Carmex®
Precision Tools Ltd.
The optimal tools for your industry™

CMT Vertical Milling

Metric 2019 - 20

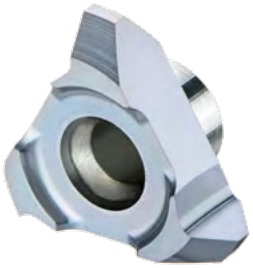
Contents:

CMT
Vertical Milling

Advantages

- Ground profile inserts for high precision and excellent performance.
- Working at high machining parameters, with high surface quality.
- Solid and accurate clamping method enables full repeatability.
- Same insert and holder for right-hand or left-hand threads.
- Toolholders include weldon shank and coolant bore.

CMT Straight Flute Inserts

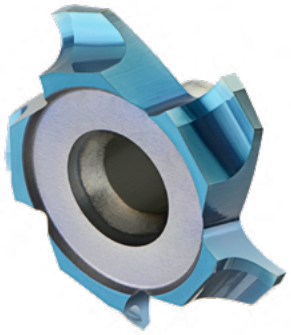


Carbide Grade: MT7

Inserts are available in MT7 Sub-Micron Grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). This is a general purpose grade, covering a very wide range of materials.

CMT Spiral Multi Flute Inserts

- Multi flute: 4-8 cutting edges
- Spiral flute for smooth cutting



The new cutters are designed for large range of materials including hardened steel up to 62 HRc.

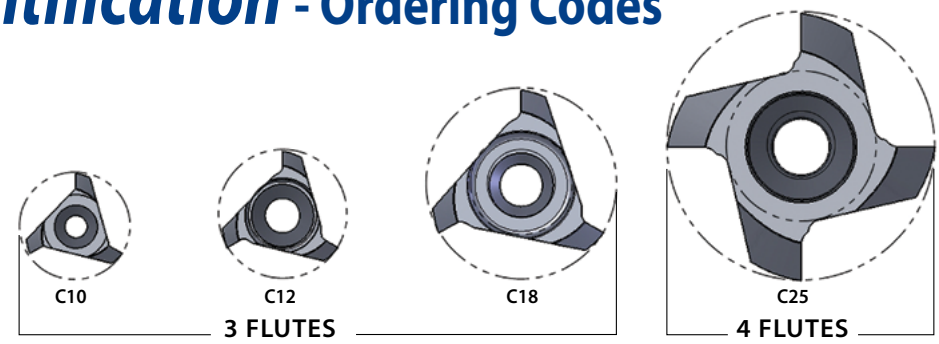
Advantages

- Longer tool life
- High material removal and higher feeds results increased productivity
- Excellent surface finish
- Reduced cycle time
- Low cutting forces due to the spiral multi flutes

Carbide Grade: MT8

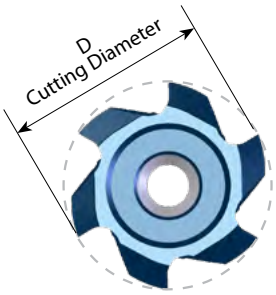
Sub Micron grade with advanced PVD triple coating (ISO K10-K20).
Extremely high heat resistant and smooth cutting operation, high performance, for all machining conditions.

Product Identification - Ordering Codes



C	18	I	I2	UN	MT7
CMT Line	Cutting Diameter 10 = 10.0 mm 12 = 12.0 mm 18 = 17.8 mm 25 = 25.0 mm	I = Internal	Thread Pitch A, D, G, N, Q = Partial Profile C = Chamfering and Grooving CR = Corner Rounding F = Face Milling and Finishing W = Grooving	Thread Profile 60° & 55° ISO UN Whitworth Trapez Acme Chamfering	Carbide Grade

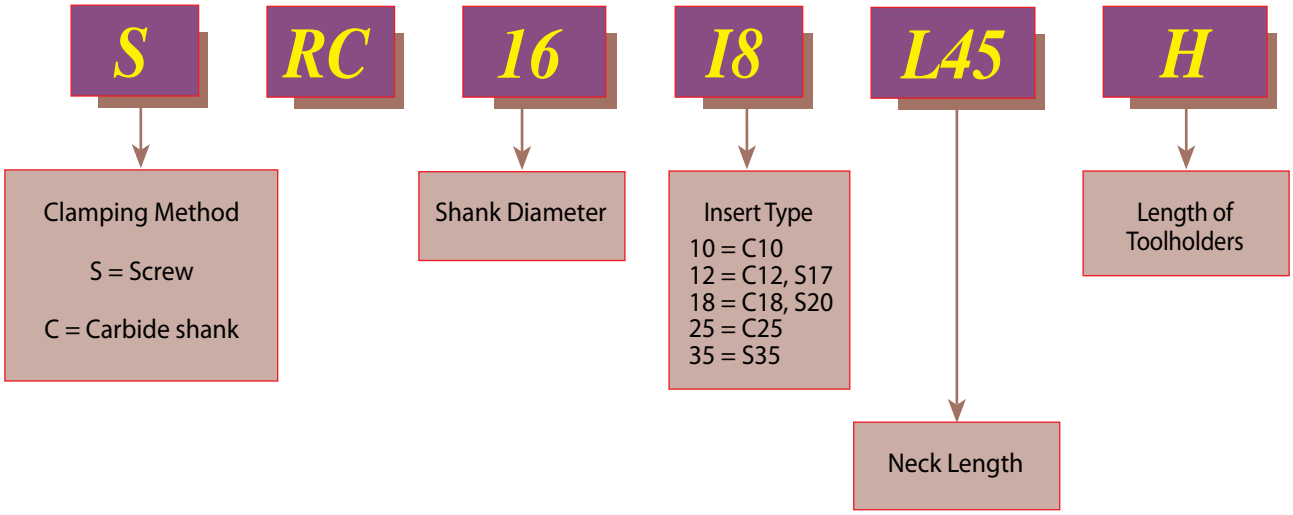
CMT Spiral Multi Flute Inserts



S	178	H	1.0	ISO	MT8
Spiral CMT line Multi flute	Cutting Diameter 178 = Ø17.8 mm 189 = Ø18.9 mm 200 = Ø20.0 mm 350 = Ø35.0 mm	Number of Flutes D = 4 E = 5 F = 6 H = 8	Thread Pitch G, N = Partial Profile H = Chamfering, Grooving and Boring W = Grooving R = Radius Groove Milling CR = Corner Rounding	Thread Profile Partial 60° & 55° ISO UN	Carbide Grade

