

TINY TOOLS PROMO

BUY **20** TINY TOOLS,
PAY ONLY **15**
(The 5 cheapest ones are for free.)

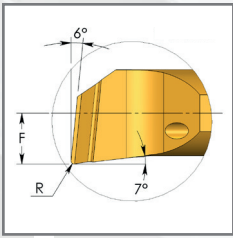


When ordering 20 Tiny Tools (free choice), the 5 cheapest ones are for free.
Cannot be combined with other tiny tools promo.

Supervised by:

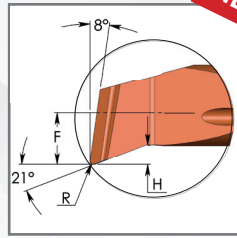
Tiny Tools Application overview

MTR/L



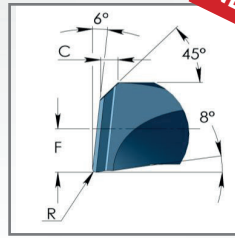
Boring with internal cooling

CBR/L



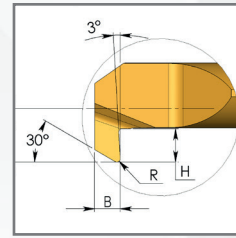
Profiling and Boring with chip breaker

CMR/L



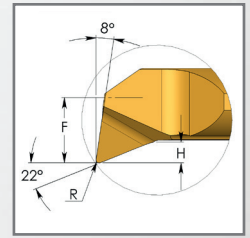
Boring, Turning, Facing and Chamfering

MXR/L



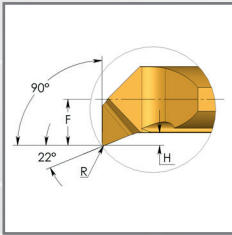
Back Turning

MPR/L



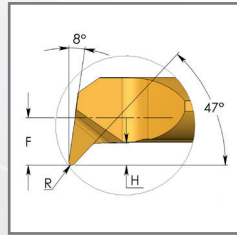
Profiling and Boring

MUR/L



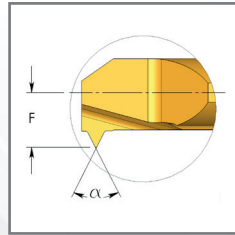
Profiling, 90° Face Cutting

MQR/L



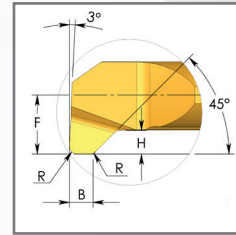
Profiling and Boring

MIR/L



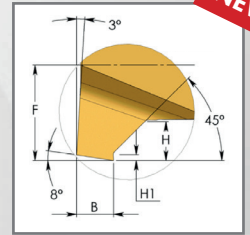
Threading

MDR/L



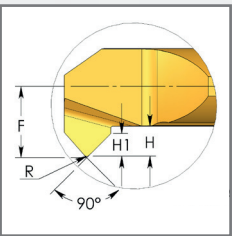
Thread Relief, Chamfering and Grooving

CPR/L



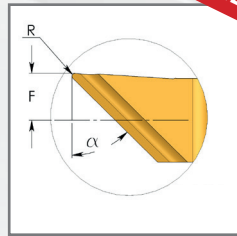
Pre-parting and Chamfering

MCR/L



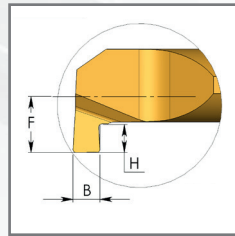
Chamfering and Boring

MWR/L



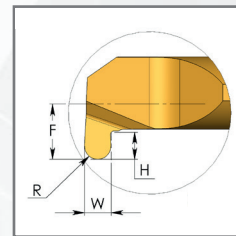
Chamfering and Profiling

MGR/L



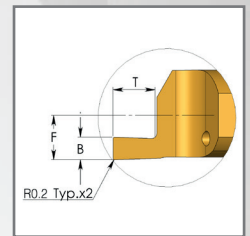
Grooving

MKR/L



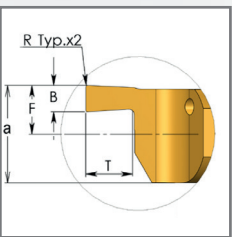
Full Radius Grooving

MFR



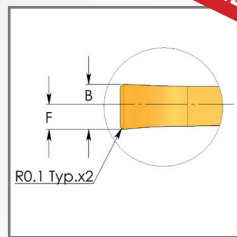
Face Grooving (internal)

MFL



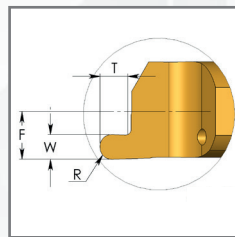
Face Grooving (external)

MVR/L



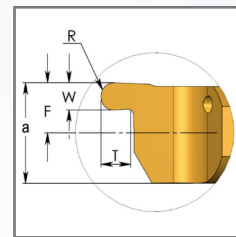
Deep Face Grooving – with 2 coolant bores

MZR



Face Grooving Full Radius (internal)

MZL



Face Grooving Full Radius (external)



Demonstration

Carbide Grades:

BXC (P30 - P50, K25 - K40)

PVD TiN coated grade for low cutting speed. Works well with a wide range of materials.

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.

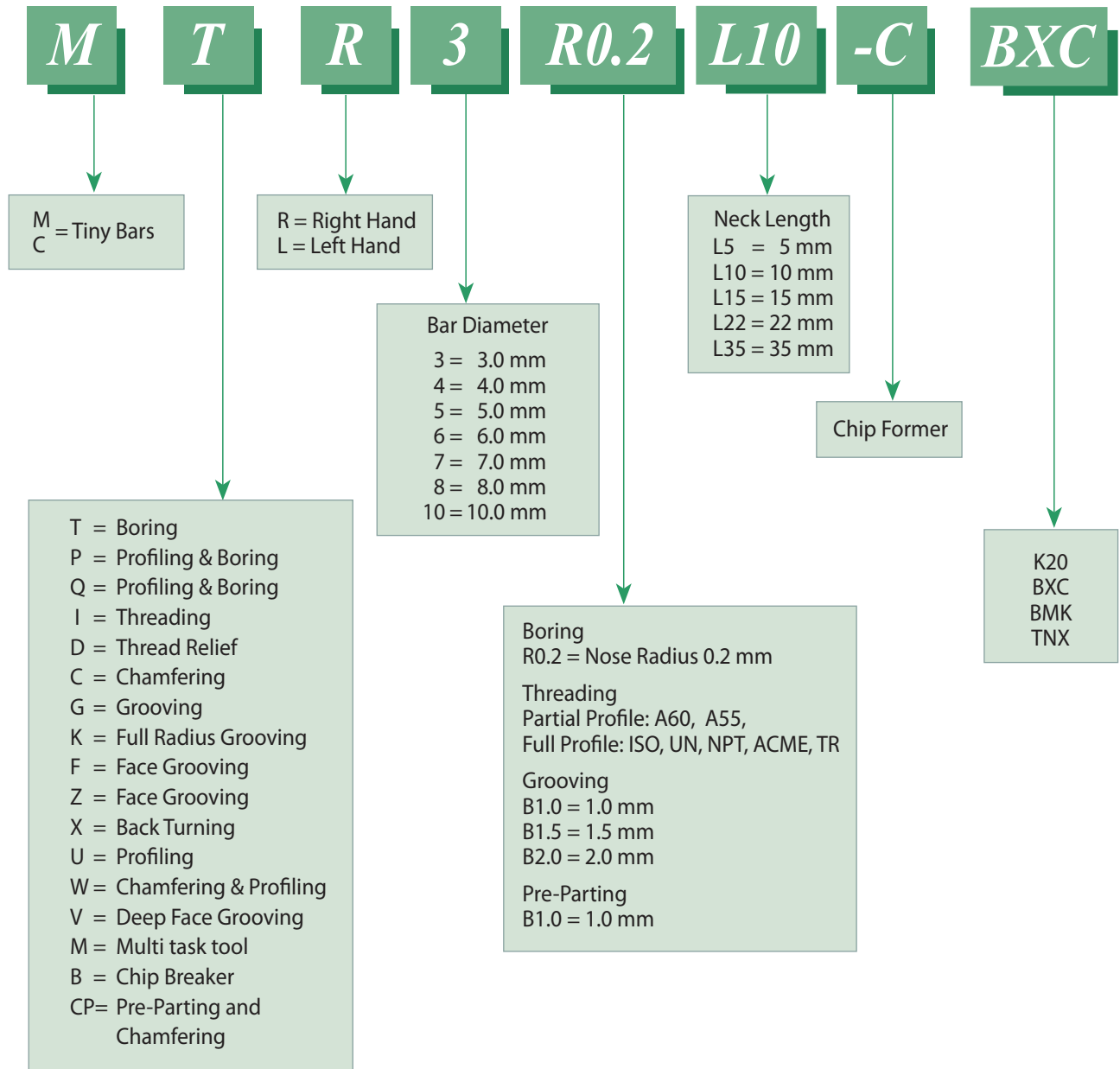
TNX

New advanced carbide grade TNX for higher feed rates and high performance at medium to high cutting speeds. Extra fine grain with high hardness and toughness combined with a three-layer reddish coating. Ensures high edge stability and improved chip flow.

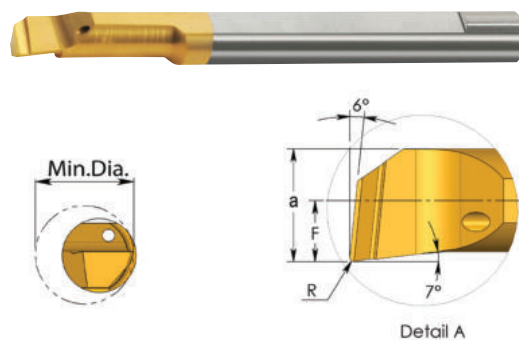
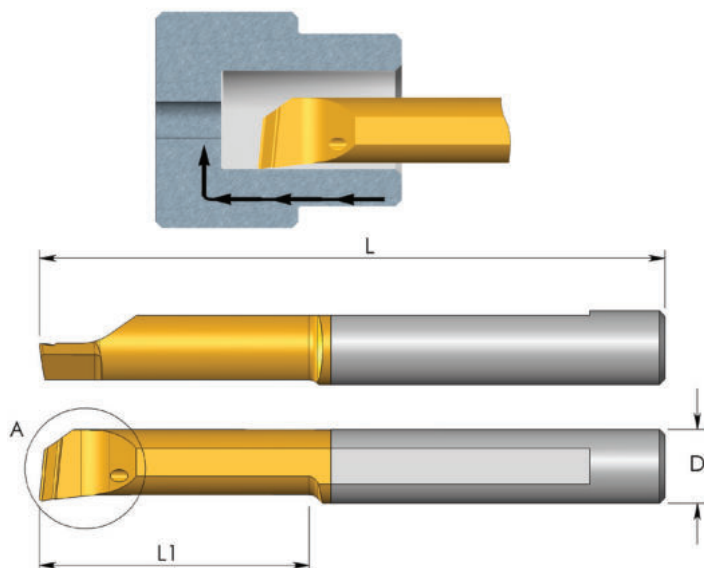


Product Identification

Tiny Bars Ordering Codes



MTR Bars Boring



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

● First choice ○ Alternative

For L.H. bars specify **MTL** instead of **MTR**

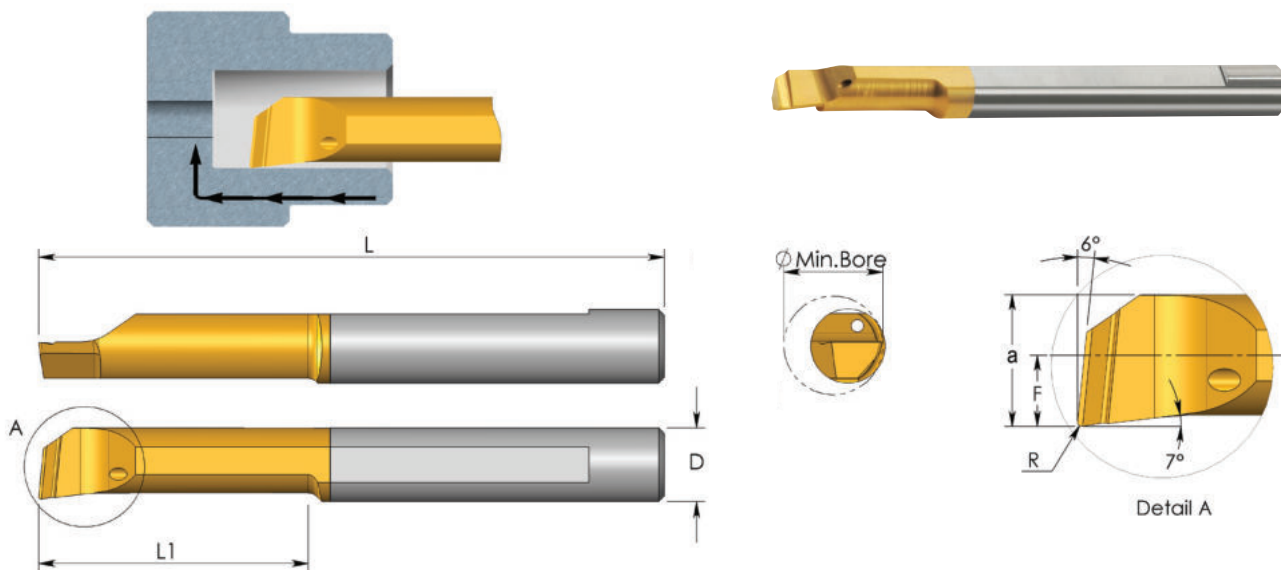
D	Ordering Code	L	L1	R	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
New 3.0	MTR 0.3 R0 L1	39	1.2	0	0.1	0.25	0.3	●	●	●		SIM ... H3
	MTR 0.5 R0.05 L2	39	2.0	0.05	0.2	0.45	0.5	●	●	●		
3.0	MTR 1 R0 L6	39	6	0	0.45	0.95	1.0	●	●	●		SIM ... H3
	MTR 1 R0.05 L4	39	4	0.05	0.45	0.95	1.0	●	●	●	●	
	MTR 1 R0.05 L6	39	6	0.05	0.45	0.95	1.0	●	●	●		
New 3.0	MTR 1.2 R0 L7	39	7	0	0.55	1.15	1.2	●	●	●		SIM ... H3
	MTR 1.2 R0 L9	39	9	0	0.55	1.15	1.2	●	●	●		
	MTR 1.2 R0.05 L9	39	9	0.05	0.55	1.15	1.2	●	●	●		
New 3.0	MTR 1.5 R0 L6	39	6	0	0.7	1.4	1.5	●	●	●		SIM ... H3
	MTR 1.5 R0.1 L6	39	6	0.10	0.7	1.4	1.5	●	●	●	●	
	MTR 1.5 R0.1 L10	39	10	0.10	0.7	1.4	1.5	●	●	●		
3.0	MTR 2 R0 L10	39	10	0	0.8	1.8	2.1	●	●	●		SIM ... H3
	MTR 2 R0.05 L5	39	5	0.05	0.8	1.8	2.1	●	●	●	●	
	MTR 2 R0.05 L10	39	10	0.05	0.8	1.8	2.1	●	●	●	●	
	MTR 2 R0.1 L10	39	10	0.10	0.8	1.8	2.1	●	●	●		
	MTR 2 R0.1 L15	39	15	0.10	0.8	1.8	2.1	●	●	●	●	
	MTR 2 R0.15 L5	39	5	0.15	0.8	1.8	2.1	●	●	●	●	
New 4.0	MTR 2.5 R0 L10	51	10	0	1.0	2.3	2.5	●	●	●		SIM ... H4
	MTR 2.5 R0.1 L10	51	10	0.10	1.0	2.3	2.5	●	●	●		
	MTR 2.5 R0.1 L15	51	15	0.10	1.0	2.3	2.5	●	●	●		
	MTR 2.5 R0.15 L10	51	10	0.15	1.0	2.3	2.5	●	●	●		
3.0	MTR 3 R0.05 L10	39	10	0.05	1.3	2.8	3.1	●	●	●	●	SIM ... H3
	MTR 3 R0.05 L15	39	15	0.05	1.3	2.8	3.1	●	●	●	●	
	MTR 3 R0.1 L10	39	10	0.10	1.3	2.8	3.1	●	●	●	●	
	MTR 3 R0.1 L15	39	15	0.10	1.3	2.8	3.1	●	●	●	●	
	MTR 3 R0.2 L10	39	10	0.20	1.3	2.8	3.1	●	●	●	●	
MTR 3 R0.2 L15	39	15	0.20	1.3	2.8	3.1	●	●	●	●		

See pages 40-54 for holders

● Available.

