	MIR 6 L22 A60	1.0 - 1.5	24 - 16	51	22	60	2.6	6.0	
8.0	**MIR 8 L22 A60**	1.0 - 2.0	24 - 13	64	22	60	3.6	8.0	SIM ... H8

Order example: MIR 5 L15 A60 BXC
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MIR Bars *Threading*





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Full Profile - ISO 60°

D	Ordering Code	Pitch mm	M Coarse	M Fine	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 3 L10 0.5 ISO**	0.5	M3	M3.5	39	10	60	1.0	2.4	SIM ... H3
3.0	**MIR 3 L15 0.5 ISO**	0.5		M4	39	15	60	1.4	3.2	SIM ... H3
	MIR 3 L15 0.7 ISO	0.7	M4		39	15	60	1.4	3.2	
	MIR 3 L15 0.75 ISO	0.75	M4.5		39	15	60	1.4	3.2	
4.0	**MIR 4 L15 0.5 ISO**	0.5		M5	51	15	60	1.8	4.1	SIM ... H4
	MIR 4 L15 0.75 ISO	0.75		M5	51	15	60	1.8	4.1	
	MIR 4 L15 0.8 ISO	0.8	M5		51	15	60	1.8	4.1	
5.0	**MIR 5 L15 1.0 ISO**	1.0	M6, M7	M8	51	15	60	2.2	4.9	SIM ... H5
6.0	**MIR 6 L22 1.25 ISO**	1.25	M8, M9	M10	51	22	60	2.8	6.1	SIM ... H6
	MIR 6 L22 1.5 ISO	1.5	M10, M11		51	22	60	2.8	6.1	

Order example: MIR 5 L15 1.0 ISO BXC

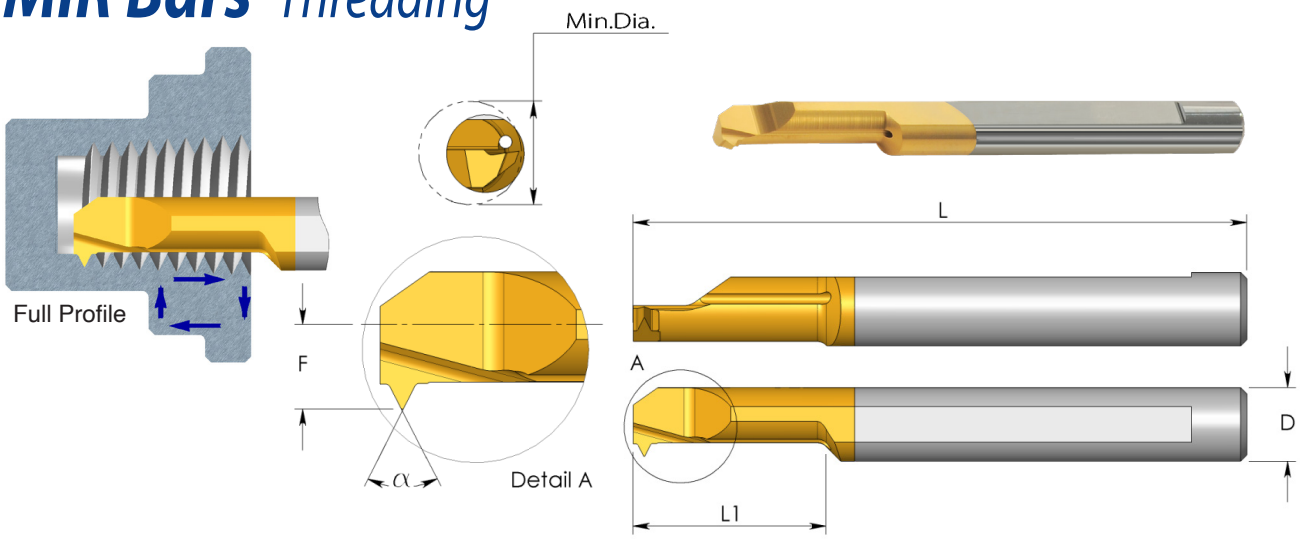
Full Profile - UN 60°

D	Ordering Code	Pitch TPI	UNC	UNF	UNEF	UNS	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 3 L10 32 UN**	32	6				39	10	60	1.0	2.7	SIM...H3
3.0	**MIR 3 L15 32 UN**	32	8	10			39	15	60	1.4	3.2	SIM...H3
	MIR 3 L15 36 UN	36		8		10	39	15	60	1.4	3.2	
4.0	**MIR 4 L15 36 UN**	36				12	51	15	60	1.8	4.1	SIM...H4
	MIR 4 L15 32 UN	32			12		51	15	60	1.8	4.1	
5.0	**MIR 5 L15 28 UN**	28		1/4			51	15	60	2.2	4.9	SIM...H5
	MIR 5 L18 20 UN	20	1/4				51	18	60	2.3	5.0	
6.0	**MIR 6 L18 24 UN**	24		5/16			51	18	60	2.8	6.5	SIM...H6
	MIR 6 L18 18 UN	18	5/6			3/8	51	18	60	2.8	6.2	

Order example: MIR 4 L15 36 UN BXC
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MIR Bars Threading



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Full Profile - MJ 60°

D	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 3 L15 0.7 MJ**	MJ4x0.7	39	15	60	1.4	3.2	SIM ... H3
4.0	**MIR 4 L15 0.8 MJ**	MJ5x0.8	51	15	60	1.8	4.1	SIM ... H4
5.0	**MIR 5 L15 1.0 MJ**	MJ6x1.0	51	15	60	2.2	4.9	SIM ... H5

Order example: MIR 4 L15 0.8 MJ BXC

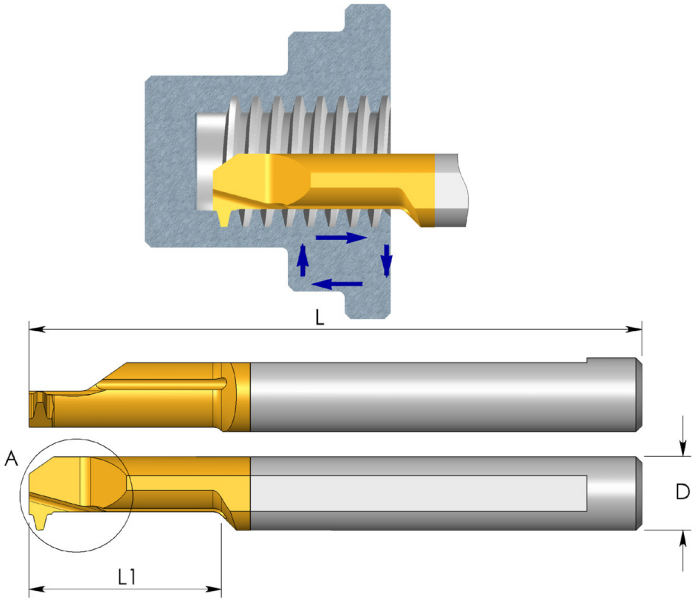
Full Profile - UNJ 60°

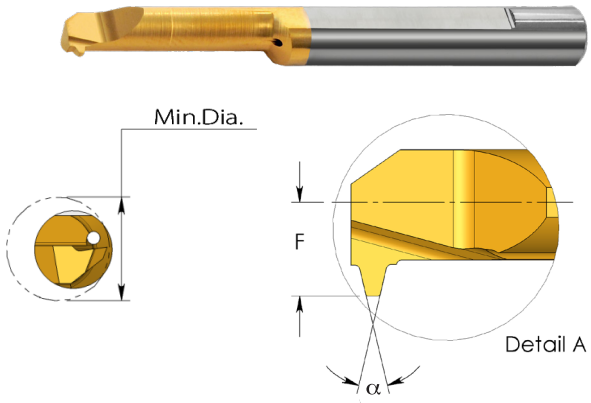
D mm	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder
3.0	**MIR 3 L15 32 UNJ**	8-32 UNJC	39	15	60	1.4	3.2	SIM...H3
5.0	**MIR 5 L15 28 UNJ**	1/4-28 UNJF	51	15	60	2.2	4.9	SIM...H5
	MIR 5 L18 20 UNJ	1/4-20 UNJC	51	18	60	2.3	5.0	SIM...H5

Order example: MIR 3 L15 32 UNJ BXC
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MIR Bars *Threading*





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Full Profile - G 55° BSP

D	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder
6.0	**MIR 6 L17 28 W**	1/16-28 BSP	51	17	55	2.8	6.5	SIM ... H6
	MIR 6 L17 19 W	1/4-19 BSP	51	17	55	2.8	7.0	

