

# Mill-Thread Solid Carbide



## Advantages of Mill-Thread Solid Carbide

- Carbide grade: MT7** 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
- Thread is generated in one pass.
  - Spiral flutes allow smooth cutting action.
  - Shorter machining time due to multi, 3 to 6, flutes.
  - 2.2 mm and up cutting diameter.
  - Threads up to shoulder in blind hole.
  - Longer tool life due to special multi-layer coating.
  - Same tool can be used for a variety of materials.
  - Excellent surface finish.
  - Low cutting pressure allows thin wall machining.
  - Same tool used for R.H and L.H. threads.

## Thread Mills with Internal Coolant

Coolant fluid washes the chips out of the hole. • Increased tool life.

**MTB** - Thread Mills with internal coolant bore for blind holes

**MTZ** - Thread Mills with internal coolant through the flutes

**MTQ** - Thread Mills that include relieved neck for deep work pieces

**FMT** - Fast Thread Mills with internal coolant bore

### Contents:

### Page:

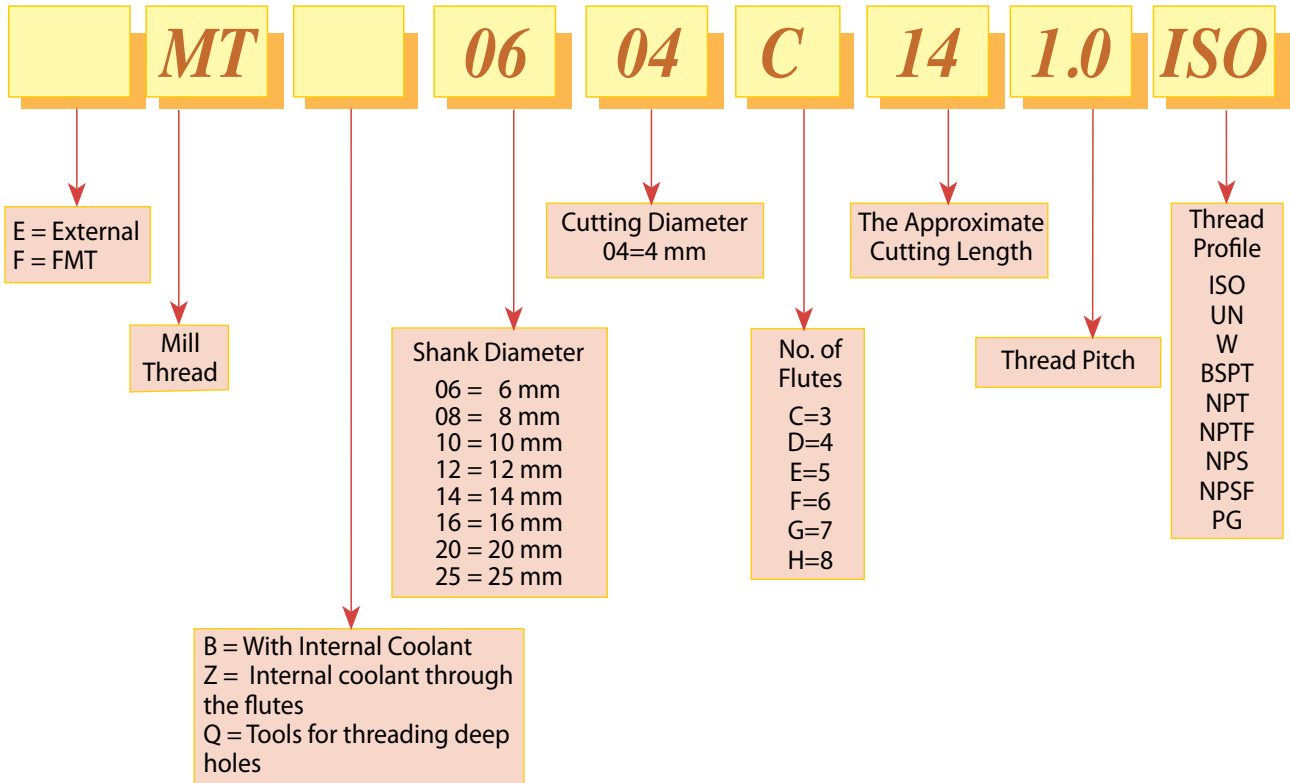
### Contents:

### Page:

Product Identification	200	BSPT	212
ISO	201	BSPT - with internal Coolant Bore - MTB	213
ISO - with internal Coolant Bore - MTB	202	BSPT - with internal Coolant through the Flutes - MTZ	213
ISO - with internal Coolant through the Flutes - MTZ	203	NPT	214
ISO - with internal Coolant Bore - MTQ	204	NPT - with internal Coolant Bore - MTB	214
ISO - with internal Coolant Bore - FMT	205	NPT - with internal Coolant through the Flutes - MTZ	215
G (55°)	205	NPTF	215
G (55°) - with internal Coolant Bore - MTB	206	NPTF - with internal Coolant Bore - MTB	216
G (55°) - with internal Coolant through the Flutes - MTZ	206	NPTF - with internal Coolant through the Flutes - MTZ	216
G (55°) - with internal Coolant through the Flutes - FMT	207	NPS - with internal Coolant Bore - MTB	217
Whitworth - with internal Coolant through the Flutes - MTZ	207	NPSF - with internal Coolant Bore - MTB	217
UN	208	PG DIN 40430 - with internal Coolant Bore MTB	218
UN - with internal Coolant Bore - MTB	209	<b>Solid Carbide Tapered End Mills</b>	219
UN - with internal Coolant through the Flutes - MTZ	210	<b>Mill - Thread Solid Carbide for External Threads</b>	
UN - with internal Coolant Bore - MTQ	211	ISO	220
UN - with internal Coolant Bore - FMT	212	UN	220

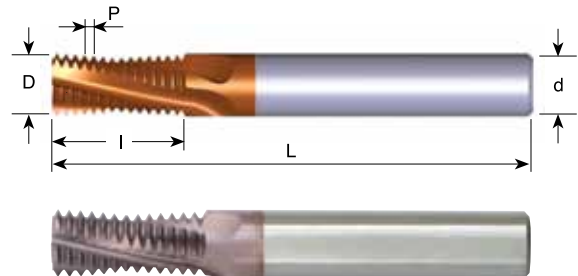
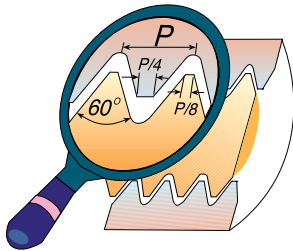
## Product Identification

### Mill-Thread Solid Carbide Ordering Codes



## ISO

### Tools for Internal thread



Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
0.5	M3	$\varnothing \geq 4$	<b>MT06022C5 0.5 ISO</b>	6	2.2	3	5.3	58
0.5		$\varnothing \geq 5$	<b>MT06038C10 0.5 ISO</b>	6	3.8	3	10.3	58
0.7	M4	$\varnothing \geq 5$	<b>MT06031C7 0.7 ISO</b>	6	3.1	3	7.4	58
0.75		$\varnothing \geq 6$	<b>MT06045C10 0.75 ISO</b>	6	4.5	3	10.1	58
0.8	M5	$\varnothing \geq 6$	<b>MT06036C9 0.8 ISO</b>	6	3.6	3	9.2	58
1.0	M6	$\varnothing \geq 7$	<b>MT0604C10 1.0 ISO</b>	6	4.0	3	10.5	58
1.0	M6	$\varnothing \geq 7$	<b>MT0604C14 1.0 ISO</b>	6	4.0	3	14.5	58
1.0		$\varnothing \geq 9$	<b>MT0606C12 1.0 ISO</b>	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	<b>MT0808D16 1.0 ISO</b>	8	8.0	4	16.5	64
1.25	M8	$\varnothing \geq 10$	<b>MT0605C14 1.25 ISO</b>	6	5.0	3	14.4	58
1.25	M8	$\varnothing \geq 10$	<b>MT0605C19 1.25 ISO</b>	6	5.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	<b>MT0807C17 1.5 ISO</b>	8	7.0	3	17.3	64
1.5	M10	$\varnothing \geq 12$	<b>MT0807C24 1.5 ISO</b>	8	7.0	3	24.8	76
1.5		$\varnothing \geq 14$	<b>MT1010D21 1.5 ISO</b>	10	10.0	4	21.8	73
1.5		$\varnothing \geq 20$	<b>MT1616F33 1.5 ISO</b>	16	16.0	6	33.8	105
1.75	M12	$\varnothing \geq 14$	<b>MT0808C20 1.75 ISO</b>	8	8.0	3	20.1	64
1.75	M12	$\varnothing \geq 14$	<b>MT0808C28 1.75 ISO</b>	8	8.0	3	28.9	76
2.0	M16	$\varnothing \geq 17$	<b>MT1010C27 2.0 ISO</b>	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	<b>MT1010C39 2.0 ISO</b>	10	10.0	3	39.0	105
2.0		$\varnothing \geq 18$	<b>MT1212D27 2.0 ISO</b>	12	12.0	4	27.0	84
2.0		$\varnothing \geq 26$	<b>MT2020F41 2.0 ISO</b>	20	20.0	6	41.0	105
2.5	M20	$\varnothing \geq 22$	<b>MT1414D33 2.5 ISO</b>	14	14.0	4	33.8	84
2.5	M20	$\varnothing \geq 22$	<b>MT1414D48 2.5 ISO</b>	14	14.0	4	48.8	105
3.0	M24	$\varnothing \geq 25$	<b>MT1616C40 3.0 ISO</b>	16	16.0	3	40.5	105
3.0	M24	$\varnothing \geq 25$	<b>MT1616C58 3.0 ISO</b>	16	16.0	3	58.5	120
3.0	M27	$\varnothing \geq 28$	<b>MT2020D43 3.0 ISO</b>	20	20.0	4	43.5	105

Order example: MT 1212D27 2.0 ISO MT7

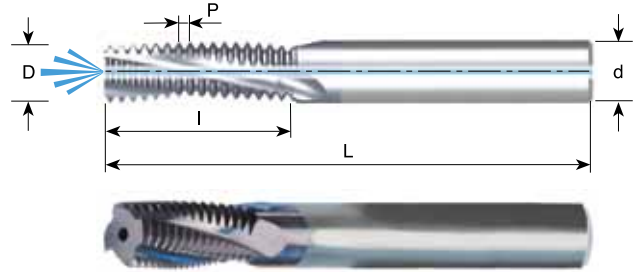
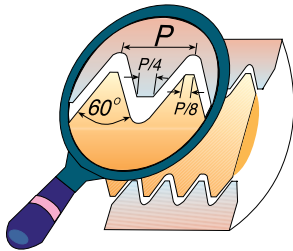
For thread mills with coolant bore see following pages

For small thread mills see pages 223-224 & 241



## 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		$\varnothing \geq 5$	<b>MTB06038C10 0.5 ISO</b>	6	3.8	3	10.3	58
0.7	M4	$\varnothing \geq 5$	<b>MTB06031C7 0.7 ISO</b>	6	3.1	3	7.4	58
0.75		$\varnothing \geq 6$	<b>MTB06045C10 0.75 ISO</b>	6	4.5	3	10.1	58
0.75		$\varnothing \geq 12$	<b>MTB1010D24 0.75 ISO</b>	10	10.0	4	24.4	73
0.8	M5	$\varnothing \geq 6$	<b>MTB06038C9 0.8 ISO</b>	6	3.8	3	9.2	58
1.0	M6	$\varnothing \geq 7$	<b>MTB06046C10 1.0 ISO</b>	6	4.6	3	10.5	58
1.0	M6	$\varnothing \geq 7$	<b>MTB06046C14 1.0 ISO</b>	6	4.6	3	14.5	58
1.0		$\varnothing \geq 9$	<b>MTB0606C12 1.0 ISO</b>	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	<b>MTB0808D16 1.0 ISO</b>	8	8.0	4	16.5	64
1.0		$\varnothing \geq 12$	<b>MTB1010D24 1.0 ISO</b>	10	10.0	4	24.5	73
1.25	M8	$\varnothing \geq 10$	<b>MTB0606C14 1.25 ISO</b>	6	6.0	3	14.4	58
1.25	M8	$\varnothing \geq 10$	<b>MTB0606C19 1.25 ISO</b>	6	6.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	<b>MTB08078C17 1.5 ISO</b>	8	7.8	3	17.0	64
1.5	M10	$\varnothing \geq 12$	<b>MTB08078C24 1.5 ISO</b>	8	7.8	3	24.8	76
1.5		$\varnothing \geq 14$	<b>MTB1010D21 1.5 ISO</b>	10	10.0	4	21.8	73
1.5		$\varnothing \geq 16$	<b>MTB1212D26 1.5 ISO</b>	12	12.0	4	26.3	84
1.5		$\varnothing \geq 20$	<b>MTB1616F33 1.5 ISO</b>	16	16.0	6	33.8	105
1.75	M12	$\varnothing \geq 12$	<b>MTB1009C20 1.75 ISO</b>	10	9.0	3	20.1	73
1.75	M12	$\varnothing \geq 12$	<b>MTB1009C28 1.75 ISO</b>	10	9.0	3	28.9	73
2.0	M14	$\varnothing \geq 15$	<b>MTB1010C27 2.0 ISO</b>	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	<b>MTB12118D27 2.0 ISO</b>	12	11.8	4	27.0	84
2.0	M16	$\varnothing \geq 17$	<b>MTB12118D39 2.0 ISO</b>	12	11.8	4	39.0	105
2.0		$\varnothing \geq 26$	<b>MTB2020F41 2.0 ISO</b>	20	20.0	6	41.0	105
2.5	M20	$\varnothing \geq 22$	<b>MTB1615E33 2.5 ISO</b>	16	15.0	5	33.8	105
2.5	M20	$\varnothing \geq 22$	<b>MTB1615E48 2.5 ISO</b>	16	15.0	5	48.8	105
3.0	M24	$\varnothing \geq 25$	<b>MTB2018D40 3.0 ISO</b>	20	18.0	4	40.5	105
3.0	M24	$\varnothing \geq 25$	<b>MTB2018D58 3.0 ISO</b>	20	18.0	4	58.5	120
3.0	M27	$\varnothing \geq 27$	<b>MTB2020D43 3.0 ISO</b>	20	20.0	4	43.5	105

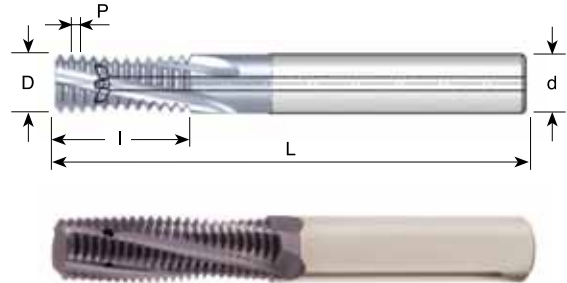
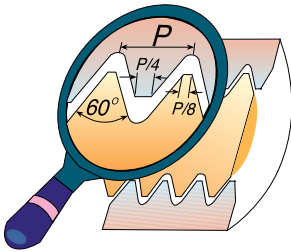
Order example: MTB 08078C17 1.5 ISO MT7

For thread mills with coolant through the flutes see next page

For small thread mills see pages 223-224 & 241 

## ISO With internal coolant through the flutes

### Tools for Internal Thread



Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
1.0	M6	$\varnothing \geq 7$	<b>MTZ06048C10 1.0 ISO</b>	6	4.8	3	10.5	58
1.0		$\varnothing \geq 9$	<b>MTZ0606C12 1.0 ISO</b>	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	<b>MTZ0808D16 1.0 ISO</b>	8	8.0	4	16.5	64
1.25	M8	$\varnothing \geq 10$	<b>MTZ0606C14 1.25 ISO</b>	6	6.0	3	14.4	58
1.25	M8	$\varnothing \geq 10$	<b>MTZ0606C19 1.25 ISO</b>	6	6.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	<b>MTZ08078C17 1.5 ISO</b>	8	7.8	3	17.0	64
1.5		$\varnothing \geq 14$	<b>MTZ1010D21 1.5 ISO</b>	10	10.0	4	21.8	73
1.5		$\varnothing \geq 16$	<b>MTZ1212D26 1.5 ISO</b>	12	12.0	4	26.3	84
1.5		$\varnothing \geq 20$	<b>MTZ1616E33 1.5 ISO</b>	16	16.0	5	33.8	101
1.75	M12	$\varnothing \geq 12$	<b>MTZ1009C20 1.75 ISO</b>	10	9.0	3	20.1	73
1.75	M12	$\varnothing \geq 12$	<b>MTZ1009C28 1.75 ISO</b>	10	9.0	3	28.9	73
2.0	M14	$\varnothing \geq 15$	<b>MTZ1010C27 2.0 ISO</b>	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	<b>MTZ12118D27 2.0 ISO</b>	12	11.8	4	27.0	84
2.5	M20	$\varnothing \geq 22$	<b>MTZ1615E33 2.5 ISO</b>	16	15.0	5	33.8	101

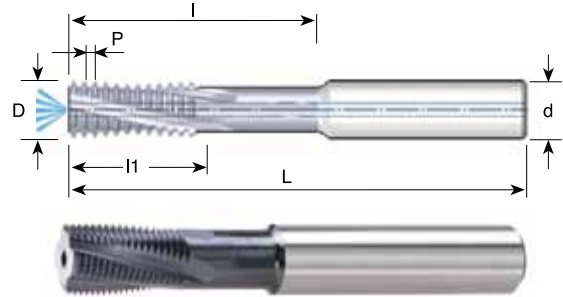
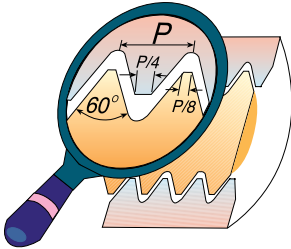
Order example: MTZ 08078C17 1.5 ISO MT7

For small thread mills see pages 223-224 & 241



## ISO With relieved neck and internal coolant bore

### Tools for Internal Thread



Pitch TPI	M fine	Ordering Code	d	D	No. of Flutes	l1	l	L
1.0	$\emptyset \geq 12$	<b>MTQ1010D32 1.0 ISO</b>	10	10.0	4	18.0	32.0	73
1.0	$\emptyset \geq 14$	<b>MTQ1212D38 1.0 ISO</b>	12	12.0	4	21.0	38.0	84
1.0	$\emptyset \geq 18$	<b>MTQ1616F45 1.0 ISO</b>	16	16.0	6	26.0	45.0	105
1.5	$\emptyset \geq 13$	<b>MTQ1010D30 1.5 ISO</b>	10	10.0	4	18.0	30.0	73
1.5	$\emptyset \geq 15$	<b>MTQ1212D34 1.5 ISO</b>	12	12.0	4	19.5	34.5	84
1.5	$\emptyset \geq 19$	<b>MTQ1616F43 1.5 ISO</b>	16	16.0	6	25.5	43.5	105
1.5	$\emptyset \geq 23$	<b>MTQ2020F60 1.5 ISO</b>	20	20.0	6	36.0	60.0	105
2.0	$\emptyset \geq 16$	<b>MTQ1212D42 2.0 ISO</b>	12	12.0	4	24.0	42.0	84
2.0	$\emptyset \geq 20$	<b>MTQ1616E45 2.0 ISO</b>	16	16.0	5	26.0	45.0	105
2.0	$\emptyset \geq 24$	<b>MTQ2020F56 2.0 ISO</b>	20	20.0	6	34.0	56.0	105
3.0	$\emptyset \geq 22$	<b>MTQ1616D45 3.0 ISO</b>	16	16.0	4	30.0	45.0	105
3.0	$\emptyset \geq 26$	<b>MTQ2020E54 3.0 ISO</b>	20	20.0	5	33.0	54.0	105
3.5	$\emptyset \geq 26$	<b>MTQ2020D45 3.5 ISO</b>	20	20.0	4	28.0	45.5	105
4.0	$\emptyset \geq 31$	<b>MTQ2525D64 4.0 ISO</b>	25	25.0	4	40.0	64.0	160

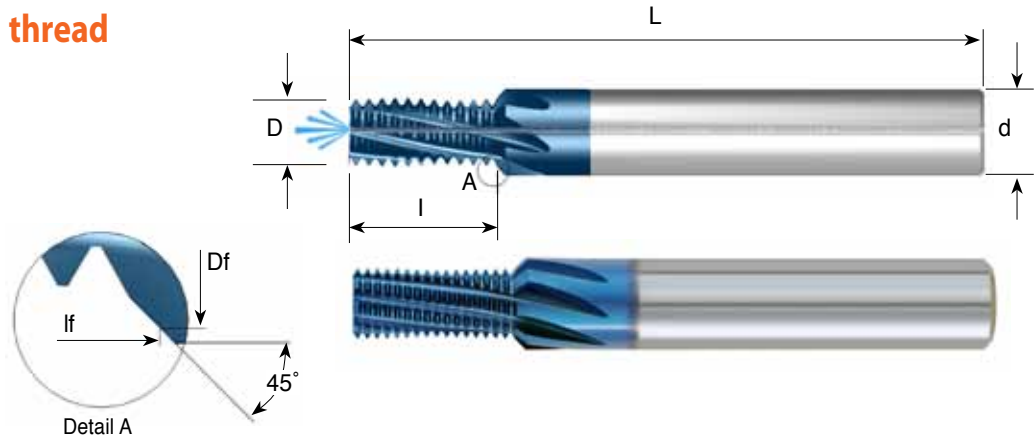
Order example: MTQ 1010D30 1.5 ISO MT7

For small thread mills see pages 223-224 & 241



## ISO Fast MT With internal coolant bore

### Tools for Internal thread



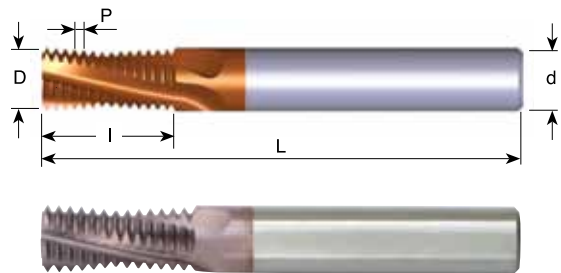
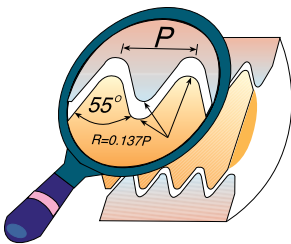
Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	Flutes	I	lf	L
1.0	M6	$\varnothing \geq 7$	<b>FMT 08048 F10 1.0 ISO</b>	8	4.8	6.8	6	10.5	11.5	64
1.25	M8	$\varnothing \geq 10$	<b>FMT 10064 G14 1.25 ISO</b>	10	6.4	9.6	7	14.4	16.0	73
1.5	M10	$\varnothing \geq 12$	<b>FMT 1008 G17 1.5 ISO</b>	10	8.0	9.8	7	17.3	18.2	73
1.75	M12	$\varnothing \geq 12$	<b>FMT 12095 G20 1.75 ISO</b>	12	9.5	11.7	7	20.1	21.2	84

For small thread mills see pages 223-224 & 241



## G (55°) BSF, BSP

### Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/16-G1/8	<b>MT0606C9 28 W</b>	6	6.0	3	9.5	58
19	G1/4-3/8	<b>MT0808C14 19 W</b>	8	8.0	3	14.0	64
14	G1/2-7/8	<b>MT1212D19 14 W</b>	12	12.0	4	19.0	84
14	G1/2-7/8	<b>MT1212D26 14 W</b>	12	12.0	4	26.3	84
11	$G \geq 1$	<b>MT1212C24 11 W</b>	12	12.0	3	24.2	84
11	$G \geq 1$	<b>MT1616D38 11 W</b>	16	16.0	4	38.1	105
11	$G \geq 1$	<b>MT2020E47 11 W</b>	20	20.0	5	47.3	105

