

Swiss Tools

瑞士刀具

For Automatic and Swiss type Machines

用于自动机床和瑞士机床

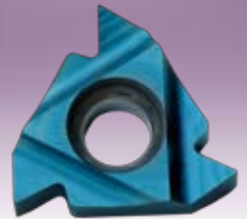
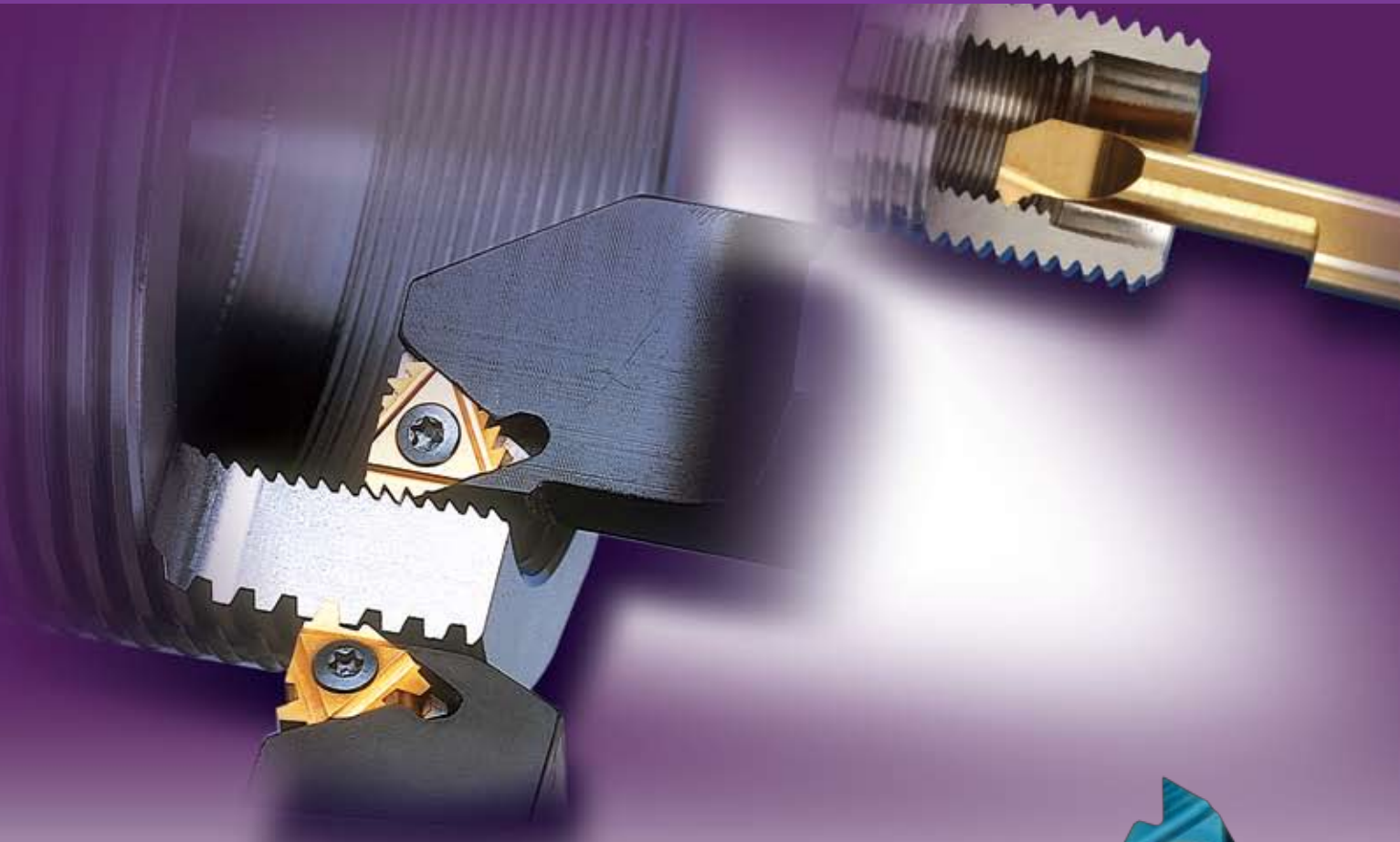


 **Carmex**
Precision Tools Ltd.

Metric

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Thread Turning Inserts



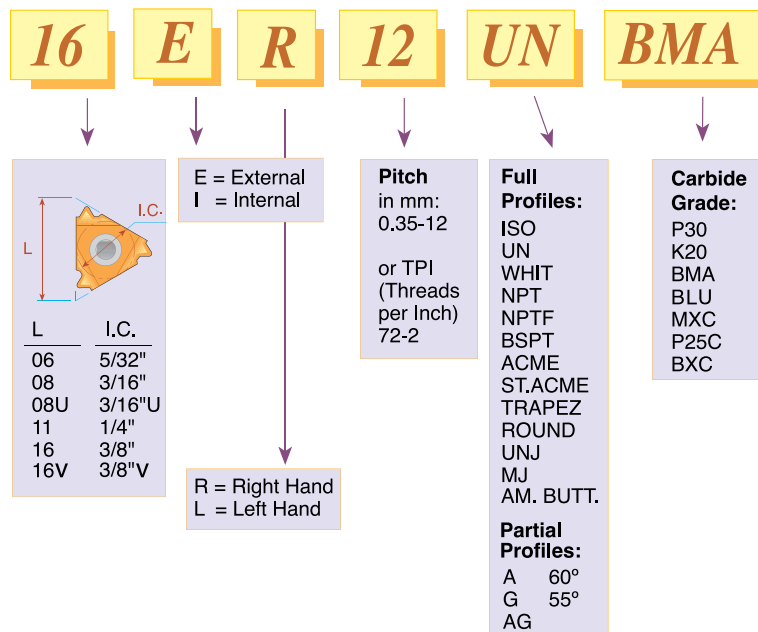
BLU Grade 蓝光级

Carmex presents a new sub-micrograin grade with PVD triple layer coating. The BLU grade provides a combination of very high strength with high wear resistance.

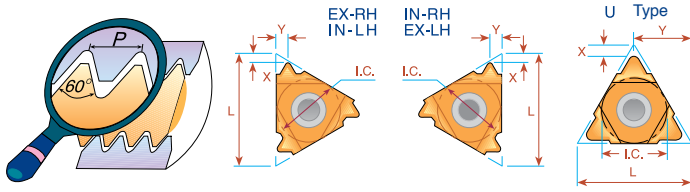
Carmex 新开发一个亚微颗粒级带PVD三层涂层的，非常高的强度和耐磨蓝色涂层级组合

Product Identification

Thread Turning Inserts Ordering Codes



60°范围牙 Partial Profile 60°

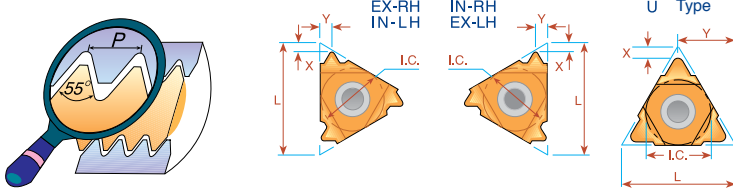


L	I.C. in	Pitch Range mm TPI	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
6	5/32	0.5 -1.25 48-20	ULTRA MINIATURE		*06 IR A60	*06 IL A60	0.6	0.6
8	3/16	0.5 -1.5 48-16	MINIATURE		*08 IR A60	*08 IL A60	0.6	0.7
8U	3/16U	1.75-2.0 14-11	"U" MINIATURE		*08U IR/L U60		0.8	4.0
11	1/4	0.5 -1.5 48-16	11 ER A60	11 EL A60	11 IR A60	11 IL A60	0.8	0.9

Order example: 11 ER A60 MXC

* Available only in BXC & BMA grades

55°范围牙 Partial Profile 55°



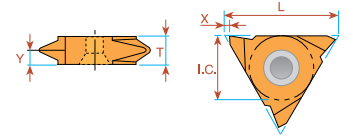
L	I.C. in	Pitch Range mm TPI	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
6	5/32	0.5 -1.25 48-20	ULTRA MINIATURE		*06 IR A55	*06 IL A55	0.5	0.6
8	3/16	0.5 -1.5 48-16	MINIATURE		*08 IR A55	*08 IL A55	0.6	0.7
8U	3/16U	1.75-2.0 14-11	"U" MINIATURE		*08U IR/L U55		0.9	4.0
11	1/4	0.5 -1.5 48-16	11 ER A55	11 EL A55	11 IR A55	11 IL A55	0.8	0.9

Order example: 11 ER A55 MXC

* Available only in BXC & BMA grades

For carbide grade and cutting speed see page 10

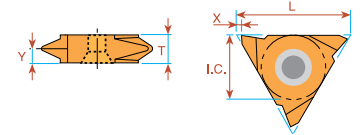
60°范围牙立装 Partial Profile 60° Vertical



L	I.C. in	Pitch Range mm TPI	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
16	3/8	0.5 -1.5 48-16	16V ER A60	16V EL A60	1.0	0.9	3.6
16	3/8	1.75-3.0 14- 8	16V ER G60	16V EL G60	1.0	1.8	3.6
16	3/8	0.5 -3.0 48- 8	16V ER AG60	16V EL AG60	1.0	1.8	3.6

Order example: 16V ER G60 BMA

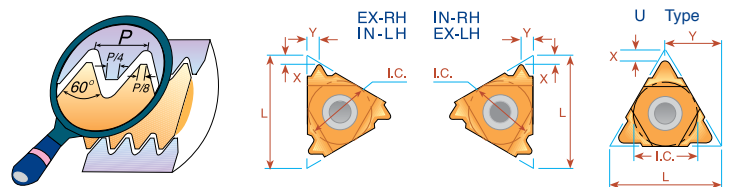
55°范围牙立装 Partial Profile 55° Vertical



L	I.C. in	Pitch Range mm TPI	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
16	3/8	0.5 -1.5 48-16	16V ER A55	16V EL A55	1.0	0.9	3.6
16	3/8	1.75-3.0 14- 8	16V ER G55	16V EL G55	1.0	1.7	3.6
16	3/8	0.5 -3.0 48- 8	16V ER AG55	16V EL AG55	1.0	1.8	3.6

Order example: 16V ER A55 BMA

ISO - metric ISO公制



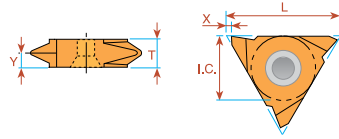
Pitch mm	L	I.C. in	EXTERNAL Ordering Code		X	Y	INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand			Right Hand	Left Hand		
0.5	6	5/32	ULTRA MINIATURE				*06 IR 0.5 ISO	*06 IL 0.5 ISO	0.9	0.5
0.75	6	5/32					*06 IR 0.75 ISO	*06 IL 0.75 ISO	0.8	0.5
1.0	6	5/32					*06 IR 1.0 ISO	*06 IL 1.0 ISO	0.7	0.6
1.25	6	5/32					*06 IR 1.25 ISO	*06 IL 1.25 ISO	0.6	0.6
0.5	8	3/16					*08 IR 0.5 ISO	*08 IL 0.5 ISO	0.6	0.5
0.75	8	3/16					*08 IR 0.75 ISO	*08 IL 0.75 ISO	0.6	0.5
1.0	8	3/16					*08 IR 1.0 ISO	*08 IL 1.0 ISO	0.6	0.6
1.25	8	3/16					*08 IR 1.25 ISO	*08 IL 1.25 ISO	0.6	0.7
1.5	8	3/16					*08 IR 1.5 ISO	*08 IL 1.5 ISO	0.6	0.7
1.75	8	3/16					*08 IR 1.75 ISO	*08 IL 1.75 ISO	0.6	0.8
2.0	8U	3/16U	"U" MINIATURE				*08U IR/L 2.0 ISO		0.9	4.0
0.35	11	1/4	11 ER 0.35 ISO	11 EL 0.35 ISO	0.8	0.4	11 IR 0.35 ISO	11 IL 0.35 ISO	0.8	0.3
0.4	11	1/4	11 ER 0.4 ISO	11 EL 0.4 ISO	0.7	0.4	11 IR 0.4 ISO	11 IL 0.4 ISO	0.8	0.4
0.45	11	1/4	11 ER 0.45 ISO	11 EL 0.45 ISO	0.7	0.4	11 IR 0.45 ISO	11 IL 0.45 ISO	0.8	0.4
0.5	11	1/4	11 ER 0.5 ISO	11 EL 0.5 ISO	0.6	0.6	11 IR 0.5 ISO	11 IL 0.5 ISO	0.6	0.6
0.6	11	1/4	11 ER 0.6 ISO	11 EL 0.6 ISO	0.6	0.6	11 IR 0.6 ISO	11 IL 0.6 ISO	0.6	0.6
0.7	11	1/4	11 ER 0.7 ISO	11 EL 0.7 ISO	0.6	0.6	11 IR 0.7 ISO	11 IL 0.7 ISO	0.6	0.6
0.75	11	1/4	11 ER 0.75 ISO	11 EL 0.75 ISO	0.6	0.6	11 IR 0.75 ISO	11 IL 0.75 ISO	0.6	0.6
0.8	11	1/4	11 ER 0.8 ISO	11 EL 0.8 ISO	0.6	0.6	11 IR 0.8 ISO	11 IL 0.8 ISO	0.6	0.6
1.0	11	1/4	11 ER 1.0 ISO	11 EL 1.0 ISO	0.7	0.7	11 IR 1.0 ISO	11 IL 1.0 ISO	0.6	0.7
1.25	11	1/4	11 ER 1.25 ISO	11 EL 1.25 ISO	0.8	0.9	11 IR 1.25 ISO	11 IL 1.25 ISO	0.8	0.8
1.5	11	1/4	11 ER 1.5 ISO	11 EL 1.5 ISO	0.8	1.0	11 IR 1.5 ISO	11 IL 1.5 ISO	0.8	1.0
1.75	11	1/4	11 ER 1.75 ISO	11 EL 1.75 ISO	0.8	1.1	11 IR 1.75 ISO	11 IL 1.75 ISO	0.8	1.1
2.0	11	1/4	11 ER 2.0 ISO	11 EL 2.0 ISO	0.8	0.9	11 IR 2.0 ISO	11 IL 2.0 ISO	0.8	0.9
2.5	11	1/4	11 ER 2.5 ISO	11 EL 2.5 ISO	0.8	1.2	11 IR 2.5 ISO	11 IL 2.5 ISO	0.8	1.2

Order example: 08 IR 1.75 ISO BXC

* Available only in BXC & BMA grades

Thread Turning Inserts

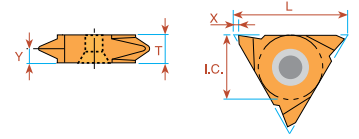
ISO公制立装 ISO - metric Vertical



Pitch mm	L	I.C. in	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
0.5	16	3/8	16V ER 0.5 ISO	16V EL 0.5 ISO	1.0	0.6	3.6
0.75	16	3/8	16V ER 0.75 ISO	16V EL 0.75 ISO	1.0	0.6	3.6
0.8	16	3/8	16V ER 0.8 ISO	16V EL 0.8 ISO	1.0	0.6	3.6
1.0	16	3/8	16V ER 1.0 ISO	16V EL 1.0 ISO	1.0	0.7	3.6
1.25	16	3/8	16V ER 1.25 ISO	16V EL 1.25 ISO	1.0	0.9	3.6
1.5	16	3/8	16V ER 1.5 ISO	16V EL 1.5 ISO	1.0	0.9	3.6
1.75	16	3/8	16V ER 1.75 ISO	16V EL 1.75 ISO	1.0	1.2	3.6
2.0	16	3/8	16V ER 2.0 ISO	16V EL 2.0 ISO	1.0	1.3	3.6
2.5	16	3/8	16V ER 2.5 ISO	16V EL 2.5 ISO	1.0	1.5	3.6
3.0	16	3/8	16V ER 3.0 ISO	16V EL 3.0 ISO	1.0	1.7	3.6

Order example: 16V ER 1.5 ISO BMA

美国统一螺纹UN立装 UN - Unified Vertical

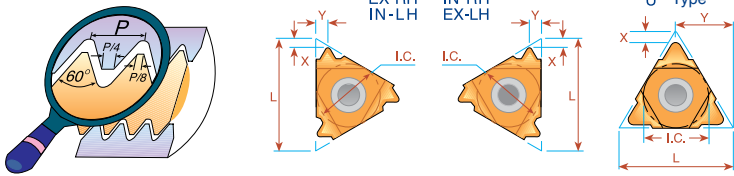


Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
32	16	3/8	16V ER 32 UN	16V EL 32 UN	1.0	0.6	3.6
28	16	3/8	16V ER 28 UN	16V EL 28 UN	1.0	0.7	3.6
24	16	3/8	16V ER 24 UN	16V EL 24 UN	1.0	0.8	3.6
20	16	3/8	16V ER 20 UN	16V EL 20 UN	1.0	0.9	3.6
18	16	3/8	16V ER 18 UN	16V EL 18 UN	1.0	1.0	3.6
16	16	3/8	16V ER 16 UN	16V EL 16 UN	1.0	1.1	3.6
14	16	3/8	16V ER 14 UN	16V EL 14 UN	1.0	1.2	3.6
12	16	3/8	16V ER 12 UN	16V EL 12 UN	1.0	1.4	3.6
10	16	3/8	16V ER 10 UN	16V EL 10 UN	1.0	1.5	3.6
8	16	3/8	16V ER 8 UN	16V EL 8 UN	1.0	1.6	3.6

Order example: 16V ER 10 UN BMA

美国统一螺纹UN

UN - Unified UNC, UNF, UNEF, UNS



Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand			Right Hand	Left Hand		
32	6	5/32	ULTRA -MINIATURE				*06 IR 32 UN	*06 IL 32 UN	0.8	0.5
28	6	5/32					*06 IR 28 UN	*06 IL 28 UN	0.8	0.6
24	6	5/32					*06 IR 24 UN	*06 IL 24 UN	0.7	0.6
20	6	5/32					*06 IR 20 UN	*06 IL 20 UN	0.6	0.6
18	6	5/32					*06 IR 18 UN	*06 IL 18 UN	0.6	0.7
32	8	3/16	MINIATURE				*08 IR 32 UN	*08 IL 32 UN	0.6	0.5
28	8	3/16					*08 IR 28 UN	*08 IL 28 UN	0.6	0.6
24	8	3/16					*08 IR 24 UN	*08 IL 24 UN	0.6	0.6
20	8	3/16					*08 IR 20 UN	*08 IL 20 UN	0.6	0.7
18	8	3/16					*08 IR 18 UN	*08 IL 18 UN	0.6	0.7
16	8	3/16					*08 IR 16 UN	*08 IL 16 UN	0.6	0.7
14	8	3/16					*08 IR 14 UN	*08 IL 14 UN	0.6	0.8
13	8U	3/16U	"U" MINIATURE				*08U IR/L 13 UN		1.0	4.0
12	8U	3/16U					*08U IR/L 12 UN		0.9	4.0
11	8U	3/16U					*08U IR/L 11 UN		0.9	4.0
72	11	1/4	11 ER 72 UN	11 EL 72 UN	0.8	0.4	11 IR 72 UN	11 IL 72 UN	0.8	0.3
64	11	1/4	11 ER 64 UN	11 EL 64 UN	0.8	0.4	11 IR 64 UN	11 IL 64 UN	0.8	0.4
56	11	1/4	11 ER 56 UN	11 EL 56 UN	0.7	0.4	11 IR 56 UN	11 IL 56 UN	0.7	0.4
48	11	1/4	11 ER 48 UN	11 EL 48 UN	0.6	0.6	11 IR 48 UN	11 IL 48 UN	0.6	0.6
44	11	1/4	11 ER 44 UN	11 EL 44 UN	0.6	0.6	11 IR 44 UN	11 IL 44 UN	0.6	0.6
40	11	1/4	11 ER 40 UN	11 EL 40 UN	0.6	0.6	11 IR 40 UN	11 IL 40 UN	0.6	0.6
36	11	1/4	11 ER 36 UN	11 EL 36 UN	0.6	0.6	11 IR 36 UN	11 IL 36 UN	0.6	0.6
32	11	1/4	11 ER 32 UN	11 EL 32 UN	0.6	0.6	11 IR 32 UN	11 IL 32 UN	0.6	0.6
28	11	1/4	11 ER 28 UN	11 EL 28 UN	0.6	0.7	11 IR 28 UN	11 IL 28 UN	0.6	0.7
27	11	1/4	11 ER 27 UN	11 EL 27 UN	0.7	0.8	11 IR 27 UN	11 IL 27 UN	0.7	0.8
24	11	1/4	11 ER 24 UN	11 EL 24 UN	0.7	0.8	11 IR 24 UN	11 IL 24 UN	0.7	0.8
20	11	1/4	11 ER 20 UN	11 EL 20 UN	0.8	0.9	11 IR 20 UN	11 IL 20 UN	0.8	0.9
18	11	1/4	11 ER 18 UN	11 EL 18 UN	0.8	1.0	11 IR 18 UN	11 IL 18 UN	0.8	1.0
16	11	1/4	11 ER 16 UN	11 EL 16 UN	0.9	1.1	11 IR 16 UN	11 IL 16 UN	0.9	1.1
14	11	1/4	11 ER 14 UN	11 EL 14 UN	0.9	1.1	11 IR 14 UN	11 IL 14 UN	0.9	1.1
13	11	1/4					11 IR 13 UN	11 IL 13 UN	0.8	1.0
12	11	1/4					11 IR 12 UN	11 IL 12 UN	0.9	1.1
11	11	1/4					11 IR 11 UN	11 IL 11 UN	0.8	1.1

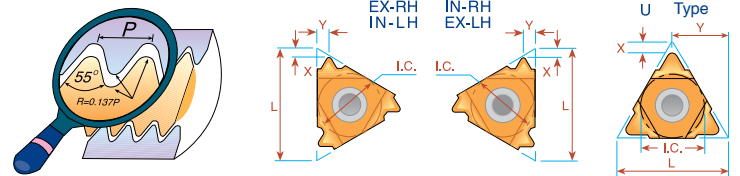
Order example: 11 EL 18 UN BMA

* Available only in BXC & BMA grades

For carbide grade and cutting speed see page 10

英制惠氏螺纹55°y zh s l w

Whitworth - 55° BSW, BSF, BSP, BSB



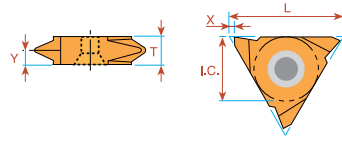
Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand			Right Hand	Left Hand		
26	6	5/32	ULTRA -MINIATURE				*06 IR 26 W	*06 IL 26 W	0.7	0.6
22	6	5/32					*06 IR 22 W	*06 IL 22 W	0.6	0.6
20	6	5/32					*06 IR 20 W	*06 IL 20 W	0.6	0.7
18	6	5/32					*06 IR 18 W	*06 IL 18 W	0.6	0.7
28	8	3/16	MINIATURE				*08 IR 28 W	*08 IL 28 W	0.6	0.6
24	8	3/16					*08 IR 24 W	*08 IL 24 W	0.6	0.6
20	8	3/16					*08 IR 20 W	*08 IL 20 W	0.6	0.7
19	8	3/16					*08 IR 19 W	*08 IL 19 W	0.6	0.7
18	8	3/16					*08 IR 18 W	*08 IL 18 W	0.6	0.7
16	8	3/16					*08 IR 16 W	*08 IL 16 W	0.6	0.7
14	8U	3/16U		"U" MINIATURE				*08U IR/L 14 W		1.0
12	8U	3/16U					*08U IR/L 12 W		0.9	4.0
11	8U	3/16U					*08U IR/L 11 W		0.9	4.0
72	11	1/4	11 ER 72 W	11 EL 72 W	11 IR 72 W	11 IL 72 W	0.7	0.4		
60	11	1/4	11 ER 60 W	11 EL 60 W	11 IR 60 W	11 IL 60 W	0.7	0.4		
56	11	1/4	11 ER 56 W	11 EL 56 W	11 IR 56 W	11 IL 56 W	0.7	0.4		
48	11	1/4	11 ER 48 W	11 EL 48 W	11 IR 48 W	11 IL 48 W	0.6	0.6		
40	11	1/4	11 ER 40 W	11 EL 40 W	11 IR 40 W	11 IL 40 W	0.6	0.6		
36	11	1/4	11 ER 36 W	11 EL 36 W	11 IR 36 W	11 IL 36 W	0.6	0.6		
32	11	1/4	11 ER 32 W	11 EL 32 W	11 IR 32 W	11 IL 32 W	0.6	0.6		
28	11	1/4	11 ER 28 W	11 EL 28 W	11 IR 28 W	11 IL 28 W	0.6	0.7		
26	11	1/4	11 ER 26 W	11 EL 26 W	11 IR 26 W	11 IL 26 W	0.7	0.7		
24	11	1/4	11 ER 24 W	11 EL 24 W	11 IR 24 W	11 IL 24 W	0.7	0.8		
22	11	1/4	11 ER 22 W	11 EL 22 W	11 IR 22 W	11 IL 22 W	0.8	0.9		
20	11	1/4	11 ER 20 W	11 EL 20 W	11 IR 20 W	11 IL 20 W	0.8	0.9		
19	11	1/4	11 ER 19 W	11 EL 19 W	11 IR 19 W	11 IL 19 W	0.8	1.0		
18	11	1/4	11 ER 18 W	11 EL 18 W	11 IR 18 W	11 IL 18 W	0.8	1.0		
16	11	1/4	11 ER 16 W	11 EL 16 W	11 IR 16 W	11 IL 16 W	0.9	1.1		
14	11	1/4	11 ER 14 W	11 EL 14 W	11 IR 14 W	11 IL 14 W	0.9	1.1		
12	11	1/4			11 IR 12 W	11 IL 12 W	1.0	1.1		
11	11	1/4			11 IR 11 W	11 IL 11 W	0.9	1.2		