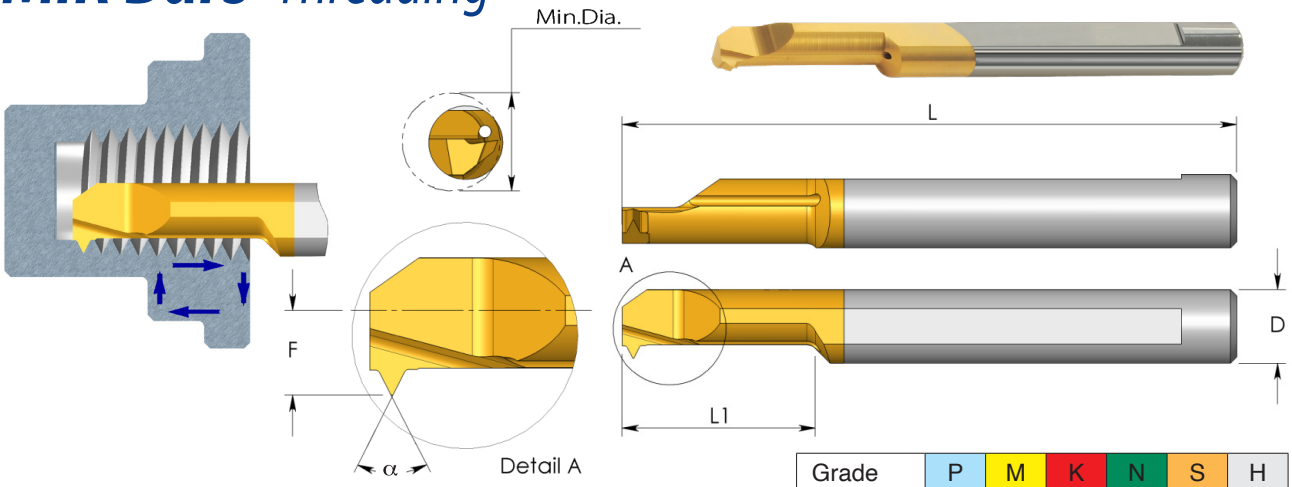
Full Profile - Whitworth 55° BSW

D	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder
5.0	**MIR 5 L17 20 W**	1/4-20 BSW	51	17	55	2.0	4.7	SIM ... H5

Order example: MIR 6 L17 28 W BMK
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MIR Bars *Threading*

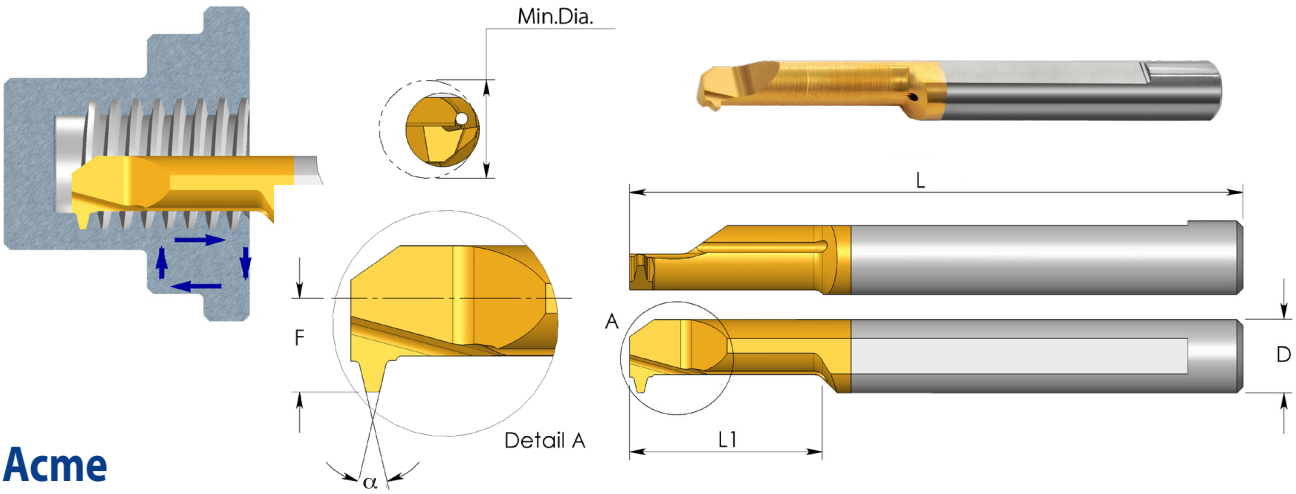


Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Full Profile - NPT 60°

D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	Min. Dia.	Holder
6.0	**MIR 6 L15 27 NPT**	27	1/16 x 27 NPT 1/8 x 27 NPT	51	15	60	2.8	5.9	SIM ... H6

Order example: MIR 6 L15 27 NPT BXC



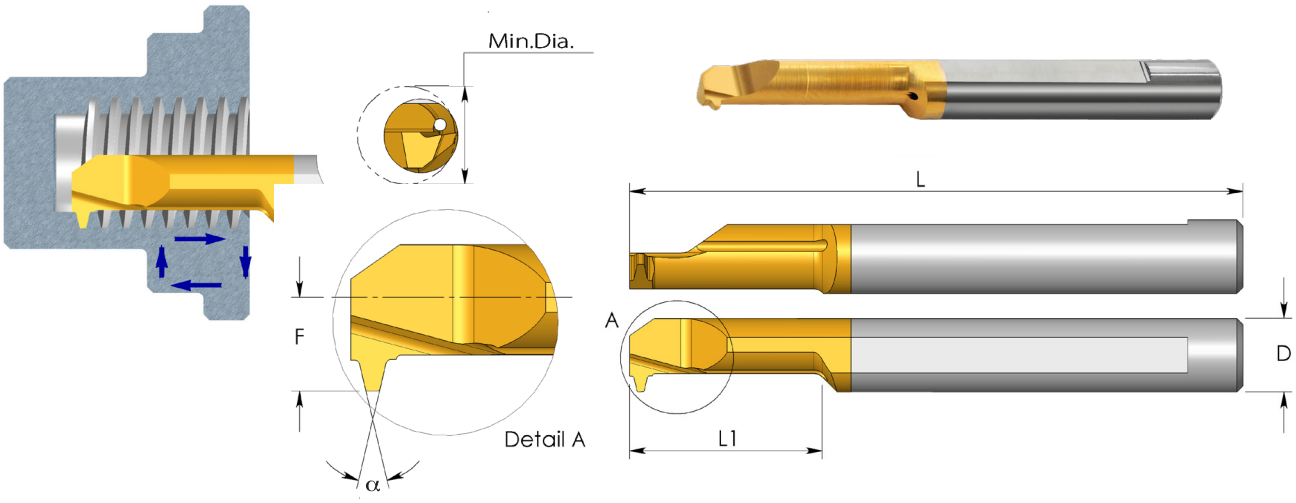
Acme

D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	Min. Dia.	Holder
4.0	**MIR 4 L15 16 ACME**	16	1/4 x 16	51	15	29	1.8	4.6	SIM ... H4
6.0	**MIR 6 L20 14 ACME**	14	5/16 x 14	51	20	29	2.8	6.0	SIM ... H6
7.0	**MIR 7 L22 12 ACME**	12	3/8 x 12 7/16 x 12	62	22	29	3.3	7.2	SIM ... H7
8.0	**MIR 8 L30 10 ACME**	10	1/2 x 10	76	30	29	3.8	10.0	SIM ... H8
10.0	**MIR 10 L35 8 ACME**	8	5/8 x 8	73	35	29	4.8	12.5	SIM ... H10
10.0	**MIR 10 L45 6 ACME**	6	3/4 x 6 7/8 x 6	105	45	29	4.8	14.6	SIM ... H10
10.0	**MIR 10 L52 5 ACME**	5	1x5	105	52	29	4.8	20.0	SIM ... H10

Order example: MIR 6 L 20 14 ACME BXC
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MIR Bars *Threading*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

Stub Acme

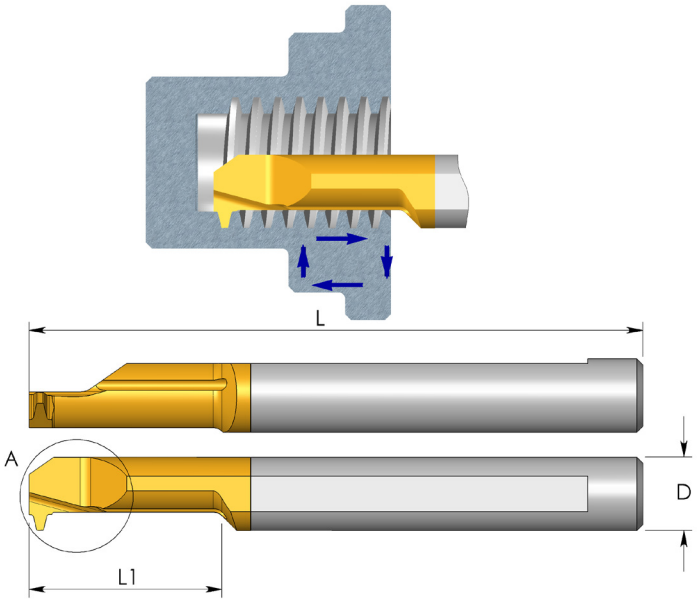
D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	Min. Dia.	Holder
4.0	**MIR 4 L15 16 STACME**	16	1/4 x 16	51	15	29	1.8	5.2	SIM ... H4
6.0	**MIR 6 L20 14 STACME**	14	5/16 x 14	51	20	29	2.8	6.6	SIM ... H6
7.0	**MIR 7 L22 12 STACME**	12	3/8 x 12 7/16 x 12	62	22	29	3.3	8.1	SIM ... H7
8.0	**MIR 8 L30 10 STACME**	10	1/2 x 10	76	30	29	3.8	11.0	SIM ... H8
10.0	**MIR 10 L35 8 STACME**	8	5/8 x 8	73	35	29	4.8	13.8	SIM ... H10
10.0	**MIR 10 L45 6 STACME**	6	3/4 x 6 7/8 x 6	105	45	29	4.8	16.3	SIM ... H10