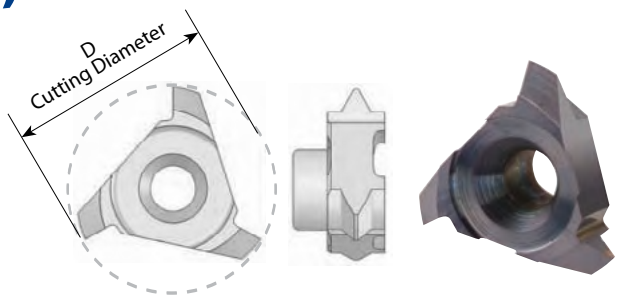
Product Identification - Ordering Codes

CMT Toolholders



Partial Profile 60° - ISO, UN

Same insert for internal and external thread



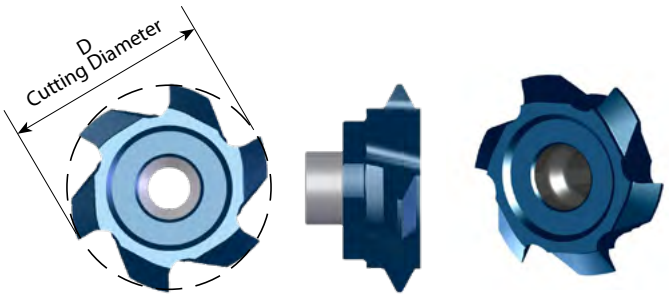
Insert Type	Ordering Code	Pitch Range mm	Pitch Range TPI	D	Thread Diameter (min) Pitch Low Range	Thread Diameter (min) Pitch High Range	Holder Code*
C10	C10 A60	Int. 0.5 - 0.8	56 - 28	10.0	Ø ≥ 11	Ø ≥ 12	H1, 1.1, 2, 15, 16, 17
		Ex. 0.4 - 0.8	64 - 32				
	C10 G60	Int. 1.0 - 2.0	28 - 13	10.0	Ø ≥ 12	Ø ≥ 14	H1, 2, 15, 17
		Ex. 0.8 - 1.75	32 - 15				
C12	C12 A60	Int. 0.5 - 0.8	56 - 28	12.0	Ø ≥ 13	Ø ≥ 14	H3, 3.1, 4, 5, 18, 19, 20
		Ex. 0.4 - 0.8	64 - 32				
	C12 G60	Int. 1.0 - 2.0	28 - 13	12.4	Ø ≥ 14	Ø ≥ 16	H3,4,5,18, 19, 20
		Ex. 0.8 - 1.75	32 - 15				
	C12 AG60	Int. 1.5-2.5	18-11	12.4	Ø≥15	Ø≥17	H3, 4, 5, 18, 20
		Ex. 1.25-2.0	24-13				
C18	C18 A60	Int. 0.5 - 0.8	56 - 28	17.8	Ø ≥ 19	Ø ≥ 19	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
		Ex. 0.4 - 0.8	64 - 32				
	C18 G60	Int. 1.0 - 1.75	28 - 14	17.8	Ø ≥ 20	Ø ≥ 21	
		Ex. 0.8 - 1.5	32 - 16				
	C18 D60	Int. 2.0 - 3.0	13 - 8	17.8	Ø ≥ 21	Ø ≥ 23	
		Ex. 1.75 - 2.5	15 - 10				
C25	C25 G60	Int. 1.5 - 2.5	16 - 10	25.0	Ø ≥ 28	Ø ≥ 30	H10, 11, 24, 25
		Ex. 1.0 - 2.0	28 - 13				
	C25 N60	Int. 3.0 - 5.0	8 - 5	25.0	Ø ≥ 30	Ø ≥ 34	
		Ex. 2.5 - 4.5	10 - 6				
	C25 Q60	Int. 5.0 - 6.0	5 - 4	25.0	Ø ≥ 34	Ø ≥ 35	
		Ex. 4.5 - 5.0	6 - 5				

* For complete toolholder description see pages 23-24

Partial Profile 60° - ISO, UN

Same insert for internal and external thread

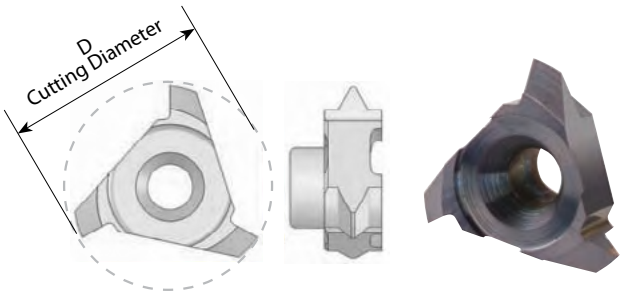
Multi Flute



Insert Type	Ordering Code	Pitch Range mm	Pitch Range TPI	D	No. of Flutes	Thread Dia (min)		Holder Code*
						Pitch Low range	Pitch High range	
S17	**S160 F AG60**	Int. 1.0-3.5	28-7	16.0	6	Ø≥20	Ø≥22	H3, 3.1, 4, 5, 18, 19, 20
		Ex. 0.8-3.0	32-8.5					
S20	**S200 F G60**	Int. 1.5-2.5	16-10	20.0	6	Ø ≥ 23	Ø ≥ 25	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
		Ex. 1.0-2.0	28-13					
	S200 D N60	Int. 3.0-5.0	8- 5	20.0	4	Ø ≥ 25	Ø ≥ 29	H5.1, 5.2, 21
		Ex. 2.5-4.5	10-6					
S35	**S350 F N60**	Int. 3.0-5.0	8-5	35.0	6	Ø≥38	Ø≥40	H12, 13, 14, 26
		Ex. 2.5-4.5	10-6					
	S350 F Q60	Int. 5.0-6.0	5-4	35.0	6	Ø≥40	Ø≥44	H12, 13, 14, 26
		Ex. 4.5-5.0	6-5					

