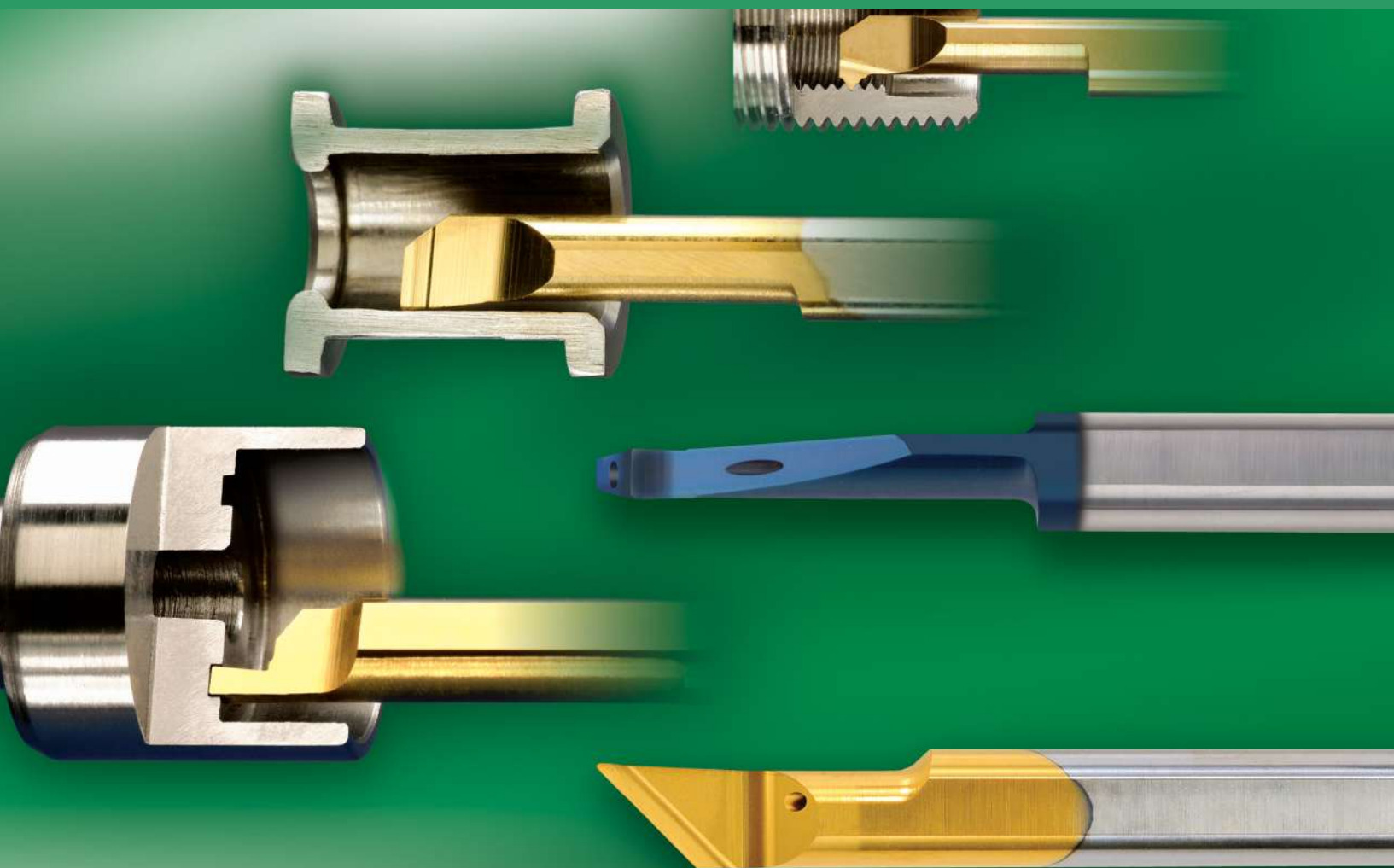


Tiny Tools



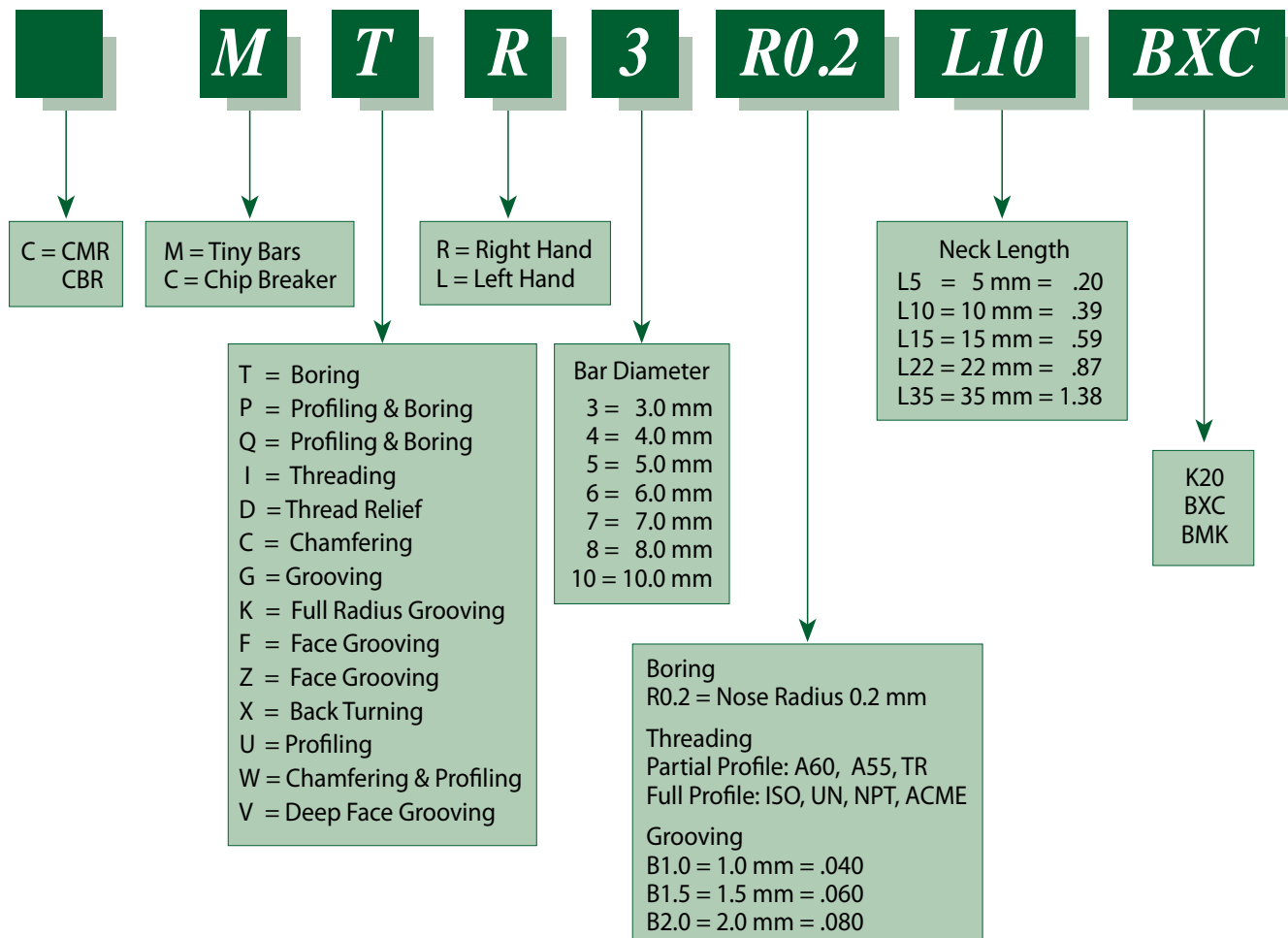
Solid Carbide tools for working in small bores

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.

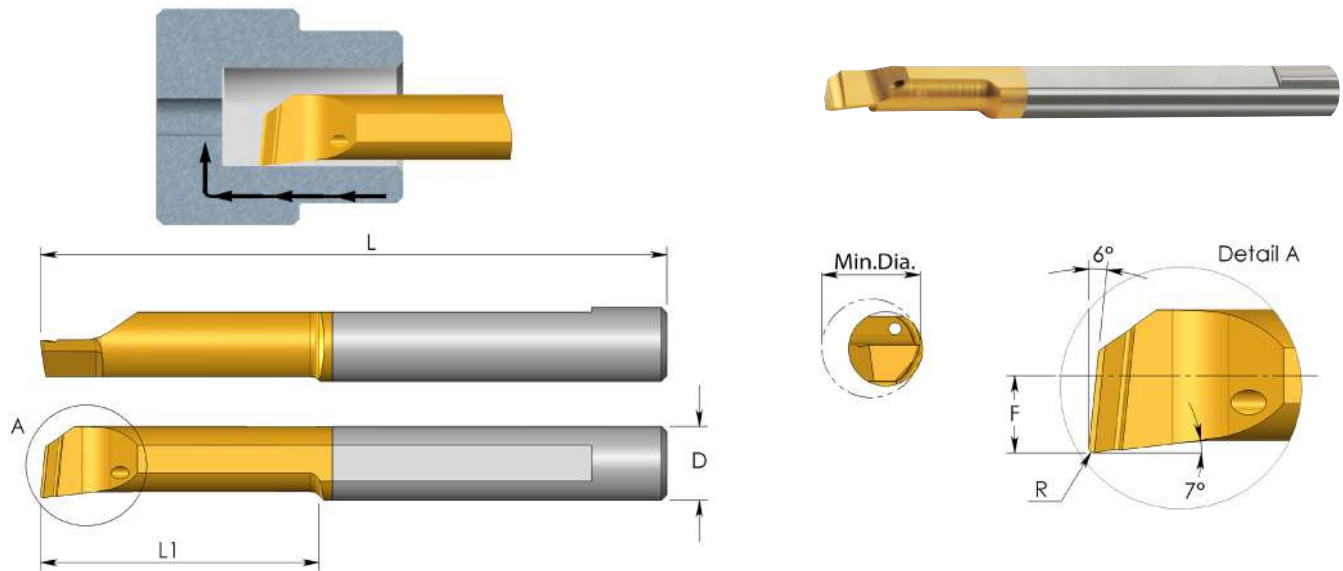
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Product Identification

Tiny Bars Ordering Codes



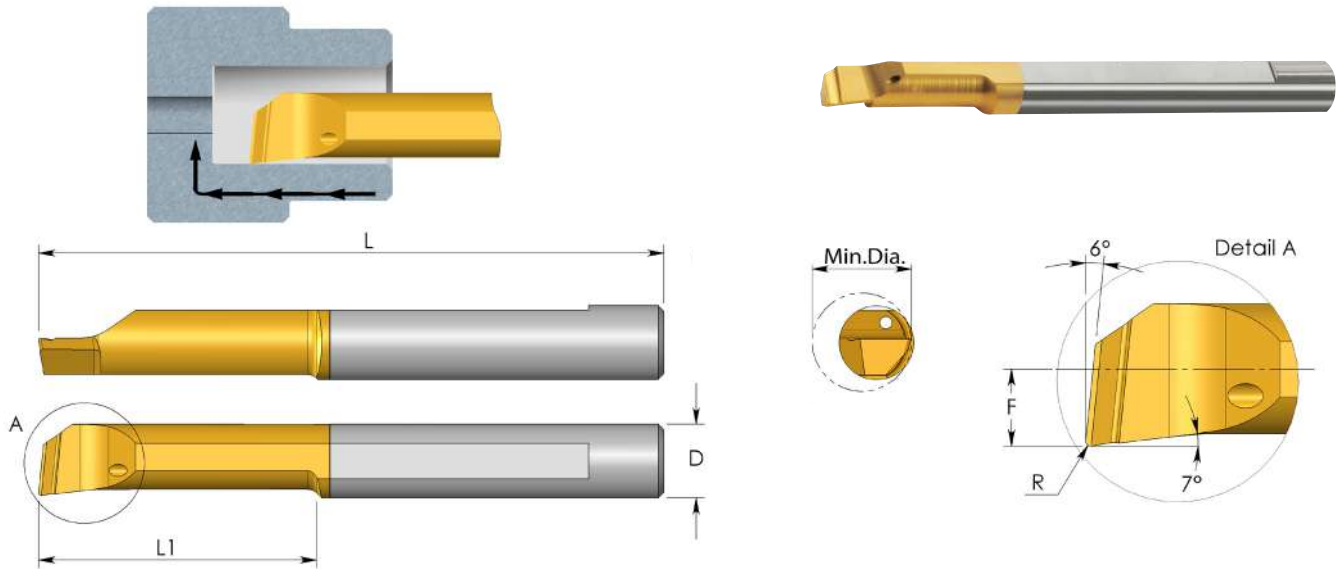
MTR Bars Boring



D mm	Ordering Code	L	L1	R	F	Min. Dia.	Holder**
3.0	MTR 1 R0.05 L4	1.5	.16	.002	.02	.04	SIM ... H3
	MTR 1 R0.05 L6	1.5	.24	.002	.02	.04	
3.0	MTR 1.5 R0.1 L6	1.5	.24	.004	.03	.06	SIM ... H3
3.0	MTR 2 R0.05 L10	1.5	.39	.002	.03	.08	SIM ... H3
	MTR 2 R0.15 L5	1.5	.20	.006	.03	.08	
	MTR 2 R0.15 L10	1.5	.39	.006	.03	.08	
3.0	MTR 3 R0.05 L10	1.5	.39	.002	.05	.12	SIM ... H3
	MTR 3 R0.05 L15	1.5	.59	.002	.05	.12	
	MTR 3 R0.1 L10	1.5	.39	.004	.05	.12	
	MTR 3 R0.1 L15	1.5	.59	.004	.05	.12	
	MTR 3 R0.2 L10	1.5	.39	.008	.05	.12	
	MTR 3 R0.2 L15	1.5	.59	.008	.05	.12	
4.0	MTR 4 R0.05 L15	2.0	.59	.002	.07	.16	SIM ... H4
	MTR 4 R0.1 L10	2.0	.39	.004	.07	.16	
	MTR 4 R0.1 L15	2.0	.59	.004	.07	.16	
	MTR 4 R0.1 L22	2.0	.87	.004	.07	.16	
	MTR 4 R0.2 L10	2.0	.39	.008	.07	.16	
	MTR 4 R0.2 L15	2.0	.59	.008	.07	.16	
	MTR 4 R0.2 L22	2.0	.87	.008	.07	.16	
	MTR 4 R0.2 L30	2.3	1.18	.008	.07	.16	

** For additional holders see pages 106-111

MTR Bars Boring



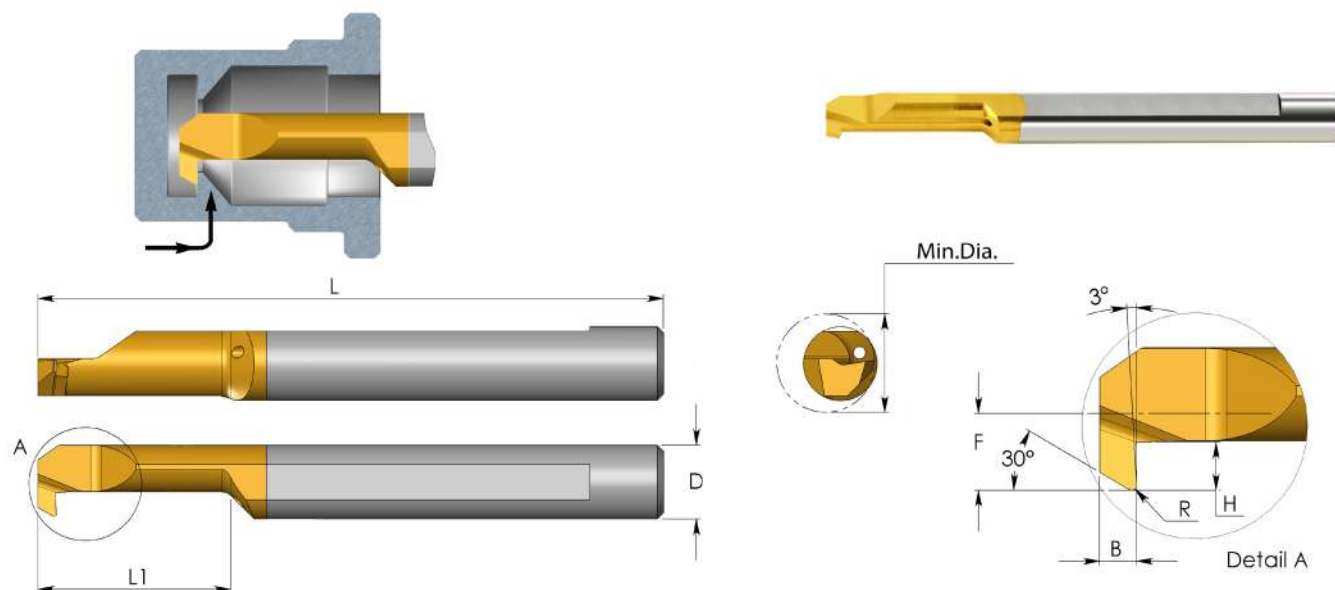
D mm	Ordering Code	L	L1	R	F	Min. Dia.	Holder**
5.0	MTR 5 R0.05 L15	2.0	.59	.002	.08	.20	SIM ... H5
	MTR 5 R0.1 L15	2.0	.59	.004	.08	.20	
	MTR 5 R0.1 L22	2.0	.87	.004	.08	.20	
	MTR 5 R0.1 L30	3.0	1.18	.004	.08	.20	
	MTR 5 R0.2 L15	2.0	.59	.008	.08	.20	
	MTR 5 R0.2 L22	2.0	.87	.008	.08	.20	
	MTR 5 R0.2 L30	3.0	1.18	.008	.08	.20	
6.0	MTR 6 R0.05 L15	2.0	.59	.002	.11	.24	SIM ... H6
	MTR 6 R0.1 L15	2.0	.59	.004	.11	.24	
	MTR 6 R0.2 L15	2.0	.59	.008	.11	.24	
	MTR 6 R0.05 L22	2.0	.87	.002	.11	.24	
	MTR 6 R0.1 L22	2.0	.87	.004	.11	.24	
	MTR 6 R0.2 L22	2.0	.87	.008	.11	.24	
	MTR 6 R0.2 L30	2.3	1.18	.008	.11	.24	
7.0	MTR 7 R0.2 L35	3.0	1.38	.008	.11	.24	SIM ... H7
	MTR 7 R0.2 L22	2.4	.87	.008	.13	.28	
	MTR 7 R0.2 L30	2.4	1.18	.008	.13	.28	
8.0	MTR 8 R0.2 L15	2.5	.59	.008	.15	.32	SIM ... H8
	MTR 8 R0.2 L22	2.5	.87	.008	.15	.32	
	MTR 8 R0.2 L35	3.0	1.38	.008	.15	.32	
10.0	MTR10R0.2 L35	2.9	1.38	.008	.19	.40	SIM ... H10