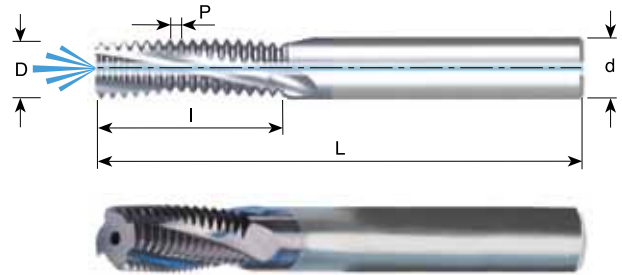
Order example: MT 1212D19 14 W MT7

For small thread mills see pages 227, 243

For thread mills with coolant see next page

## G (55°) BSF, BSP With internal coolant bore

Same Tool for Internal and External Thread



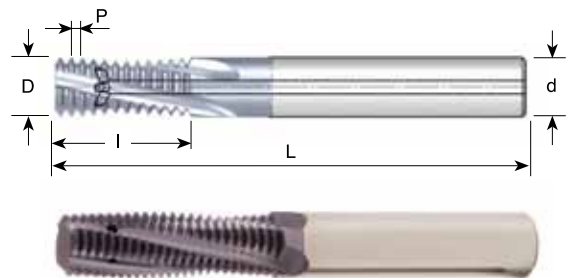
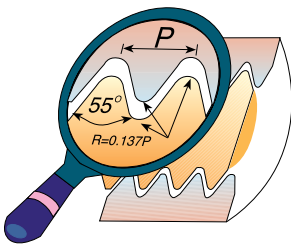
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	<b>MTB08078C14 28W</b>	8	7.8	3	14.1	64
19	G1/4-3/8	<b>MTB1010D16 19W</b>	10	10.0	4	16.7	73
14	G1/2-7/8	<b>MTB1616E26 14W</b>	16	16.0	5	26.3	105
11	G≥1	<b>MTB1616D38 11W</b>	16	16.0	4	38.1	105
11	G≥1	<b>MTB2020E47 11W</b>	20	20.0	5	47.3	105

Order example: MTB 1010D16 19 W MT7

For small thread mills see pages 227, 243

## G 55° BSF, BSP With internal coolant through the flutes

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	<b>MTZ08078C14 28W</b>	8	7.8	3	14.1	64
19	G1/4-3/8	<b>MTZ1010D16 19W</b>	10	10.0	4	16.7	73
14	G1/2-7/8	<b>MTZ1616E26 14W</b>	16	16.0	5	26.3	101
11	G≥1	<b>MTZ1616D38 11W</b>	16	16.0	4	38.1	101

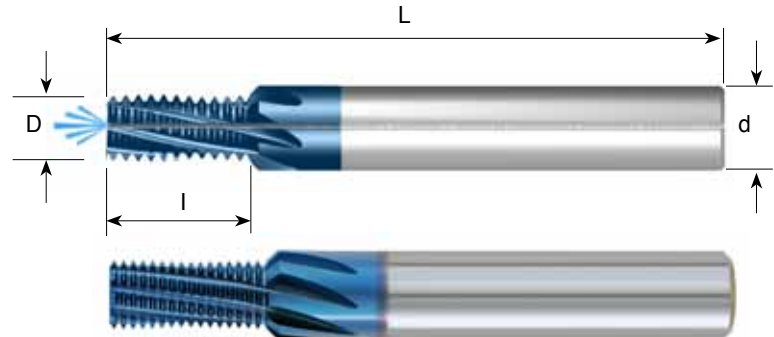
Order example: MTZ 08078C14 28 W MT7

For small thread mills see pages 227, 243



## G 55° Fast MT With internal coolant bore

Same Tool for Internal and External Thread



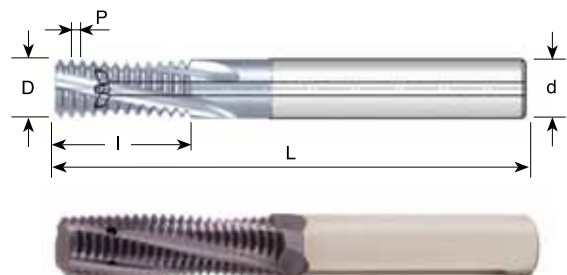
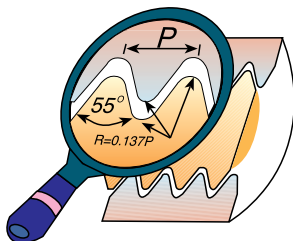
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	FMT08078H14 28W	8	7.8	8	14.1	64
19	G1/4-3/8	FMT1010G16 19W	10	10.0	7	16.7	73
14	G1/2-7/8	FMT1616H26 14W	14	14.0	8	26.3	84
11	G≥1	FMT1616H38 11W	16	16.0	8	38.1	105

\* Without cutting chamfer

For small thread mills see pages 227, 243

## Whitworth BSW With internal coolant through the flutes

Same Tool for Internal and External Thread



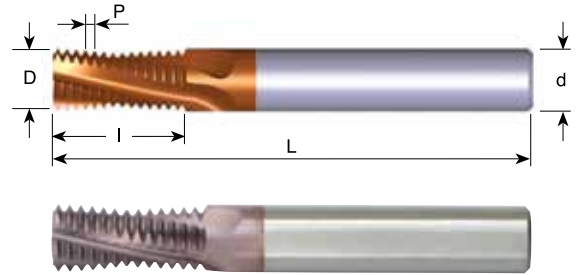
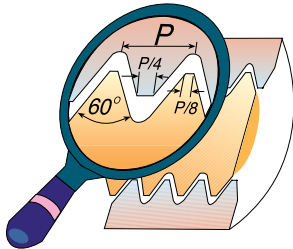
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
* 20	1/4	MTZ06046C12 20W	6	4.6	3	12.1	58
18	5/16	MTZ06053C14 18W	6	5.3	3	14.8	58
16	3/8	MTZ08064C16 16W	8	6.8	3	16.7	64
16	1/2	MTZ10092D24 16W	10	9.2	4	24.6	73
14	7/16	MTZ08078D20 14W	8	7.8	4	20.9	64
12	1/2	MTZ10086D24 12W	10	8.6	4	24.4	73
11	5/8	MTZ12109D28 11W	12	10.9	4	28.9	84

Order example: MTZ 08064C16 16 W MT7

\* Cutter without coolant

## UN

### Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
40	5			<b>MT06025C6 40UN</b>	6	2.5	3	6.0	58
32	8	10	12	<b>MT06032C6 32UN</b>	6	3.2	3	6.8	58
28		1/4		<b>MT0604C11 28UN</b>	6	4.0	3	11.3	58
28			7/16-1/2	<b>MT0606C14 28UN</b>	6	6.0	3	14.1	58
24		5/16		<b>MT0605C14 24UN</b>	6	5.0	3	14.3	58
24		3/8	9/16-5/8	<b>MT0807C21 24UN</b>	8	7.0	3	20.6	64
20	1/4			<b>MT06045C12 20UN</b>	6	4.5	3	12.1	58
20		7/16-1/2		<b>MT0807C21 20UN</b>	8	7.0	3	21.0	64
20			3/4-1	<b>MT1212E27 20UN</b>	12	12.0	5	27.3	84
18	5/16			<b>MT0605C14 18UN</b>	6	5.0	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	<b>MT1010D26 18UN</b>	10	10.0	4	26.1	73
16	3/8			<b>MT0606C16 16UN</b>	6	6.0	3	16.7	58
16		3/4		<b>MT1212D31 16UN</b>	12	12.0	4	31.0	84
14	7/16			<b>MT0807C20 14UN</b>	8	7.0	3	20.9	64
14		7/8		<b>MT1615E37 14UN</b>	16	15.0	5	37.2	105
13	1/2			<b>MT0808C22 13UN</b>	8	8.0	3	22.5	64
12	9/16			<b>MT1010C26 12UN</b>	10	10.0	3	26.5	73
12		1-1 1/2		<b>MT1616E41 12UN</b>	16	16.0	5	41.3	105
11	5/8			<b>MT1010C28 11UN</b>	10	10.0	3	28.9	73
10	3/4			<b>MT1212C34 10UN</b>	12	12.0	3	34.3	84
9	7/8			<b>MT1615C38 9UN</b>	16	15.0	3	38.1	105
8	1			<b>MT1616C42 8UN</b>	16	16.0	3	42.9	105
7	1 1/8-1 1/4			<b>MT2020D45 7UN</b>	20	20.0	4	45.3	105

Order example: MT 1615 E37 14 UN MT7

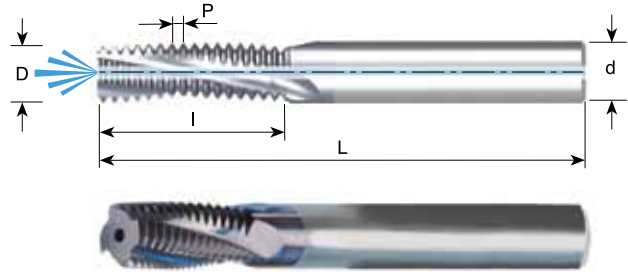
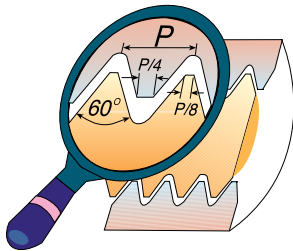
For thread mills with coolant bore see following pages

For small thread mills see pages 225-226 & 242



## 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	<b>MTB06032C6 32 UN</b>	6	3.2	3	6.8	58
32			5/16	<b>MTB0606C14 32 UN</b>	6	6.0	3	14.7	58
32			3/8	<b>MTB0808D18 32 UN</b>	8	8.0	4	18.7	64
28		1/4		<b>MTB0605C11 28 UN</b>	6	5.0	3	11.3	58
28			7/16-1/2	<b>MTB0606C14 28 UN</b>	6	6.0	3	14.1	58
24		5/16		<b>MTB08066C14 24 UN</b>	8	6.6	3	14.3	64
24		3/8	9/16-5/8	<b>MTB0808D21 24 UN</b>	8	8.0	4	20.6	64
20	1/4			<b>MTB06047C12 20 UN</b>	6	4.7	3	12.1	58
20		7/16		<b>MTB0808C21 20 UN</b>	8	8.0	3	21.0	64
20		1/2		<b>MTB1010D22 20 UN</b>	10	10.0	4	22.3	73
20			3/4-1	<b>MTB1212E27 20 UN</b>	12	12.0	5	27.3	84
18	5/16			<b>MTB06056C14 18 UN</b>	6	5.6	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	<b>MTB12113D26 18 UN</b>	12	11.3	4	26.1	84
16	3/8			<b>MTB08067C16 16 UN</b>	8	6.7	3	16.7	64
16		3/4		<b>MTB1212D31 16 UN</b>	12	12.0	4	31.0	84
14	7/16			<b>MTB08077C20 14 UN</b>	8	7.7	3	20.9	64
14		7/8		<b>MTB1616E37 14 UN</b>	16	16.0	5	37.2	105
13	1/2			<b>MTB10092C22 13 UN</b>	10	9.2	3	22.5	73
12	9/16			<b>MTB12105C26 12 UN</b>	12	10.5	3	26.5	84
12		1-1 1/2		<b>MTB1616E41 12 UN</b>	16	16.0	5	41.3	105
11	5/8			<b>MTB12114C28 11 UN</b>	12	11.4	3	28.9	84
10	3/4			<b>MTB16144D34 10 UN</b>	16	14.4	4	34.3	105
9	7/8			<b>MTB1616C38 9 UN</b>	16	16.0	3	38.1	105
8	1			<b>MTB20195D42 8 UN</b>	20	19.5	4	42.9	105
7	1 1/8-1 1/4			<b>MTB2020D45 7 UN</b>	20	20.0	4	45.3	105

Order example: MTB 1212D31 16 UN MT7

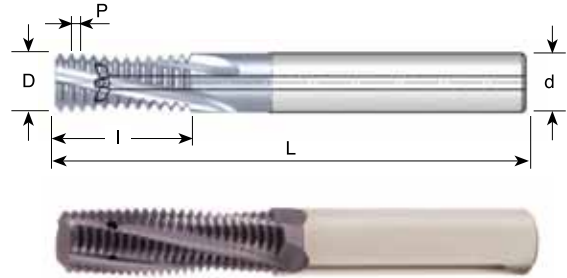
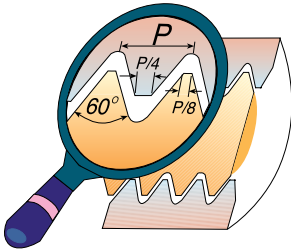
For thread mills with coolant through the flutes see next page

For small thread mills see pages 217-218 & 234



## UN With internal coolant through the flutes

### Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
28		1/4		<a href="#">MTZ0605C11 28 UN</a>	6	5.0	3	11.3	58
28			7/16-1/2	<a href="#">MTZ0606C14 28 UN</a>	6	6.0	3	14.1	58
24		5/16		<a href="#">MTZ08066C14 24 UN</a>	8	6.6	3	14.3	64
24		3/8	9/16-5/8	<a href="#">MTZ0808D21 24 UN</a>	8	8.0	4	20.6	64
20		7/16		<a href="#">MTZ0808C21 20 UN</a>	8	8.0	3	21.0	64
20		1/2		<a href="#">MTZ1010D22 20 UN</a>	10	10.0	4	22.3	73
20			3/4-1	<a href="#">MTZ1212E27 20 UN</a>	12	12.0	5	27.3	84
18	5/16			<a href="#">MTZ06056C14 18 UN</a>	6	5.6	3	14.8	58
18		9/16-5/8	1 <sup>1/8</sup> -1 <sup>5/8</sup>	<a href="#">MTZ12113D26 18 UN</a>	12	11.3	4	26.1	84
16	3/8			<a href="#">MTZ08067C16 16 UN</a>	8	6.7	3	16.7	64
16		3/4		<a href="#">MTZ1212D31 16 UN</a>	12	12.0	4	31.0	84
14	7/16			<a href="#">MTZ08077C20 14 UN</a>	8	7.7	3	20.9	64
14		7/8		<a href="#">MTZ1616E37 14 UN</a>	16	16.0	5	37.2	101
13	1/2			<a href="#">MTZ10092C22 13 UN</a>	10	9.2	3	22.5	73
12	9/16			<a href="#">MTZ12105C26 12 UN</a>	12	10.5	3	26.5	84
11	5/8			<a href="#">MTZ12114C28 11 UN</a>	12	11.4	3	28.9	84
10	3/4			<a href="#">MTZ16144D34 10 UN</a>	16	14.4	4	34.3	101

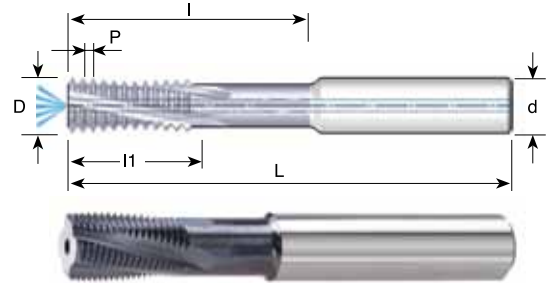
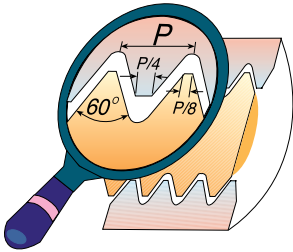
Order example: [MTZ 0808D21 24 UN](#) [MT7](#)

For small thread mills see pages 217-218 & 234



## UN With relieved neck and internal coolant bore

### Tools for Internal Thread

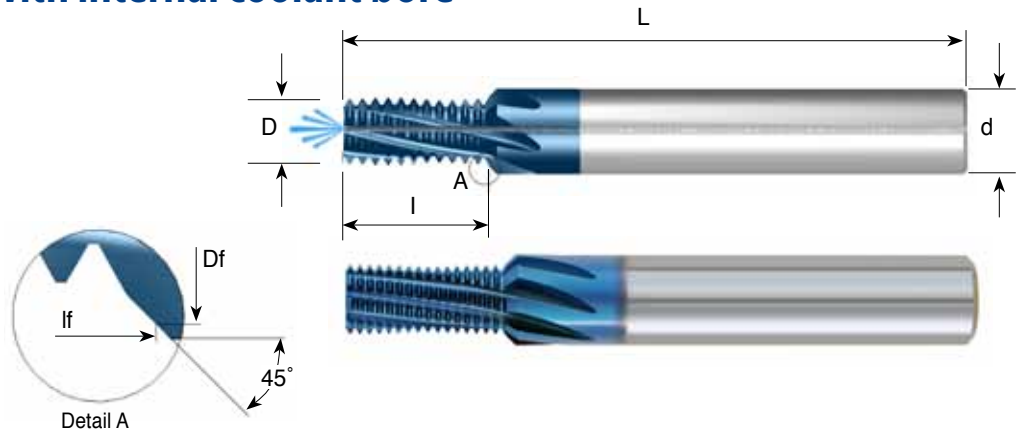


Pitch TPI	Thread size	Ordering Code	d	D	No. of Flutes	l1	l	L
20	$\varnothing \geq 12$	<b>MTQ1010D30 20 UN</b>	10	10.0	4	17.8	30.5	73
20	$\varnothing \geq 14$	<b>MTQ1212E35 20 UN</b>	12	12.0	5	20.3	35.6	84
20	$\varnothing \geq 18$	<b>MTQ1616F43 20 UN</b>	16	16.0	6	25.4	43.2	105
18	$\varnothing \geq 15$	<b>MTQ1212D35 18 UN</b>	12	12.0	4	19.7	35.3	84
16	$\varnothing \geq 15$	<b>MTQ1212D35 16 UN</b>	12	12.0	4	20.7	35.0	84
16	$\varnothing \geq 19$	<b>MTQ1616E42 16 UN</b>	16	16.0	5	25.4	42.9	105
16	$\varnothing \geq 23$	<b>MTQ2020F58 16 UN</b>	20	20.0	6	36.5	58.8	105
14	$\varnothing \geq 20$	<b>MTQ1616E45 14 UN</b>	16	16.0	5	25.4	45.3	105
12	$\varnothing \geq 16$	<b>MTQ1212D42 12 UN</b>	12	12.0	4	25.4	42.3	84
12	$\varnothing \geq 24$	<b>MTQ2020E55 12 UN</b>	20	20.0	5	33.9	55.1	105

Order example: MTQ 1212D35 16 UN MT7

For small thread mills see pages 133-135 & 150 

## Fast MT With internal coolant bore



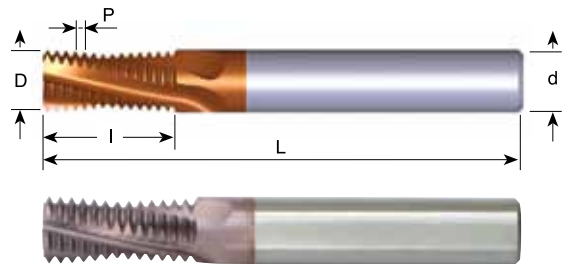
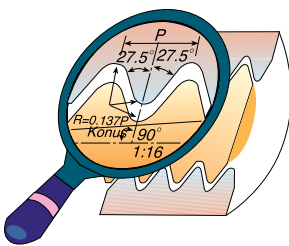
Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	Df	Flutes	I	lf	L
24		5/16, 3/8	9/16, 5/8, 11/16	<b>FMT 10066 G14 24 UN</b>	10	6.6	9.6	7	14.3	15.8	73
20	1/4			* <b>FMT 08048 E12 20 UN</b>	8	4.8	6.8	5	12.1	13.1	64
20		7/16, 1/2	3/4, 1	<b>FMT 12092 H21 20 UN</b>	12	9.2	11.4	8	21.0	22.1	84
18	5/16	9/16, 5/8	11/16	<b>FMT 1006 F14 18 UN</b>	10	6.0	8.4	6	14.8	16.0	73
16	3/8	3/4		<b>FMT 10074 F16 16 UN</b>	10	7.4	9.6	6	16.7	17.8	73
14	7/16	7/8		<b>FMT 12085 F20 14 UN</b>	12	8.5	10.7	6	20.9	22.0	84

\* without internal coolant

For small thread mills see pages 225-226 & 242

## BSPT

Same Tool for Internal and External Thread



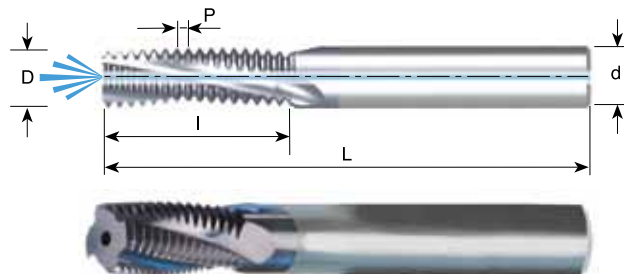
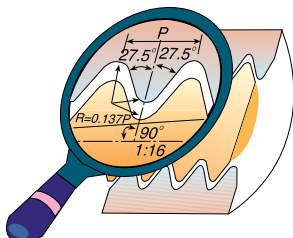
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	<b>MT0606C9 28 BSPT</b>	6	6.0	3	9.5	58
19	RC1/4-3/8	<b>MT0808C14 19 BSPT</b>	8	8.0	3	14.0	64
14	RC1/2-7/8	<b>MT1212D19 14 BSPT</b>	12	12.0	4	19.1	84
11	RC1-2	<b>MT1616D28 11 BSPT</b>	16	16.0	4	28.9	105

Order example: MT 1616D28 11 BSPT MT7

For thread mills with coolant through the flutes see next page

## BSPT With internal coolant bore

Same Tool for Internal and External Thread

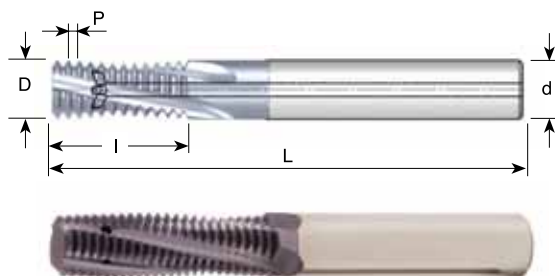
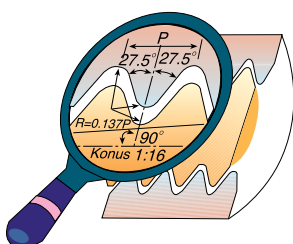


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	L
28	RC1/8	<b>MTB08078C14 28 BSPT</b>	8	7.8	3	14.1	64
19	RC1/4-3/8	<b>MTB1010D16 19 BSPT</b>	10	10.0	4	16.7	73
14	RC1/2-7/8	<b>MTB1616E26 14 BSPT</b>	16	16.0	5	26.3	105
11	RC1-2	<b>MTB1616D28 11 BSPT</b>	16	16.0	4	28.9	105

Order example: MTB 08078C14 28 BSPT MT7

## BSPT With internal coolant through the flutes

Same Tool for Internal and External Thread



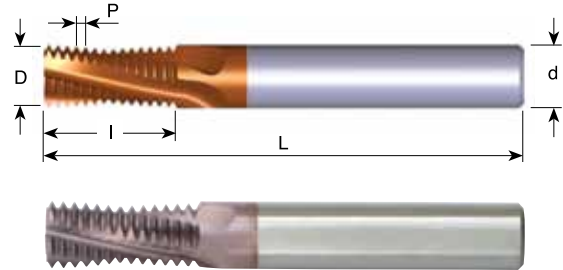
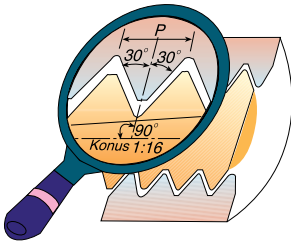
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	L
28	RC1/8	<b>MTZ08078C14 28 BSPT</b>	8	7.8	3	14.1	64
19	RC1/4-3/8	<b>MTZ1010D16 19 BSPT</b>	10	10.0	4	16.7	73
14	RC1/2-7/8	<b>MTZ1616E26 14 BSPT</b>	16	16.0	5	26.3	101
11	RC1-2	<b>MTZ1616D28 11 BSPT</b>	16	16.0	4	28.9	101

Order example: MTZ 1010D16 19 BSPT MT7

For conical preparation end mills see page 219

## NPT

Same Tool for Internal and External Thread

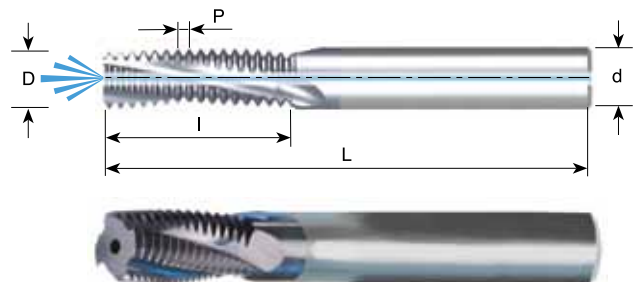


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	L
27	1/16-1/8	MT0606C9 27 NPT	6	6.0	3	9.9	58
18	1/4-3/8	MT0808C14 18 NPT	8	8.0	3	14.8	64
14	1/2-3/4	MT1212D20 14 NPT	12	12.0	4	20.9	84
11.5	1-2	MT1616D27 11.5 NPT	16	16.0	4	27.6	105
8	≥2 1/2	MT2020D39 8 NPT	20	20.0	4	39.7	105

Order example: MT 0808C14 18 NPT MT7

## NPT With internal coolant

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	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
14	1/2-3/4	MTB16155D22 14 NPT	16	15.5	4	22.7	105
11.5	1-2	MTB2020D29 11.5 NPT	20	20.0	4	29.8	105
8	≥2 1/2	MTB2020D39 8 NPT	20	20.0	4	39.7	105