Order example: 11 IL W BMA

* Available only in BXC & BMA grades

英制惠氏螺纹55°立装

Whitworth - 55° BSW, BSF, BSP, BSB Vertical

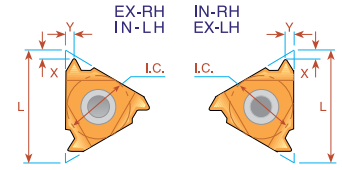
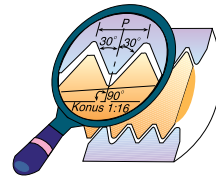


Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
20	16	3/8	16V ER 20 W	16V EL 20 W	1.0	0.9	3.6
19	16	3/8	16V ER 19 W	16V EL 19 W	1.0	0.9	3.6
18	16	3/8	16V ER 18 W	16V EL 18 W	1.0	1.0	3.6
16	16	3/8	16V ER 16 W	16V EL 16 W	1.0	1.0	3.6
14	16	3/8	16V ER 14 W	16V EL 14 W	1.0	1.2	3.6
12	16	3/8	16V ER 12 W	16V EL 12 W	1.0	1.4	3.6
11	16	3/8	16V ER 11 W	16V EL 11 W	1.0	1.5	3.6

Order example: 16V ER 14 W MXC

美制NPTF干密封螺纹

NPTF - Dryseal

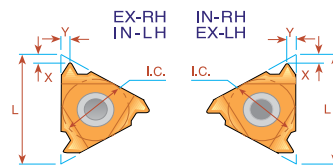
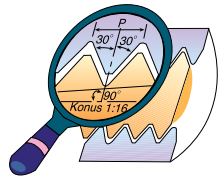


Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INNEN Bestellcode		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
27	6	5/32	ULTRA MINI		*06 IR 27 NPTF	*06 IL 27 NPTF	0.7	0.6
27	8	3/16	MINI		*08 IR 27 NPTF	*08 IL 27 NPTF	0.6	0.6
18	8	3/16			*08 IR 18 NPTF	*08 IL 18 NPTF	0.6	0.6
27	11	1/4	11 ER 27 NPTF	11 EL 27 NPTF	11 IR 27 NPTF	11 IL 27 NPTF	0.7	0.7
18	11	1/4	11 ER 18 NPTF	11 EL 18 NPTF	11 IR 18 NPTF	11 IL 18 NPTF	0.8	1.0
14	11	1/4	11 ER 14 NPTF	11 EL 14 NPTF	11 IR 14 NPTF	11 IL 14 NPTF	0.8	1.0

Order example: 11 ER 27 NPTF BMA

* Available only in BXC & BMA grades

NPT NPT



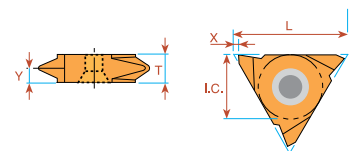
Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
27	6	5/32	ULTRA MINI		*06 IR 27 NPT	*06 IL 27 NPT	0.6	0.6
27	8	3/16	MINI		*08 IR 27 NPT	*08 IL 27 NPT	0.6	0.6
18	8	3/16			*08 IR 18 NPT	*08 IL 18 NPT	0.6	0.6
27	11	1/4	11 ER 27 NPT	11 EL 27 NPT	11 IR 27 NPT	11 IL 27 NPT	0.7	0.8
18	11	1/4	11 ER 18 NPT	11 EL 18 NPT	11 IR 18 NPT	11 IL 18 NPT	0.8	1.0
14	11	1/4	11 ER 14 NPT	11 EL 14 NPT	11 IR 14 NPT	11 IL 14 NPT	0.8	1.0

Order example: 11 IR 14 NPT MXC

* Available only in BXC & BMA grades

NPT NPT立装

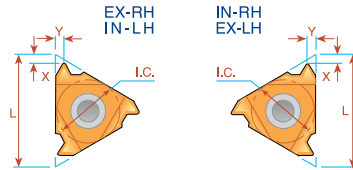
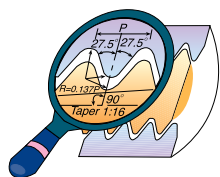
Vertical



Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Left Hand			
27	16	3/8	16V ER 27 NPT	16V EL 27 NPT	1.0	0.8	3.6
18	16	3/8	16V ER 18 NPT	16V EL 18 NPT	1.0	1.0	3.6
14	16	3/8	16V ER 14 NPT	16V EL 14 NPT	1.0	1.2	3.6
11.5	16	3/8	16V ER 11.5 NPT	16V EL 11.5 NPT	1.0	1.5	3.6

Order example: 16V ER NPT BMA

BSPT 英制BSPT锥管螺纹



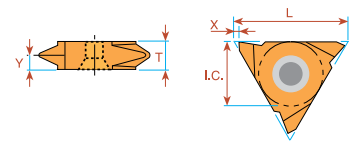
Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
28	6	5/32	ULTRA MINI		*06 IR 28 BSPT	*06 IL 28 BSPT	0.7	0.6
28	8	3/16	MINI		*08 IR 28 BSPT	*08 IL 28 BSPT	0.6	0.6
19	8	3/16			*08 IR 19 BSPT	*08 IL 19 BSPT	0.6	0.6
28	11	1/4			11 IR 28 BSPT	11 IL 28 BSPT	0.6	0.6
19	11	1/4			11 IR 19 BSPT	11 IL 19 BSPT	0.8	0.9
14	11	1/4			11 IR 14 BSPT	11 IL 14 BSPT	0.9	1.0
11	11	1/4			11 IR 11 BSPT	11 IL 11 BSPT	0.9	1.2

Order example: 11 IR 14 BSPT BMA

* Available only in BXC & BMA grades

BSPT 英制BSPT锥管螺纹立装

Vertical



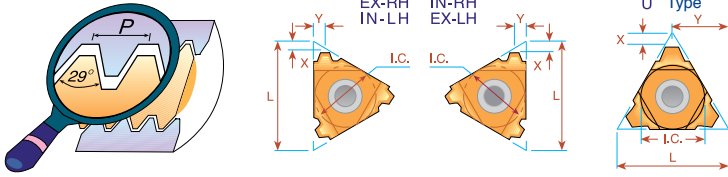
Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		X	Y	T
			Right Hand	Standard			
28	16	3/8	16V ER 28 BSPT	16V EL 28 BSPT	1.0	0.6	3.6
19	16	3/8	16V ER 19 BSPT	16V EL 19 BSPT	1.0	0.9	3.6
14	16	3/8	16V ER 14 BSPT	16V EL 14 BSPT	1.0	1.2	3.6
11	16	3/8	16V ER 11 BSPT	16V EL 11 BSPT	1.0	1.5	3.6

Order example: 16V ER 19 BSPT BMA

For carbide grade and cutting speed see page 10

美制ACME梯型螺纹

Acme

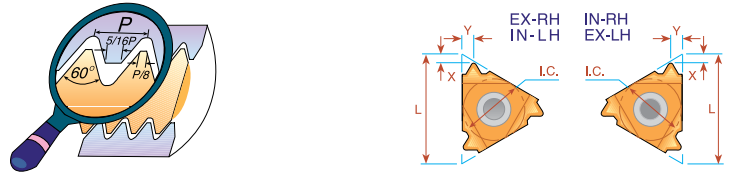


Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
16	8	3/16	MINI →		**08 IR 16 ACME	**08 IL 16 ACME	0.6	0.6
14	8U	3/16U	"U" MINI →		*08U IR/L 14 ACME		0.8	4.0
12	8U	3/16U			*08U IR/L 12 ACME		0.8	4.0
10	8U	3/16U			*08U IR/L 10 ACME		0.8	4.0
16	11	1/4	11 ER 16 ACME	11 EL 16 ACME	11 IR 16 ACME	11 IL 16 ACME	0.9	1.0

Order example: 11 ER 16 ACME MXC
 * Available only in BXC & BMA grades
 ** One cutting edge

UNJ美国航空航天螺纹

UNJ UNJC, UNJF, UNJEF, UNJS

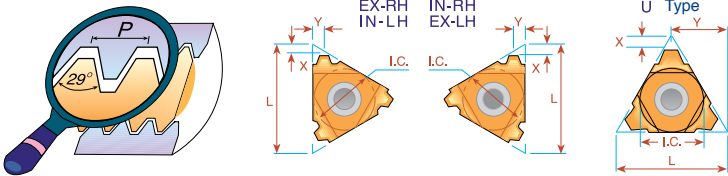


Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
48	11	1/4	11 ER 48 UNJ	11 EL 48 UNJ	11 IR 48 UNJ	11 IL 48 UNJ	0.6	0.6
44	11	1/4	11 ER 44 UNJ	11 EL 44 UNJ	11 IR 44 UNJ	11 IL 44 UNJ	0.6	0.6
40	11	1/4	11 ER 40 UNJ	11 EL 40 UNJ	11 IR 40 UNJ	11 IL 40 UNJ	0.6	0.6
36	11	1/4	11 ER 36 UNJ	11 EL 36 UNJ	11 IR 36 UNJ	11 IL 36 UNJ	0.6	0.6
32	11	1/4	11 ER 32 UNJ	11 EL 32 UNJ	11 IR 32 UNJ	11 IL 32 UNJ	0.6	0.6
28	11	1/4	11 ER 28 UNJ	11 EL 28 UNJ	11 IR 28 UNJ	11 IL 28 UNJ	0.6	0.6
24	11	1/4	11 ER 24 UNJ	11 EL 24 UNJ	11 IR 24 UNJ	11 IL 24 UNJ	0.7	0.8
20	11	1/4	11 ER 20 UNJ	11 EL 20 UNJ	11 IR 20 UNJ	11 IL 20 UNJ	0.8	0.9
18	11	1/4	11 ER 18 UNJ	11 EL 18 UNJ	11 IR 18 UNJ	11 IL 18 UNJ	0.8	1.0
16	11	1/4	11 ER 16 UNJ	11 EL 16 UNJ	11 IR 16 UNJ	11 IL 16 UNJ	0.8	1.0
14	11	1/4	11 ER 14 UNJ	11 EL 14 UNJ	11 IR 14 UNJ	11 IL 14 UNJ	0.9	1.0

Order example: 11 IR 16 UNJ MXC

美制短齿ACME梯型螺纹

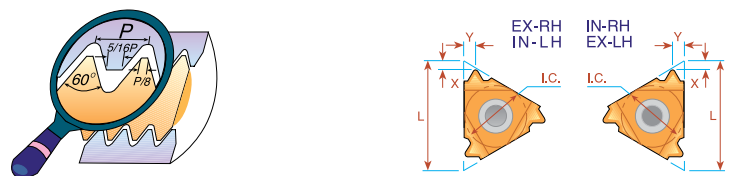
Stub Acme



Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
16	8	3/16	MINI →		**08 IR16 STACME	**08 IL16 STACME	0.6	0.6
14	8U	3/16U	"U" MINI →		*08U IR/L 14 STACME		0.8	4.0
12	8U	3/16U			*08U IR/L 12 STACME		0.9	4.0
10	8U	3/16U			*08U IR/L 10 STACME		1.0	4.0
16	11	1/4	11 ER 16 STACME	11 EL 16 STACME			1.0	1.0

Order example: 08 IR 16 STACME BXC
 * Available only in BXC & BMA grades
 ** One cutting edge

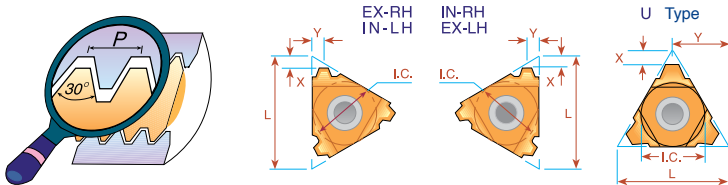
MJ - ISO 5855 MJ公制航空航天螺纹



Pitch mm	L	I.C. in	INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand		
1.0	11	1/4	11 IR 1.0 MJ		0.7	0.8
1.25	11	1/4	11 IR 1.25MJ		0.8	0.9
1.5	11	1/4	11 IR 1.5 MJ		0.8	1.0
2.0	11	1/4	11 IR 2.0 MJ		0.9	1.0

Order example: 11 IR 1.0 MJ MXC

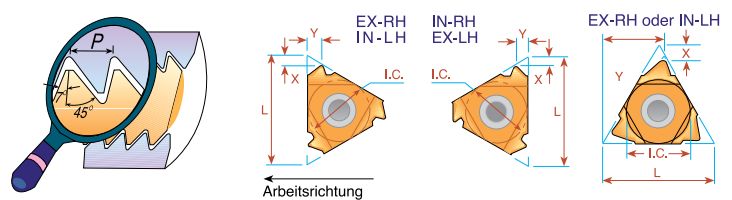
Trapez - DIN 103 DIN103 梯型螺纹



Pitch mm	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
1.5	8	3/16	MINI →		**08 IR 1.5 TR	**08 IL 1.5 TR	0.6	0.6
2.0	8U	3/16U	"U" MINIATURE →		*08U IR/L 2 TR		0.9	4.0

Order example: 08 U IR/L 2 TR BXC
 * Available only in BXC & BMA grades
 ** One cutting edge
 For carbide grade and cutting speed see page 10

American Buttress 美制锯齿螺纹



Pitch TPI	L	I.C. in	EXTERNAL Ordering Code		INTERNAL Ordering Code		X	Y
			Right Hand	Left Hand	Right Hand	Left Hand		
20	11	1/4	11 ER 20 ABUT	11 EL 20 ABUT	11 IR 20 ABUT	11 IL 20 ABUT	1.0	1.3
16	11	1/4	11 ER 16 ABUT	11 EL 16 ABUT	11 IR 16 ABUT	11 IL 16 ABUT	1.0	1.5

Order example: 11 IL 20 ABUT P25C

IMPORTANT NOTE:
 In CARMEX standard execution, the flank with the large angle is the leading edge. If otherwise required, please specify in your order.

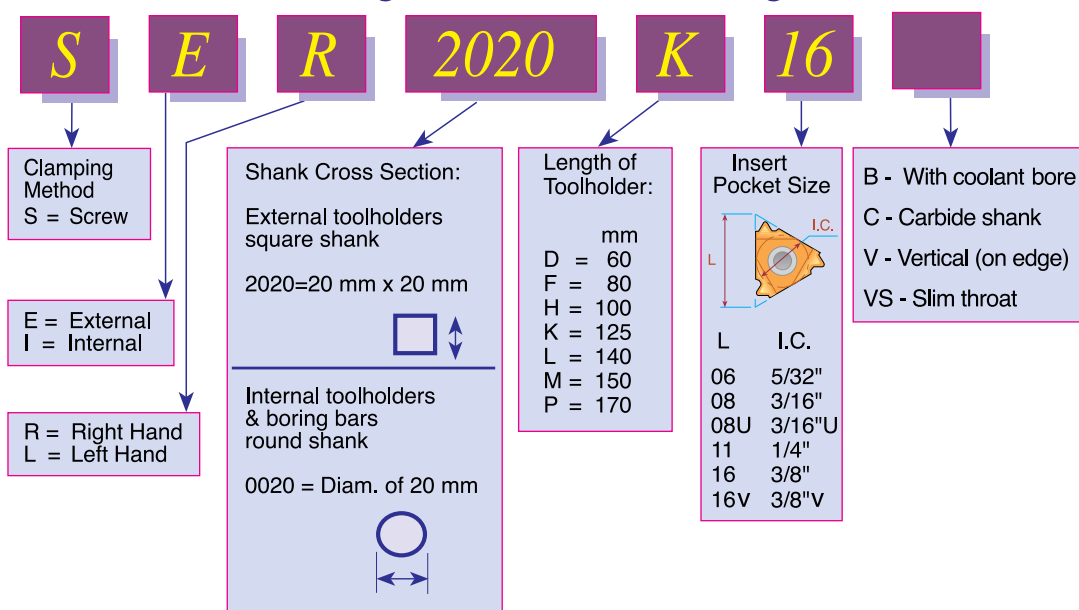
Thread Turning Toolholders and Kits

螺纹刀杆盒刀片套盒



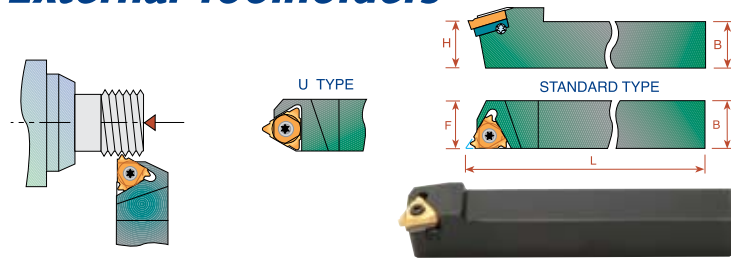
Product Identification

Threading Toolholders Ordering Codes



外螺纹刀杆

External Toolholders



Ordering Code Right Hand		B = H	L	F	Insert Screw	Anvil Screw	Torx Key	RH Anvil	LH Anvil
* SER 8 8 H11	11	8	100	11	S11	-	K11	-	-
* SER 10 10 H11	11	10	100	11	S11	-	K11	-	-
* SER 12 12 K11	11	12	125	12	S11	-	K11	-	-
SER 12 12 F16	16	12	80	16	S16	A16	K16	AE16	AI16
SER 16 16 H16	16	16	100	16	S16	A16	K16	AE16	AI16
SER 20 20 K16	16	20	125	20	S16	A16	K16	AE16	AI16

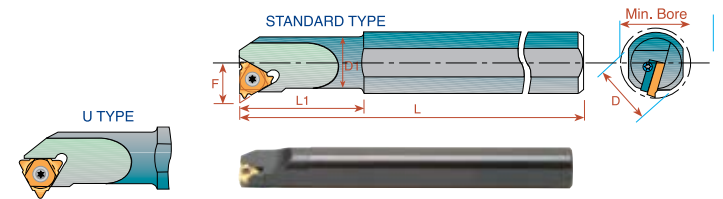
* Toolholders with no anvil

For **LEFT HAND** toolholders specify **SEL** instead of **SER**

Toolholders are made with a **1.5° Helix Angle**. For other Helix Angles please consult helix angle chart in the technical section of this catalogue.

内螺纹刀杆

Internal Toolholders



Ordering Code Right Hand		D	D1	Min Bore Diam.	L	L1	F	Insert Screw	Anvil Screw	Torx Key	RH Anvil	LH Anvil
* SIR 0005 H06	6	12	5.1	6.0	100	12	4.3	S06	-	K06	-	-
* SIR 0007 K08	8	16	6.6	7.8	125	18	5.3	S08	-	K08	-	-
* SIR 0008 K08U	8U	16	7.3	9.0	125	21	6.6	S08	-	K08	-	-
* SIR 0010 H11	11	10	10	12	100	-	7.4	S11	-	K11	-	-
* SIR 0010 K11	11	16	10	12	125	25	7.4	S11	-	K11	-	-
* SIR 0013 L11	11	16	13	15	140	32	8.9	S11	-	K11	-	-
* SIR 0013 M16	16	16	13	16	150	32	10.2	S16S	-	K16	-	-
* SIR 0016 P16	16	20	16	19	170	40	11.7	S16S	-	K16	-	-
SIR 0020 P16	16	20	20	24	170	-	13.7	S16	A16	K16	AI16	AE16

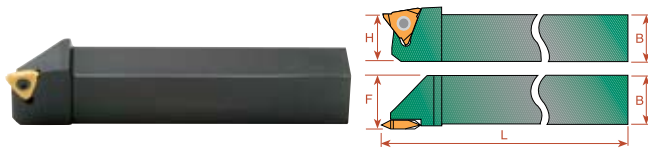
* Toolholders with no anvil.

For **LEFT HAND** toolholders specify **SIL** instead of **SIR**

Toolholders are made with a **1.5° Helix Angle**. For other Helix Angles please consult Helix Angle chart in the technical section of this catalogue.

立装螺纹刀杆

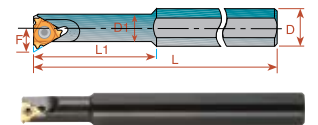
Vertical toolholders



Ordering Code Right Hand		B=H	L	F	Insert Screw	Torx Key
SER 1616 H16V	16	16	100	18	S16S	K16

Internal toolholders with coolant bore

内螺纹刀杆带内冷



Ordering Code Right Hand		D	D1	Min Bore Diam.	L	L1	F	Insert Screw	Anvil Screw	Torx Key	RH Anvil	LH Anvil
* SIR 0010 K11B	11	16	10	12	125	25	7.4	S11	-	K11	-	-

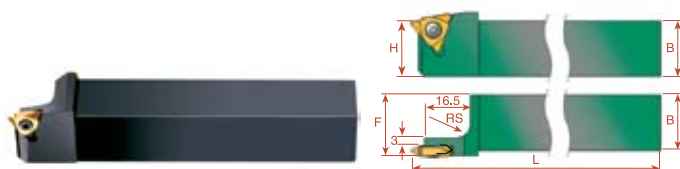
* Toolholders with no anvil

For **LEFT HAND** toolholders specify **SIL** instead of **SIR**

Toolholders are made with a **1.5° Helix Angle**. For other Helix Angles please consult helix angle chart in the technical section of this catalogue.

细窄的刀杆

Slim Throat toolholders

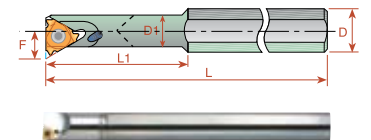


Ordering Code Right Hand		B=H	L	F	Insert Screw	Torx Key
SER 1616 H16VS	16	16	100	18	S16S	K16

硬质合金镗杆

Carbide Shank Boring Bars With coolant bore

Carbide Shank Boring Bars are used when chatter and deflection are expected due to long overhang in deep small bores.



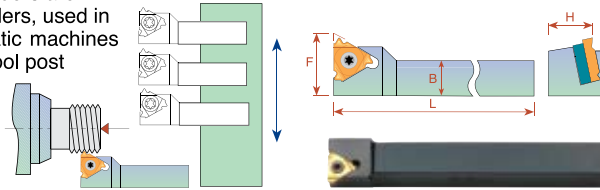
Ordering Code Right Hand		D	D1	Min Bore Diam.	L	L1	F	Insert Screw	Anvil Screw	Torx Key	RH Anvil	LH Anvil
SIR 0005 H06CB	6	6	5.1	6.0	100	26	4.3	S06	-	K06	-	-
SIR 0007 K08CB	8	8	6.6	7.8	125	31	5.3	S08	-	K08	-	-
SIR 0008 K08UCB	8U	8	7.3	9.0	125	35	6.6	S08	-	K08	-	-

* Carbide shank boring bars with anvils

For **LEFT HAND** toolholders specify **SIL** instead of **SIR**

Gang Toolholders 横排刀杆

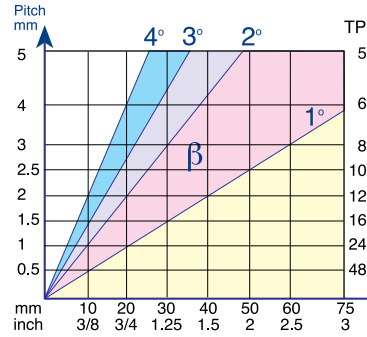
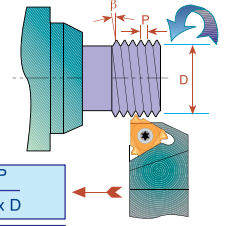
Gang Toolholders are External Holders, used in small automatic machines with a gang tool post



Ordering Code Right Hand	B = H	L	F	Insert Screw	Anvil Screw	Torx Key	RH Anvil	LH Anvil
* SER 88 H11G	11	8	100	12.0	S11	-	K11	-
* SER 10 10 H11G	11	10	100	14.0	S11	-	K11	-
SER 16 16 K16G	16	16	125	21.7	S16	A16	K16	AE16
SER 20 20 K16G	16	20	125	26.2	S16	A16	K16	AE16

* Toolholders with no anvil
For LEFT HAND toolholders specify SEL instead of SER

Thread Helix Angle 螺纹螺旋升角



$$\tan \beta = \frac{P}{\pi \times D}$$

Simplified formula
 $\beta = 20P/D$

Example:
D = 30 mm (1.18")
P = 1.5 mm (16 TPI)
 $\beta = \frac{20 \times 1.5}{30} = 1^\circ$

Miniature & Ultra-miniature Kits

迷你套盒和特迷你套盒



Ordering Code	Type	No. of Inserts	Contents		
			Insert	Boring Bar	Key
KU60M-BXC	ULTRA	10	06 IR A60 BXC	SIR 0005 H06	K6
KM60M-BXC	MINI	10	08 IR A60 BXC	SIR 0007 K08	K8

Threading & Boring Combination Kit 螺纹和镗孔组合套盒

A practical and convenient combination kit for **Ultra Miniature**

Threading and Boring. It enables Boring and Threading of mini bores as small as

6 mm diameter (1/4") with just one deep reaching CARBIDE shank ultra mini Boring Bar.