Order example: MTR 4 R0.2 L15 BXC

For L.H. bars specify MTL instead of MTR

** For additional holders see pages 106-111

MXR Bars Back Turning

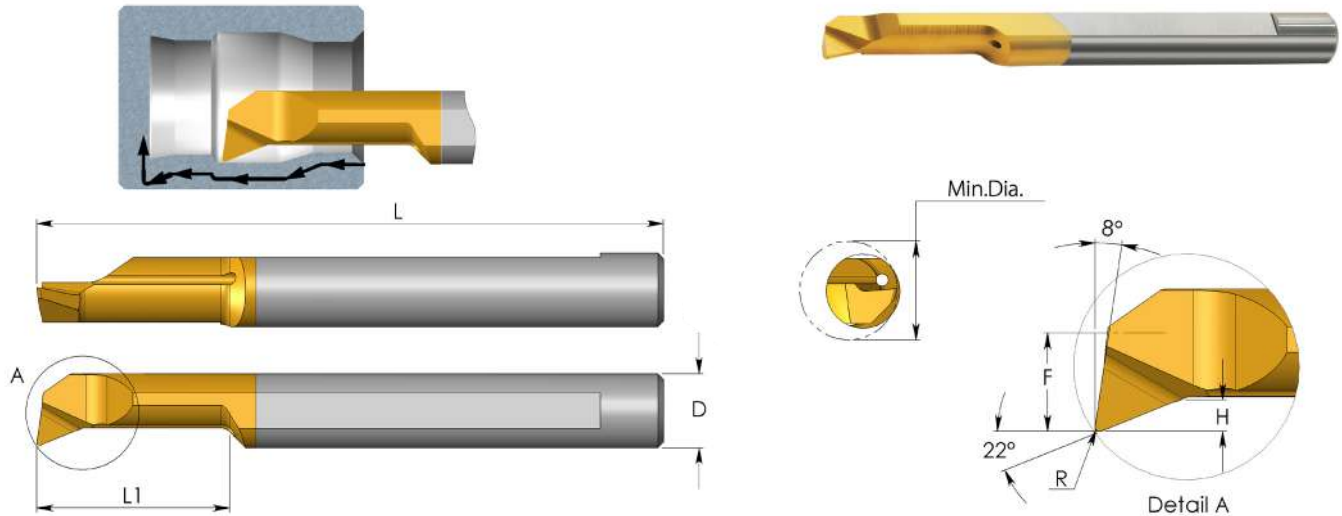


D mm	Ordering Code	L	L1	R	B	H	F	Min. Dia.	Holder*
4.0	MXR 4 R0.1 L10	2.0	.39	.004	.05	.02	.05	.12	SIM ... H4
4.0	MXR 4 R0.15 L10	2.0	.39	.006	.05	.03	.07	.16	SIM ... H4
	MXR 4 R0.15 L15	2.0	.59	.006	.05	.03	.07	.16	
5.0	MXR 5 R0.2 L15	2.0	.59	.008	.06	.04	.09	.20	SIM ... H5
	MXR 5 R0.2 L22	2.0	.87	.008	.06	.04	.09	.20	
6.0	MXR 6 R0.2 L15	2.0	.59	.008	.06	.07	.11	.24	SIM ... H6
	MXR 6 R0.2 L22	2.0	.87	.008	.06	.07	.11	.24	

Order example: MXR 4 R0.15 L15 BXC

* For additional holders see pages 106-111

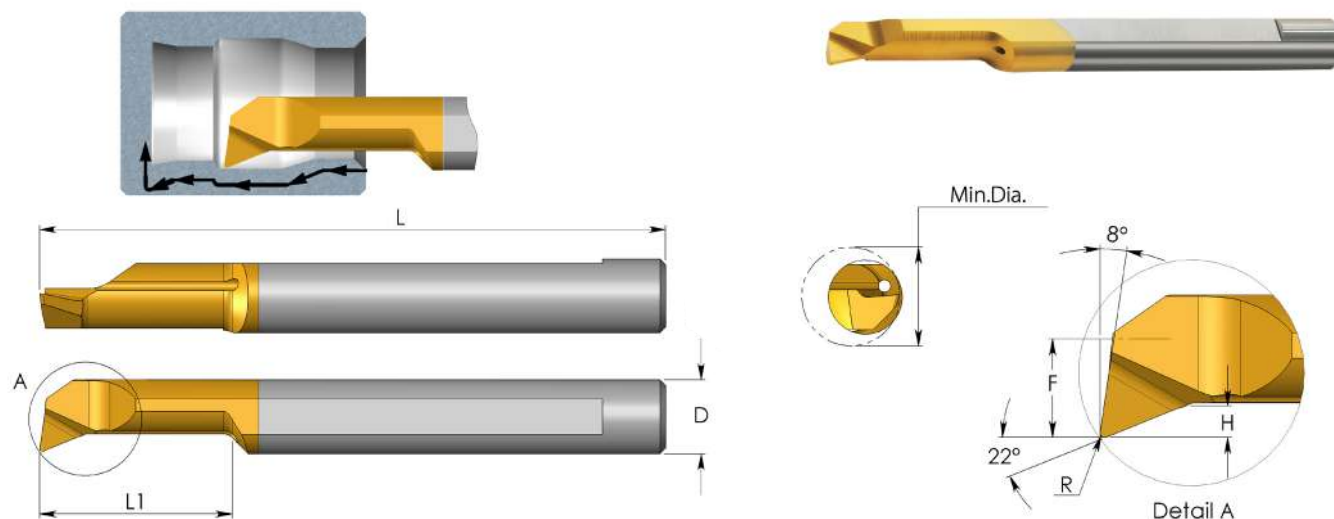
MPR Bars Profiling and Boring



D mm	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder**
3.0	MPR 1 R0.05 L4	1.5	.16	.002	.01	.02	.04	SIM ... H3
	MPR 1 R0.05 L8	1.5	.31	.002	.01	.02	.04	
3.0	MPR 1.5 R0.05 L10	1.5	.39	.002	.01	.03	.06	SIM ... H3
	MPR 1.5 R0.1 L6	1.5	.24	.004	.01	.03	.06	
	MPR 1.5 R0.1 L10	1.5	.39	.004	.01	.03	.06	
3.0	MPR 2 R0.05 L10	1.5	.39	.002	.02	.03	.08	SIM ... H3
	MPR 2 R0.1 L10	1.5	.39	.004	.02	.03	.08	
	MPR 2 R0.15 L5	1.5	.20	.006	.02	.03	.08	
	MPR 2 R0.15 L10	1.5	.39	.006	.02	.03	.08	
	MPR 2 R0.15 L15	1.5	.59	.006	.02	.03	.08	
3.0	MPR 3 R0.05 L10	1.5	.39	.002	.03	.05	.12	SIM ... H3
	MPR 3 R0.05 L15	1.5	.59	.002	.03	.05	.12	
	MPR 3 R0.1 L15	1.5	.59	.004	.03	.05	.12	
	MPR 3 R0.1 L22	1.9	.87	.004	.03	.05	.12	
	MPR 3 R0.2 L10	1.5	.39	.008	.03	.05	.12	
	MPR 3 R0.2 L15	1.5	.59	.008	.03	.05	.12	
	MPR 3 R0.2 L22	1.9	.87	.008	.03	.05	.12	
4.0	MPR 4 R0.1 L10	2.0	.39	.004	.03	.07	.16	SIM ... H4
	MPR 4 R0.1 L15	2.0	.59	.004	.03	.07	.16	
	MPR 4 R0.1 L22	2.0	.87	.004	.03	.07	.16	
	MPR 4 R0.2 L10	2.0	.39	.008	.03	.07	.16	
	MPR 4 R0.2 L15	2.0	.59	.008	.03	.07	.16	
	MPR 4 R0.2 L22	2.0	.87	.008	.03	.07	.16	

** For additional holders see pages 106-111

MPR Bars Profiling and Boring



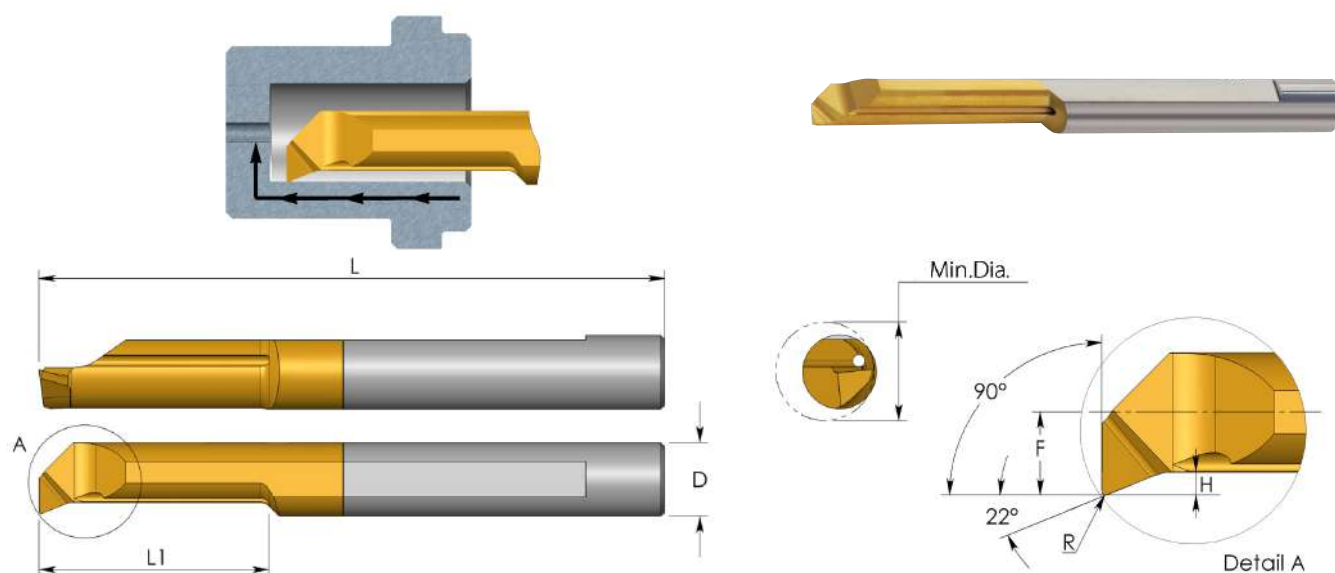
D mm	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder*
5.0	MPR 5 R0.1 L22	2.0	.87	.004	.05	.08	.20	SIM ... H5
	MPR 5 R0.1 L30	3.0	1.18	.004	.05	.08	.20	
	MPR 5 R0.2 L10	2.0	.39	.008	.05	.08	.20	
	MPR 5 R0.2 L15	2.0	.59	.008	.05	.08	.20	
	MPR 5 R0.2 L22	2.0	.87	.008	.05	.08	.20	
	MPR 5 R0.2 L30	3.0	1.18	.008	.05	.08	.20	
6.0	MPR 6 R0.2 L15	2.0	.59	.008	.06	.11	.24	SIM ... H6
	MPR 6 R0.2 L22	2.0	.87	.008	.06	.11	.24	
	MPR 6 R0.2 L30	3.0	1.18	.008	.06	.11	.24	
7.0	MPR 7 R0.2 L22	2.4	.87	.008	.06	.13	.28	SIM ... H7
	MPR 7 R0.2 L30	2.4	1.18	.008	.06	.13	.28	
	MPR 7 R0.2 L35	2.4	1.38	.008	.06	.13	.28	
8.0	MPR 8 R0.2 L15	2.5	.59	.008	.06	.15	.32	SIM ... H8
	MPR 8 R0.2 L22	2.5	.87	.008	.06	.15	.32	
	MPR 8 R0.2 L35	3.0	1.38	.008	.06	.15	.32	
10.0	MPR 10 R0.2 L35	2.9	1.38	.008	.08	.19	.40	SIM ... H10

* Order example: MPR 5 R0.2 L15 BXC

* For additional holders see pages 106-111

For L.H. Bars specify MP**L** instead of MP**R**

MUR Bars Profiling, 90° Face Cutting

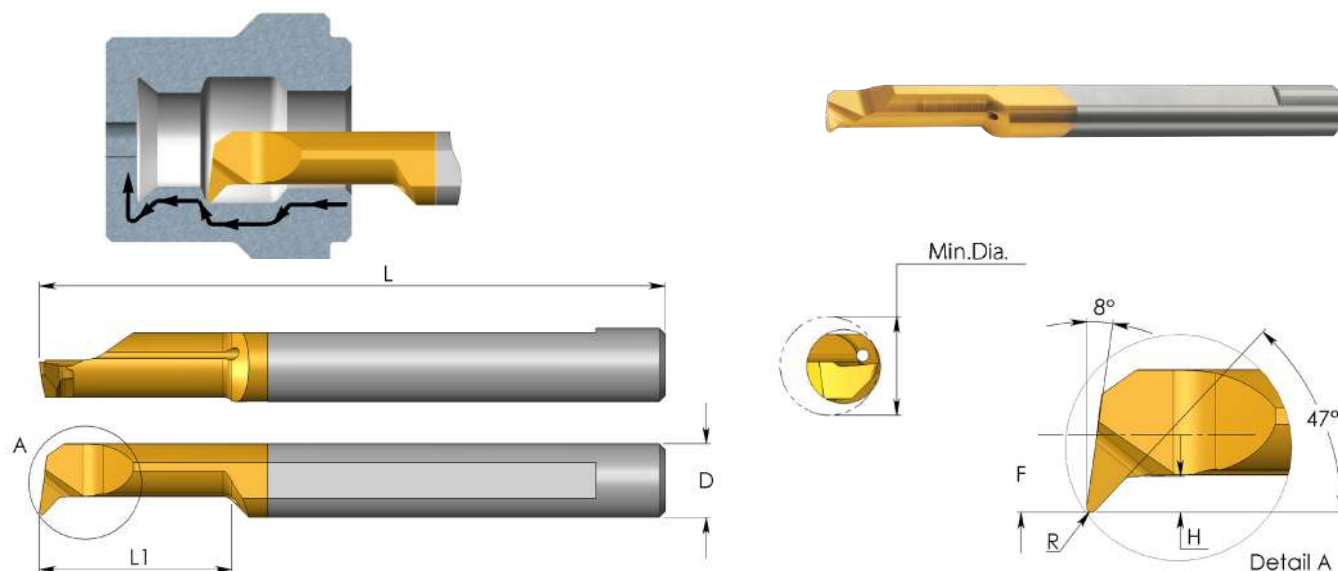


D mm	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder*
3.0	MUR 3 R0.05 L10	1.5	.39	.002	.01	.05	.12	SIM ... H3
	MUR 3 R0.05 L15	1.5	.59	.002	.01	.05	.12	
4.0	MUR 4 R0.1 L10	2.0	.39	.004	.02	.07	.16	SIM ... H4
	MUR 4 R0.1 L15	2.0	.59	.004	.02	.07	.16	
5.0	MUR 5 R0.15 L15	2.0	.59	.006	.03	.08	.20	SIM ... H5
	MUR 5 R0.15 L22	2.0	.87	.006	.03	.08	.20	
6.0	MUR 6 R0.15 L15	2.0	.59	.006	.04	.11	.24	SIM ... H6
	MUR 6 R0.15 L22	2.0	.87	.006	.04	.11	.24	
8.0	MUR 8 R0.2 L22	2.5	.87	.008	.04	.15	.32	SIM ... H8