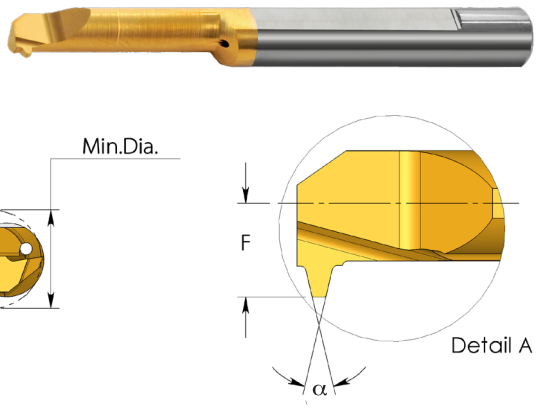
Order example: MIR 7 L22 12 STACME K20

● First choice ○ Alternative

For additional holders see page A06-32 to 41

MIR Bars Threading





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

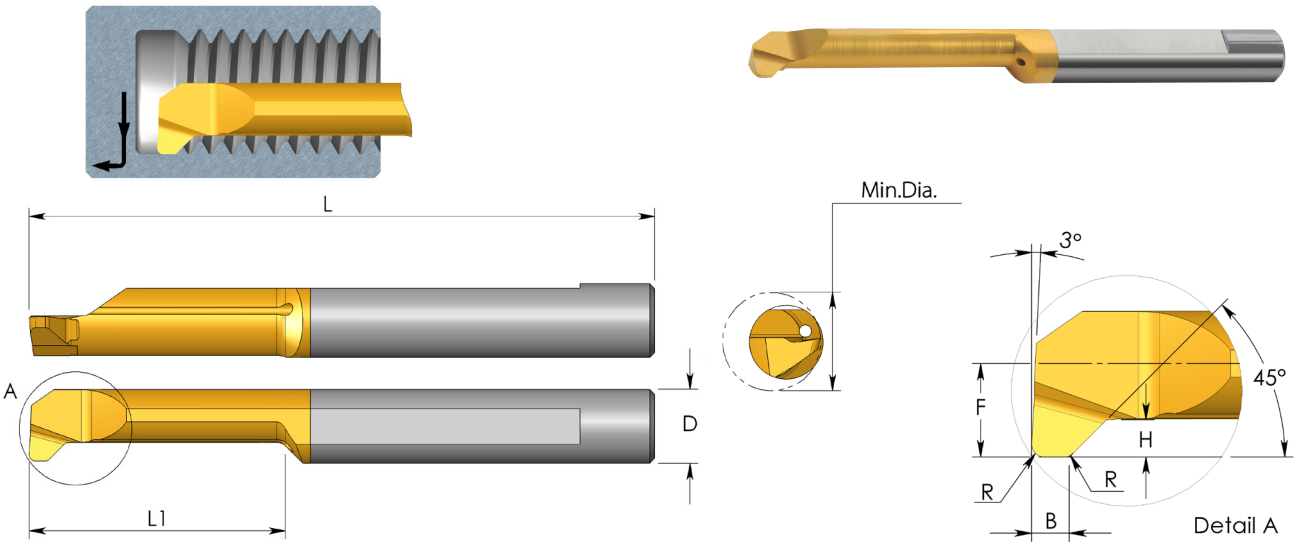
Trapez - DIN 103

D	Ordering Code	Pitch mm	Thread Size	L	L1	α	F	Min. Dia.	Holder
6.0	**MIR 6 L22 1.5 TR**	1.5	TR 8 x 1.5 TR 9 x 1.5 TR10 x 1.5	51	22	30	2.8	6.4	SIM ... H6
7.0	**MIR 7 L25 2 TR**	2	TR 9 x 2 TR10 x 2 TR11 x 2 TR12 x 2	62	25	30	3.2	6.9	SIM ... H7
10.0	**MIR 10 L35 2 TR**	2	TR14 x 2 TR16 x 2 TR18 x 2 TR20 x 2	73	35	30	4.8	11.0	SIM ... H10
7.0	**MIR 7 L35 3 TR**	3	TR11 x 3 TR12 x 3	62	35	30	3.3	7.5	SIM ... H7
10.0	**MIR 10 L35 3 TR**	3	TR14 x 3 TR22 x 3 TR24 x 3 TR26 x 3 TR28 x 3	73	35	30	4.8	10.5	SIM ... H10
10.0	**MIR 10 L45 4 TR**	4	TR16 x 4 TR18 x 4 TR20 x 4	105	45	30	4.8	11.5	SIM ... H10
10.0	**MIR 10 L55 5 TR**	5	TR22 x 5 TR24 x 5 TR28 x 5	105	55	30	4.8	11.0	SIM ... H10

Order example: MIR 10 L35 3 TR BXC
For L.H. bars specify MIL instead of MIR
For additional holders see page A06-32 to 41

● First choice ○ Alternative

MDR Bars *Thread Relief, Chamfering and Grooving*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	B	R	H	F	Min. Dia.	Holder
4.0	**MDR 4 R0.5 L18**	51	18	1.5	0.5	0.8	1.8	4.1	SIM ... H4
5.0	**MDR 5 R0.5 L24**	51	24	1.5	0.5	1.2	2.3	5.1	SIM ... H5
6.0	**MDR 6 R0.5 L27**	58	27	1.5	0.5	1.4	2.8	6.1	SIM ... H6

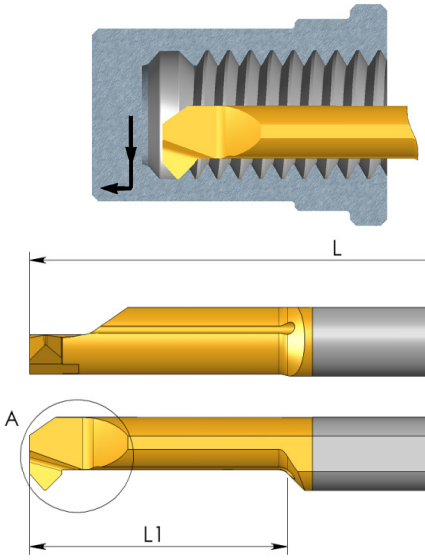
Order example: MDR 5 R0.5 L24 BXC

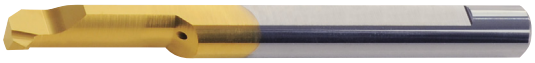
● First choice ○ Alternative

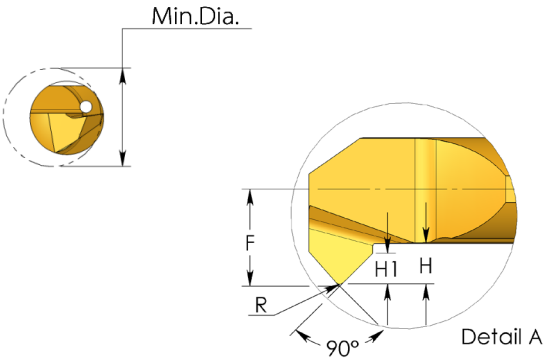
For L.H. bars specify MDL instead of MDR

For additional holders see page A06-32 to 41

MCR Bars *Chamfering and Boring*







Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	H	H1	F	Min. Dia.	Holder
3.0	**MCR 3 R0.2 L10**	39	10	0.2	0.7	0.3	1.3	3.1	SIM ... H3
4.0	**MCR 4 R0.2 L15**	51	15	0.2	0.8	0.4	1.7	4.1	SIM ... H4
5.0	**MCR 5 R0.2 L15**	51	15	0.2	1.2	0.7	2.1	5.1	SIM ... H5
6.0	**MCR 6 R0.2 L15**	51	15	0.2	1.4	0.7	2.8	6.1	SIM ... H6
7.0	**MCR 7 R0.2 L20**	62	20	0.2	1.5	0.8	3.3	7.1	SIM ... H7