Order example: MTB 1010D16 18 NPT MT7

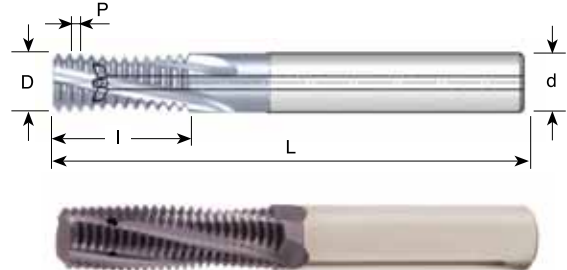
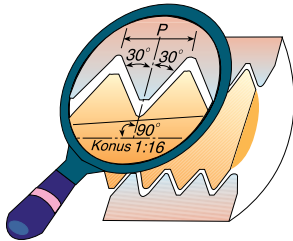
For thread mills with coolant through the flutes see next page

For conical preparation end mills see page 219



## NPT With internal coolant through the flutes

Same Tool for Internal and External Thread

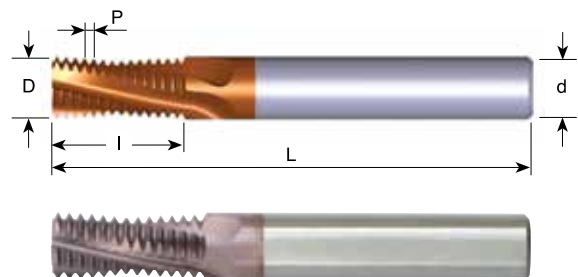
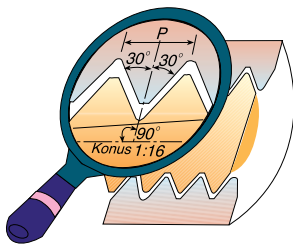


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27NPT	8	7.6	3	10.8	64
18	1/4-3/8	MTZ1010D16 18NPT	10	10.0	4	16.2	73
14	1/2-3/4	MTZ16155D22 14NPT	16	15.5	4	22.7	101

Order example: MTZ 08076C10 27 NPT MT7

## NPTF

Same Tool for Internal and External Thread



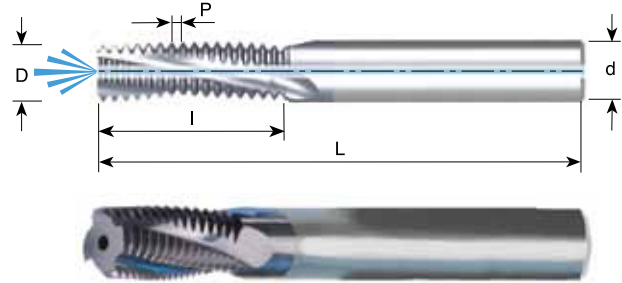
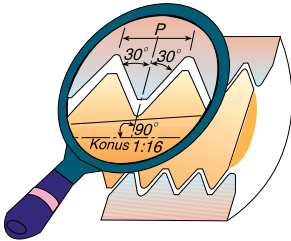
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16-1/8	MT0606C9 27 NPTF	6	6.0	3	9.9	58
18	1/4-3/8	MT0808C14 18 NPTF	8	8.0	3	14.8	64
14	1/2-3/4	MT1212D20 14 NPTF	12	12.0	4	20.9	84
11.5	1-2	MT1616D27 11.5 NPTF	16	16.0	4	27.6	105
8	≥2 1/2	MT2020D39 8 NPTF	20	20.0	4	39.7	105

Order example: MT 1212D20 14 NPTF MT7

For thread mills with coolant bore see next page  
 For conical preparation end mills see page 219

## NPTF With internal coolant bore

Same Tool for Internal and External Thread

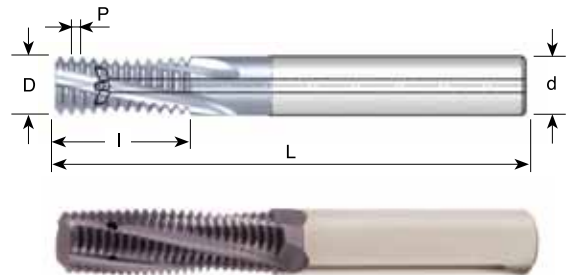
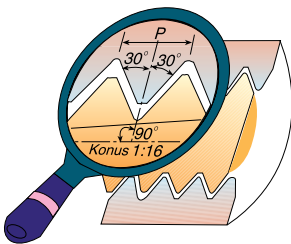


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	<b>MTB08076C10 27 NPTF</b>	8	7.6	3	10.8	64
18	1/4-3/8	<b>MTB1010D16 18 NPTF</b>	10	10.0	4	16.2	73
14	1/2-3/4	<b>MTB16155D22 14 NPTF</b>	16	15.5	4	22.7	105
11.5	1-2	<b>MTB2022D29 11.5 NPTF</b>	20	20.0	4	29.8	105
8	≥ 2 1/2	<b>MTB2020D39 8 NPTF</b>	20	20.0	4	39.7	105

Order example: MTB 16155D22 14 NPTF MT7

## NPTF With internal coolant through the flutes

Same Tool for Internal and External Thread



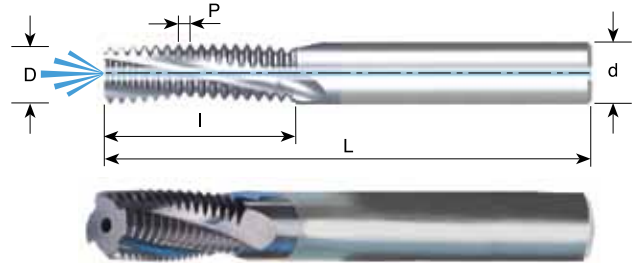
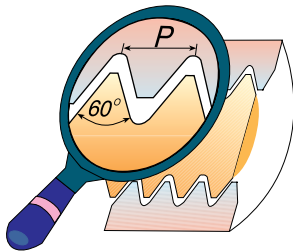
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	<b>MTZ08076C10 27 NPTF</b>	8	7.6	3	10.8	64
18	1/4-3/8	<b>MTZ1010D16 18 NPTF</b>	10	10.0	4	16.2	73
14	1/2-3/4	<b>MTZ16155D22 14 NPTF</b>	16	15.5	4	22.7	101

Order example: MTZ 1010D16 18 NPTF MT7

For conical preparation end mills see page 219

## NPS With internal coolant bore

Same Tool for Internal and External Thread - Inch Shank

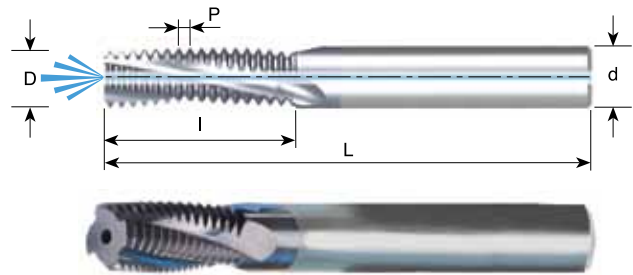
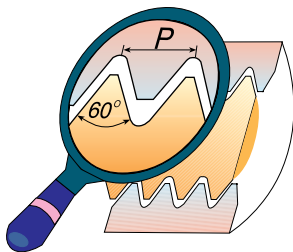


Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
27	1/8	<b>MTB0312C04 27 NPS</b>	5/16	7.6	3	10.8	63
18	1/4-3/8	<b>MTB0375D06 18 NPS</b>	3/8	9.5	4	16.2	76
14	1/2-3/4	<b>MTB0625D08 14 NPS</b>	5/8	15.5	4	22.7	101
11.5	1-2	<b>MTB0750D11 11.5 NPS</b>	3/4	19.0	4	29.8	101

Order example: MTB 0375D06 18 NPS MT7

## NPSF With internal coolant bore

Same Tool for Internal and External Thread - Inch Shank

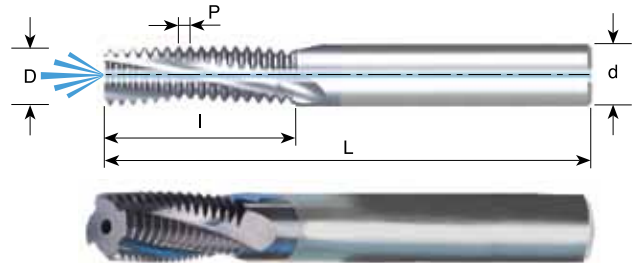
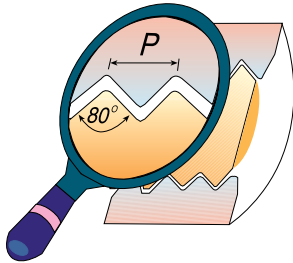


Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
27	1/8	<b>MTB0312C04 27 NPSF</b>	5/16	7.6	3	10.8	63
18	1/4-3/8	<b>MTB0375D06 18 NPSF</b>	3/8	9.5	4	16.2	76
14	1/2-3/4	<b>MTB0625D08 14 NPSF</b>	5/8	15.5	4	22.7	101
11.5	1-2	<b>MTB0750D11 11.5 NPSF</b>	3/4	19.0	4	29.8	101

Order example: MTB 0312C04 27 NPSF MT7

## PG DIN 40430 - With internal coolant bore

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
20	Pg 7	<b>MTB1010D19 20 PG</b>	10	10.0	4	19.7	73
18	Pg 9, 11, 13.5, 16	<b>MTB1212D20 18 PG</b>	12	12.0	4	20.5	84
16	Pg 21, 29, 36, 42, 48	<b>MTB1212D23 16 PG</b>	12	12.0	4	23.0	84

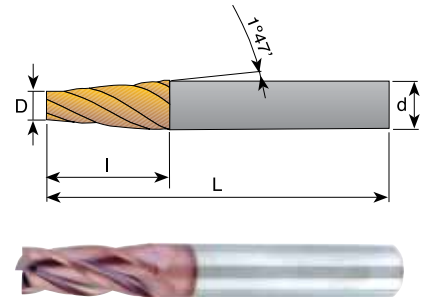
Order example: MTB 1212 D20 18 PG MT7

## Solid Carbide Tapered End Mills

Solid carbide tapered end mills are used for milling preparation of conical threads before the thread milling operation.

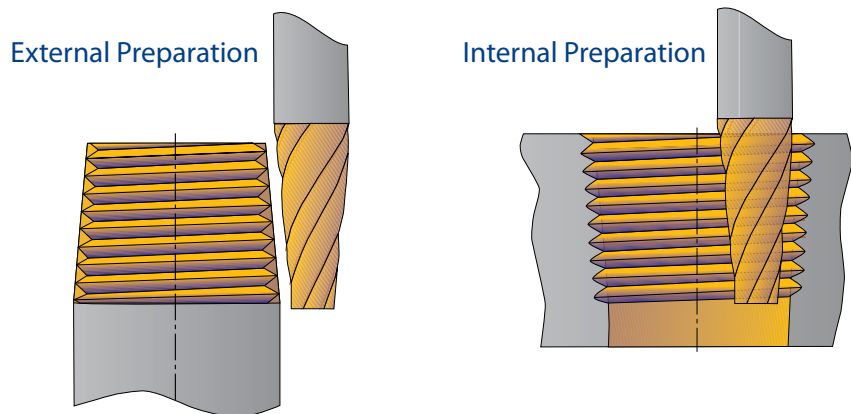
### Advantages:

- \* Increases the tool life of mill thread cutters and indexable inserts.
- \* Equal and uniform load along the cutting edge of the mill thread cutter.
- \* Shorter machining time during the mill thread operation, due to the tapered preparation.



Ordering Code	d	D	l	L	No. of Flutes	Size
<b>SC0652D12</b>	6	5.2	12	58	4	NPT 1/16" - 1/8" NPTF 1/16" - 1/8" BSPT 1/16" - 1/8"
<b>SC1085D24</b>	10	8.5	24	73	4	NPT 1/8" - 1" NPTF 1/8" - 1" BSPT 1/8" - 1"
<b>SC1210D32</b>	12	10	32	84	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"

Order example: SC 1085D24 MT7  
Carbide grade: MT7

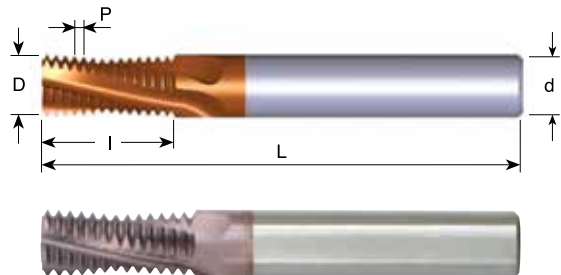
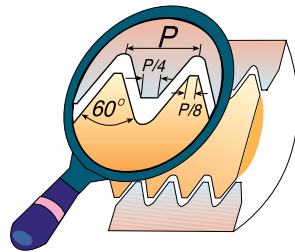


## Mill - Thread Solid Carbide for External Threads

### Advantages:

- \* Excellent surface finish thanks to the spiral flutes
- \* Short machining time due to multi 3 to 5 flutes

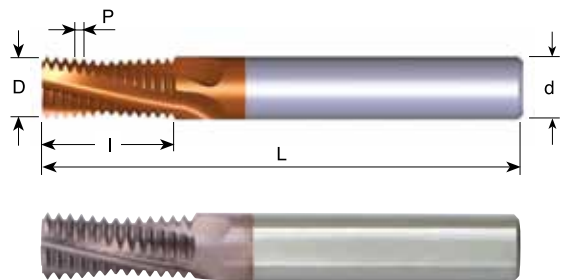
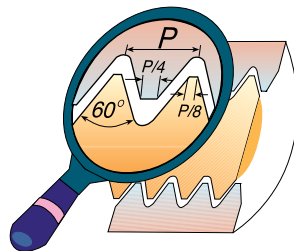
### ISO



Pitch mm	Ordering Code	d	D	No. of Flutes	I	L
1.0	<b>EMT1010D16 1.0 ISO</b>	10	10.0	4	16.5	73
1.0	<b>EMT1212E20 1.0 ISO</b>	12	12.0	5	20.5	84
1.25	<b>EMT1010D16 1.25 ISO</b>	10	10.0	4	16.9	73
1.5	<b>EMT1010D15 1.5 ISO</b>	10	10.0	4	15.8	73
1.5	<b>EMT1212D20 1.5 ISO</b>	12	12.0	4	20.3	84
1.75	<b>EMT1212D20 1.75 ISO</b>	12	12.0	4	20.1	84
2.0	<b>EMT1010C17 2.0 ISO</b>	10	10.0	3	17.0	73
2.0	<b>EMT1212D21 2.0 ISO</b>	12	12.0	4	21.0	84

Order example: EMT 1010D15 1.5 ISO MT7

### UN



Pitch TPI	Ordering Code	d	D	No. of Flutes	I	L
24	<b>EMT1010D16 24 UN</b>	10	10.0	4	16.4	73
20	<b>EMT1212E21 20 UN</b>	12	12.0	5	21.0	84
18	<b>EMT1212D20 18 UN</b>	12	12.0	4	20.5	84
16	<b>EMT1212D21 16 UN</b>	12	12.0	4	21.4	84
14	<b>EMT1212D20 14 UN</b>	12	12.0	4	20.9	84
12	<b>EMT1212D20 12 UN</b>	12	12.0	4	20.1	84

Order example: EMT 1212D20 18 UN MT7

# Mini Mill-Thread



## MTS

- Threading from ISO M1 x 0.25 and 0-80UN.
- Working in high cutting speed.
- Short machining time.
- Low cutting forces thanks to the short profile.
- No broken taps.
- Machining of hardened materials up to 45 HRc.

## Carbide grade: MT7

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

## MTI - For threading deep parts

**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.

**MT11** Ultra-fine Sub-micron grade with advanced PVD triple blue coating

## Advantages

- Enables machining in deep holes.
- Same tool can produce a wide range of threads and pitches.
- Same tool can produce both External and Internal threads.
- Coolant through the flutes is very effective for deep holes.
- Spiral flutes allow smooth cutting action.
- Shorter machining time due to multi (3 to 5) flutes.
- Longer tool life due to special triple coating.

## Contents:

Page:

Product Identification	222
<b>MTS</b>	
ISO	223-224
UN	225-226
G55°	227
UNJ - with Internal Coolant through the flutes	228
MJ - with Internal Coolant through the flutes	228

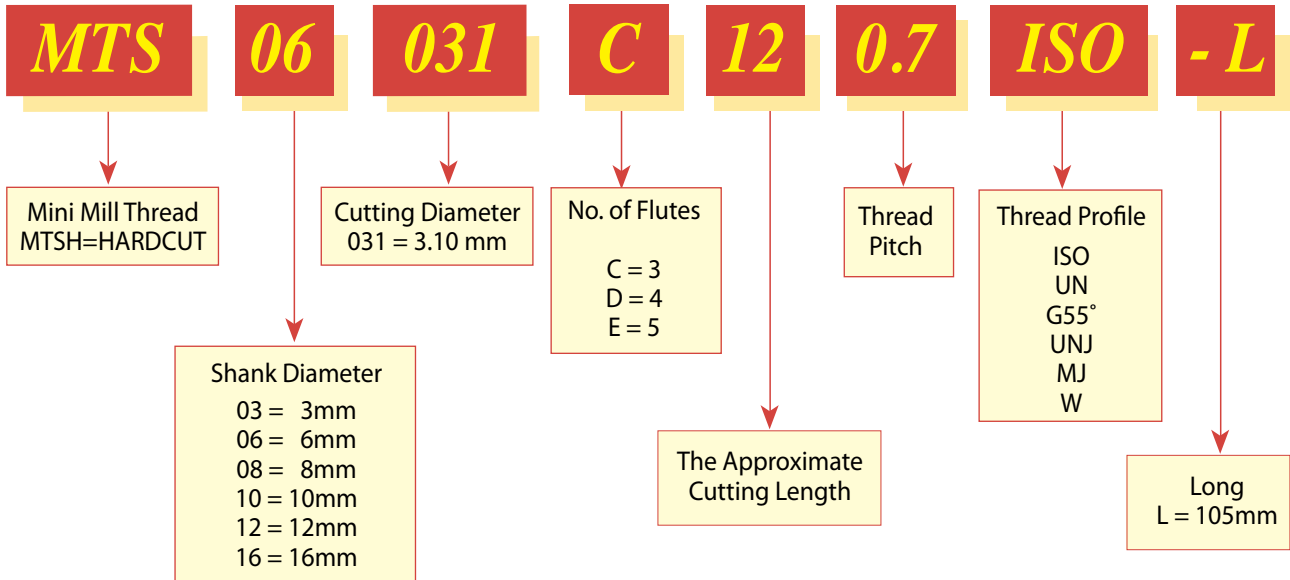
## Contents:

Page:

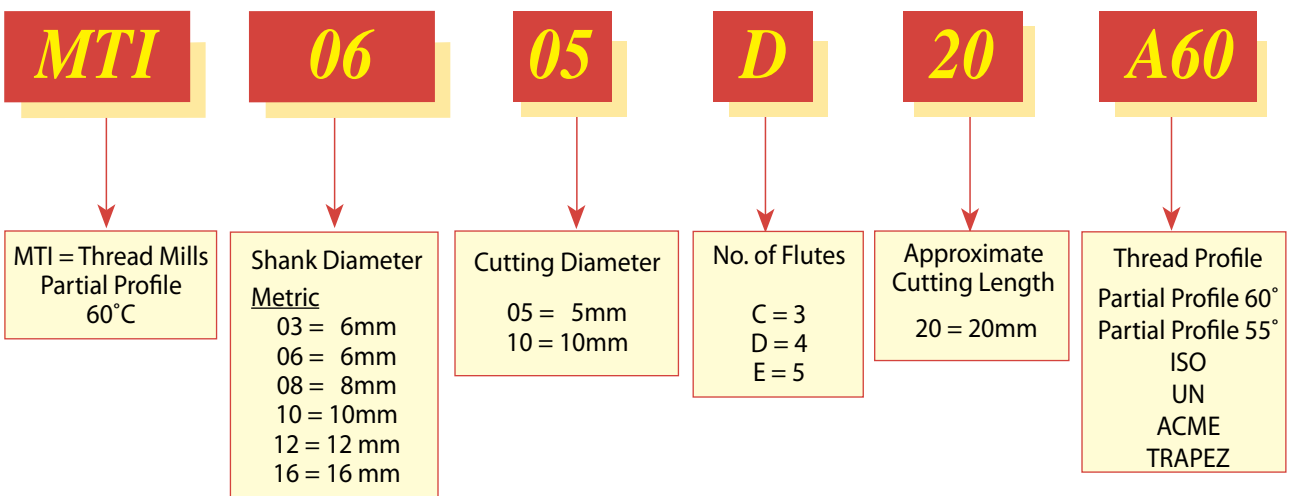
<b>MTI</b>	
Partial Profile 60°	229
Partial Profile 60° - with Internal Coolant through the flutes	229
Partial Profile 55°	230
ISO	231
UN	231
TRAPEZ	232
Acme	232

## Product Identification

### Mini Mill-Thread MTS Ordering Codes



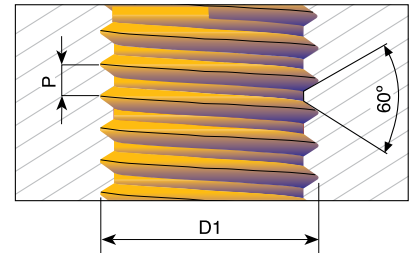
### Mini Mill-Thread MTI Ordering Codes





## ISO

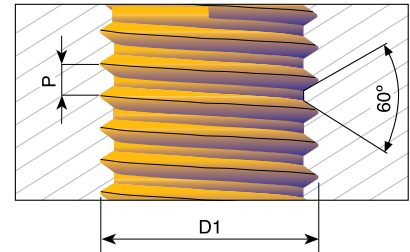
### Tools for Internal Thread



Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
0.25	M1	MTS03007C2 0.25 ISO	3	0.72	3	2.5	39	2.5xD
0.25	M1.2	MTS03009C3 0.25 ISO	3	0.90	3	3.0	39	2xD
0.3	M1.4	MTS03011C4 0.3 ISO	3	1.05	3	4.0	39	3xD
0.35	M1.6	MTS03012C5 0.35 ISO	3	1.20	3	4.8	39	3xD
		MTS06012C5 0.35 ISO-L				4.8	105	
0.35	M5	MTS06045D14 0.35 ISO	6	4.50	4	14.5	48	3xD
0.4	M2	MTS06016C4 0.4 ISO	6	1.53	3	4.5	58	2xD
		MTS06016C4 0.4 ISO-L				4.5	105	
		MTS03016C6 0.4 ISO	3			6.0	39	3xD
		MTS03016C10 0.4 ISO				10.4	39	5xD
0.45	M2.2	MTS06017C5 0.45 ISO	6	1.65	3	5.0	58	2xD
		MTS03017C7 0.45 ISO	3			7.0	39	3xD
0.45	M2.5	MTS0602C5 0.45 ISO	6	1.95	3	5.5	58	2xD
		MTS0602C5 0.45 ISO-L				5.5	105	
		MTS0602C7 0.45 ISO				7.5	58	3xD
		MTS0602C8 0.45 ISO-L	8.0			105		
		MTS0302C10 0.45 ISO	3			10.5	39	
0.5	M3	MTS06024C6 0.5 ISO	6	2.37	3	6.5	58	2xD
		MTS06024C6 0.5 ISO-L				6.5	105	
		MTS06024C9 0.5 ISO				3	9.5	58
		MTS06024C9 0.5 ISO-L	9.5				105	
		MTS03024C12 0.5 ISO	3				12.5	39
		MTS03024C15 0.5 ISO				15.5	39	5xD
0.5	M6, M7	MTS06054D20 0.5 ISO	6	5.35	4	20.0	58	3xD
0.6	M3.5	MTS06028C7 0.6 ISO	6	2.75	3	7.5	58	2xD
		MTS06028C10 0.6 ISO				10.5	58	3xD
0.7	M4	MTS06031C9 0.7 ISO	6	3.10	3	9.0	58	2xD
		MTS06031C12 0.7 ISO				12.5	58	3xD
		MTS06031C12 0.7 ISO-L				12.5	105	
		MTS06031C16 0.7 ISO				16.7	58	4xD
0.75	M10	MTS0808D25 0.75 ISO	8	8.00	4	25.0	64	2.5xD
0.8	M5	MTS06038C12 0.8 ISO	6	3.80	3	12.5	58	2xD
		MTS06038C16 0.8 ISO				16.0	58	3xD
		MTS06038C16 0.8 ISO-L				16.0	105	
		MTS0604C20 0.8 ISO	4.00			20.8	58	4xD

## ISO

### Tools for Internal Thread



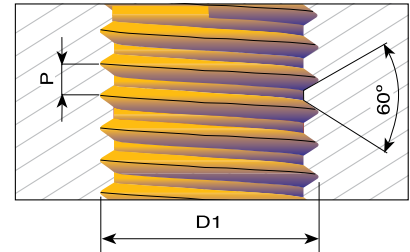
Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
1.0	M6	MTS06047C14 1.0 ISO	6	4.65	3	14.0	58	2xD
		MTS06047C20 1.0 ISO				20.0	58	3xD
		MTS06047C20 1.0 ISO-L		20.0		105	3xD	
		MTS06048C25 1.0 ISO		25.0		58	4xD	
1.0	M10	MTS0808D31 1.0 ISO	8	8.00	4	31.0	64	3xD
1.25	M8	MTS0606C18 1.25 ISO	6	6.0	3	18.0	58	2xD
		MTS0606C24 1.25 ISO				24.0	58	3xD
		MTS0606C24 1.25 ISO-L				24.0	105	3xD
1.5	M10	MTS08078C23 1.5 ISO	8	7.80	3	23.0	64	2xD
		MTS08078C31 1.5 ISO				31.5	64	3xD
		MTS08078C31 1.5 ISO-L				31.5	105	3xD
1.75	M12	MTS1009C26 1.75 ISO	10	9.00	3	26.0	73	2xD
		MTS1009C37 1.75 ISO				37.8	73	3xD
2.0	M16	MTS12118D35 2.0 ISO	12	11.80	4	35.0	84	2xD
		MTS12118D50 2.0 ISO		11.80		50.0	105	3xD
2.5	M20	MTS1615E43 2.5 ISO	16	15.00	5	43.0	105	2xD

- 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.