Order example: MUR 5 R0.15 L15 BXC

* For additional holders see pages 106-111

MQR Bars Profiling and Boring



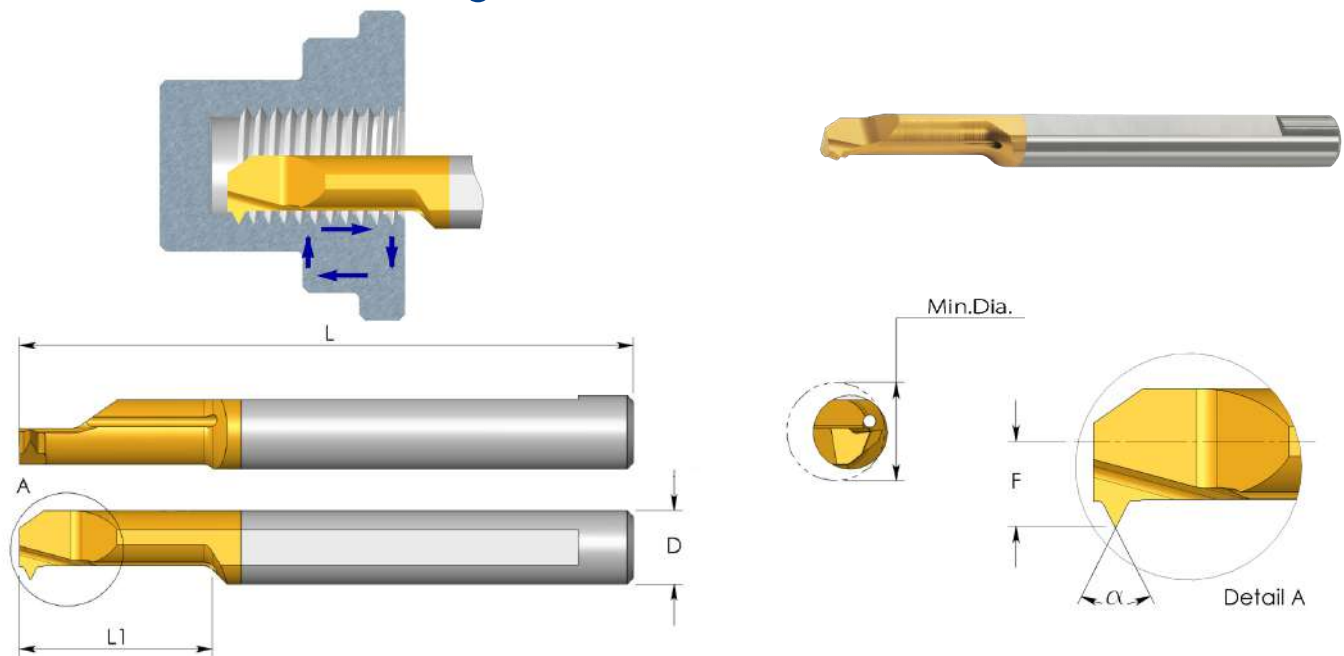
D mm	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder*
4.0	MQR 4 R0.1 L22	2.0	.87	.004	.03	.07	.16	SIM ... H4
4.0	MQR 4 R0.2 L10	2.0	.39	.008	.03	.07	.16	SIM ... H4
	MQR 4 R0.2 L15	2.0	.59	.008	.03	.07	.16	
	MQR 4 R0.2 L22	2.0	.87	.008	.03	.07	.16	
5.0	MQR 5 R0.2 L15	2.0	.59	.008	.04	.09	.20	SIM ... H5
	MQR 5 R0.2 L22	2.0	.87	.008	.04	.09	.20	
6.0	MQR 6 R0.2 L15	2.0	.59	.008	.06	.11	.24	SIM ... H6
	MQR 6 R0.2 L22	2.0	.87	.008	.06	.11	.24	
	MQR 6 R0.2 L30	2.3	1.18	.008	.06	.11	.24	
8.0	MQR 8 R0.2 L22	2.5	.87	.008	.06	.15	.32	SIM ... H8
	MQR 8 R0.2 L27	2.5	1.06	.008	.08	.15	.32	

Order example: MQR 5 R0.2 L15 BXC

For L.H. bars specify MQL instead of MQR

* For additional holders see pages 106-111

MIR Bars Threading



Partial Profile 55°

D mm	Ordering Code	L	L1	α	Pitch Range		F	Min. Dia.	Holder*
					mm	TPI			
3.0	MIR 3 L15 A55	1.5	.59	55	0.5 - 1.0	48 - 24	.06	.13	SIM ... H3
4.0	MIR 4 L15 A55	2.0	.59	55	0.5 - 1.0	48 - 24	.07	.16	SIM ... H4
5.0	MIR 5 L15 A55	2.0	.59	55	0.5 - 1.25	48 - 20	.09	.20	SIM ... H5
	MIR 5 L22 A55	2.0	.87	55	0.5 - 1.25	48 - 20	.09	.20	
6.0	MIR 6 L15 A55	2.0	.59	55	0.5 - 1.5	48 - 16	.10	.24	SIM ... H6
	MIR 6 L22 A55	2.0	.87	55	0.5 - 1.5	48 - 16	.10	.24	

Order example: MIR 5 L15 A55 BXC

Partial Profile 60°

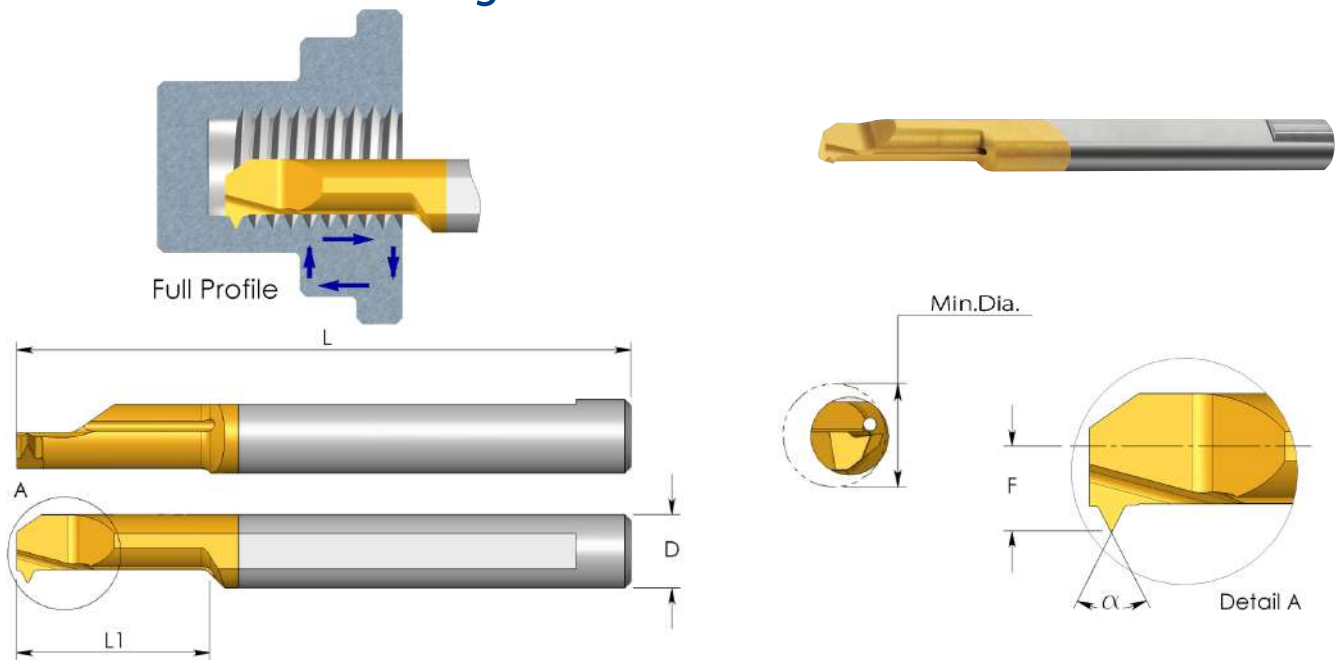
D mm	Ordering Code	L	L1	α	Pitch Range		F	Min. Dia.	Holder*
					mm	TPI			
3.0	MIR 1 L5 A60	1.5	.19	60	0.25 - 0.35	100 - 72	.02	.05	SIM ... H3
	MIR 1.5 L6 A60	1.5	.25	60	0.35 - 0.45	72 - 56	.03	.06	
3.0	MIR 2 L8 A60	1.5	.31	60	0.45 - 0.7	56 - 32	.04	.08	SIM ... H3
3.0	MIR 3 L15 A60	1.5	.59	60	0.8 - 1.0	32 - 24	.06	.13	SIM ... H3
4.0	MIR 4 L15 A60	2.0	.59	60	0.8 - 1.0	32 - 24	.07	.16	SIM ... H4
5.0	MIR 5 L15 A60	2.0	.59	60	1.0 - 1.25	24 - 20	.09	.20	SIM ... H5
	MIR 5 L22 A60	2.0	.87	60	1.0 - 1.25	24 - 20	.09	.20	
6.0	MIR 6 L15 A60	2.0	.59	60	1.0 - 1.5	24 - 16	.10	.24	SIM ... H6
	MIR 6 L22 A60	2.0	.87	60	1.0 - 1.5	24 - 16	.10	.24	
8.0	MIR 8 L22 A60	2.5	.87	60	1.0 - 2.0	24 - 13	.14	.32	SIM ... H8

Order example: MIR 5 L15 A60 BXC

For L.H. bars specify MIL instead of MIR

* For additional holders see pages 106-111

MIR Bars Threading



Full Profile - ISO 60°

D mm	Ordering Code	Thread	L	L1	α	F	Min. Dia.	Holder*
3.0	MIR 3 L10 0.5 ISO	M3 x 0.5	1.5	.39	60	.04	.09	SIM ... H3
3.0	MIR 3 L15 0.5 ISO	M4 x 0.5	1.5	.59	60	.06	.13	SIM ... H3
	MIR 3 L15 0.7 ISO	M4 x 0.7	1.5	.59	60	.06	.13	
	MIR 3 L15 0.75 ISO	M4.5 x 0.75	1.5	.59	60	.06	.13	
4.0	MIR 4 L15 0.5 ISO	M5 x 0.5	2.0	.59	60	.07	.16	SIM ... H4
	MIR 4 L15 0.75 ISO	M5 x 0.75	2.0	.59	60	.07	.16	
	MIR 4 L15 0.8 ISO	M5 x 0.8	2.0	.59	60	.07	.16	
5.0	MIR 5 L15 1.0 ISO	M6 x 1.0	2.0	.59	60	.09	.19	SIM ... H5
6.0	MIR 6 L22 1.25 ISO	M8 x 1.25	2.0	.87	60	.11	.24	SIM ... H6
	MIR 6 L22 1.50 ISO	M10 x 1.5	2.0	.87	60	.11	.24	

Order example: MIR 5 L15 1.0 ISO BXC

Full Profile - UN 60°

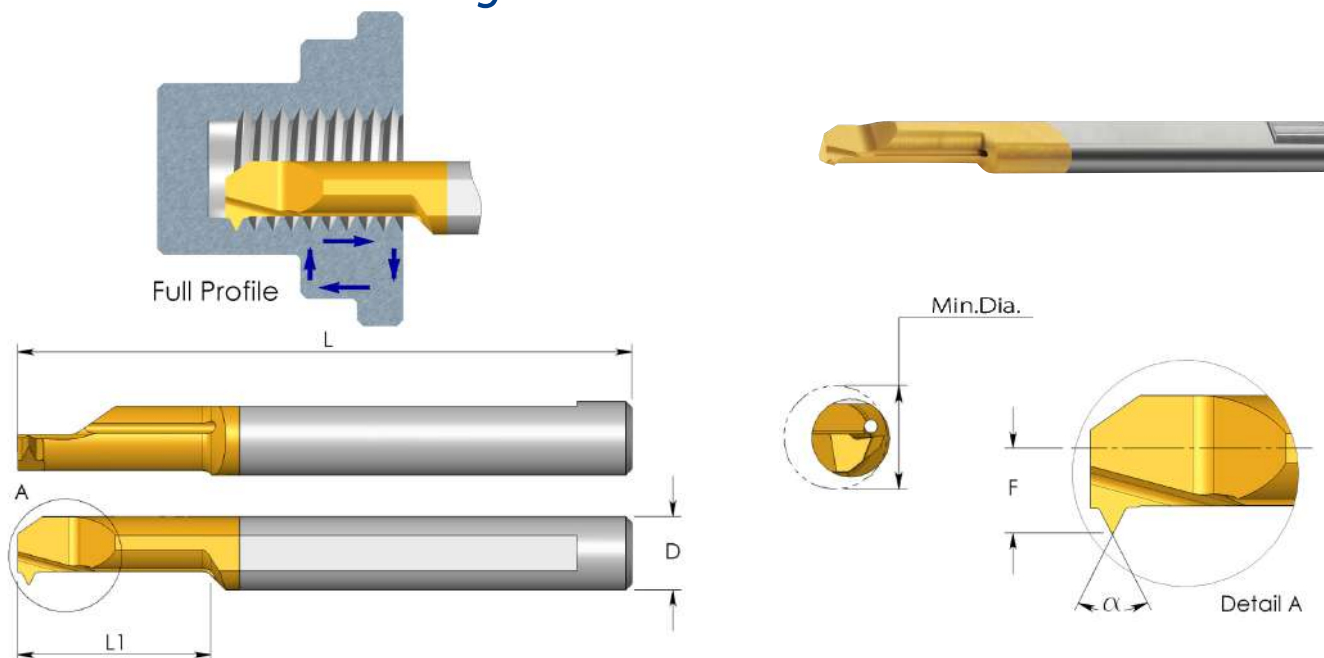
D mm	Ordering Code	Thread	L	L1	α	F	Min. Dia.	Holder*
3.0	MIR 3 L10 32 UN	6-32 UNC	1.5	.39	60	.04	.11	SIM ... H3
3.0	MIR 3 L15 36 UN	8-36 UNF	1.5	.59	60	.06	.13	SIM ... H3
	MIR 3 L15 32 UN	8-32 UNC	1.5	.59	60	.06	.13	
4.0	MIR 4 L15 36 UN	12-36 UNS	2.0	.59	60	.07	.16	SIM ... H4
	MIR 4 L15 32 UN	12-32 UNEF	2.0	.59	60	.07	.16	
5.0	MIR 5 L15 28 UN	1/4-28 UNF	2.0	.59	60	.09	.19	SIM ... H5
	MIR 5 L18 20 UN	1/4-20 UNC	2.0	.71	60	.09	.20	
6.0	MIR 6 L18 24 UN	5/16-24UNF	2.0	.71	60	.11	.26	SIM ... H6
	MIR 6 L18 18 UN	5/16-18UNC	2.0	.71	60	.11	.24	

Order example: MIR 4 L15 36 UN BXC

For L.H. bars specify MIL instead of MIR

* For additional holders see pages 106-111

MIR Bars Threading



Full Profile - MJ 60°

D mm	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder*
3.0	MIR 3 L15 0.7 MJ	MJ4x0.7	1.5	.59	60	.06	.13	SIM ... H3
4.0	MIR 4 L15 0.8 MJ	MJ5x0.8	2.0	.59	60	.07	.16	SIM ... H4
5.0	MIR 5 L15 1.0 MJ	MJ6x1.0	2.0	.59	60	.09	.19	SIM ... H5

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	1.5	.59	60	.06	.13	SIM ... H3
5.0	MIR 5 L15 28 UNJ	1/4-28 UNJF	2.0	.59	60	.09	.19	SIM ... H5

Full Profile - G 55° BSP

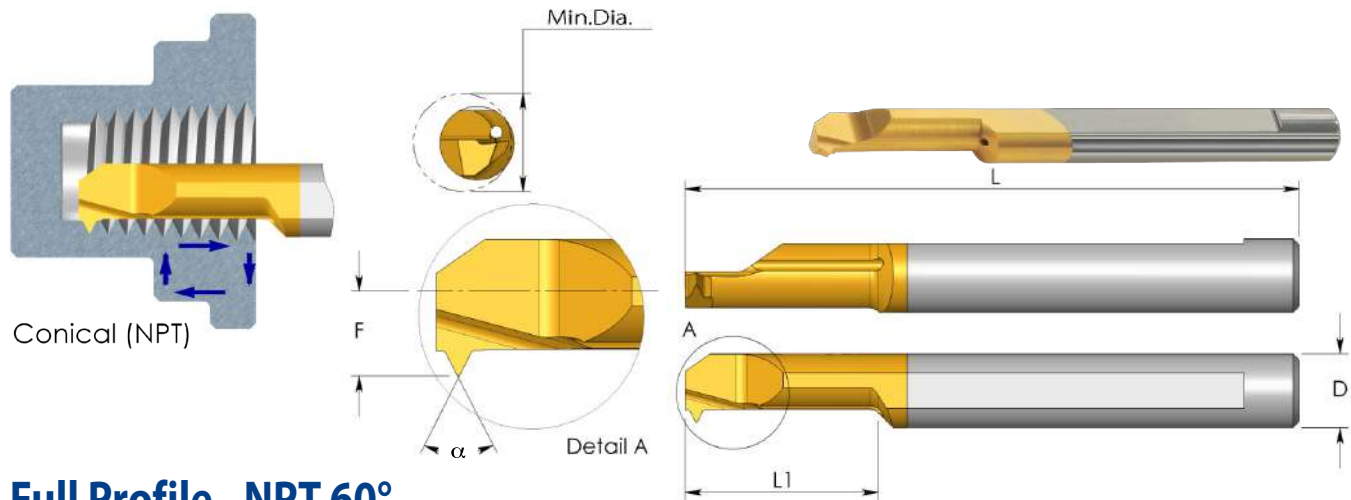
D mm	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder*
6.0	MIR 6 L17 28 W	1/16-28 BSP	2.0	.67	55	.11	.26	SIM ... H6
	MIR 6 L17 19 W	1/4-19 BSP	2.0	.67	55	.11	.28	