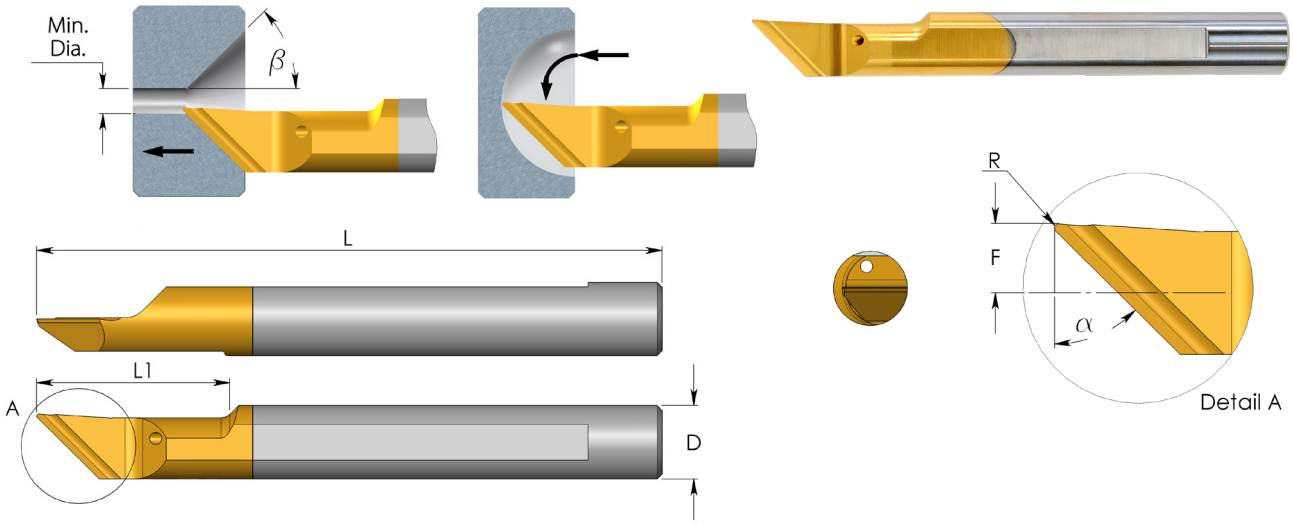
Order example: MCR 4 R0.2 L15 BXC

● First choice ○ Alternative

For L.H. bars specify MCL instead of MCR

For additional holders see page A06-32 to 41

MWR Bars *Chamfering and Profiling*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	α	β	F	Min. Dia.	Holder
6.0	**MWR 6 R0.2 A90**	51	15	0.2	45°	45°	2.3	1.0	SIM ... H6
	MWR 6 R0.2 A60	51	15	0.2	60°	30°	2.3	1.0	
	*** MWR 6 R0.4 A90**	51	22	0.4	45°	45°	2.3	6.0	
	*** MWR 6 R0.4 A60**	51	22	0.4	60°	30°	2.3	6.0	

Order example: MWR 6 R0.2 A90 BXC

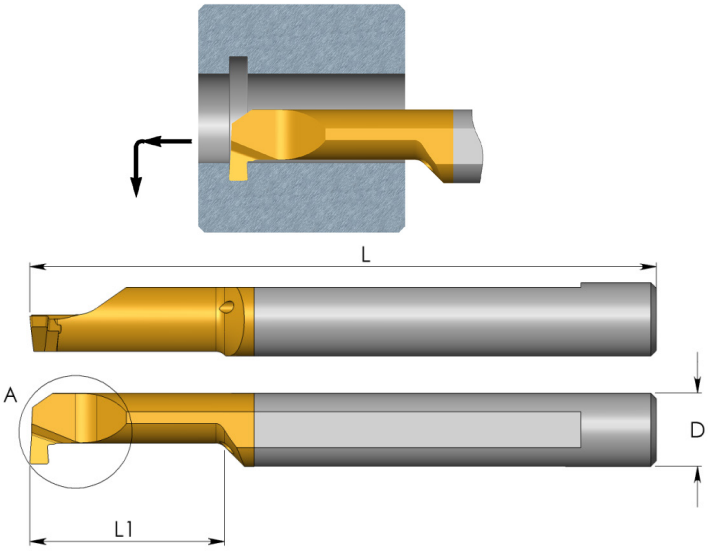
● First choice ○ Alternative

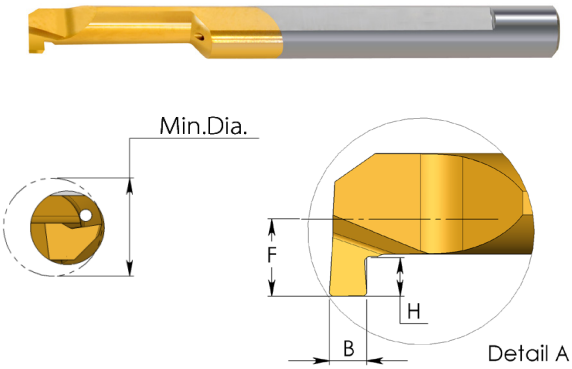
For L.H. bars specify MWL instead of MWR

*Can be used also for boring

For additional holders see page A06-32 to 41

MGR Bars Grooving





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	B mm	B in	H	F	Min. Dia.	Holder
4.0	MGR 2 B0.5 L10	51	10	0.5	.020	0.5	0.9	2.1	SIM ... H4
3.0	MGR 3 B0.5 L10	39	10	0.5	.020	0.5	1.3	3.1	SIM ... H3
	MGR 3 B0.7 L10	39	10	0.7	.028	0.6	1.3	3.1	
4.0	MGR 4 B0.5 L10	51	10	0.5	.020	0.5	1.7	4.1	SIM ... H4
	MGR 4 B0.5 L15	51	15	0.5	.028	0.5	1.7	4.1	
	MGR 4 B0.7 L10	51	10	0.7	.028	0.6	1.7	4.1	
	MGR 4 B0.79 L15	51	15	0.79	.031	0.9	1.7	4.1	
	MGR 4 B0.79 L22	51	22	0.79	.031	0.9	1.7	4.1	
	MGR 4 B1.0 L10	51	10	1.0	.039	1.0	1.7	4.1	
	MGR 4 B1.0 L15	51	15	1.0	.039	1.0	1.7	4.1	
	MGR 4 B1.0 L22	51	22	1.0	.039	1.0	1.7	4.1	
	MGR 4 B1.5 L10	51	10	1.5	.059	1.0	1.7	4.1	
	MGR 4 B1.5 L15	51	15	1.5	.059	1.0	1.7	4.1	
	MGR 4 B1.5 L22	51	22	1.5	.059	1.0	1.7	4.1	
5.0	MGR 5 B0.79 L15	51	15	0.79	.031	1.0	2.3	5.1	SIM ... H5
	MGR 5 B0.79 L22	51	22	0.79	.031	1.0	2.3	5.1	
	MGR 5 B1.0 L15	51	15	1.0	.039	1.2	2.3	5.1	
	MGR 5 B1.0 L22	51	22	1.0	.039	1.2	2.3	5.1	
	MGR 5 B1.19 L15	51	15	1.19	.047	1.2	2.3	5.1	
	MGR 5 B1.19 L22	51	22	1.19	.047	1.2	2.3	5.1	
	MGR 5 B1.5 L15	51	15	1.5	.059	1.2	2.3	5.1	
	MGR 5 B1.5 L22	51	22	1.5	.059	1.2	2.3	5.1	
	MGR 5 B1.59 L15	51	15	1.59	.063	1.2	2.3	5.1	
	MGR 5 B1.59 L22	51	22	1.59	.063	1.2	2.3	5.1	
	MGR 5 B2.0 L15	51	15	2.0	.079	1.2	2.3	5.1	
	MGR 5 B2.0 L22	51	22	2.0	.079	1.2	2.3	5.1	

For additional holders see page A06-32 to 41

● First choice ○ Alternative

MGR Bars Grooving

D	Ordering Code	L	L1	B		H	F	Min. Dia.	Holder
				mm	in				
6.0	MGR 6 B1.0 L15	51	15	1.0	.039	1.4	2.8	6.1	SIM ... H6
	MGR 6 B1.0 L22	51	22	1.0	.039	1.4	2.8	6.1	
	MGR 6 B1.5 L15	51	15	1.5	.059	1.4	2.8	6.1	
	MGR 6 B1.5 L22	51	22	1.5	.059	1.4	2.8	6.1	
	MGR 6 B2.0 L15	51	15	2.0	.079	1.4	2.8	6.1	
	MGR 6 B2.0 L22	51	22	2.0	.079	1.4	2.8	6.1	
6.0	MGR 6 B0.79 L17	51	17	0.79	.031	1.8	2.8	6.1	SIM ... H6
	MGR 6 B0.79 L23	51	23	0.79	.031	1.8	2.8	6.1	
	MGR 6 B1.0 L17	51	17	1.0	.039	1.8	2.8	6.1	
	MGR 6 B1.19 L17	51	17	1.19	.047	1.8	2.8	6.1	
	MGR 6 B1.19 L23	51	23	1.19	.047	1.8	2.8	6.1	
	MGR 6 B1.5 L17	51	17	1.5	.059	1.8	2.8	6.1	
	MGR 6 B1.5 L23	51	23	1.5	.059	1.8	2.8	6.1	
	MGR 6 B1.59 L17	51	17	1.59	.063	1.8	2.8	6.1	
	MGR 6 B1.59 L23	51	23	1.59	.063	1.8	2.8	6.1	
	MGR 6 B2.0 L17	51	17	2.0	.079	1.8	2.8	6.1	
	MGR 6 B2.0 L23	51	23	2.0	.079	1.8	2.8	6.1	
7.0	MGR 7 B1.0 L15	62	15	1.0	.039	2.5	3.3	7.1	SIM ... H7
	MGR 7 B1.0 L22	62	22	1.0	.039	2.5	3.3	7.1	
	MGR 7 B1.0 L30	62	30	1.0	.039	2.5	3.3	7.1	
	MGR 7 B1.19 L22	62	22	1.19	.047	2.5	3.3	7.1	
	MGR 7 B1.19 L30	62	30	1.19	.047	2.5	3.3	7.1	
	MGR 7 B1.5 L15	62	15	1.5	.059	2.5	3.3	7.1	
	MGR 7 B1.5 L22	62	22	1.5	.059	2.5	3.3	7.1	
	MGR 7 B1.5 L30	62	30	1.5	.059	2.5	3.3	7.1	
	MGR 7 B1.59 L22	62	22	1.59	.063	2.5	3.3	7.1	
	MGR 7 B1.59 L30	62	30	1.59	.063	2.5	3.3	7.1	
	MGR 7 B2.0 L15	62	15	2.0	.079	2.5	3.3	7.1	
	MGR 7 B2.0 L22	62	22	2.0	.079	2.5	3.3	7.1	
	MGR 7 B2.0 L30	62	30	2.0	.079	2.5	3.3	7.1	
8.0	MGR 8 B1.0 L22	64	22	1.0	.039	1.7	3.8	8.1	SIM ... H8
	MGR 8 B1.5 L22	64	22	1.5	.059	1.7	3.8	8.1	
	MGR 8 B2.0 L15	64	15	2.0	.079	2.6	3.8	8.1	
	MGR 8 B2.0 L22	64	22	2.0	.079	2.6	3.8	8.1	
	MGR 8 B2.38 L15	64	15	2.38	.094	2.6	3.8	8.1	
	MGR 8 B2.38 L22	64	22	2.38	.094	2.6	3.8	8.1	