Ordering Code	Contents			Key
	Threading Insert	Turning Insert	Boring Bar	
KC6TM	06 IR A60 BXC 10 Pcs	06 IR TURN BMA 10 Pcs	SIR 0005 H06CB	K6

BMA - Coated carbide grade for medium to high cutting speeds
BXC - Coated carbide grade for low cutting speed - 40 to 90 m/min
CB - Carbide shank boring bar with coolant bore

硬质合金刀片选择

Carbide Grade Selection

Choose the CARMEX grade specifically formulated for your application from the following list:

Uncoated Grades

P30*
(P20-P30) Carbide grade for carbon and cast steels, works well at medium to low cutting speeds.

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

Coated Grades

P25C
(P15-P35) PVD TiN coated grade for treated and hard alloy steels (25 HRC & up) at medium to low cutting speeds.

BLU
(M10-M20)
(K05-K20)
(N10-N20)
(S10-S20) PVD triple layer coated Sub-micrograin grade for stainless steels, cast iron, titanium, non-ferrous metals and most of the high temperature alloys.

MXC
(K10-K20)
(P10-P25) PVD TiN coated micrograin for free cutting untreated alloy steels (below 30 HRC), for stainless steels and cast iron.

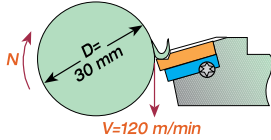
BMA
(P20-P40)
(K20-K30) PVD TiAlN coated sub-micrograin grade for stainless steels and exotic materials at medium to high cutting speeds.

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

Note: Due to our unique and specialized production techniques, CARMEX coated inserts provide superior cutting performance and exceptionally long tool life.

Conversion of Cutting Speed to Rotational Speed

Conversion of a selected cutting speed to rotational speed is calculated by the following formula:



Example

$$N = \frac{V \times 1000}{\pi \times D} = \frac{120 \times 1000}{3.14 \times 30} = 1274 \text{ RPM}$$

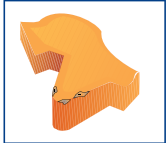
Recommended cutting speed (m/min) for thread turning inserts 推荐切削速度

ISO Standard	Material	Condition	BLU	BMA	P25C	MXC	BXC	K20	P30	
P	Non-Alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	110-210	120-180	100-180	100-180	70-150	50-130	
		0.25-0.5% C	Annealed							
		0.5-0.8% C	Quenched and tempered							
	Low alloy steel and cast steel (less than 5% alloying elements)	<0.55% C	Annealed	90-140	80-130	70-120	70-120	60-90	50-80	
		0.55-0.8% C	Quenched and tempered							
		>0.8% C	Quenched and tempered							
High alloy steel, cast steel, and tool steel		Annealed	70-90	60-80	50-60	55-70	50-60	40-50		
		Quenched and tempered								
M	Stainless steel and cast steel	Ferritic/martensitic	100-160	90-130	60-90	60-90	50-80	50-80		
		Austenitic								
K	Cast iron nodular (GGG)	Ferritic/pearlitic	120-150	100-130		80-110	60-90			
		Pearlitic								
	Grey cast iron (GG)	Ferritic	140-150	120-130		90-100	65-85			
N	Aluminum-wrought alloy		700-1000				600-800	450-600	600-800	350-500
		Not curable								
	Aluminum-cast alloy	<=12% Si	Not curable	280-750			200-550	150-350	200-550	110-300
		>12% Si	Cured							
	Copper alloys	>1% Pb	High temperature	190-350			150-250	110-180	150-250	90-150
			Free cutting							
S	High temp. alloys, Super alloys	Brass	30-65	25-60						
		Electrolytic copper								
H	Titanium alloys	Duroplastics, fiber plastics	40-50	35-45					35-45	
		Hard rubber								
H	Hardened steel	Alpha+beta alloys cured	40-50	35-45						
		Hardened 45-50 HRC								
		Hardened 51-55 HRC								
H	Chilled cast iron	Cast	30-40	25-35						
		Hardened								
H	Cast iron	Cast	20-30	15-25						
		Hardened								

• Upon request
•• For miniature and ultra miniature insert

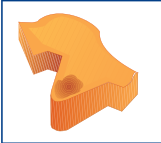
Troubleshooting

Chipping



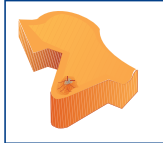
1. Use a harder carbide grade
2. Eliminate tool overhang
3. Check if insert is correctly clamped
4. Eliminate vibration

Crater Wear



1. Reduce cutting speed
2. Apply coolant fluid
3. Use a harder carbide grade

Build-up Edge



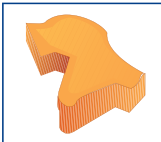
1. Apply coolant fluid
2. Increase cutting speed
3. Use a harder carbide grade

Thermal Cracking



1. Reduce cutting speed
2. Apply coolant fluid
3. Use a harder carbide grade

Deformation



1. Use a harder carbide grade
2. Reduce cutting speed
3. Reduce depth of cut
4. Apply coolant fluid

Fracture



1. Use a harder carbide grade
2. Reduce depth of cut
3. Index insert sooner
4. Check machine and tool stability

Grooving Tools

车槽刀具



A combination of ground profile and sintered chip-breaker

Advantages:

- Same Toolholder for Grooving and Threading
- Minimum Investment in Tooling
 - Three cutting edges
 - Precision Ground

槽刀片 ER/IL, IR/EL刀片可以互换

Grooving Inserts



W + 0.02	T	IC	Ordering Code		Ordering Code	
			ER/IL Inserts	Anvil	IR/EL Inserts	Anvil
0.50	1.4	1/4	11 ER/IL 0.50	-	11 IR/EL 0.50	-
0.60	1.4	1/4	11 ER/IL 0.60	-	11 IR/EL 0.60	-
0.70	1.4	1/4	11 ER/IL 0.70	-	11 IR/EL 0.70	-
0.80	1.4	1/4	11 ER/IL 0.80	-	11 IR/EL 0.80	-
1.00	1.3	1/4	11 ER/IL 1.00	-	11 IR/EL 1.00	-
0.50	1.4	3/8	16 ER/IL 0.50	AE 16-0	16 IR/EL 0.50	AI 16-0
1.00	1.4	3/8	16 ER/IL 1.00	AE 16-0	16 IR/EL 1.00	AI 16-0
1.20	1.6	3/8	16 ER/IL 1.20	AE 16-0	16 IR/EL 1.20	AI 16-0
1.40	1.8	3/8	16 ER/IL 1.40	AE 16-0	16 IR/EL 1.40	AI 16-0
1.70	2.0	3/8	16 ER/IL 1.70	AE 16-0	16 IR/EL 1.70	AI 16-0
1.95	2.0	3/8	16 ER/IL 1.95	AE 16-0	16 IR/EL 1.95	AI 16-0
2.25	2.25	3/8	16 ER/IL 2.25	AE 16-0	16 IR/EL 2.25	AI 16-0

Order example: 16 ER/IL 1.20 BXC

- * The inserts should be used with our standard threading toolholders (See page 7)
- * Attention: The anvil must be changed to AE 16-0 or AI 16-0

ER/IL, IR/EL刀片可以互换

Grooving Inserts for Snap Ring



R ±0.04	T	IC	Ordering Code		Ordering Code	
			ER/IL Inserts	Anvil	IR/EL Inserts	Anvil
0.5	1.4	3/8	16 ER/IL R 0.50	AE 16-0	16 IR/EL R 0.50	AI 16-0
0.6	1.6	3/8	16 ER/IL R 0.60	AE 16-0	16 IR/EL R 0.60	AI 16-0
0.9	2.0	3/8	16 ER/IL R 0.90	AE 16-0	16 IR/EL R 0.90	AI 16-0
1.0	2.0	3/8	16 ER/IL R 1.00	AE 16-0	16 IR/EL R 1.00	AI 16-0
1.1	2.15	3/8	16 ER/IL R 1.10	AE 16-0	16 IR/EL R 1.10	AI 16-0
1.2	2.25	3/8	16 ER/IL R 1.20	AE 16-0	16 IR/EL R 1.20	AI 16-0

Order example: 16ER/IL R1.20 BXC

- * The inserts should be used with our standard threading toolholders (See page 7)
- * Attention: The anvil must be changed to AE 16-0 or AI 16-0

切槽需要换AE16-0或AI16-0垫片

Grooving Kits 槽刀片套盒



ER / IL INSERT KGRO - EXTERNAL		
16 ER / IL 1.0 BXC	1 unit	
16 ER / IL 1.2 BXC	1 unit	
16 ER / IL 1.4 BXC	1 unit	
16 ER / IL 1.7 BXC	1 unit	
16 ER / IL 1.95 BXC	1 unit	
16 ER / IL 2.25 BXC	1 unit	
ANVIL AE 16-0	1 unit	

IR / EL INSERT KGRO - INTERNAL		
16 IR / EL 1.0 BXC	1 unit	
16 IR / EL 1.2 BXC	1 unit	
16 IR / EL 1.4 BXC	1 unit	
16 IR / EL 1.7 BXC	1 unit	
16 IR / EL 1.95 BXC	1 unit	
16 IR / EL 2.25 BXC	1 unit	
ANVIL AI 16-0	1 unit	

切槽参数选择

Technical Section

Cutting Speeds for Grooving Tools

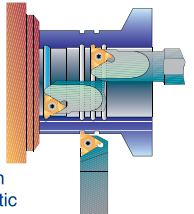
Carbide Grade:

BXC (P30 - P50, K25 - K40)

BMA (P20 - P40, K20 - K30)

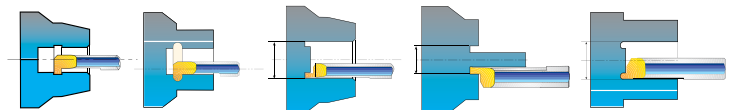
PVD TiN coated grade for low cutting speed. Works well with a wide range of stainless steels.

PVD TiAlN coated sub-micrograin grade for stainless steels and exotic materials at medium to high cutting speeds.



ISO Standard	Materials	Cutting Speed m/min
P	Low & Medium Carbon Steel	20-100
	High Carbon Steel	30-80
	Alloy Steels and Treated Steels	40-90
M	Stainless Steels	30-80
	Cast Steels	30-90
K	Cast Iron	30-90
N	Non-Ferrous & Aluminium	20-200

For grooving small bores see pages 37-38



Mill-Thread Solid Carbide

迷你整体硬质合金螺纹铣刀



Advantages of Mill-Thread Solid Carbide

- Thread is generated in one pass. **一次生成螺纹**
- Spiral flutes allow smooth cutting action. **螺旋槽光滑切削**
- Shorter machining time due to multi, 3 to 6, flutes. **3-6个槽加工时间短**
- 2.2 mm and up cutting diameter. **最小螺纹铣刀切削直径2.2mm**
- Threads up to shoulder in blind holes. **加工盲孔至孔底**
- Longer tool life due to special multi-layer coating. **长的刀具寿命, 特殊的多层涂层**
- Same tool can be used for a variety of materials. **相同的刀具用于多种金属材料**
- Excellent surface finish. **杰出的表面光洁度**
- Low cutting pressure allows thin wall machining. **低切削压力允许薄壁加工**
- Same tool used for R.H. and L.H. threads. **左右螺纹用一把刀**

Thread Mills with Internal Coolant

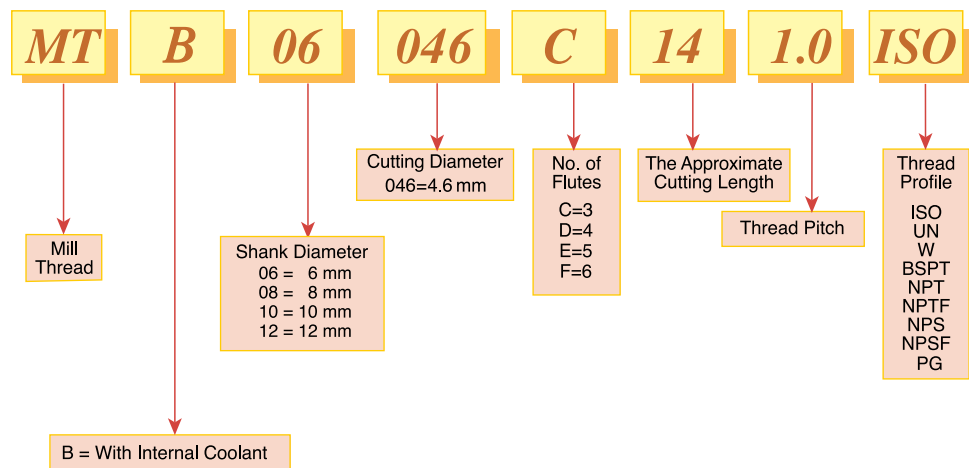
- Coolant fluid washes the chips out of hole
- Increased tool life

MTB - Thread Mills with internal coolant bore for blind holes

带内冷MTB

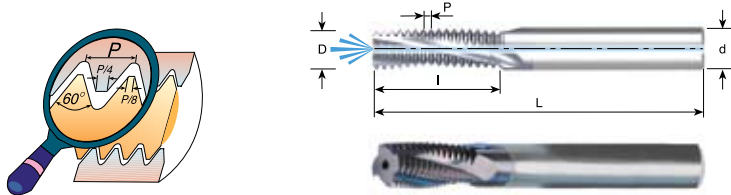
Product Identification

Mill-Thread Solid Carbide Ordering Codes



ISO-带内冷, 内螺纹

ISO With internal coolant bore Tools for Internal Thread



Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
0.5		Ø ≥ 5	MTB06038C10 0.5 ISO	6	3.8	3	10.3	58
0.7	M 4	Ø ≥ 5	MTB06031C7 0.7 ISO	6	3.1	3	7.4	58
0.75		Ø ≥ 6	MTB06045C10 0.75ISO	6	4.5	3	10.1	58
0.75		Ø ≥ 12	MTB1010D24 0.75 ISO	10	10.0	4	24.4	73
0.8	M 5	Ø ≥ 6	MTB06038C9 0.8 ISO	6	3.8	3	9.2	58
1.0	M 6	Ø ≥ 7	MTB06046C10 1.0 ISO	6	4.6	3	10.5	58
1.0	M 6	Ø ≥ 7	MTB06046C14 1.0 ISO	6	4.6	3	14.5	58
1.0		Ø ≥ 9	MTB0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		Ø ≥ 10	MTB0808D16 1.0 ISO	8	8.0	4	16.5	64
1.0		Ø ≥ 12	MTB1010D24 1.0 ISO	10	10.0	4	24.5	73
1.25	M 8	Ø ≥ 10	MTB0606C14 1.25ISO	6	6.0	3	14.4	58
1.25	M 8	Ø ≥ 10	MTB0606C19 1.25ISO	6	6.0	3	19.4	58
1.5	M10	Ø ≥ 12	MTB08078C17 1.5 ISO	8	7.8	3	17.3	64
1.5	M10	Ø ≥ 12	MTB08078C24 1.5 ISO	8	7.8	3	24.8	76
1.5		Ø ≥ 14	MTB1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		Ø ≥ 16	MTB1212D26 1.5 ISO	12	12.0	4	26.3	84
1.75	M12	Ø ≥ 12	MTB1009C20 1.75ISO	10	9.0	3	20.1	73
1.75	M12	Ø ≥ 12	MTB1009C28 1.75ISO	10	9.0	3	28.9	73
2.0	M14	Ø ≥ 15	MTB1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	Ø ≥ 17	MTB12118D27 2.0 ISO	12	11.8	4	27.0	84
2.0	M16	Ø ≥ 17	MTB12118D39 2.0 ISO	12	11.8	4	39.0	105

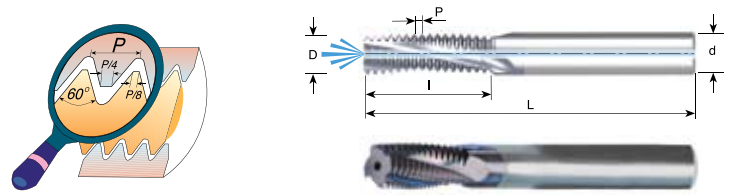
Order example: MTB 08078C17 1.5 ISO MT7

For small thread mills see page 18



UN-带内冷, 内螺纹

UN With internal coolant bore Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
32	8	10	12	MTB06032C6 32 UN	6	3.2	3	6.8	58
32			5/16	MTB0606C14 32 UN	6	6.0	3	14.7	58
32			3/8	MTB0808D18 32 UN	8	8.0	4	18.7	64
28		1/4		MTB0605C11 28 UN	6	5.0	3	11.3	58
28			7/16-1/2	MTB0606C14 28 UN	6	6.0	3	14.1	58
24		5/16		MTB08066C14 24 UN	8	6.6	3	14.3	64
24		3/8	9/16-5/8	MTB0808D21 24 UN	8	8.0	4	20.6	64
20	1/4			MTB06047C12 20 UN	6	4.7	3	12.1	58
20		7/16		MTB0808C21 20 UN	8	8.0	3	21.0	64
20		1/2		MTB1010D22 20 UN	10	10.0	4	22.3	73
20			3/4-1	MTB1212E27 20 UN	12	12.0	5	27.3	84
18	5/16			MTB06056C14 18 UN	6	5.6	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	MTB12113D26 18 UN	12	11.3	4	26.1	84
16	3/8			MTB08067C16 16 UN	8	6.7	3	16.7	64
16		3/4		MTB1212D31 16 UN	12	12.0	4	31.0	84
14	7/16			MTB08077C20 14 UN	8	7.7	3	20.9	64
13	1/2			MTB10092C22 13 UN	10	9.2	3	22.5	73
12	9/16			MTB12105C26 12 UN	12	10.5	3	26.5	84
11	5/8			MTB12114C28 11 UN	12	11.4	3	28.9	84

Order example: MTB 1212D31 16 UN MT7

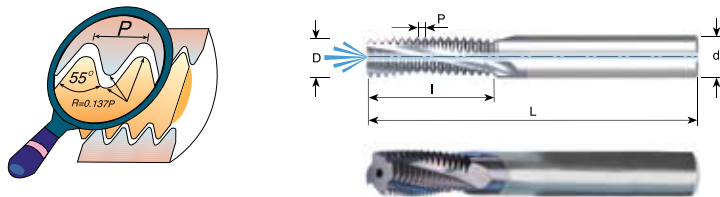
For small thread mills see page 18



G 55° BSF, BSP

G 螺纹55°-带内冷, 可用于内、外螺纹

With internal coolant bore Same Tool for Internal and External Thread



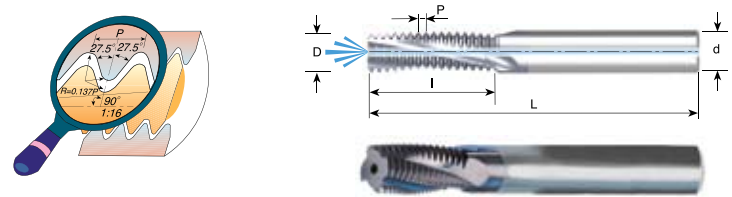
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	MTB08078C14 28W	8	7.8	3	14.1	64
19	G1/4-3/8	MTB1010D16 19W	10	10.0	4	16.7	73

Order example: MTB 1010D16 19 W MT7

For small thread mills see page 18

BSPT With internal coolant Same Tool for Internal and External Thread

BSPT锥管螺纹, 带内冷 可用于内、外螺纹



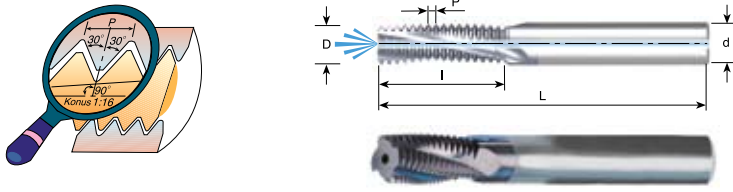
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MTB08078C14 28 BSPT	8	7.8	3	14.1	64
19	RC1/4-3/8	MTB1010D16 19 BSPT	10	10.0	4	16.7	73

Order example: MTB 1010D16 19 BSPT MT7

NPT锥管螺纹带内冷，内外螺纹通用

NPT

Same Tool for Internal and External Thread



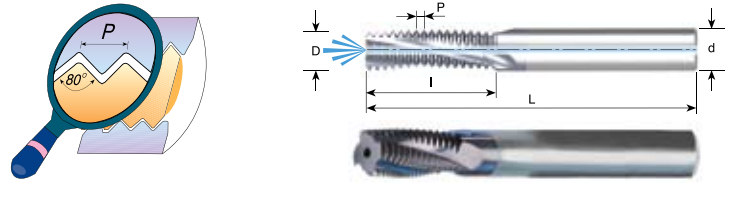
Pitch TPI	Standard urc messer	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB08076C10 27 NPT	8	7.6	3	10.8	64
18	1/4-3/8	MTB1010D16 18 NPT	10	10.0	4	16.2	73

Order example: MTB 1010D16 18 NPT MT7

PG电力管线螺纹带内冷，内外螺纹通用

PG With internal coolant

Same Tool for Internal and External Thread



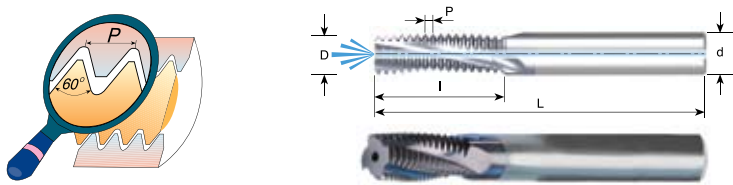
Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
20	Pg 7	MTB01010D19 20 PG	10	10.0	4	19.7	73
18	Pg 9, 11, 13.5, 16	MTB01212D20 18 PG	12	12.0	4	20.5	84
16	Pg 21, 29, 36, 42, 48	MTB01212D23 16 PG	12	12.0	4	23.0	84

Order example: MTB 1212 D20 18 PG MT7

NPS特殊螺纹，内外螺纹通用，带内冷

NPS With internal coolant

Same Tool for Internal and External Thread - Inch Shanks



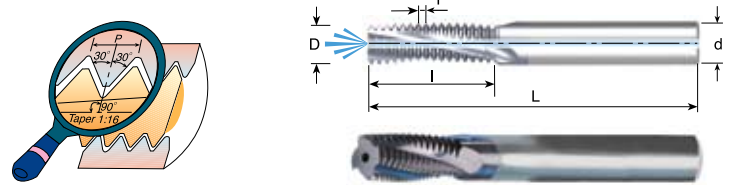
Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPS	5/16	7.6	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPS	3/8	9.5	4	16.2	76

Order example: MTB 0375D06 18 NPS MT7

NPTF自密封锥管螺纹，带内冷，内外螺纹通用

NPTF With internal coolant

Same Tool for Internal and External Thread



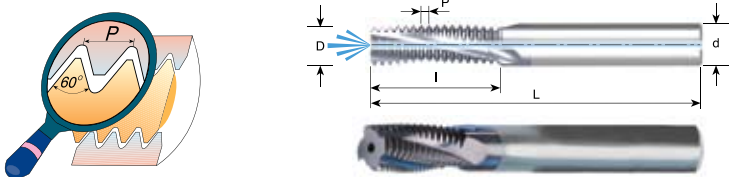
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB08076C10 27 NPTF	8	7.6	3	10.8	64
18	1/4-3/8	MTB1010D16 18 NPTF	10	10.0	4	16.2	73

Order example: MTB 1010D16 18 NPTF

NPSF With internal coolant

Same Tool for Internal and External Thread - Inch Shanks

NPSF特殊螺纹带内冷，内外螺纹通用，英制柄

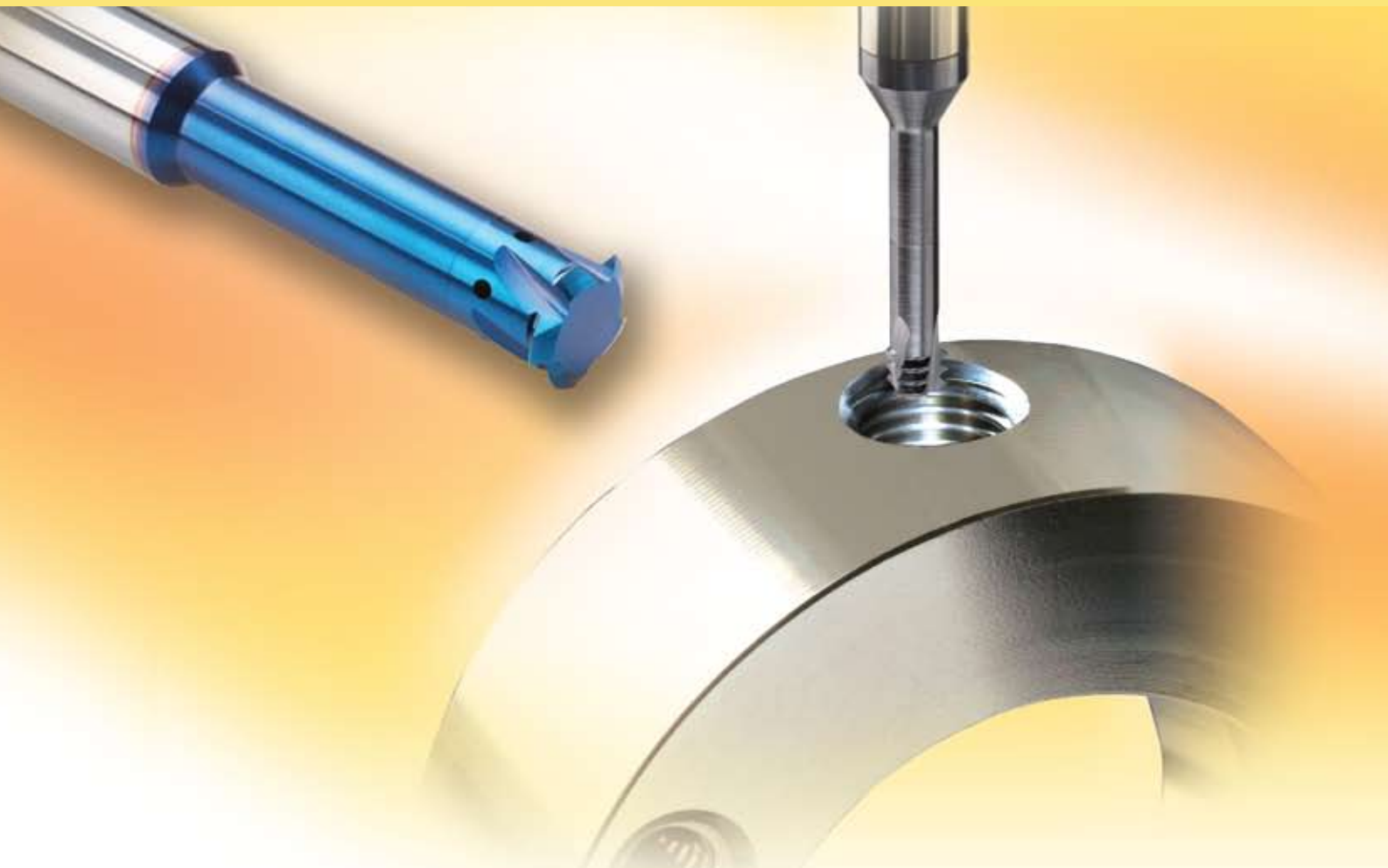


Pitch TPI	Standard	Ordering Code	inch	D	No. o Flutes	I	L
27	1/8	MTB0312C04 27 NPSF	5/16	7.6	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPSF	3/8	9.5	4	16.2	76

Order example: MTB 0312C04 27 NPSF MT7

Mini Mill-Thread

迷你螺纹铣刀



MTS MTS系列

Carbide grade: MT7 **MT7级硬质合金**

Sub-Micron grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). To be run at medium to high cutting speeds. General purpose for all materials.