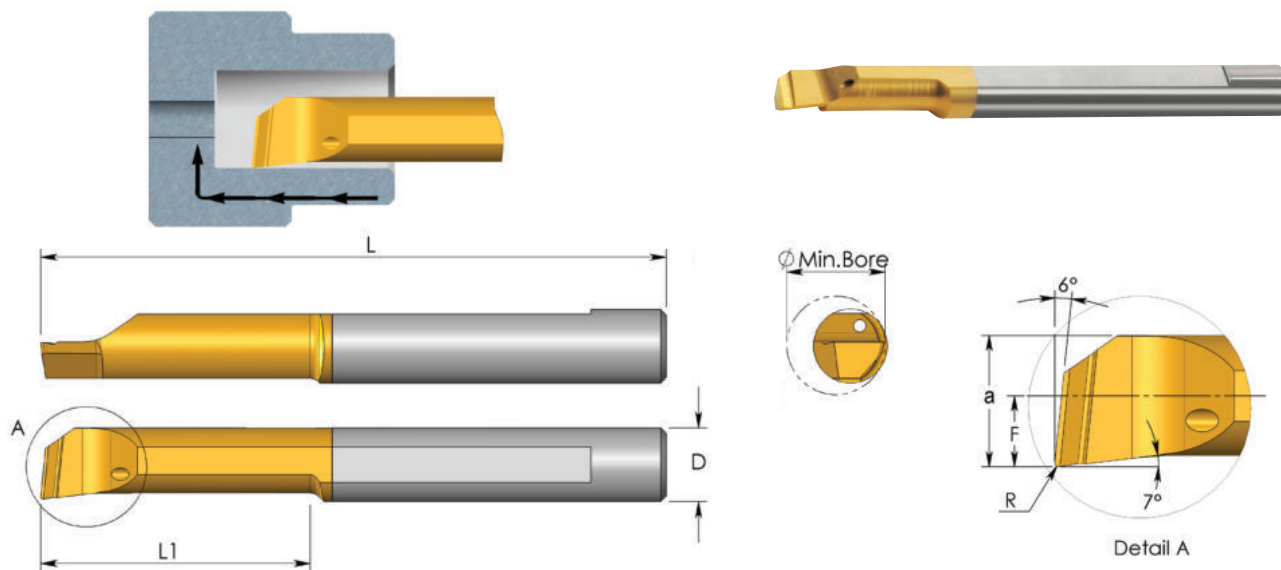
Other items available upon request

MTR Bars Boring



D	Ordering Code	L	L1	R	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
New 4.0	MTR 3.7 R0.1 L10	51	10	0.10	1.6	3.5	3.7	•	•	•		SIM ... H4
	MTR 3.7 R0.1 L15	51	15	0.10	1.6	3.5	3.7	•	•	•		
	MTR 3.7 R0.15 L15	51	15	0.15	1.6	3.5	3.7	•	•	•		
4.0	MTR 4 R0.05 L15	51	15	0.05	1.7	3.7	4.1	•	•	•	•	SIM ... H4
	MTR 4 R0.05 L22	51	22	0.05	1.7	3.7	4.1	•	•	•		
	MTR 4 R0.1 L10	51	10	0.10	1.7	3.7	4.1	•	•	•		
	MTR 4 R0.1 L15	51	15	0.10	1.7	3.7	4.1	•	•	•	•	
	MTR 4 R0.1 L22	51	22	0.10	1.7	3.7	4.1	•	•	•	•	
	MTR 4 R0.2 L10	51	10	0.20	1.7	3.7	4.1	•	•	•	•	
	MTR 4 R0.2 L15	51	15	0.20	1.7	3.7	4.1	•	•	•	•	
	MTR 4 R0.2 L22	51	22	0.20	1.7	3.7	4.1	•	•	•	•	
	MTR 4 R0.2 L30	62	30	0.20	1.7	3.7	4.1	•	•	•	•	
New 5.0	MTR 5 R0.05 L15	51	15	0.05	2.1	4.6	5.1	•	•	•		SIM ... H5
	MTR 5 R0.05 L22	51	22	0.05	2.1	4.6	5.1	•	•	•		
	MTR 5 R0.1 L15	51	15	0.10	2.1	4.6	5.1	•	•	•	•	
	MTR 5 R0.1 L22	51	22	0.10	2.1	4.6	5.1	•	•	•	•	
	MTR 5 R0.1 L30	76	30	0.10	2.1	4.6	5.1	•	•	•		
	MTR 5 R0.2 L10	51	10	0.20	2.1	4.6	5.1	•	•	•		
	MTR 5 R0.2 L15	51	15	0.20	2.1	4.6	5.1	•	•	•	•	
	MTR 5 R0.2 L22	51	22	0.20	2.1	4.6	5.1	•	•	•	•	
	MTR 5 R0.2 L30	76	30	0.20	2.1	4.6	5.1	•	•	•	•	
	MTR 5 R0.2 L40	76	40	0.20	2.1	4.6	5.1	•	•	•		

• Available.
Other items available upon request



D	Ordering Code	L	L1	R	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
6.0	MTR 6 R0.05 L15	51	15	0.05	2.8	5.8	6.1	●	●	●		SIM ... H6
	MTR 6 R0.05 L22	51	22	0.05	2.8	5.8	6.1	●	●	●		
	MTR 6 R0.1 L15	51	15	0.10	2.8	5.8	6.1	●	●	●	●	
	MTR 6 R0.1 L22	51	22	0.10	2.8	5.8	6.1	●	●	●		
	MTR 6 R0.2 L15	51	15	0.20	2.8	5.8	6.1	●	●	●	●	
	MTR 6 R0.2 L22	51	22	0.20	2.8	5.8	6.1	●	●	●	●	
	MTR 6 R0.2 L30	58	30	0.20	2.8	5.8	6.1	●	●	●	●	
	MTR 6 R0.2 L35	76	35	0.20	2.8	5.8	6.1	●	●	●	●	
7.0	MTR 7 R0.2 L22	62	22	0.20	3.3	6.8	7.1	●	●	●	●	SIM ... H7
	MTR 7 R0.2 L30	62	30	0.20	3.3	6.8	7.1	●	●	●	●	
8.0	MTR 8 R0.2 L15	64	15	0.20	3.8	7.8	8.1	●	●	●	●	SIM ... H8
	MTR 8 R0.2 L22	64	22	0.20	3.8	7.8	8.1	●	●	●	●	
	MTR 8 R0.2 L35	76	35	0.20	3.8	7.8	8.1	●	●	●	●	
10.0	MTR 10 R0.2 L35	73	35	0.20	4.8	9.8	10.1	●	●	●		SIM ... H10

Order example: MTR 4 R0.2 L15 BXC
See pages 40-54 for holders

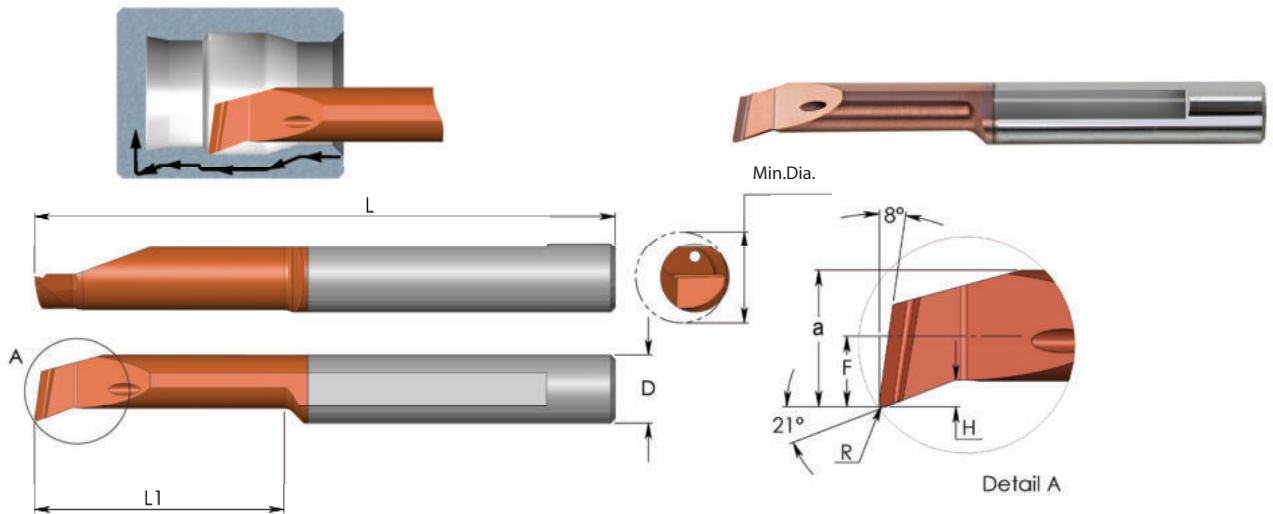
- Available.
- Other items available upon request

CBR Bars Profiling and Boring

With advanced Chip Breaker

Chip evacuation is achieved thanks to an advanced Chip Breaker and internal coolant through the tool, pushing the chips out of the bore.

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



Grade	P	M	K	N	S	H
TNX	●	●	●	●	●	●

● First choice ○ Alternative

For L.H. bars specify **CBL** instead of **CBR**

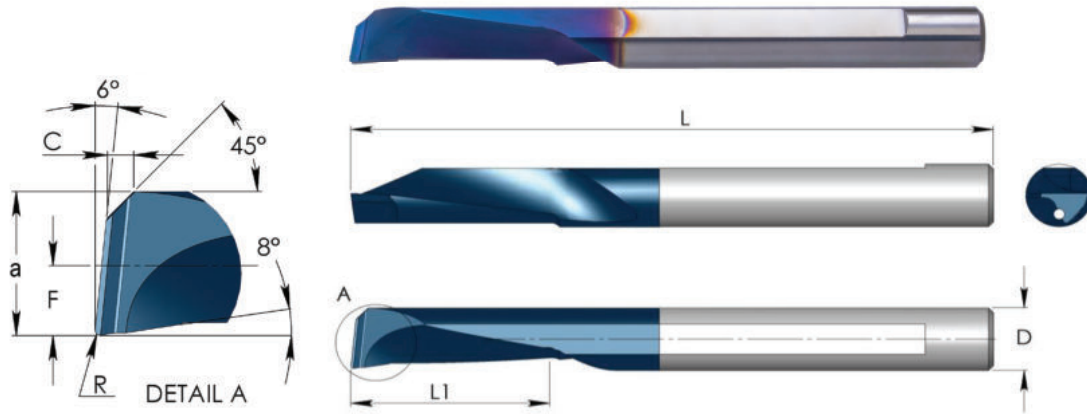
	D	Ordering Code	L	L1	R	H	F	a	Min. Dia.	TNX	Holder
New	4.0	CBR 4 R0.1 L10	51	10	0.1	0.4	1.8	3.8	4.1	●	SIM ... H4
		CBR 4 R0.2 L10	51	10	0.2	0.4	1.8	3.8	4.1	●	
		CBR 4 R0.1 L15	51	15	0.1	0.4	1.8	3.8	4.1	●	
		CBR 4 R0.2 L15	51	15	0.2	0.4	1.8	3.8	4.1	●	
		CBR 4 R0.2 L22	51	22	0.2	0.4	1.8	3.8	4.1	●	
New	5.0	CBR 5 R0.2 L10	51	10	0.2	0.8	2.3	4.8	5.1	●	SIM ... H5
		CBR 5 R0.1 L15	51	15	0.1	0.8	2.3	4.8	5.1	●	
		CBR 5 R0.2 L15	51	15	0.2	0.8	2.3	4.8	5.1	●	
		CBR 5 R0.1 L22	51	22	0.1	0.8	2.3	4.8	5.1	●	
		CBR 5 R0.2 L22	51	22	0.2	0.8	2.3	4.8	5.1	●	
New	6.0	CBR 6 R0.1 L15	51	15	0.1	1.0	2.8	5.8	6.1	●	SIM ... H6
		CBR 6 R0.2 L15	51	15	0.2	1.0	2.8	5.8	6.1	●	
		CBR 6 R0.1 L22	51	22	0.1	1.0	2.8	5.8	6.1	●	
		CBR 6 R0.2 L22	51	22	0.2	1.0	2.8	5.8	6.1	●	

Order example: CBR 5 R0.2 L15 TNX
See pages 40-54 for holders

● Available.
Other items available upon request

CMR Multi-Task Tiny Bars

Multi-Task Tiny Tool CMR for Boring, Turning, Facing and Chamfering



Grade	P	M	K	N	S	H
BMK	●	●	●	○	●	●

● First choice ○ Alternative

For L.H. bars specify CML instead of CMR

D	Ordering Code	L	L1	R	F	a	C	Hole Dia.*	BMK	Holder
4.0	CMR 4 R0.1 L10	51	10	0.1	1.8	3.8	1.1	4.0	●	SIM...H4
	CMR 4 R0.1 L15	51	15	0.1	1.8	3.8	1.1	4.0	●	
5.0	CMR 5 R0.2 L10	51	10	0.2	2.3	4.8	1.3	5.0	●	SIM...H5
	CMR 5 R0.2 L15	51	15	0.2	2.3	4.8	1.3	5.0	●	
6.0	CMR 6 R0.2 L12	58	12	0.2	2.8	5.8	1.5	6.0	●	SIM...H6
	CMR 6 R0.2 L18	58	18	0.2	2.8	5.8	1.5	6.0	●	

Order example: CMR 6 R0.2 L12 BMK

* The minimum diameter the tool can produce from full material

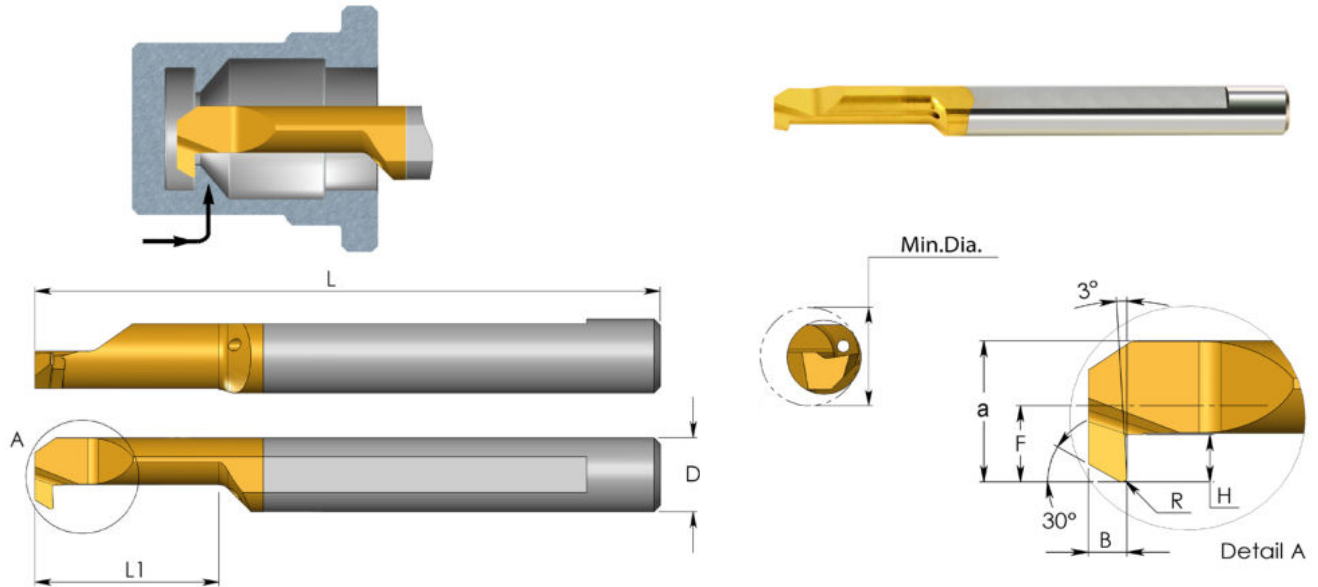
See pages 40-54 for holders

● Available.
Other items available upon request



Demonstration

MXR Bars Back Turning



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

● First choice ○ Alternative

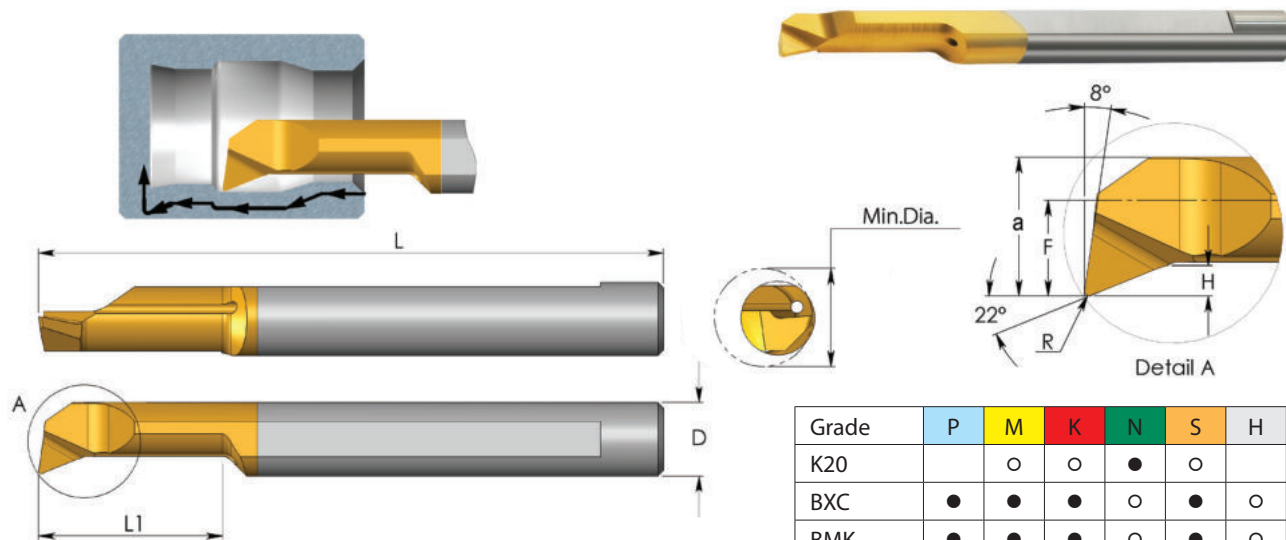
For L.H. bars specify **MXL** instead of **MXR**