Full Profile - Whitworth 55° BSW

D mm	Ordering Code	Thread Size	L	L1	α	F	Min. Dia.	Holder*
5.0	MIR 5 L17 20 W	1/4-20 BSW	2.0	.67	55	.08	.19	SIM ... H5

* For additional holders see pages 106-111

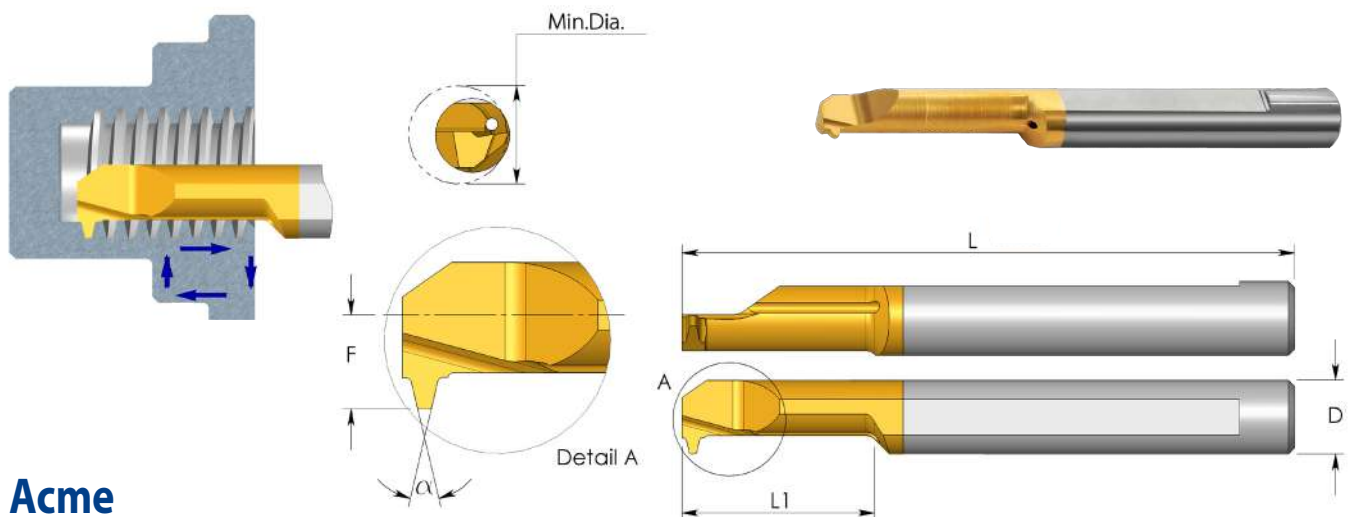
MIR Bars Threading



Full Profile - NPT 60°

D mm	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	2.0	.59	60	.10	.23	SIM ... H6

Order example: MIR 6 L15 27 NPT BXC



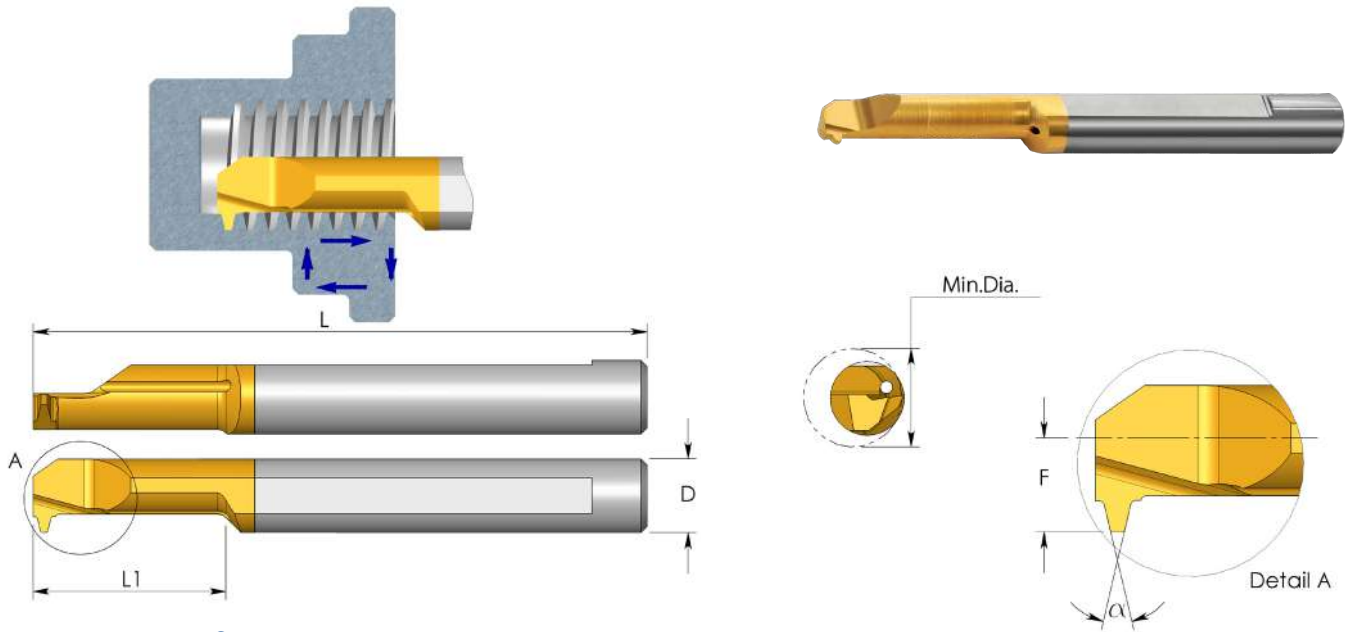
Acme

D mm	Ordering Code	Pitch TPI	Thread Size	L	L1	F	α	Min. Dia.	Holder*
4.0	MIR 4 L15 16 ACME	16	1/4 x 16	2.0	.59	.07	29	.18	SIM ... H4
6.0	MIR 6 L20 14 ACME	14	5/16 x 14	2.0	.79	.11	29	.24	SIM ... H6
7.0	MIR 7 L22 12 ACME	12	3/8 x 12 7/16 x 12	2.4	.87	.13	29	.28	SIM ... H7
8.0	MIR 8 L30 10 ACME	10	1/2 x 10	3.0	1.18	.15	29	.39	SIM ... H8
10.0	MIR 10 L35 8 ACME	8	5/8 x 8	3.0	1.38	.19	29	.49	SIM ... H10
10.0	MIR 10 L45 6 ACME	6	3/4 x 6 7/8 x 6	4.1	1.77	.19	29	.57	SIM ... H10
10.0	MIR 10 L52 5 ACME	5	1 x 5	4.1	2.05	.19	29	.79	SIM ... H10

Order example: MIR 6 L 20 14 ACME BXC

* For additional holders see pages 106-111

MIR Bars Threading



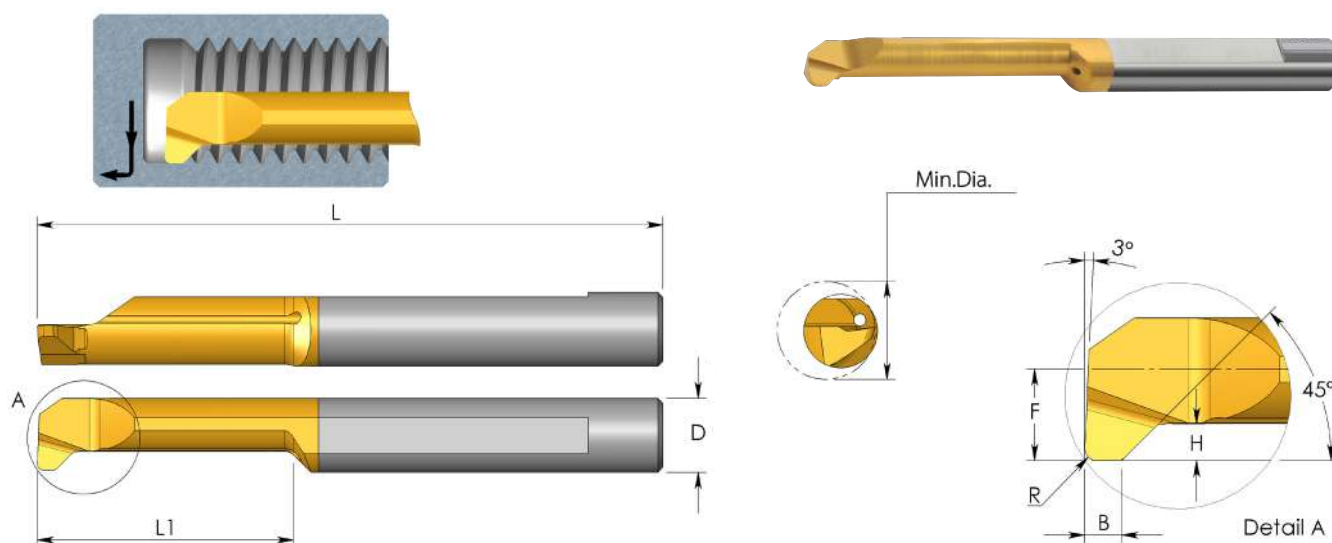
Partial Profile Trapez - DIN 103

D mm	Ordering Code	Pitch mm	Thread Size	L	L1	F	α	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	2.0	.87	.11	30	.25	SIM ... H6
7.0	MIR 7 L25 2 TR	2	TR 9 x 2 TR10 x 2 TR11 x 2 TR12 x 2	2.4	.98	.13	30	.27	SIM ... H7
10.0	MIR 10 L35 2 TR	2	TR14 x 2 TR16 x 2 TR18 x 2 TR20 x 2	2.9	1.38	.19	30	.43	SIM ... H10
7.0	MIR 7 L35 3 TR	3	TR11 x 3 TR12 x 3	2.4	1.38	.13	30	.30	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	2.9	1.38	.19	30	.41	SIM ... H10
10.0	MIR 10 L45 4 TR	4	TR16 x 4 TR18 x 4 TR20 x 4	4.1	1.77	.19	30	.45	SIM ... H10
10.0	MIR 10 L55 5 TR	5	TR22 x 5 TR24 x 5 TR28 x 5	4.1	2.17	.19	30	.43	SIM ... H10

Order example: MIR 10 L35 3 TR BXC

* For additional holders see pages 106-111

MDR Bars Thread Relief, Chamfering and Grooving



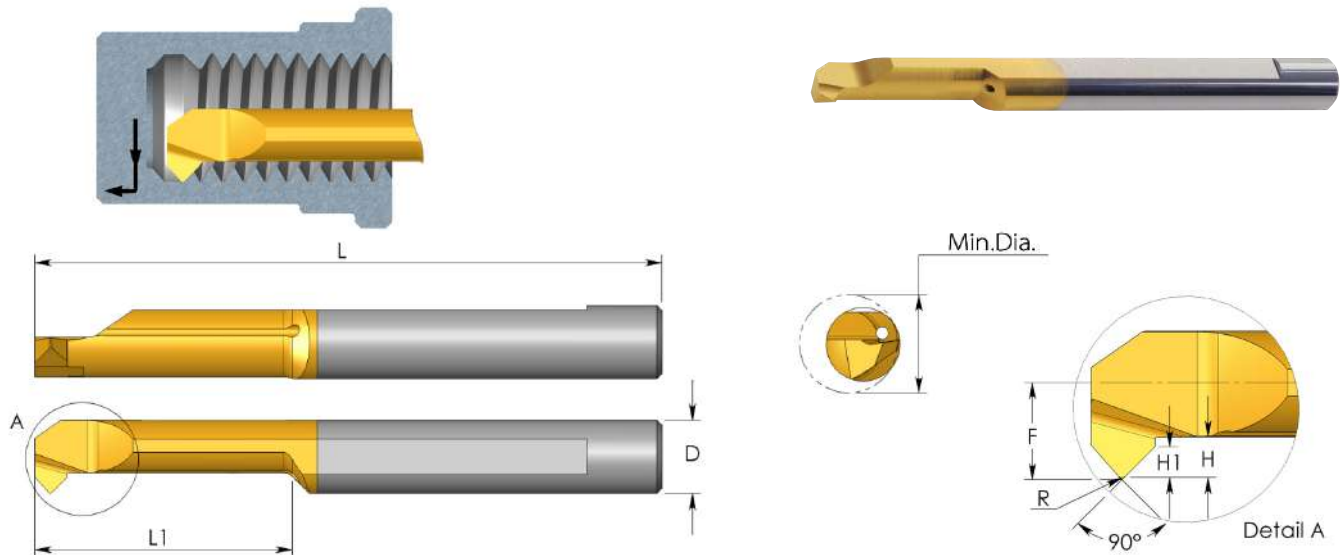
D mm	Ordering Code	L	L1	B	R	H	F	Min. Dia.	Holder*
4.0	MDR 4 R0.5 L18	2.0	.71	.06	.02	.03	.07	.16	SIM ... H4
5.0	MDR 5 R0.5 L24	2.0	.94	.06	.02	.05	.09	.20	SIM ... H5
6.0	MDR 6 R0.5 L27	2.3	1.06	.06	.02	.06	.11	.24	SIM ... H6

Order example: MDR 5 R0.5 L24 BXC

For L.H. bars specify MDL instead of MDR

* For additional holders see pages 106-111

MCR Bars Chamfering and Boring



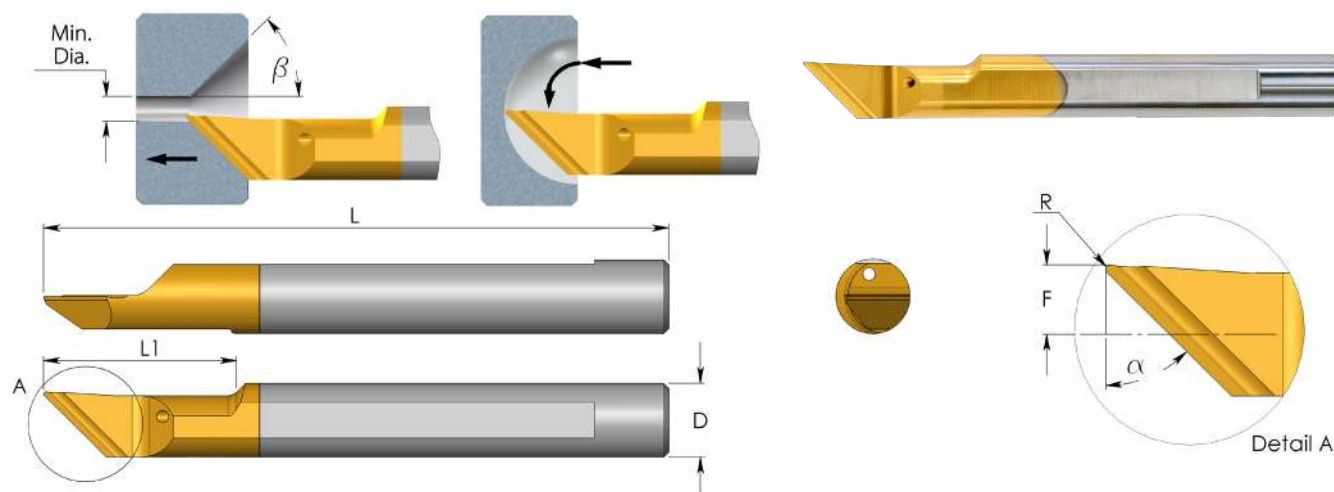
D mm	Ordering Code	L	L1	R	H	H1	F	Min. Dia.	Holder*
3.0	MCR 3 R0.2 L10	1.5	.39	.008	.03	.01	.05	.12	SIM ... H3
4.0	MCR 4 R0.2 L15	2.0	.59	.008	.03	.02	.07	.16	SIM ... H4
5.0	MCR 5 R0.2 L15	2.0	.59	.008	.05	.03	.08	.20	SIM ... H5
6.0	MCR 6 R0.2 L15	2.0	.59	.008	.06	.03	.11	.24	SIM ... H6
7.0	MCR 7 R0.2 L20	2.4	.79	.008	.06	.03	.13	.28	SIM ... H7

Order example: MCR 4 R0.2 L15 BXC

For L.H. bars specify MCL instead of MCR

* For additional holders see pages 106-111

MWR Bars Chamfering and Profiling



D mm	Ordering Code	L	L1	R	α	β	F	Min. Dia.	Holder**
6.0	MWR 6 R0.2 A90	2.0	.59	.008	45°	45°	.09	.04	SIM ... H6
	MWR 6 R0.2 A60	2.0	.59	.008	60°	30°	.09	.04	
6.0	* MWR 6 R0.4 A60	2.0	.87	.016	45°	45°	.09	.24	
	* MWR 6 R0.4 A90	2.0	.87	.016	60°	30°	.09	.24	