Partial Profile 60° - NPT

Same insert for internal and external thread

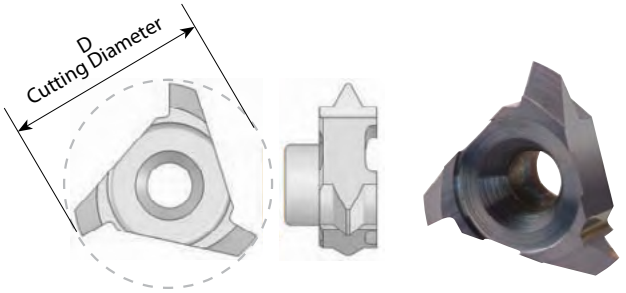


Insert Type	Ordering Code	Pitch TPI	Standard	D	Holder Code*
C10	**C10 18 NPT**	18	1/4 - 3/8	10.0	H1, 1.1, 2, 15, 17
C18	**C18 14 NPT**	14	1/2 - 3/4	15.8	H5.1, 5.2, 21
C25	**C25 11.5NPT**	11.5	1-2	25.0	H10, 11, 24, 25
	C25 8 NPT	8	≥ 2 1/2	25.0	

* For complete toolholder description see pages 23-24

Partial Profile 55° - BSP(G), BSF, BSW

Same insert for internal and external thread

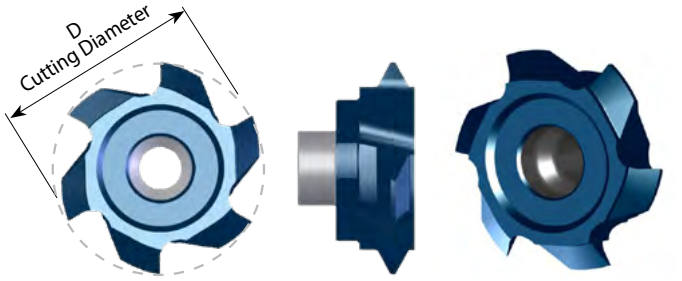


Insert Type	Ordering Code	Pitch Range TPI	D	Thread Dia. (min)	Holder Code*
C10	**C10 G55**	19-14	10.0	Ø ≥ 13	H1, 2, 15, 17
C12	**C12 G55**	28-19	12.0	Ø ≥ 14	H3, 3.1, 4, 5, 18, 19, 20
	C12 N55	14- 11	12.2	Ø ≥ 16	H3, 4, 5,18, 20
C18	**C18 G55**	14- 8	18.0	Ø ≥ 23	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
C25	**C25 N55**	7- 5	25.0	Ø ≥ 31	H10, 11, 24, 25

Partial Profile 55° - BSP(G), BSF, BSW

Same insert for internal and external thread

Multi Flute

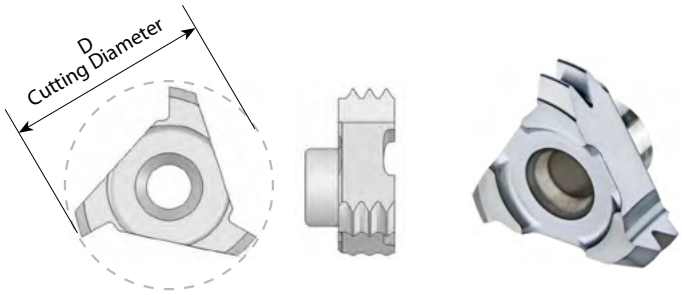


Insert Type	Ordering Code	Pitch Range TPI	D	No. of Flutes	Thread Dia (min)	Holder Code*
S17	**S170 F G55**	11-8	17.0	6	Ø≥18.5	H3, 3.1, 4, 5,18,19,20
S20	**S195 F G55**	14	19.5	6	Ø ≥ 23	H5.1, 5.2, 6, 7, 8,9,21, 22, 23
	S200 D N55	8-6	20.0	4	Ø ≥ 25	H5.1, 5.2, 21

* For complete toolholder description see pages 23-24

Full Profile - ISO

Inserts for internal thread



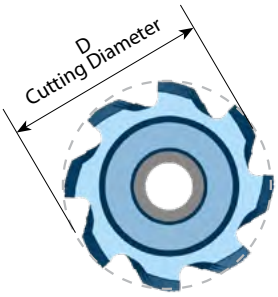
Insert Type	Ordering Code	Pitch mm	M coarse	M fine	Number of Teeth	D	Holder Code*
C10	C10 I 0.5 ISO	0.5		M10, M12	6	9.0	H1, 1.1, 2, 15, 16, 17
	C10 I 0.75ISO	0.75		M12	4	10.0	
	C10 I 1.0 ISO	1.0		M12, M13	3	10.0	
	C10 I 1.5 ISO	1.5		M13, M14	2	10.0	
	C10 I 1.75ISO	1.75	M12		1	9.6	H1, 2, 15, 17
	C10 I 2.0 ISO	2.0	M14	M18	1	10.0	
C12	C12 I 0.5 ISO	0.5		M13-M18	6	12.0	H3, 3.1, 4, 5, 18, 19, 20
	C12 I 0.75ISO	0.75		M13-M18	4	12.0	
	C12 I 1.0 ISO	1.0		M14-M19	3	12.0	
	C12 I 1.5 ISO	1.5		M15-M19	2	12.0	
	C12 I 2.0 ISO	2.0	M16	M18, M20	1	12.4	
	C12 I 2.5 ISO	2.5	M18, M20		1	12.0	H3, 4, 5,18, 20
	C12 I 3.0 ISO	3.0	M24		1	12.4	
C18	C18 I 0.5 ISO	0.5		M19-M60	9	17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 I 0.75ISO	0.75		M19-M60	6	17.8	
	C18 I 1.0 ISO	1.0		M20-M60	5	17.8	
	C18 I 1.5 ISO	1.5		M20-M60	3	17.8	
	C18 I 2.0 ISO	2.0		M21-M60	2	17.8	
	C18 I 2.5 ISO	2.5	M22		2	17.8	
	C18 I 3.0 ISO	3.0	M24, M27	M28-M60	1	17.8	
	C18 I 3.5 ISO	3.5	M30, M33		1	17.8	
C25	C25 I 3.0 ISO	3.0	M32, M33	M30-M80	2	25.0	H10, 11, 24, 25
	C25 I 3.5 ISO	3.5	M33		1	25.0	
	C25 I 4.0 ISO	4.0	M36, M39	M48-M80	1	25.0	
	C25 I 4.5 ISO	4.5	M42, M45		1	25.0	
	C25 I 5.0 ISO	5.0	M48, M52		1	25.0	
	C25 I 5.5 ISO	5.5	M56, M60		1	25.0	
	C25 I 6.0 ISO	6.0	M64, M68	M70-M80	1	25.0	