D	Ordering Code	L	L1	B	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MXR 4 R0.1 L10	51	10	1.3	0.10	0.5	1.3	2.8	3.1	●	●	●		SIM ... H4
	MXR 4 R0.15 L10	51	10	1.3	0.15	0.8	1.7	3.7	4.1	●	●	●		SIM ... H4
4.0	MXR 4 R0.15 L15	51	15	1.3	0.15	0.8	1.7	3.7	4.1	●	●	●	●	
	MXR 4 R0.15 L22	51	22	1.3	0.15	0.8	1.7	3.7	4.1	●	●	●		
5.0	MXR 5 R0.2 L15	51	15	1.5	0.20	1.0	2.3	4.8	5.1	●	●	●		SIM ... H5
	MXR 5 R0.2 L22	51	22	1.5	0.20	1.0	2.3	4.8	5.1	●	●	●		
6.0	MXR 6 R0.2 L15	51	15	1.5	0.20	1.8	2.8	5.8	6.1	●	●	●		SIM ... H6
	MXR 6 R0.2 L22	51	22	1.5	0.20	1.8	2.8	5.8	6.1	●	●	●	●	
7.0	MXR 7 R0.2 L30	62	30	3.0	0.20	2.5	3.3	6.8	7.1	●	●	●		SIM ... H7

Order example: **MXR 4 R0.15 L15 BXC**
See pages 40-54 for holders

● Available.
Other items available upon request

MPR Bars Profiling and Boring



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

● First choice ○ Alternative

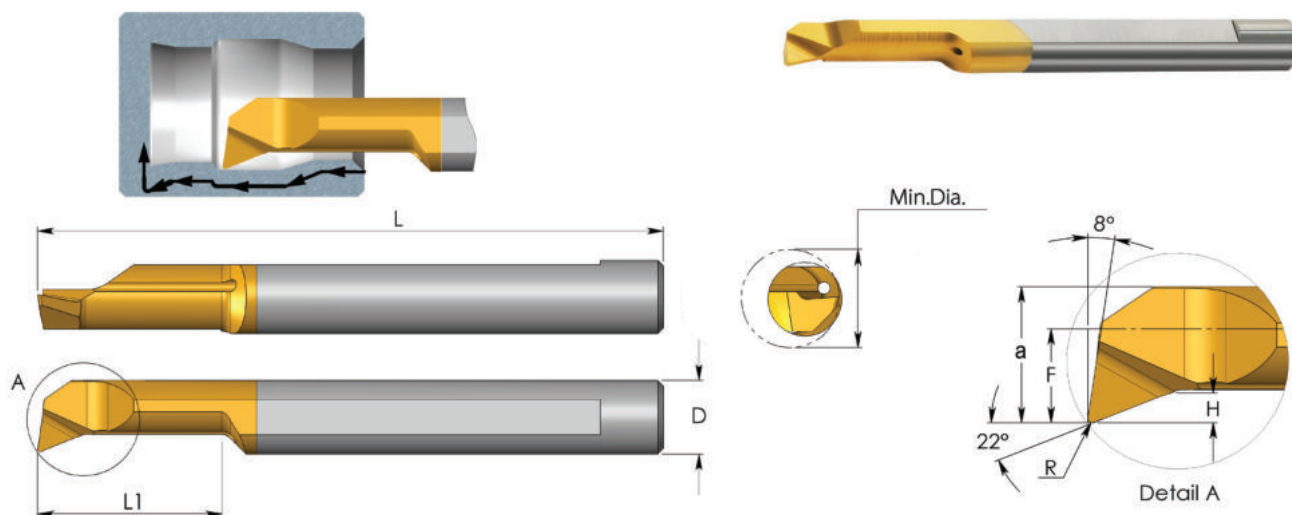
For L.H. Bars specify **MPL** instead of **MPR**

D	Ordering Code	L	L1	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MPR 1 R0.05 L4	39	4	0.05	0.2	0.45	0.95	1.0	●	●	●		SIM ... H3
	MPR 1 R0.05 L8	39	8	0.05	0.2	0.45	0.95	1.0	●	●	●		
3.0	MPR 1.2 R0.1 L5	39	5	0.10	0.3	0.55	1.15	1.2	●	●	●		SIM ... H3
	MPR 1.2 R0.1 L9	39	9	0.10	0.3	0.55	1.15	1.2	●	●	●		
3.0	MPR 1.5 R0.05 L10	39	10	0.05	0.3	0.7	1.4	1.5	●	●	●		SIM ... H3
	MPR 1.5 R0.1 L6	39	6	0.10	0.3	0.7	1.4	1.5	●	●	●	●	
	MPR 1.5 R0.1 L10	39	10	0.10	0.3	0.7	1.4	1.5	●	●	●	●	
3.0	MPR 2 R0.05 L10	39	10	0.05	0.5	0.8	1.8	2.1	●	●	●		SIM ... H3
	MPR 2 R0.1 L10	39	10	0.10	0.5	0.8	1.8	2.1	●	●	●	●	
	MPR 2 R0.15 L5	39	5	0.15	0.5	0.8	1.8	2.1	●	●	●	●	
	MPR 2 R0.15 L10	39	10	0.15	0.5	0.8	1.8	2.1	●	●	●	●	
4.0	MPR 2.5 R0.1 L10	51	10	0.10	0.6	1.0	2.3	2.5	●	●	●		SIM ... H4
	MPR 2.5 R0.1 L15	51	15	0.10	0.6	1.0	2.3	2.5	●	●	●		
3.0	MPR 3 R0.05 L10	39	10	0.05	0.7	1.3	2.8	3.1	●	●	●	●	SIM ... H3
	MPR 3 R0.05 L15	39	15	0.05	0.7	1.3	2.8	3.1	●	●	●		
	MPR 3 R0.1 L10	39	10	0.10	0.7	1.3	2.8	3.1	●	●	●		
	MPR 3 R0.1 L15	39	15	0.10	0.7	1.3	2.8	3.1	●	●	●	●	
	MPR 3 R0.1 L22	47	22	0.10	0.7	1.3	2.8	3.1	●	●	●		
	MPR 3 R0.2 L10	39	10	0.20	0.7	1.3	2.8	3.1	●	●	●	●	
	MPR 3 R0.2 L15	39	15	0.20	0.7	1.3	2.8	3.1	●	●	●	●	
4.0	MPR 4 R0.1 L10	51	10	0.10	0.8	1.7	3.8	4.1	●	●	●	●	SIM ... H4
	MPR 4 R0.1 L15	51	15	0.10	0.8	1.7	3.8	4.1	●	●	●	●	
	MPR 4 R0.1 L22	51	22	0.10	0.8	1.7	3.8	4.1	●	●	●		
	MPR 4 R0.2 L10	51	10	0.20	0.8	1.7	3.8	4.1	●	●	●	●	
	MPR 4 R0.2 L15	51	15	0.20	0.8	1.7	3.8	4.1	●	●	●	●	
	MPR 4 R0.2 L22	51	22	0.20	0.8	1.7	3.8	4.1	●	●	●	●	
	MPR 4 R0.2 L30	62	30	0.20	0.8	1.7	3.8	4.1	●	●	●		

See pages 40-54 for holders

● Available. Other items available upon request

MPR Bars Profiling and Boring

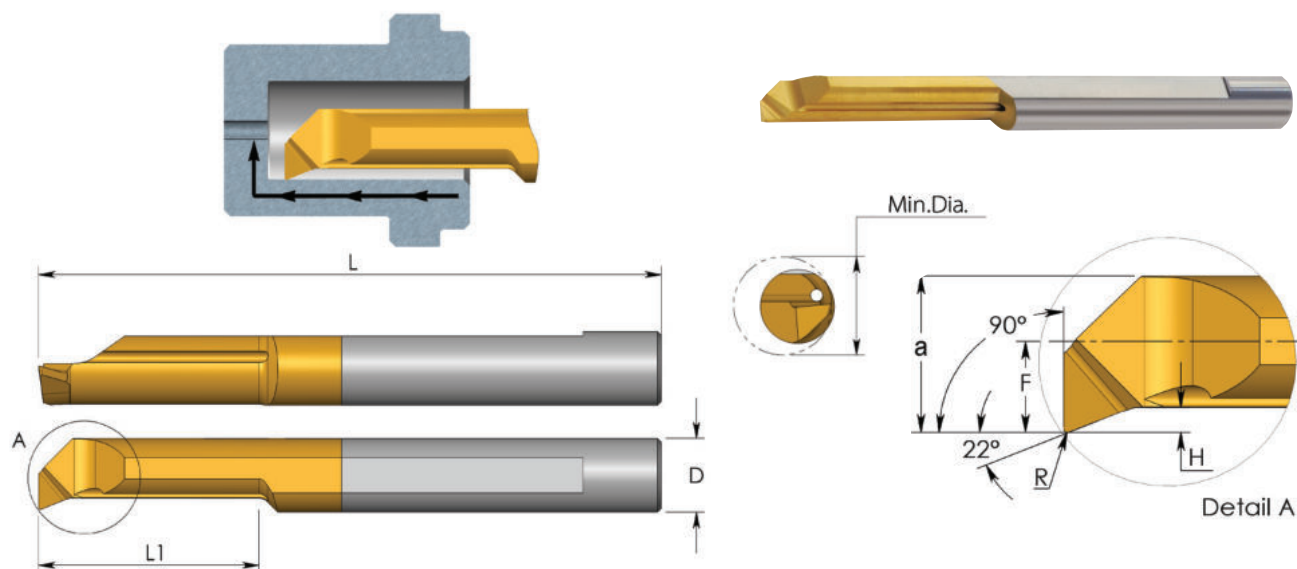


D	Ordering Code	L	L1	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
5.0	MPR 5 R0.1 L22	51	22	0.10	1.2	2.1	4.6	5.1	●	●	●	●	SIM ... H5
	MPR 5 R0.1 L30	76	30	0.10	1.2	2.1	4.6	5.1	●	●	●		
	MPR 5 R0.2 L10	51	10	0.20	1.2	2.1	4.6	5.1	●	●	●	●	
	MPR 5 R0.2 L22	51	22	0.20	1.2	2.1	4.6	5.1	●	●	●	●	
	MPR 5 R0.2 L30	76	30	0.20	1.2	2.1	4.6	5.1	●	●	●	●	
	MPR 5 R0.2 L40	76	40	0.20	0.9	2.1	4.6	5.1	●	●	●		
6.0	MPR 6 R0.05 L15	51	15	0.05	1.4	2.8	5.8	6.1	●	●	●		SIM ... H6
	MPR 6 R0.1 L15	51	15	0.10	1.4	2.8	5.8	6.1	●	●	●		
	MPR 6 R0.1 L22	51	22	0.10	1.4	2.8	5.8	6.1	●	●	●		
	MPR 6 R0.2 L10	51	10	0.20	1.4	2.8	5.8	6.1	●	●	●	●	
	MPR 6 R0.2 L22	51	22	0.20	1.4	2.8	5.8	6.1	●	●	●	●	
	MPR 6 R0.2 L30	76	30	0.20	1.4	2.8	5.8	6.1	●	●	●	●	
	MPR 6 R0.2 L40	76	40	0.20	1.0	2.8	5.8	6.1	●	●	●		
7.0	MPR 7 R0.2 L22	62	22	0.20	1.5	3.3	6.8	7.1	●	●	●		SIM ... H7
	MPR 7 R0.2 L25	62	25	0.20	1.5	3.3	6.8	7.1	●	●	●		
	MPR 7 R0.2 L30	62	30	0.20	1.5	3.3	6.8	7.1	●	●	●	●	
	MPR 7 R0.2 L35	62	35	0.20	1.5	3.3	6.8	7.1	●	●	●		
8.0	MPR 8 R0.2 L15	64	15	0.20	1.6	3.8	7.8	8.1	●	●	●	●	SIM ... H8
	MPR 8 R0.2 L22	64	22	0.20	1.6	3.8	7.8	8.1	●	●	●	●	
	MPR 8 R0.2 L35	76	35	0.20	1.6	3.8	7.8	8.1	●	●	●	●	
10.0	MPR 10 R0.2 L35	73	35	0.20	2.0	4.8	9.8	10.1	●	●	●		SIM ... H10

Order example: MPR 4 R0.2 L15 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MUR Bars Profiling, 90° Face Cutting



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

For L.H. bars specify **MUL** instead of **MUR**

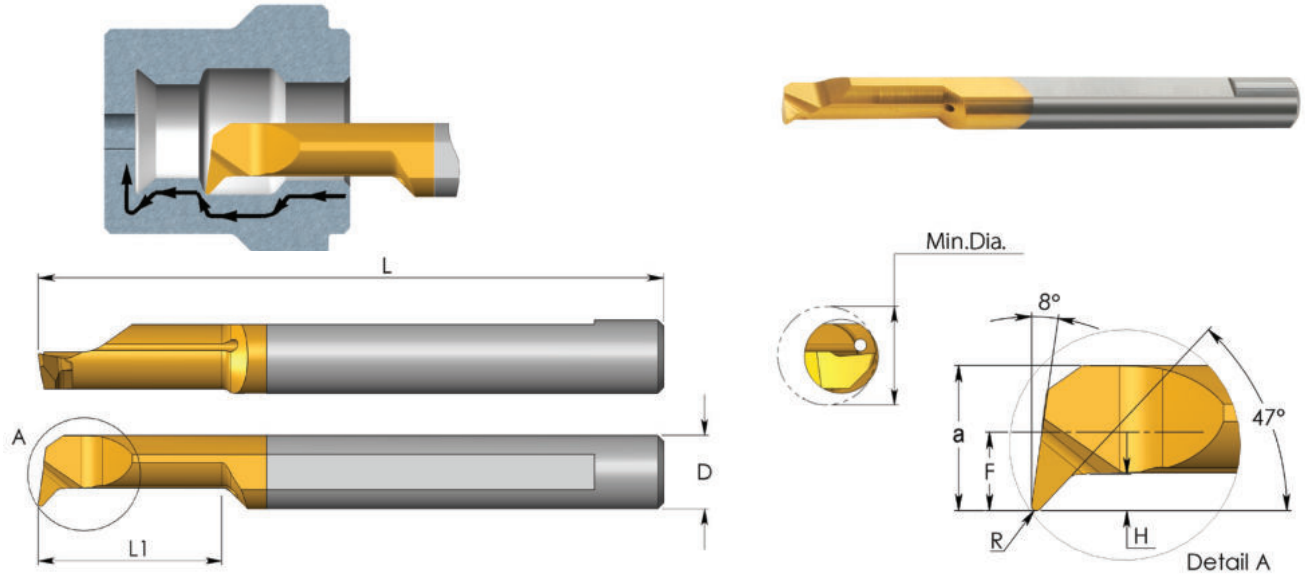
● First choice ○ Alternative

D	Ordering Code	L	L1	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MUR 3 R0.05 L10	39	10	0.05	0.4	1.3	2.8	3.1	●	●	●		SIM ... H3
	MUR 3 R0.05 L15	39	15	0.05	0.4	1.3	2.8	3.1	●	●	●	●	
4.0	MUR 4 R0.1 L10	51	10	0.10	0.5	1.7	3.7	4.1	●	●	●		SIM ... H4
	MUR 4 R0.1 L15	51	15	0.10	0.5	1.7	3.7	4.1	●	●	●	●	
	MUR 4 R0.1 L22	51	22	0.10	0.5	1.7	3.7	4.1	●	●	●		
5.0	MUR 5 R0.15 L15	51	15	0.15	0.7	2.1	4.6	5.1	●	●	●		SIM ... H5
	MUR 5 R0.15 L22	51	22	0.15	0.7	2.1	4.6	5.1	●	●	●		
6.0	MUR 6 R0.15 L15	51	15	0.15	0.9	2.8	5.8	6.1	●	●	●		SIM ... H6
	MUR 6 R0.15 L22	51	22	0.15	0.9	2.8	5.8	6.1	●	●	●	●	
	MUR 6 R0.15 L30	76	30	0.15	0.9	2.8	5.8	6.1	●	●	●		
8.0	MUR 8 R0.2 L22	64	22	0.20	1.1	3.8	7.8	8.1	●	●	●		SIM ... H8

Order example: MUR 5 R0.15 L15 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MQR Bars Profiling and Boring



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

● First choice ○ Alternative

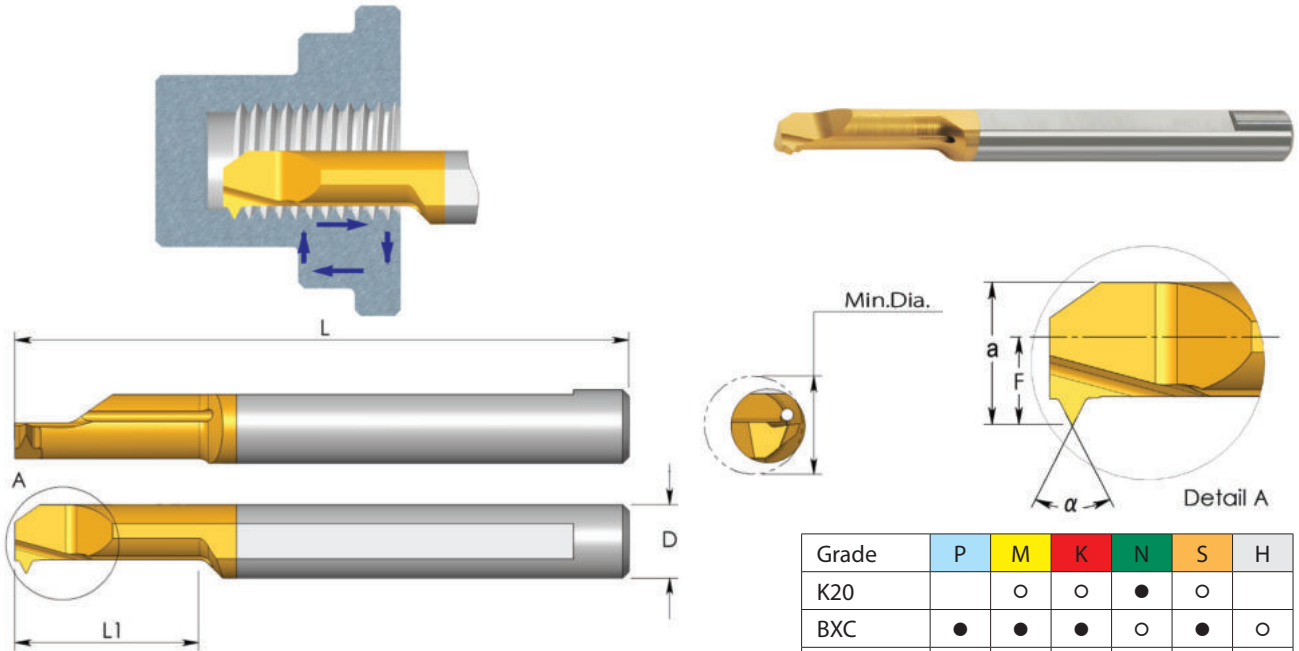
For L.H. bars specify **MQL** instead of **MQR**