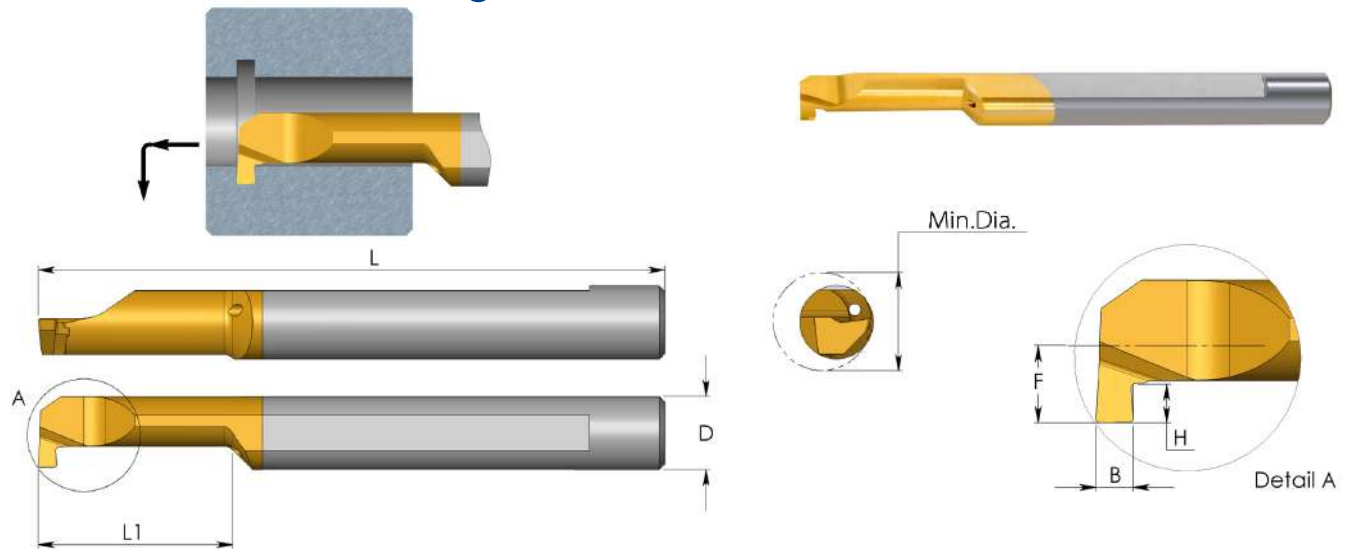
Order example: MWR 6 R0.2 A90 BXC

For L.H. bars specify MWL instead of MWR

* Can be used also for boring

** For additional holders see pages 106-111

MGR Bars Grooving



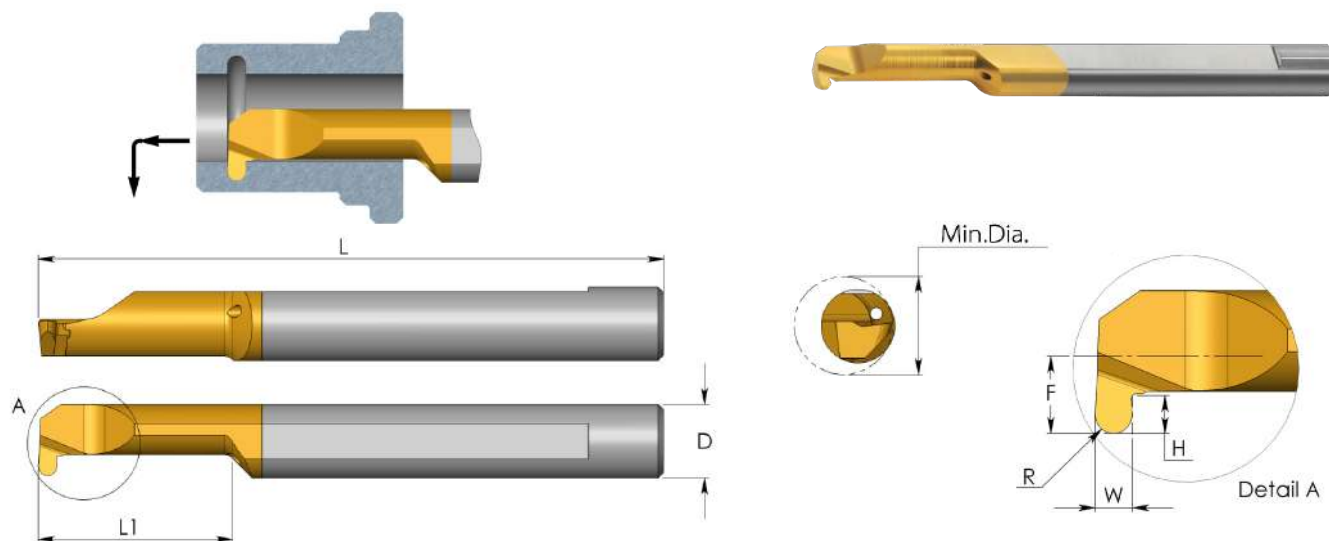
D mm	Ordering Code	L	L1	B	H	F	Min. Dia.	Holder*
3.0	MGR 3 B0.7 L10	1.5	.39	.03	.02	.05	.12	SIM ... H3
4.0	MGR 4 B0.5 L10	2.0	.39	.02	.02	.07	.16	SIM ... H4
	MGR 4 B0.7 L10	2.0	.39	.03	.02	.07	.16	
	MGR 4 B1.0 L10	2.0	.39	.04	.04	.07	.16	
	MGR 4 B1.0 L15	2.0	.59	.04	.04	.07	.16	
	MGR 4 B1.0 L22	2.0	.87	.04	.04	.07	.16	
	MGR 4 B1.5 L10	2.0	.39	.06	.04	.07	.16	
5.0	MGR 5 B1.0 L15	2.0	.59	.04	.05	.09	.20	SIM ... H5
	MGR 5 B1.0 L22	2.0	.87	.04	.05	.09	.20	
	MGR 5 B1.5 L15	2.0	.59	.06	.05	.09	.20	
	MGR 5 B1.5 L22	2.0	.87	.06	.05	.09	.20	
	MGR 5 B2.0 L15	2.0	.59	.08	.05	.09	.20	
	MGR 5 B2.0 L22	2.0	.87	.08	.05	.09	.20	
6.0	MGR 6 B1.0 L15	2.0	.59	.04	.06	.11	.24	SIM ... H6
	MGR 6 B1.0 L17	2.0	.67	.04	.07	.11	.24	
	MGR 6 B1.0 L22	2.0	.87	.04	.06	.11	.24	
	MGR 6 B1.5 L15	2.0	.59	.06	.06	.11	.24	
	MGR 6 B1.5 L17	2.0	.67	.06	.07	.11	.24	
	MGR 6 B1.5 L22	2.0	.87	.06	.06	.11	.24	
	MGR 6 B1.5 L23	2.0	.91	.06	.07	.11	.24	
	MGR 6 B2.0 L15	2.0	.59	.08	.06	.11	.24	
	MGR 6 B2.0 L17	2.0	.67	.08	.07	.11	.24	
	MGR 6 B2.0 L22	2.0	.87	.08	.06	.11	.24	
7.0	MGR 7 B1.0 L15	2.4	.59	.04	.10	.13	.28	SIM ... H7
	MGR 7 B1.0 L22	2.4	.87	.04	.10	.13	.28	
	MGR 7 B1.0 L30	2.4	1.18	.04	.10	.13	.28	
	MGR 7 B1.5 L15	2.4	.59	.06	.10	.13	.28	
	MGR 7 B1.5 L22	2.4	.87	.06	.10	.13	.28	
	MGR 7 B1.5 L30	2.4	1.18	.06	.10	.13	.28	
	MGR 7 B2.0 L15	2.4	.59	.08	.10	.13	.28	
	MGR 7 B2.0 L22	2.4	.87	.08	.10	.13	.28	
8.0	MGR 8 B1.0 L22	2.5	.87	.04	.07	.15	.32	SIM ... H8
	MGR 8 B1.5 L22	2.5	.87	.06	.07	.15	.32	
	MGR 8 B2.0 L22	2.5	.87	.08	.10	.15	.32	

Order example: MGR 5 B1.5 L15 BXC

For L.H. bars specify MGL instead of MGR

* For additional holders see pages 106-111

MKR Bars Full Radius Grooving



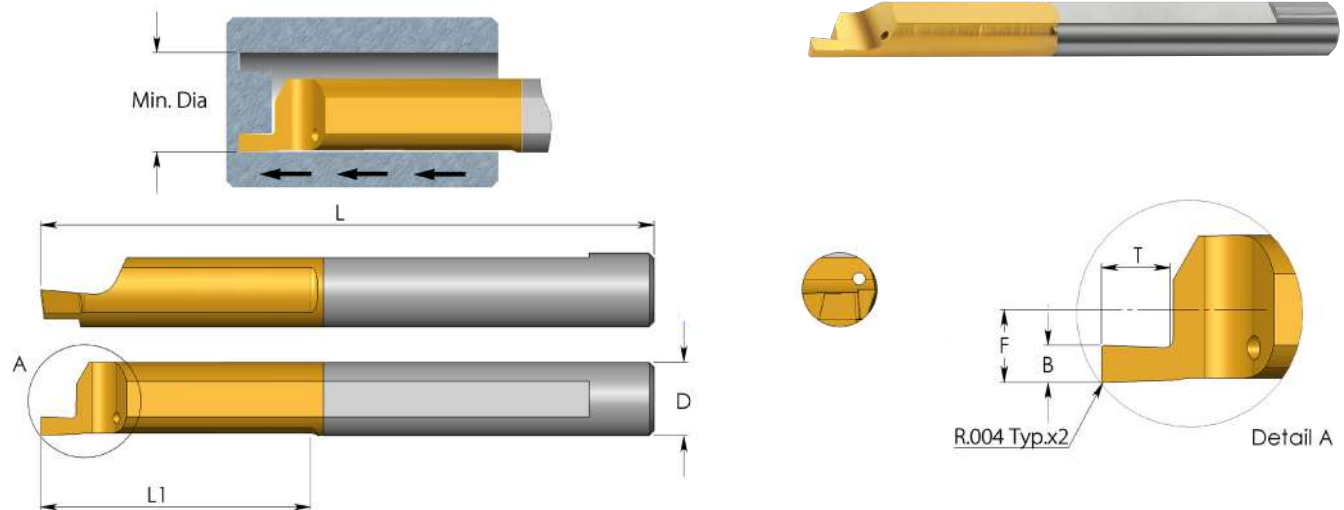
D mm	Ordering Code	L	L1	R	W	H	F	Min. Dia.	Holder*
4.0	MKR 4 R0.5 L10	2.0	.39	.020	.04	.04	.07	.16	SIM ... H4
	MKR 4 R0.5 L15	2.0	.59	.020	.04	.04	.07	.16	
	MKR 4 R0.75 L10	2.0	.39	.030	.06	.04	.07	.16	
5.0	MKR 5 R0.5 L15	2.0	.59	.020	.04	.05	.09	.20	SIM ... H5
	MKR 5 R0.75 L15	2.0	.59	.030	.06	.05	.09	.20	
	MKR 5 R1.0 L15	2.0	.59	.039	.08	.05	.09	.20	
	MKR 5 R1.0 L22	2.0	.87	.039	.08	.05	.09	.20	
6.0	MKR 6 R0.5 L15	2.0	.59	.020	.04	.06	.11	.24	SIM ... H6
	MKR 6 R0.75 L15	2.0	.59	.030	.06	.06	.11	.24	
	MKR 6 R1.0 L15	2.0	.59	.039	.08	.06	.11	.24	
	MKR 6 R1.0 L23	2.0	.91	.039	.08	.07	.11	.24	
7.0	MKR 7 R0.5 L22	2.4	.87	.020	.04	.10	.13	.28	SIM ... H7
	MKR 7 R0.75 L22	2.4	.87	.030	.06	.10	.13	.28	
	MKR 7 R1.0 L22	2.4	.87	.039	.08	.10	.13	.28	

Order example: MKR 5 R1.0 L15 BXC

For L.H. bars specify MKL instead of MKR

* For additional holders see pages 106-111

MFR Bars Face Grooving

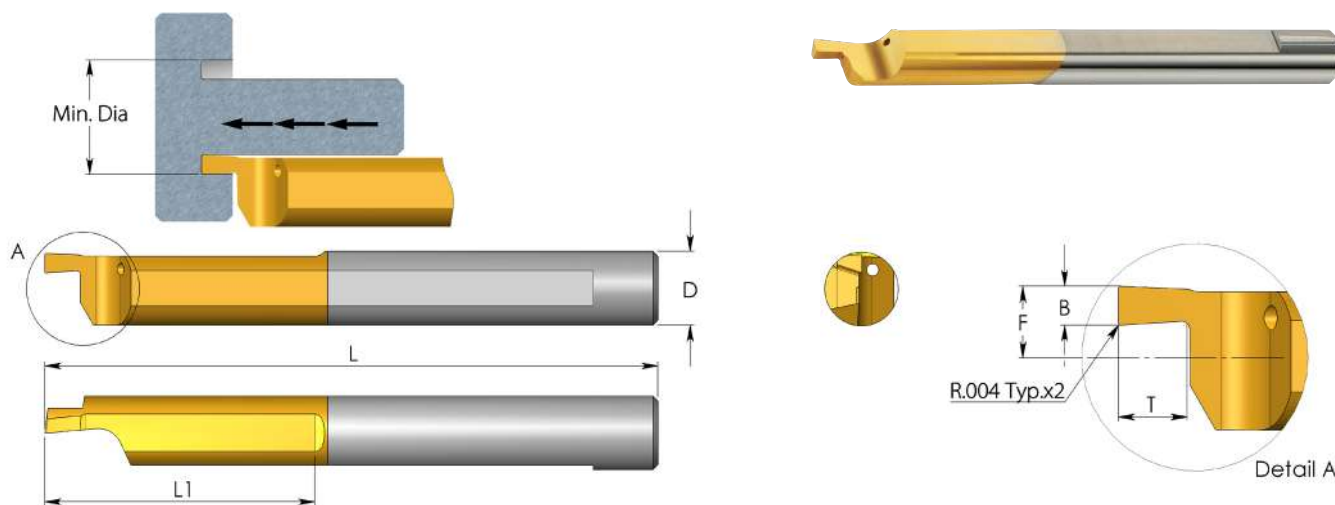


D mm	Ordering Code	L	L1	B	T	F	Min. Dia.	Holder*
4.0	MFR 4 B0.75 L15	2.0	.59	.03	.05	.08	.20	SIM ... H4
	MFR 4 B1.0 L15	2.0	.59	.04	.06	.08	.20	
	MFR 4 B1.5 L15	2.0	.59	.06	.11	.08	.20	
	MFR 4 B1.5 L17	2.0	.67	.06	.14	.08	.20	
	MFR 4 B2.0 L17	2.0	.67	.08	.20	.08	.20	
5.0	MFR 5 B0.75 L22	2.0	.87	.03	.05	.10	.24	SIM ... H5
	MFR 5 B1.0 L22	2.0	.87	.04	.06	.10	.24	
	MFR 5 B1.0 L23	2.0	.91	.04	.10	.10	.24	
	MFR 5 B1.5 L22	2.0	.87	.06	.10	.10	.24	
	MFR 5 B1.5 L23	2.0	.91	.06	.14	.10	.24	
	MFR 5 B2.0 L22	2.0	.87	.08	.15	.10	.24	
	MFR 5 B2.0 L23	2.0	.91	.08	.20	.10	.24	
6.0	MFR 6 B1.0 L22	2.0	.87	.04	.06	.12	.31	SIM ... H6
	MFR 6 B1.5 L22	2.0	.87	.06	.10	.12	.31	
	MFR 6 B2.0 L22	2.0	.87	.08	.12	.12	.31	
	MFR 6 B2.5 L22	2.0	.87	.10	.19	.12	.31	
	MFR 6 B3.0 L30	2.3	1.18	.12	.24	.12	.31	
8.0	MFR 8 B2.5 L22	2.5	.87	.10	.14	.16	.39	SIM ... H8