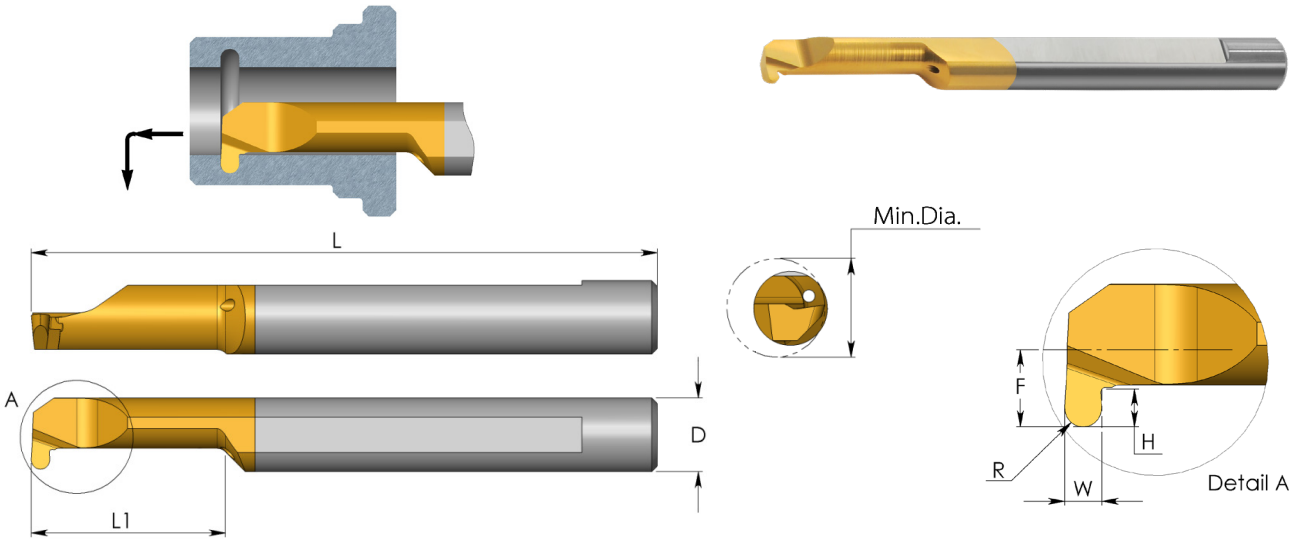
Tolerance: B±0.025 mm/.001"

Order example: MGR 5 B1.5 L15 BXC

For L.H. bars specify MGL instead of MGR

For additional holders see page A06-32 to 41

MKR Bars *Full Radius Grooving*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	W	H	F	Min. Dia.	Holder
4.0	**MKR 4 R0.5 L10**	51	10	0.50	1.0	1.0	1.7	4.1	SIM ... H4
	MKR 4 R0.5 L15	51	15	0.50	1.0	1.0	1.7	4.1	
	MKR 4 R0.75 L10	51	10	0.75	1.5	1.0	1.7	4.1	
5.0	**MKR 5 R0.5 L15**	51	15	0.50	1.0	1.2	2.3	5.1	SIM ... H5
	MKR 5 R0.75 L15	51	15	0.75	1.5	1.2	2.3	5.1	
	MKR 5 R1.0 L15	51	15	1.00	2.0	1.2	2.3	5.1	
	MKR 5 R1.0 L22	51	22	1.00	2.0	1.2	2.3	5.1	
6.0	**MKR 6 R0.5 L15**	51	15	0.50	1.0	1.6	2.8	6.1	SIM ... H6
	MKR 6 R0.75 L15	51	15	0.75	1.5	1.6	2.8	6.1	
	MKR 6 R1.0 L15	51	15	1.00	2.0	1.6	2.8	6.1	
	MKR 6 R1.0 L23	51	23	1.00	2.0	1.8	2.8	6.1	
7.0	**MKR 7 R0.5 L22**	62	22	0.50	1.0	2.5	3.3	7.1	SIM ... H7
	MKR 7 R0.75 L22	62	22	0.75	1.5	2.5	3.3	7.1	
	MKR 7 R1.0 L22	62	22	1.00	2.0	2.5	3.3	7.1	

Tolerance: R±0.025 mm

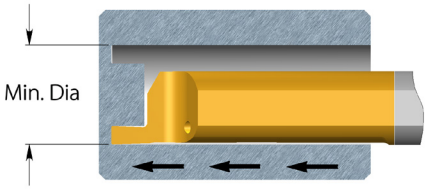
● First choice ○ Alternative

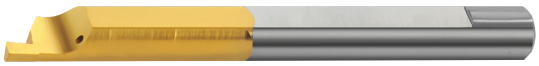
Order example: MKR 5 R1.0 L15 BXC

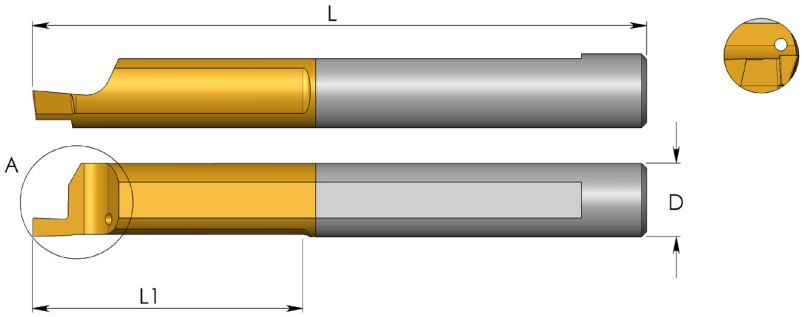
For L.H. bars specify MKL instead of MKR

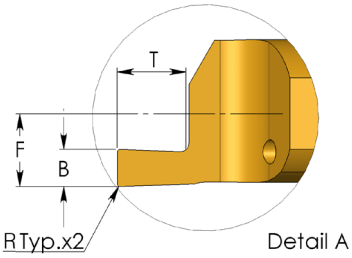
For additional holders see page A06-32 to 41

MFR Bars Face Grooving









Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

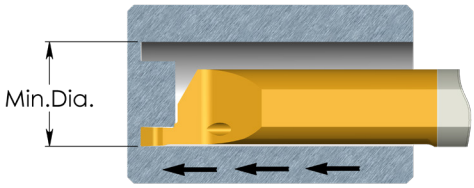
D	Ordering Code	L	L1	R	B	T	F	Min. Dia.	Holder
4.0	**MFR 4 B0.5 L15**	51	15	0.05	0.5	1.2	1.95	5.0	SIM ... H4
	MFR 4 B0.75 L15	51	15	0.1	0.75	1.2	1.95	5.0	
	MFR 4 B1.0 L15	51	15	0.1	1.0	1.5	1.95	5.0	
	MFR 4 B1.5 L15	51	15	0.1	1.5	2.8	1.95	5.0	
	MFR 4 B1.5 L17	51	17	0.1	1.5	3.5	1.95	5.0	
	MFR 4 B2.0 L17	51	17	0.1	2.0	5.0	1.95	5.0	
5.0	**MFR 5 B0.5 L22**	51	22	0.05	0.5	1.2	2.45	6.0	SIM ... H5
	MFR 5 B0.75 L22	51	22	0.1	0.75	1.2	2.45	6.0	
	MFR 5 B1.0 L22	51	22	0.1	1.0	1.5	2.45	6.0	
	MFR 5 B1.0 L23	51	23	0.1	1.0	2.5	2.45	6.0	
	MFR 5 B1.5 L22	51	22	0.1	1.5	2.5	2.45	6.0	
	MFR 5 B1.5 L23	51	23	0.1	1.5	3.5	2.45	6.0	
	MFR 5 B2.0 L22	51	22	0.1	2.0	3.8	2.45	6.0	
	MFR 5 B2.0 L23	51	23	0.1	2.0	5.0	2.45	6.0	
6.0	**MFR 6 B1.0 L22**	51	22	0.1	1.0	1.5	2.95	8.0	SIM ... H6
	MFR 6 B1.5 L22	51	22	0.1	1.5	2.5	2.95	8.0	
	MFR 6 B2.0 L22	51	22	0.1	2.0	3.0	2.95	8.0	
	MFR 6 B2.5 L22	51	22	0.1	2.5	4.8	2.95	8.0	
	MFR 6 B3.0 L30	58	30	0.1	3.0	6.0	2.95	8.0	
8.0	**MFR 8 B2.5 L22**	64	22	0.1	2.5	3.5	3.95	10.0	SIM ... H8