D	Ordering Code	L	L1	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MQR 3 R0.1 L10	39	10	0.10	0.6	1.3	2.8	3.1	●	●	●		SIM ... H3
	MQR 3 R0.1 L15	39	15	0.10	0.6	1.3	2.8	3.1	●	●	●		
4.0	MQR 4 R0.1 L22	51	22	0.10	0.8	1.8	3.8	4.1	●	●	●		SIM ... H4
	MQR 4 R0.2 L10	51	10	0.20	0.8	1.8	3.8	4.1	●	●	●	●	
	MQR 4 R0.2 L15	51	15	0.20	0.8	1.8	3.8	4.1	●	●	●	●	
	MQR 4 R0.2 L22	51	22	0.20	0.8	1.8	3.8	4.1	●	●	●		
5.0	MQR 5 R0.2 L15	51	15	0.20	1.0	2.3	4.8	5.1	●	●	●	●	SIM ... H5
	MQR 5 R0.2 L22	51	22	0.20	1.0	2.3	4.8	5.1	●	●	●	●	
6.0	MQR 6 R0.2 L15	51	15	0.20	1.4	2.8	5.8	6.1	●	●	●	●	SIM ... H6
	MQR 6 R0.2 L22	51	22	0.20	1.4	2.8	5.8	6.1	●	●	●	●	
	MQR 6 R0.2 L30	58	30	0.20	1.4	2.8	5.8	6.1	●	●	●		
7.0	MQR 7 R0.2 L22	62	22	0.20	1.8	3.3	6.8	7.1	●	●	●		SIM ... H7
	MQR 7 R0.2 L30	62	30	0.20	1.8	3.3	6.8	7.1	●	●	●		
8.0	MQR 8 R0.2 L22	64	22	0.20	1.6	3.8	7.8	8.1	●	●	●		SIM ... H8
	MQR 8 R0.2 L27	64	27	0.20	2.0	3.8	7.8	8.1	●	●	●	●	

Order example: MQR 5 R0.2 L15 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



Partial Profile 55°

For L.H. bars specify MIL instead of MIR

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

● First choice ○ Alternative

D	Ordering Code	Pitch Range		L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
		mm	TPI											
3.0	MIR 3 L15 A55	0.5 - 1.0	48 - 24	39	15	55	1.4	2.9	3.2	●	●	●		SIM ... H3
4.0	MIR 4 L15 A55	0.5 - 1.0	48 - 24	51	15	55	1.8	3.8	4.1	●	●	●		SIM ... H4
5.0	MIR 5 L15 A55	0.5 - 1.25	48 - 20	51	15	55	2.3	4.8	5.1	●	●	●		SIM ... H5
	MIR 5 L22 A55	0.5 - 1.25	48 - 20	51	22	55	2.3	4.8	5.1	●	●	●		
6.0	MIR 6 L15 A55	0.5 - 1.5	48 - 16	51	15	55	2.6	5.6	6.0	●	●	●	●	SIM ... H6
	MIR 6 L22 A55	0.5 - 1.5	48 - 16	51	22	55	2.6	5.6	6.0	●	●	●	●	

Order example: MIR 5 L15 A55 BXC

Partial Profile 60°

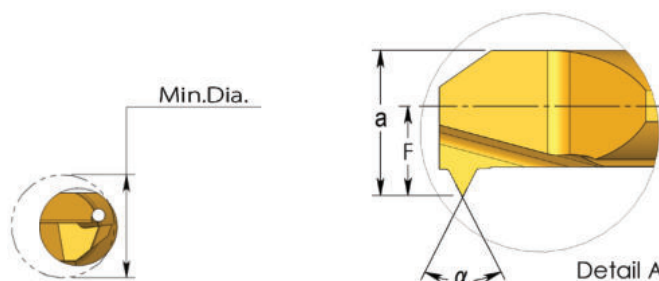
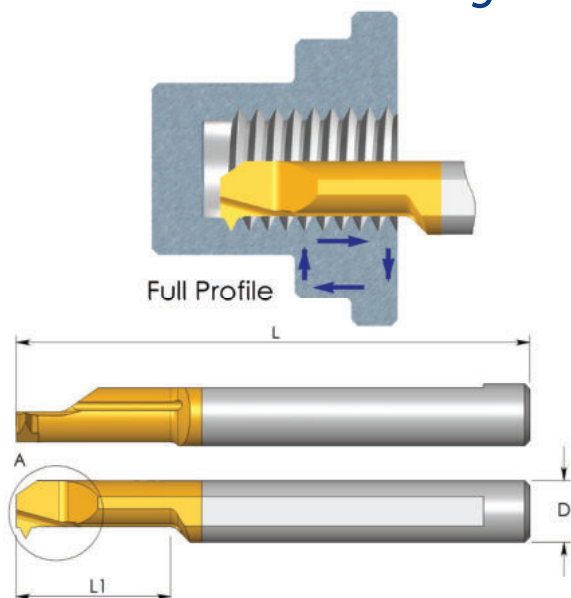
For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch Range		L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
		mm	TPI											
3.0	MIR 1 L5 A60	0.25 - 0.35	100 - 72	39	4.8	60	0.55	1.15	1.2	●	●	●		SIM ... H3
	MIR 1.5 L6 A60	0.35 - 0.45	72 - 56	39	6.3	60	0.65	1.35	1.4	●	●	●		
3.0	MIR 2 L8 A60	0.45 - 0.7	56 - 32	39	8	60	1.0	2.0	2.1	●	●	●		SIM ... H3
3.0	MIR 3 L14 A60	0.25 - 0.35	100 - 72	39	14	60	1.4	2.9	3.2	●	●	●		SIM ... H3
	MIR 3 L15 A60	0.7 - 1.0	32 - 24	39	15	60	1.4	2.9	3.2	●	●	●	●	
4.0	MIR 4 L17 A60	0.35 - 0.45	72 - 56	51	17	60	1.8	3.8	4.1	●	●	●		SIM ... H4
	MIR 4 L15 A60	0.8 - 1.0	32 - 24	51	15	60	1.8	3.8	4.1	●	●	●	●	
5.0	MIR 5 L15 A60	1.0 - 1.25	24 - 20	51	15	60	2.3	4.8	5.1	●	●	●	●	SIM ... H5
	MIR 5 L22 A60	1.0 - 1.25	24 - 20	51	22	60	2.3	4.8	5.1	●	●	●	●	
6.0	MIR 6 L15 A60	1.0 - 1.5	24 - 16	51	15	60	2.6	5.6	6.0	●	●	●	●	SIM ... H6
	MIR 6 L22 A60	1.0 - 1.5	24 - 16	51	22	60	2.6	5.6	6.0	●	●	●	●	
8.0	MIR 8 L22 A60	1.0 - 2.0	24 - 13	64	22	60	3.8	7.8	8.0	●	●	●	●	SIM ... H8

Order example: MIR 5 L15 A60 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



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

● First choice ○ Alternative

Full Profile – ISO 60°

For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch mm	M Coarse	M Fine	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MIR 3 L10 0.5 ISO	0.5	M3	M3.5	39	10	60	1.0	2.3	2.4	●	●	●		SIM ... H3
	MIR 3 L15 0.5 ISO	0.5		M4	39	15	60	1.4	2.9	3.2	●	●	●		
3.0	MIR 3 L15 0.7 ISO	0.7	M4		39	15	60	1.4	2.9	3.2	●	●	●		SIM ... H3
	MIR 3 L15 0.75 ISO	0.75	M4.5		39	15	60	1.4	2.9	3.2	●	●	●		
4.0	MIR 4 L15 0.5 ISO	0.5		M5	51	15	60	1.8	3.8	4.1	●	●	●	●	SIM ... H4
	MIR 4 L15 0.75 ISO	0.75		M5	51	15	60	1.8	3.8	4.1	●	●	●	●	
	MIR 4 L15 0.8 ISO	0.8	M5		51	15	60	1.8	3.8	4.1	●	●	●		
5.0	MIR 5 L15 1.0 ISO	1.0	M6, M7	M8	51	15	60	2.2	4.7	4.9	●	●	●	●	SIM ... H5
6.0	MIR 6 L22 1.25 ISO	1.25	M8, M9	M10	51	22	60	2.8	5.8	6.1	●	●	●	●	SIM ... H6
	MIR 6 L22 1.5 ISO	1.5	M10, M11		51	22	60	2.8	5.8	6.1	●	●	●		

Order example: MIR 5 L15 1.0 ISO BXC

Full Profile – UN 60°

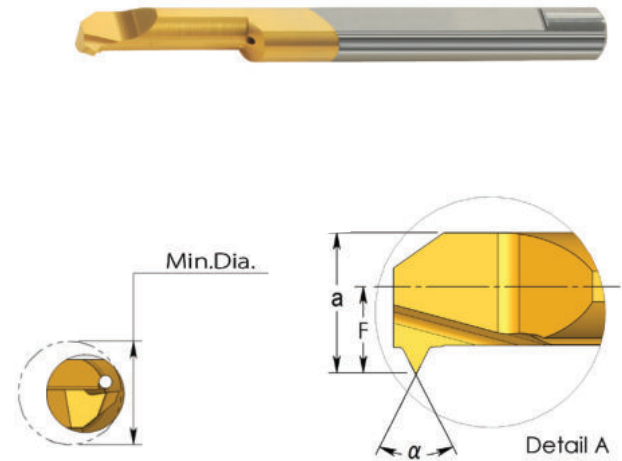
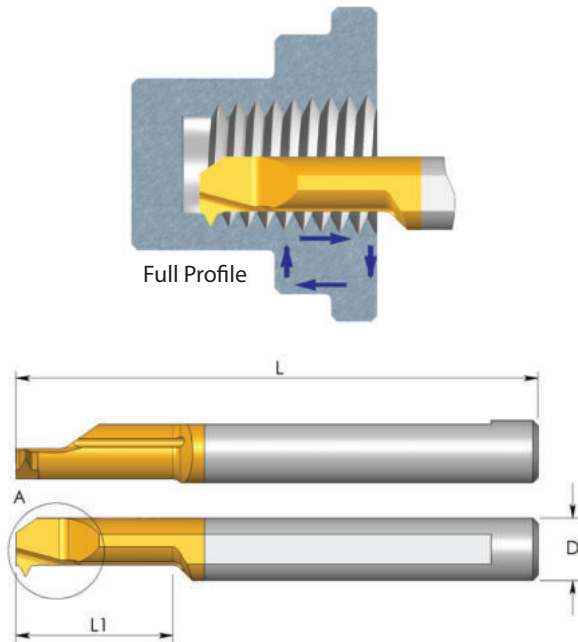
For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch TPI	UNC	UNF	UNEF	UNS	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MIR 3 L10 32 UN	32	6				39	10	60	1.0	2.5	2.7	●	●	●		SIM...H3
3.0	MIR 3 L15 32 UN	32	8	10			39	15	60	1.4	2.9	3.2	●	●	●	●	SIM...H3
	MIR 3 L15 36 UN	36		8		10	39	15	60	1.4	2.9	3.2	●	●	●		
4.0	MIR 4 L15 36 UN	36				12	51	15	60	1.8	3.8	4.1	●	●	●		SIM...H4
	MIR 4 L15 32 UN	32			12		51	15	60	1.8	3.8	4.1	●	●	●		
5.0	MIR 5 L15 28 UN	28		1/4			51	15	60	2.2	4.7	4.9	●	●	●	●	SIM...H5
	MIR 5 L15 24 UN	24				1/4	51	15	60	2.3	4.8	5.1	●	●	●		
	MIR 5 L18 20 UN	20	1/4				51	18	60	2.3	4.8	5.0	●	●	●		
6.0	MIR 6 L18 24 UN	24		5/16			51	18	60	2.8	5.8	6.5	●	●	●		SIM...H6
	MIR 6 L18 18 UN	18	5/16			3/8	51	18	60	2.8	5.8	6.2	●	●	●		

Order example: MIR 4 L15 36 UN BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



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

● First choice ○ Alternative

Full Profile – MJ 60°

For L.H. bars specify **MIL** instead of **MIR**

D	Ordering Code	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MIR 3 L15 0.7 MJ	MJ4x0.7	39	15	60	1.4	2.9	3.2	●	●	●		SIM ... H3
4.0	MIR 4 L15 0.8 MJ	MJ5x0.8	51	15	60	1.8	3.8	4.1	●	●	●		SIM ... H4
5.0	MIR 5 L15 1.0 MJ	MJ6x1.0	51	15	60	2.2	4.7	4.9	●	●	●		SIM ... H5

Order example: MIR 4 L15 0.8 MJ BXC

Full Profile – UNJ 60°

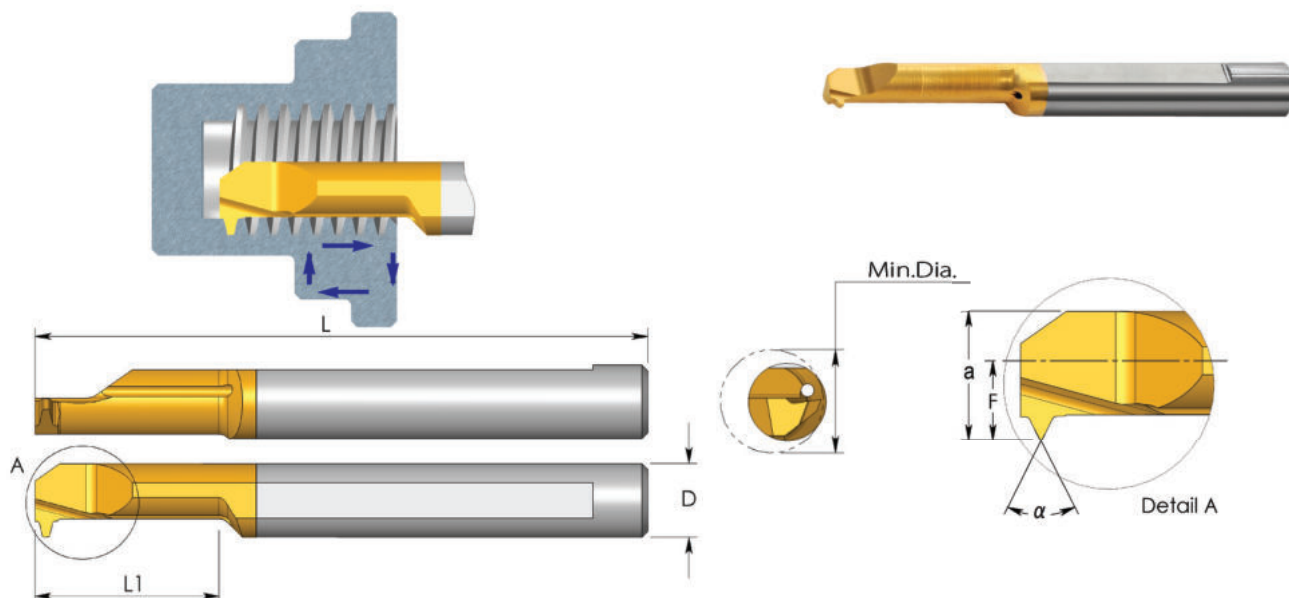
For L.H. bars specify **MIL** instead of **MIR**

D mm	Ordering Code	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MIR 3 L15 32 UNJ	8-32 UNJC	39	15	60	1.4	2.9	3.2	●	●	●		SIM...H3
5.0	MIR 5 L15 28 UNJ	1/4-28 UNJF	51	15	60	2.2	4.7	4.9	●	●	●	●	SIM...H5
	MIR 5 L18 20 UNJ	1/4-20 UNJC	51	18	60	2.3	4.8	5.0	●	●	●		SIM...H5

Order example: MIR 3 L15 32 UNJ BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



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

● First choice ○ Alternative

Full Profile – G 55° BSP

For L.H. bars specify MIL instead of MIR

D	Ordering Code	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
6.0	MIR 6 L17 28 W	1/16-28 BSP	51	17	55	2.8	5.8	6.5	●	●	●	●	SIM ... H6
	MIR 6 L17 19 W	1/4-19 BSP	51	17	55	2.8	5.8	7.0	●	●	●		

Full Profile – Whitworth 55° BSW

For L.H. bars specify MIL instead of MIR

D	Ordering Code	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
5.0	MIR 5 L17 20 W	1/4-20 BSW	51	17	55	2.0	4.5	4.7	●	●	●		SIM ... H5