Order example: MTS 03024C12 0.5 ISO MT7

## UN

### Tools for Internal Thread

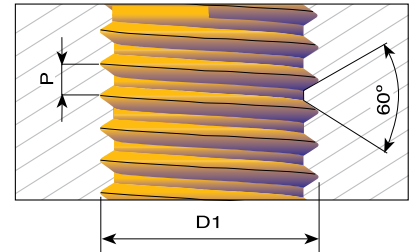


Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L	Thread depth
80		0	MTS06012C4 80 UN	6	1.15	3	4.0	58	3xD
			MTS03012C8 80 UN	3			8.0	39	5xD
72		1	MTS06014C3 72 UN	6	1.45	3	3.7	58	2xD
			MTS03015C6 72 UN	3			6.0	39	3xD
64	1	2	MTS06014C3 64 UN	6	1.40	3	3.8	58	2xD
56	2	3	MTS03016C4 56 UN	3	1.65	3	4.4	39	2xD
			MTS06016C4 56 UN	6			4.4	58	
			MTS03016C6 56 UN	3			6.6	39	3xD
			MTS06016C6 56 UN	6			6.6	58	
			MTS06016C6 56 UN-L	6			6.6	105	
			MTS03016C9 56 UN	3			9.2	39	
MTS03016C11 56 UN	3	11.4	39	5xD					
48	3	4	MTS06019C5 48 UN	6	1.90	3	5.2	58	2xD
40	4		MTS06021C6 40 UN	6	2.10	3	6.3	58	2xD
			MTS06021C6 40 UN-L	6			6.3	105	
			MTS03021C8 40 UN	3			8.0	39	3xD
			MTS06021C8 40 UN	6			8.0	58	
			MTS06021C8 40 UN-L	6			8.0	105	
			MTS03021C12 40 UN	3			12.0	39	
40	5	6	MTS06024C7 40 UN	6	2.45	3	7.0	58	2xD
			MTS06024C9 40 UN	6			9.6	58	3xD
36		8	MTS06033C9 36 UN	6	3.30	3	9.0	58	2xD
32	6		MTS06025C7 32 UN	6	2.55	3	7.1	58	2xD
			MTS06025C7 32 UN-L	6			7.1	105	
			MTS03025C10 32 UN	3			10.5	39	3xD
			MTS06025C10 32 UN	6			10.5	58	
			MTS06025C10 32 UN-L	6			10.5	105	
			MTS03025C14 32 UN	3			14.8	39	
32	8		MTS06032C9 32 UN	6	3.20	3	9.5	58	2xD
			MTS06032C9 32 UN-L	6			9.5	105	
			MTS06032C12 32 UN	6			12.5	58	3xD
			MTS06032C12 32 UN-L	6			12.5	105	
			MTS06032C17 32 UN	6			17.5	58	
32		10	MTS06037C10 32 UN	6	3.70	3	10.5	58	2xD
			MTS06037C15 32 UN	6			15.0	58	3xD
			MTS06037C15 32 UN-L	6			15.0	105	
			MTS06037C20 32 UN	6			20.0	58	4xD

Order example: MTS 06021C6 40 UN MT7

## UN

### Tools for Internal Thread



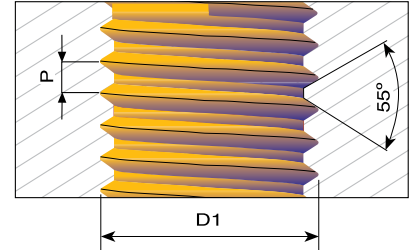
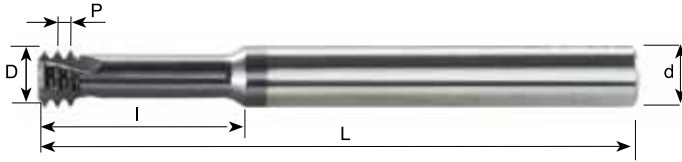
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L	Thread depth
28		12	<a href="#">MTS06042C11 28 UN</a>	6	4.20	3	11.0	58	2xD
28		1/4	<a href="#">MTS0605C14 28 UN</a>	6	5.00	3	14.5	58	2xD
			<a href="#">MTS0605C19 28 UN</a>				19.0	58	
			<a href="#">MTS0605C19 28 UN-L</a>				19.0	105	3xD
24	10, 12		<a href="#">MTS06035C10 24 UN</a>	6	3.50	3	10.6	58	2xD
			<a href="#">MTS06035C15 24 UN</a>				15.5	58	3xD
24		5/16, 3/8	<a href="#">MTS08066C17 24 UN</a>	8	6.60	3	17.0	64	2xD
			<a href="#">MTS08066C24 24 UN</a>				24.0	64	3xD
20	1/4		<a href="#">MTS06047C14 20 UN</a>	6	4.75	3	14.0	58	2xD
			<a href="#">MTS06047C14 20 UN-L</a>				14.0	105	
			<a href="#">MTS06047C19 20 UN</a>				19.0	58	3xD
			<a href="#">MTS06047C19 20 UN-L</a>				19.0	105	
20		7/16	<a href="#">MTS0808C25 20 UN</a>	8	8.00	3	25.0	64	2xD
			<a href="#">MTS0808C34 20 UN</a>				34.6	64	3xD
18	5/16		<a href="#">MTS0606C17 18 UN</a>	6	6.00	3	17.0	58	2xD
			<a href="#">MTS0606C23 18 UN</a>				23.0	58	3xD
18		5/8	<a href="#">MTS1212D35 18 UN</a>	12	12.00	4	35.0	84	2xD
			<a href="#">MTS1212D49 18UN</a>				49.0	105	3xD
16	3/8		<a href="#">MTS08067C22 16 UN</a>	8	6.70	3	22.0	64	2xD
			<a href="#">MTS08067C30 16 UN</a>				30.2	64	3xD
14	7/16		<a href="#">MTS08077C25 14 UN</a>	8	7.70	3	25.0	64	2xD
			<a href="#">MTS08077C35 14 UN</a>				35.2	64	3xD
13	1/2		<a href="#">MTS10092C27 13 UN</a>	10	9.20	3	27.5	73	2xD
			<a href="#">MTS10092C40 13 UN</a>				40.1	73	3xD
12	9/16		<a href="#">MTS12105C31 12 UN</a>	12	10.50	3	31.5	84	2xD
			<a href="#">MTS12105C45 12 UN</a>				45.0	105	3xD
11	5/8		<a href="#">MTS12114C34 11 UN</a>	12	11.40	3	34.5	84	2xD
			<a href="#">MTS12114C50 11 UN</a>				50.0	105	3xD
10	3/4		<a href="#">MTS16144D41 10 UN</a>	16	14.40	4	41.5	105	2xD
			<a href="#">MTS16144D59 10 UN</a>				59.7	105	3xD

Order example: [MTS 0605C19 28 UN MT7](#)

- 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

Same Tool for Internal and External Thread



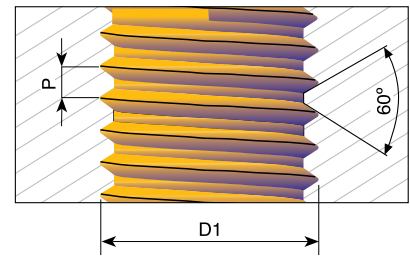
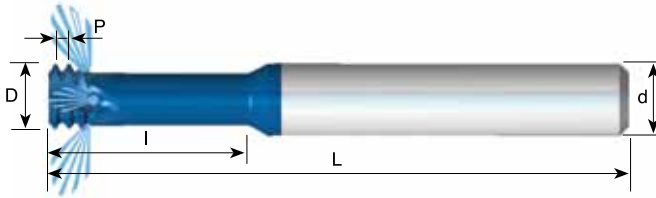
For thread depth up to 2 x D1

Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
28	G 1/8	<b>MTS08078C19 28 W</b>	8	7.08	3	19.5	64	2xD
19	G 1/4 - 3/8	<b>MTS1010D30 19 W</b>	10	10.0	4	30.0	73	
14	G 1/2 - 7/8	<b>MTS1212D37 14 W</b>	12	12.0	4	37.0	84	
11	G ≥ 1	<b>MTS1616D44 11 W</b>	16	16.0	4	44.0	105	

Order example: MTS 1212D37 14 W MT7

## UNJ With internal coolant through the flutes

### Tools for Internal Thread



### For thread depth up to 2.5 x 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

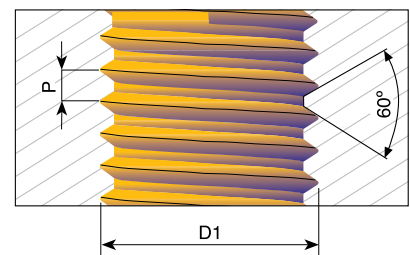
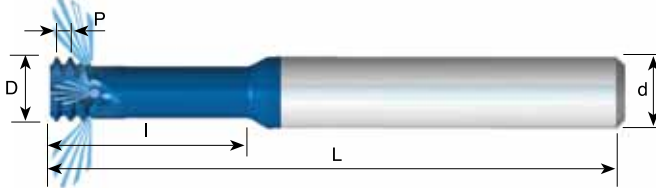
\* Cutters without coolant

Order example: MTS 06049C16 20 UNJ MT8

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

## MJ With internal coolant through the flutes

### Tools for Internal Thread



### For thread depth up to 2.5 x D1

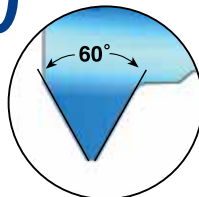
Pitch TPI	D1	Ordering Code	d	D	No. of Flutes	I	L
* 0.7	MJ4	MTS06032C10 0.7 MJ	6	3.20	3	10.0	58
* 0.8	MJ5	MTS06039C12 0.8 MJ	6	3.90	3	12.5	58
* 1.0	MJ6	MTS06048C15 1.0 MJ	6	4.80	3	15.0	58
1.25	MJ8	MTS08061C20 1.25 MJ	8	6.10	3	20.0	64
1.5	MJ10	MTS0808C25 1.5 MJ	8	8.00	3	25.5	64
1.75	MJ12	MTS10092C30 1.75 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

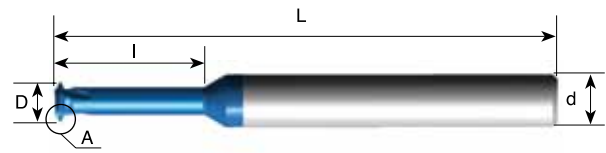
Order example: MTS 06048C15 1.0 MJ MT8

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

## Partial Profile 60° Same Tool for Internal and External Thread



Detail A

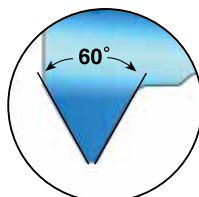


Pitch mm	Pitch TPI	Ordering Code	M Coarse	M Fine	UN, UNC, UNS UNF, UNEF	d mm	D	No. of Flutes	I	L
0.25-0.35	100-72	<b>MTI03012C3 A60</b>	M1.6 x 0.35	M1.6 x 0.25 M1.8 x 0.25 M2.0 x 0.25	0-80 UNF	3	1.15	3	3.1	39
0.35-0.45	72-56	<b>MTI03014C4 A60</b>	M2 x 0.4 M2.2 x 0.45	M2 x 0.35 M2.2 x 0.35	1-64 UNC, 1-72 UNF, 2-56 UNC, 2-64 UNF	3	1.40	3	3.7	39
0.35-0.6	72-40	<b>MTI03019C5 A60</b>	M2.5 x 0.45	M2.5 x 0.35 M3 x 0.35	3-84 UNC, 3-56 UNF, 4-40 UNC, 4-48 UNF	3	1.90	3	5.2	39
0.5 -0.8	48-32	<b>MTI03024C7 A60</b>	M3 x 0.5 M3.5 x 0.6	M3.5 x 0.5	5-40 UNC, 5-44 UNF, 6-32 UNC, 6-40 UNF	3	2.45	3	7.0	39
0.5 -1.0	48-24	<b>MTI06032C9 A60</b>	M4 x 0.7 M4.5 x 0.75	M4 x 0.5	8-32 UNC, 8-36 UNF, 10-24 UNC, 10-28 UNS, 10-32 UNF	6	3.20	3	9.5	58
0.5 -1.0	48-24	<b>MTI0604C12 A60</b>	M5 x 0.8 M6 x 1.0	M5 x 0.5 M5.5 x 0.5 M5 x 0.75	10-36 UNS, 10-40 UNS, 10-48 UNS, 12-24 UNC, 12-28 UNF	6	4.00	3	12.5	58

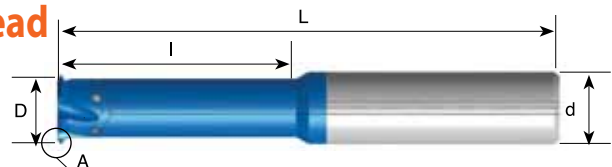
Order example: MTI 03024C7 A60 MT11

Carbide grade: **MT11** Ultra-fine Sub-micron grade with PVD triple Blue coating

## Partial Profile 60° With internal coolant through the flutes Same Tool for Internal and External Thread



Detail A



### For threading deep parts

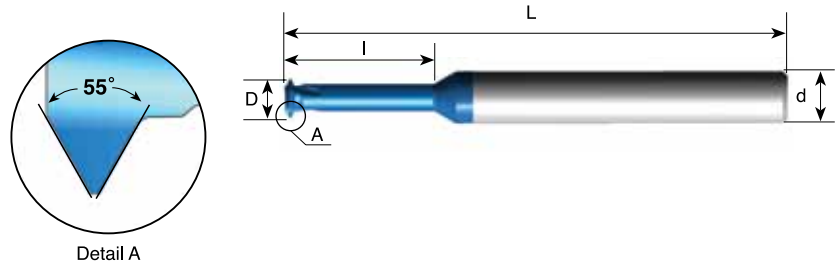
Pitch mm	Pitch TPI	Thread Dia. (mm)	Ordering Code	d	D	No. of Flutes	I	L
Int. 0.5 - 0.8 Ex. 0.4 - 0.8	56-28 64-32	∅ ≥ 6	<b>MTI0605D20 A60</b>	6	5.0	4	20	58
		∅ ≥ 9	<b>MTI0808D28 A60</b>	8	8.0	4	28	64
		∅ ≥ 13	<b>MTI1121E38 A60</b>	12	12.0	5	38	84
Int. 1.0 - 1.75 Ex. 0.8 - 1.5	28-14 32-16	∅ ≥ 10	<b>MTI0808D30 A60</b>	8	8.0	4	30	64
		∅ ≥ 12	<b>MTI1010D35 A60</b>	10	10.0	4	35	73
		∅ ≥ 14	<b>MTI1121E39 A60</b>	12	12.0	5	39	84
Int. 2.0 - 3.0 Ex. 1.75-2.5	13- 8 15-10	∅ ≥ 16	<b>MTI1121E40 A60</b>	12	12.0	5	40	84
		∅ ≥ 18	<b>MTI11614E45 A60</b>	16	14.0	5	45	101
		∅ ≥ 20	<b>MTI11616E50 A60</b>	16	16.0	5	50	101

Order example: MTI 0808D28 A60 MT8

Carbide grade: **MT8** With triple Blue coating

## Partial Profile 55°

Same Tool for Internal and External Thread



Pitch TPI	Ordering Code	d	D	No. of Flutes	I	L
40-32	<b>MTI03023C7 A55</b>	3	2.25	3	7.0	39
28-20	<b>MTI06044C14 A55</b>	6	4.35	3	14.0	58
28-18	<b>MTI06059C20 A55</b>	6	5.85	3	20.5	58
20-14	<b>MTI0807C23 A55</b>	8	7.00	3	23.0	64

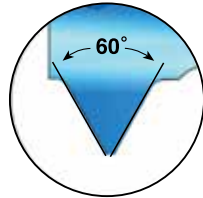
Order example: MTI 06044C14A55 MT11

**Carbide grade: MT11** Ultra-fine Sub-micron grade with PVD triple Blue coating

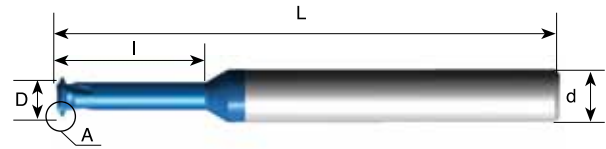


## ISO

### Tools for Internal Thread



Detail A



### For thread depth up to 3.5 x D1

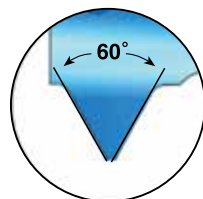
Pitch mm	M Coarse	M Fine	Ordering Code	d	D	No. of Flutes	l	L
0.25	M1 x 0.25		<b>MTI03007C3 0.25 ISO</b>	3	0.72	3	3.6	39
0.25	M1.2 x 0.25	M1.4 x 0.25 M1.6 x 0.25	<b>MTI03009C4 0.25 ISO</b>	3	0.90	3	4.3	39
0.3	M1.4 x 0.3		<b>MTI03011C5 0.3 ISO</b>	3	1.05	3	5.0	39
0.35	M1.6 x 0.35	M2 x 0.35 M2.2 x 0.35	<b>MTI03012C6 0.35 ISO</b>	3	1.20	3	5.7	39
0.4	M2 x 0.4		<b>MTI03016C7 0.4 ISO</b>	3	1.55	3	7.1	39
0.5	M3 x 0.5	M3.5 x 0.5 M4 x 0.5	<b>MTI03024C10 0.5 ISO</b>	3	2.37	3	10.6	39

Order example: MTI 03012C6 0.35 ISO MT11

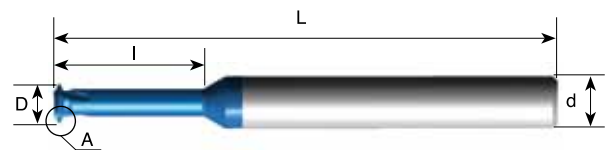
**Carbide grade: MT11** Ultra-fine Sub-micron grade with PVD triple Blue coating

## UN

### Tools for Internal Thread



Detail A



### For thread depth up to 3.5 x D1

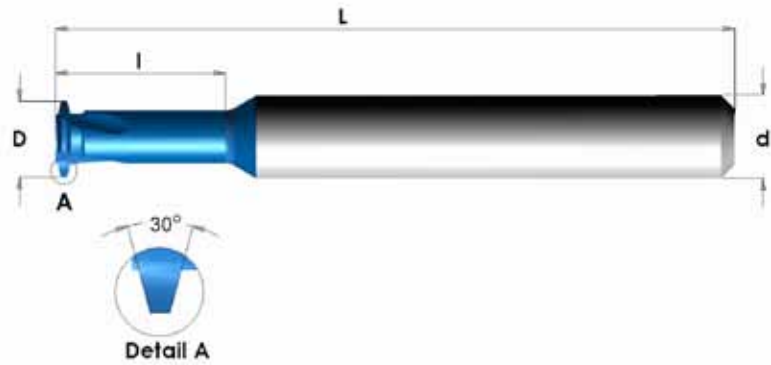
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L
80		0	<b>MTI03012C5 80 UN</b>	3	1.15	3	5.5	39
72		1	<b>MTI03015C7 72 UN</b>	3	1.45	3	6.5	39
56	2	3	<b>MTI03016C9 56 UN</b>	3	1.65	3	8.9	39
40	4		<b>MTI03021C10 40 UN</b>	3	2.10	3	10.1	39

Order example: MTI 03016C9 56 UN MT11

**Carbide grade: MT11** Ultra-fine Sub-micron grade with PVD triple Blue coating

## Trapez-DIN 103

Tools for Internal Thread



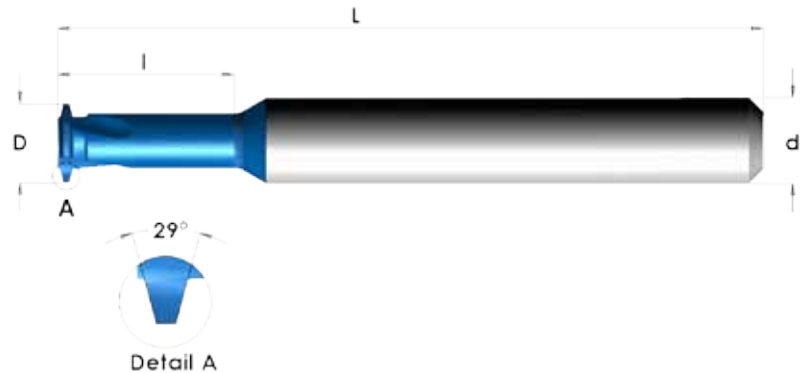
For thread depth up to 2 x D1

Pitch mm	Thread size	Ordering Code	d	D	No. of Flutes	l	L
1.5	Tr8x1.5 Tr9x1.5	<b>MTI06055C13 1.5 TR</b>	6	5.5	3	13.5	58
2	Tr10x2 Tr11x2	<b>MTI08066C21 2 TR</b>	8	6.6	3	21.0	64
2	Tr12x2 Tr14x2	<b>MTI10086D25 2 TR</b>	10	8.6	4	25.0	73
3	Tr12x3	<b>MTI0807C25 3 TR</b>	8	7.0	3	25.0	64
3	Tr14x3 Tr22x3	<b>MTI10089D29 3 TR</b>	10	8.9	4	29.0	73
4	Tr16x4 Tr18x4 Tr20x4	<b>MTI10092C33 4 TR</b>	10	9.2	3	33.0	73
5	Tr22x5 Tr24x5 Tr26x5	<b>MTI14135D45 5 TR</b>	14	13.5	4	45.0	105

Order example: MTI 08066C21 2TR MT8

## Acme

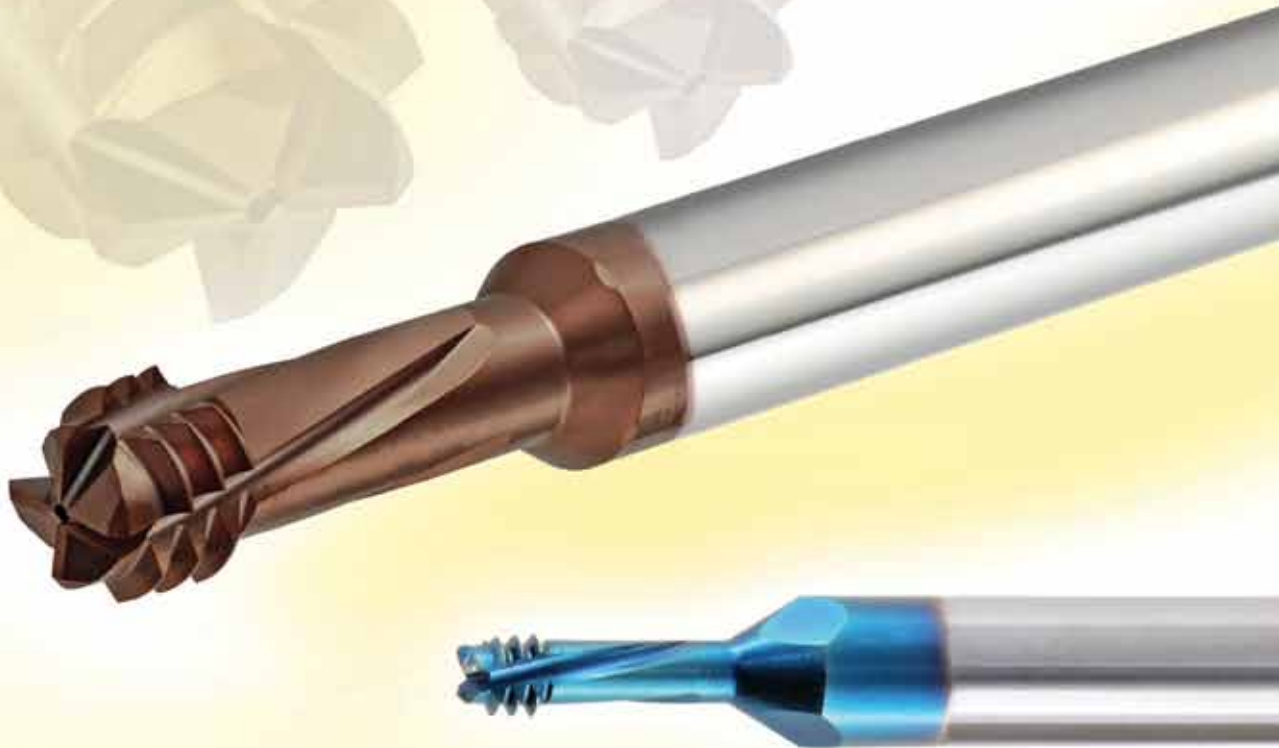
Tools for Internal Thread -  
Inch Shank



Pitch TPI	Thread size	Ordering Code	d	D	No. of Flutes	l	L
16	1/4-16	<b>MTI0250C04 16 ACME</b>	1/4	4.3	3	9.7	64
14	5/16-14	<b>MTI0250C06 14 ACME</b>	1/4	5.2	3	15.2	64
12	3/8-12 7/16-12	<b>MTI0250C08 12 ACME</b>	1/4	6.1	3	19.1	64
10	1/2-10	<b>MTI0375D10 10 ACME</b>	3/8	8.3	4	25.4	76
8	5/8-8	<b>MTI0500D11 8 ACME</b>	1/2	10.4	4	27.9	89
6	3/4-6 7/8-6	<b>MTI0500D12 6 ACME</b>	1/2	12.0	4	30.5	89
5	1-5 1 1/8-5 1 1/4-5	<b>MTI 0625E15 5 ACME</b>	5/8	15.9	5	38.1	102

Order example: MTI 0375D10 10ACME MT8

# DMT 3 in 1 - \*Drill, Thread, Chamfer



**High Performance tools with internal coolant supply for the production of internal threads.  
\*Circular movement produces the thread hole, the thread and a chamfer  
in one work process.**

**Carbide grade: MT7** Sub-micron grade with Titanium Aluminium Nitride multi-layer coating (ISO K10-K20).  
**MT11** Ultra - fine Sub-micron grade with advanced PVD triple Blue coating (for DMTH)

## Advantages of DMT

- Cancels the need for drilling the hole.
- Short cycle time and high performance reduces machining costs.
- Suitable for both blind and through holes.
- Full Profile thread.
- No time lost for tool change, since drilling, chamfering and thread milling are done with one tool.
- Same tool for right-hand or left-hand threads.
- Cuts a wide range of materials.