Advantages:

Specially designed solid-carbide thread mills for the production of internal threads in very small bores.

Due to the unique tool design, accurate geometries and high quality sub-micron carbide grade with Titanium Aluminum Nitride coating, the following are achieved:

由于独特的设计，精确的几何形状和高质量亚微米级硬质合金TiAlN涂层

亚微米颗粒TiAlN涂层用于全部材料，通用中到高的切削速度

- Threading from M1 x 0.25. **M1×0.25**
- Working in high cutting speed. **高切削速度**
- Short machining time. **短的加工时间**
- Low cutting forces thanks to the short profile. **由于短的齿形低切削力**
- No broken taps. **不会像丝锥一样折断**

MTI MTI系列

For threading deep parts 深孔螺纹加工

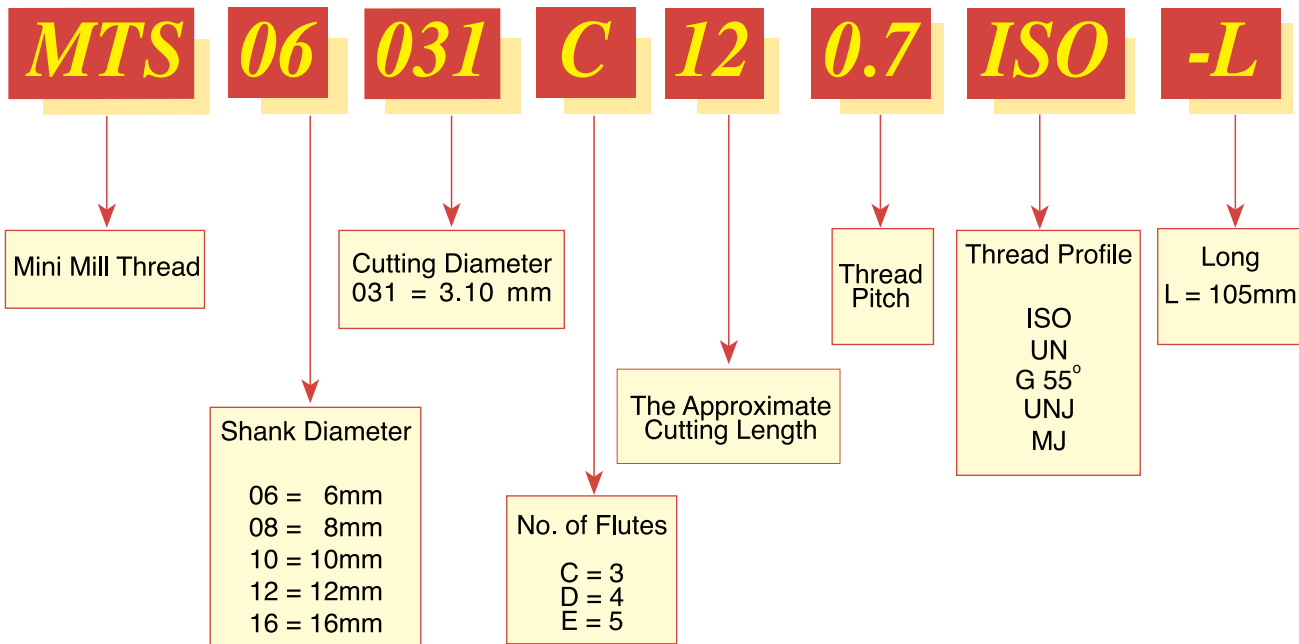
Carbide grade: MT8 Sub-micron grade with advanced PVD triple coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials. **PVD三层涂层，特别的耐高温和平滑切削，高效率 and 常规加工**

Advantages:

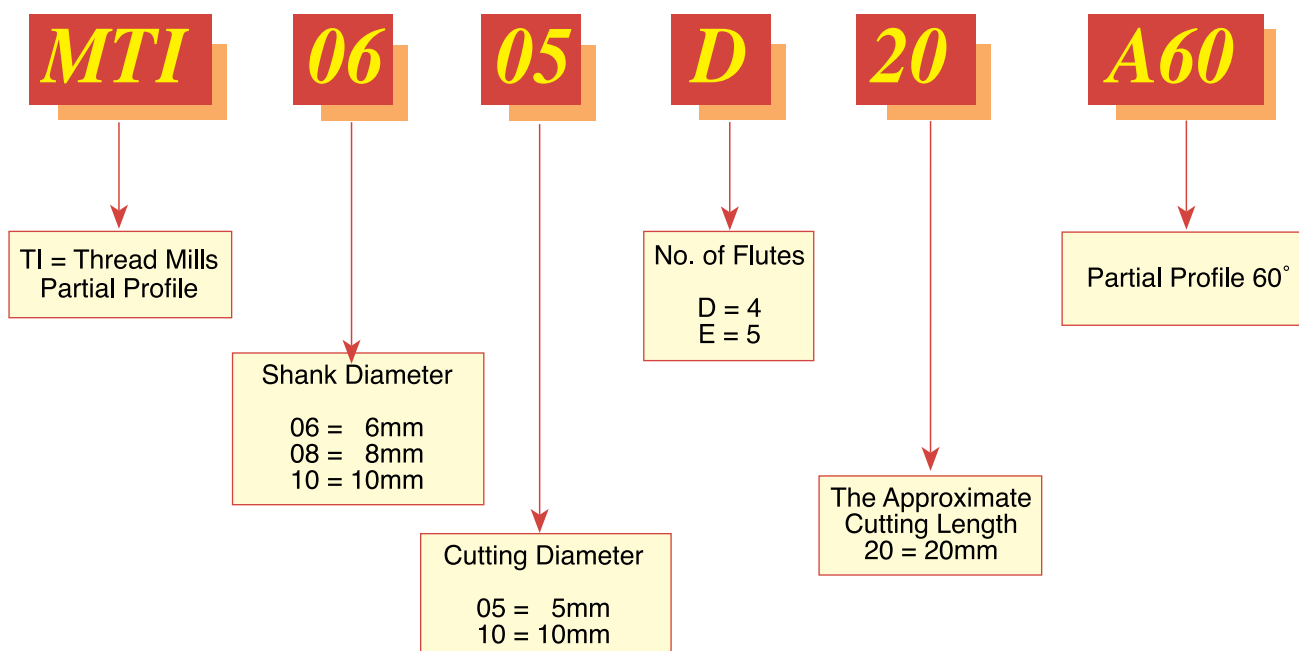
- Enables machining in deep holes. **深孔加工的可能**
- Same tool can produce a wide range of threads and pitches. **相同的刀具加工宽范围的螺纹和螺距**
- Same tool can produce both External and Internal threads. **相同的刀具可以加工内外螺纹**
- Coolant through the flutes is very effective for deep holes. **槽内内冷，可加工非常深的螺纹**
- Spiral flutes allow smooth cutting action. **螺旋槽能够实现光滑切削**
- Shorter machining time due to multi, 3 to 5, flutes. **3-5槽短的加工时间**
- Longer tool life due to special triple coating. **特殊的三层涂层长寿命**

Product Identification

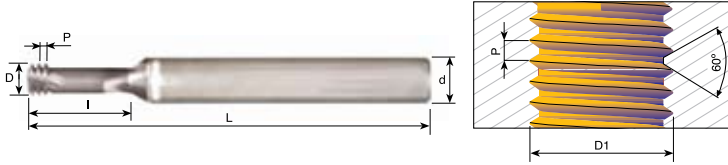
Mini Mill-Thread MTS Ordering Codes



Mini Mill-Thread MTI Ordering Codes



ISO ISO – 内螺纹 Tools for Internal Thread



For thread depth up to 2xD1 螺纹深度2xD1

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	l	L
0.25	M1	MTS03007C2 0.25 ISO	3	0.72	3	2.5	39
0.25	M1.2	MTS03009C3 0.25 ISO	3	0.90	3	3.0	39
0.4	M2	MTS06016C4 0.4 ISO	6	1.53	3	4.5	58
0.4	M2	MTS06016C4 0.4 ISO-L	6	1.53	3	4.5	105
0.45	M2.2	MTS06017C5 0.45 ISO	6	1.65	3	5.0	58
0.45	M2.5	MTS0602C5 0.45 ISO	6	1.95	3	5.5	58
0.45	M2.5	MTS0602C5 0.45 ISO-L	6	1.95	3	5.5	105
0.5	M3	MTS06024C6 0.5 ISO	6	2.37	3	6.5	58
0.5	M3	MTS06024C6 0.5 ISO-L	6	2.37	3	6.5	105
0.6	M3.5	MTS06028C7 0.6 ISO	6	2.75	3	7.5	58
0.7	M4	MTS06031C9 0.7 ISO	6	3.10	3	9.0	58
0.75	M10	MTS0808D25 0.75 ISO	8	8.00	4	25.0	64
0.8	M5	MTS06038C12 0.8 ISO	6	3.80	3	12.5	58
1.0	M6	MTS06047C14 1.0 ISO	6	4.65	3	14.0	58
1.25	M8	MTS0606C18 1.25 ISO	6	6.00	3	18.0	58
1.5	M10	MTS08078C23 1.5 ISO	8	7.80	3	23.0	64
1.75	M12	MTS1009C26 1.75 ISO	10	9.00	3	26.0	73
2.0	M16	MTS12118D35 2.0 ISO	12	11.80	4	35.0	84
2.5	M20	MTS1615E43 2.5 ISO	16	15.00	5	43.0	105

For thread depth up to 3xD1 螺纹深度3xD1

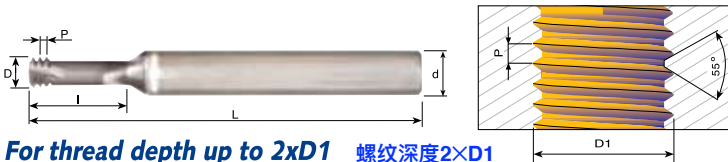
Pitch mm	D1	Ordering Code	d	D	No. of Flutes	l	L
* 0.3	M1.4	MTS03011C4 0.3 ISO	3	1.05	3	4.0	39
* 0.35	M1.6	MTS03012C5 0.35 ISO	3	1.20	3	4.8	39
* 0.4	M2	MTS03016C6 0.4 ISO	3	1.53	3	6.0	39
0.45	M2.5	MTS0602C7 0.45 ISO	6	1.95	3	7.5	58
0.5	M3	MTS06024C9 0.5 ISO	6	2.37	3	9.5	58
0.5	M3	MTS06024C9 0.5 ISO-L	6	2.37	3	9.5	105
0.5	M6,M7	MTS06054D20 0.5 ISO	6	5.35	4	20.0	58
0.6	M3.5	MTS06028C10 0.6 ISO	6	2.75	3	10.5	58
0.7	M4	MTS06031C12 0.7 ISO	6	3.10	3	12.5	58
0.7	M4	MTS06031C12 0.7 ISO-L	6	3.10	3	12.5	105
0.8	M5	MTS06038C16 0.8 ISO	6	3.80	3	16.0	58
0.8	M5	MTS06038C16 0.8 ISO-L	6	3.80	3	16.0	105
1.0	M6	MTS06047C20 1.0 ISO	6	4.65	3	20.0	58
1.0	M6	MTS06047C20 1.0 ISO-L	6	4.65	3	20.0	105
1.25	M8	MTS0606C24 1.25 ISO	6	6.00	3	24.0	58

Order example: MTS 06047C14 1.0 ISO MT7

*Specially designed for the production of dental implants

- Machining Titanium, surgical stainless steels and hardened materials up to 45 HRC.
- Suitable for high speed air turbine machines (30,000-40,000 RPM) and for standard machining centers (6,000 RPM and higher).
- Can also be used for general purpose threading.

G 55° BSW, BSP G 55°, 内外螺纹通用 Same Tool for Internal and External Thread

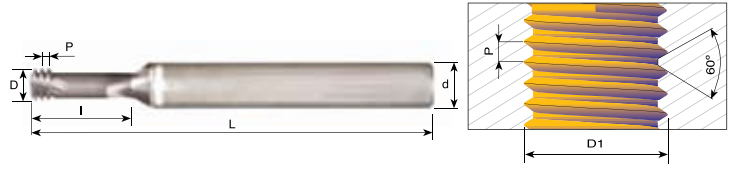


For thread depth up to 2xD1 螺纹深度2xD1

Pitch TPI	Standard	Ordering code	d	D	No. of Flutes	l	L
28	G 1/8	MTS08078C19 28 W	8	7.8	3	19.5	64
19	G 1/4 - 3/8	MTS1010D30 19 W	10	10.0	4	30.0	73
14	G 1/2 - 7/8	MTS1212D37 14 W	12	12.0	4	37.0	84
11	G ≥ 1	MTS1616D44 11 W	16	16.0	4	44.0	105

Order example: MTS 1212D37 14 W MT7

UN UN-内螺纹 Tools for Internal Thread



For thread depth up to 2xD1 螺纹深度2xD1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L
72		1	MTS06014C3 72 UN	6	1.45	3	3.7	58
64	1	2	MTS06014C3 64 UN	6	1.40	3	3.8	58
56	2	3	MTS06016C4 56 UN	6	1.65	3	4.4	58
48	3	4	MTS06019C5 48 UN	6	1.90	3	5.2	58
40	4		MTS06021C6 40 UN	6	2.10	3	6.3	58
40	4		MTS06021C6 40 UN-L	6	2.10	3	6.3	105
40	5	6	MTS06024C7 40 UN	6	2.45	3	7.0	58
36		8	MTS06032C9 36 UN	6	3.30	3	9.0	58
32	6		MTS06025C7 32 UN	6	2.55	3	7.1	58
32	6		MTS06025C7 32 UN-L	6	2.55	3	7.1	105
32	8		MTS06032C9 32 UN	6	3.20	3	9.5	58
32	8		MTS06032C9 32 UN-L	6	3.20	3	9.5	105
32		10	MTS06037C10 32 UN	6	3.70	3	10.5	58
28		12	MTS06042C11 28 UN	6	4.20	3	11.0	58
28		1/4	MTS0605C14 28 UN	6	5.00	3	14.5	58
24	10,12		MTS06035C10 24 UN	6	3.50	3	10.6	58
24		5/16, 3/8	MTS08066C17 24 UN	8	6.60	3	17.0	64
20	1/4		MTS06047C14 20 UN	6	4.75	3	14.0	58
20		7/16	MTS0808C25 20 UN	8	8.00	3	25.0	64
18	5/16		MTS0606C17 18 UN	6	6.00	3	17.0	58
18		5/8	MTS1212D35 18 UN	12	12.00	4	35.0	84
16	3/8		MTS08067C22 16 UN	8	6.70	3	22.0	64
14	7/16		MTS08077C25 14 UN	8	7.70	3	25.0	64
13	1/2		MTS10092C27 13 UN	10	9.20	3	27.5	73
12	9/16		MTS12105C31 12 UN	12	10.50	3	31.5	84
11	5/8		MTS12114C34 11 UN	12	11.40	3	34.5	84
10	3/4		MTS16144D41 10 UN	16	14.40	4	41.5	105

For thread depth up to 3xD1 螺纹深度3xD1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L
80		0	MTS06012C4 80 UN	6	1.15	3	4.0	58
* 72		1	MTS03015C6 72 UN	3	1.45	3	6.0	39
56	2	3	MTS03016C6 56 UN	3	1.65	3	6.6	39
56	2	3	MTS06016C6 56 UN	6	1.65	3	6.6	58
56	2	3	MTS06016C6 56 UN-L	6	1.65	3	6.6	105
40	4		MTS06021C8 40 UN	6	2.10	3	8.0	58
40	4		MTS06021C8 40 UN-L	6	2.10	3	8.0	105
40	5	6	MTS06024C9 40 UN	6	2.45	3	9.6	58
32	6		MTS03025C10 32 UN	3	2.55	3	10.5	39
32	6		MTS06025C10 32 UN	6	2.55	3	10.5	58
32	6		MTS06025C10 32 UN-L	6	2.55	3	10.5	105
32	8		MTS06032C12 32 UN	6	3.20	3	12.5	58
32	8		MTS06032C12 32 UN-L	6	3.20	3	12.5	105
32		10	MTS06037C15 32 UN	6	3.70	3	15.0	58
32		10	MTS06037C15 32 UN-L	6	3.70	3	15.0	105
28		1/4	MTS0605C19 28 UN	6	5.00	3	19.0	58
24		5/16, 3/8	MTS08066C24 24 UN	8	6.60	3	24.0	64
20	1/4		MTS06047C19 20 UN	6	4.75	3	19.0	58
20	1/4		MTS06047C19 20 UN-L	6	4.75	3	19.0	105
18	5/16		MTS0606C23 18 UN	6	6.00	3	23.0	58

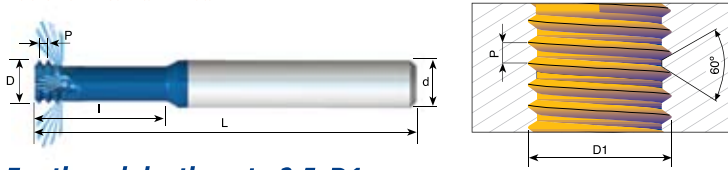
Order example: MTS 0605C19 28 UN MT7

*Specially designed for the production of dental implants

- Machining Titanium, surgical stainless steels and hardened materials up to 45 HRC.
- Suitable for high speed air turbine machines (30,000-40,000 RPM) and for standard machining centers (6,000 RPM and higher).
- Can also be used for general purpose threading.

UNJ-美国航空航天螺纹, 内螺纹, 带内冷

UNJ With internal coolant through the flutes
Tools for Internal Thread



For thread depth up to $2.5 \times D1$ 螺纹深度 $2.5 \times D1$

Pitch TPI	UNJC	UNJF	Ordering Code	d	D	No. of Flutes	I	L
*32	8	10	* MTS06033C10 32 UNJ	6	3.30	3	10.5	58
28		1/4	MTS08051C16 28 UNJ	8	5.10	3	16.0	64
24		5/16, 3/8	MTS08067C20 24 UNJ	8	6.70	3	20.0	64
*20	1/4		* MTS06049C16 20 UNJ	6	4.90	3	16.0	58
20		7/16	MTS0808C28 20 UNJ	8	8.00	3	28.0	64
18	5/16	9/16	MTS08061C20 18 UNJ	8	6.15	3	20.0	64
16	3/8		MTS08069C24 16 UNJ	8	6.90	3	24.0	64
14	7/16		MTS08079C25 14 UNJ	8	7.90	3	25.0	64
13	1/2		MTS10094C27 13 UNJ	10	9.40	3	27.5	73

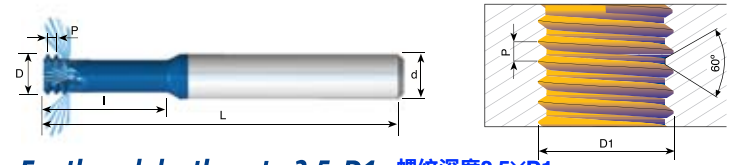
* Cutters without coolant

Order example: MTS 06049C16 20 UNJ MT8

Carbide grade MT8 Sub Micron grade with advanced PVD triple coating (ISO K 10-K20). Extremely high resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials

MJ-公制航空航天螺纹, 内螺纹, 带内冷

MJ With internal coolant through the flutes
Tools for Internal Thread



For thread depth up to $2.5 \times D1$ 螺纹深度 $2.5 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.7	MJ4	* MTS06032C10 0.7 MJ	6	3.20	3	10.0	58
0.8	MJ5	* MTS06039C12 0.8 MJ	6	3.90	3	12.5	58
1.0	MJ6	* MTS06048C15 1.0 MJ	6	4.80	3	15.0	58
1.25	MJ8	MTS08061C20 1.25 MJ	8	6.10	3	20.0	64
1.5	MJ10	MTS0808C25 1.5 MJ	8	8.00	3	25.0	64
1.75	MJ12	MTS10092C30 1.75 MJ	10	9.20	3	30.0	73
2.0	MJ14, MJ16	MTS1010C35 2.0 MJ	10	10.00	3	35.0	73

* Cutters without coolant

Order example: MTS 06048C15 1.0 MJ MT8

Carbide grade MT8 Sub Micron grade with advanced PVD triple coating (ISO K 10-K20). Extremely high resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials

MTI - For threading deep parts

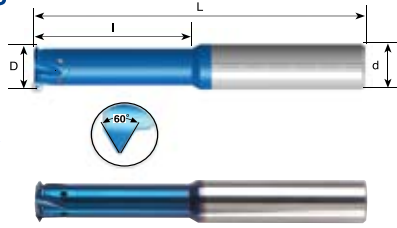
Partial Profile 60°

With internal coolant through the flutes

Same Tool for Internal and External Thread

MTI-深孔螺纹, 槽内带内冷, 60°范围牙, 内外螺纹通用

For threading deep parts

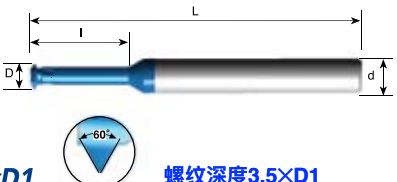


Pitch mm	Pitch TPI	Thread Dia. (min.)	Ordering Code	d	D	No. of Flutes	I	L
Int. 0.5 - 0.8	56-28	≥ 6	MTI0605D20 A60	6	5.0	4	20	58
Ex. 0.4 - 0.8	64-32	≥ 9	MTI0808D28 A60	8	8.0	4	28	64
		≥ 13	MTI1212E38 A60	12	12.0	5	38	84
Int. 1.0 - 1.75	28-14	≥ 10	MTI0808D30 A60	8	8.0	4	30	64
Ex. 0.8 - 1.5	32-16	≥ 12	MTI1010D35 A60	10	10.0	4	35	73
		≥ 14	MTI1212E39 A60	12	12.0	5	39	84
Int. 2.0 - 3.0	13- 8	≥ 16	MTI1212E40 A60	12	12.0	5	40	84
Ex. 1.75-2.5	15-10	≥ 18	MTI1614E45 A60	16	14.0	5	45	101
		≥ 20	MTI1616E50 A60	16	16.0	5	50	101

Order example: MTI 0808D28 A60 MT8

UN UN-内螺纹

Tools for Internal Thread



For thread depth up to $3.5 \times D1$

螺纹深度 $3.5 \times D1$

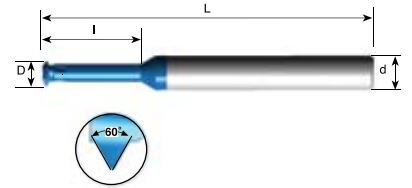
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTI03012C5 80 UN	3	1.15	3	5.5	39
72		1	MTI03015C7 72 UN	3	1.45	3	6.6	39
56	2	3	MTI03016C9 56 UN	3	1.65	3	8.9	39
40	4		MTI03021C10 40 UN	3	2.10	3	10.1	39

Order example: MTI 03016C9 56 UN MT9

Carbide grade MT9 with advanced PVD triple coating (ISO K 10-K20).