Order example: MFR 5 B1.0 L22 BXC

* For additional holders see pages 106-111

MFL Bars Face Grooving

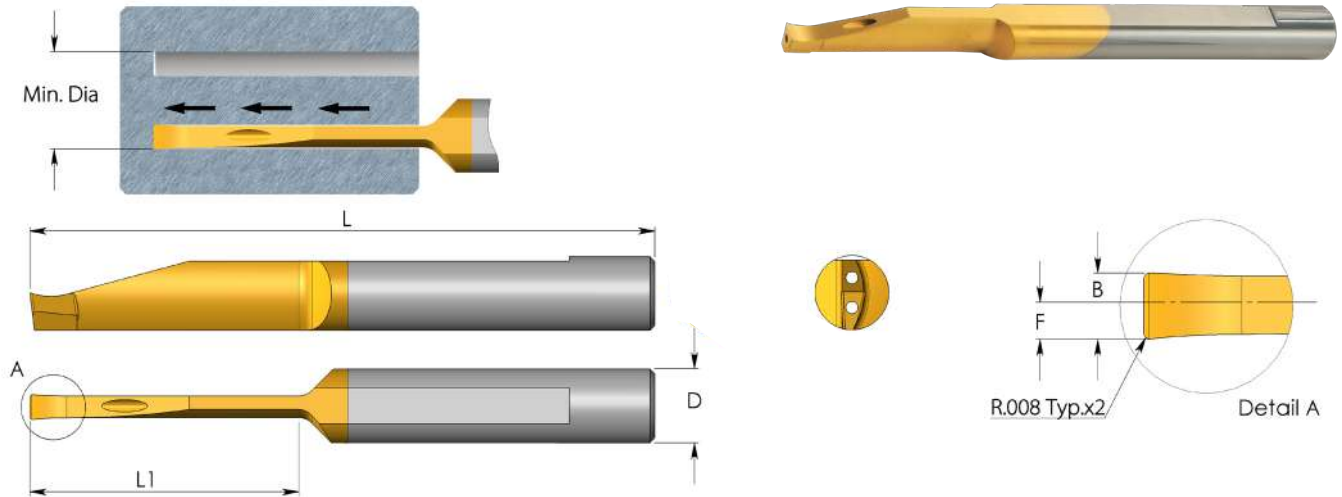


D mm	Ordering Code	L	L1	B	T	F	Min. Dia.	Holder*
4.0	MFL 4 B0.75 L15	2.0	.59	.03	.05	.07	.20	SIM ... H4
	MFL 4 B1.0 L15	2.0	.59	.04	.06	.07	.20	
	MFL 4 B1.5 L15	2.0	.59	.06	.11	.07	.20	
	MFL 4 B1.5 L17	2.0	.67	.06	.12	.07	.20	
	MFL 4 B2.0 L17	2.0	.67	.08	.20	.07	.20	
5.0	MFL 5 B0.75 L22	2.0	.87	.03	.05	.09	.24	SIM ... H5
	MFL 5 B1.0 L22	2.0	.87	.04	.06	.09	.24	
	MFL 5 B1.0 L23	2.0	.91	.04	.10	.09	.24	
	MFL 5 B1.5 L22	2.0	.87	.06	.10	.09	.24	
	MFL 5 B1.5 L23	2.0	.91	.06	.14	.09	.24	
	MFL 5 B2.0 L22	2.0	.87	.08	.15	.09	.24	
	MFL 5 B2.0 L23	2.0	.91	.08	.20	.09	.24	
6.0	MFL 6 B1.0 L22	2.0	.87	.04	.06	.11	.31	SIM ... H6
	MFL 6 B1.5 L22	2.0	.87	.06	.10	.11	.31	
	MFL 6 B2.0 L22	2.0	.87	.08	.12	.11	.31	
	MFL 6 B2.5 L22	2.0	.87	.10	.19	.11	.31	
	MFL 6 B3.0 L30	2.3	1.18	.12	.24	.11	.31	
8.0	MFL 8 B2.5 L22	2.5	.87	.10	.14	.15	.39	SIM ... H8

Order example: MFL 6 B1.0 L22 BXC

* For additional holders see pages 106-111

MVR Bars Deep Face Grooving - with 2 Coolant Bores



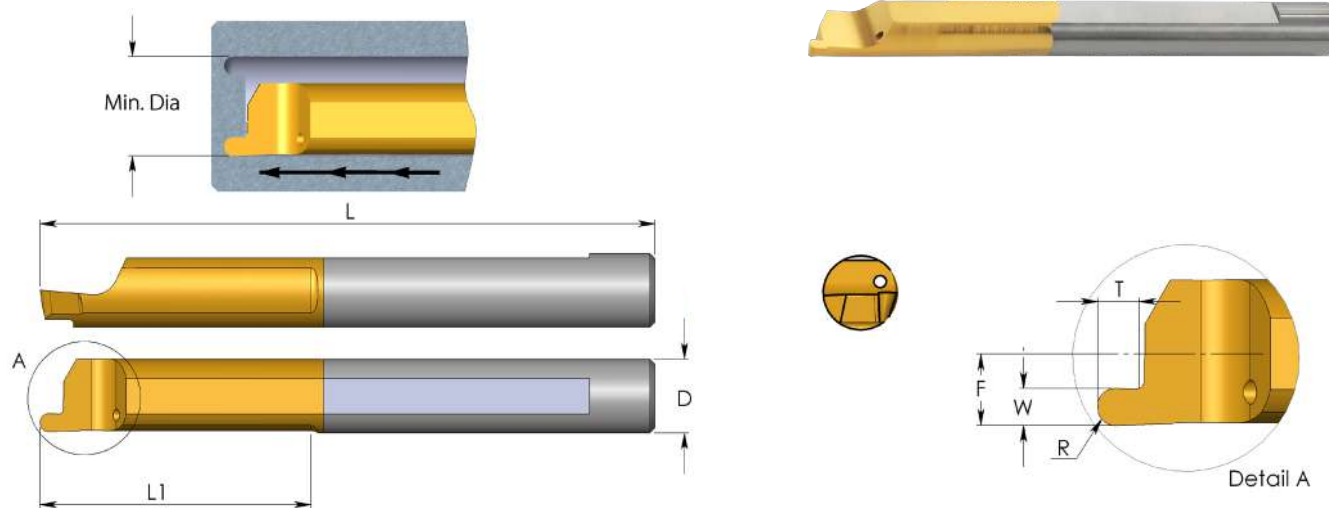
D mm	Ordering Code	L	L1	B	F	Min. Dia.	Holder*
6.0	MVR 6 B2.0 L10	2.5	.39	.08	.04	.39	SIM ... H6
	MVR 6 B2.0 L15	2.5	.59	.08	.04	.47	
	MVR 6 B2.0 L22	2.5	.87	.08	.04	.47	
	MVR 6 B2.5 L15	2.5	.59	.10	.06	.39	
	MVR 6 B2.5 L22	2.5	.87	.10	.06	.47	
	MVR 6 B3.0 L20	2.5	.79	.12	.06	.39	
8.0	MVR 8 B3.0 L27	2.5	1.06	.12	.06	.59	SIM ... H8
	MVR 8 B3.0 L43	3.1	1.69	.12	.06	.59	
8.0	MVR 8 B4.0 L43	3.1	1.69	.16	.08	.79	SIM ... H8

Order example: MVR 6 B2.0 L22 BXC

* For additional holders see pages 106-111

For L.H. bars specify MVL instead of MVR

MZR Bars Face Grooving

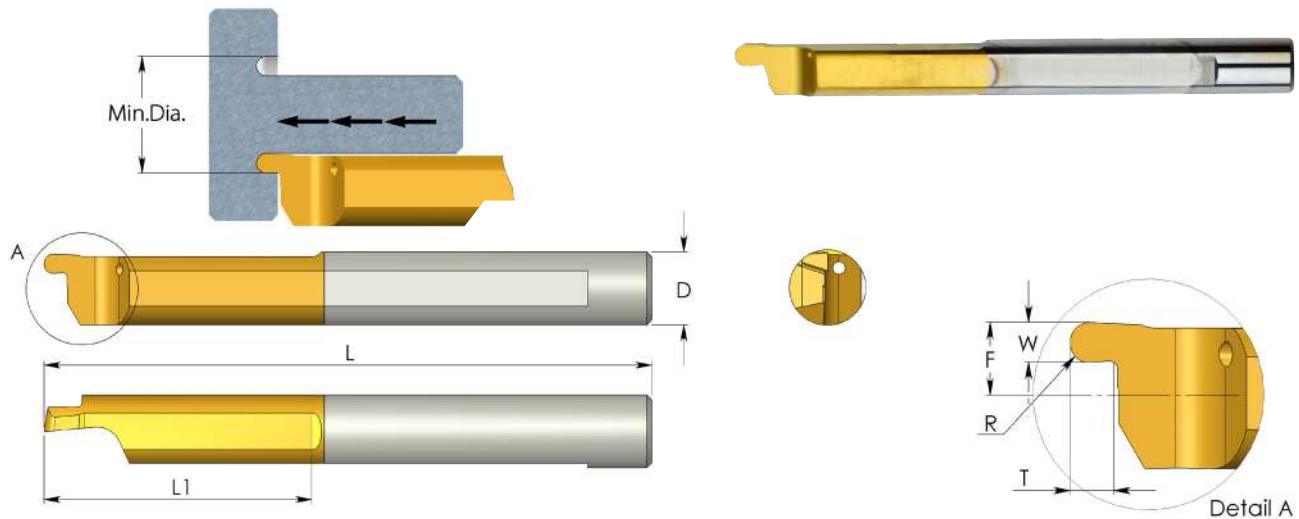


D mm	Ordering Code	L	L1	R	W	T	F	Min. Dia.	Holder*
4.0	MZR 4 R0.5 L15	2.0	.59	.020	.04	.05	.08	.20	SIM ... H4
	MZR 4 R0.75 L15	2.0	.59	.030	.06	.06	.08	.20	
5.0	MZR 5 R0.5 L22	2.0	.87	.020	.04	.05	.10	.24	SIM ... H5
	MZR 5 R0.75 L22	2.0	.87	.030	.06	.06	.10	.24	
	MZR 5 R1.0 L22	2.0	.87	.039	.08	.10	.10	.24	
6.0	MZR 6 R0.5 L22	2.0	.87	.020	.04	.05	.12	.31	SIM ... H6
	MZR 6 R0.75 L22	2.0	.87	.030	.06	.06	.12	.31	
	MZR 6 R1.0 L22	2.0	.87	.039	.08	.10	.12	.31	

Order example: MZR 5 R0.5 L22 BXC

* For additional holders see pages 106-111

MZL Bars Face Grooving



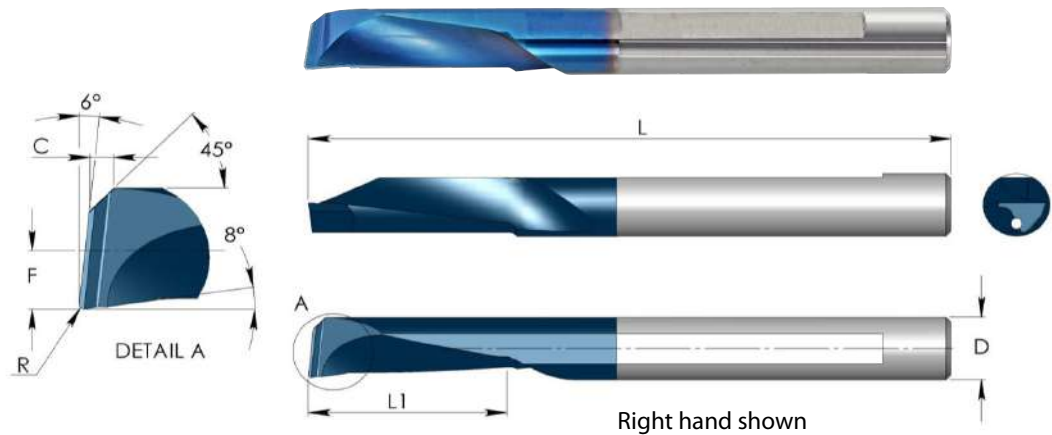
D mm	Ordering Code	L	L1	R	W	T	F	Min. Dia.	Holder*
4.0	MZL 4 R0.5 L15	2.0	.59	.020	.04	.05	.07	.20	SIM ... H4
	MZL 4 R0.75 L15	2.0	.59	.030	.06	.06	.07	.20	
5.0	MZL 5 R0.5 L22	2.0	.87	.020	.04	.05	.09	.24	SIM ... H5
	MZL 5 R0.75 L22	2.0	.87	.030	.06	.06	.09	.24	
	MZL 5 R1.0 L22	2.0	.87	.039	.08	.10	.09	.24	
6.0	MZL 6 R0.5 L22	2.0	.87	.020	.04	.05	.11	.31	SIM ... H6
	MZL 6 R0.75 L22	2.0	.87	.030	.06	.06	.11	.31	
	MZL 6 R1.0 L22	2.0	.87	.039	.08	.10	.11	.31	

Order example: MZL 5 R0.5 L22 BXC

* For additional holders see page 106-111

CMR Carmex Multi-Task Tiny Tools

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



Right hand

D mm	Ordering Code	L	L1	R	F	C	Hole Dia.*	Holder **		
4.0	CMR 4 R0.1 L10	2.0	.39	.004	.07	.04	.16	SIM...H4	P	*
	CMR 4 R0.1 L15	2.0	.59	.004	.07	.04	.16		M	*
5.0	CMR 5 R0.2 L10	2.0	.39	.008	.09	.05	.20	SIM...H5	K	*
	CMR 5 R0.2 L15	2.0	.59	.008	.09	.05	.20		N	*
6.0	CMR 6 R0.2 L12	2.3	.47	.008	.11	.06	.24	SIM...H6	S	*
	CMR 6 R0.2 L18	2.3	.71	.008	.11	.06	.24		H	

P	BMK	*
M		*
K		*
N		*
S		*
H		

Left hand

D mm	Ordering Code	L	L1	R	F	C	Hole Dia.*	Holder **		
4.0	CML 4 R0.1 L10	2.0	.39	.004	.07	.04	.16	SIM...H4	P	*
	CML 4 R0.1 L15	2.0	.59	.004	.07	.04	.16		M	*
5.0	CML 5 R0.2 L10	2.0	.39	.008	.09	.05	.20	SIM...H5	K	*
	CML 5 R0.2 L15	2.0	.59	.008	.09	.05	.20		N	*
6.0	CML 6 R0.2 L12	2.3	.47	.008	.11	.06	.24	SIM...H6	S	*
	CML 6 R0.2 L18	2.3	.71	.008	.11	.06	.24		H	

P	BMK	*
M		*
K		*
N		*
S		*
H		

* The minimum diameter the tool can produce from full material

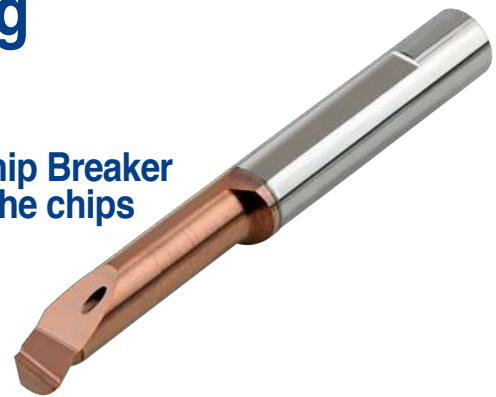
** For additional holders see page 106-111

CBR Bars Profiling and Boring

With advanced Chip Breaker

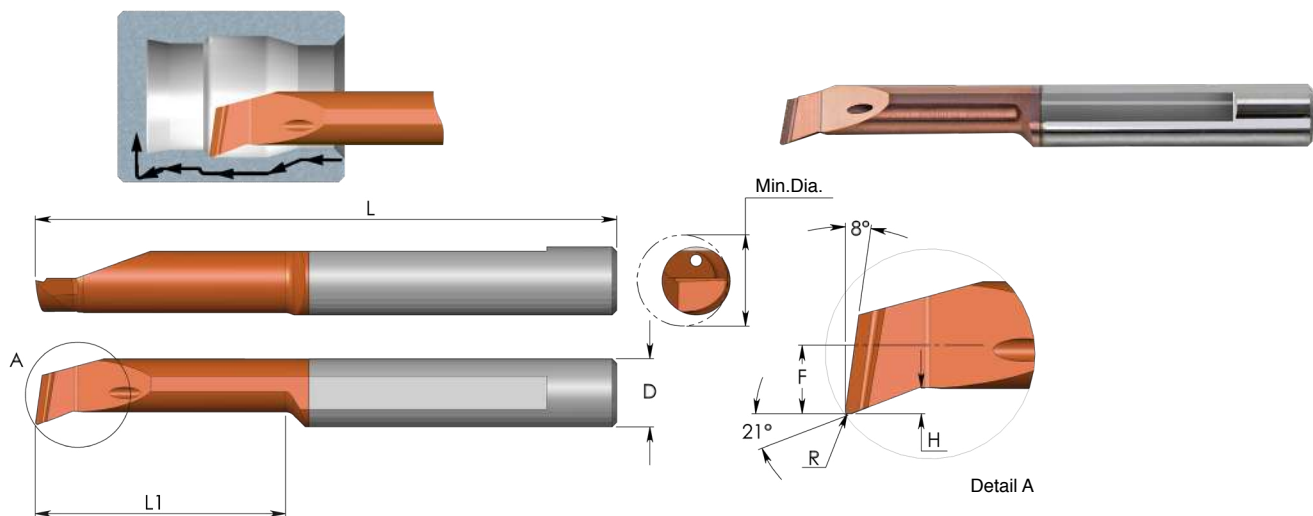
Chip evacuation is obtained thanks to advanced Chip Breaker and the internal coolant through the tool, pushing the chips out of the hole.

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.



Carbide grade:

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.