### Contents:

Product Identification  
ISO  
UN

Page:

234  
235  
236

### Contents:

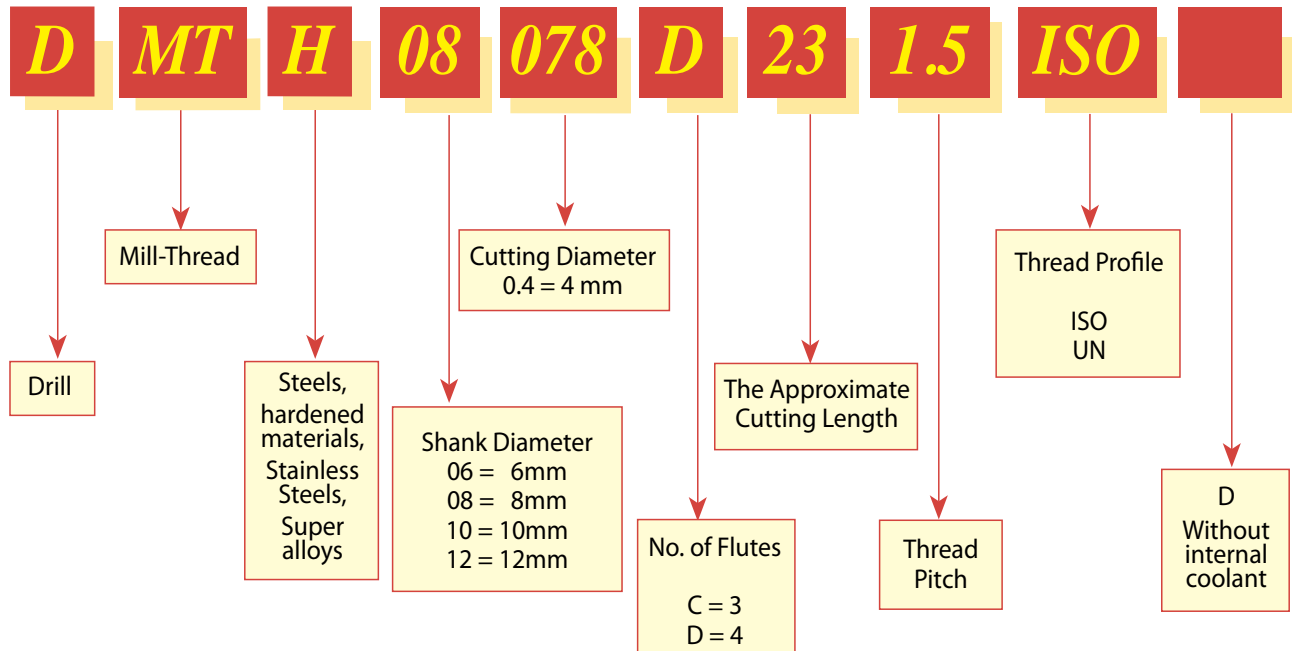
**DMTH**  
ISO  
UN

Page:

237  
237

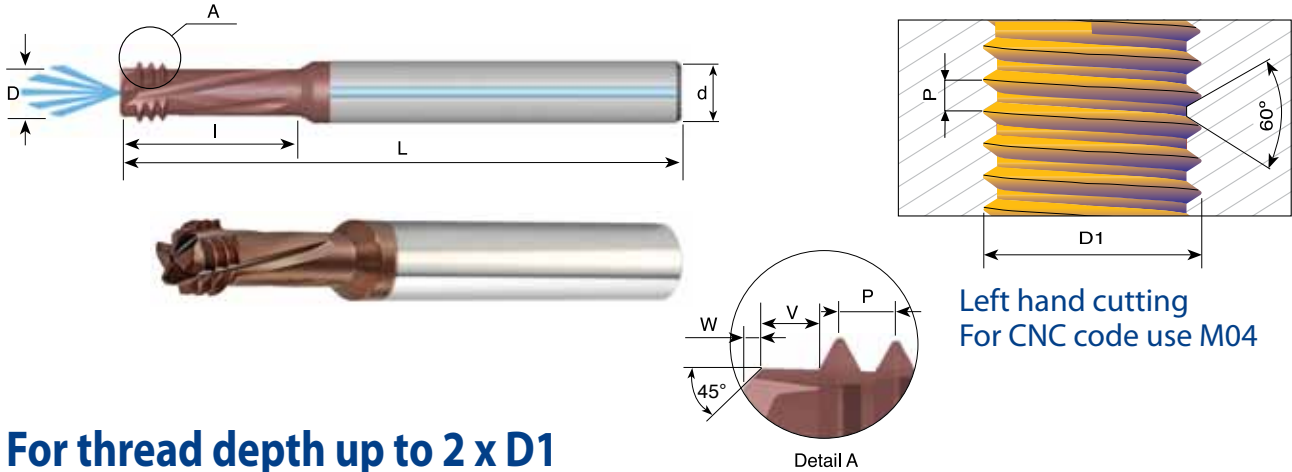
## Product Identification

### DMT 3 in 1 - \*DRILL, THREAD, CHAMFER Ordering Codes



## ISO internal coolant bore

### Tools for Internal Thread



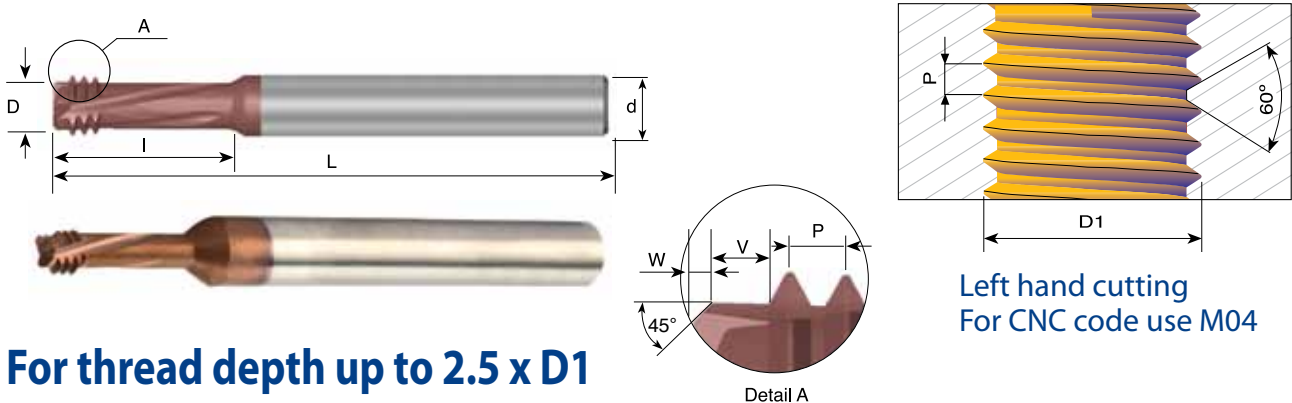
### For thread depth up to 2 x D1

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	W	V	L
1.0	M6 - M9	DMT 08047C14 1.0 ISO	8	4.70	3	14.0	0.4	1.0	64
1.25	M8 - M12	DMT 08061D18 1.25 ISO	8	6.10	4	18.0	0.5	1.25	64
1.5	M10 - M15	DMT 08078D23 1.5 ISO	8	7.80	4	23.0	0.6	1.5	64
1.75	M12	DMT 1009D26 1.75 ISO	10	9.00	4	26.0	0.6	1.75	73
2.0	M16 - M23	DMT 12118D35 2.0 ISO	12	11.80	4	35.0	0.6	2.0	84

Order example: DMT 08047C14 1.0 ISO MT7

**Carbide grade MT7** 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.

## ISO without internal coolant



### For thread depth up to 2.5 x D1

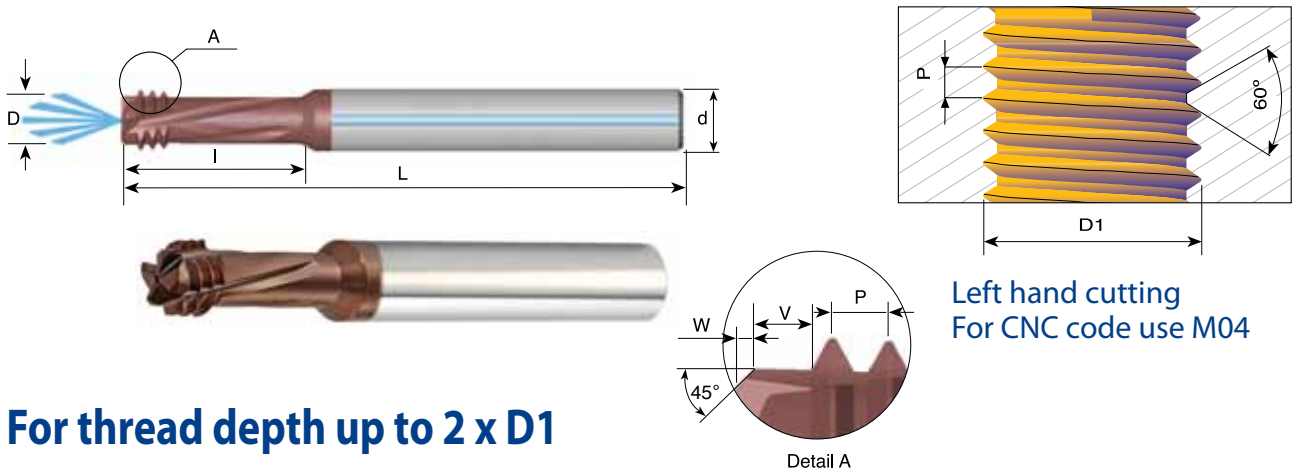
Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	W	V	L
0.7	M4	DMT 06032C11 0.7 ISO-D	6	3.15	3	11.6	0.2	0.7	58
0.8	M5	DMT 0604C14 0.8 ISO-D	6	4.00	3	14.4	0.3	0.8	58

Order example: DMT 06032C11 0.7 ISO-D MT7

**Carbide grade MT7** 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.

## UN internal coolant bore

### Tools for Internal Thread



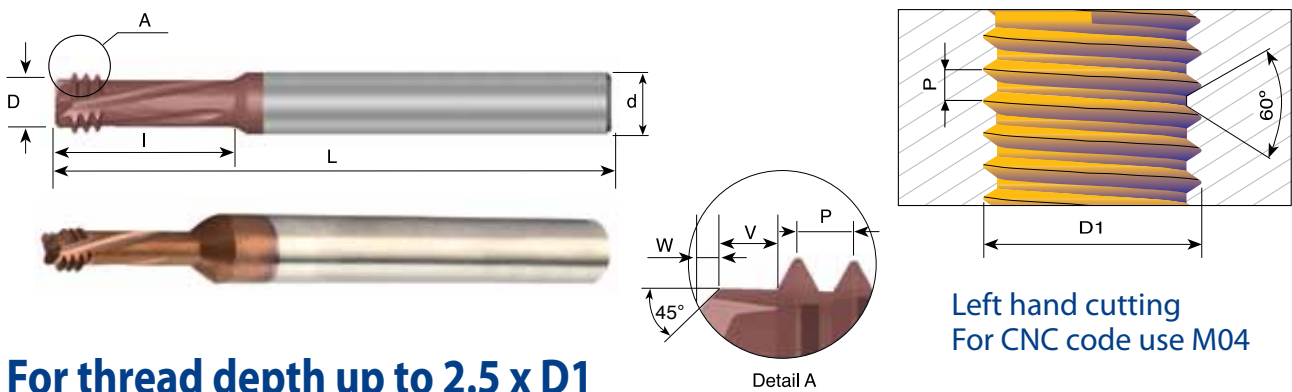
Left hand cutting  
For CNC code use M04

### For thread depth up to 2 x D1

Pitch TPI	UN, UNEF, UNF UNC, UNS	Ordering Code	d	D	No. of Flutes	I	W	V	L
28	1/4 - 3/8	<b>DMT 0805C14 28 UN</b>	8	5.00	3	14.5	0.4	0.9	64
24	5/16 - 1/2	<b>DMT 08065D17 24 UN</b>	8	6.50	4	17.0	0.5	1.05	64
20	1/4 - 3/8	<b>DMT 08048C14 20 UN</b>	8	4.80	3	14.0	0.4	1.25	64
18	5/16 - 7/16	<b>DMT 0806D17 18 UN</b>	8	6.00	4	17.0	0.5	1.4	64
16	3/8 - 1/2	<b>DMT 08067C22 16 UN</b>	8	6.70	3	22.0	0.5	1.6	64

Order example: DMT 08067C 22 16 UN MT7

## UN without internal coolant



Left hand cutting  
For CNC code use M04

### For thread depth up to 2.5 x D1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	W	V	L
36		8	<b>DMT 06033C12 36 UN-D</b>	6	3.30	3	12.0	0.2	0.7	58
32	8		<b>DMT 06032C12 32 UN-D</b>	6	3.20	3	12.3	0.3	0.8	58
32		10	<b>DMT 06038C14 32 UN-D</b>	6	3.80	3	14.0	0.3	0.8	58

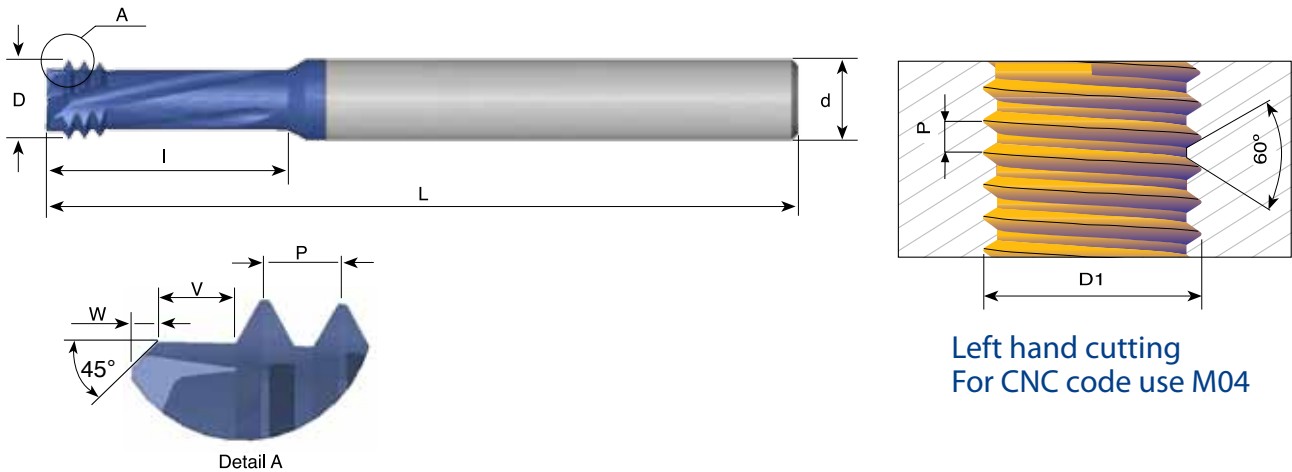
Order example: DMT 06032C12 32UN-D MT7

## DMTH

The new DMTH tools expand the range of the existing DMT line providing the ability to cut steels, hardened materials, stainless steels and super alloys.

## ISO

### Tools for Internal Thread



### For thread depth up to 2 x D1

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	W	V	L
0.7	M4	<b>DMTH 06032 C11 0.7 ISO</b>	6	3.1	3	11.6	0.2	0.7	58
0.8	M5	<b>DMTH 0604 C14 0.8 ISO</b>	6	4.0	3	14.4	0.3	0.8	58
1.0	M6 - M9	<b>DMTH 08047 C14 1.0 ISO</b>	8	4.7	3	14.4	0.4	1.0	64
1.25	M8 - M12	<b>DMTH 08061 D19 1.25 ISO</b>	8	6.1	4	19.0	0.5	1.25	64
1.5	M10- M15	<b>DMTH 08078 D23 1.5 ISO</b>	8	7.8	4	23.6	0.6	1.5	64
1.75	M12	<b>DMTH 1009 D28 1.75 ISO</b>	10	9.0	4	28.1	0.6	1.75	73
2.0	M16- M23	<b>DMTH 12118 D36 2.0 ISO</b>	12	11.8	4	36.6	0.6	2.0	84

Order example: DMTH 1009D28 1.75 ISO MT11

## UN

### Tools for Internal Thread

### For thread depth up to 2 x D1

Pitch TPI	UN, UNEF, UNF UNC, UNS	Ordering Code	d	D	No. of Flutes	I	W	V	L
40	4	<b>DMTH 06021 C7 40 UN</b>	6	2.1	3	7.0	0.1	0.6	58
32	6	<b>DMTH 06026 C8 32 UN</b>	6	2.6	3	8.7	0.1	0.8	58
28	1/4-3/8	<b>DMTH 0805 C14 28 UN</b>	8	5.0	3	14.9	0.4	0.9	64
24	5/16-1/2	<b>DMTH 08065 D18 24 UN</b>	8	6.5	4	18.5	0.5	1.05	64
20	1/4-3/8	<b>DMTH 08048 C15 20 UN</b>	8	4.8	3	15.6	0.4	1.25	64
18	5/16-7/16	<b>DMTH 0806 D19 18 UN</b>	8	6.0	4	19.2	0.5	1.4	64
16	3/8-1/2	<b>DMTH 08067 C22 16 UN</b>	8	6.7	3	22.8	0.5	1.6	64
13	1/2	<b>DMTH 10092 C30 13 UN</b>	10	9.2	3	30.0	0.6	2.0	73
11	5/8	<b>DMTH 12114 C37 11 UN</b>	12	11.4	3	37.0	0.6	2.3	84

Order example: DMTH 08048 C15 20UN MT11



### MTSH Type

Carmex is pioneer in offering solid carbide thread mills tools designed specifically for the machining of hardened materials up to 62HRc. These tools provide high performance, improved cut and an excellent surface finish.

#### HARDCUT MTSH & MTH Types

**Carbide grade: MT9 / MT11** - Ultra fine sub-micron grade with Advanced PVD Triple Coating

### MTH Type

Carmex provide new innovative mill thread solid carbide tools for machining:

- Hardened steels and cast iron up to 62 HRc.
- High temperature alloys.
- Titanium alloys.
- Super Alloys (Hastelloy, Inconel, Nickel Base Alloys).

- Threading from ISO M1.4 x 0.3 and 0-80UN
- Perfect solution for the Die and Mold industry
- Working at high cutting speeds
- Short machining time
- Low cutting forces thanks to the short profile

#### Advantages

- Same tool performs thread milling and chamfering - saves machining time.
- Increased cutting diameter - better rigidity and stability.
- 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.