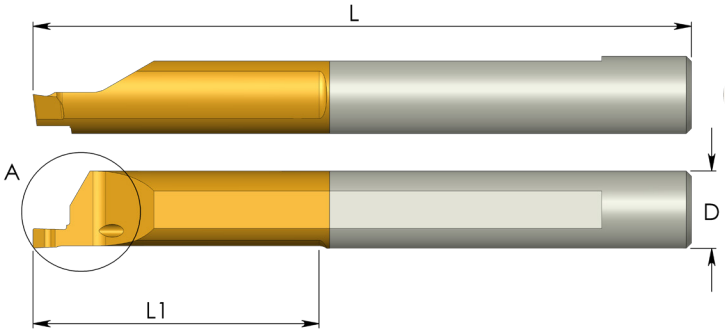
Order example: MFR 5 B1.0 L22 BXC

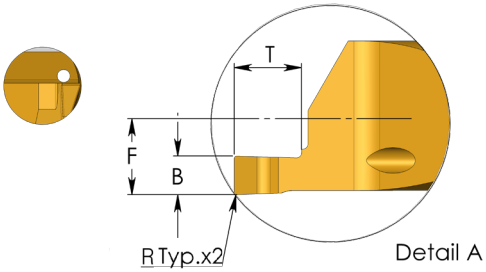
● First choice ○ Alternative

For additional holders see page A06-32 to 41

MFR Bars *Face Grooving with Chip Former*







Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	B	T	F	Min. Dia.	Holder
4.0	**MFR 4 B1.5 L15-C**	51	15	0.1	1.5	2.8	1.95	5.0	SIM ... H4
5.0	**MFR 5 B1.5 L22-C**	51	22	0.1	1.5	2.5	2.45	6.0	SIM ... H5
	MFR 5 B2.0 L22-C	51	22	0.1	2.0	3.8	2.45	6.0	
6.0	**MFR 6 B1.5 L22-C**	51	22	0.1	1.5	2.5	2.95	8.0	SIM ... H6
	MFR 6 B2.0 L22-C	51	22	0.1	2.0	3.0	2.95	8.0	
	MFR 6 B3.0 L22-C	51	22	0.1	3.0	6.0	2.95	8.0	

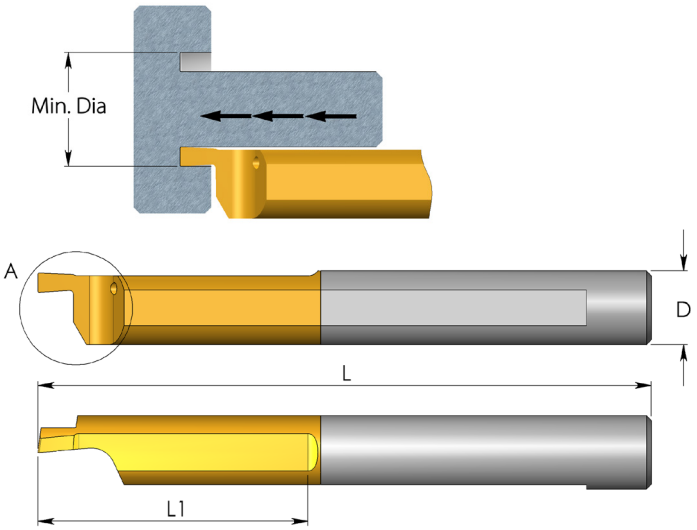
Order example: MFR 5 B2.0 L22-C BXC

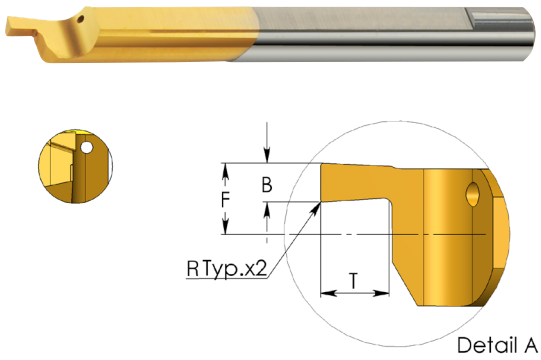
● First choice ○ Alternative

For L.H. bars specify MFL instead of MFR

For additional holders see page A06-32 to 41

MFL Bars *Face Grooving*





Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

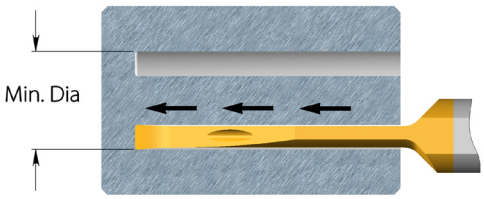
D	Ordering Code	L	L1	R	B	T	F	Min. Dia.	Holder
4.0	**MFL 4 B0.5 L15**	51	15	0.05	0.5	1.2	1.75	5.0	SIM ... H4
	MFL 4 B0.75 L15	51	15	0.10	0.75	1.2	1.75	5.0	
	MFL 4 B1.0 L15	51	15	0.10	1.0	1.5	1.75	5.0	
	MFL 4 B1.5 L15	51	15	0.10	1.5	2.8	1.75	5.0	
	MFL 4 B1.5 L17	51	17	0.10	1.5	3.5	1.75	5.0	
	MFL 4 B2.0 L17	51	17	0.10	2.0	5.0	1.75	5.0	
5.0	**MFL 5 B0.5 L22**	51	22	0.05	0.5	1.2	2.25	6.0	SIM ... H5
	MFL 5 B0.75 L22	51	22	0.10	0.75	1.2	2.25	6.0	
	MFL 5 B1.0 L22	51	22	0.10	1.0	1.5	2.25	6.0	
	MFL 5 B1.0 L23	51	23	0.10	1.0	2.5	2.25	6.0	
	MFL 5 B1.5 L22	51	22	0.10	1.5	2.5	2.25	6.0	
	MFL 5 B1.5 L23	51	23	0.10	1.5	3.5	2.25	6.0	
	MFL 5 B2.0 L22	51	22	0.10	2.0	3.8	2.25	6.0	
	MFL 5 B2.0 L23	51	23	0.10	2.0	5.0	2.25	6.0	
6.0	**MFL 6 B1.0 L22**	51	22	0.10	1.0	1.5	2.75	8.0	SIM ... H6
	MFL 6 B1.5 L22	51	22	0.10	1.5	2.5	2.75	8.0	
	MFL 6 B2.0 L22	51	22	0.10	2.0	3.0	2.75	8.0	
	MFL 6 B2.5 L22	51	22	0.10	2.5	4.8	2.75	8.0	
	MFL 6 B3.0 L30	58	30	0.10	3.0	6.0	2.75	8.0	
8.0	**MFL 8 B2.5 L22**	64	22	0.10	2.5	3.5	3.75	10.0	SIM ... H8

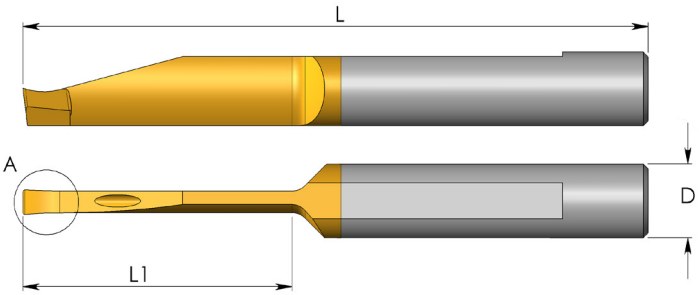
Order example: MFL 4 B2.0 L17 BMK

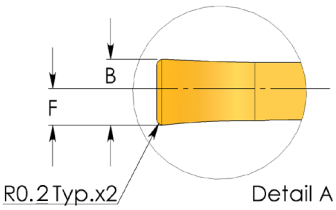
● First choice ○ Alternative

For additional holders see page A06-32 to 41

MVR Bars *Deep Face Grooving - with 2 coolant bores*







Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	B	F	Min. Dia.	Holder
6.0	**MVR 6 B2.0 L10**	64	10	2.0	1.1	10.0	SIM ... H6
	MVR 6 B2.0 L15	64	15	2.0	1.1	12.0	
	MVR 6 B2.0 L22	64	22	2.0	1.1	12.0	
	MVR 6 B2.5 L15	64	15	2.5	1.4	10.0	
	MVR 6 B2.5 L22	64	22	2.5	1.4	12.0	
	MVR 6 B3.0 L22	64	22	3.0	1.6	10.0	
8.0	**MVR 8 B3.0 L27**	64	27	3.0	1.6	15.0	SIM ... H8
	MVR 8 B3.0 L43	80	43	3.0	1.6	15.0	
8.0	**MVR 8 B4.0 L43**	80	43	4.0	2.1	20.0	SIM ... H8