* For complete toolholder description see pages 23-24

Full Profile - ISO

Inserts for internal thread

Multi Flute

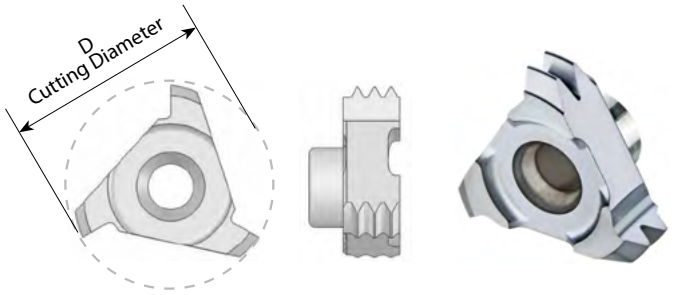


Insert Type	Ordering Code	Pitch mm	M coarse	M fine	Number of Teeth	D	No. of Flutes	Holder Code*
S17	**S160 F 2.5 ISO**	2.5	M20		1	16.0	6	H3, 3.1, 4, 5, 18, 19, 20
S20	**S163 H 1.0 ISO**	1.0		M18-M60	5	16.3	8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	S175 H 1.5 ISO	1.5		M20-M60	3	17.5	8	
	S186 F 2.0 ISO	2.0		M22-M60	2	18.6	6	
	S178 F 2.5 ISO	2.5	M22		2	17.8	6	
	S189 F 3.0 ISO	3.0	M24, M27	M28-M60	1	18.9	6	
	S200 F 3.5 ISO	3.5	M30, M33		1	20.0	6	
	S200 F 4.0 ISO	4.0	M36, M39	M40-M60	1	20.0	6	
	S200 E 4.5 ISO	4.5	M42		1	20.0	5	
	S200 D 5.0 ISO	5.0	M48, M52		1	20.0	4	H5.1, 5.2, 21
S35	**S350 F 4.5 ISO**	4.5	M45	M54	1	35.0	6	H12, 13, 14, 26
	S350 F 6.0 ISO	6.0	M64, M68		1	35.0	6	
	S350 F 8.0 ISO	8.0		M130-M200	1	35.0	6	

* For complete toolholder description see pages 23-24

Full Profile - UN

Inserts for internal thread



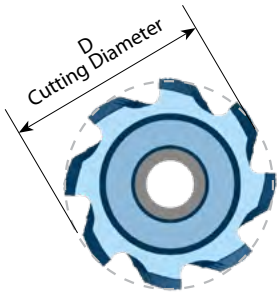
Insert Type	Ordering Code	Pitch TPI	Nominal Size	UNC	UNF	UNEF	Number of Teeth	D	Holder Code*
C10	C10 I 20 UN	20			1/2		2	10.0	H1, 1.1, 2, 15, 16, 17
	C10 I 18 UN	18			9/16		2	10.0	
	C10 I 13 UN	13		1/2			1	10.0	H1, 2, 15, 17
	C10 I 12 UN	12	5/8, 11/16, 3/4	9/16			1	10.0	
C12	C12 I 32 UN	32	9/16, 5/8				3	12.0	H3, 3.1, 4, 5, 18, 19, 20
	C12 I 28 UN	28	9/16, 5/8, 11/16				3	12.0	
	C12 I 24 UN	24				9/16, 5/8, 11/16	2	12.0	
	C12 I 20 UN	20	9/16, 5/8, 11/16			3/4	2	12.0	
	C12 I 18 UN	18			5/8		2	12.0	
	C12 I 16 UN	16	5/8, 11/16		3/4		1	12.0	
	C12 I 12UN	12	5/8				1	12.4	
	C12 I 11 UN	11		5/8			1	12.0	H3, 4, 5,18,20
	C12 I 10 UN	10		3/4			1	12.0	
C18	C18 I 32 UN	32	3/4, 13/16, 7/8				6	17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 I 28 UN	28	3/4, 13/16, 7/8				5	17.8	
	C18 I 24 UN	24					4	17.8	
	C18 I 20 UN	20	1 1/16, 1 1/8			13/16, 7/8, 15/16	3	17.8	
	C18 I 18 UN	18					3	17.8	
	C18 I 16 UN	16	7/8, 1				3	17.8	
	C18 I 14 UN	14			7/8		2	17.8	
	C18 I 12 UN	12	7/8		1, 1 1/8		2	17.8	
	C18 I 11 UN	11					2	17.8	
	C18 I 9 UN	9		7/8			1	17.8	
	C18 I 8 UN	8		1			1	17.8	
C25	C25 I 8 UN	8	13/16, 1 1/4, 1 5/16				2	25.0	H10, 11, 24, 25
	C25 I 7 UN	7		1 1/4			1	25.0	
	C25 I 6 UN	6	1 7/16, 1 9/16	1 3/8, 1 1/2			1	25.0	
	C25 I 5 UN	5		1 3/4			1	25.0	
	C25 I 4 UN	4		2 1/2, 2 3/4			1	25.0	

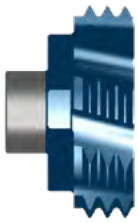
* For complete toolholder description see pages 23-24