ISO ISO-内螺纹

Tools for Internal Thread



For thread depth up to $3.5 \times D1$ 螺纹深度 $3.5 \times D1$

Pitch mm	M Coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
0.25	M1 x 0.25		MTI03007C3 0.25 ISO	3	0.72	3	3.6	39
0.25	M1.2 x 0.25	M1.4 x 0.25 M1.6 x 0.25	MTI03009C4 0.25 ISO	3	0.90	3	4.3	39
0.3	M1.4 x 0.3		MTI03011C5 0.3 ISO	3	1.05	3	5.0	39
0.35	M1.6 x 0.35	M2 x 0.35 M2.2 x 0.35	MTI03012C6 0.35 ISO	3	1.20	3	5.7	39
0.4	M2 x 0.4		MTI03012C7 0.4 ISO	3	1.55	3	7.1	39
0.5	M3 x 0.5	M3.5 x 0.5 M4 x 0.5	MTI03024C10 0.5 ISO	3	2.37	3	10.6	39

Order example: MTI 03012C6 0.35 ISO MT9

Carbide grade MT9 with advanced PVD triple coating (ISO K 10-K20).

HARDCUT

Mill-Thread Solid Carbide for machining hard materials

硬切削

整体硬质合金迷你螺纹铣刀，用于加工硬材料



Carmex is pioneer in offering solid carbide thread mills tools designed specifically for the machining of hardened materials up to 62HRc. Carmex 首创的整体硬质合金螺纹铣刀，特别的设计用于加工硬材料到62HRc。These tools provide high performance, improved cut and an excellent surface finish.

这些刀具提供高性能，改进的切削性能和一个杰出的表面光洁度

Mini Mill - Thread 迷你螺纹铣刀

Carbide grade: MT9 MT9级硬质合金

Sub-micron carbide grade with advanced Titanium

Aluminium Nitride coating. 亚微颗粒级硬质合金带先进的TiAlN涂层

- Threading from M1.4 x 0.3 螺纹直径M1.4×0.3
- Perfect solution for the Die and Mold industry 理想的用于模具和模具工业
- Working at high cutting speeds 高切削速度
- Short machining time 短的加工时间
- Low cutting forces thanks to the short profile 低切削力短的齿形

先进的涂层高耐磨和高耐热
特细级-致力于硬材料
短的切削保证生产过程高可靠性
短的循环时间提高效率
螺纹深度2倍径

MTH MTH

Carmex provide new innovative mill thread solid carbide tools for machining: 提供创新的整体硬质合金螺纹铣刀

- Hardened steels and cast iron up to 62 HRc. 硬钢和硬铸铁HRc62
- High temperature alloys. 高温合金
- Titanium alloys. 钛合金
- Super Alloys (Hastelloy, Inconel, Nickel Base Alloys). 超合金 (海斯特、因科镍、镍基合金)

Carbide grade: MT9 MT9

Ultra fine sub-micron grade with Advanced PVD Triple Coating
特细亚微颗粒带先进的PVD三层涂层

Principle

The tools provide the possibility to machine materials with a higher tensile strength and hardness using relatively high cutting data.

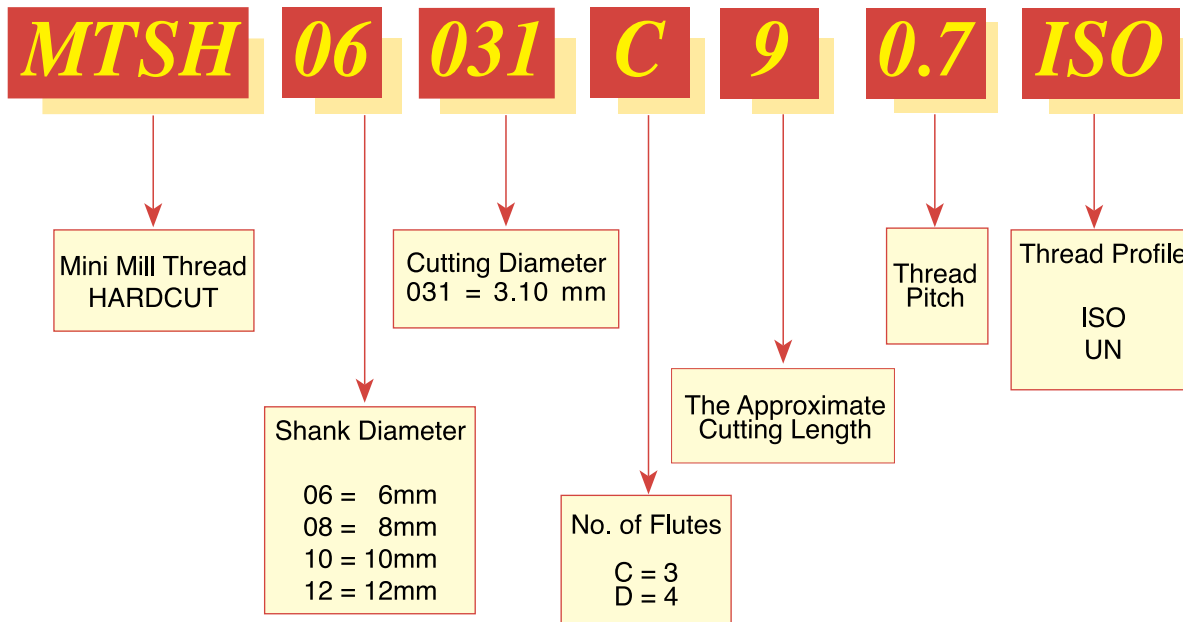
这个刀具提供一个加工高强度钢和硬材料用，高的切削参数

Advantages

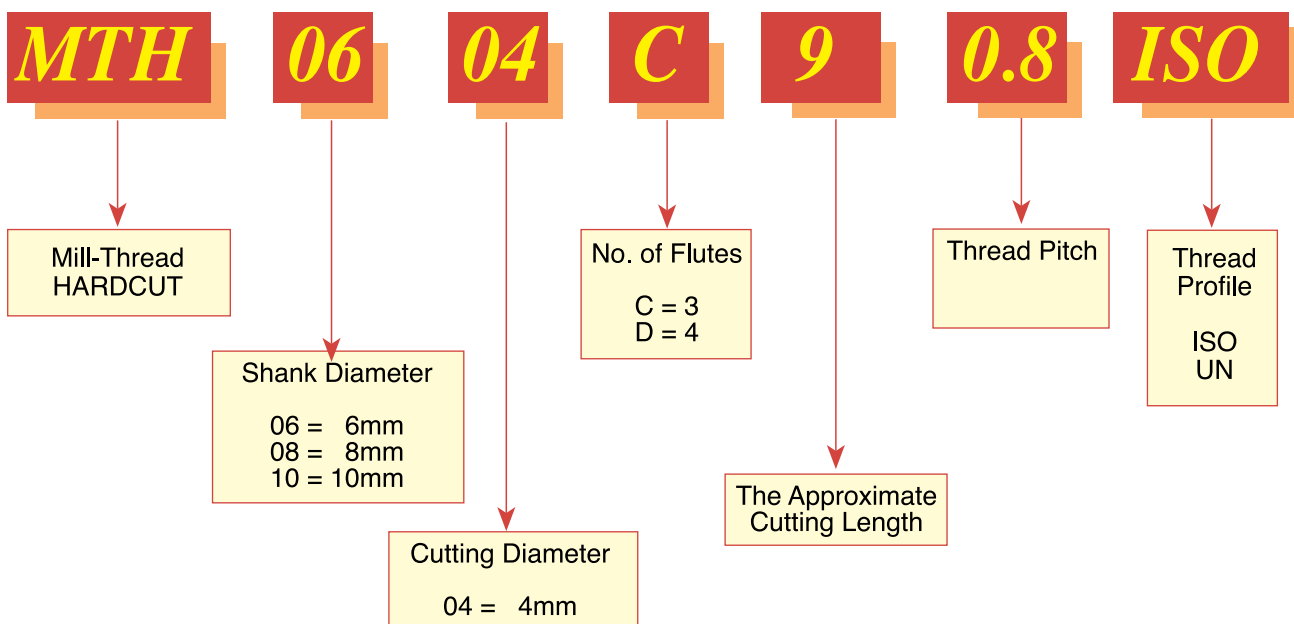
- Same tool performs thread milling and chamfering - saves machining time. 一把铣刀可以加工螺纹和倒角，节省加工时间
- Increased cutting diameter - better rigidity and stability. 增加切削直径，最佳的刚性和稳定性
- Coating provides high wear and heat resistance.
- Ultra fine grade - dedicated for hardened materials.
- Short chips are produced, insure high process security.
- Short cycle time - increases productivity.
- Thread length up to 2xD.

Product Identification

Mini Mill-Thread MTSH Type Ordering Codes



MTH Type Ordering Codes



ISO ISO-内螺纹

Tools for Internal Thread

For thread depth up to $2 \times D1$ 螺纹深度 $2 \times D1$ Left hand cutting
For CNC code use M04

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.4	M2	MTSH06016C4 0.4 ISO	6	1.53	3	4.5	58
0.45	M2.2	MTSH06017C5 0.45 ISO	6	1.65	3	5.0	58
0.45	M2.5	MTSH0602C5 0.45 ISO	6	1.95	3	5.5	58
0.5	M3	MTSH06024C6 0.5 ISO	6	2.37	3	6.5	58
0.6	M3.5	MTSH06028C7 0.6 ISO	6	2.75	3	7.5	58
0.7	M4	MTSH06031C9 0.7 ISO	6	3.10	3	9.0	58
0.8	M5	MTSH06038C12 0.8 ISO	6	3.80	3	12.5	58
1.0	M6	MTSH06047C14 1.0 ISO	6	4.65	3	14.0	58
1.25	M8	MTSH0606C18 1.25 ISO	6	6.00	3	18.0	58
1.5	M10	MTSH08078C23 1.5 ISO	8	7.80	3	23.0	64
1.75	M12	MTSH1009C26 1.75 ISO	10	9.00	3	26.0	73
2.0	M16	MTSH12118D35 2.0 ISO	12	11.80	4	35.0	84

For thread depth up to $3 \times D1$ 螺纹深度 $3 \times D1$

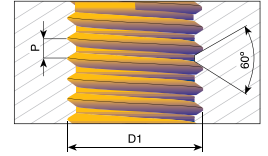
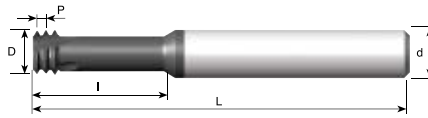
Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.3	M1.4	MTSH03011C4 0.3 ISO	3	1.05	3	4.0	39
0.35	M1.6	MTSH03012C5 0.35 ISO	3	1.20	3	4.8	39
0.4	M2	MTSH03016C6 0.4 ISO	3	1.53	3	6.0	39
0.45	M2.5	MTSH0602C7 0.45 ISO	6	1.95	3	7.5	58
0.5	M3	MTSH06024C9 0.5 ISO	6	2.37	3	9.5	58
0.7	M4	MTSH06031C12 0.7 ISO	6	3.10	3	12.5	58
0.8	M5	MTSH06038C16 0.8 ISO	6	3.80	3	16.0	58
1.0	M6	MTSH06047C20 1.0 ISO	6	4.65	3	20.0	58
1.25	M8	MTSH0606C24 1.25 ISO	6	6.00	3	24.0	58

Order example: MTSH 06031C9 C 0.7 ISO MT9

UN UN-内螺纹

Tools for Internal Thread

For thread depth up to $2 \times D1$ 螺纹深度 $2 \times D1$ Left hand cutting
For CNC code use M04



For thread depth up to $3 \times D1$ 螺纹深度 $3 \times D1$ Left hand cutting
For CNC code use M04

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
72		1	MTSH06014C3 72 UN	6	1.45	3	3.7	58
64	1	2	MTSH06014C3 64 UN	6	1.40	3	3.8	58
56	2	3	MTSH06016C4 56 UN	6	1.65	3	4.4	58
48	3	4	MTSH06019C5 48 UN	6	1.90	3	5.2	58
40	4		MTSH06021C6 40 UN	6	2.10	3	6.3	58
40	5	6	MTSH06024C7 40 UN	6	2.45	3	7.0	58
36		8	MTSH06033C9 36 UN	6	3.30	3	9.0	58
32	6		MTSH06025C7 32 UN	6	2.55	3	7.1	58
32	8		MTSH06032C9 32 UN	6	3.20	3	9.5	58
32		10	MTSH06037C10 32 UN	6	3.70	3	10.5	58
28		12	MTSH06042C11 28 UN	6	4.20	3	11.0	58
28		1/4	MTSH0605C14 28 UN	6	5.00	3	14.5	58
24	10,12		MTSH06035C10 24 UN	6	3.50	3	10.6	58
24		5/16, 3/8	MTSH08066C17 24 UN	8	6.60	3	17.0	64
20	1/4		MTSH06047C14 20 UN	6	4.75	3	14.0	58
20		7/16	MTSH0808C25 20 UN	8	8.00	3	25.0	64
18	5/16		MTSH0606C17 18 UN	6	6.00	3	17.0	58
18		5/8	MTSH1212D35 18 UN	12	12.00	4	35.0	84
16	3/8		MTSH08067C22 16 UN	8	6.70	3	22.0	64
14	7/16		MTSH08077C25 14 UN	8	7.70	3	25.0	64
13	1/2		MTSH10092C27 13 UN	10	9.20	3	27.5	73
12	9/16		MTSH12105C31 12 UN	12	10.50	3	31.5	84
11	5/8		MTSH12114C34 11 UN	12	11.40	3	34.5	84

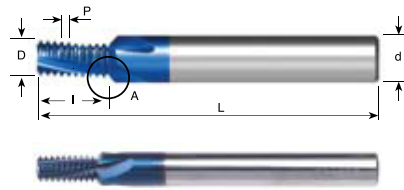
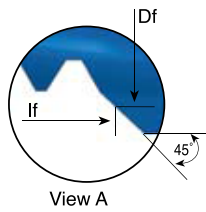
For thread depth up to $3 \times D1$ 螺纹深度 $3 \times D1$

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTSH06012C4 80 UN	6	1.15	3	4.0	58
72		1	MTSH03015C6 72 UN	3	1.45	3	6.0	39
56	2	3	MTSH06016C6 56 UN	6	1.65	3	6.6	58
40	4		MTSH06021C8 40 UN	6	2.10	3	8.0	58
40	5	6	MTSH06024C9 40 UN	6	2.45	3	9.6	58
32	6		MTSH06025C10 32 UN	6	2.55	3	10.5	58
32	8		MTSH06032C12 32 UN	6	3.20	3	12.5	58
32		10	MTSH06037C15 32 UN	6	3.70	3	15.0	58
28		1/4	MTSH0605C19 28 UN	6	5.00	3	19.0	58
24		5/16, 3/8	MTSH08066C24 24 UN	8	6.60	3	24.0	64
20	1/4		MTSH06047C19 20 UN	6	4.75	3	19.0	58
18	5/16		MTSH0606C23 18 UN	6	6.00	3	23.0	58

Order example: MTSH 06047C14 20 UN MT9

ISO ISO-内螺纹

Tools for Internal Thread

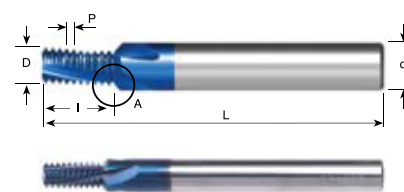
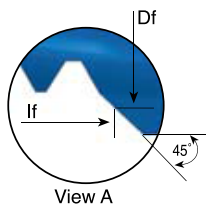


Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	No. of Flutes	I	If	L
0.5	M3	$\varnothing \geq 4$	MTH06024C5 0.5 ISO	6	2.4	3.6	3	5.3	5.9	58
0.7	M4	$\varnothing \geq 5$	MTH06031C7 0.7 ISO	6	3.1	4.3	3	7.4	8.0	58
0.8	M5	$\varnothing \geq 6$	MTH0604C9 0.8 ISO	6	4.0	5.2	3	9.2	9.8	58
1.0	M6	$\varnothing \geq 7$	MTH08048D10 1.0 ISO	8	4.8	6.4	4	10.5	11.3	64
1.0		$\varnothing \geq 9$	MTH0806D13 1.0 ISO	8	6.0	7.6	4	13.5	14.3	64
1.0		$\varnothing \geq 10$	MTH1008D16 1.0 ISO	10	8.0	9.6	4	16.5	17.3	73
1.25	M8	$\varnothing \geq 10$	MTH0806D14 1.25 ISO	8	6.0	7.6	4	14.4	15.2	64
1.5	M10	$\varnothing \geq 12$	MTH1008D17 1.5 ISO	10	8.0	9.8	4	17.3	18.2	73
1.5		$\varnothing \geq 14$	MTH1210D21 1.5 ISO	12	10.0	11.8	4	21.8	22.7	84
1.75	M12	$\varnothing \geq 12$	MTH12095D20 1.75 ISO	12	9.5	11.5	4	20.1	21.1	84

Order example: MTH 08048D10 1.0 ISO MT9

UN UN-内螺纹

Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	Df	No. of Flutes	I	If	L
40	5	6		MTH06025C6 40 UN	6	2.5	3.7	3	6.0	6.6	58
32	6			MTH06026C5 32 UN	6	2.6	3.8	3	5.9	6.5	58
32	8			MTH06032C7 32 UN	6	3.2	4.4	3	7.5	8.1	58
32		10	12	MTH06038C9 32 UN	6	3.8	5.0	3	9.1	9.7	58
28		1/4		MTH08052D11 28 UN	8	5.2	6.8	4	11.3	12.1	64
28			7/16, 1/2	MTH12096D20 28 UN	12	9.6	11.2	4	20.4	21.2	84
24		5/16, 3/8	9/16, 5/8, 11/16	MTH08066D14 24 UN	8	6.6	8.0	4	14.3	15.0	64
20	1/4			MTH06048C12 20 UN	6	4.8	6.0	3	12.1	12.7	58
20		7/16, 1/2	3/4, 1	MTH12092D21 20 UN	12	9.2	10.8	4	21.0	21.8	84
18	5/16	9/16, 5/8	11/16	MTH08057C14 18 UN	8	5.7	7.5	3	14.8	15.7	64
16	3/8	3/4		MTH10074C16 16 UN	10	7.4	9.2	3	16.7	17.6	73
14	7/16	7/8		MTH10085D20 14 UN	10	8.5	9.9	4	20.9	21.6	73
13	1/2			MTH12094D22 13 UN	12	9.4	11.4	4	22.5	23.5	84

Order example: MTH 06048C12 20 UN MT9

Mill-Thread Technical Section

Carmex 螺纹铣削样本和CNC软件程序

Carmex Mill-Thread catalogue and CNC programming Software

The software is available at our homepage
www.carmex.com
or on a CD-ROM



螺纹铣削参数选择

Mill-Thread Solid Carbide Grades, Speed and Feed Selection

MTB type

MT7 Sub-Micron Grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). This is a general purpose grade, which can be used with all materials; it should be run at medium to high cutting speeds.

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth						
			Ø2	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12
P	Low and Medium Carbon Steels <0.55%C	100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09
	High Carbon Steels ≥0.55%C	110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08
	Alloy Steels, Treated Steels	90-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05
M	Stainless Steels - Free Cutting	60-160	0.02	0.03	0.03	0.04	0.05	0.06	0.06
	Stainless Steels - Austenitic	60-120	0.02	0.02	0.03	0.03	0.04	0.05	0.05
	Cast Steels	130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05
K	Cast Iron	70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09
N	Aluminium ≤10%Si, Copper	150-350	0.03	0.04	0.04	0.06	0.07	0.08	0.09
	Aluminium ≥10% Si	100-250	0.02	0.02	0.03	0.03	0.04	0.05	0.05
	Synthetics, Duroplastics, Thermoplastics	100-400	0.05	0.06	0.07	0.08	0.10	0.11	0.12
S	Nickel Alloys, Titanium Alloys	20- 80	0.02	0.02	0.02	0.03	0.03	0.03	0.03

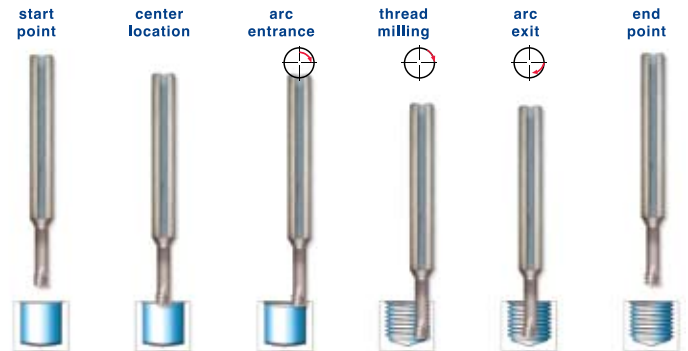
For cutters with long cutting length reduce feed rate by 40%

Mini Mill Thread MTS and MTI types

MT7 Sub-Micron Grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). This is a general purpose grade, which can be used with all materials; it should be run at medium to high cutting speeds.

MT8 Sub-Micron Grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth															
			Cutting Diameter = D															
			Ø1	Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø16		
P	Low & Medium Carbon Steels <0.55%C	60-120	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18	0.18	
	High Carbon Steels ≥0.55%C	60-90	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.14	0.16	0.17	0.18		
	Alloy Steels, Treated Steels	50-80	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14		
M	Stainless Steels - Free Cutting	70-100	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13		
	Stainless Steel-Austenitic	60-90	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13		
	Cast Steels	70-90	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14		
K	Cast Iron	40-80	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18		
N	Aluminium ≤10%Si, Copper	100-200	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18		
	Aluminium >10%Si	60-140	0.03	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.14		
	Synthetics, Duroplastics, Thermoplastics	50-200	0.09	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.20	0.20		
S	Nickel Alloys and Titanium Alloys	20-40	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08		



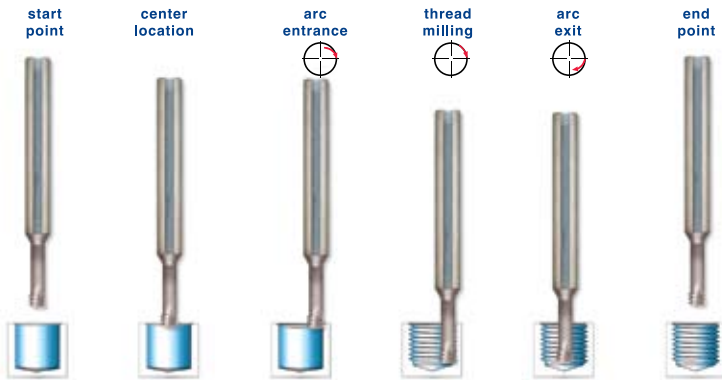
Mini Mill-Thread vs. Taps

Features	Mini Mill-Thread	Taps
Thread surface quality	High	Medium
Thread geometry	Very accurate	Medium
Thread tolerances	4H, 5H, 6H with std cutter	6H with standard tap, 4H with specific tap
Machining time	Same as tap or shorter	Short
Tool breakage	Almost not possible	Could happen often
Machining load	Very low	High
Range of thread diameters	Wide range of diameters	Specific tap for each diameter
Right/Left hand threading	Same cutter	Specific tap for each
Geometric shape	Full profile	Partial profile

Mini Mill Thread MTSH type

MT9 Sub - Micron carbide grade with advanced Titanium Aluminium Nitride coating.

ISO	Material	Hardness HRC	Cutting Speed m/min	Feed mm/tooth												
				Cutting Diameter = D												
				ø1	ø1.5	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø10	ø12	
S	Nickel Alloys, Titanium Alloys and High Temp. Alloys		20-40	0.03	0.03	0.03	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07
			60-70	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09
H	Hardened Steels	51-55 56-62	50-60	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.07	0.08	0.08
			40-50	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.07



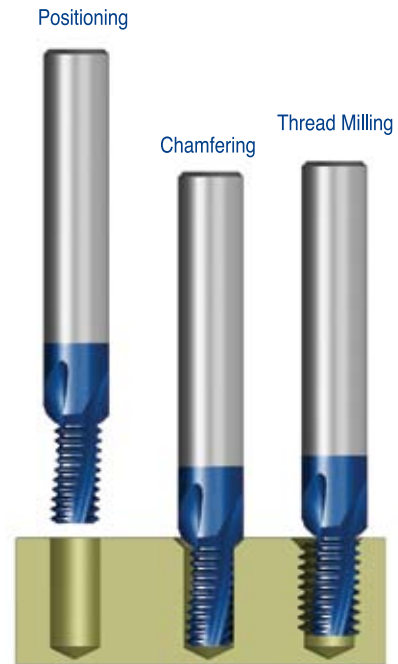
CASE STUDY

Application	Internal Thread M4X0.7
Thread Depth	8.0 mm
Workpiece Material	Tool Steel: D2
Hardness	60-62 (HRC)
Cutter Description	MTSH06031C9 0.7 ISO
Machining Conditions	Cutting Speed: 44 m / min Feed: 0.03 mm / tooth
Machine	Mori Seiki VN5000
Control	Fanuc
Cooling Lubricant	Emulsion
Tool Life (No. of Threads)	84

MTH type

MT9 ultra fine Sub-Micron Grade with advanced PVD triple coating.