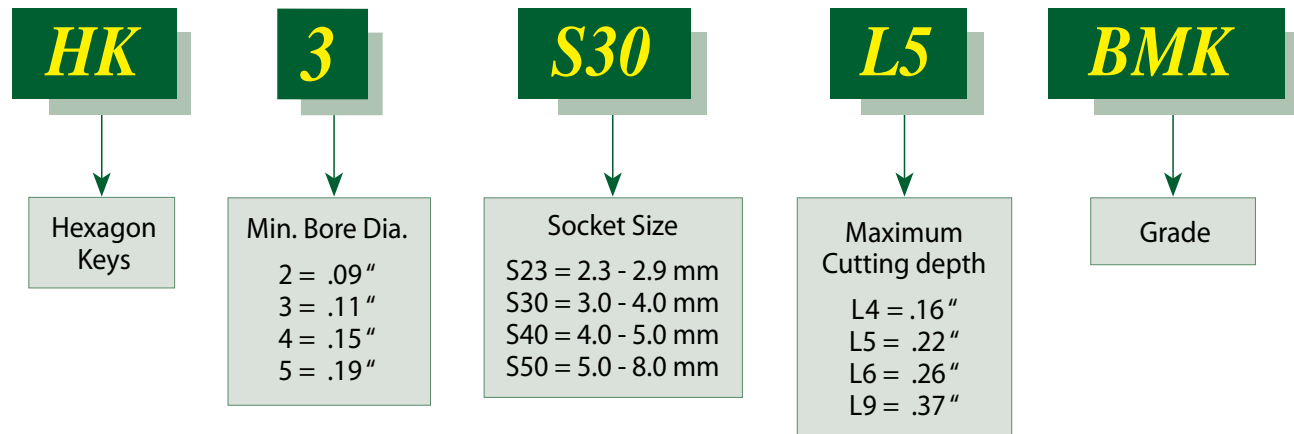


D mm	Ordering Code	L	L1	R	H	F	Min. Dia.	Holder
4.0	CBR 4 R0.2 L10	2	.39	.008	.02	.07	.16	SIM ... H4
	CBR 4 R0.2 L15	2	.59	.008	.02	.07	.16	
5.0	CBR 5 R0.2 L15	2	.59	.008	.03	.09	.20	SIM ... H5
	CBR 5 R0.2 L22	2	.87	.008	.03	.09	.20	
6.0	CBR 6 R0.2 L15	2	.59	.008	.04	.11	.24	SIM ... H6
	CBR 6 R0.2 L22	2	.87	.008	.04	.11	.24	

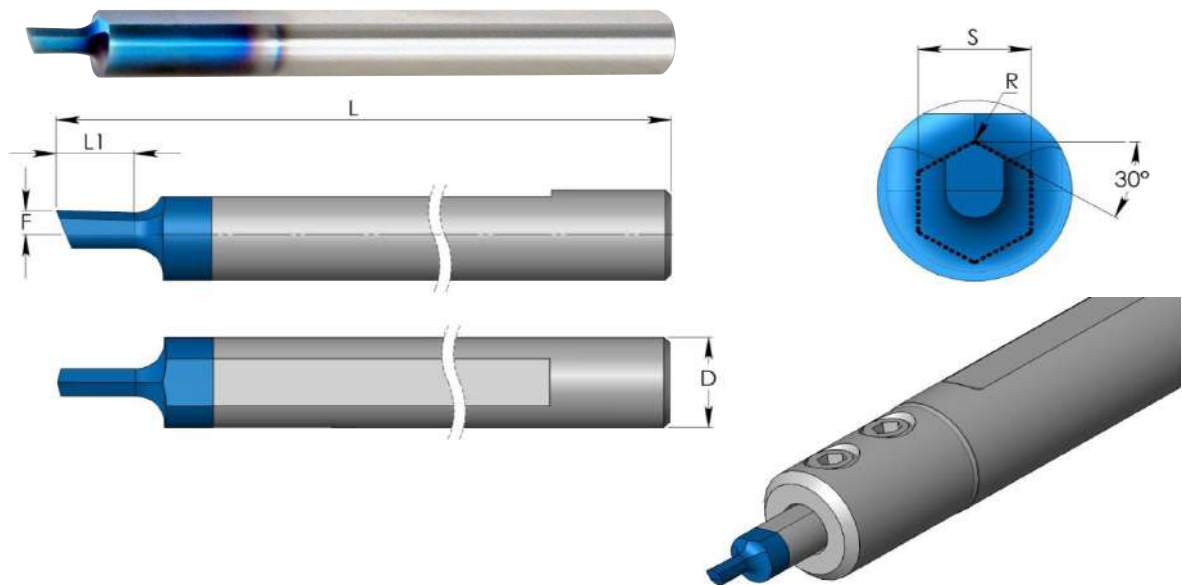
P	TNX	*
M		*
K		*
N		*
S		*
H		*

For L.H. bars specify CBL instead of CBR

Product Identification



HK Broaching Tools for Hexagon Keys



D mm	S mm	Ordering Code	L	L1	R	F	Min. Dia.	Holder
5.0	2.3-2.9	HK 2 S23 L4	2.0	.16	.002	.05	.09	SIM...H5
	3.0-4.0	HK 3 S30 L5	2.0	.22	.002	.05	.11	
	4.0-5.0	HK 4 S40 L6	2.0	.26	.004	.05	.15	
7.0	5.0-8.0	HK 5 S50 L9	2.4	.37	.004	.05	.19	SIM...H7

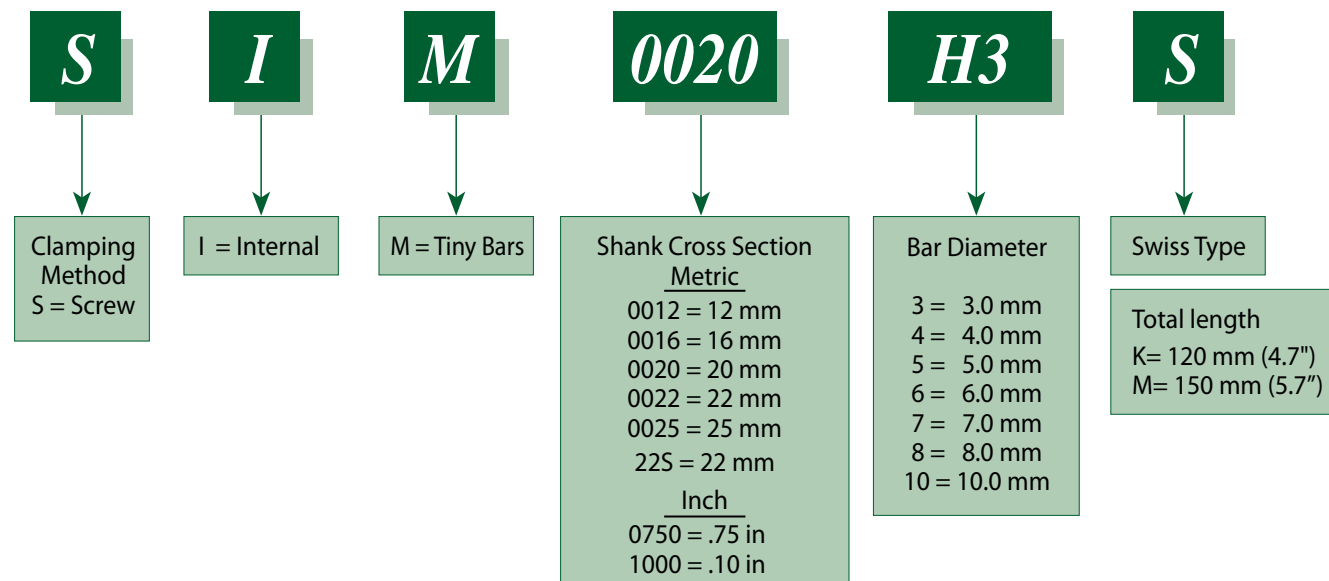
P	BMK	*
M		*
K		*
N		*
S		*
H		

S = Socket Size

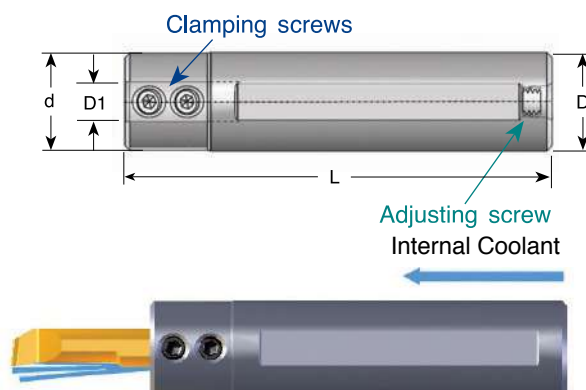
* For additional holders see page 106-111

Product Identification

Tiny Bar Holders Ordering Codes



Tiny Tools Bar Holders



Metric Shank Version

D1 mm	Ordering Code	D mm	d mm/in	L mm/in	Key	Clamping Screw	Adjusting Screw
3.0	SIM 0012 H3	12	12 / .47	88 / 3.5	K25	S24	S35
	SIM 0016 H3S	16	20 / .79	75 / 3.0	K25	S25	S35S
	SIM 0016 H3	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H3	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0022 H3	22	22 / .87	88 / 3.5	K25	S25	S35
	SIM0022 H3K	22	22 / .87	120 / 4.7	K25	S25	S55
	SIM0025 H3M	25	25 / .98	150 / 5.9	K25	S25	-

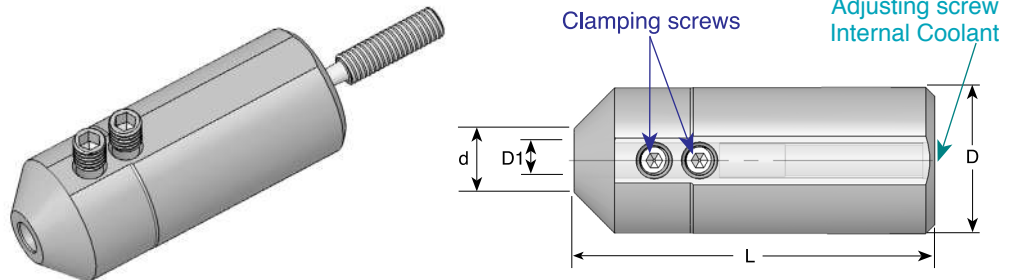
Tiny Tools Bar Holders

D1 mm	Ordering Code	D mm	d mm/in	L mm/in	Key	Clamping Screw	Adjusting Screw
4.0	SIM 0012 H4	12	12 / .47	88 / 3.5	K25	S24	S35
	SIM 0016 H4S	16	20 / .79	75 / 3.0	K25	S25	S35S
	SIM 0016 H4	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H4	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0022 H4	22	22 / .87	88 / 3.5	K25	S25	S35
	SIM0022 H4K	22	22 / .87	120 / 4.7	K25	S25	S55
	SIM0025 H4M	25	25 / .98	150 / 5.9	K25	S25	-
5.0	SIM 0012 H5	12	12 / .47	88 / 3.5	K25	S24	S35
	SIM 0016 H5S	16	20 / .79	75 / 3.0	K25	S25	S35S
	SIM 0016 H5	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H5	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0022 H5	22	22 / .87	88 / 3.0	K25	S25	S35
	SIM0022 H5K	22	22 / .87	120 / 4.7	K25	S25	S55
	SIM0025 H5M	25	25 / .98	150 / 5.9	K25	S25	-
6.0	SIM 0016 H6S	16	20 / .79	75 / 3.0	K25	S25	S35S
	SIM 0016 H6	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H6	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0022 H6	22	22 / .87	88 / 3.5	K25	S25	S35
	SIM0022 H6K	22	22 / .87	120 / 4.7	K25	S25	S55
	SIM0025 H6M	25	25 / .98	150 / 5.9	K25	S25	-
7.0	SIM 0016 H7	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H7	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM0022 H7	22	22 / .87	88 / 3.5	K25	S25	S35
8.0	SIM 0016 H8	16	20 / .79	88 / 3.5	K25	S25	S35
	SIM 0020 H8	20	20 / .79	88 / 3.5	K25	S25	S35
	SIM0022 H8	22	22 / .87	88 / 3.5	K25	S25	S35
10.0	SIM0016 H10	16	20 / .79	88 / 3.5	K25	S25S	S35
	SIM 0020 H10	20	20 / .79	88 / 3.5	K25	S25S	S35
	SIM0022 H10	22	22 / .87	88 / 3.5	K25	S25	S35

Inch Shank Version

D1 mm	Ordering Code	D in	d mm/in	L mm/in	Key	Clamping Screw	Adjusting Screw
3.0	SIM 0750 H3	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM 1000 H3	1	25.4 / 1.0	88 / 3.5	K25	S25	S35
4.0	SIM 0750 H4	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM 1000 H4	1	25.4 / 1.0	88 / 3.5	K25	S25	S35
5.0	SIM 0750 H5	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM 1000 H5	1	25.4 / 1.0	88 / 3.5	K25	S25	S35
6.0	SIM 0750 H6	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM 1000 H6	1	25.4 / 1.0	88 / 3.5	K25	S25	S35
7.0	SIM 0750 H7	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM 1000 H7	1	25.4 / 1.0	88 / 3.5	K25	S25	S35
8.0	SIM 0750 H8	3/4	19.05 / .75	88 / 3.5	K25	S25	S35
	SIM0750 H10	3/4	19.05 / .75	88 / 3.5	K25	S25S	S35
10.0	SIM1000 H10	1	25.4 / 1.0	88 / 3.5	K25	S25	S35

Tiny Tools Bar Holders

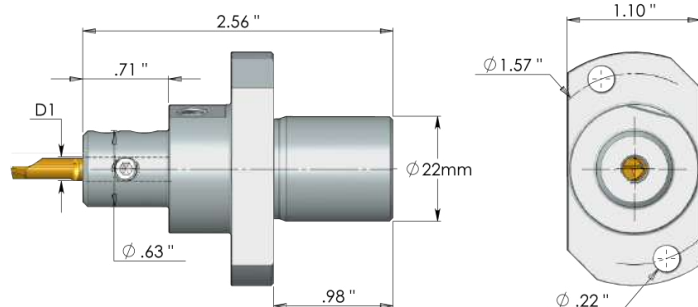


Metric shank version

D1 mm	Ordering Code	D mm	d mm/in	L mm/in	Key	Clamping Screw	Adjusting Screw
3.0	SIM 0025 H3	25	10.8 / .43	62 / 2.4	K25	S25	S35M
4.0	SIM 0025 H4	25	10.8 / .43	62 / 2.4	K25	S25	S35M
5.0	SIM 0025 H5	25	10.8 / .43	62 / 2.4	K25	S25	S35M
6.0	SIM 0025 H6	25	10.8 / .43	62 / 2.4	K25	S25	S35M
7.0	SIM 0025 H7	25	10.8 / .43	62 / 2.4	K25	S25	S35M
8.0	SIM 0025 H8	25	10.8 / .43	62 / 2.4	K25	S25	S35M

Tiny Toolholder for Swiss machines

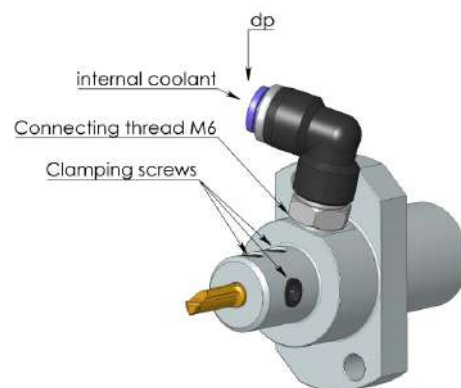
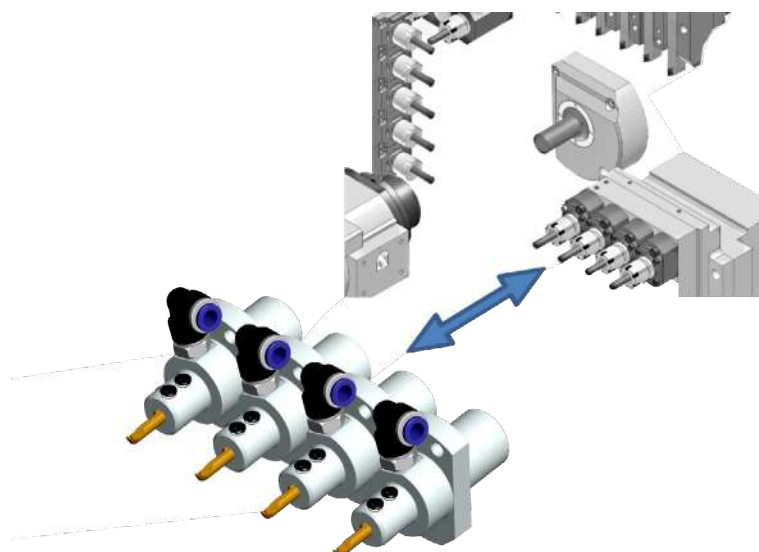
Carmex has developed a unique external turning holder for the sub-spindle on CNC Swiss type lathes.