Full Profile - UN

Inserts for internal thread

Multi Flute



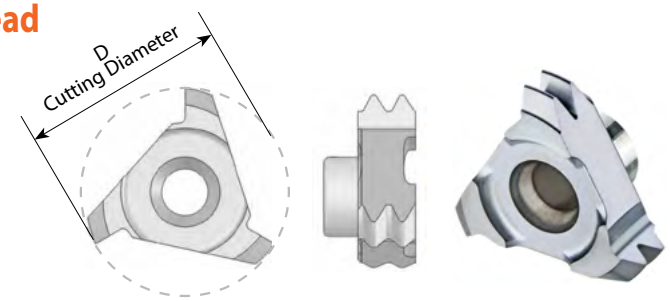


Insert Type	Ordering Code	Pitch TPI	Nominal size	UNC	UNF	UNEF	Number of Teeth	D	No. of Flutes	Holder Code*
S17	**S150 F 10UN**	10		3/4			1	15.0	6	H3, 3.1, 4, 5, 18, 19, 20
S20	**S160 H 24 UN**	24				11/16	4	16.0	8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	S169 H 20 UN	20				3/4, 13/16, 7/8, 15/16, 1	4	16.9	8	
	S164 F 16 UN	16	7/8, 15/16, 1		3/4		3	16.4	6	
	S191 F 14 UN	14			7/8		2	19.1	6	
	S186 F 12 UN	12	7/8, 15/16		1		2	18.6	6	
	S178 F 9 UN	9		7/8			1	17.8	6	
	S200 F 8 UN	8	1 1/8	1			1	20.0	6	
	S200 F 7 UN	7		1 1/8, 1 1/4			1	20.0	6	
	S200 E 6 UN	6	1 7/16	1 3/8, 1 1/2			1	20.0	5	
	S200 D 5 UN	5		1 3/4			1	20.0	4	H5.1, 5.2, 21
S35	**S350 F 8UN**	8	1 5/8, 1 3/4				2	35.0	6	H12, 13, 14, 26
	S350 F 4 UN	4		2 1/2, 2 3/4, 3			1	35.0	6	

* For complete toolholder description see pages 23-24

G 55° BSW, BSF, BSP

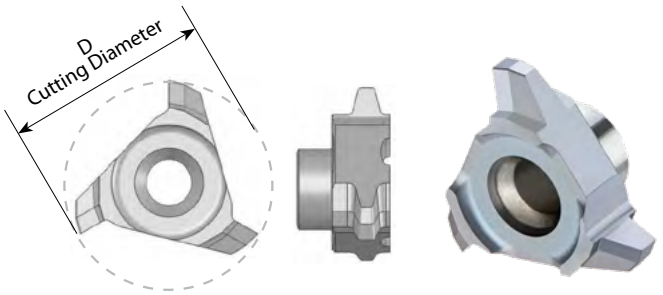
Same Insert for internal and external thread



Insert Type	Ordering Code	Pitch TPI	Standard	Number of Teeth	D	Holder Code*
C10	**C10 19 W**	19	G 1/4	2	10.0	H1, 1.1, 2, 15, 16, 17
C12	**C12 19 W**	19	G 3/8	2	12.0	H3, 3.1, 4, 5, 18, 19, 20
C18	**C18 14 W**	14	G 1/2 - 7/8	2	17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 11 W	11	G ≥ 1	2	17.8	

Trapez - DIN 103

Inserts for internal thread

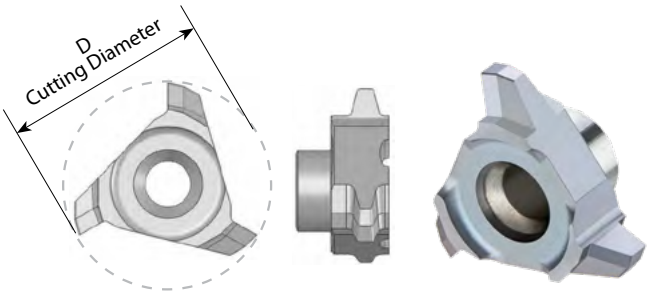


Insert Type	Ordering Code	Pitch mm	Standard	D	Holder Code*
C10	**C10 I 2 TR**	2.0	Tr16x2, Tr18x2	10.0	H1, 2, 15, 17
C12	**C12 I 2TR**	2.0	Tr20x2	12.0	H3, 4, 5, 18, 20
C18	**C18 I 3 TR**	3.0	Tr24x3	17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 I 4 TR	4.0	Tr26x4	17.8	H5.1, 5.2, 21
	C18 I 5 TR	5.0	Tr28x5	17.8	
C25	**C25 I 6 TR**	6.0	Tr36x6	25.0	H10, 11, 24, 25

* For complete toolholder description see pages 23-24

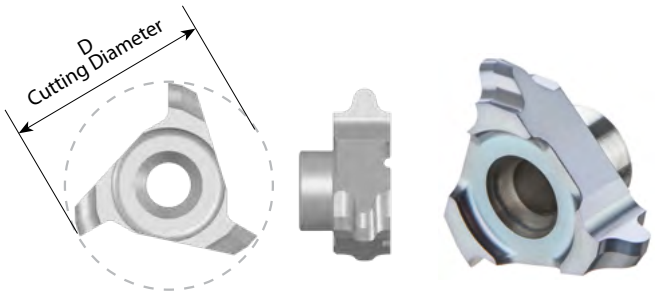
Acme

Inserts for internal thread



Insert Type	Ordering Code	Pitch TPI	Standard	D	Holder Code*
C18	**C18 I 5 ACME**	5	$1\frac{1}{8}$, $1\frac{1}{4}$	18.0	H5.1, 5.2, 21
C25	**C25 I 4 ACME**	4	$1\frac{1}{2}$, $1\frac{3}{4}$, 2	25.0	H10, 11, 24, 25

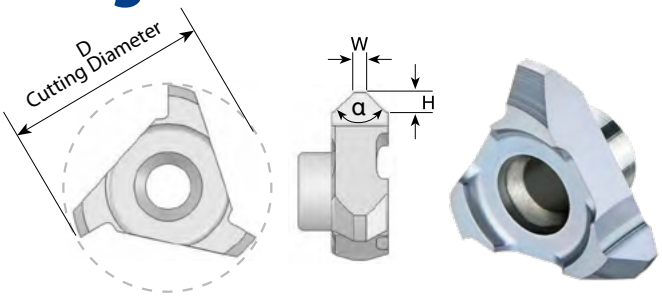
Round-DIN 405



Insert Type	Ordering Code	Pitch TPI	Standard	D	Holder Code*
C18	**C18 1/8RD**	8	1/8RD	17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 1/6RD	6	1/6RD	17.8	H5.1, 5.2, 21
C25	**C25 1/4RD**	4	1/4RD	25.0	H10, 11, 24, 25