Full Profile – BSPT

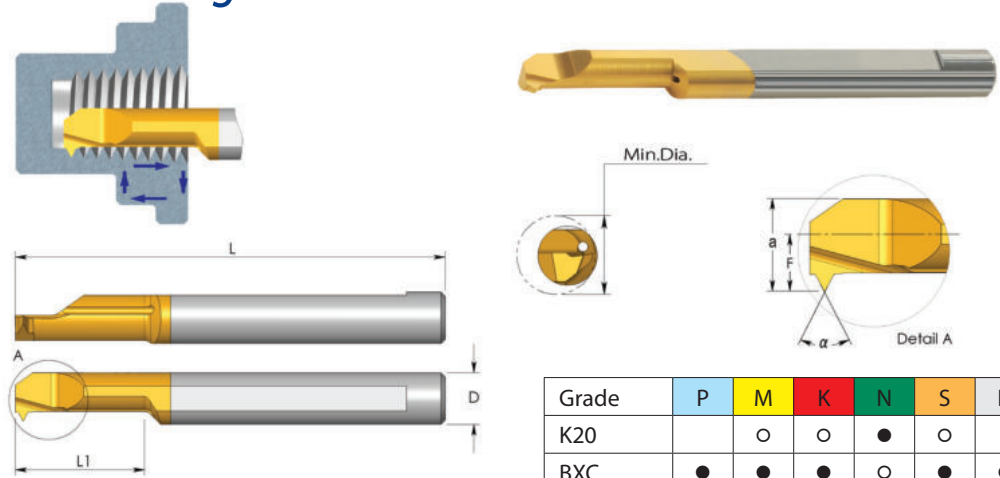
For L.H. bars specify MIL instead of MIR

D	Ordering Code	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
New 6.0	MIR 6 L15 28 BSPT	1/16 - 28 BSPT 1/8 - 28 BSPT	51	15	55	2.8	5.8	6.1	●	●	●		SIM ... H6

Order example: MIR 6 L17 28 W BMK
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



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

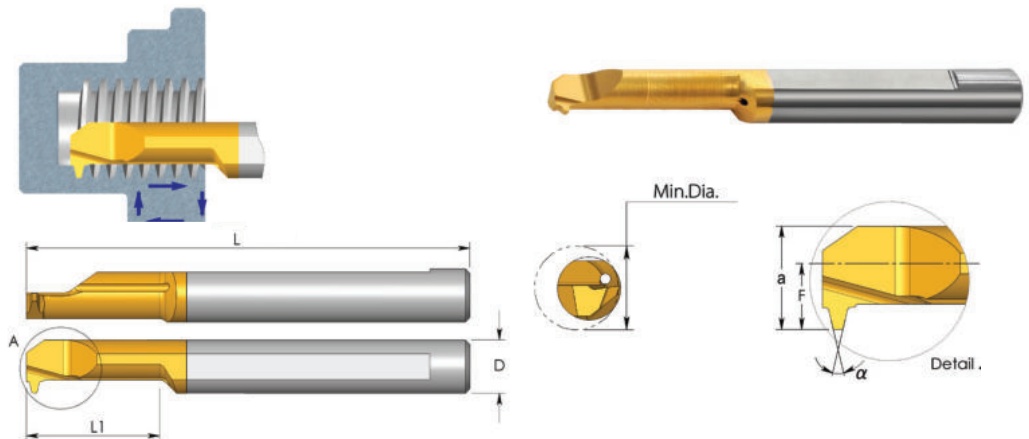
● First choice ○ Alternative

Full Profile – NPT 60°

For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
6.0	MIR 6 L15 27 NPT	27	1/16 x 27 NPT 1/8 x 27 NPT	51	15	60	2.8	5.8	5.9	●	●	●	●	SIM ... H6

Order example: MIR 6 L15 27 NPT BXC



Acme

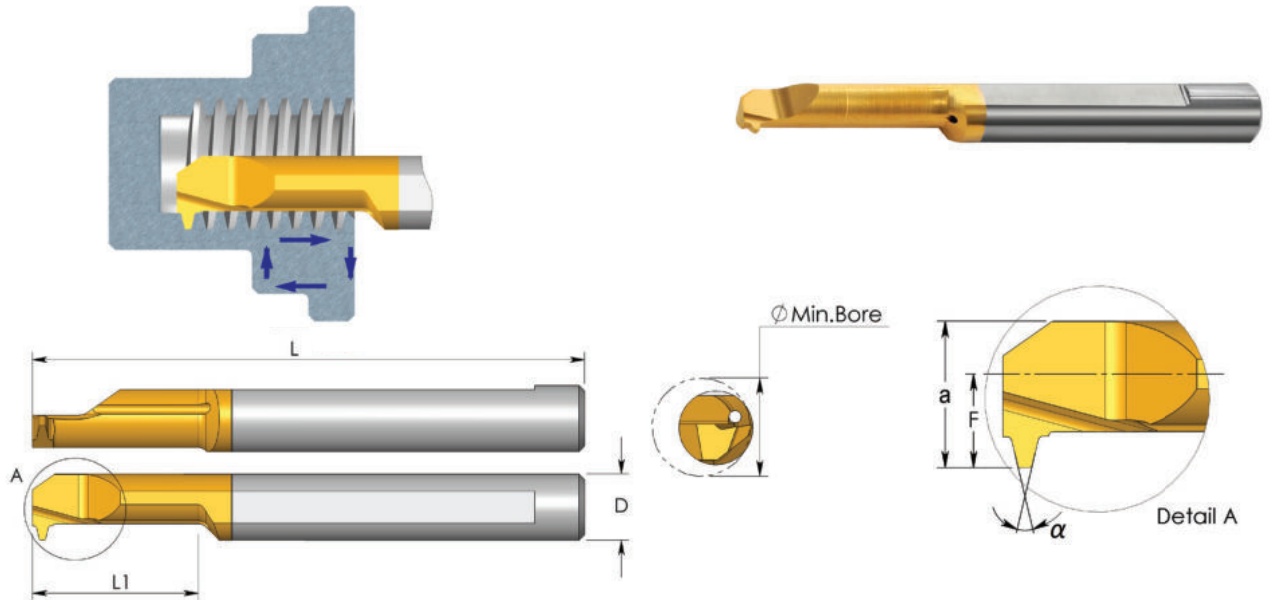
For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MIR 4 L15 16 ACME	16	1/4 x 16	51	15	29	1.8	3.8	4.6	●	●	●		SIM ... H4
6.0	MIR 6 L20 14 ACME	14	5/16 x 14	51	20	29	2.8	5.8	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	6.8	7.2	●	●	●		SIM ... H7
8.0	MIR 8 L30 10 ACME	10	1/2 x 10	76	30	29	3.8	7.8	10.0	●	●	●	●	SIM ... H8
10.0	MIR 10 L35 8 ACME	8	5/8 x 8	73	35	29	4.8	9.8	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	9.8	14.6	●	●	●	●	SIM ... H10
10.0	MIR 10 L52 5 ACME	5	1x5	105	52	29	4.8	9.8	20.0	●	●	●		SIM ... H10

Order example: MIR 6 L 20 14 ACME BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MIR Bars Threading



Stub Acme

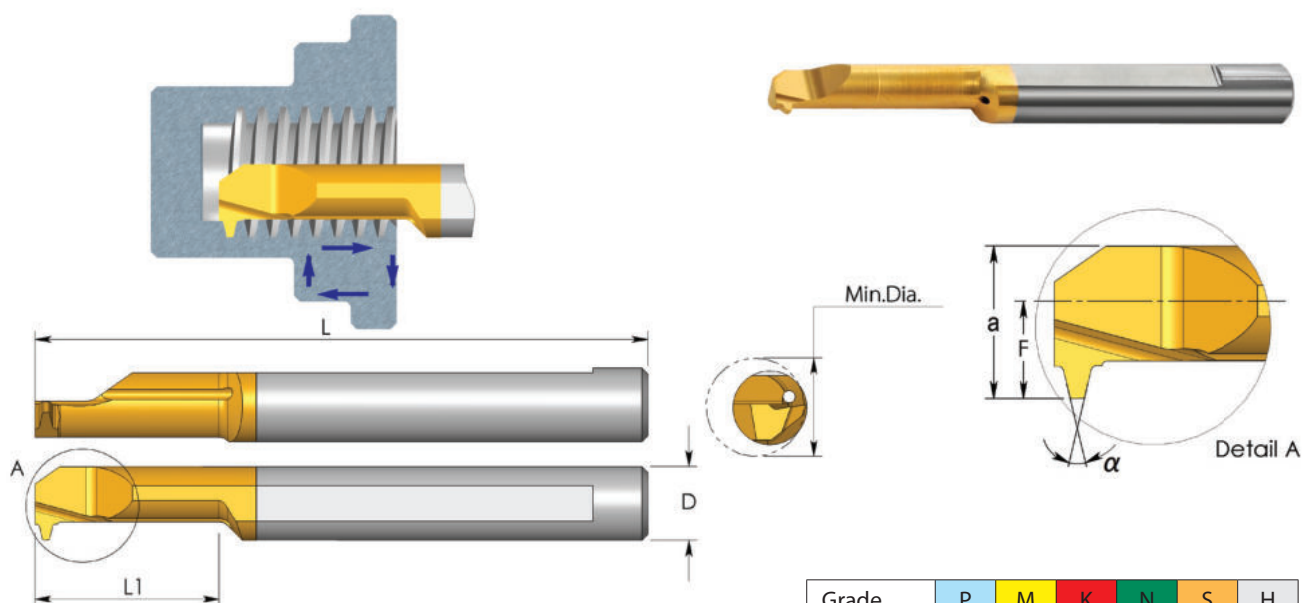
For L.H. bars specify MIL instead of MIR

D	Ordering Code	Pitch TPI	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MIR 4 L15 16 STACME	16	1/4 x 16	51	15	29	1.8	3.8	5.2	•	•	•		SIM ... H4
6.0	MIR 6 L20 14 STACME	14	5/16 x 14	51	20	29	2.8	5.8	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	6.8	8.1	•	•	•		SIM ... H7
8.0	MIR 8 L30 10 STACME	10	1/2 x 10	76	30	29	3.8	7.8	11.0	•	•	•		SIM ... H8
10.0	MIR 10 L35 8 STACME	8	5/8 x 8	73	35	29	4.8	9.8	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	9.8	16.3	•	•	•		SIM ... H10

Order example: MIR 7 L22 12 STACME K20
See pages 40-54 for holders

- Available.
- Other items available upon request

MIR Bars Threading



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

● First choice ○ Alternative

Trapez – DIN 103

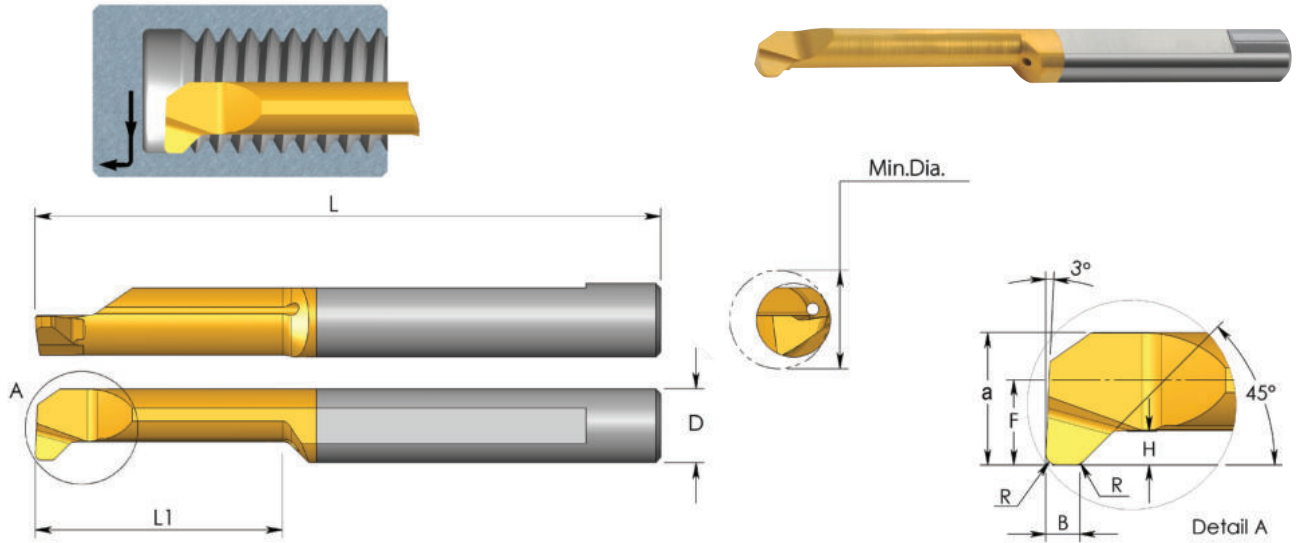
For L.H. bars specify **MIL** instead of **MIR**

D	Ordering Code	Pitch mm	Thread Size	L	L1	α	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
6.0	MIR 6L22 1.5TR	1.5	TR 8 x 1.5 TR 9 x 1.5 TR10 x 1.5	51	22	30	2.8	5.8	6.4	●	●	●		SIM ... H6
7.0	MIR 7L25 2 TR	2	TR 9 x 2 TR10 x 2 TR11 x 2 TR12 x 2	62	25	30	3.2	6.7	6.9	●	●	●	●	SIM ... H7
10.0	MIR 10L35 2 TR	2	TR14 x 2 TR16 x 2 TR18 x 2 TR20 x 2	73	35	30	4.8	9.8	11.0	●	●	●		SIM ... H10
7.0	MIR 7L35 3 TR	3	TR11 x 3 TR12 x 3	62	35	30	3.3	6.8	7.5	●	●	●	●	SIM ... H7
10.0	MIR 10L35 3 TR	3	TR14 x 3 TR22 x 3 TR24 x 3 TR26 x 3 TR28 x 3	73	35	30	4.8	9.8	10.5	●	●	●		SIM ... H10
10.0	MIR 10L45 4 TR	4	TR16 x 4 TR18 x 4 TR20 x 4	105	45	30	4.8	9.8	11.5	●	●	●		SIM ... H10
10.0	MIR 10L55 5 TR	5	TR22 x 5 TR24 x 5 TR28 x 5	105	55	30	4.8	9.8	11.0	●	●	●		SIM ... H10

Order example: MIR 10 L35 3 TR BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MDR Bars Thread Relief, Chamfering and Grooving



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

● First choice ○ Alternative

For L.H. bars specify MDL instead of MDR

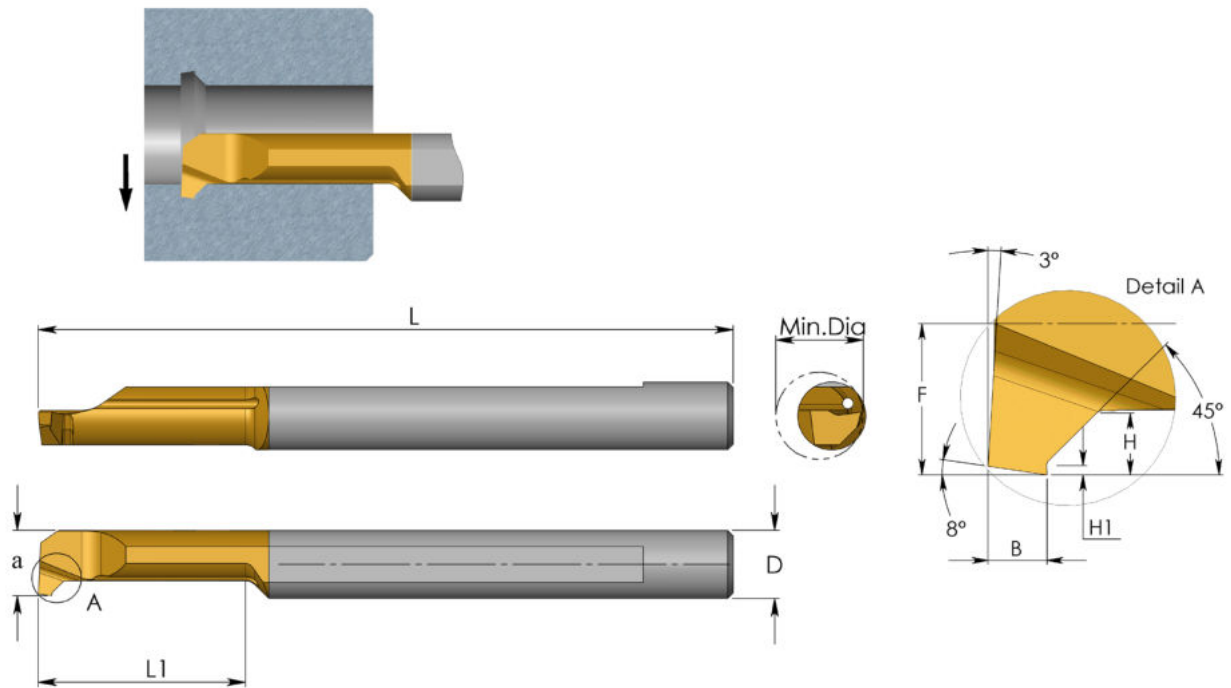
D	Ordering Code	L	L1	B	R	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MDR 4 R0.5 L18	51	18	1.5	0.5	0.8	1.8	3.8	4.1	●	●	●	●	SIM ... H4
5.0	MDR 5 R0.5 L24	51	24	1.5	0.5	1.2	2.3	4.8	5.1	●	●	●		SIM ... H5
6.0	MDR 6 R0.5 L27	58	27	1.5	0.5	1.4	2.8	5.8	6.1	●	●	●	●	SIM ... H6

Order example: MDR 5 R0.5 L24 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

New

CPR Bars Pre-parting and Chamfering



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

● First choice ○ Alternative

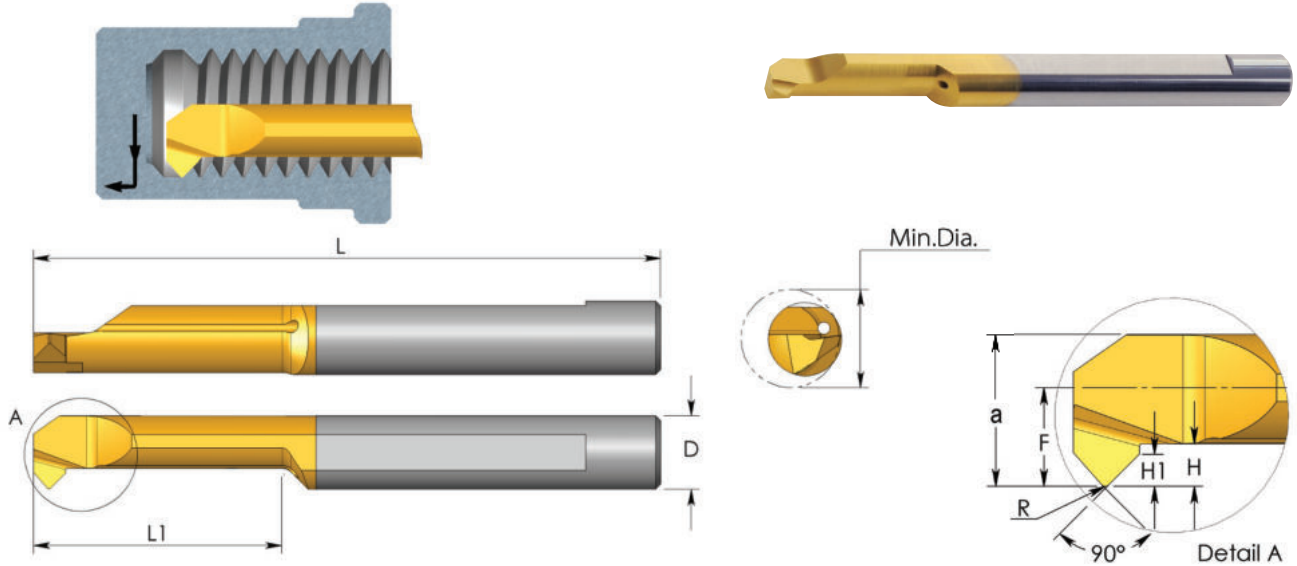
For L.H. bars specify CPL... instead of CPR...