Tiny Toolholder

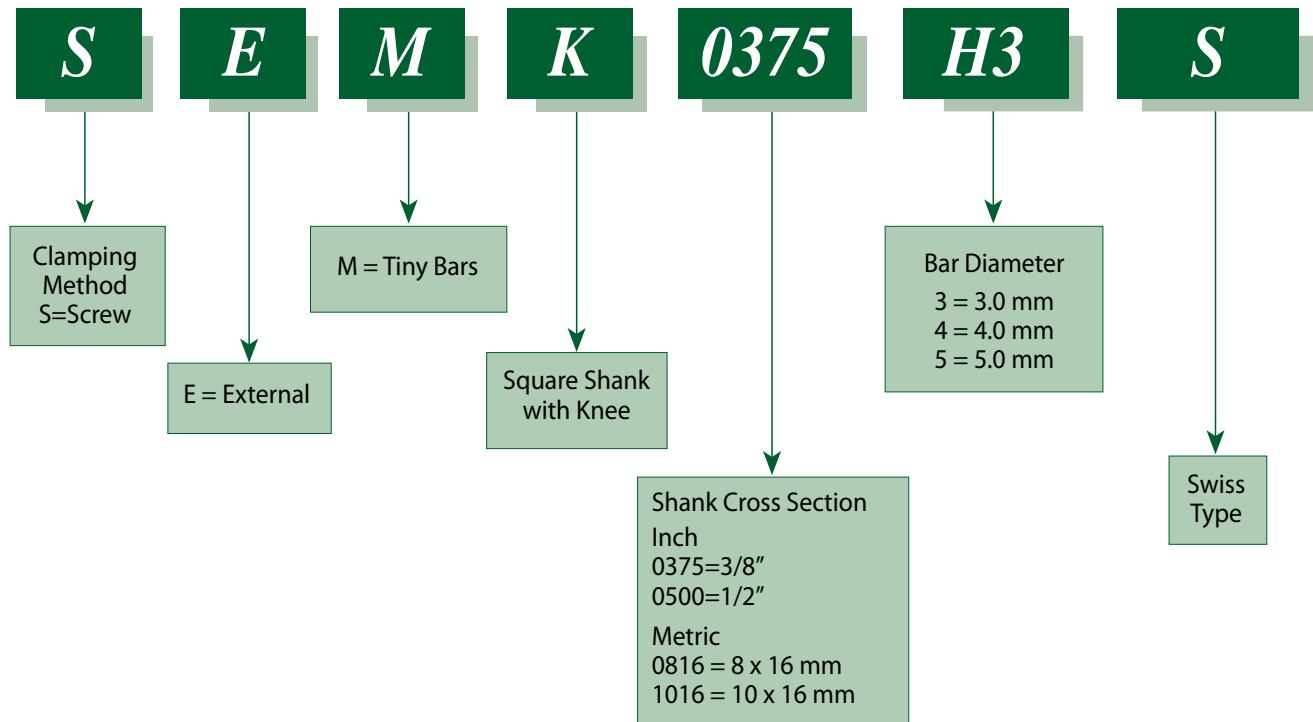
D1 mm	Ordering Code	dp mm	Key	Clamping Screw
3.0	SIM 22S H3	4 / 6	K16	S24P
4.0	SIM 22S H4	4 / 6	K16	S24P
5.0	SIM 22S H5	4 / 6	K16	S24M
6.0	SIM 22S H6	4 / 6	K16	S24M

For use on Star machines

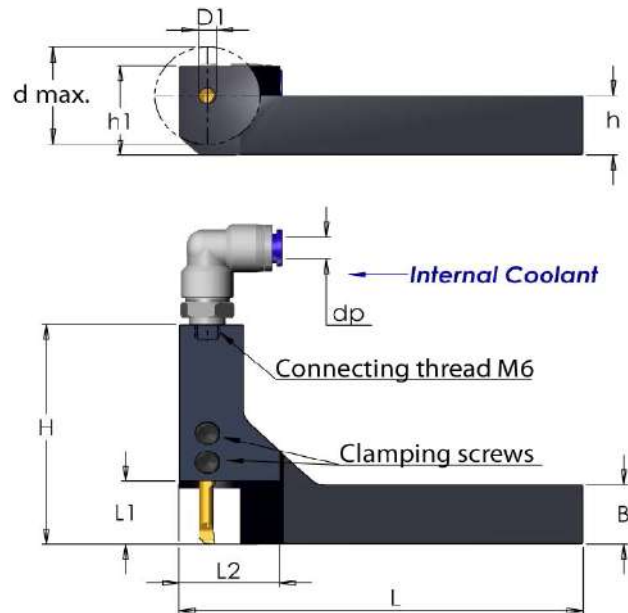


Product Identification

Tiny Bar Square Shank Holders Ordering Codes



Square Shank Holders



Inch Holders

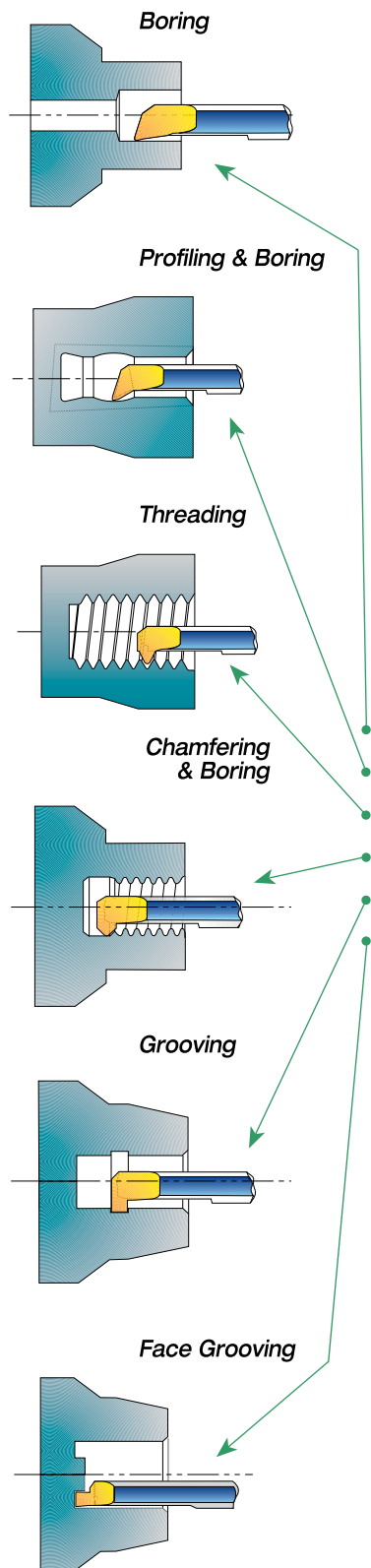
D1 mm	Ordering Code	B	L	L1	L2	H	h	h1	d max.	*dp mm	Key	Clamping Screw
3.0	SEMK 0375 H3S	.375	3.9	.67	.98	1.81	.375	.69	1.02	4/6	K25	S25
	SEMK 0500 H3S	.500	3.9	.67	.98	1.81	.500	.81	1.02	4/6	K25	S25
4.0	SEMK 0375 H4S	.375	3.9	.67	.98	2.28	.375	.68	1.02	4/6	K25	S25
	SEMK 0500 H4S	.500	3.9	.67	.98	2.28	.500	.81	1.02	4/6	K25	S25
5.0	SEMK 0375 H5S	.375	3.9	.67	.98	2.28	.375	.68	1.02	4/6	K25	S25
	SEMK 0500 H5S	.500	3.9	.67	.98	2.28	.500	.81	1.02	4/6	K25	S25
6.0	SEMK 0375 H6S	.375	3.9	.67	.98	2.28	.375	.68	1.02	4/6	K25	S25
	SEMK 0500 H6S	.500	3.9	.67	.98	2.28	.500	.81	1.02	4/6	K25	S25

Metric Holders

D1 mm	Ordering Code	B mm	L mm/in	L1 mm/in	L2 mm/in	H mm/in	h mm/in	h1 mm/in	d max. mm/in	*dp mm	Key	Clamping Screw
3.0	SEMK 0816 H3S	16	100/ 3.9	17/ .67	25/ .98	46/ 1.81	8	16/ .63	26/ 1.02	4/ 6	K25	S25
	SEMK 1016 H3S	16	100/ 3.9	17/ .67	25/ .98	46/ 1.81	10	18/ .71	26/ 1.02	4/ 6	K25	
	SEMK 1216 H3S	16	100/ 3.9	17/ .67	25/ .98	46/ 1.81	12	20/ .79	26/ 1.02	4/ 6	K25	
4.0	SEMK 0816 H4S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	8	16/ .63	26/ 1.02	4/ 6	K25	S25
	SEMK 1016 H4S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	10	18/ .71	26/ 1.02	4/ 6	K25	
	SEMK 1216 H4S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	12	20/ .79	26/ 1.02	4/ 6	K25	
5.0	SEMK 0816 H5S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	8	16/ .63	26/ 1.02	4/ 6	K25	S25
	SEMK 1016 H5S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	10	18/ .71	26/ 1.02	4/ 6	K25	
	SEMK 1216 H5S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	12	20/ .79	26/ 1.02	4/ 6	K25	
6.0	SEMK 0816 H6S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	8	16/ .63	26/ 1.02	4/ 6	K25	S25
	SEMK 1016 H6S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	10	18/ .71	26/ 1.02	4/ 6	K25	
	SEMK 1216 H6S	16	100/ 3.9	17/ .67	25/ .98	58/ 2.28	12	20/ .79	26/ 1.02	4/ 6	K25	

* Optional

Tiny Tools Kits



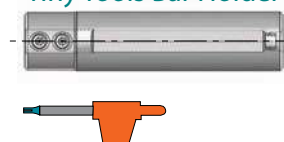
KT4-0750	KT5-0750
MTR 4 R0.2 L10	MTR 5 R0.2 L15
MPR 4 R0.2 L10	MPR 5 R0.2 L15
MIR 4 L15 A60	MIR 5 L15 A60
MCR4 R0.2 L15	MCR 5 R0.2 L15
MGR4 B1.5 L10	MGR 5 B1.5 L15
MFR 4 B1.0 L15	MFR 5 B1.0 L22
SIM 0750 H4	SIM 0750 H5
K25	K25

Order example: KT4-0750

Also available kits with metric shank diameter bar holder.
Order example: KT4-16

-  Boring
-  Profiling
-  Threading
-  Chamfering
-  Grooving
-  Face Grooving

Tiny Tools Bar Holder



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 **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.



Cutting speed for Tiny Tools

ISO Standard	Material		Condition	Cutting Speed ft/min			
				BXC	BMK	K20	TNX
P	Non-Alloy steel and cast steel, free cutting steel	<0.25%C	Annealed	82-230	98-262		118-262
		≥0.25%C	Annealed				
		<0.55%C	Quenched and tempered				
		≥0.55%C	Annealed				
	Low alloy steel and cast steel (less than 5% alloying elements)		Quenched and tempered	66-131	82-164		98-164
			Annealed				
M	Stainless steel and cast steel		Annealed	82-131	98-197		118-197
			Ferritic/martensitic				
			Martensitic				
K	Cast iron nodular (GGG)		Austenitic	82-197	98-262		118-262
			Ferritic/pearlitic				
	Grey cast iron (GG)		Pearlitic	98-230	98-262		118-262
			Ferritic				
	Malleable cast iron		Pearlitic	66-131	66-164		79-164
			Ferritic				
N	Aluminum-wrought alloy		Not cureable	164-328	197-394	98-164	236-394
			Cured				
	Aluminum-cast, alloyed	≤12% Si	Not cureable	131-262	164-295	66-131	197-295
			Cured				
		>12% Si	High temperature				
	Copper alloys	>1% Pb	Free cutting	98-197	98-230	66-131	118-230
			Brass				
			Electrolytic copper				
S	High temp. alloys, Super alloys	Fe based	Duroplastics, fiber plastics	131-262		66-131	
			Hard rubber				
		Ni or Co based	Annealed				
			Cured				
	Titanium alloys		Cast				
			Alpha+beta alloys cured				
H	Hardened steel		Hardened 45-50 HRc	33-98	49-131		59-131
			Hardened 51-55 HRc				
			Hardened 56-62 HRc				
	Chilled cast iron		Cast	33-98	33-98		39-98
	Cast iron		Hardened	33-66	33-66		39-66

Recommended Feed Rate: .0005 - .001 inch/rev

Threading Passes

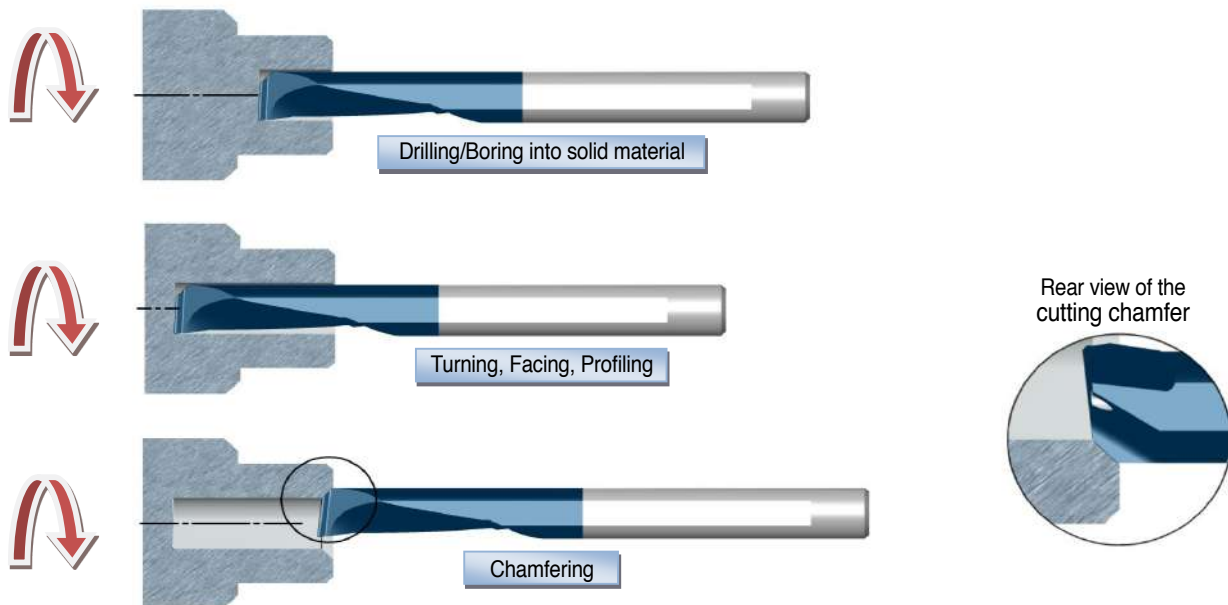
Pitch:	mm TPI	0.5 48	0.7 36	0.8 32	1.0 24	1.25 20	1.5 16	2-5 14-5
Number of Passes		6-12	7-14	7-16	8-18	8-20	10-22	20-38

CMR Carmex Multi-Task Tiny Tools

- Carmex 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 without interruptions.
- Unique chip breaker and flute design.
- For 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 a 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.



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 Cutting Data and 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 chips away from the tool quickly, thereby reducing wear of the edge.
3. Helping to break the chips into smaller pieces and evacuating them from the cutting area.

ISO Standard	Materials	Cutting Speed ft/min
P	Low and Medium Carbon Steels <0.55%C	65-245
	High Carbon Steels ≥0.55%C	65-245
	Alloy Steels, Treated Steels	65-200
M	Stainless Steels - Free Cutting	65-200
	Stainless Steels - Austenitic	65-165
	Cast Steels	65-230
K	Cast Iron	65-330
N	Aluminum ≤12%Si, Copper	130-490
	Aluminum >12% Si	65-330
	Synthetics, Duroplastics, Thermoplastics	130-490
S	Nickel Alloys, Titanium Alloys	50-200
H	Hardened Steels	-

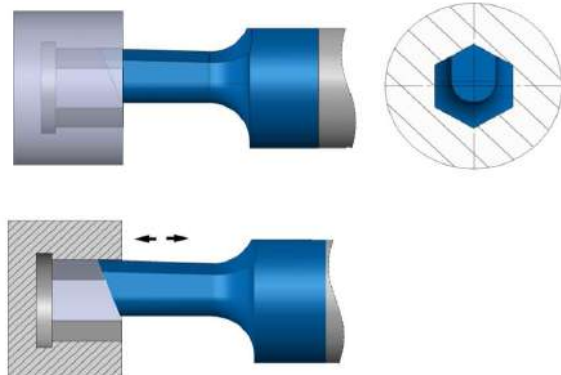
Recommended Feed Rate: .0005 - .001 inch/rev

HK Broaching Tools for Hexagon Keys

The HK broaching system have been developed to machine internal keyways inside blind or through holes, using CNC machines.

Working Demo

- For use with Carmex standard SIM Bar Holders
- The holder can be located directly in the turret or the machine spindle
- Holder with rear clamping screw for full support during operation
- Available in **BMK** Grade only.



HK Cutting Data

Material Tensile Strength (lbs/in ²)	Feed rate (inch/min)	In feed per stroke (inch)
58.000-94.000	276-354	.0024-.0035
101.000-123.000	197-256	.0016-.0028
130.500-145.000	157-217	.0012-.0022
160.500-174.000	118-177	.0008-.0016

The cutting data above is an initial recommendation and depends on the machine condition, workpiece profile and the application clamping.

- A relief groove is highly recommended. If not possible, a gradual volume decrease should be made at the end of the broaching groove.
- The HK tool must be positioned outside of the hole/groove before each stroke.
- After setup and first stroke, we recommend observing the tool and the application to make sure no collision occurs.