* For complete toolholder description see pages 23-24

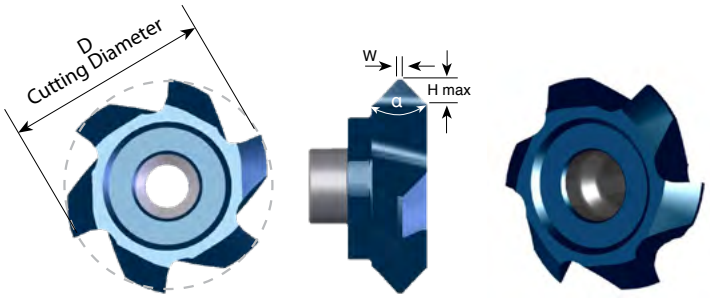
Chamfering and Grooving



Insert Type	Ordering Code	D	H	W	α	Holder Code*
C10	**C10 C90**	10.0	1.30	0.4	90˚	H1, 2, 15, 17
C12	**C12 C90**	12.0	1.35	0.3	90˚	H3, 4, 5, 18, 20
C18	**C18 C90**	17.8	1.95	1.1	90˚	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
C25	**C25 C90**	25.0	2.50	1.0	90˚	H10, 11, 24, 25

Chamfering, Grooving and Boring

Multi Flute

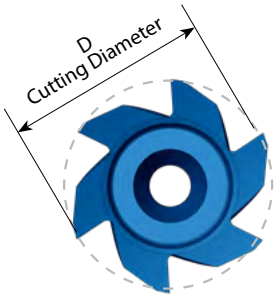


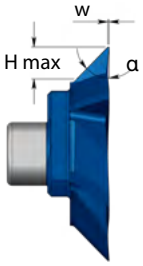
Insert Type	Ordering Code	D	H max	W	α	No. of Flutes	Holder Code*
S17	**SC160 E H14**	16.0	1.35	0.2	90°	5	H3, 3.1, 4, 5, 18, 19, 20
S20	**SC170 E H14**	17.0	1.35	0.2	90°	5	H6, 7, 8, 9, 21, 22, 23
	SC200 F H14	20.0	1.35	0.2	90°	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	SC200 F H24	20.0	2.35	0.2	90°	6	
S35	**SC350 F H42**	35.0	4.20	0.2	90°	6	H12, 13, 14, 26
S20	**SC200 F H20**	20.0	1.95	1.0	90°	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	SC200 F H17	20.0	1.70	1.5	90°	6	
	SC200 F H15	20.0	1.50	2.0	90°	6	
	SC200 F H12	20.0	1.20	2.5	90°	6	

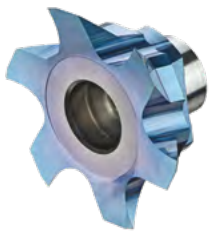
* For complete toolholder description see pages 23-24

Dovetail 45°

Multi Flute

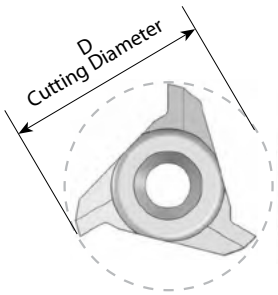


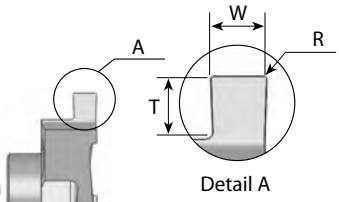




Insert Type	Ordering Code	D	H	W	α	No. of Flutes	Holder Code*
S17	**SC170 F A45**	17.0	2.5	0.1	45°	6	H3, 3.1, 4, 5, 18, 19, 20
S20	**SC200 F A45**	20.0	3.0	0.1	45°	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23

Groove Milling



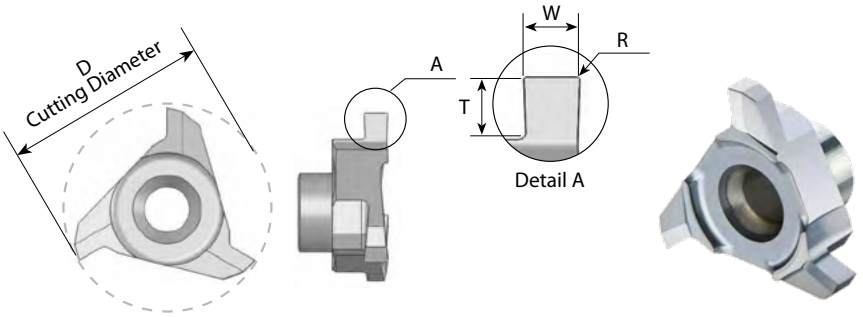


Insert Type	Ordering Code	D	W ±0.02	T max.	R	Groove Dia. (min.)	Holder Code*
C10	**C10 W08**	10.0	0.80	0.80	0.1	Ø > 10.0	H1, 1.1, 2, 15, 16, 17
	C10 W09	10.0	0.90	0.90	0.1	Ø > 10.0	
	C10 W10	10.0	1.00	0.90	0.1	Ø > 10.0	
	C10 W15	10.0	1.50	1.20	0.1	Ø > 10.0	H1, 2, 15, 17
	C10 W20	10.0	2.00	1.20	0.1	Ø > 10.0	
C12	**C12 W08**	12.0	0.80	0.80	0.1	Ø > 12.0	H3, 3.1, 4, 5, 18, 19, 20
	C12 W10	12.0	1.00	0.90	0.1	Ø > 12.0	
	C12 W10T	12.3	1.00	1.60	0.2	Ø > 12.3	H3, 4, 5, 18, 20
	C12 W15	12.4	1.50	1.60	0.1	Ø > 12.4	
	C12 W20	12.4	2.00	1.60	0.1	Ø > 12.4	
	C12 W25	12.4	2.50	1.60	0.1	Ø > 12.4	
C18	**C18 W10**	17.8	1.00	1.50	0.1	Ø > 17.8	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 W12	17.8	1.20	1.50	0.1	Ø > 17.8	
	C18 W15	17.8	1.50	1.95	0.1	Ø > 17.8	
	C18 W20	17.8	2.00	2.80	0.1	Ø > 17.8	H5.1, 5.2, 21
C25	**C25 W20**	25.0	2.00	3.00	0.2	Ø > 25.0	H10, 11, 24, 25
	C25 W25	25.0	2.50	3.00	0.2	Ø > 25.0	
	C25 W30	25.0	3.00	3.00	0.2	Ø > 25.0	
	C25 W35	25.0	3.50	3.50	0.2	Ø > 25.0	
	C25 W40	25.0	4.00	3.50	0.2	Ø > 25.0	
	C25 W50	25.0	5.00	3.50	0.2	Ø > 25.0	