D	Ordering Code	L	L1	B	H	H1	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	CPR 4 B1.0 L10	51	10	1.0	0.8	0.2	1.8	3.8	4.1	●	●	●		SIM ... H4
	CPR 4 B1.0 L15	51	15	1.0	0.8	0.2	1.8	3.8	4.1	●	●	●		
5.0	CPR 5 B1.0 L15	51	15	1.0	1.0	0.2	2.3	4.8	5.1	●	●	●		SIM ... H5
	CPR 5 B1.0 L22	51	22	1.0	1.0	0.2	2.3	4.8	5.1	●	●	●		
6.0	CPR 6 B1.0 L15	51	15	1.0	1.2	0.2	2.8	5.8	6.1	●	●	●		SIM ... H6
	CPR 6 B1.0 L22	51	22	1.0	1.2	0.2	2.8	5.8	6.1	●	●	●		
	CPR 6 B1.0 L30	76	30	1.0	1.2	0.2	2.8	5.8	6.1	●	●	●		

Order example: CPR 6 B1.0 L15 BXC

- Available.
- Other items available upon request

MCR Bars Chamfering and Boring



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

● First choice ○ Alternative

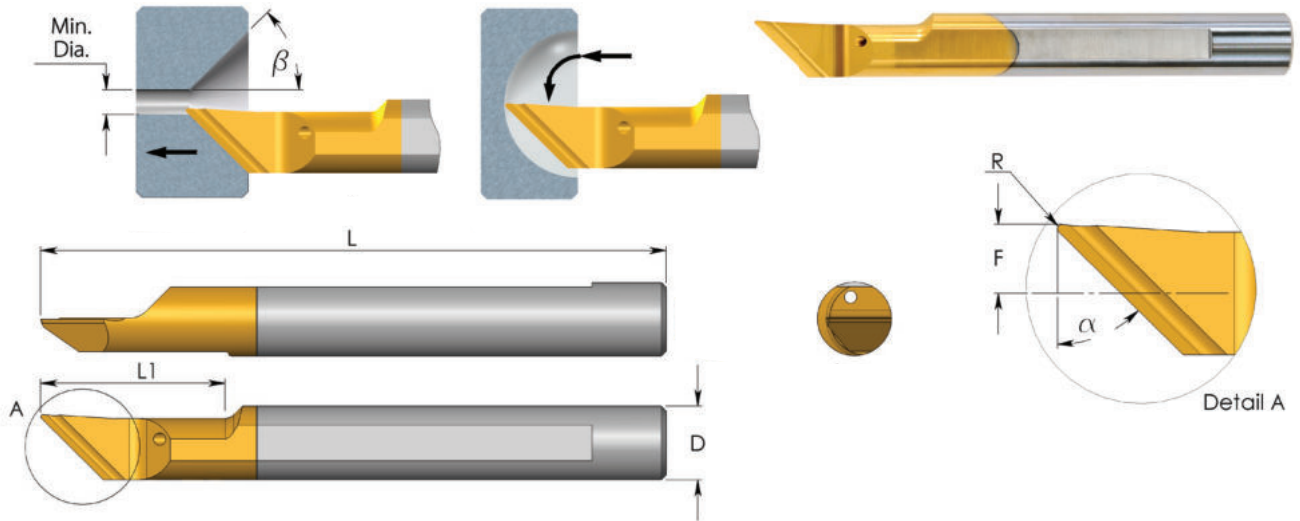
For L.H. bars specify **MCL** instead of **MCR**

D	Ordering Code	L	L1	R	H	H1	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
3.0	MCR 3 R0.2 L10	39	10	0.2	0.7	0.3	1.3	2.8	3.1	●	●	●		SIM ... H3
4.0	MCR 4 R0.2 L15	51	15	0.2	0.8	0.4	1.7	3.7	4.1	●	●	●		SIM ... H4
5.0	MCR 5 R0.2 L15	51	15	0.2	1.2	0.7	2.1	4.6	5.1	●	●	●		SIM ... H5
6.0	MCR 6 R0.2 L15	51	15	0.2	1.4	0.7	2.8	5.8	6.1	●	●	●	●	SIM ... H6
7.0	MCR 7 R0.2 L20	62	20	0.2	1.5	0.8	3.3	6.8	7.1	●	●	●	●	SIM ... H7

Order example: MCR 4 R0.2 L15 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MWR Bars Chamfering and Profiling



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

● First choice ○ Alternative

For L.H. bars specify MWL instead of MWR

D	Ordering Code	L	L1	R	α	β	F	Min. Dia.	K20	BXC	BMK	TNX	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	●	●	●	●	
6.0	* 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

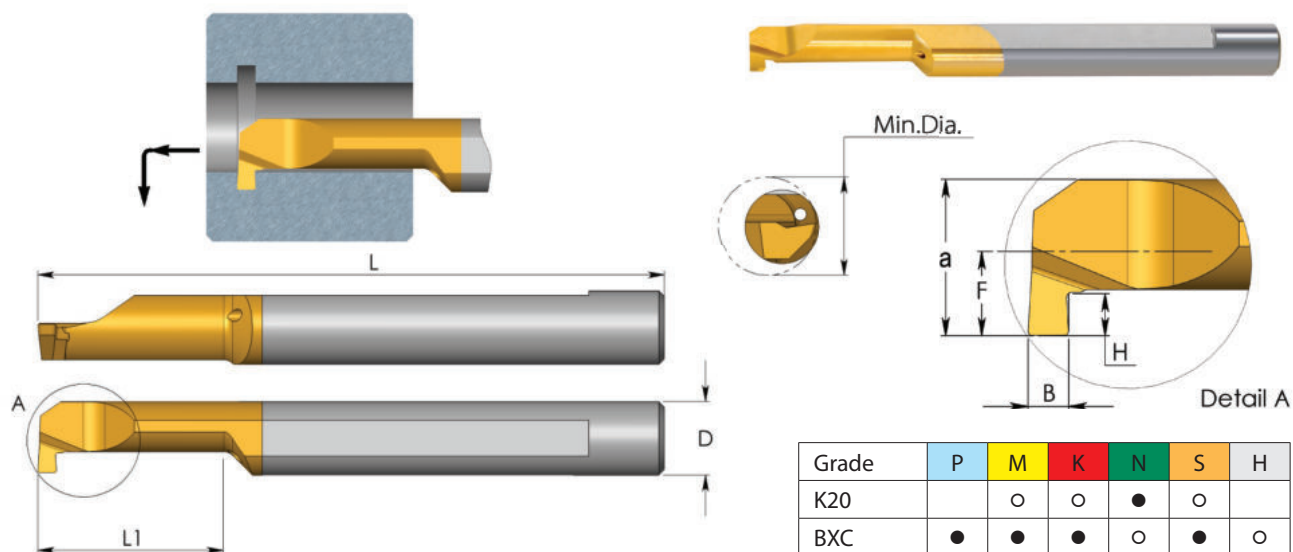
*Can be used also for boring

See pages 40-54 for holders

● Available.

Other items available upon request

MGR Bars Grooving



For L.H. bars specify **MGL** instead of **MGR**

● First choice ○ Alternative

D	Ordering Code	L	L1	B		H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
				mm	in									
4.0	MGR 2 B0.5 L10	51	10	0.5	.020	0.5	0.9	1.9	2.1	●	●	●		SIM ... H4
3.0	MGR 3 B0.5 L10	39	10	0.5	.020	0.5	1.3	2.8	3.1	●	●	●		SIM ... H3
	MGR 3 B0.7 L10	39	10	0.7	.028	0.6	1.3	2.8	3.1	●	●	●	●	
4.0	MGR 4 B0.5 L10	51	10	0.5	.020	0.5	1.7	3.7	4.1	●	●	●		SIM ... H4
	MGR 4 B0.5 L15	51	15	0.5	.028	0.5	1.7	3.7	4.1	●	●	●		
	MGR 4 B0.7 L10	51	10	0.7	.028	0.6	1.7	3.7	4.1	●	●	●		
	MGR 4 B0.79 L15	51	15	0.79	.031	0.9	1.7	3.7	4.1	●	●	●		
	MGR 4 B0.79 L22	51	22	0.79	.031	0.9	1.7	3.7	4.1	●	●	●		
	MGR 4 B1.0 L10	51	10	1.0	.039	1.0	1.7	3.7	4.1	●	●	●	●	
	MGR 4 B1.0 L15	51	15	1.0	.039	1.0	1.7	3.7	4.1	●	●	●	●	
	MGR 4 B1.0 L22	51	22	1.0	.039	1.0	1.7	3.7	4.1	●	●	●		
	MGR 4 B1.5 L10	51	10	1.5	.059	1.0	1.7	3.7	4.1	●	●	●	●	
	MGR 4 B1.5 L15	51	15	1.5	.059	1.0	1.7	3.7	4.1	●	●	●		
MGR 4 B1.5 L22	51	22	1.5	.059	1.0	1.7	3.7	4.1	●	●	●			
5.0	MGR 5 B0.79 L15	51	15	0.79	.031	1.0	2.3	4.8	5.1	●	●	●		SIM ... H5
	MGR 5 B0.79 L22	51	22	0.79	.031	1.0	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.0 L15	51	15	1.0	.039	1.2	2.3	4.8	5.1	●	●	●	●	
	MGR 5 B1.0 L22	51	22	1.0	.039	1.2	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.19 L15	51	15	1.19	.047	1.2	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.19 L22	51	22	1.19	.047	1.2	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.5 L15	51	15	1.5	.059	1.2	2.3	4.8	5.1	●	●	●	●	
	MGR 5 B1.5 L22	51	22	1.5	.059	1.2	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.59 L15	51	15	1.59	.063	1.2	2.3	4.8	5.1	●	●	●		
	MGR 5 B1.59 L22	51	22	1.59	.063	1.2	2.3	4.8	5.1	●	●	●		
New	MGR 5 B2.0 L10	51	10	2.0	.079	1.2	2.3	4.8	5.1	●	●	●		SIM ... H5
	MGR 5 B2.0 L15	51	15	2.0	.079	1.2	2.3	4.8	5.1	●	●	●	●	
	MGR 5 B2.0 L22	51	22	2.0	.079	1.2	2.3	4.8	5.1	●	●	●		

Tolerance: B±0.025 mm/.001"
See pages 40-54 for holders

● Available.
Other items available upon request

MGR Bars Grooving

D	Ordering Code	L	L1	B		H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
				mm	in									
6.0	MGR 6 B1.0 L15	51	15	1.0	.039	1.4	2.8	5.8	6.1	●	●	●	●	SIM ... H6
	MGR 6 B1.0 L22	51	22	1.0	.039	1.4	2.8	5.8	6.1	●	●	●	●	
	MGR 6 B1.5 L15	51	15	1.5	.059	1.4	2.8	5.8	6.1	●	●	●	●	
	MGR 6 B1.5 L22	51	22	1.5	.059	1.4	2.8	5.8	6.1	●	●	●	●	
	MGR 6 B2.0 L15	51	15	2.0	.079	1.4	2.8	5.8	6.1	●	●	●	●	
	MGR 6 B2.0 L22	51	22	2.0	.079	1.4	2.8	5.8	6.1	●	●	●	●	
6.0	MGR 6 B0.79 L17	51	17	0.79	.031	1.8	2.8	5.8	6.1	●	●	●		SIM ... H6
	MGR 6 B0.79 L23	51	23	0.79	.031	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.0 L17	51	17	1.0	.039	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.19 L17	51	17	1.19	.047	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.19 L23	51	23	1.19	.047	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.5 L17	51	17	1.5	.059	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.5 L23	51	23	1.5	.059	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.59 L17	51	17	1.59	.063	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B1.59 L23	51	23	1.59	.063	1.8	2.8	5.8	6.1	●	●	●		
	MGR 6 B2.0 L17	51	17	2.0	.079	1.8	2.8	5.8	6.1	●	●	●		
MGR 6 B2.0 L23	51	23	2.0	.079	1.8	2.8	5.8	6.1	●	●	●			
7.0	MGR 7 B1.0 L15	62	15	1.0	.039	2.5	3.3	6.8	7.1	●	●	●		SIM ... H7
	MGR 7 B1.0 L22	62	22	1.0	.039	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.0 L30	62	30	1.0	.039	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.19 L22	62	22	1.19	.047	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.19 L30	62	30	1.19	.047	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.5 L15	62	15	1.5	.059	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.5 L22	62	22	1.5	.059	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.5 L30	62	30	1.5	.059	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.59 L22	62	22	1.59	.063	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B1.59 L30	62	30	1.59	.063	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B2.0 L15	62	15	2.0	.079	2.5	3.3	6.8	7.1	●	●	●		
	MGR 7 B2.0 L22	62	22	2.0	.079	2.5	3.3	6.8	7.1	●	●	●		
MGR 7 B2.0 L30	62	30	2.0	.079	2.5	3.3	6.8	7.1	●	●	●			
8.0	MGR 8 B1.0 L22	64	22	1.0	.039	1.7	3.8	7.8	8.1	●	●	●		SIM ... H8
	MGR 8 B1.5 L22	64	22	1.5	.059	1.7	3.8	7.8	8.1	●	●	●	●	
	MGR 8 B2.0 L15	64	15	2.0	.079	2.6	3.8	7.8	8.1	●	●	●		
	MGR 8 B2.0 L22	64	22	2.0	.079	2.6	3.8	7.8	8.1	●	●	●	●	
	MGR 8 B2.38 L15	64	15	2.38	.094	2.6	3.8	7.8	8.1	●	●	●		
	MGR 8 B2.38 L22	64	22	2.38	.094	2.6	3.8	7.8	8.1	●	●	●		
	MGR 8 B3.0 L30	64	30	3.0	.118	2.6	3.8	7.8	8.1	●	●	●		

New

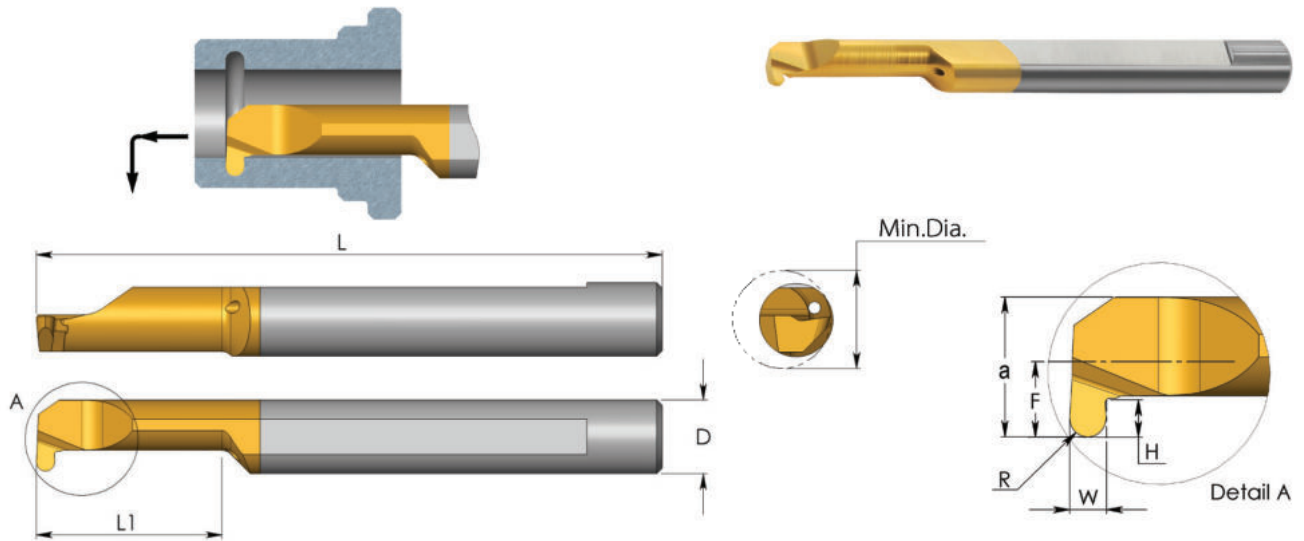
Tolerance: B±0.025 mm/.001"