ISO Standard	Material	Hardness HRC	Cutting Speed m/min	Feed mm/tooth									
				Cutting Diameter = D									
				Ø2.5	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	
S	Nickel Alloys, Titanium Alloys, High Temperature Alloys		20 - 50	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04
			45 - 50	70 - 80	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07
			51 - 55	60 - 70	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
H	Hardened Steels, Cast Iron		56 - 62	40 - 50	0.005	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.05
			51 - 55	60 - 70	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
			45 - 50	70 - 80	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07



Solid Carbide Milling Tools



For Grooving Deep Parts

Advantages

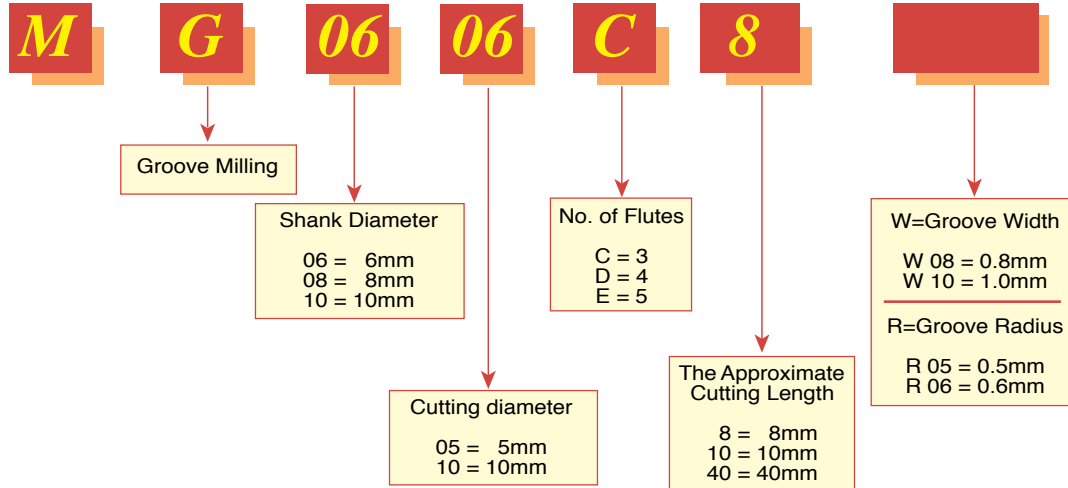
Carbide grade: MT8

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

- Enables machining in deep holes.
- Coolant through the flutes is very effective for deep holes.
- Spiral flutes allow smooth cutting action.
- Longer tool life due to special multi-layer coating
- Shorter machining time due to multi, 3 to 5, flutes..

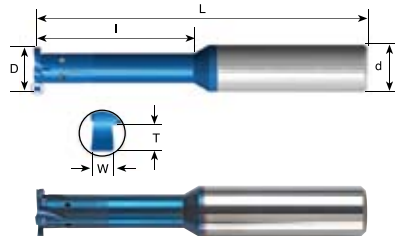
Product Identification

Groove Milling Ordering Codes



Groove Milling 槽铣刀

With internal coolant through the flutes



For grooving deep parts

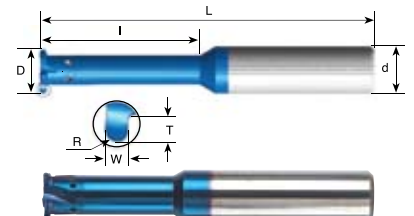
W ± 0.02	T Max.	Groove Dia. (min)	Ordering Code	d	D	No. of Flutes	I	L
0.80	0.8	φ>6	MG0606C8 W08	6	6.0	3	8	58
1.00	1.2	φ≥8	MG08078D10 W10	8	7.8	4	10	64

Order example: MG 0606C8 W08 MT8

R 槽铣刀

Full Radius Groove Milling

With internal coolant through the flutes



For grooving deep parts

R	W ± 0.02	T Max.	Groove Dia. (min)	Ordering Code	d	D	No. of Flutes	I	L
0.5	1.00	0.8	φ>6	MG0606C8 R05	6	6.0	3	8	58
0.5	1.00	1.0	φ>8.8	MG10088D16 R05	10	8.8	4	16	73

Order example: MG 10088D16 R05 MT8

Mini-Chamfer

迷你倒角刀

Advantages

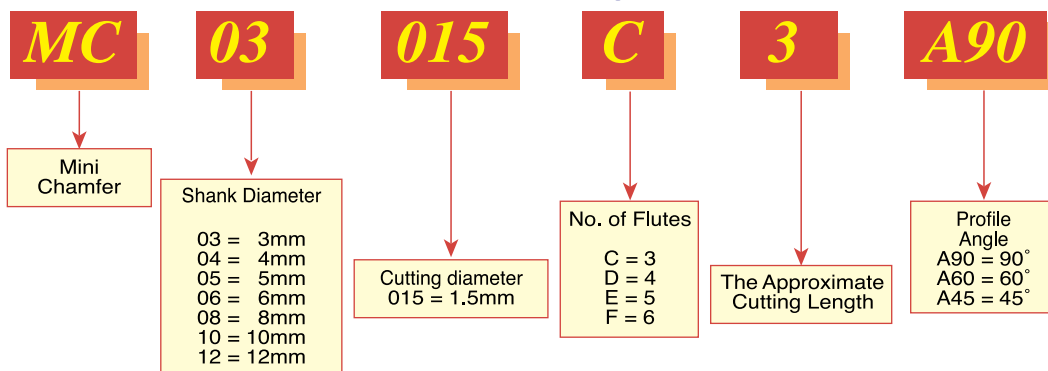
Carbide grade: MT8

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

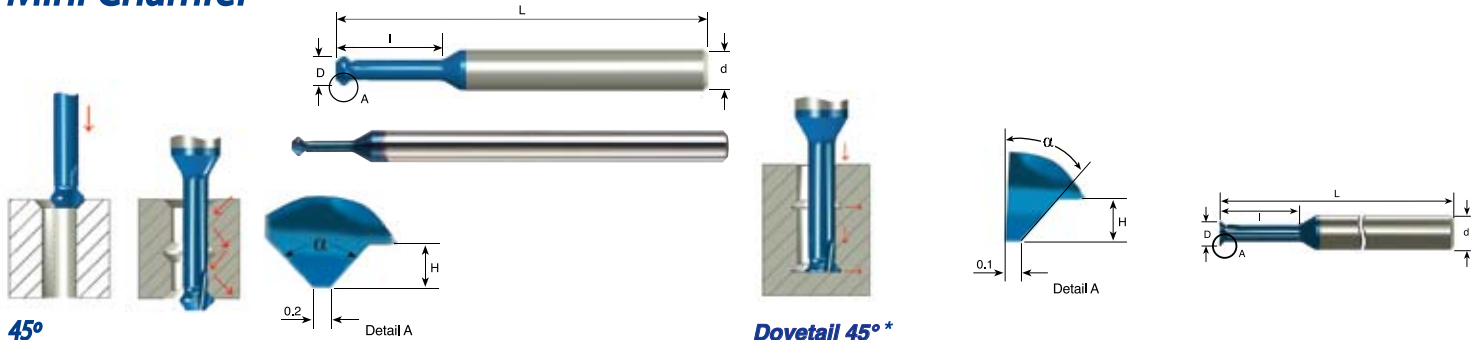
- Optimal for deburring, back chamfering and grooving
- Double side cutting
- Spiral flute allows smooth cutting action

Product Identification

Mini Chamfer Ordering Codes:



Mini Chamfer



45°

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC03015C3 A90	3	1.5	3.8	0.3	90°	3	39
MC0302C5 A90	3	2.0	5.0	0.4	90°	3	39
MC03025C6 A90	3	2.5	6.3	0.5	90°	3	39
MC0303C7 A90	3	3.0	7.5	0.6	90°	3	39
MC04035C9 A90	4	3.5	8.8	0.7	90°	3	51
MC0404C10 A90	4	4.0	10.0	0.8	90°	3	51
MC05045C11 A90	5	4.5	11.3	1.0	90°	3	51
MC0505C12 A90	5	5.0	12.5	1.1	90°	3	51
MC06055C13 A90	6	5.5	13.8	1.2	90°	3	51
MC0606C15 A90	6	6.0	15.0	1.5	90°	3	51

Dovetail 45°*

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC03015C4 A45	3	1.5	4.5	0.3	45°	3	39
MC0302C6 A45	3	2.0	6.0	0.4	45°	3	39
MC03025C7 A45	3	2.5	7.5	0.5	45°	3	39
MC0303C12 A45	3	3.0	12.0	0.6	45°	3	39
MC04035C14 A45	4	3.5	14.0	0.7	45°	3	51
MC0404C16 A45	4	4.0	16.0	0.8	45°	3	51
MC05045C18 A45	5	4.5	18.0	1.0	45°	3	51
MC0505C20 A45	5	5.0	20.0	1.1	45°	3	51
MC06055C22 A45	6	5.5	22.0	1.2	45°	3	58
MC0606C24 A45	6	6.0	24.0	1.5	45°	3	58

*one side cutting

Long Reach 45°

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC0303C12 A90	3	3.0	12.0	0.6	90°	3	39
MC04035C14 A90	4	3.5	14.0	0.7	90°	3	51
MC0404C16 A90	4	4.0	16.0	0.8	90°	3	51
MC05045C18 A90	5	4.5	18.0	1.0	90°	3	51
MC0505C20 A90	5	5.0	20.0	1.1	90°	3	51
MC06055C22 A90	6	5.5	22.0	1.2	90°	3	58
MC0606C24 A90	6	6.0	24.0	1.5	90°	3	58
MC0808D28 A90	8	8.0	28.0	1.6	90°	4	64
MC1010E35 A90	10	10.0	35.0	1.8	90°	5	73
MC1212F42 A90	12	12.0	42.0	2.1	90°	6	84

30°

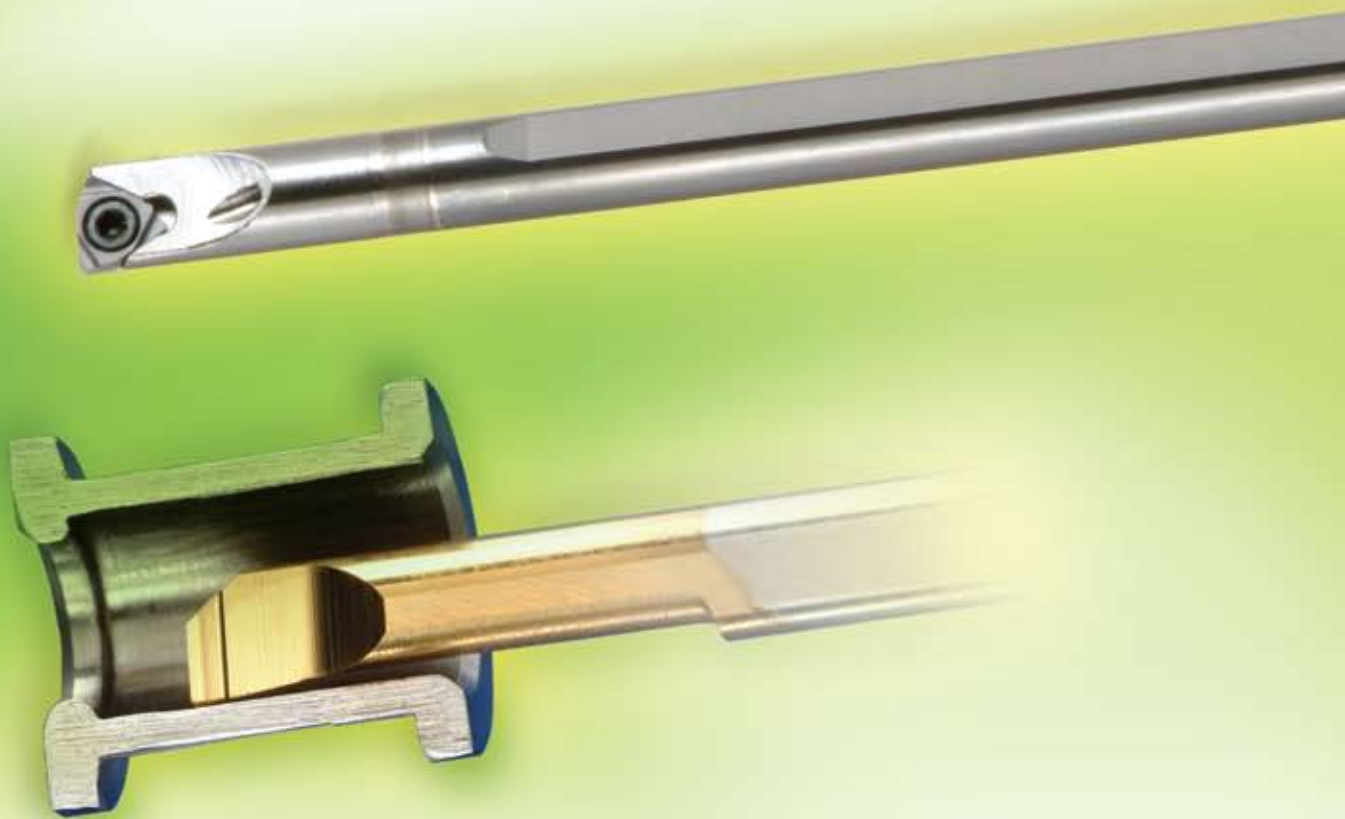
Ordering Code	d	D	I	H	α	No. of Flutes	L
MC0302C5 A60	3	2.0	5.0	0.4	60°	3	39
MC0303C7 A60	3	3.0	7.5	0.6	60°	3	39
MC04035C9 A60	4	3.5	8.8	0.7	60°	3	51
MC0404C10 A60	4	4.0	10.0	0.8	60°	3	51
MC05045C11 A60	5	4.5	11.3	1.0	60°	3	51
MC0505C12 A60	5	5.0	12.5	1.1	60°	3	51

Mini Chamfer Kit

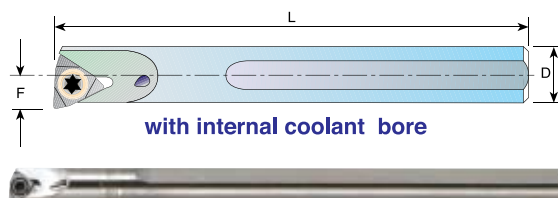
Kit KMC	Qty
MC 0303 C12 A90	1
MC 03025 C6 A90	1
MC 0404 C10 A90	1
MC 04035 C9 A90	1
MC 05045 C11 A90	1
MC 0606 C24 A90	1



Turning Tools 车削



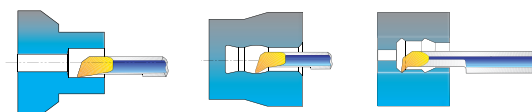
Carbide Shank Boring Bars and Inserts 硬质合金镗刀杆和刀片



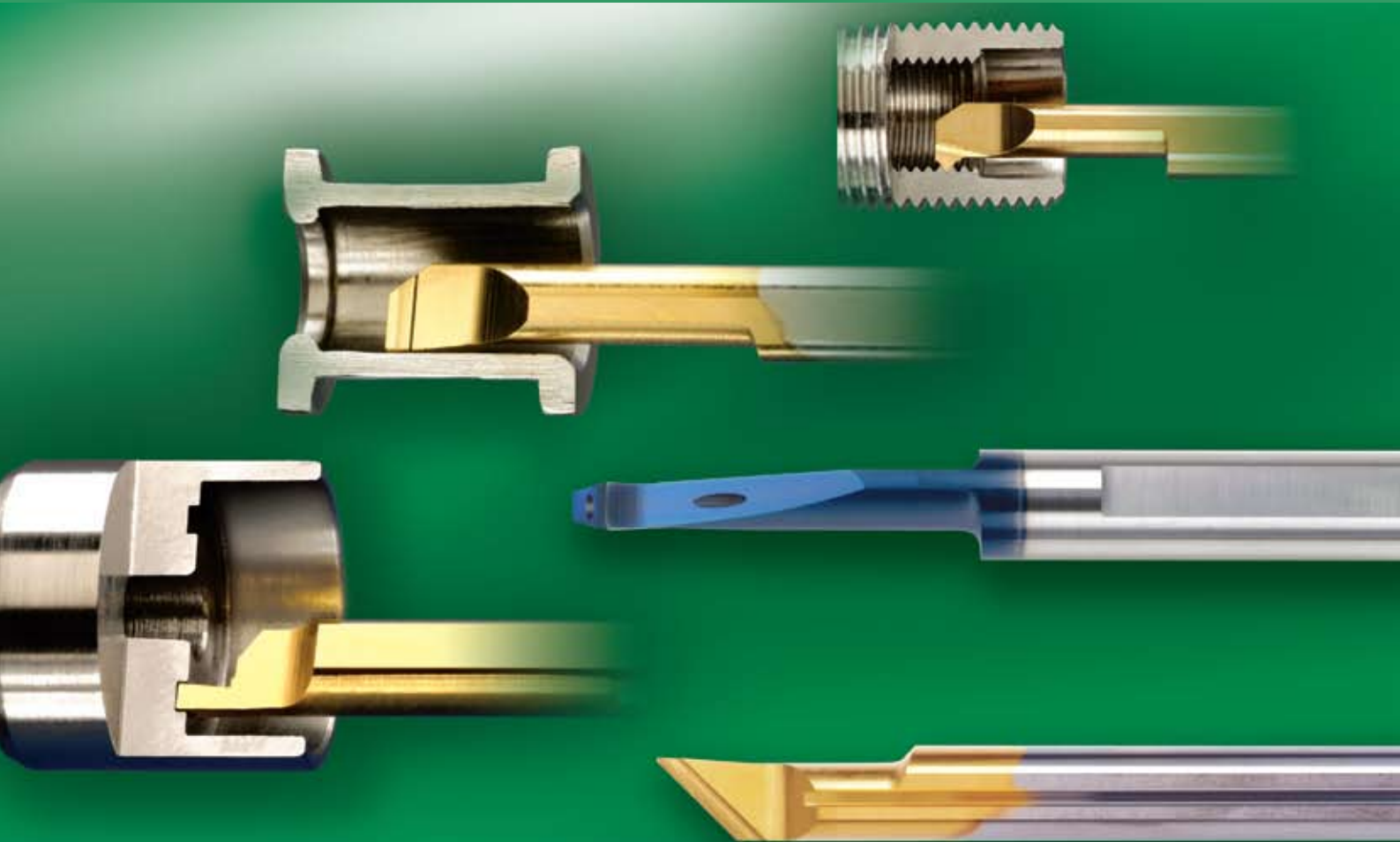
D	Ordering Code	L	F	Min. Bore Dia.	Screw	Key
6	SIR 0006 H06CT	100	3.3	6.5	S6	K6
8	SIR 0008 K06CT	125	4.3	8.6	S6	K6

Insert ordering code: 06 IR TURN BMA
Nose radius R= 0.2 mm

For turning small bores see pages 33 - 36



Tiny Tools 小型车刀

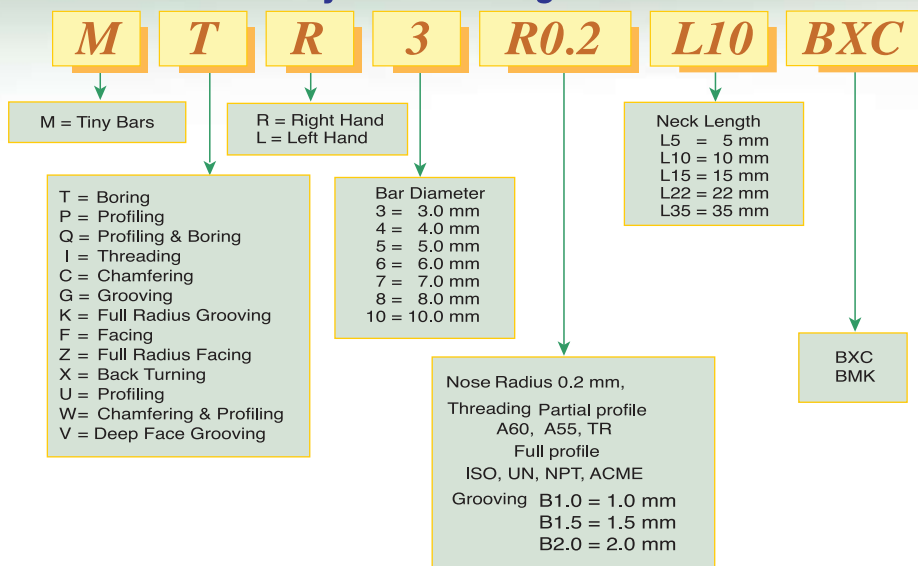


Solid Carbide tools for working in small bores

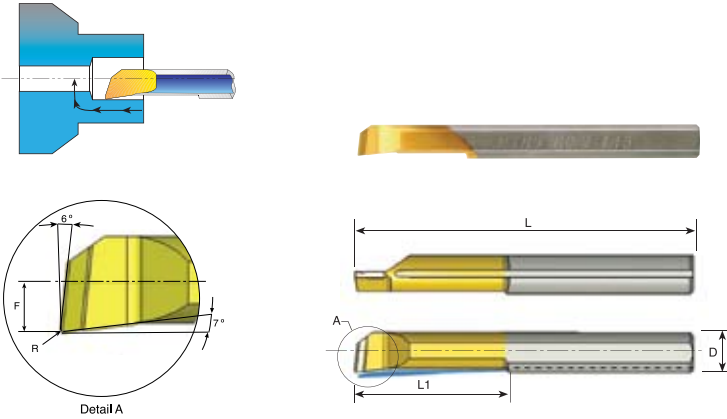
These tools are made for the high-tech, medical and small component industry. All tools include cooling channel on the shank, enabling the cooling fluid to reach efficiently the cutting edge, for easy chip removal and smooth cutting operations.