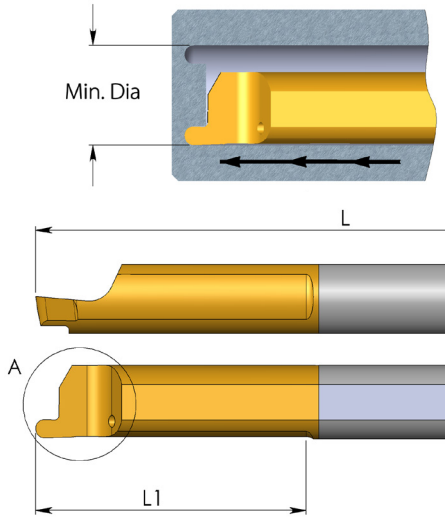
Order example: MVR 6 B2.0 L22 BXC

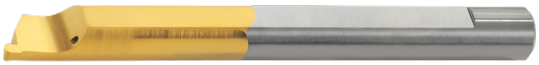
● First choice ○ Alternative

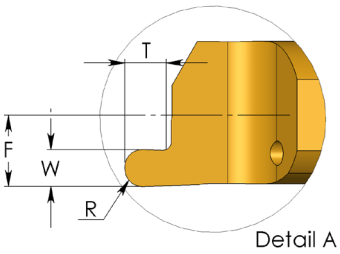
For L.H. bars specify MVL instead of MVR

For additional holders see page A06-32 to 41

MZR Bars *Face Grooving*







Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

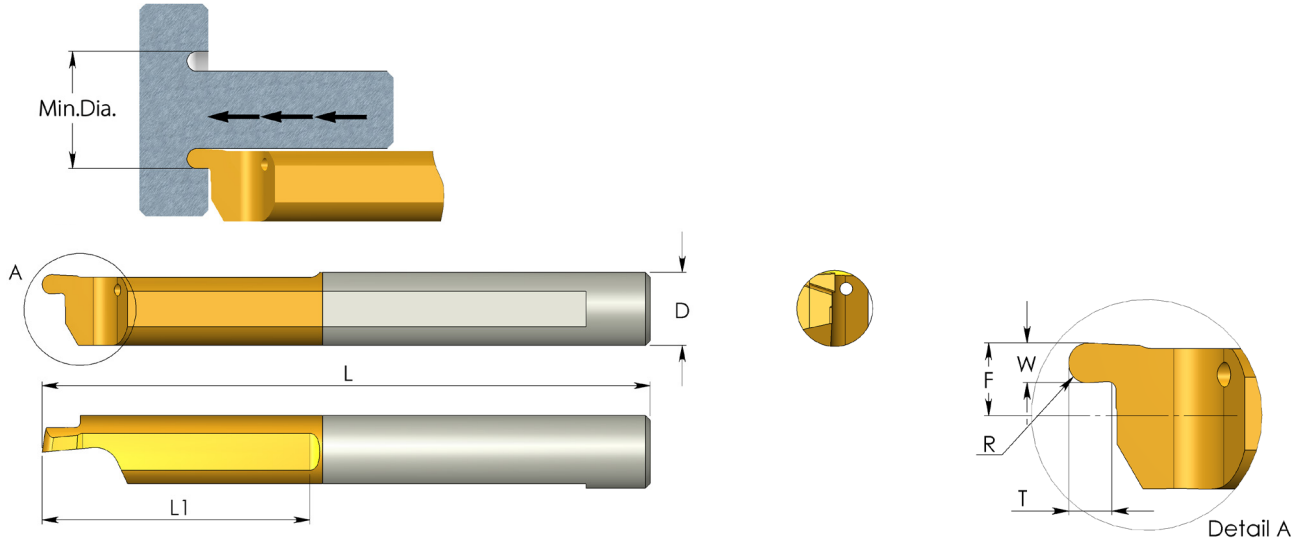
D	Ordering Code	L	L1	R	W	T	F	Min. Dia.	Holder
4.0	**MZR 4 R0.5 L15**	51	15	0.50	1.0	1.2	1.95	5.0	SIM ... H4
	MZR 4 R0.75 L15	51	15	0.75	1.5	1.5	1.95	5.0	
5.0	**MZR 5 R0.5 L22**	51	22	0.50	1.0	1.2	2.45	6.0	SIM ... H5
	MZR 5 R0.75 L22	51	22	0.75	1.5	1.5	2.45	6.0	
	MZR 5 R1.0 L22	51	22	1.00	2.0	2.5	2.45	6.0	
6.0	**MZR 6 R0.5 L22**	51	22	0.50	1.0	1.2	2.95	8.0	SIM ... H6
	MZR 6 R0.75 L22	51	22	0.75	1.5	1.5	2.95	8.0	
	MZR 6 R1.0 L22	51	22	1.00	2.0	2.5	2.95	8.0	

Order example: MZR 5 R0.5 L22 BXC

● First choice ○ Alternative

For additional holders see page A06-32 to 41

MZL Bars *Face Grooving*



Grade	P	M	K	N	S	H
K20		○	○	●	○	
BXC	●	●	●	○	●	●
BMK	●	●	●	○	●	●

D	Ordering Code	L	L1	R	W	T	F	Min. Dia.	Holder
4.0	**MZL 4 R0.5 L15**	51	15	0.50	1.0	1.2	1.75	5.0	SIM ... H4
	MZL 4 R0.75 L15	51	15	0.75	1.5	1.5	1.75	5.0	
5.0	**MZL 5 R0.5 L22**	51	22	0.50	1.0	1.2	2.25	6.0	SIM ... H5
	MZL 5 R0.75 L22	51	22	0.75	1.5	1.5	2.25	6.0	
	MZL 5 R1.0 L22	51	22	1.00	2.0	2.5	2.25	6.0	
6.0	**MZL 6 R0.5 L22**	51	22	0.50	1.0	1.2	2.75	8.0	SIM ... H6
	MZL 6 R0.75 L22	51	22	0.75	1.5	1.5	2.75	8.0	
	MZL 6 R1.0 L22	51	22	1.00	2.0	2.5	2.75	8.0	

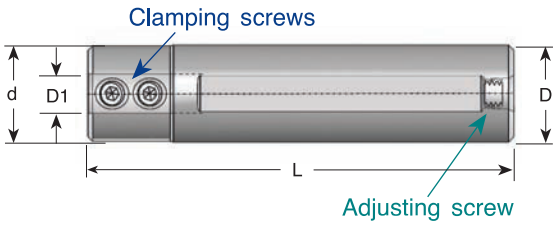
Order example: MZL 5 R0.5 L22 BXC

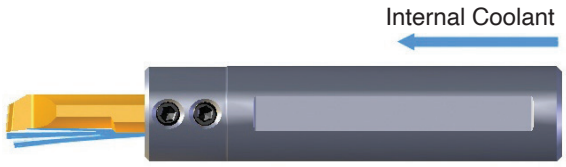
● First choice ○ Alternative

For additional holders see page A06-32 to 41

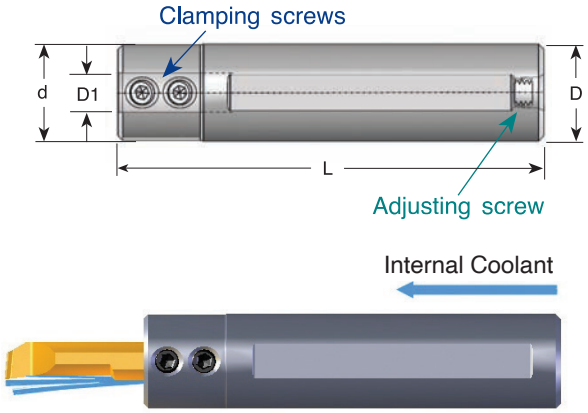
Tiny Tools Toolholders
Product Identification - Ordering Codes

S	I	M	0020	H3	S
Clamping Method S = Screw	I = Internal	M = Tiny Bars	Shank Cross Section Metric 0012 = 12 mm 0016 = 16 mm 0020 = 20 mm 0022 = 22 mm 0025 = 25 mm	Bar Diameter 3 = 3.0 mm 4 = 4.0 mm 5 = 5.0 mm 6 = 6.0 mm 7 = 7.0 mm 8 = 8.0 mm 10 = 10.0 mm	Swiss Type





D1	Ordering Code	D	d	L	Key	Clamping Screw	Adjusting Screw
3.0	**SIM 0012 H3**	12	12	88	K16, K25	S24	S35
	SIM 0016 H3S	16	20	75	K25	S25	S35S
	SIM 0016 H3	16	20	88	K25	S25	S35
	SIM 0020 H3	20	20	88	K25	S25	S35
	SIM 0022 H3	22	22	88	K25	S25	S35
	SIM 0022 H3K	22	22	120	K25	S25	S55
	SIM 0025 H3M	25	25	150	K25	S25	-