* For complete toolholder description see pages 23-24

Groove Milling

DIN 471/472

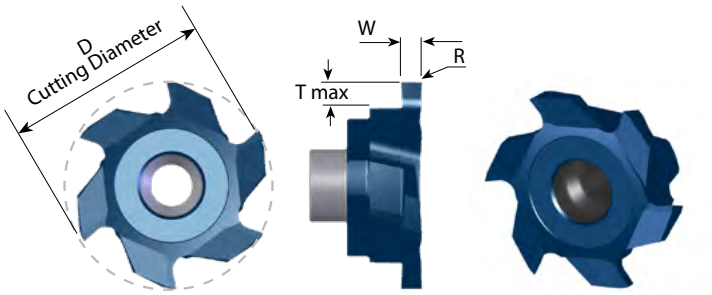


Insert Type	Ordering Code	D	Nom` groove width	W -0.04	T max.	R	Groove Dia. (min.)	Holder Code*
C10	**C10 W087**	10.0	0.8	0.87	1.3	0	Ø > 10.0	H1, 2, 15, 17
	C10 W097	10.0	0.9	0.97	1.3	0	Ø > 10.0	
	C10 W121	10.0	1.10	1.21	1.3	0	Ø > 10.0	
	C10 W141	10.0	1.30	1.41	1.3	0.1	Ø > 10.0	
	C10 W171	10.0	1.60	1.71	1.3	0.1	Ø > 10.0	
C12	**C12 W121**	12.4	1.10	1.21	1.7	0	Ø > 12.4	H3, 4, 5, 18, 20
	C12 W141	12.4	1.30	1.41	1.7	0.1	Ø > 12.4	
	C12 W171	12.4	1.60	1.71	1.7	0.1	Ø > 12.4	
C18	**C18 W121**	17.8	1.10	1.21	2.9	0.1	Ø > 17.8	H5.1, 5.2, 21
	C18 W141	17.8	1.30	1.41	2.9	0.1	Ø > 17.8	
	C18 W171	17.8	1.60	1.71	2.9	0.1	Ø > 17.8	
	C18 W196	17.8	1.85	1.96	2.9	0.15	Ø > 17.8	

* For complete toolholder description see pages 23-24

Groove Milling

Multi Flute



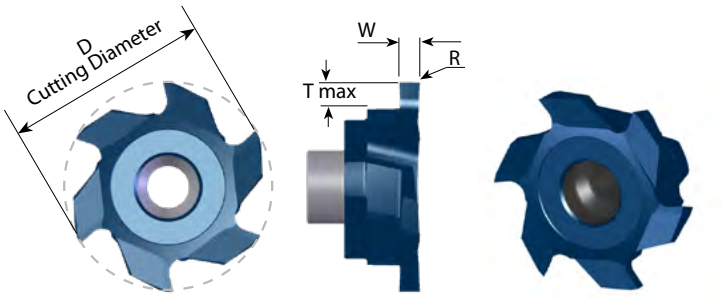
Insert Type	Ordering Code	D	W ±0.02	T Max.	R	Groove Dia. (min)	No. of Flutes	Holder Code*
S17	**SG170 F W15**	17.0	1.5	2.8	0.2	Ø > 17	6	H3, 3.1, 4, 5, 18, 19, 20
	SG170 F W20	17.0	2.0	2.8	0.2	Ø > 17	6	
	SG170 F W25	17.0	2.5	2.8	0.2	Ø > 17	6	
S20	**SG200 F W15**	20.0	1.5	2.9	0.2	Ø > 20	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	SG200 F W20	20.0	2.0	2.9	0.2	Ø > 20	6	
	SG200 F W25	20.0	2.5	2.9	0.2	Ø > 20	6	
	SG200 F W30	20.0	3.0	2.9	0.2	Ø > 20	6	
	SG200 F W40	20.0	4.0	2.9	0.2	Ø > 20	6	
	SG200 F W49	20.0	4.9	2.9	0.2	Ø > 20	6	
S20	**SG200 E W20T**	20.0	2.0	3.7	0.2	Ø > 20	5	H5.1, 5.2, 21
	SG200 E W25T	20.0	2.5	3.7	0.2	Ø > 20	5	
	SG200 E W30T	20.0	3.0	3.7	0.2	Ø > 20	5	
S35	**SG350 F W30T**	35.0	3.0	6.3	0.2	Ø > 35	6	H12, 13, 14, 26
	SG350 F W40T	35.0	4.0	6.3	0.2	Ø > 35	6	
	SG350 F W50T	35.0	5.0	6.3	0.2	Ø > 35	6	
	SG350 F W60T	35.0	6.0	6.3	0.2	Ø > 35	6	
	SG350 F W80T	35.0	8.0	6.3	0.2	Ø > 35	6	

* For complete toolholder description see pages 23-24

Groove Milling

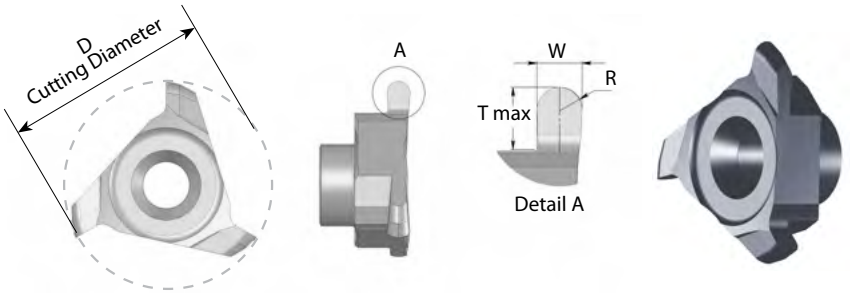
Multi Flute

DIN 471/472



Insert Type	Ordering Code	D	Nom` groove width	W -0.04	T Max.	R	Groove Dia. (min)	No. of Flutes	Holder Code*
S20	**SG200 F W121**	20.0	1.10	1.21	4.0	0	Ø > 20	6	H5.1, 5.2, 21
	SG200 F W141	20.0	1.30	1.41	4.0	0.1	Ø > 20	6	
	SG200 F W171	20.0	1.60	1.71	4.0	0.1	Ø > 20	6	
	SG200 F W196	20.0	1.85	1.96	4.0	0.1	Ø > 20	6	