Product Identification

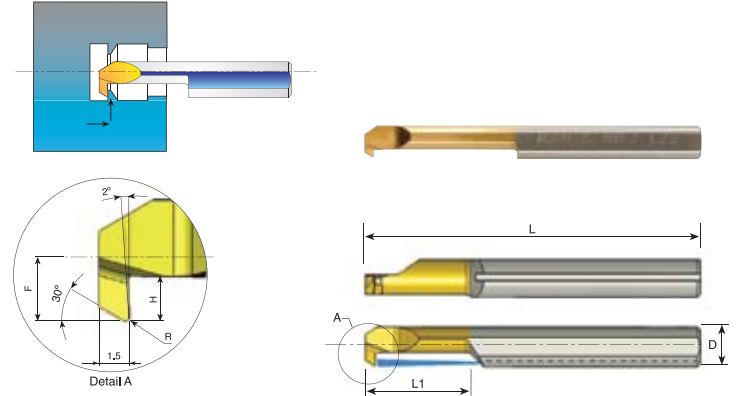
Tiny Bars Ordering Codes



MTR Bars Boring - with Coolant Channel



MXR Bars Back Turning - with Coolant Channel



D	Ordering Code	L	L1	R	F	Min. Bore Dia.	Holder*
3.0	*MTR 1 R0.05 L4	39	4	0.05	0.5	1.0	SIM 0020 H3
3.0	*MTR 1.5R0.1 L6	39	6	0.10	0.7	1.5	SIM 0020 H3
3.0	*MTR 2 R0.05 L10	39	10	0.05	0.8	2.1	SIM 0020 H3
3.0	*MTR 2 R0.15 L5	39	5	0.15	0.8	2.1	SIM 0020 H3
3.0	*MTR 2 R0.15 L10	39	10	0.15	0.8	2.1	SIM 0020 H3
3.0	MTR 3 R0.05 L10	39	10	0.05	1.3	3.1	SIM 0020 H3
3.0	MTR 3 R0.05 L15	39	15	0.05	1.3	3.1	SIM 0020 H3
3.0	MTR 3 R0.1 L15	39	15	0.10	1.3	3.1	SIM 0020 H3
3.0	MTR 3 R0.2 L10	39	10	0.20	1.3	3.1	SIM 0020 H3
3.0	MTR 3 R0.2 L15	39	15	0.20	1.3	3.1	SIM 0020 H3
4.0	MTR 4 R0.1 L10	51	10	0.10	1.7	4.1	SIM 0020 H4
4.0	MTR 4 R0.1 L15	51	15	0.10	1.7	4.1	SIM 0020 H4
4.0	MTR 4 R0.1 L22	51	22	0.20	1.7	4.1	SIM 0020 H4
4.0	MTR 4 R0.2 L10	51	10	0.20	1.7	4.1	SIM 0020 H4
4.0	MTR 4 R0.2 L15	51	15	0.20	1.7	4.1	SIM 0020 H4
4.0	MTR 4 R0.2 L22	51	22	0.20	1.7	4.1	SIM 0020 H4
5.0	MTR 5 R0.1 L15	51	15	0.10	2.1	5.1	SIM 0020 H5
5.0	MTR 5 R0.1 L22	51	22	0.10	2.1	5.1	SIM 0020 H5
5.0	MTR 5 R0.1 L30	76	30	0.10	2.1	5.1	SIM 0020 H5
5.0	MTR 5 R0.2 L15	51	15	0.20	2.1	5.1	SIM 0020 H5
5.0	MTR 5 R0.2 L22	51	22	0.20	2.1	5.1	SIM 0020 H5
5.0	MTR 5 R0.2 L30	76	30	0.20	2.1	5.1	SIM 0020 H5
6.0	MTR 6 R0.1 L15	51	15	0.10	2.8	6.1	SIM 0020 H6
6.0	MTR 6 R0.2 L15	51	15	0.20	2.8	6.1	SIM 0020 H6
6.0	MTR 6 R0.2 L22	51	22	0.20	2.8	6.1	SIM 0020 H6
6.0	MTR 6 R0.2 L30	58	30	0.20	2.8	6.1	SIM 0020 H6
7.0	MTR 7 R0.2 L22	62	22	0.20	3.3	7.1	SIM 0020 H7
7.0	MTR 7 R0.2 L30	62	30	0.20	3.3	7.1	SIM 0020 H7
8.0	MTR 8 R0.2 L15	64	15	0.20	3.8	8.1	SIM 0020 H8
8.0	MTR 8 R0.2 L22	64	22	0.20	3.8	8.1	SIM 0020 H8
8.0	MTR 8 R0.2 L35	76	35	0.20	3.8	8.1	SIM 0020 H8
10.0	MTR10R0.2 L35	73	35	0.20	4.8	10.1	SIM 0020 H10

* without coolant

Order example: MTR 4 R0.2 L15 BXC

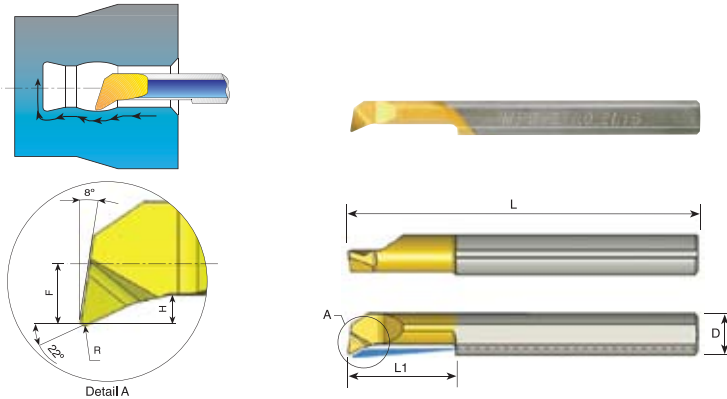
For L.H. bars specify **MTL** instead of **MTR**

D	Ordering Code	L	L1	R	H	F	Min. Bore Dia.	Holder*
4.0	MXR 4 R0.1 L10	51	10	0.10	0.5	1.3	3.1	SIM 0020 H4
4.0	MXR 4 R0.15 L10	51	10	0.15	0.8	1.6	4.1	SIM 0020 H4
4.0	MXR 4 R0.15 L15	51	15	0.15	0.8	1.6	4.1	SIM 0020 H4
5.0	MXR 5 R0.2 L15	51	15	0.20	1.0	2.2	5.1	SIM 0020 H5
5.0	MXR 5 R0.2 L22	51	22	0.20	1.0	2.2	5.1	SIM 0020 H5
6.0	MXR 6 R0.2 L15	51	15	0.20	1.8	2.8	6.1	SIM 0020 H6
6.0	MXR 6 R0.2 L22	51	22	0.20	1.8	2.8	6.1	SIM 0020 H6

Order example: MXR 4 R0.15 L15 BXC

* For additional holders see page 38

MPR Bars Profiling and Boring - with Coolant Channel



D	Ordering Code	L	L1	R	H	F	Min. Bore Dia.	Holder*
3.0	* MPR 1 R0.05 L4	39	4	0.05	0.2	0.5	1.0	SIM 0020 H3
3.0	* MPR 1.5R0.1L6	39	6	0.10	0.3	0.7	1.5	SIM 0020 H3
3.0	* MPR 2 R0.05 L10	39	10	0.05	0.5	0.8	2.1	SIM 0020 H3
3.0	* MPR 2 R0.1 L10	39	10	0.10	0.5	0.8	2.1	SIM 0020 H3
3.0	* MPR 2 R0.15 L5	39	5	0.15	0.5	0.8	2.1	SIM 0020 H3
3.0	* MPR 2 R0.15 L10	39	10	0.15	0.5	0.8	2.1	SIM 0020 H3
3.0	MPR 3 R0.05 L10	39	10	0.05	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.05 L15	39	15	0.05	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.1 L15	39	15	0.10	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.1 L22	47	22	0.10	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.2 L10	39	10	0.20	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.2 L15	39	15	0.20	0.7	1.3	3.1	SIM 0020 H3
3.0	MPR 3 R0.2 L22	47	22	0.20	0.7	1.3	3.1	SIM 0020 H3
4.0	MPR 4 R0.1 L15	51	15	0.10	0.8	1.7	4.1	SIM 0020 H4
4.0	MPR 4 R0.1 L22	51	22	0.10	0.8	1.7	4.1	SIM 0020 H4
4.0	MPR 4 R0.2 L10	51	10	0.20	0.8	1.7	4.1	SIM 0020 H4
4.0	MPR 4 R0.2 L15	51	15	0.20	0.8	1.7	4.1	SIM 0020 H4
4.0	MPR 4 R0.2 L22	51	22	0.20	0.8	1.7	4.1	SIM 0020 H4
5.0	MPR 5 R0.1 L22	51	22	0.10	1.2	2.1	5.1	SIM 0020 H5
5.0	MPR 5 R0.1 L30	76	30	0.10	1.2	2.1	5.1	SIM 0020 H5
5.0	MPR 5R0.2 L15	51	15	0.20	1.2	2.1	5.1	SIM 0020 H5
5.0	MPR 5 R0.2 L22	51	22	0.20	1.2	2.1	5.1	SIM 0020 H5
5.0	MPR 5 R0.2 L30	76	30	0.20	1.2	2.1	5.1	SIM 0020 H5
6.0	MPR 6 R0.2 L15	51	15	0.20	1.4	2.8	6.1	SIM 0020 H6
6.0	MPR 6 R0.2 L22	51	22	0.20	1.4	2.8	6.1	SIM 0020 H6
6.0	MPR 6 R0.2 L30	76	30	0.20	1.4	2.8	6.1	SIM 0020 H6
7.0	MPR 7 R0.2 L22	62	22	0.20	1.5	3.3	7.1	SIM 0020 H7
7.0	MPR 7 R0.2 L30	62	30	0.20	1.5	3.3	7.1	SIM 0020 H7
8.0	MPR 8 R0.2 L15	64	15	0.20	1.6	3.8	8.1	SIM 0020 H8
8.0	MPR 8 R0.2 L22	64	22	0.20	1.6	3.8	8.1	SIM 0020 H8
8.0	MPR 8 R0.2 L35	76	35	0.20	1.6	3.8	8.1	SIM 0020 H8
10.0	MPR 10R0.2 L35	73	35	0.20	2.0	4.8	10.1	SIM 0020 H10

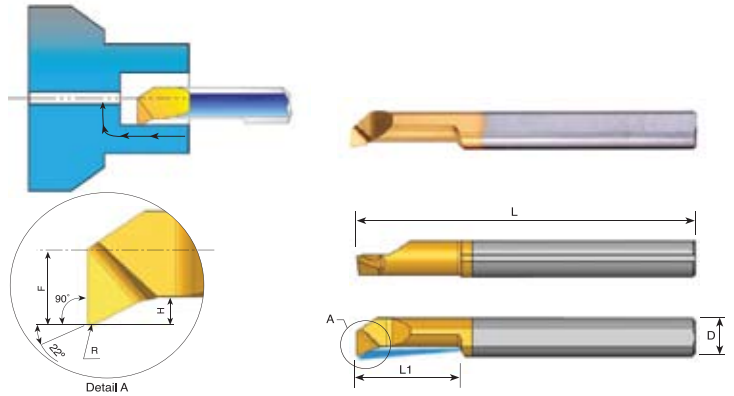
* without coolant

Order example: MPR 4 R0.2 L15 BXC

For L.H. bars specify MPL instead of MPR

* For additional holders see page 38

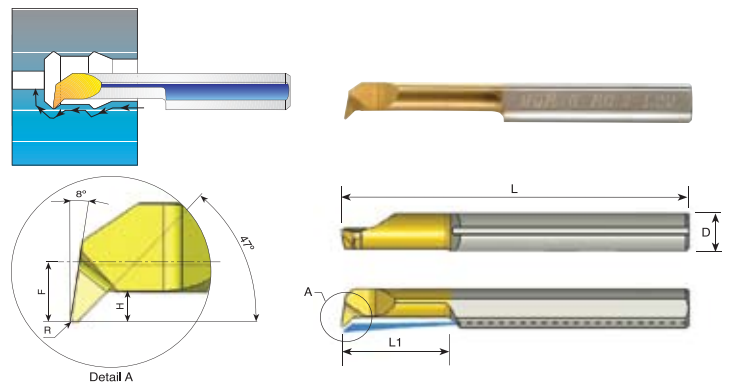
MUR Bars Profiling, 90° Face Cutting - with Coolant Channel



D	Ordering Code	L	L1	R	H	F	Min. Bore Dia.	Holder*
3.0	MUR 3 R0.05 L10	39	10	0.05	0.4	1.3	3.1	SIM 0020 H3
3.0	MUR 3 R0.05 L15	39	15	0.05	0.4	1.3	3.1	SIM 0020 H3
4.0	MUR 4 R0.1 L10	51	10	0.10	0.5	1.7	4.1	SIM 0020 H4
4.0	MUR 4 R0.1 L15	51	15	0.10	0.5	1.7	4.1	SIM 0020 H4
5.0	MUR 5 R0.15 L15	51	15	0.15	0.7	2.1	5.1	SIM 0020 H5
5.0	MUR 5 R0.15 L22	51	22	0.15	0.7	2.1	5.1	SIM 0020 H5
6.0	MUR 6 R0.15 L15	51	15	0.15	0.9	2.8	6.1	SIM 0020 H6
6.0	MUR 6 R0.15 L22	51	22	0.15	0.9	2.8	6.1	SIM 0020 H6
8.0	MUR 8 R0.2 L22	64	22	0.20	1.1	3.8	8.1	SIM 0020 H8

Order example: MUR 5 R0.15 L15 BXC

MQR Bars Profiling and Boring - with Coolant Channel

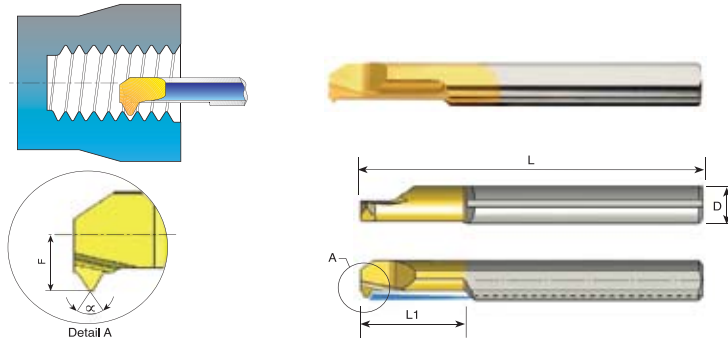


D	Ordering Code	L	L1	R	H	F	Min. Bore Dia.	Holder*
4.0	MQR 4 R0.2 L10	51	10	0.20	0.8	1.8	4.1	SIM 0020 H4
4.0	MQR 4 R0.2 L15	51	15	0.20	0.8	1.8	4.1	SIM 0020 H4
4.0	MQR 4 R0.2 L22	51	22	0.20	0.8	1.8	4.1	SIM 0020 H4
5.0	MQR 5 R0.2 L15	51	15	0.20	1.0	2.3	5.1	SIM 0020 H5
5.0	MQR 5 R0.2 L22	51	22	0.20	1.0	2.3	5.1	SIM 0020 H5
6.0	MQR 6 R0.2 L15	51	15	0.20	1.4	2.8	6.1	SIM 0020 H6
6.0	MQR 6 R0.2 L22	51	22	0.20	1.4	2.8	6.1	SIM 0020 H6
6.0	MQR 6 R0.2 L30	58	30	0.20	1.4	2.8	6.1	SIM 0020 H6
8.0	MQR 8 R0.2 L22	64	22	0.20	1.6	3.8	8.1	SIM 0020 H8
8.0	MQR 8 R0.2 L27	64	27	0.20	2.0	3.8	8.1	SIM 0020 H8

Order example: MQR 5 R0.2 L15 BXC

For L.H. bars specify MQL instead of MQR

MIR Bars Threading - with Coolant Channel



Partial Profile 55°

D	Ordering Code	L	L1	α	Pitch Range		F	Min. Bore Dia.	Holder*
					mm	TPI			
3.0	MIR 3 L15 A55	39	15	55	0.5 -1.0	48-24	1.4	3.2	SIM 0020 H3
4.0	MIR 4 L15 A55	51	15	55	0.5 -1.0	48-24	1.8	4.1	SIM 0020 H4
5.0	MIR 5 L15 A55	51	15	55	0.5 -1.25	48-20	2.3	5.1	SIM 0020 H5
5.0	MIR 5 L22 A55	51	22	55	0.5 -1.25	48-20	2.3	5.1	SIM 0020 H5
6.0	MIR 6 L15 A55	51	15	55	0.5 -1.5	48-16	2.6	6.0	SIM 0020 H6
6.0	MIR 6 L22 A55	51	22	55	0.5 -1.5	48-16	2.6	6.0	SIM 0020 H6

Order example: MIR 5 L15 A55 BXC

Partial Profile 60°

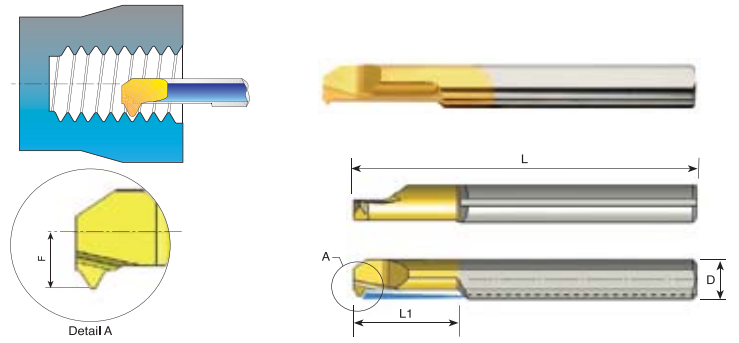
D	Ordering Code	L	L1	α	Pitch Range		F	Min. Bore Dia.	Holder*
					mm	TPI			
3.0	* MIR 2 L8 A60	39	8	60	0.45-0.7	56-32	1.0	2.1	SIM 0020 H3
3.0	MIR 3 L15 A60	39	15	60	0.7 -1.0	32-24	1.4	3.2	SIM 0020 H3
4.0	MIR 4 L15 A60	51	15	60	0.7 -1.0	32-24	1.8	4.1	SIM 0020 H4
5.0	MIR 5 L15 A60	51	15	60	1.0 -1.25	24-20	2.3	5.1	SIM 0020 H5
5.0	MIR 5 L22 A60	51	22	60	1.0 -1.25	24-20	2.3	5.1	SIM 0020 H5
6.0	MIR 6 L15 A60	51	15	60	1.0 -1.5	24-16	2.6	6.0	SIM 0020 H6
6.0	MIR 6 L22 A60	51	22	60	1.0 -1.5	24-16	2.6	6.0	SIM 0020 H6
8.0	MIR 8 L22 A60	64	22	60	1.0 -2.0	24-13	3.6	8.0	SIM 0020 H8

* without coolant

Order example: MIR 5 L15 A60 BXC

For L.H. bars specify MIL instead of MIR

MIR Bars Threading - with Coolant Channel



Full Profile - ISO 60°

D	Ordering Code	Pitch mm	L	L1	F	Min. Bore Dia.	Holder*
3.0	MIR 3 L15 0.75 ISO	0.75	39	15	1.4	3.2	SIM 0020 H3
4.0	MIR 4 L15 0.5 ISO	0.5	51	15	1.8	4.1	SIM 0020 H4
4.0	MIR 4 L15 0.75 ISO	0.75	51	15	1.8	4.1	SIM 0020 H4
5.0	MIR 5 L15 1.0 ISO	1.0	51	15	2.2	4.9	SIM 0020 H5
6.0	MIR 6 L22 1.25 ISO	1.25	51	22	2.8	6.1	SIM 0020 H6

Order example: MIR 5 L15 1.0 ISO BXC

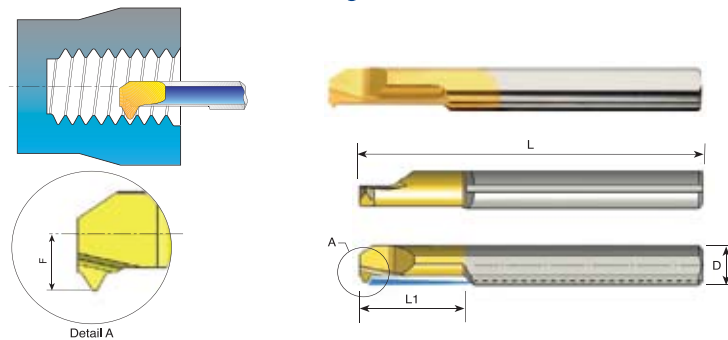
Full Profile - UN 60°

D	Ordering Code	Pitch TPI	L	L1	F	Min. Bore Dia.	Holder*
3.0	MIR 3 L15 32 UN	32	39	15	1.4	3.2	SIM 0020 H3
4.0	MIR 4 L15 36 UN	36	51	15	1.8	4.1	SIM 0020 H4
4.0	MIR 4 L15 32 UN	32	51	15	1.8	4.1	SIM 0020 H4
5.0	MIR 5 L15 28 UN	28	51	15	2.2	4.9	SIM 0020 H5
5.0	MIR 5 L18 20 UN	20	51	18	2.3	5.0	SIM 0020 H5
6.0	MIR 6 L18 24 UN	24	51	18	2.8	6.5	SIM 0020 H6
6.0	MIR 6 L18 18 UN	18	51	18	2.8	6.2	SIM 0020 H6

Order example: MIR 4 L15 36 UN BXC

For L.H. bars specify MIL instead of MIR

MIR Bars Threading - with Coolant Channel

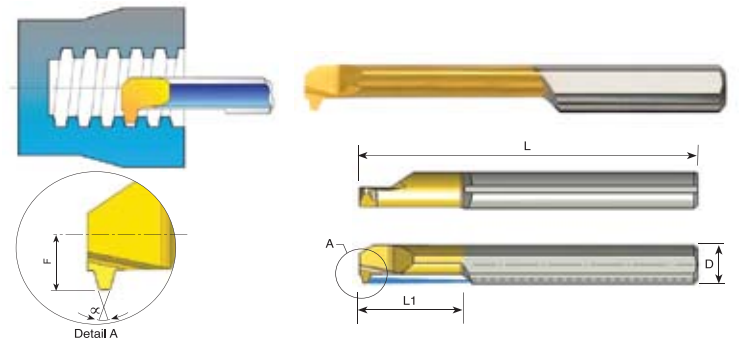


Full Profile - NPT 60°

D	Ordering Code	Pitch mm	L	L1	F	Min. Bore Dia.	Thread	Holder*

Order example: MIR 6 L15 27 NPT BXC

* For additional holders see page 38

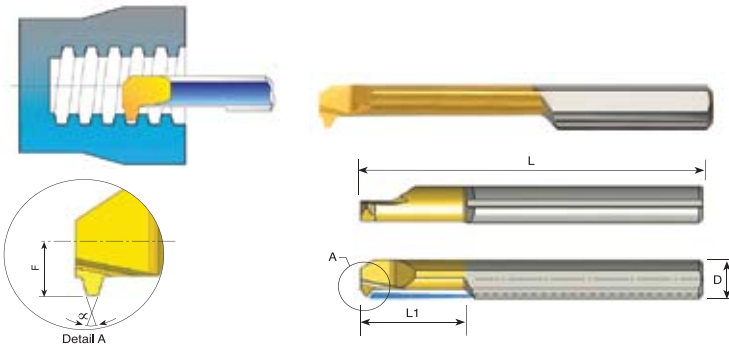


Acme

D	Ordering Code	Pitch TPI	L	L1	F	α	Min. Bore Dia.	Thread	Holder*
6.0	MIR 6 L20 14 ACME	14	51	20	2.8	29	6.0	5/16 X 14	SIM 0020 H6
7.0	MIR 7 L22 12 ACME	12	62	22	3.3	29	7.2	3/8 X 12	SIM 0020 H7

Order example: MIR 6 L 20 14 ACME BXC

MIR Bars Threading - with Coolant Channel

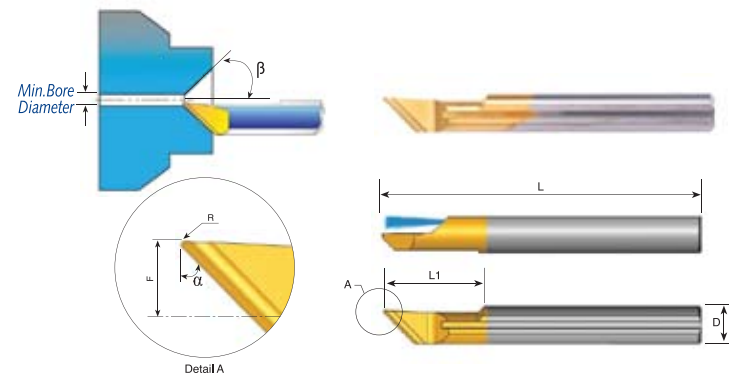


Full Profile Trapez - DIN 103

D	Ordering Code	Pitch mm	L	L1	F	α	Min. Bore Dia.	Thread	Holder*
7.0	MIR 7 L25 2 TR	2	62	25	3.2	30	6.9	Tr 9 x 2 Tr 10 x 2 Tr 11 x 2 Tr 12 x 2	SIM 0020 H7
10.0	MIR 10 L35 2 TR	2	73	35	4.8	30	11.0	Tr 14 x 2 Tr 16 x 2 Tr 18 x 2 Tr 20 x 2	SIM 0020 H10
7.0	MIR 7 L35 3 TR	3	62	35	3.3	30	7.5	Tr 11 x 3 Tr 12 x 3	SIM 0020 H7
10.0	MIR 10 L35 3 TR	3	73	35	4.8	30	10.5	Tr 14 x 3 Tr 22 x 3 Tr 24 x 3 Tr 26 x 3 Tr 28 x 3	SIM 0020 H10
10.0	MIR 10 L45 4 TR	4	105	45	4.8	30	11.5	Tr 16 x 4 Tr 18 x 4 Tr 20 x 4	SIM 0020 H10
10.0	MIR 10 L55 5 TR	5	105	55	4.8	30	11.0	Tr 22 x 5 Tr 24 x 5 Tr 28 x 5	SIM 0020 H10

Order example: MIR 10 L35 3 TR BXC

MWR Bars Chamfering and Profiling - with Coolant Channel

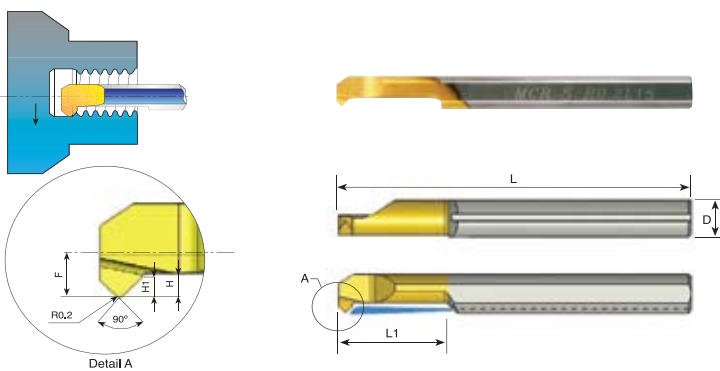


D	Ordering Code	L	L1	R	α	β	F	Min. Bore Dia.	Holder*
6.0	MWR 6 R0.2 A90	51	15.0	0.20	45°	45°	2.3	1.0	SIM 0020 H6
6.0	MWR 6 R0.2 A60	51	15.0	0.20	60°	30°	2.3	1.0	SIM 0020 H6