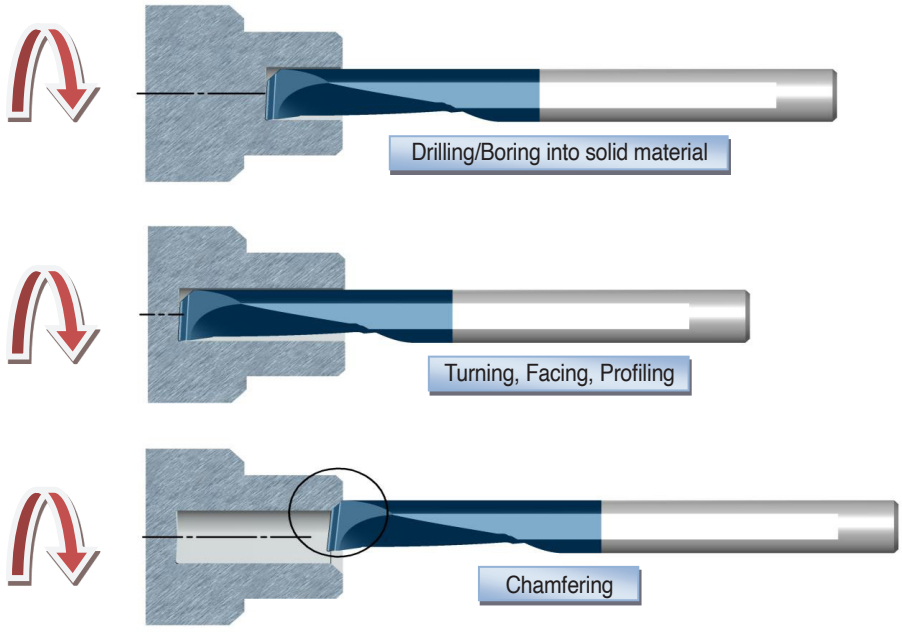
D1	Ordering Code	D	d	L	Key	Clamping Screw	Adjusting Screw
4.0	SIM 0012 H4	12	12	88	K16, K25	S24	S35
	SIM 0016 H4S	16	20	75	K25	S25	S35S
	SIM 0016 H4	16	20	88	K25	S25	S35
	SIM 0020 H4	20	20	88	K25	S25	S35
	SIM 0022 H4	22	22	88	K25	S25	S35
	SIM 0022 H4K	22	22	120	K25	S25	S55
	SIM 0025 H4M	25	25	150	K25	S25	-
5.0	SIM 0012 H5	12	12	88	K16, K25	S24	S35
	SIM 0016 H5S	16	20	75	K25	S25	S35S
	SIM 0016 H5	16	20	88	K25	S25	S35
	SIM 0020 H5	20	20	88	K25	S25	S35
	SIM 0022 H5	22	22	88	K25	S25	S35
	SIM 0022 H5K	22	22	120	K25	S25	S55
	SIM 0025 H5M	25	25	150	K25	S25	-
6.0	SIM 0012 H6	12	14	88	K16, K25	S24	S35
	SIM 0016 H6S	16	20	75	K25	S25	S35S
	SIM 0016 H6	16	20	88	K25	S25	S35
	SIM 0020 H6	20	20	88	K25	S25	S35
	SIM 0022 H6	22	22	88	K25	S25	S35
	SIM 0022 H6K	22	22	120	K25	S25	S55
	SIM 0025 H6M	25	25	150	K25	S25	-
7.0	SIM 0016 H7	16	20	88	K25	S25	S35
	SIM 0020 H7	20	20	88	K25	S25	S35
	SIM 0022 H7	22	22	88	K25	S25	S35
8.0	SIM 0016 H8	16	20	88	K25	S25	S35
	SIM 0020 H8	20	20	88	K25	S25	S35
	SIM 0022 H8	22	22	88	K25	S25	S35
10.0	SIM 0016 H10	16	20	88	K25	S25S	S35
	SIM 0020 H10	20	20	88	K25	S25S	S35
	SIM 0022 H10	22	22	88	K25	S25	S35

CMR CPT Multi-Task Tiny Tools

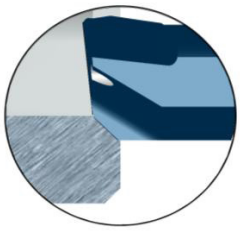
- CPT is introducing a new and innovative Multi-Task Tiny Tool **CMR** for Boring, Turning, Facing and Chamfering with a single tool.
- The unique design enables machining of the material without the need for a pilot hole.
- The new tool shortens the machining cycle time and the number of tools required - providing **High Productivity**.
- Effective through coolant hole with a spiral flute, evacuates the chips out of the hole uninterruptedly.
- Unique chip breaker and flute design.
- To use with standard SIM toolholders on Swiss Type or CNC lathe machines.
- Available in **BMK** Grade only.

Working Method

- The tool penetrates the work piece and produces the hole compliant with the minimum diameter the tool allows.
- The tool can penetrate the material in one pass or several passes depending on the work piece material, coolant pressure, machine power etc.
- The hole can be enlarged by multi radial passes.



Rear view of the cutting chamfer



The tool is equipped with an additional cutting edge, which is located across the main front edge. This allows production of an additional 45° chamfer on the work piece without the need to stop the spindle or processing operation.

CMR General Recommendations

Coolant fluid

Dry machining should not be performed under any circumstances.
It is necessary to use an internal coolant in all applications.
Oil or Emulsion lubricants are recommended for best performance.
In the event of low coolant pressure, adding an external coolant can improve the tool operation.

The cooling stream is designed to provide three benefits:
1. Cooling the cutting edge of the tool, and the contact area.
2. Pushing the chip away from the tool quickly, thereby reducing wear of the edge.
3. Helping to break the chip into smaller pieces and evacuating them from the cutting area.

Cutting Data

ISO Standard	Material	Cutting Speed m/min
P	Low and Medium Carbon Steels <0.55%C	20 - 75
	High Carbon Steels ≥0.55%C	20 - 75
	Alloy Steels, Treated Steels	20 - 60
M	Stainless Steels - Free Cutting	20 - 60
	Stainless Steels - Austenitic	20 - 50
	Cast Steels	20 - 70
K	Cast Iron	20 - 90
N	Aluminum ≤12%Si, Copper	40 - 150
	Aluminum >12% Si	20 - 100
	Synthetics, Duroplastics, Thermoplastics	40 - 150
S	Nickel Alloys, Titanium Alloys	15 - 60
H	Hardened Steels	60 - 70

Recommended Feed Rate: 0.01 - 0.03 mm/rev

Technical Section

Carbide Grades:

BXC (P30 - P50, K25 - K40)
PVD TiN coated grade for low cutting speed.
Works well with a wide range of stainless steels.

BMK (K10 - K20)
Sub-micron grade with advanced PVD triple coating. Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

K20 (K10 - K30)
Uncoated Carbide grade for non ferrous metals, aluminum and cast iron.

TNX
New advanced carbide grade TN***X*** for higher feeds and high performance, at medium to high cutting speed. Extra fine grain size with high hardness and toughness combined with triple layer reddish coating, provides high edge stability and better chip flow. Available only for CBR bars.

Cutting speed for Tiny Tools

ISO Stan-dard	Material		Condition	Cutting Speed m/min			
				BXC	BMK	K20	TN***X***
P	Non-Alloy steel and cast steel, free cutting steel	<%0.25C	Annealed	25 - 70	30 - 80		36 - 80
		≥%0.25C	Annealed				
		< %0.55C	Quenched and tempered				
		≥%0.55C	Annealed				
		≥%0.55C	Quenched and tempered				
	Low alloy steel and cast steel (less than %5 alloying elements)		Annealed	20 - 40	25 - 50		30 - 50
			Quenched and tempered				
	High alloy steel, cast steel, and tool steel		Annealed	20 - 40	25 - 50		30 - 50
			Quenched and tempered				
M	Stainless steel and cast steel		Ferritic/martensitic	25 - 40	30 - 60		36 - 60
			Martensitic				
			Austenitic				
K	Cast iron nodular (GGG)		Ferritic/pearlitic	25 - 60	30 - 80		36 - 80
			Pearlitic				
	Grey cast iron (GG)		Ferritic	30 - 70	30 - 80		36 - 80
			Pearlitic				
	Malleable cast iron		Ferritic	20 - 40	20 - 50		24 - 50
			Pearlitic				
N	Aluminum-wrought alloy		Not cureable	50 - 100	60 - 120	30 - 50	72 - 120
			Cured				
	Aluminum- cast, alloyed	≤%12 Si	Not cureable	40 - 80	50 - 90	20 - 40	60 - 90
			Cured				
		>%12 Si	High temperature				
	Copper alloys	>%1 Pb	Free cutting	30 - 60	30 - 70	20 - 40	36 - 70
			Brass				
			Electrolytic copper				
	Non metalic		Duroplastics, fiber plastics	40 - 80		20 - 40	
			Hard rubber				
S	High temp. alloys, Super alloys	Fe based	Annealed	15 - 30	15 - 40		18 - 40
			Cured				
		Ni or Co based	Annealed				
			Cured				
			Cast				
	Titanium, Titanium alloys		Alpha+beta alloys cured	10 - 30	10 - 30		12 - 30
H	Hardened steel		Hardened 45-50 HRc	10 - 30	14 - 40		18 - 40
			Hardened 51-55 HRc				
			Hardened 56-62 HRc				
	Chilled cast iron		Cast	10 - 30	10 - 30		12 - 30
	Cast iron		Hardened	10 - 20	10 - 20		12 - 20

Recommended Feed Rate: 0.01 - 0.03 mm/rev