#### Contents:

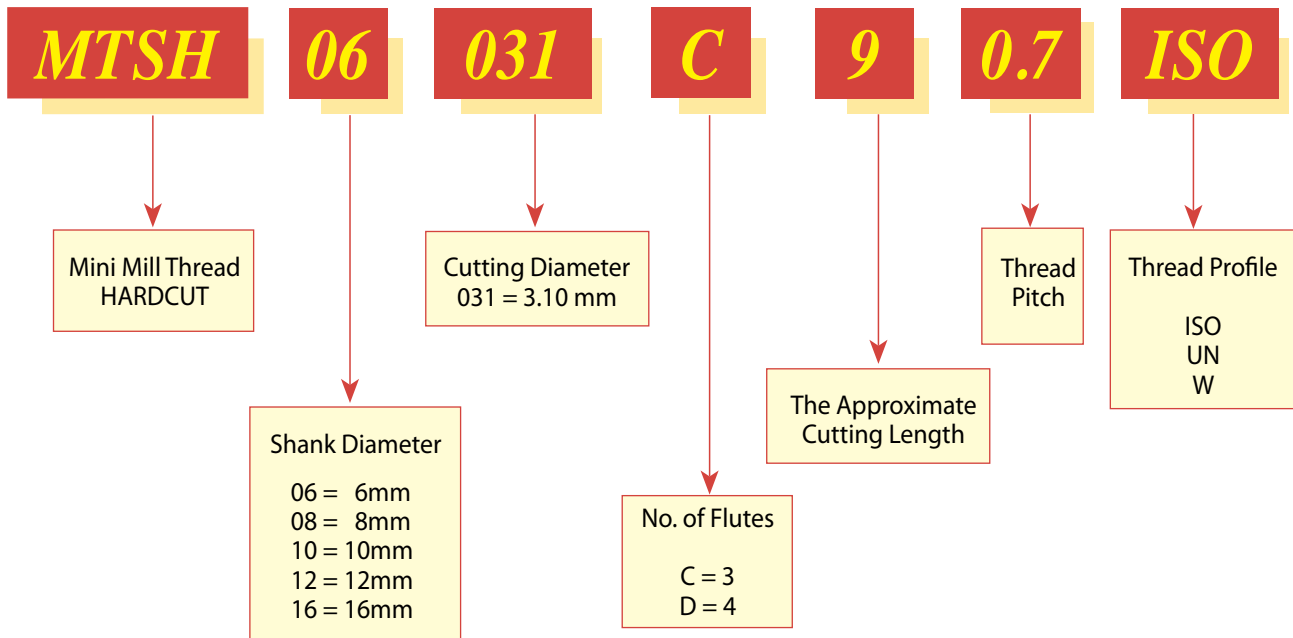
#### Page:

Product Identification	240
<b>MTSH Type</b>	
ISO	241
UN	242
G55° - BSW, BSP	243
<b>MTH Type</b>	
ISO	244
UN	244

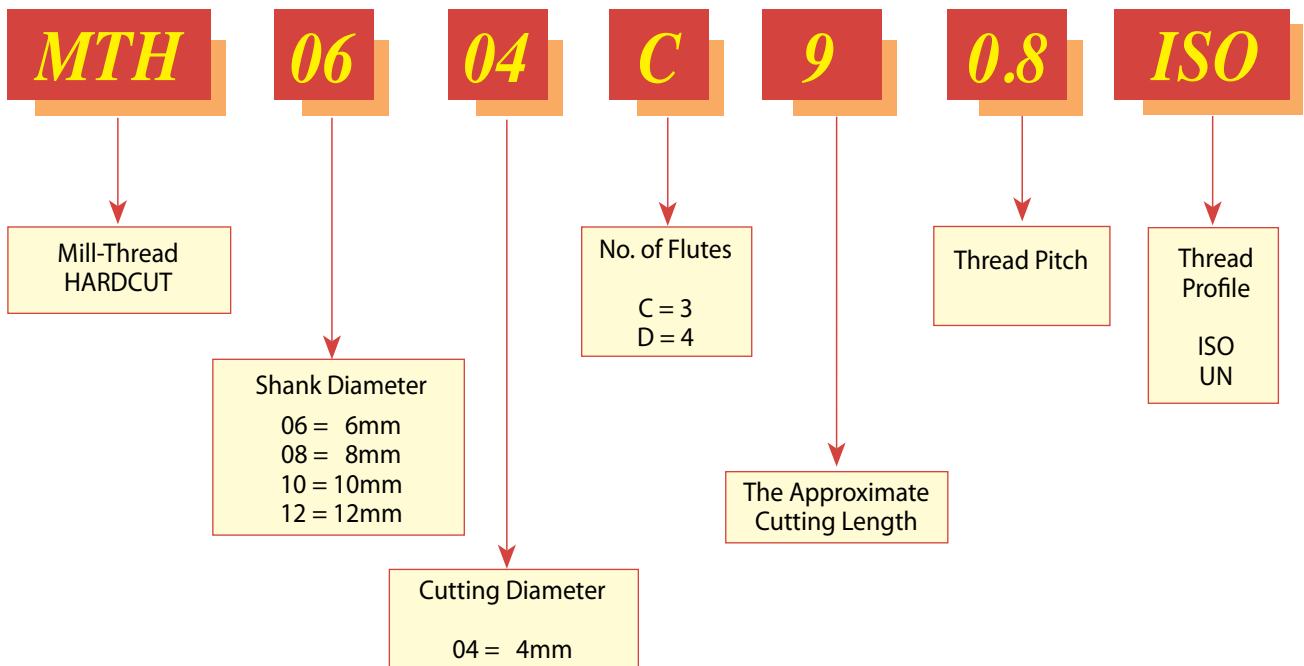


# Product Identification

## Mini Mill-Thread MTSH Type Ordering Codes

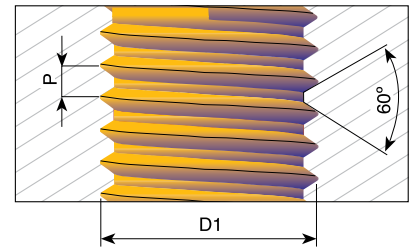
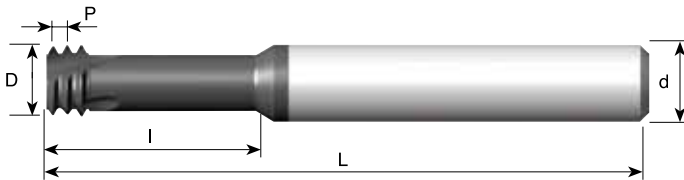


## MTH Type Ordering Codes



## ISO

### Tools for Internal Thread



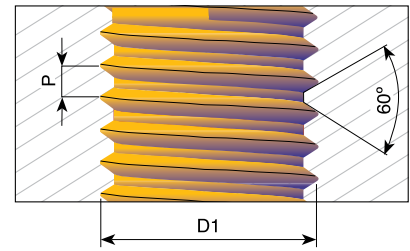
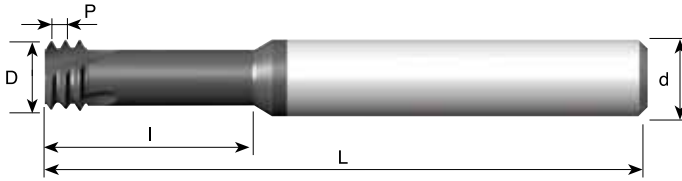
Left hand cutting  
For CNC code use M04

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
0.3	M1.4	<b>MTSH03011C4 0.3 ISO</b>	3	1.05	3	4.0	39	3xD
0.35	M1.6	<b>MTSH03012C5 0.35 ISO</b>	3	1.20	3	4.8	39	3xD
0.4	M2	<b>MTSH06016C4 0.4 ISO</b>	6	1.53	3	4.5	58	2xD
		<b>MTSH03016C6 0.4 ISO</b>	3			6.0	39	3xD
0.45	M2.2	<b>MTSH06017C5 0.45 ISO</b>	6	1.65	3	5.0	58	2xD
		<b>MTSH06017C7 0.45 ISO</b>	3			7.0	58	3xD
0.45	M2.5	<b>MTSH0602C5 0.45 ISO</b>	6	1.95	3	5.5	58	2xD
		<b>MTSH0602C7 0.45 ISO</b>	3			7.5	58	3xD
0.5	M3	<b>MTSH06024C6 0.5 ISO</b>	6	2.37	3	6.5	58	2xD
		<b>MTSH06024C9 0.5 ISO</b>	3			9.5	58	3xD
0.6	M3.5	<b>MTSH06028C7 0.6 ISO</b>	6	2.75	3	7.5	58	2xD
		<b>MTSH06028C10 0.6 ISO</b>	3			10.5	58	3xD
0.7	M4	<b>MTSH06031C9 0.7 ISO</b>	6	3.10	3	9.0	58	2xD
		<b>MTSH06031C12 0.7 ISO</b>	3			12.5	58	3xD
0.8	M5	<b>MTSH06038C12 0.8 ISO</b>	6	3.80	3	12.5	58	2xD
		<b>MTSH06038C16 0.8 ISO</b>	3			16.0	58	3xD
1.0	M6	<b>MTSH06047C14 1.0 ISO</b>	6	4.65	3	14.0	58	2xD
		<b>MTSH06047C20 1.0 ISO</b>	3			20.0	58	3xD
1.25	M8	<b>MTSH0606C18 1.25 ISO</b>	6	6.00	3	18.0	58	2xD
		<b>MTSH0606C24 1.25 ISO</b>	3			24.0	58	3xD
1.5	M10	<b>MTSH08078C23 1.5 ISO</b>	8	7.80	3	23.0	64	2xD
1.75	M12	<b>MTSH1009C26 1.75 ISO</b>	10	9.00	3	26.0	73	2xD
2.0	M16	<b>MTSH12118D35 2.0 ISO</b>	12	11.80	4	35.0	84	2xD

Order example: MTSH 06031C9 0.7 ISO MT9

**UN**

**Tools for Internal Thread**

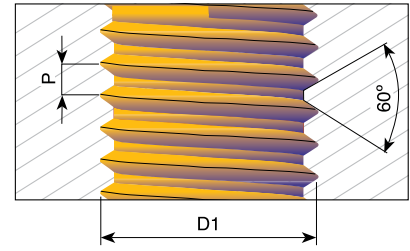
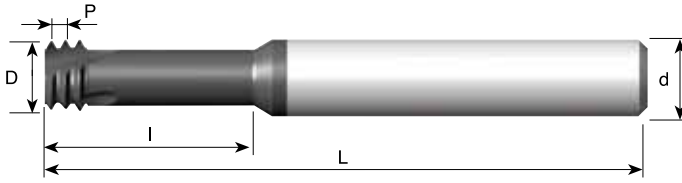


Left hand cutting  
For CNC code use M04

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
80		0	<a href="#">MTSH06012C4 80 UN</a>	6	1.15	3	4.0	58	3xD
72		1	<a href="#">MTSH06014C3 72 UN</a>	6	1.45	3	3.7	58	2xD
			<a href="#">MTSH03015C6 72 UN</a>	3	6.0	39	3xD		
64	1	2	<a href="#">MTSH06014C3 64 UN</a>	6	1.40	3	3.8	58	2xD
56	2	3	<a href="#">MTSH06016C4 56 UN</a>	6	1.65	3	4.4	58	2xD
			<a href="#">MTSH06016C6 56 UN</a>	6	6.6	58	3xD		
48	3	4	<a href="#">MTSH06019C5 48 UN</a>	6	1.90	3	5.2	58	2xD
40	4		<a href="#">MTSH06021C6 40 UN</a>	6	2.10	3	6.3	58	2xD
			<a href="#">MTSH06021C8 40 UN</a>	6	8.0	58	3xD		
40	5	6	<a href="#">MTSH06024C7 40 UN</a>	6	2.45	3	7.0	58	2xD
			<a href="#">MTSH06024C9 40 UN</a>	6	9.6	58	3xD		
36		8	<a href="#">MTSH06033C9 36 UN</a>	6	3.30	3	9.0	58	2xD
32	6		<a href="#">MTSH06025C7 32 UN</a>	6	2.55	3	7.1	58	2xD
			<a href="#">MTSH06025C10 32 UN</a>	6	10.5	58	3xD		
32	8		<a href="#">MTSH06032C9 32 UN</a>	6	3.20	3	9.5	58	2xD
			<a href="#">MTSH06032C12 32 UN</a>	6	12.5	58	3xD		
32		10	<a href="#">MTSH06037C10 32 UN</a>	6	3.70	3	10.5	58	2xD
			<a href="#">MTSH06037C15 32 UN</a>	6	15.0	58	3xD		
28		12	<a href="#">MTSH06042C11 28 UN</a>	6	4.20	3	11.0	58	2xD
28		1/4	<a href="#">MTSH0605C14 28 UN</a>	6	5.00	3	14.5	58	2xD
			<a href="#">MTSH0605C19 28 UN</a>	6	19.0	58	3xD		
24	10, 12		<a href="#">MTSH06035C10 24 UN</a>	6	3.50	3	10.6	58	2xD
24		5/16, 3/8	<a href="#">MTSH08066C17 24 UN</a>	8	6.60	3	17.0	64	2xD
			<a href="#">MTSH08066C24 24 UN</a>	8	24.0	64	3xD		
20	1/4		<a href="#">MTSH06047C14 20 UN</a>	6	4.75	3	14.0	58	2xD
			<a href="#">MTSH06047C19 20 UN</a>	6	19.0	58	3xD		
20		7/16	<a href="#">MTSH0808C25 20 UN</a>	8	8.00	3	25.0	64	2xD
18	5/16		<a href="#">MTSH0606C17 18 UN</a>	6	6.00	3	17.0	58	2xD
			<a href="#">MTSH0606C23 18 UN</a>	6	23.0	58	3xD		
18		5/8	<a href="#">MTSH1212D35 18 UN</a>	12	12.00	4	35.0	84	2xD
16	3/8		<a href="#">MTSH08067C22 16 UN</a>	8	6.70	3	22.0	64	2xD
14	7/16		<a href="#">MTSH08077C25 14 UN</a>	8	7.70	3	25.0	64	2xD
13	1/2		<a href="#">MTSH10092C27 13 UN</a>	10	9.20	3	27.5	73	2xD
12	9/16		<a href="#">MTSH12105C31 12 UN</a>	12	10.50	3	31.5	84	2xD
11	5/8		<a href="#">MTSH12114C34 11 UN</a>	12	11.40	3	34.5	84	2xD
10	3/4		<a href="#">MTSH16144D41 10 UN</a>	16	14.40	4	41.5	105	2xD

Order example: MTSH 06047C14 20 UN MT9

## G55° BSW, BSP

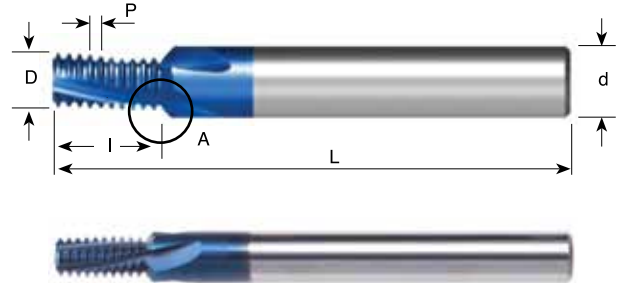
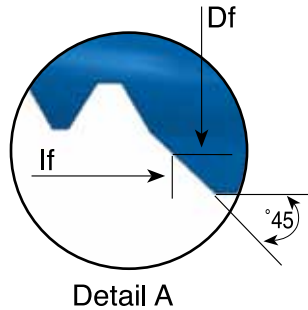


Left hand cutting  
For CNC code use M04

Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
28	G1/8	<b>MTSH08078 C19 28W</b>	8	7.8	3	19.5	64	2xD
19	G1/4-3/8	<b>MTSH1010 D30 19W</b>	10	10.0	4	30.0	73	
14	G1/2-7/8	<b>MTSH1212 D37 14W</b>	12	12.0	4	37.0	84	
11	G≥1	<b>MTSH1616 D44 11W</b>	16	16.0	4	44.0	105	

# ISO

## Tools for Internal Thread

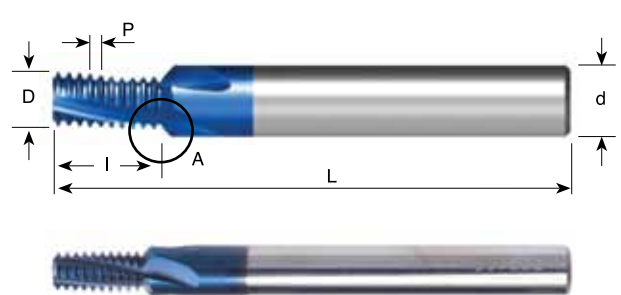
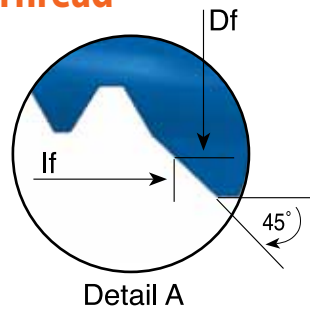


Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	No. of Flutes	I	lf	L
0.5	M3	$\varnothing \geq 4$	<b>MTH06024C5 0.5 ISO</b>	6	2.4	3.6	3	5.3	5.9	58
0.7	M4	$\varnothing \geq 5$	<b>MTH06031C7 0.7 ISO</b>	6	3.1	4.3	3	7.4	8.0	58
0.8	M5	$\varnothing \geq 6$	<b>MTH0604C9 0.8 ISO</b>	6	4.0	5.2	3	9.2	9.8	58
1.0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

Order example: MTH08048D10 1.0 ISO MT11

# UN

## Tools for Internal Thread



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

Order example: MTH06048C12 20 UN MT11

# Mill-Thread Technical Section



## Contents:

## Page:

Conversion of Cutting Speed to Rotational Speed	246
Tool Selection	247
Carmex Mill-Thread Catalogue and CNC Programming Software	248
Example of Thread Milling CNC Program for Internal Threading	248
Mill-Thread Inserts Carbide Grades, Speed and Feed Selection	249
Spiral Mill-Thread Inserts, Speed and Feed Selection	249
Spiral Finish, Speed and Feed Selection	250
Cutting Data D-Thread type	251
Cutting data CMT type	252-253

## Contents:

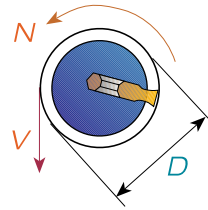
## Page:

<b>Mill-Thread Solid Carbide Grades, Speed and Feed Selection</b>	
MT, MTB, MTZ, EMT types	255
Cutting Data MTQ type	256
FMT Type	257-258
Mini Mill-Thread (MTS) and MTI types	259
DMT type	260
DMTH type	260
Mini Mill-Thread (MTSH) type	261
MTH type	262

## Conversion of Cutting Speed to Rotational Speed

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

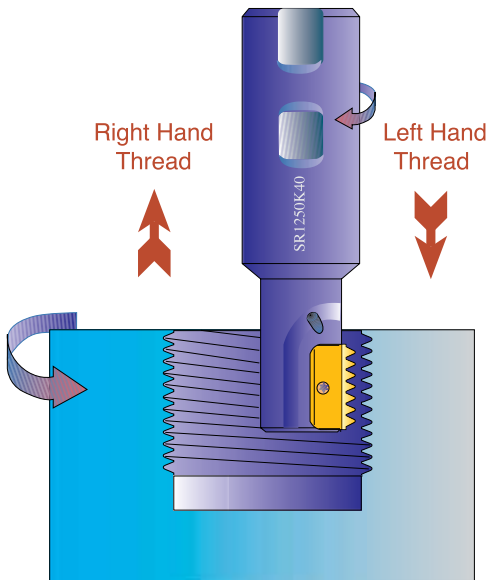
$$N = \frac{V \times 1000}{\pi \times D} = \frac{120 \times 1000}{3.14 \times 30} = 1274 \text{ RPM}$$



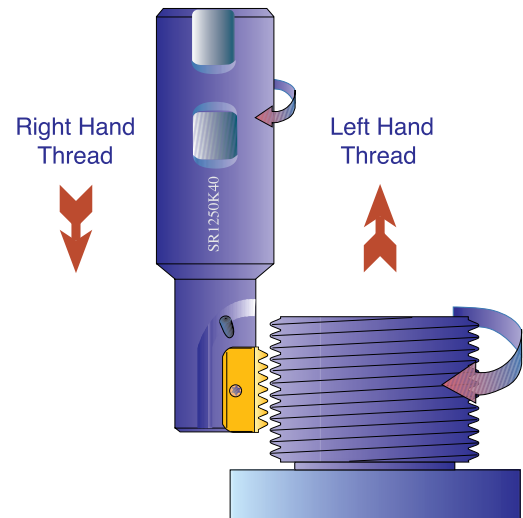
**Example:**  $V=120 \text{ m/min}$   
 $D=30 \text{ mm}$

D=Cutting diameter

### Internal Thread



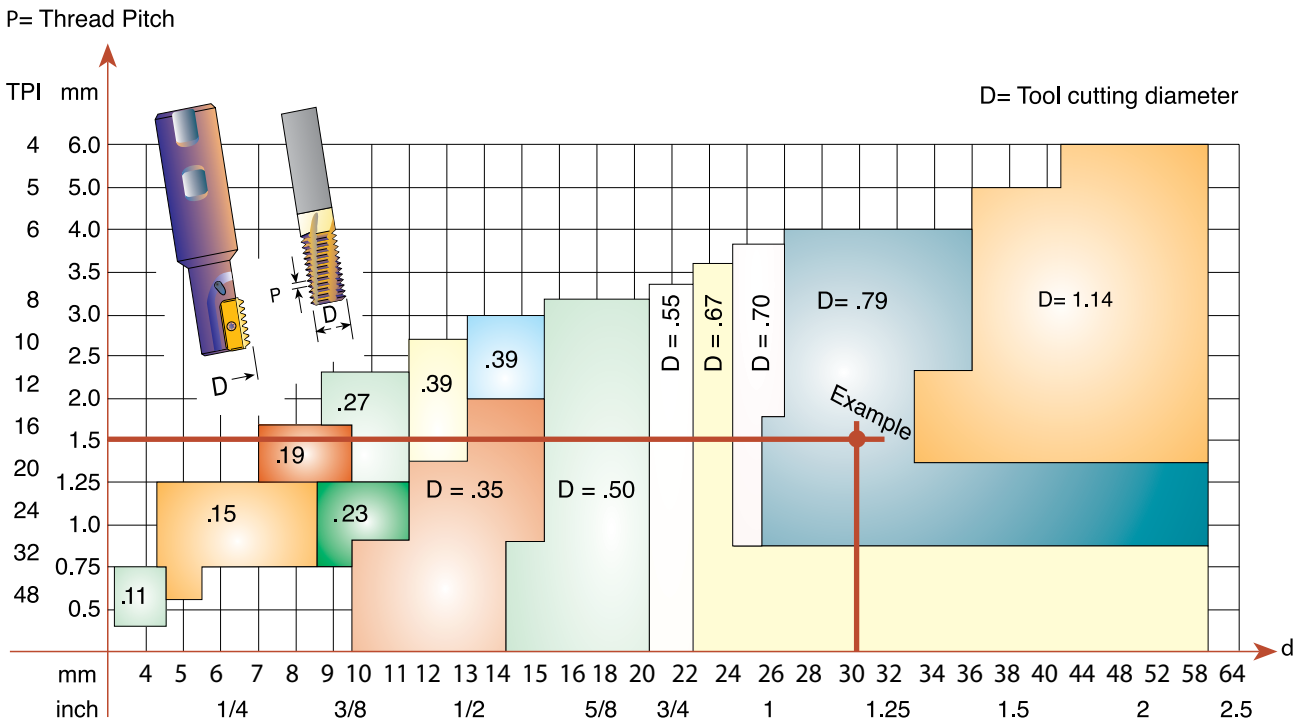
### External Thread



## Tool Selection

For indexable and solid carbide Mill Threads

The following chart provides a fairly accurate visual selection tool for Internal Threading. The chart is suitable for the following thread forms: ISO, UN, WHIT, NPT, NPTF, BSPT and PG.



Any tool with a small cutting diameter can produce larger diameter threads.

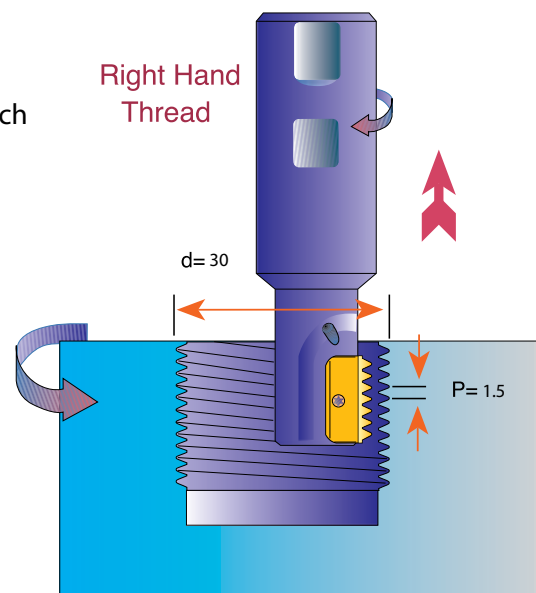
**Example:** Internal thread 1 1/4 x 16UN:

Find a Milling Tool to produce d=30 Internal right hand UN thread with a thread pitch P=1.5 mm.

As can be seen from the chart above, the two red lines intersect at a selected tool with a cutting diameter of D=.79 inch

Chosen toolholder: SR0021 H21

Insert: 21 I 1.5 ISO MT7



If you need assistance, please call your local distributor and ask for help in selecting the appropriate tool as well as for a CNC program to suit your CNC milling machine.



## Carmex Mill-Thread catalog and CNC programming Software

This software is provided by Carmex to assist you, the threadmilling user, to select and apply the correct tool to machine threads on CNC machining centers. The program will find tools and inserts which are suitable for your application, calculate cutting data and generate a CNC program for a variety of controls.

The software is available at our web site and on a CD-ROM.



## Example of Thread Milling CNC Program for Internal Threading

Right hand thread (climb milling) from bottom up.

Program is based on tool center.

This method of programming needs no tool radius compensation value other than an offset for wear.