Order example: MGR 5 B1.5 L15 BXC

See pages 40-54 for holders

- Available.
- Other items available upon request

MKR Bars Full Radius Grooving



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

● First choice ○ Alternative

For L.H. bars specify **MKL** instead of **MKR**

D	Ordering Code	L	L1	R	W	H	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MKR 4 R0.5 L10	51	10	0.50	1.0	1.0	1.7	3.8	4.1	●	●	●		SIM ... H4
	MKR 4 R0.5 L15	51	15	0.50	1.0	1.0	1.7	3.8	4.1	●	●	●		
	MKR 4 R0.75 L10	51	10	0.75	1.5	1.0	1.7	3.8	4.1	●	●	●		
5.0	MKR 5 R0.5 L15	51	15	0.50	1.0	1.2	2.3	4.8	5.1	●	●	●		SIM ... H5
	MKR 5 R0.75 L15	51	15	0.75	1.5	1.2	2.3	4.8	5.1	●	●	●		
	MKR 5 R1.0 L15	51	15	1.00	2.0	1.2	2.3	4.8	5.1	●	●	●	●	
	MKR 5 R1.0 L22	51	22	1.00	2.0	1.2	2.3	4.8	5.1	●	●	●		
6.0	MKR 6 R0.3 L10	51	10	0.30	0.6	1.2	2.8	5.8	6.1	●	●	●		SIM ... H6
	MKR 6 R0.5 L15	51	15	0.50	1.0	1.6	2.8	5.8	6.1	●	●	●	●	
	MKR 6 R0.75 L15	51	15	0.75	1.5	1.6	2.8	5.8	6.1	●	●	●		
	MKR 6 R1.0 L15	51	15	1.00	2.0	1.6	2.8	5.8	6.1	●	●	●	●	
	MKR 6 R1.0 L23	51	23	1.00	2.0	1.8	2.8	5.8	6.1	●	●	●		
7.0	MKR 7 R0.5 L22	62	22	0.50	1.0	2.5	3.3	6.8	7.1	●	●	●		SIM ... H7
	MKR 7 R0.5 L30	62	30	0.50	1.0	2.5	3.3	6.8	7.1	●	●	●		
	MKR 7 R0.75 L22	62	22	0.75	1.5	2.5	3.3	6.8	7.1	●	●	●		
	MKR 7 R1.0 L22	62	22	1.00	2.0	2.5	3.3	6.8	7.1	●	●	●		

Tolerance: R±0.025 mm

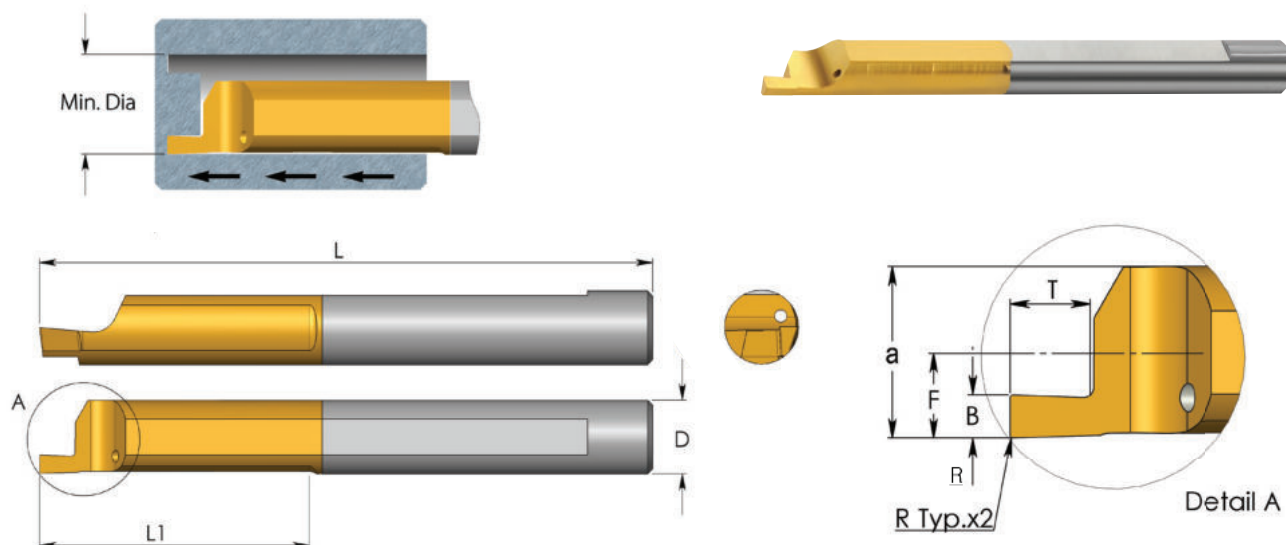
Order example: MKR 5 R1.0 L15 BXC

See pages 40-54 for holders

● Available.

Other items available upon request

MFR Bars Face Grooving



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

● First choice ○ Alternative

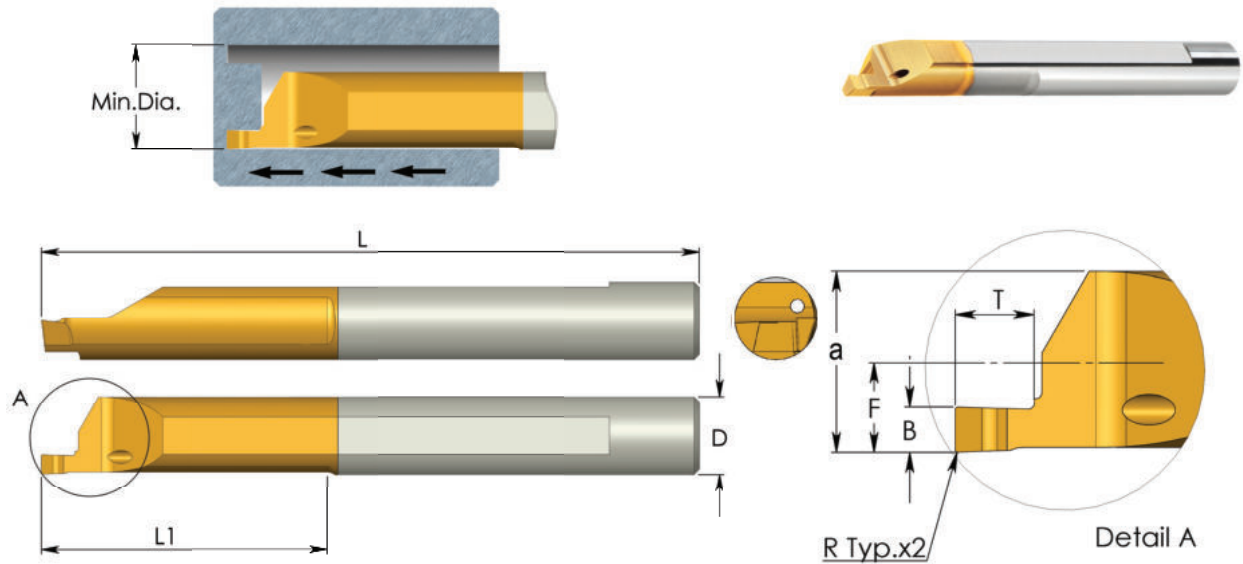
D	Ordering Code	L	L1	R	B	T	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MFR 4 B0.5 L15	51	15	0.05	0.5	1.2	1.95	3.95	5.0	●	●	●		SIM ... H4
	MFR 4 B0.75 L15	51	15	0.10	0.75	1.2	1.95	3.95	5.0	●	●	●	●	
	MFR 4 B1.0 L15	51	15	0.10	1.0	1.5	1.95	3.95	5.0	●	●	●		
	MFR 4 B1.5 L15	51	15	0.10	1.5	2.8	1.95	3.95	5.0	●	●	●		
	MFR 4 B1.5 L17	51	17	0.10	1.5	3.5	1.95	3.95	5.0	●	●	●		
	MFR 4 B2.0 L17	51	17	0.10	2.0	5.0	1.95	3.95	5.0	●	●	●		
5.0	MFR 5 B0.5 L22	51	22	0.05	0.5	1.2	2.45	4.95	6.0	●	●	●		SIM ... H5
	MFR 5 B0.75 L22	51	22	0.10	0.75	1.2	2.45	4.95	6.0	●	●	●		
	MFR 5 B1.0 L22	51	22	0.10	1.0	1.5	2.45	4.95	6.0	●	●	●		
	MFR 5 B1.0 L23	51	23	0.10	1.0	2.5	2.45	4.95	6.0	●	●	●		
	MFR 5 B1.5 L22	51	22	0.10	1.5	2.5	2.45	4.95	6.0	●	●	●		
	MFR 5 B1.5 L23	51	23	0.10	1.5	3.5	2.45	4.95	6.0	●	●	●		
	MFR 5 B2.0 L22	51	22	0.10	2.0	3.8	2.45	4.95	6.0	●	●	●		
	MFR 5 B2.0 L23	51	23	0.10	2.0	5.0	2.45	4.95	6.0	●	●	●		
6.0	MFR 6 B1.0 L22	51	22	0.10	1.0	1.5	2.95	5.95	8.0	●	●	●	●	SIM ... H6
	MFR 6 B1.5 L22	51	22	0.10	1.5	2.5	2.95	5.95	8.0	●	●	●	●	
	MFR 6 B2.0 L22	51	22	0.10	2.0	3.0	2.95	5.95	8.0	●	●	●	●	
	MFR 6 B2.5 L22	51	22	0.10	2.5	4.8	2.95	5.95	8.0	●	●	●		
	MFR 6 B3.0 L30	58	30	0.10	3.0	6.0	2.95	5.95	8.0	●	●	●	●	
8.0	MFR 8 B2.5 L22	64	22	0.10	2.5	3.5	3.95	7.95	10.0	●	●	●		SIM ... H8
	MFR 8 B3.0 L30	64	30	0.10	3.0	6.0	3.95	7.95	10.0	●	●	●		

New

Order example: MFR 5 B1.0 L22 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MFR Bars Face Grooving with Chip Former



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

● First choice ○ Alternative

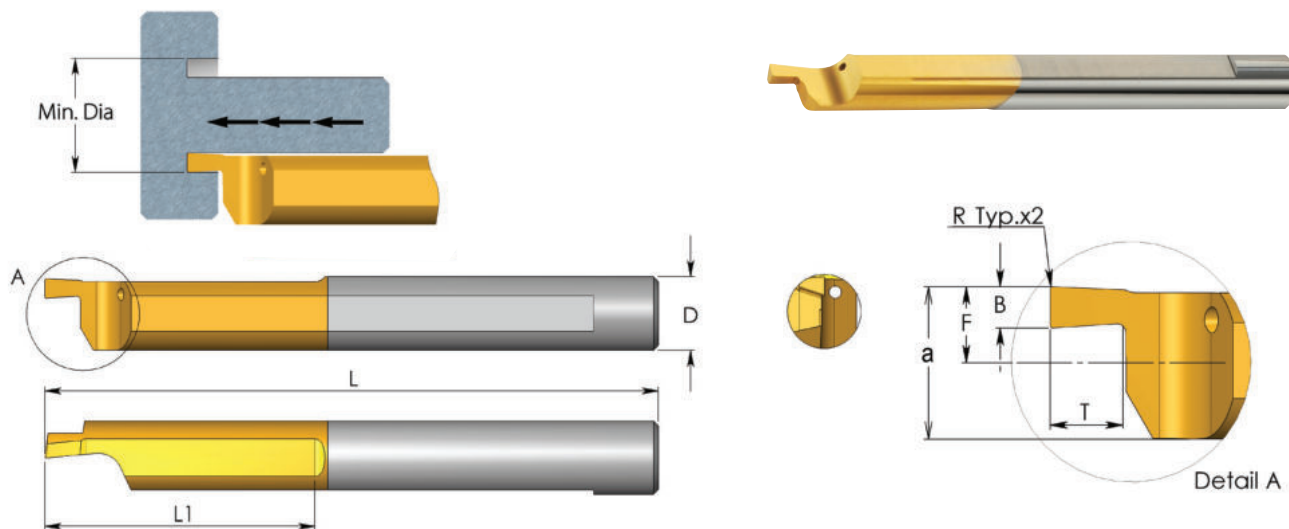
For L.H. bars specify **MFL** instead of **MFR**

D	Ordering Code	L	L1	R	B	T	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MFR 4 B1.5 L15-C	51	15	0.10	1.5	2.8	1.95	3.95	5.0	●	●	●		SIM ... H4
5.0	MFR 5 B1.5 L22-C	51	22	0.10	1.5	2.5	2.45	4.95	6.0	●	●	●		SIM ... H5
	MFR 5 B2.0 L22-C	51	22	0.10	2.0	3.8	2.45	4.95	6.0	●	●	●		
6.0	MFR 6 B1.5 L22-C	51	22	0.10	1.5	2.5	2.95	5.95	8.0	●	●	●		SIM ... H6
	MFR 6 B2.0 L22-C	51	22	0.10	2.0	3.0	2.95	5.95	8.0	●	●	●		
	MFR 6 B3.0 L22-C	51	22	0.10	3.0	6.0	2.95	5.95	8.0	●	●	●	●	

Order example: MFR 5 B2.0 L22-C BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MFL Bars Face Grooving



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

● First choice ○ Alternative

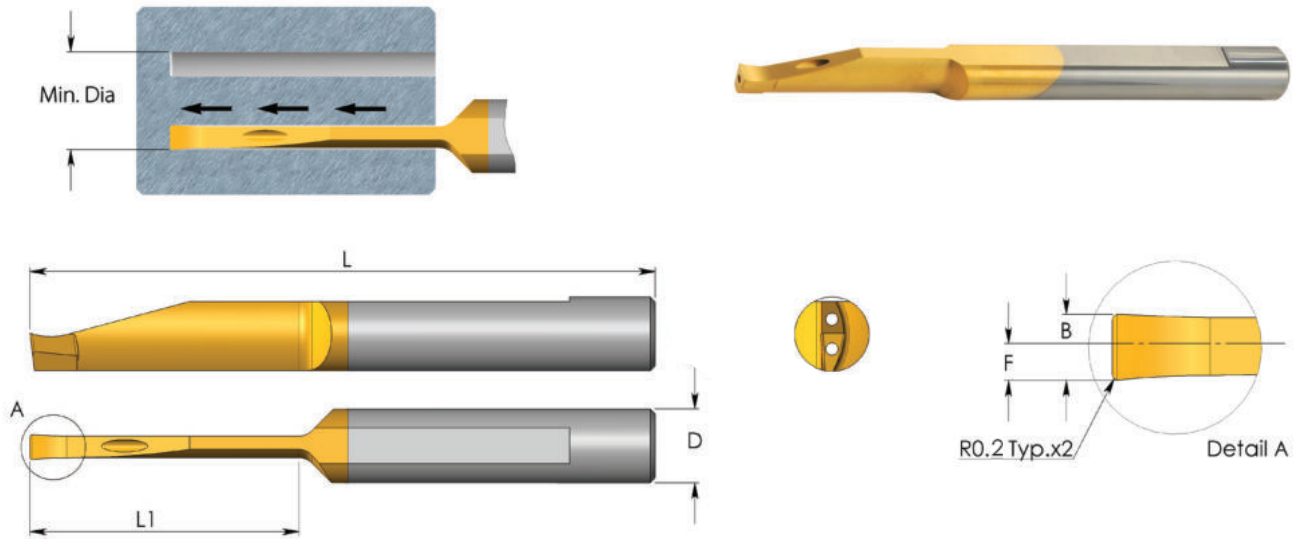
D	Ordering Code	L	L1	R	B	T	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MFL 4 B0.5 L15	51	15	0.05	0.5	1.2	1.75	3.75	5.0	●	●	●		SIM ... H4
	MFL 4 B0.75 L15	51	15	0.10	0.75	1.2	1.75	3.75	5.0	●	●	●		
	MFL 4 B1.0 L15	51	15	0.10	1.0	1.5	1.75	3.75	5.0	●	●	●		
	MFL 4 B1.5 L15	51	15	0.10	1.5	2.8	1.75	3.75	5.0	●	●	●		
	MFL 4 B1.5 L17	51	17	0.10	1.5	3.5	1.75	3.75	5.0	●	●	●		
	MFL 4 B2.0 L17	51	17	0.10	2.0	5.0	1.75	3.75	5.0	●	●	●		
5.0	MFL 5 B0.5 L22	51	22	0.05	0.5	1.2	2.25	4.75	6.0	●	●	●		SIM ... H5
	MFL 5 B0.75 L22	51	22	0.10	0.75	1.2	2.25	4.75	6.0	●	●	●		
	MFL 5 B1.0 L22	51	22	0.10	1.0	1.5	2.25	4.75	6.0	●	●	●		
	MFL 5 B1.0 L23	51	23	0.10	1.0	2.5	2.25	4.75	6.0	●	●	●		
	MFL 5 B1.5 L22	51	22	0.10	1.5	2.5	2.25	4.75	6.0	●	●	●		
	MFL 5 B1.5 L23	51	23	0.10	1.5	3.5	2.25	4.75	6.0	●	●	●		
	MFL 5 B2.0 L22	51	22	0.10	2.0	3.8	2.25	4.75	6.0	●	●	●		
MFL 5 B2.0 L23	51	23	0.10	2.0	5.0	2.25	4.75	6.0	●	●	●			
6.0	MFL 6 B1.0 L22	51	22	0.10	1.0	1.5	2.75	5.75	8.0	●	●	●	●	SIM ... H6
	MFL 6 B1.5 L22	51	22	0.10	1.5	2.5	2.75	5.75	8.0	●	●	●	●	
	MFL 6 B2.0 L22	51	22	0.10	2.0	3.0	2.75	5.75	8.0	●	●	●	●	
	MFL 6 B2.5 L22	51	22	0.10	2.5	4.8	2.75	5.75	8.0	●	●	●		
	MFL 6 B3.0 L30	58	30	0.10	3.0	6.0	2.75	5.75	8.0	●	●	●	●	
8.0	MFL 8 B2.5 L22	64	22	0.10	2.5	3.5	3.75	7.75	10.0	●	●	●		SIM ... H8
	MFL 8 B3.0 L30	64	30	0.10	3.0	6.0	3.75	7.75	10.0	●	●	●		