Order example: MWR 6 R0.2 A90 BXC

For L.H. bars specify MWL instead of MWR

MCR Bars Chamfering and Boring - with Coolant Channel



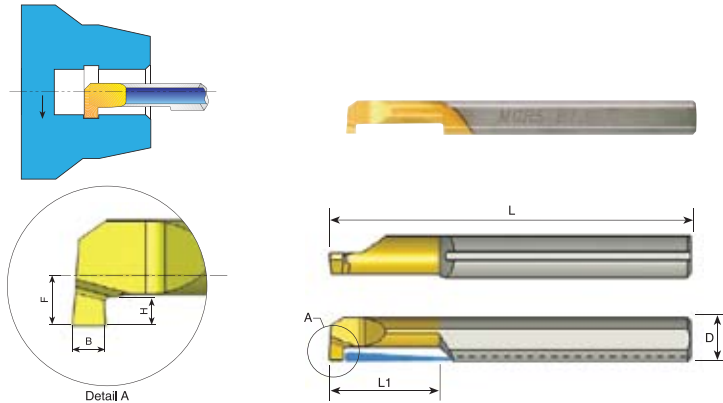
D	Ordering Code	L	L1	R	H	H1	F	Min. Bore Dia.	Holder*
3.0	MCR 3 R0.2 L10	39	10	0.20	0.7	0.3	1.3	3.1	SIM 0020 H3
4.0	MCR 4 R0.2 L15	51	15	0.20	0.8	0.4	1.7	4.1	SIM 0020 H4
5.0	MCR 5 R0.2 L15	51	15	0.20	1.2	0.7	2.1	5.1	SIM 0020 H5
6.0	MCR 6 R0.2 L15	51	15	0.20	1.4	0.7	2.8	6.1	SIM 0020 H6

Order example: MCR 4 R0.2 L15 BXC

For L.H. bars specify MCL instead of MCR

* For additional holders see page 38

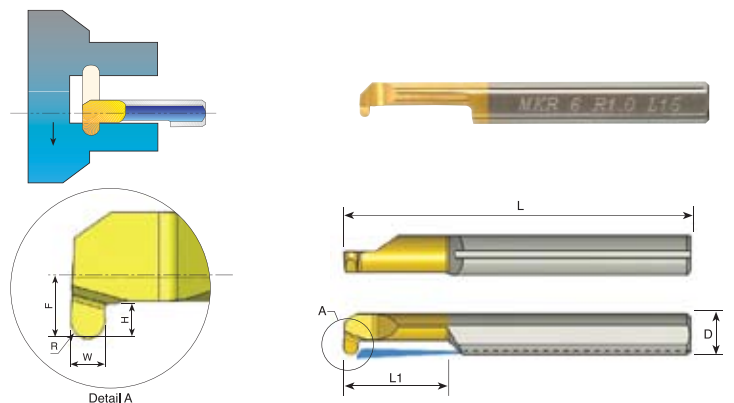
MGR Bars Grooving - with Coolant Channel



D	Ordering Code	L	L1	B	H	F	Min. Bore Dia.	Holder*
4.0	MGR 4 B1.0 L10	51	10	1.0	1.0	1.7	4.1	SIM 0020 H4
4.0	MGR 4 B1.5 L10	51	10	1.5	1.0	1.7	4.1	SIM 0020 H4
5.0	MGR 5 B1.0 L15	51	15	1.0	1.2	2.3	5.1	SIM 0020 H5
5.0	MGR 5 B1.5 L15	51	15	1.5	1.2	2.3	5.1	SIM 0020 H5
5.0	MGR 5 B2.0 L15	51	15	2.0	1.2	2.3	5.1	SIM 0020 H5
6.0	MGR 6 B1.0 L15	51	15	1.0	1.4	2.8	6.1	SIM 0020 H6
6.0	MGR 6 B1.5 L15	51	15	1.5	1.4	2.8	6.1	SIM 0020 H6
6.0	MGR 6 B2.0 L15	51	15	2.0	1.4	2.8	6.1	SIM 0020 H6
8.0	MGR 8 B1.5 L22	64	22	1.5	1.7	3.8	8.1	SIM 0020 H8
8.0	MGR 8 B2.0 L22	64	22	2.0	2.6	3.8	8.1	SIM 0020 H8

Order example: MGR 5 B1.5 L15 BXC
For L.H. bars specify MGL instead of MGR

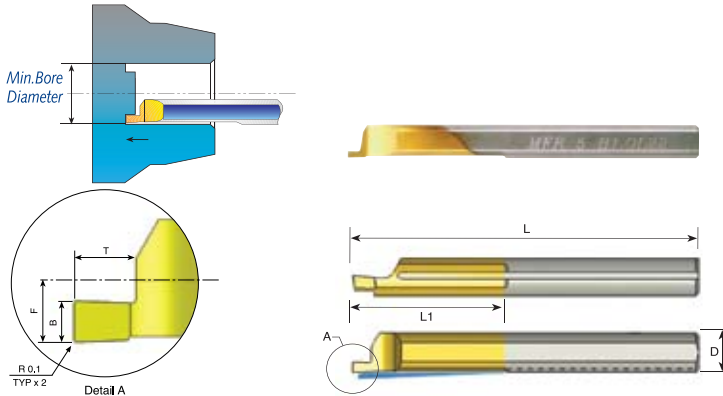
MKR Bars Full Radius Grooving - with Coolant Channel



D	Ordering Code	L	L1	R	W	H	F	Min. Bore Dia.	Holder*
4.0	MKR 4 R0.5 L10	51	10	0.50	1.0	1.0	1.7	4.1	SIM 0020 H4
4.0	MKR 4 R0.75 L10	51	10	0.75	1.5	1.0	1.7	4.1	SIM 0020 H4
5.0	MKR 5 R0.5 L15	51	15	0.50	1.0	1.2	2.3	5.1	SIM 0020 H5
5.0	MKR 5 R0.75 L15	51	15	0.75	1.5	1.2	2.3	5.1	SIM 0020 H5
5.0	MKR 5 R1.0 L15	51	15	1.00	2.0	1.2	2.3	5.1	SIM 0020 H5
6.0	MKR 6 R0.5 L15	51	15	0.50	1.0	1.6	2.8	6.1	SIM 0020 H6
6.0	MKR 6 R0.75 L15	51	15	0.75	1.5	1.6	2.8	6.1	SIM 0020 H6
6.0	MKR 6 R1.0 L15	51	15	1.00	2.0	1.6	2.8	6.1	SIM 0020 H6

Order example: MKR 5 R1.0 L15 BXC
For L.H. bars specify MKL instead of MKR

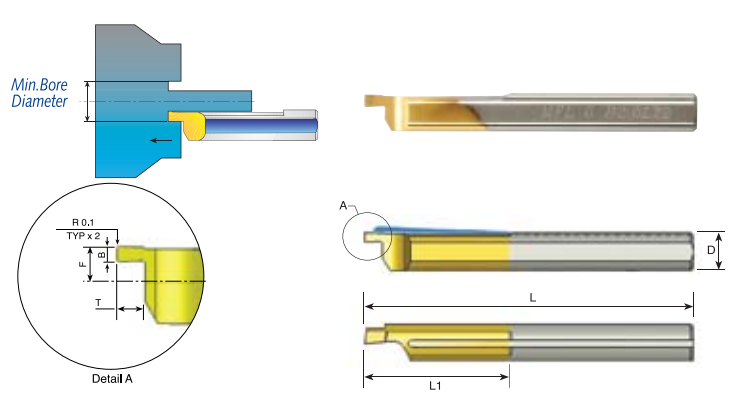
MFR Bars Face Grooving - with Coolant Channel



D	Ordering Code	L	L1	B	T	F	Min. Bore Dia.	Holder*
4.0	MFR 4 B0.75 L15	51	15	0.75	1.2	1.95	5.0	SIM 0020 H4
4.0	MFR 4 B1.0 L15	51	15	1.0	1.5	1.95	5.0	SIM 0020 H4
5.0	MFR 5 B0.75 L22	51	22	0.75	1.2	2.45	6.0	SIM 0020 H5
5.0	MFR 5 B1.0 L22	51	22	1.0	1.5	2.45	6.0	SIM 0020 H5
5.0	MFR 5 B1.5 L22	51	22	1.5	2.5	2.45	6.0	SIM 0020 H5
6.0	MFR 6 B1.0 L22	51	22	1.0	1.5	2.95	8.0	SIM 0020 H6
6.0	MFR 6 B1.5 L22	51	22	1.5	2.5	2.95	8.0	SIM 0020 H6
6.0	MFR 6 B2.0 L22	51	22	2.0	3.0	2.95	8.0	SIM 0020 H6
8.0	MFR 8 B2.5 L22	64	22	2.5	3.5	3.95	10.0	SIM 0020 H8

Order example: MFR 5 B1.0 L22 BXC
* For additional holders see page 38

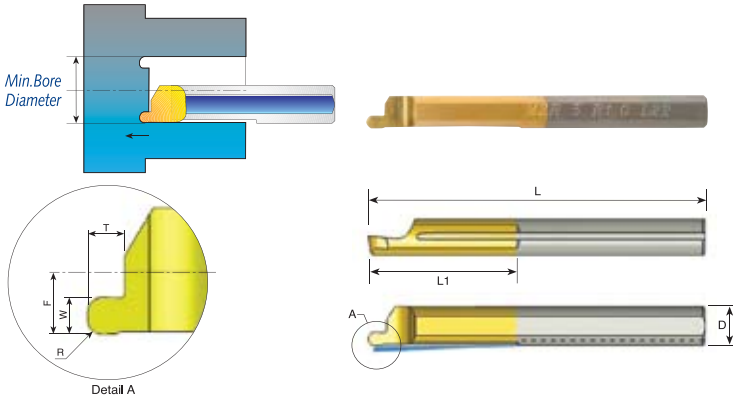
MFL Bars Face Grooving - with Coolant Channel



D	Ordering Code	L	L1	B	T	F	Min. Bore Dia.	Holder*
4.0	MFL 4 B0.75 L15	51	15	0.75	1.2	1.75	5.0	SIM 0020 H4
4.0	MFL 4 B1.0 L15	51	15	1.0	1.5	1.75	5.0	SIM 0020 H4
5.0	MFL 5 B0.75 L22	51	22	0.75	1.2	2.25	6.0	SIM 0020 H5
5.0	MFL 5 B1.0 L22	51	22	1.0	1.5	2.25	6.0	SIM 0020 H5
5.0	MFL 5 B1.5 L22	51	22	1.5	2.5	2.25	6.0	SIM 0020 H5
6.0	MFL 6 B1.0 L22	51	22	1.0	1.5	2.75	8.0	SIM 0020 H6
6.0	MFL 6 B1.5 L22	51	22	1.5	2.5	2.75	8.0	SIM 0020 H6
6.0	MFL 6 B2.0 L22	51	22	2.0	3.0	2.75	8.0	SIM 0020 H6
8.0	MFL 8 B2.5 L22	64	22	2.5	3.5	3.75	10.0	SIM 0020 H8

Order example: MFL 6 B1.0 L22 BXC

MZR Bars Face Grooving - with Coolant Channel

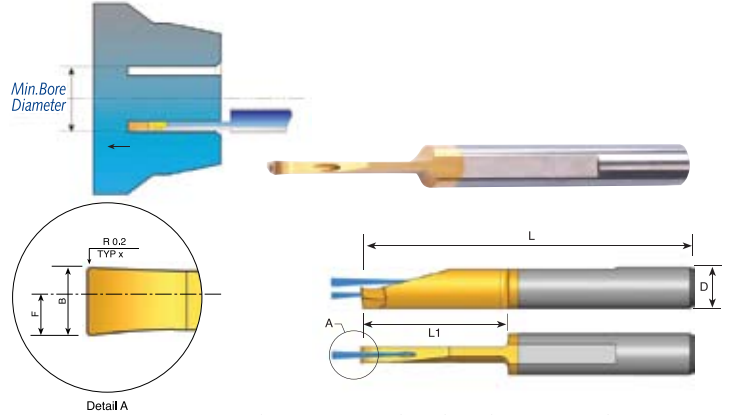


D	Ordering Code	L	L1	R	W	T	F	Min. Bore Dia.	Holder*
4.0	MZR 4 R0.5 L15	51	15	0.50	1.0	1.2	1.95	5.0	SIM 0020 H4
4.0	MZR 4 R0.75 L15	51	15	0.75	1.5	1.5	1.95	5.0	SIM 0020 H4
5.0	MZR 5 R0.5 L22	51	22	0.50	1.0	1.2	2.45	6.0	SIM 0020 H5
5.0	MZR 5 R0.75 L22	51	22	0.75	1.5	1.5	2.45	6.0	SIM 0020 H5
5.0	MZR 5 R1.0 L22	51	22	1.00	2.0	2.5	2.45	6.0	SIM 0020 H5
6.0	MZR 6 R0.5 L22	51	22	0.50	1.0	1.2	2.95	8.0	SIM 0020 H6
6.0	MZR 6 R0.75 L22	51	22	0.75	1.5	1.5	2.95	8.0	SIM 0020 H6
6.0	MZR 6 R1.0 L22	51	22	1.00	2.0	2.5	2.95	8.0	SIM 0020 H6

Order example: MZR 5 R0.5 L22 BXC

* For additional holders see the next table

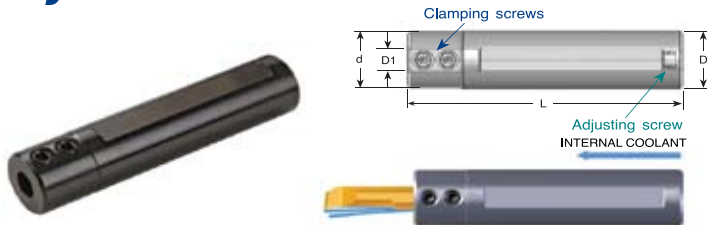
MVR Bars Deep Face Grooving - with 2 Coolant Bores



D	Ordering Code	L	L1	B	F	Min. Bore Dia.	Holder*
6.0	MVR 6 B2.0 L15	64	15	2.0	1.7	12.0	SIM 0020 H6
6.0	MVR 6 B2.0 L22	64	22	2.0	1.7	12.0	SIM 0020 H6
6.0	MVR 6 B2.5 L22	64	22	2.5	2.2	12.0	SIM 0020 H6
8.0	MVR 8 B3.0 L27	64	27	3.0	2.5	15.0	SIM 0020 H8

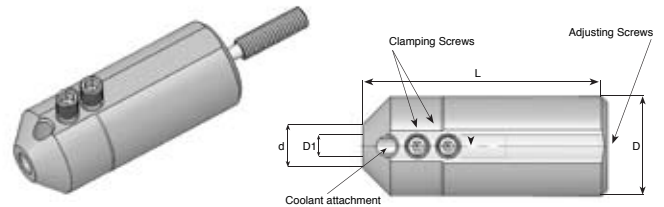
Order example: MVR 6 B2.0 L22 BXC

Tiny Tools Bar Holders



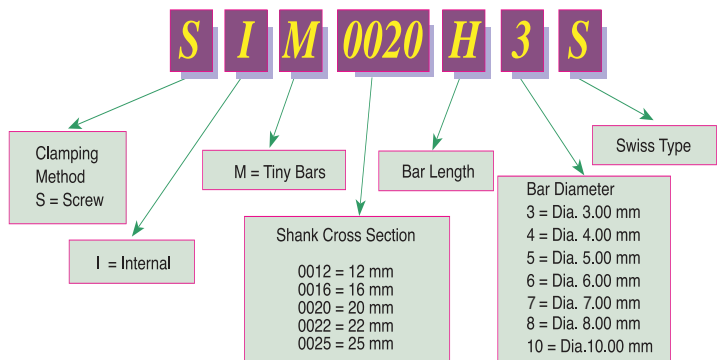
D1	Ordering Code	L	D	d	Key	Clamping Screw	Adjusting Screw
3.0	SIM0012 H3	88	12	12	K25	S24	S35
3.0	* SIM0016 H3S	75	16	20	K25	S25	S35S
3.0	SIM0016 H3	88	16	20	K25	S25	S35
3.0	SIM0020 H3	88	20	20	K25	S25	S35
3.0	* SIM0022 H3	88	22	22	K25	S25	S35
4.0	SIM0012 H4	88	12	12	K25	S24	S35
4.0	* SIM0016 H4S	75	16	20	K25	S25	S35S
4.0	SIM0016 H4	88	16	20	K25	S25	S35
4.0	SIM0020 H4	88	20	20	K25	S25	S35
4.0	* SIM0022 H4	88	22	22	K25	S25	S35
5.0	SIM0012 H5	88	12	12	K25	S24	S35
5.0	* SIM0016 H5S	75	16	20	K25	S25	S35S
5.0	SIM0016 H5	88	16	20	K25	S25	S35
5.0	SIM0020 H5	88	20	20	K25	S25	S35
5.0	* SIM0022 H5	75	22	22	K25	S25	S35
6.0	* SIM0016 H6S	75	16	20	K25	S25	S35S
6.0	SIM0016 H6	88	16	20	K25	S25	S35
6.0	SIM0020 H6	88	20	20	K25	S25	S35
6.0	* SIM0022 H6	88	22	22	K25	S25	S35
7.0	SIM0016 H7	88	16	20	K25	S25	S35
7.0	SIM0020 H7	88	20	20	K25	S25	S35
8.0	SIM0016 H8	88	16	20	K25	S25	S35
8.0	SIM0020 H8	88	20	20	K25	S25	S35
10.0	SIM0020 H10	88	20	20	K25	S25S	S35

* Can also be used with Swiss type lathe machines

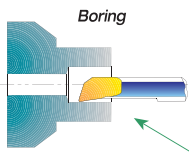


D1	Ordering Code	L	D	d	Torx Key	Clamping Screw	Adjusting Screw
3.0	SIM0025 H3	62	25	10.8	K25	S25	S35M
4.0	SIM0025 H4	62	25	10.8	K25	S25	S35M
5.0	SIM0025 H5	62	25	10.8	K25	S25	S35M
6.0	SIM0025 H6	62	25	10.8	K25	S25	S35M

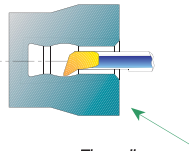
Tiny Bar Holders Ordering Codes



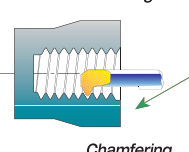
Tiny Tools Kits 小型车刀套盒



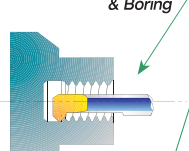
Boring



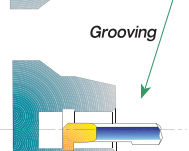
Profiling & Boring



Threading



Chamfering & Boring



Grooving



Face Grooving

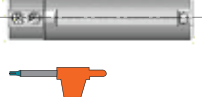
KT4-20		KT5-20	
MTR 4 R0.2 L10	MTR 5 R0.2 L15	MTR 4 R0.2 L10	MTR 5 R0.2 L15
MPR 4 R0.2 L10	MPR 5 R0.2 L15	MIR 4 L15 A60	MIR 5 L15 A60
MCR 4 R0.2 L15	MCR 5 R0.2 L15	MGR 4 B1.5 L10	MGR 5 B1.5 L15
MFR 4 B1.0 L15	MFR 5 B1.0 L22		
SIM 0020 H4	SIM 0020 H5		
K25	K25		

Order example: KT4-20

Also available are kits with a 16mm or 22mm shank diameter bar holder.
Order example: KT4-16

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

Tiny Tools Bar Holder



Technical Section

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



Carbide Grade: **BMK (ISO 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



Cutting speed for Tiny Tools

ISO Standard	Material	Condition	Cutting Speed		
			BXC	BMK	
P	Non-Alloy steel and cast steel, free cutting steel	<0.25%C	Annealed	25-50	30-60
		≥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)	Annealed	20-25	24-30	
		Quenched and tempered			
High alloy steel, cast steel, and tool steel	Annealed	18-20	22-24		
	Quenched and tempered				
M	Stainless steel and cast steel	Ferritic/martensitic	25-30	30-42	
		Martensitic			
		Austenitic			
K	Cast iron nodular (GGG)	Ferritic/pearlitic	17-23	20-28	
		Pearlitic			
	Grey cast iron (GG)	Ferritic	17-23	20-28	
Malleable cast iron	Ferritic	17-23	20-28		
	Pearlitic				
N	Aluminum-wrought alloy	Not cureable	50-70	60-84	
		Cured			
	Aluminum-cast, alloyed	≤12% Si	Not cureable	30-40	36-48
		>12% Si	Cured		
	Copper alloys	>1% Pb	High temperature	22-25	24-30
			Free cutting		
Non metallic		Brass	35-45		
		Electrolytic copper			
S	High temp. alloys, Super alloys	Fe based	Annealed	15-20	18-24
		Ni or Co based	Cured		
			Annealed		
			Cured		
	Titanium alloys	Cast			
H	Hardened steel	Alpha+beta alloys cured	12-18	15-20	
		Hardened 45-50 HRC	15-20	18-24	
		Hardened 51-55 HRC			
	Hardened 56-62 HRC				
Chilled cast iron	cast	10-14	12-16		
Cast iron	Hardened	8-12	10-14		

Recommended Feed Rate: 0.01 - 0.03 mm/rev

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
Number of Passes		6-12	7-14	7-16	8-18	8-20	10-22	20-38



For Perfect Long Threads on Swiss Type Machines

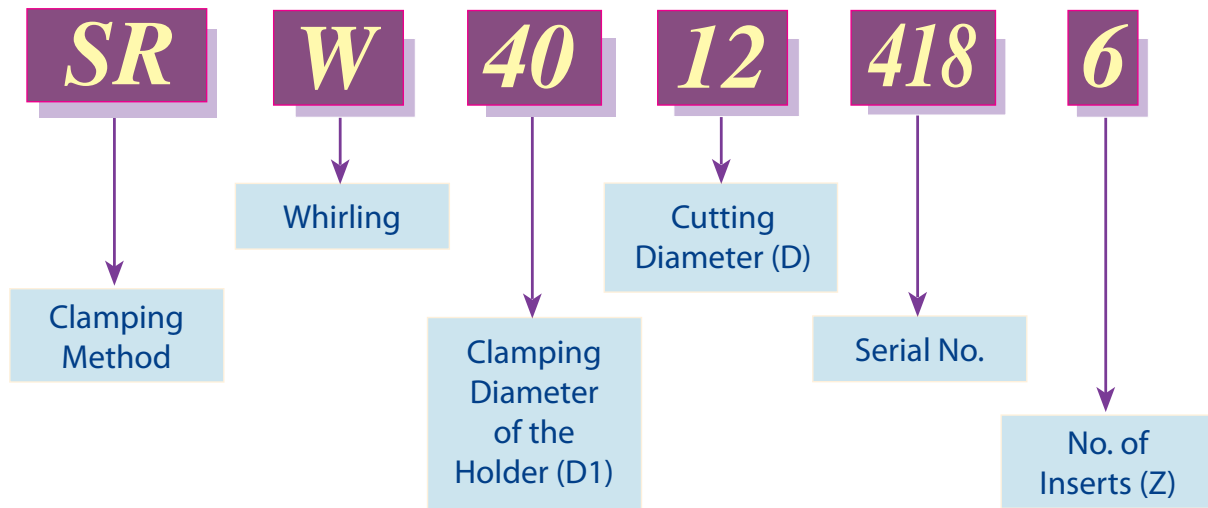
This method enables fast and accurate production of special threads.
Used for medical components such as implants, bone screws and small parts.

- Enables production of small diameter long threads on Swiss Type machines.
- Short machining time - one pass thread forming is needed.
- Very high surface quality and accurate geometry.
- Long tool life, short time tool set-up and insert changing.
- One toolholder can be used for various applications.
- All toolholders are standard stock items.
- Inserts are made for each application as a special item.
- Short delivery time for each application.
- The toolholders are designed according to different machine types and manufacturers.
- Whirling toolholders hold 3/5/6/8 Inserts.
- The unique clamping provides high indexability.
- Special adaptors for machine heads are available as stock items.

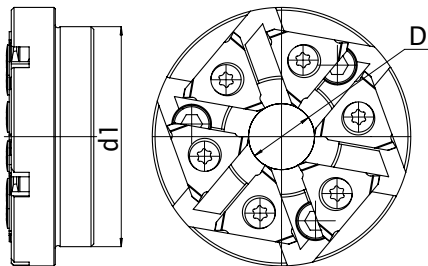
CARBIDE GRADE

BMA - PVD TiALN coated submicrograin for stainless steel, exotic materials and medical parts.

Product Identification



Toolholders & Adaptors



Machine		Whirling Holder Ordering Code	Adaptor Ordering Code	Z	D	d1	Insert Size	Insert Screw	Torx Key
Type	Model								
Star	SV12 / SV20	SRW4012 418 - 6	-	6	12	40	16	SW16	KW16
		SRW4012 424 - 8	WA4012 537	8			11	SW11	KW11
	SR20 / ECAS20	SRW4012 419 - 6	-	6			16	SW16	KW16
		SRW4012 425 - 8	WA4012 439	8			11	SW11	KW11
Citizen	M12 / M16	SRW4512 422 - 6	-	6	12	45	16	SW16	KW16
		SRW4512 426 - 8	WA4512 443	8			11	SW11	KW11
	M20 / M32	SRW4512 423 - 6	-	6			16	SW16	KW16
		SRW4512 427 - 8	WA4512 536	8			11	SW11	KW11
Tornos	DECO 13 / 20	SRW4012 420 - 6	-	6	12	40	16	SW16	KW16
Traub	TNL26 / TNK36	SRW4116 421 - 6	-	6	16	41	16	SW16	KW16
Hanwha	SL26HPD	SRW4012 416 - 3	-	3	12	40	16	SW16	KW16
Maier	ML20D	SRW4012 417 - 5	-	5	12	40	16	SW16	KW16



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