$A = \frac{D_o - D}{2}$	<p>A = Radius of tool path                  D<sub>o</sub> = Major thread dia.                  D = Cutting dia.</p>
-------------------------	---

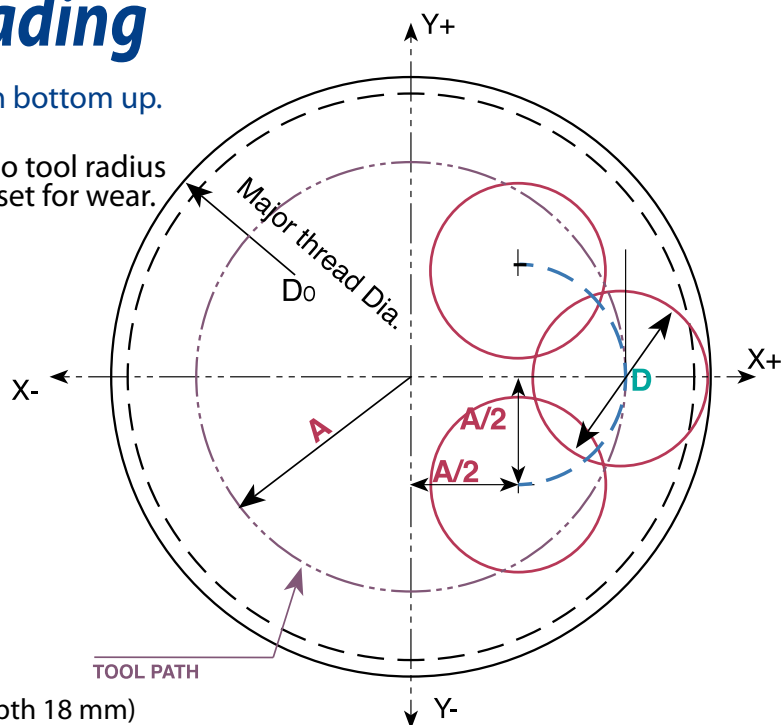
### General Program

```
G90 G00 G54 G43 H1X0 Y0 Z10 S---
G00 Z- ( TO THREAD DEPTH )
G01 G91 G41 D1 X(A/2) Y-(A/2) Z0 F---
G03 X(A/2) Y(A/2) R(A/2) Z(1/8 PITCH)
G03 X0 Y0 I-(A) J0 Z(PITCH)
G03 X-(A/2) Y(A/2) R(A/2) Z(1/8 PITCH)
G01 G40 X-(A/2) Y-(A/2) Z0
G90 X0 Y0 Z0
```

### Internal Thread

EXAMPLE: M 32 X 2.0 (Thread depth 18 mm)  
 TOOLHOLDER: SR0021 H21 (Cutting dia. 21 mm)  
 INSERT: 21 I 2.0 ISO  
 $A = (32 - 21) / 2 = 5.5$

```
G90 G00 G54 G43 H1X0 Y0 Z0.39 S2800
G00 Z-0.71
G01 G91 G41X0.1150 Y-0.1150 Z0 F3.35 D1
G03 X0.1150
Y0.1150 R0.1150 Z0.0104
G03 X0 Y0 I-0.23 J0 Z0.0833
G03 X-0.1150 Y0.1150 R0.1150 Z0.0104
G01 G40 X-0.1150 Y-0.1150 Z0
G90 G0 X0 Y0 Z0
```



## Mill-Thread Inserts Speed and Feed Selection

**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	Materials	Cutting Speed m/min MT7
<b>P</b>	Low and Medium Carbon Steels	115 - 280
	High Carbon Steels	130 - 200
	Alloy Steels, Treated Steels	105 - 180
<b>M</b>	Stainless Steels	130 - 190
	Cast Steels	150 - 190
<b>K</b>	Cast Iron	80 - 70
<b>N</b>	Non-Ferrous & Aluminum	180 - 340
	Synthetics, Duroplastics, Thermoplastics	115 - 460
<b>S</b>	Nickel Alloys, Titanium Alloys	25 - 90

**Recommended FEED RATE: 0.05 - 0.15 m**

## Spiral Mill-Thread Inserts Speed and Feed Selection

**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	Materials	Cutting Speed m/min MT7
<b>P</b>	Low and Medium Carbon Steels	145 - 360
	High Carbon Steels	165 - 255
	Alloy Steels, Treated Steels	135 - 230
<b>M</b>	Stainless Steels	165 - 245
	Cast Steels	190 - 245
<b>K</b>	Cast Iron	100 - 220
<b>N</b>	Non-Ferrous & Aluminum	230 - 440
	Synthetics, Duroplastics, Thermoplastics	145 - 590
<b>S</b>	Nickel Alloys, Titanium Alloys	30 - 115

**Recommended FEED RATE: 0.05 - 0.15 m**

As you may note, cutting speed is shown in range terms. In most standard cases choosing a speed in the middle of the range would be a good choice for a start.

For hard metals reduce cutting speed.

## Spiral Finish Speed and Feed Selection

**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	Materials	Cutting Speed (m/min)
<b>P</b>	Low and Medium Carbon Steels	200 - 330
	High Carbon Steels	170 - 235
	Alloy Steels, Treated Steels	100 - 195
<b>M</b>	Stainless Steels	180 - 230
	Cast Steels	180 - 230
<b>K</b>	Cast Iron	200 - 350
<b>N</b>	Non-Ferrous & Aluminum	500 - 1100
	Synthetics, Duroplastics, Thermoplastics	400 - 1500
<b>S</b>	Nickel Alloys, Titanium Alloys	30 - 55

## Cutting Data

### D-Thread 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	Materials	Cutting Speed (m/min)
<b>P</b>	Low and Medium Carbon Steels <0.55%C	100 - 205
	High Carbon Steels ≥0.55%C	100 - 180
	Alloy Steels, Treated Steels	100 - 140
<b>M</b>	Stainless Steels - Free Cutting	85 - 125
	Stainless Steels - Austenitic	80 - 115
	Cast Steels	115 - 155
<b>K</b>	Cast Iron	75 - 145
<b>N</b>	Aluminum ≤12%Si, Copper	150 - 300
	Aluminum >12% Si	150 - 300
	Synthetics, Duroplastics, Thermoplastics	100 - 350
<b>S</b>	Nickel Alloys, Titanium Alloys	45 - 95

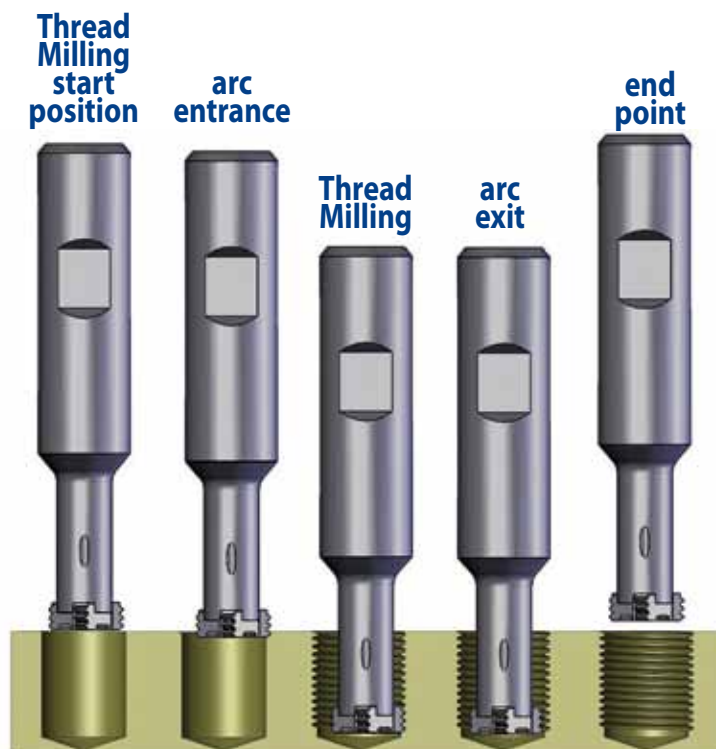
**Recommended FEED RATE: 0.07 - 0.15 mm**

## Cutting Data

### CMT 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	Materials	Cutting Speed m/min	Feed inch/tooth Cutting Diameter=D			
			Ø10	Ø12	Ø18	Ø25
<b>P</b>	Low and Medium Carbon Steels <0.55%C	60 - 120	0.16	0.17	0.20	0.22
	High Carbon Steels ≥0.55%C	60 - 90	0.14	0.16	0.20	0.22
	Alloy Steels, Treated Steels	50 - 80	0.10	0.12	0.16	0.18
<b>M</b>	Stainless Steels - Free Cutting	70 - 100	0.10	0.11	0.15	0.17
	Stainless Steels - Austenitic	60 - 90	0.10	0.11	0.15	0.17
	Cast Steels	70 - 90	0.10	0.12	0.16	0.18
<b>K</b>	Cast Iron	40 - 80	0.16	0.17	0.20	0.22
<b>N</b>	Aluminum ≤12%Si, Copper	100 - 200	0.16	0.17	0.20	0.22
	Aluminum >12% Si	60 - 140	0.10	0.11	0.16	0.18
	Synthetics, Duroplastics, Thermoplastics	50 - 200	0.19	0.19	0.22	0.24
<b>S</b>	Nickel Alloys, Titanium Alloys	20 - 40	0.07	0.07	0.10	0.12
<b>H</b>	Hardened Steel 45 - 50HRc	60 - 70	0.09	0.09	0.13	0.15
	Hardened Steel 50 - 55HRc	50 - 60	0.08	0.08	0.12	0.14



## Cutting Data

### CMT Spiral Multi Flute Inserts



#### Carbide grade - MT8:

Sub-Micron Grade with Aluminum 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
			Ø16-Ø35
<b>P</b>	Low&Medium Carbon Steels <0.55%C	60-120	0.14-0.24
	High Carbon Steels ≥0.55%C	60-90	0.12-0.24
	Alloy Steels, Treated Steels	50-80	0.08-0.20
<b>M</b>	Stainless Steel-Free Cutting	70-100	0.08-0.19
	Stainless Steel-Austenitic	60-90	0.08-0.19
	Cast Steels	70-90	0.08-0.20
<b>K</b>	Cast Iron	40-80	0.14-0.24
<b>N</b>	Aluminum ≤12%Si, Copper	100-200	0.14-0.26
	Aluminum >12%Si	60-140	0.08-0.22
	Synthetics, duroplastics, thermoplastics	50-200	0.17-0.28
<b>S</b>	Nickel alloys, Titanium alloys.	20-40	0.05-0.14
<b>H</b>	Hardened Steel, 45-50HRc	60-70	0.07-0.17
	Hardened Steel, 51-55HRc	50-60	0.06-0.16

## Cutting Data

### CMT Milling cutter



ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth
<b>P</b>	Low & Medium Carbon Steels <0.55%C	60-120	0.05-0.15
	High Carbon Steels ≥0.55%C	60-90	0.05-0.10
	Alloy Steels, Treated Steels	50-80	0.05-0.10
<b>M</b>	Stainless Steel-Free Cutting	70-100	0.04-0.13
	Stainless Steel-Austenitic	60-90	0.04-0.10
	Cast Steels	70-90	0.04-0.13
<b>K</b>	Cast Iron	40-80	0.05-0.15
<b>N</b>	Aluminum ≤12%Si, Copper	100-200	0.05-0.25
	Aluminum >12%Si	60-140	0.03-0.10
	Synthetics, duroplastics, thermoplastics	50-200	0.05-0.25
<b>S</b>	Nickel alloys, Titanium alloys.	20-40	0.03-0.10
<b>H</b>	Hardened Steel, ≤ 45 HRc	60-70	0.03-0.10

## Mill-Thread Solid Carbide Grades, Speed and Feed Selection

### MT, MTB, MTZ, EMT 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.

ISO	Materials	Cutting Speed m/min	Feed inch/tooth Cutting Diameter=D									
			Ø2	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20
<b>P</b>	Low and Medium Carbon Steels <0.55%C	100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15
	High Carbon Steels ≥0.55%C	110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12
	Alloy Steels, Treated Steels	90- 60	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08
<b>M</b>	Stainless Steels - Free Cutting	60-160	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09
	Stainless Steels - Austenitic	60-120	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08
	Cast Steels	130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08
<b>K</b>	Cast Iron	70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15
<b>N</b>	Aluminum ≤12%Si, Copper	150-350	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15
	Aluminum >12% Si	100-250	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08
	Synthetics, Duroplastics, Thermoplastics	100-400	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.13	0.15	0.18
<b>S</b>	Nickel Alloys, Titanium Alloys	20- 80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04

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



## Cutting Data

### MTQ type

**Thread mills with relieved neck and internal coolant for milling medium and large threads on relatively deep work pieces.**

Carbide grade: MT7

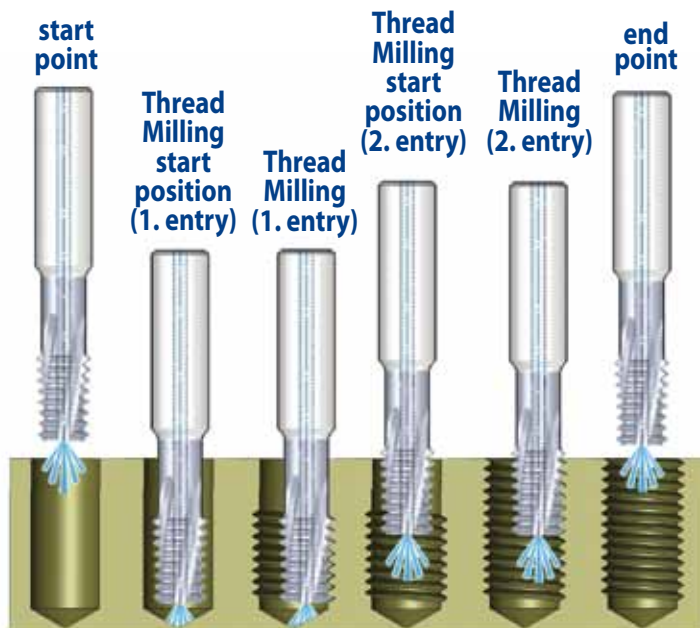
- To produce medium and large threads on relatively deep work pieces.
- To use overhang according to the application.
- To perform deep threads at the bottom of the application.

#### Advantages

- Provides high rigidity and stability (anti-vibration).
- Accomplishes deep threads in one pass.
- Relatively low cutting forces due to short cutting length.
- Threads length up to 3D.

**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	Materials	Cutting Speed m/min	Feed inch/tooth Cutting Diameter=D					
			Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
<b>P</b>	Low and Medium Carbon Steels <0.55%C	100 - 250	0.06	0.07	0.07	0.08	0.10	0.12
	High Carbon Steels ≥0.55%C	110 - 180	0.05	0.05	0.06	0.07	0.09	0.10
	Alloy Steels, Treated Steels	90 - 160	0.03	0.04	0.04	0.05	0.06	0.07
<b>M</b>	Stainless Steels - Free Cutting	60 - 160	0.04	0.04	0.05	0.06	0.06	0.08
	Stainless Steels - Austenitic	60 - 120	0.04	0.04	0.04	0.05	0.06	0.07
	Cast Steels	130 - 170	0.03	0.04	0.04	0.05	0.06	0.07
<b>K</b>	Cast Iron	70 - 150	0.06	0.07	0.07	0.08	0.10	0.12
<b>N</b>	Aluminum ≤12%Si, Copper	150 - 350	0.06	0.07	0.07	0.08	0.10	0.12
	Aluminum >12% Si	100 - 250	0.03	0.04	0.04	0.05	0.06	0.07
	Synthetics, Duroplastics, Thermoplastics	100 - 400	0.08	0.09	0.10	0.11	0.13	0.15
<b>S</b>	Nickel Alloys, Titanium Alloys	20 - 80	0.02	0.02	0.02	0.03	0.03	0.03



## Fast MT

- Carmex has designed a unique line of solid carbide thread milling tools FMT for increased productivity, and high performance.
- Large number of flutes enables to achieve significant shorter machining time.

## FMT vs. Taps

Features	FMT	Taps
Thread up to bottom at blind hole	Possible	Not possible
Machining load	Very low	High
Thread surface quality	High	Medium
Process reliability	Very reliable, especially for expensive work pieces	Medium
Thread geometry	Very accurate	Medium
Cycle time	Same or faster than tap	Fast

**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.

## Test Report

### Application

Internal right hand thread: M6x1.0  
 Thread length: 10 mm, Blind hole  
 Bore size: Ø 5 mm  
 Chamfer: 0.9 mm

### Work piece material

Steel SAE 4340

### Cutter description

FMT08048F10 1.0 ISO- with internal coolant  
 Shank diameter: Ø8 mm  
 Cutting diameter: Ø4.8 mm  
 Number of flutes: 6  
 Cutting length: 10.5 mm  
 Total length: 64 mm

### Cutting conditions

Cutting speed: 130 m/min Feed: 0.016 mm/tooth

### Machine

Mori Seiki NV5000 Coolant: emulsion 5%

### Results

Tool life : 2,170 threads  
 Cycle time: 1.5 sec

## Cutting Data

### FMT

ISO Standard	Materials	Cutting Speed m/min	Feed mm/tooth Cutting Diameter = D				
			Ø5	Ø6	Ø8	Ø10	Ø12
<b>P</b>	Low&Medium Carbon Steels <0.55%C	100-250	0.03	0.06	0.07	0.08	0.09
	High Carbon Steels ≥0.55%C	110-180	0.03	0.05	0.06	0.07	0.08
	Alloy Steels, Treated Steels	90-60	0.02	0.03	0.04	0.05	0.05
<b>M</b>	Stainless Steel-Free Cutting	60-160	0.03	0.04	0.05	0.06	0.06
	Stainless Steel-Austenitic	60-120	0.01	0.03	0.04	0.05	0.05
	Cast Steels	130-170	0.02	0.03	0.04	0.05	0.05
<b>K</b>	Cast Iron	70-150	0.04	0.06	0.07	0.08	0.09
<b>N</b>	Aluminum ≤12%Si, Copper	150-350	0.04	0.06	0.07	0.08	0.09
	Aluminum >12%Si	100-250	0.03	0.03	0.04	0.05	0.05
	Synthetics, duroplastics, thermoplastics	100-400	0.06	0.08	0.10	0.11	0.12
<b>S</b>	Nickel alloys, Titanium alloys.	20-80	0.02	0.03	0.03	0.03	0.03
<b>H</b>	Hardened Steel, 45-50HRc	60-70	0.02	0.03	0.03	0.03	0.03

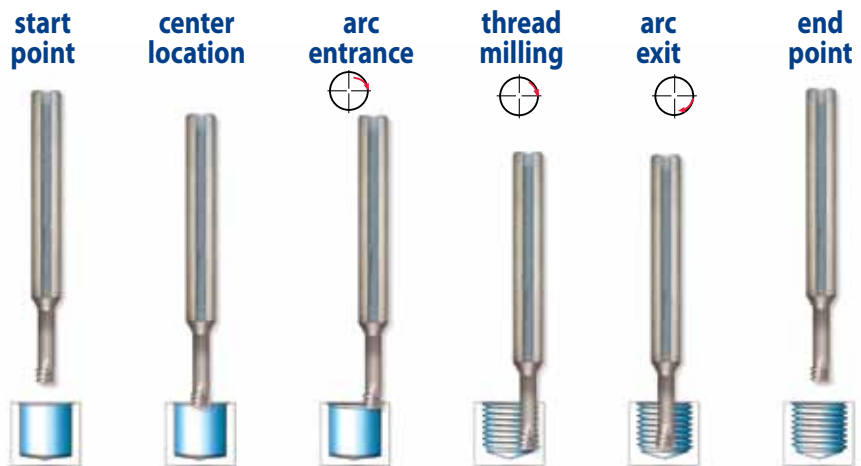
## Mini Mill-Thread MTS and MTI types

**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 Aluminum 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.

**MT11** Ultra-fine sub-micron grade with advanced PVD triple coating.

ISO Standard	Materials	Cutting Speed m/min	Feed inch/tooth													
			Cutting Diameter = D													
			Ø1	Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø16
<b>P</b>	Low and 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
	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
<b>M</b>	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 Steels - 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
<b>K</b>	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
<b>N</b>	Aluminum ≤12%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
	Aluminum >12% 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
<b>S</b>	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

## DMT 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	Materials	Cutting Speed m/min	Feed inch/tooth Cutting Diameter=D							
			Ø3	Ø4	Ø5	Ø6	Ø8	Ø9	Ø10	Ø12
<b>P</b>	Low and Medium Carbon Steels <0.55%C	60-120	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.05
	High Carbon Steels ≥0.55%C	60-90	0.015	0.02	0.03	0.03	0.04	0.04	0.04	0.05
	Alloy Steels, Treated Steels	50-80	0.015	0.02	0.02	0.02	0.02	0.03	0.03	0.04
<b>M</b>	Stainless Steels - Free Cutting	70-100	0.015	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Stainless Steels - Austenitic	60-90	0.015	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Cast Steels	70-90	0.015	0.02	0.02	0.02	0.02	0.03	0.03	0.04
<b>K</b>	Cast Iron	40-80	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.05
<b>N</b>	Aluminum ≤12%Si, Copper	100-200	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.05
	Aluminum >12% Si	60-140	0.015	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Synthetics, Duroplastics, Thermoplastics	50-200	0.03	0.04	0.05	0.05	0.06	0.06	0.06	0.06

## DMTH type

**MT11** Ultra-fine Sub-Micron grade with advanced PVD triple Blue coating

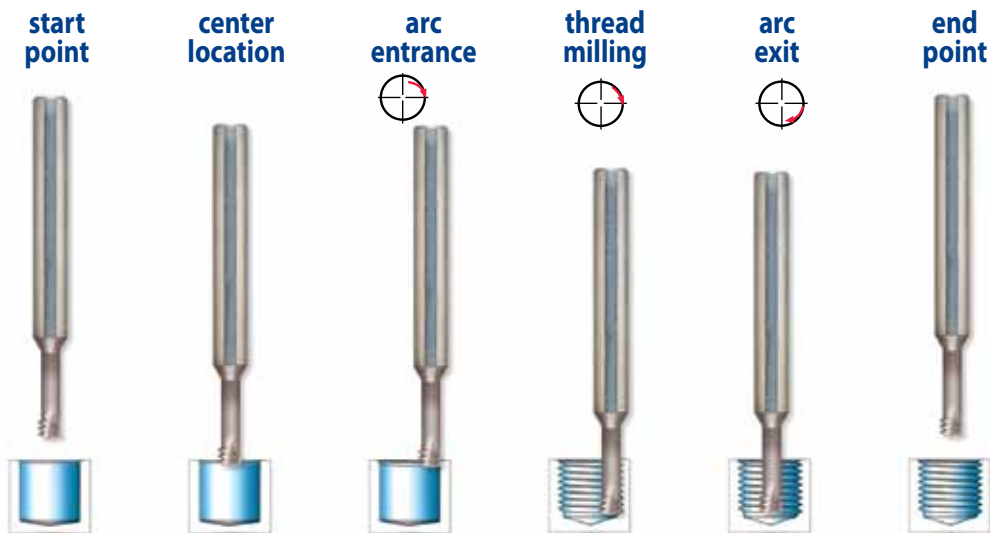
ISO	Materials	Cutting Speed m/min	Feed mm/tooth								
			Ø2	Ø3	Ø4	Ø5	Ø6	Ø8	Ø9	Ø10	Ø12
<b>P</b>	Low and Medium Carbon Steels <0.55%C	60-120	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.05
	High Carbon Steels ≥0.55%C	60-90	0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.05
	Alloy Steels, Treated Steels	50-80	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.04
<b>M</b>	Stainless Steels - Free Cutting	70-100	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Stainless Steels - Austenitic	60-90	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Cast Steels	70-90	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.04
<b>K</b>	Cast Iron	40-80	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05
<b>N</b>	Aluminum ≤10%Si, Copper	100-200	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05
	Aluminum >10% Si	60-140	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
	Synthetics, Duroplastics, Thermoplastics	50-200	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
<b>S</b>	Nickel Alloys, Titanium Alloys and High Temp. Alloys	20-40	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.06	0.06
<b>H</b>	Hardened Steels 45-50 HRc	60-70	0.02	0.02	0.02	0.03	0.04	0.04	0.05	0.05	0.05
	Hardened Steels 50-55 HRc	50-60	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.04	0.04

## Mini Mill-Thread MTSH type

**MT9** Sub-Micron Grade with advanced PVD triple coating.

**Left hand cutting for CNC code use M04**

ISO	Materials	Hardness HRC	Cutting Speed m/min	Feed inch/tooth													
				Cutting Diameter = D													
				Ø1	Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø16
<b>S</b>	Nickel Alloys, Titanium Alloys and High Temp. 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
<b>H</b>	Hardened Steels	45-50	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	0.10	0.11
		51-55	50-60	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09	0.10
		56-62	40-50	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	0.09



### Case Study

Application	Internal Thread M4 X 0.7
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

**MT11** Sub-Micron Grade with advanced PVD triple coating.

ISO	Materials	Hardness HRC	Cutting Speed m/min	Feed inch/tooth								
				Cutting Diameter = D								
				Ø2.5	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10
<b>S</b>	Nickel Alloys, Titanium Alloys and High Temp. Alloys		20-50	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
<b>H</b>	Hardened Steels Cast Iron	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
		56-62	40-50	0.005	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.05