New

Order example: MFL 4 B2.0 L17 BMK
See pages 40-54 for holders

● Available.
Other items available upon request

MVR Bars Deep Face Grooving – with 2 coolant bores



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

● First choice ○ Alternative

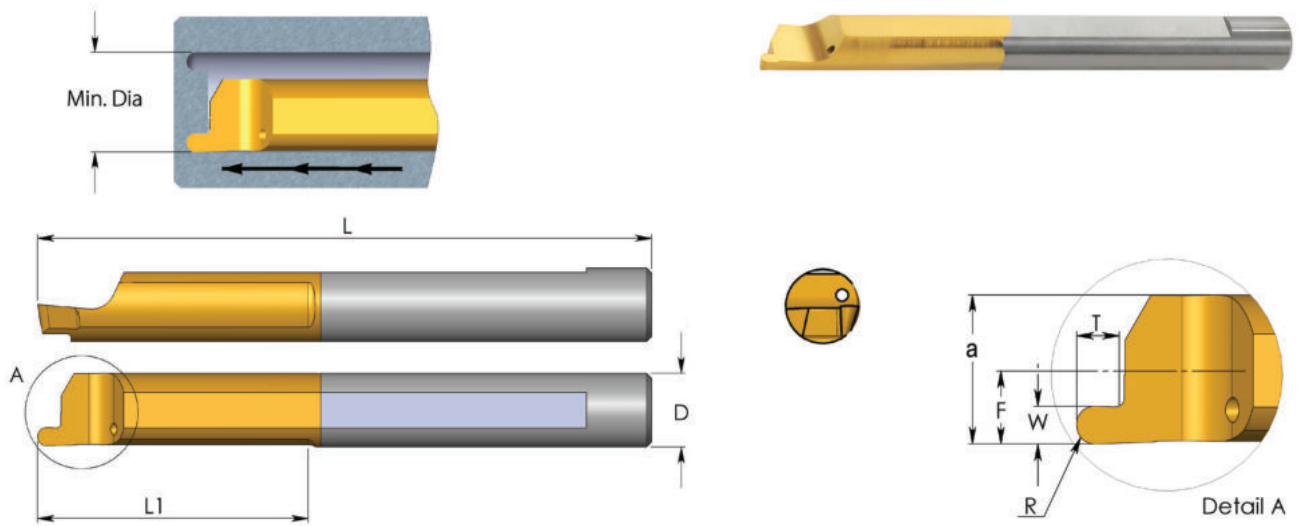
For L.H. bars specify **MVL** instead of **MVR**

D	Ordering Code	L	L1	B	F	Min. Dia.	K20	BXC	BMK	TNX	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 L15	64	15	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	●	●	●		SIM ... H8
8.0	MVR 8 B4.0 L27	64	27	4.0	2.1	20.0	●	●	●		SIM ... H8
	MVR 8 B4.0 L43	80	43	4.0	2.1	20.0	●	●	●		

Order example: MVR 6 B2.0 L22 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MZR Bars Face Grooving



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

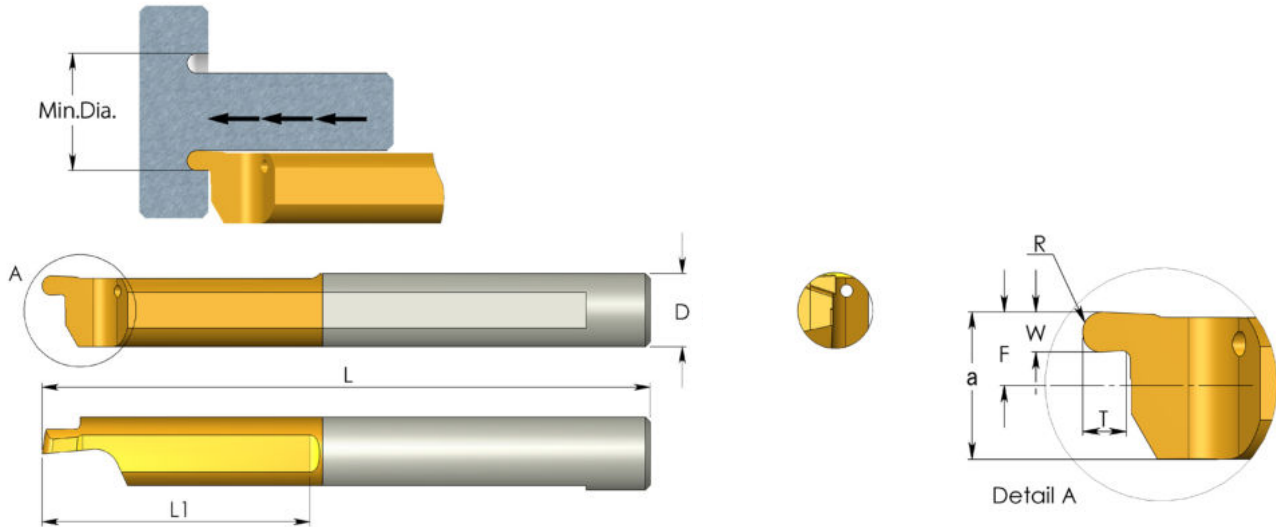
● First choice ○ Alternative

D	Ordering Code	L	L1	R	W	T	F	a	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MZR 4 R0.5 L15	51	15	0.50	1.0	1.2	1.95	3.95	5.0	●	●	●	●	SIM ... H4
	MZR 4 R0.75 L15	51	15	0.75	1.5	1.5	1.95	3.95	5.0	●	●	●		
5.0	MZR 5 R0.5 L22	51	22	0.50	1.0	1.2	2.45	4.95	6.0	●	●	●		SIM ... H5
	MZR 5 R0.75 L22	51	22	0.75	1.5	1.5	2.45	4.95	6.0	●	●	●		
	MZR 5 R1.0 L22	51	22	1.00	2.0	2.5	2.45	4.95	6.0	●	●	●		
6.0	MZR 6 R0.5 L22	51	22	0.50	1.0	1.2	2.95	5.95	8.0	●	●	●	●	SIM ... H6
	MZR 6 R0.75 L22	51	22	0.75	1.5	1.5	2.95	5.95	8.0	●	●	●	●	
	MZR 6 R1.0 L22	51	22	1.00	2.0	2.5	2.95	5.95	8.0	●	●	●	●	

Order example: MZR 5 R0.5 L22 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

MZL Bars Face Grooving



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

● First choice ○ Alternative

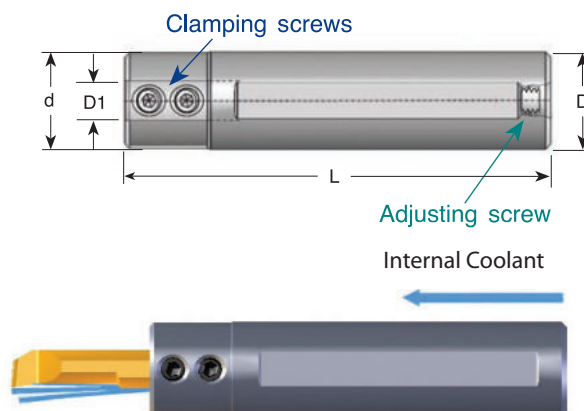
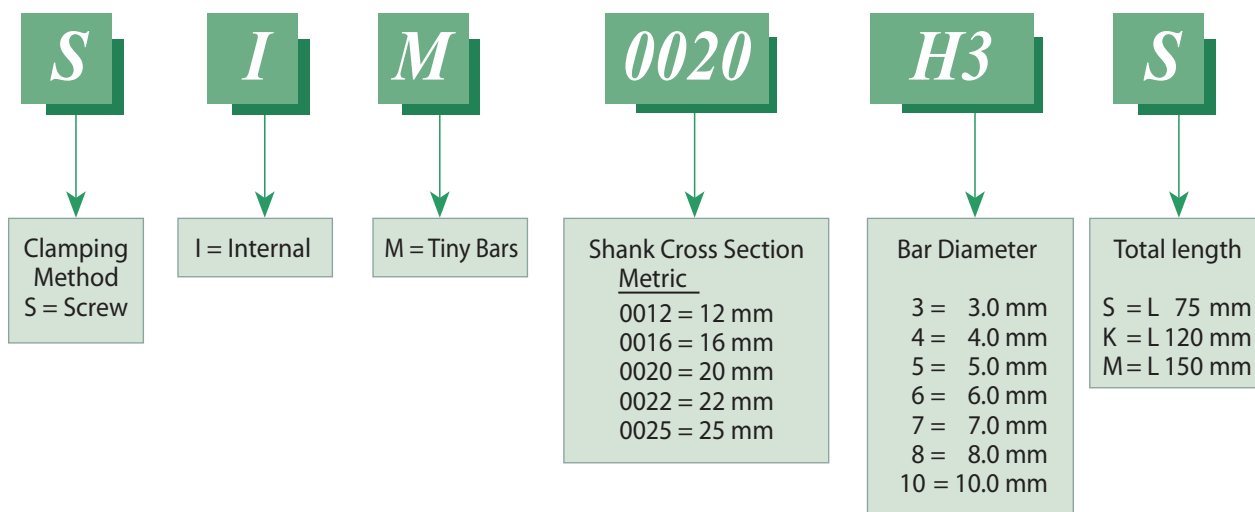
D	Ordering Code	L	L1	R	W	T	a	F	Min. Dia.	K20	BXC	BMK	TNX	Holder
4.0	MZL 4 R0.5 L15	51	15	0.50	1.0	1.2	3.75	1.75	5.0	●	●	●		SIM ... H4
	MZL 4 R0.75 L15	51	15	0.75	1.5	1.5	3.75	1.75	5.0	●	●	●		
5.0	MZL 5 R0.5 L22	51	22	0.50	1.0	1.2	4.75	2.25	6.0	●	●	●		SIM ... H5
	MZL 5 R0.75 L22	51	22	0.75	1.5	1.5	4.75	2.25	6.0	●	●	●		
	MZL 5 R1.0 L22	51	22	1.00	2.0	2.5	4.75	2.25	6.0	●	●	●		
6.0	MZL 6 R0.5 L22	51	22	0.50	1.0	1.2	5.75	2.75	8.0	●	●	●	●	SIM ... H6
	MZL 6 R0.75 L22	51	22	0.75	1.5	1.5	5.75	2.75	8.0	●	●	●		
	MZL 6 R1.0 L22	51	22	1.00	2.0	2.5	5.75	2.75	8.0	●	●	●	●	

Order example: MZL 5 R0.5 L22 BXC
See pages 40-54 for holders

● Available.
Other items available upon request

Tiny Tools Toolholders

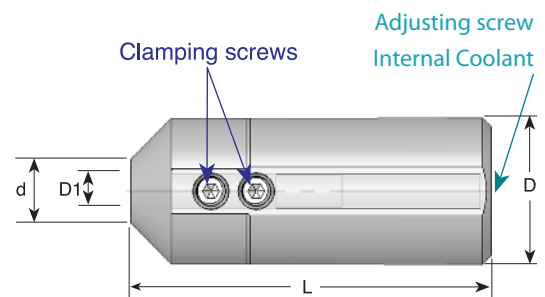
Product Identification – Ordering Codes



D1	Ordering Code	D	d	L	Key	Clamping Screw	Adjusting Screw
3.0	SIM 0010 H3	12	10	65	K16	S24	S28M
	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	-

New

D1	Ordering Code	D	d	L	Key	Clamping Screw	Adjusting Screw
New 4.0	SIM 0010 H4	12	10	65	K16	S24	S28M
	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
New 5.0	SIM 0025 H4M	25	25	150	K25	S25	-
	SIM 0010 H5	12	10	65	K16	S24	S28M
	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
6.0	SIM 0022 H5K	22	22	120	K25	S25	S55
	SIM 0025 H5M	25	25	150	K25	S25	-
	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
7.0	SIM 0022 H6K	22	22	120	K25	S25	S55
	SIM 0025 H6M	25	25	150	K25	S25	-
	SIM 0016 H7	16	20	88	K25	S25	S35
	SIM 0020 H7	20	20	88	K25	S25	S35
New 8.0	SIM 0022 H7	22	22	88	K25	S25	S35
	SIM 0022 H7K	22	22	120	K25	S25	S55
	SIM 0016 H8	16	20	88	K25	S25	S35
New 10.0	SIM 0020 H8	20	20	88	K25	S25	S35
	SIM 0022 H8	22	22	88	K25	S25	S35
	SIM 0022 H8K	22	22	120	K25	S25	S55
New 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
	SIM 0022 H10K	22	22	120	K25	S25	S55



D1	Ordering Code	D	d	L	Key	Clamping Screw	Adjusting Screw
3.0	SIM 0025 H3	25	10.8	62	K25	S25	S35M
4.0	SIM 0025 H4	25	10.8	62	K25	S25	S35M
5.0	SIM 0025 H5	25	10.8	62	K25	S25	S35M
6.0	SIM 0025 H6	25	10.8	62	K25	S25	S35M
7.0	SIM 0025 H7	25	10.8	62	K25	S25	S35M
8.0	SIM 0025 H8	25	10.8	62	K25	S25	S35M

Technical Section

Carbide Grades:

BXC (P30 - P50, K25 - K40)

PVD TiN coated grade for low cutting speed. Works well with a wide range of materials.

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 **TNX** 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.



New

Cutting speed for Tiny Tools

ISO Standard	Material		Condition	Cutting Speed m/min			
				BXC	BMK	K20	TNX
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	
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
		>%12 Si	Cured				
	Copper alloys	>%1 Pb	High temperature				
			Free cutting	30 - 60	30 - 70	20 - 40	36 - 70
Non metallic		Brass					
		Electrolytic copper					
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

For CMR Tiny Tools see page 54

Threading Passes

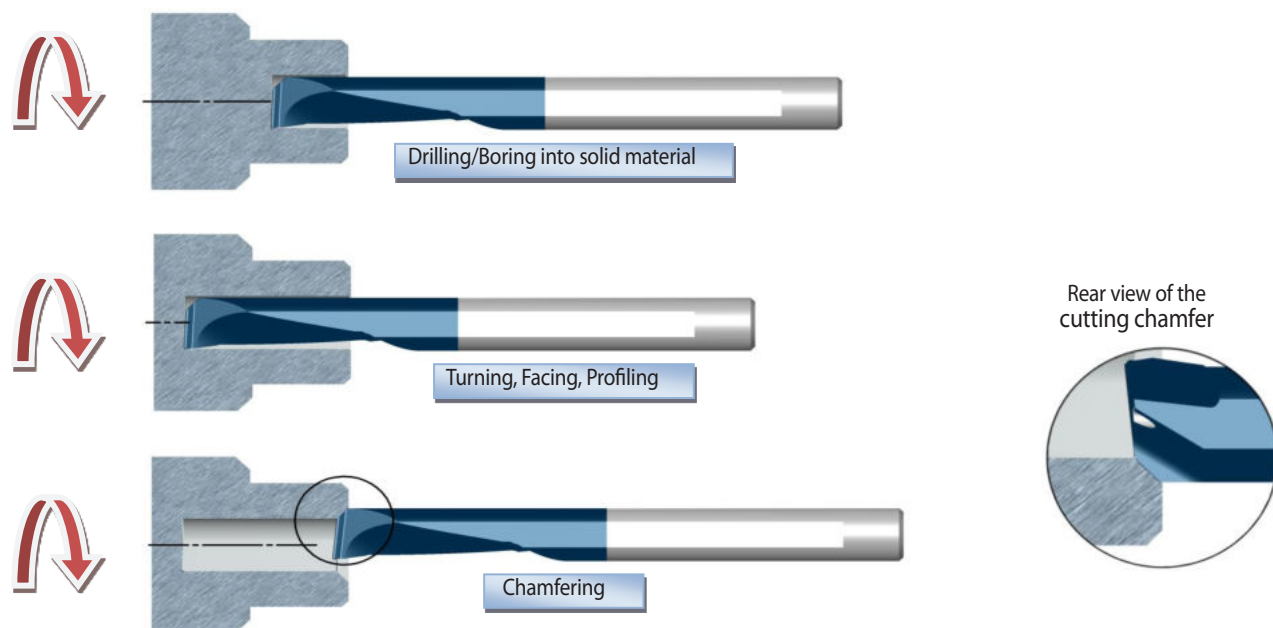
Pitch:	mm	0.5	0.7	0.8	1.0	1.25	1.5	2-5
	TPI	48	36	32	24	20	16	14-5
Number of Passes		6 - 12	7 - 14	7 - 16	8 - 18	8 - 20	10 - 22	20 - 38

CMR CPT Multi-Task Tiny Tools

- A new Multi-Task Tiny Tool for Boring, Turning, Facing, and Chamfering.
- The innovative design allows for machining without the need for a pilot hole.
- High Productivity — reduced cycle times and fewer tools required.
- 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 drills the workpiece and produces a bore of minimum diameter per the tool's specifications.
- The tool can operate in one or several passes depending on the workpiece material, coolant pressure, machine power, etc.
- The hole can be enlarged using multi-radial passes.



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