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

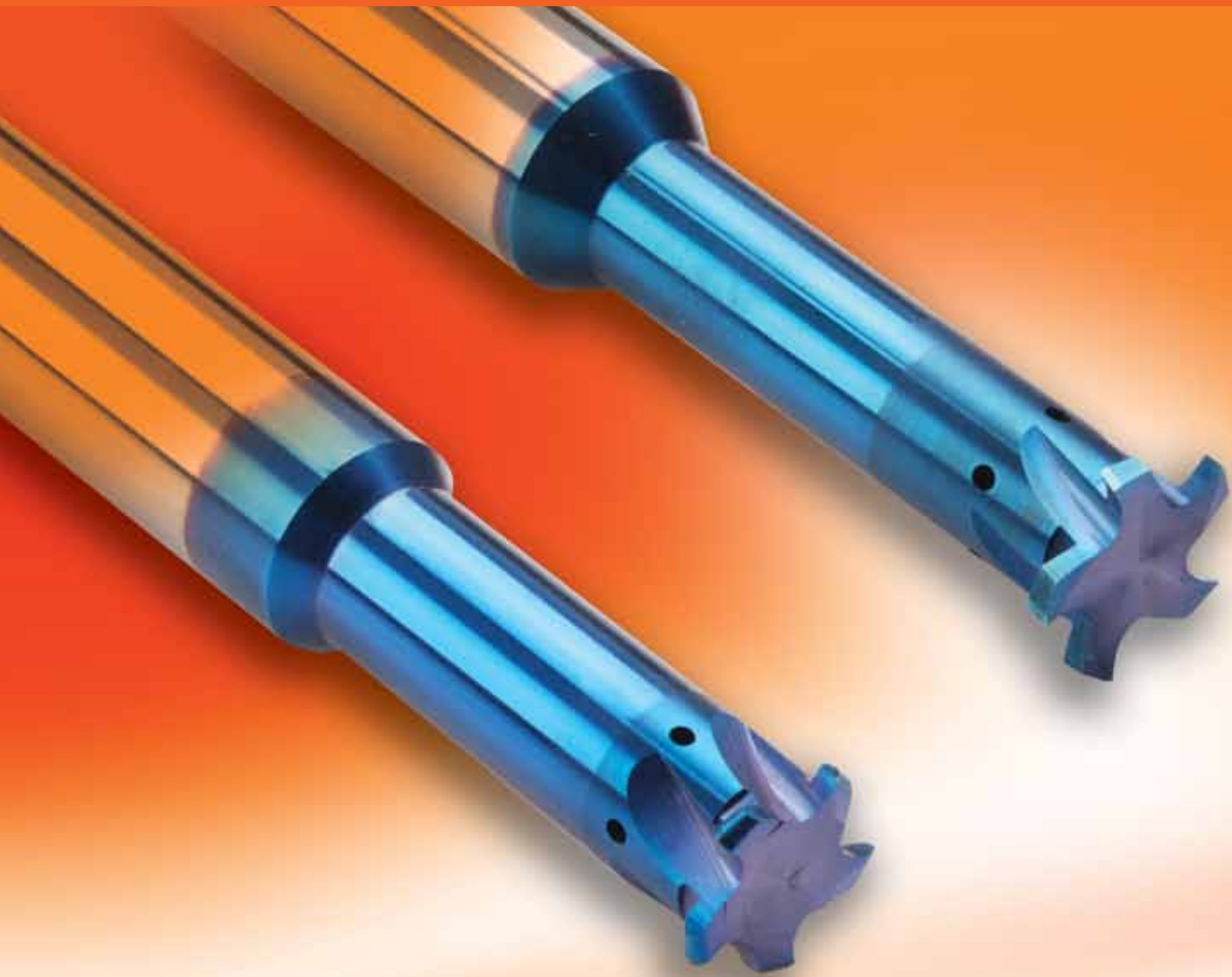
Positioning

Thread Milling

Chamfering



# 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.

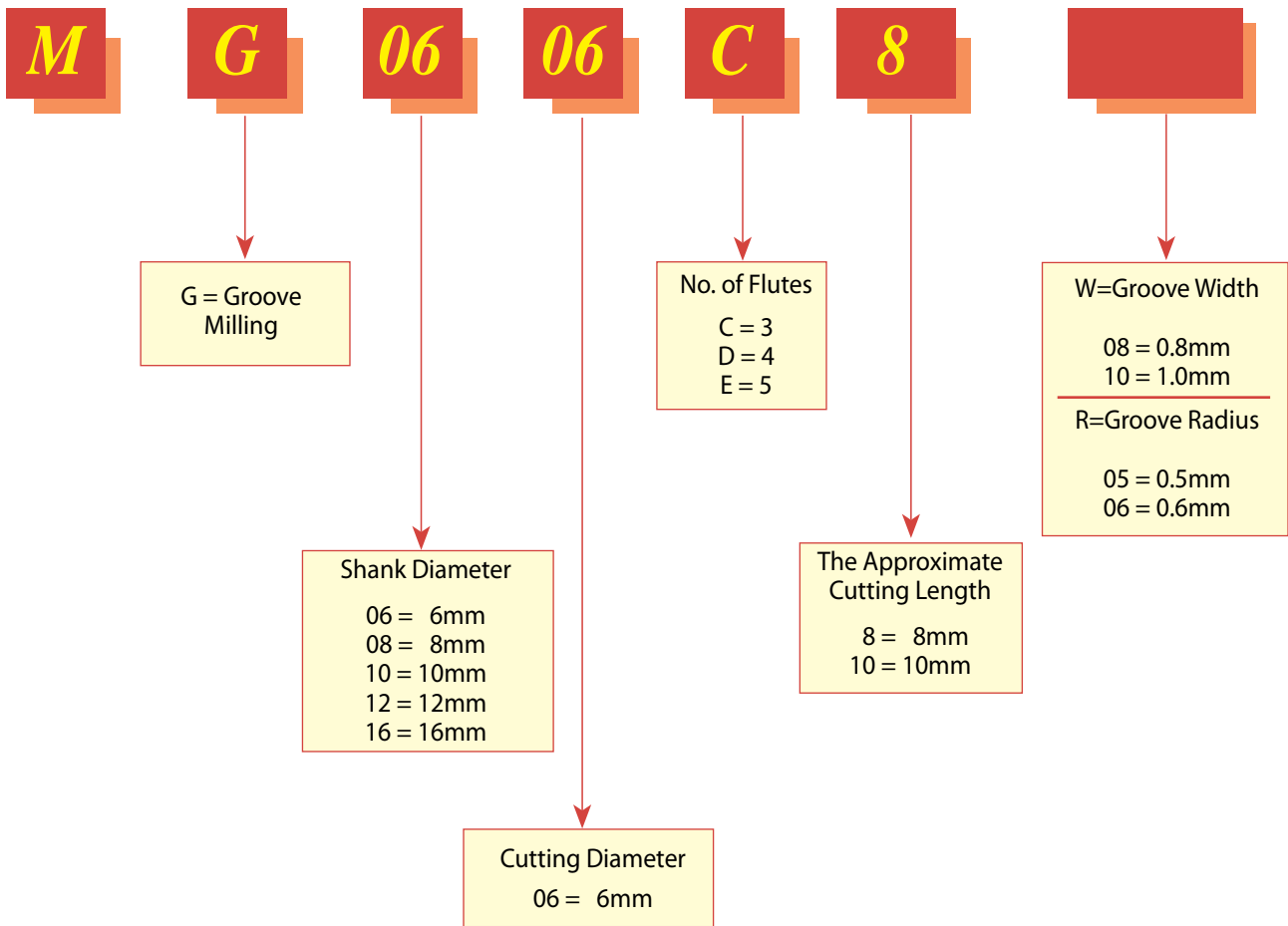
#### Contents:

#### Page:

Product Identification	264
Groove Milling with internal coolant through the flutes	265
Full Radius Groove Milling with internal coolant through the flutes	266
Groove Milling	266



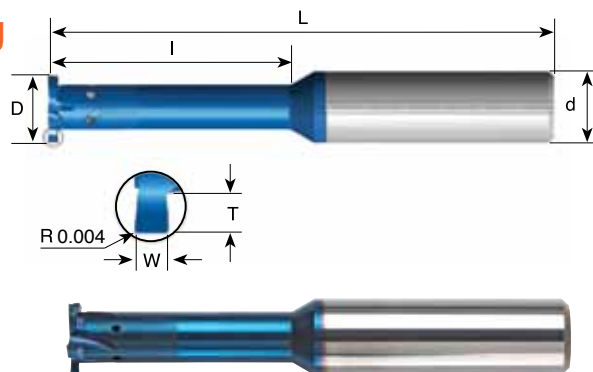
## Product Identification Groove Milling Ordering Codes



## Groove Milling

with internal coolant through the flutes

Same Tool for Internal and External Grooving



For grooving deep parts

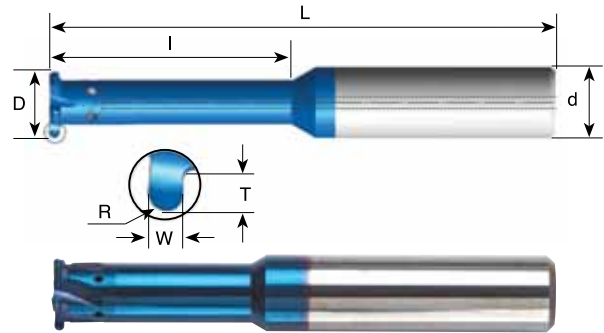
W ± 0.02	T Max.	Groove Dia. (min.) mm	Ordering Code	d	D	No. of Flutes	I	L
0.50	0.6	ø > 4	*MG0604C4 W05	6	4.0	3	4.2	51
1.00	0.6		*MG0604C4 W10					
0.80	0.8	ø > 6	MG0606C8 W08	6	6.0	3	8.0	58
1.00	1.0		*MG0606C7 W10					
1.50	1.0		*MG0606C7 W15					
1.00	1.2	ø ≥ 8	MG08078D10 W10	8	7.8	4	10.0	64
1.50	1.5		MG08078D15 W15					
2.00	1.5		MG08078D15 W20					
1.20	1.4	ø ≥ 10	MG10098D20 W12	10	9.8	4	20.0	73
1.50	2.0		MG10098D20 W15					
2.00	2.0		MG10098D20 W20					
1.50	2.2	ø > 12	MG1212E30 W15	12	12.0	5	30.0	84
2.00	2.2		MG1212E30 W20					
3.00	2.2		MG1212E30 W30					
1.40	1.8	ø > 16	MG1616E30 W14	16	16.0	5	30.0	101
1.70	2.0		MG1616E40 W17					
1.95	2.2		MG1616E45 W19					

\* Tools without coolant

Order example: MG 10098D20 W12 MT8

## Full Radius Groove Milling

with internal coolant through the flutes  
Same Tool for Internal and External Grooving



For grooving deep parts

R	W ± 0.02	T Max.	Groove Dia. (min.)	Ordering Code	d	D	No. of Flutes	l	L
0.5	1.00	0.6	∅ > 4	*MG0604C4 R05	6	4.0	3	4.2	51
0.5	1.00	0.8	∅ > 6	MG0606C8 R05	6	6.0	3	8.0	58
0.75	1.50	1.0	∅ > 6	*MG0606C7 R075	6	6.0	3	7.0	58
0.5	1.00	1.0	∅ > 8.8	MG10088D16 R05	10	8.8	4	16.0	73
0.6	1.20	1.0	∅ > 10	MG1010D20 R06	10	10.0	4	20.0	73
0.75	1.50	2.0	∅ > 10	MG1010D20 R075	10	10.0	4	20.0	73
1.00	2.00	2.0	∅ > 10	MG1010D20 R10	10	10.0	4	20.0	73
0.9	1.80	1.4	∅ > 12	MG1212D30 R09	12	12.0	4	30.0	84
1.0	2.00	1.6	∅ > 16	MG1616E40 R10	16	16.0	5	40.0	101
1.5	3.00	2.2	∅ > 16	MG1616E40 R15	16	16.0	5	40.0	101

\* Tools without coolant

Order example: MG 1010D20 R06 MT8

## Groove Milling



Ordering Code	W ±0.02	R	T (max.)	Groove Dia. (min.)	d	D	No. of Flutes	L
MGD 10195 F W15	1.5	0.1	4.5	∅ > 19.5	10	19.4	6	133
MGD 10195 F W20	2.0							
MGD 10195 F W30	3.0							
MGD 10195 F W35	3.5							
MGD 10195 F W40	4.0							
MGD 10195 F W50	5.0							

# Mini Chamfer



## 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.

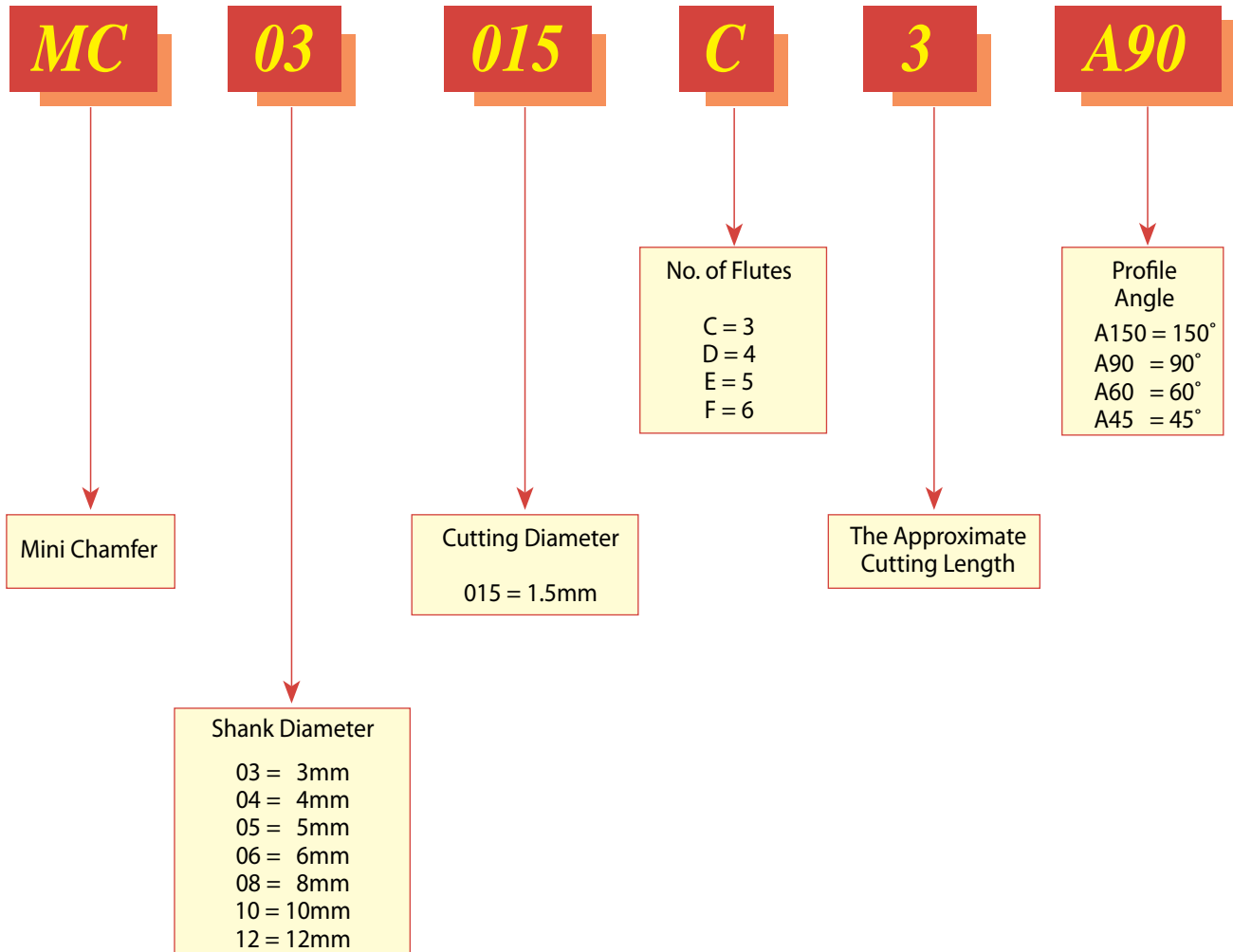
- Optimal for deburring, back chamfering and grooving.
- Double side cutting.
- Spiral flute allows smooth cutting action.

### Contents:

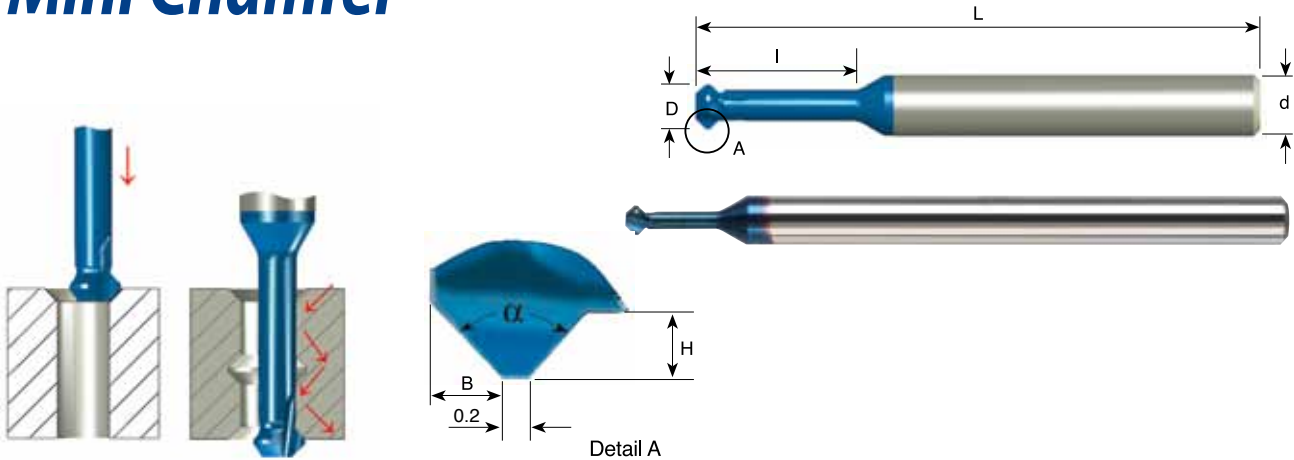
### Page:

Product Identification	268
Mini Chamfer	269-270
Mini Chamfer Kit	271
Special Solid Carbide Tools	271

## Product Identification Mini Chamfer Ordering Codes



## Mini Chamfer



### 90°

Ordering Code	d	D	I	H	B	$\alpha$	No. of Flutes	L
MC03015C3 A90	3	1.5	3.8	0.3	0.4	90°	3	39
MC0302C5 A90	3	2.0	5.0	0.4	0.5	90°	3	39
MC03025C6 A90	3	2.5	6.3	0.5	0.6	90°	3	39
MC0303C7 A90	3	3.0	7.5	0.6	0.7	90°	3	39
MC04035C9 A90	4	3.5	8.8	0.7	0.8	90°	3	51
MC0404C10 A90	4	4.0	10.0	0.8	0.9	90°	3	51
MC05045C11 A90	5	4.5	11.3	1.0	1.1	90°	3	51
MC0505C12 A90	5	5.0	12.5	1.1	1.2	90°	3	51
MC06055C13 A90	6	5.5	13.8	1.2	1.3	90°	3	51
MC0606C15 A90	6	6.0	15.0	1.5	1.6	90°	3	51

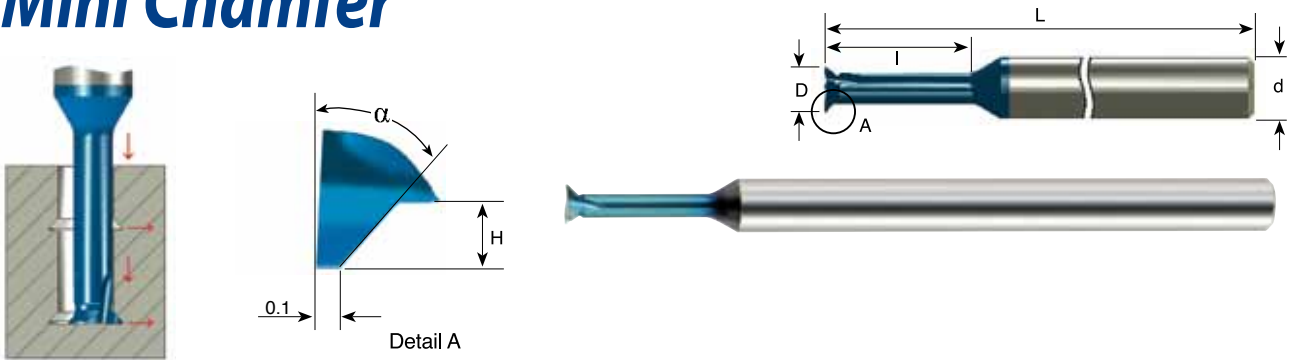
### Long Reach 90°

Ordering Code	d	D	I	H	B	$\alpha$	No. of Flutes	L
MC0303C12 A90	3	3.0	12.0	0.6	0.7	90°	3	39
MC04035C14 A90	4	3.5	14.0	0.7	0.8	90°	3	51
MC0404C16 A90	4	4.0	16.0	0.8	0.9	90°	3	51
MC0404C16L A90	4	4.0	16.0	0.8	0.9	90°	3	105
MC05045C18 A90	5	4.5	18.0	1.0	1.1	90°	3	51
MC0505C20 A90	5	5.0	20.0	1.1	1.2	90°	3	51
MC0505C20L A90	5	5.0	20.0	1.1	1.2	90°	3	105
MC06055C22 A90	6	5.5	22.0	1.2	1.3	90°	3	58
MC0606C24 A90	6	6.0	24.0	1.5	1.6	90°	3	58
MC0606C24L A90	6	6.0	24.0	1.5	1.6	90°	3	105
MC0808D28 A90	8	8.0	28.0	1.6	1.7	90°	4	64
MC0808D28L A90	8	8.0	28.0	1.6	1.7	90°	4	105
MC1010E35 A90	10	10.0	35.0	1.8	1.9	90°	5	73
MC1212F42 A90	12	12.0	42.0	2.1	2.2	90°	6	84

### 60°

Ordering Code	d	D	I	H	B	$\alpha$	No. of Flutes	L
MC0302C5 A60	3	2.0	5.0	0.4	0.3	60°	3	39
MC0303C7 A60	3	3.0	7.5	0.6	0.3	60°	3	39
MC04035C9 A60	4	3.5	8.8	0.7	0.5	60°	3	51
MC0404C10 A60	4	4.0	10.0	0.8	0.5	60°	3	51
MC05045C11 A60	5	4.5	11.3	1.0	0.6	60°	3	51
MC0505C12 A60	5	5.0	12.5	1.1	0.7	60°	3	51

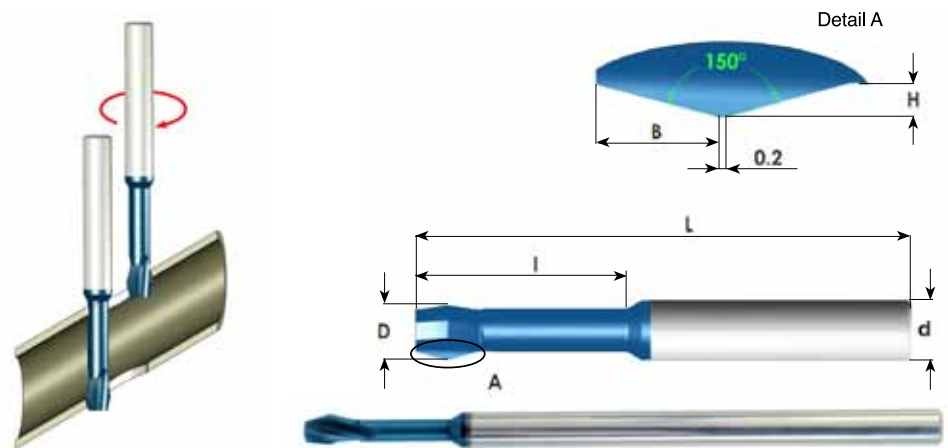
## Mini Chamfer



## Dovetail 45°\*

Ordering Code	d	D	I	H	$\alpha$	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



## 150°

Ordering Code	d	D	I	H	B	No. of Flutes	L
MC0303C12 A150	3	3.0	12.0	0.6	2.2	3	39
MC0404C16 A150	4	4.0	16.0	0.8	3.0	3	51
MC0404C16L A150	4	4.0	16.0	0.8	3.0	3	105
MC0505C20 A150	5	5.0	20.0	1.0	3.8	3	51
MC0505C20L A150	5	5.0	20.0	1.0	3.8	3	105
MC0606C24 A150	6	6.0	24.0	1.0	3.8	3	58
MC0606C24L A150	6	6.0	24.0	1.0	3.8	3	105
MC0808C28 A150	8	8.0	28.0	1.0	3.8	3	64
MC0808C28L A150	8	8.0	28.0	1.0	3.8	3	105

### 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.

## 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



## Special Solid Carbide Tools



As part of being a service-orientated company, Carmex produces specials according to customer's requirements. Special tools are supplied in short delivery times.