Full Radius Groove Milling

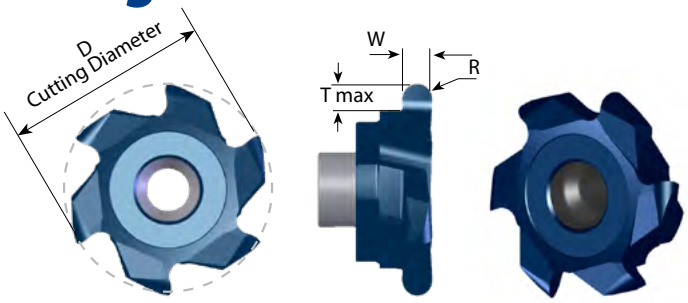


Insert Type	Ordering Code	D	R	W ±0.02	T Max.	Groove Dia. (min)	Holder Code*
C12	**C12 R11**	12.4	1.1	2.2	1.7	Ø >12.4	H3, 4, 5, 18, 20
C18	**C18 R08**	17.8	0.8	1.6	2.9	Ø >17.8	H5.1, 5.2, 21
	C18 R11	17.8	1.1	2.2	2.9	Ø >17.8	

* For complete toolholder description see pages 23-24

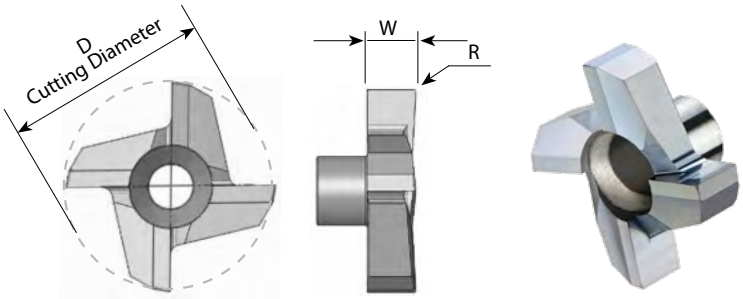
Full Radius Groove Milling

Multi Flute



Insert Type	Ordering Code	D	R	W ±0.02	T Max.	Groove Dia. (min)	No. of Flutes	Holder Code*
S20	**SG200 F R10**	20.0	1.0	2.0	2.9	Ø > 20	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	SG200 F R12	20.0	1.2	2.4	2.9	Ø > 20	6	
	SG200 F R15	20.0	1.5	3.0	2.9	Ø > 20	6	
	SG200 F R20	20.0	2.0	4.0	2.9	Ø > 20	6	

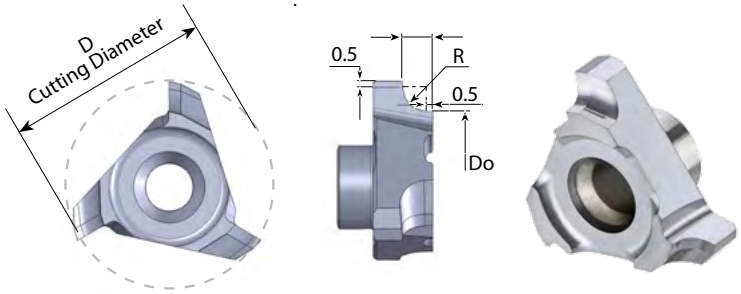
Face Milling and Finishing



Insert Type	Ordering Code	D	W ± 0.1	R	Holder Code*
C10	**C10 F R0.1**	10	3.0	0.1	H1, 1.1, 2, 15, 16, 17
C12	**C12 F R0.1**	12	3.0	0.1	H3, 3.1, 4, 5,18, 19, 20
C18	**C18 F R0.1**	17.8	5.0	0.1	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
C25	**C25 F R0.2**	25.0	6.0	0.2	H10, 11, 24, 25

* For complete toolholder description see pages 23-24

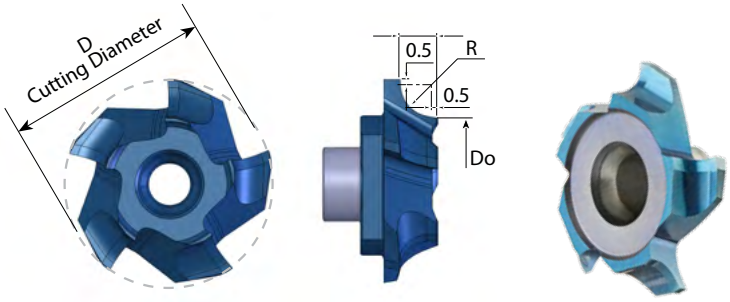
Corner Rounding



Insert Type	Ordering Code	D	Do	R	I	Holder Code*
C10	**C10 CR05**	10.0	7.9	0.5	1.05	H1, 1.1, 2, 15, 16, 17
	C10 CR10	10.0	6.9	1.0	1.55	
C18	**C18 CR13**	17.8	14.2	1.25	1.80	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
	C18 CR15	17.8	13.7	1.5	2.05	
	C18 CR20	17.8	12.7	2.0	2.55	
C25	**C25 CR30**	25.0	17.7	3.0	3.60	H10, 11, 24, 25

Corner Rounding

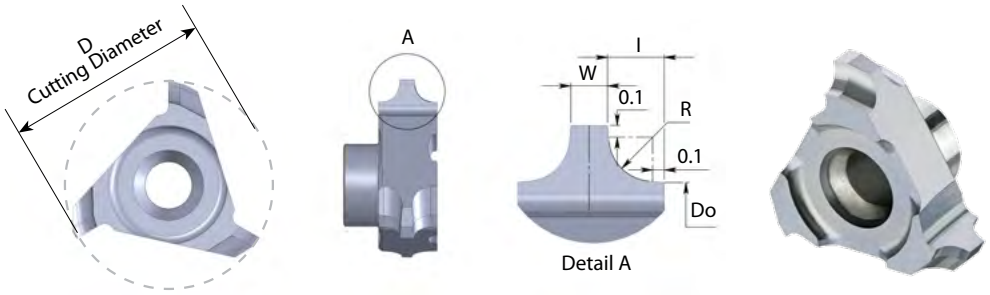
Multi Flute



Insert Type	Ordering Code	D	Do	R	I	No. of Flutes	Holder Code*
S17	**S170 E CR10**	17.0	13.9	1.0	1.55	5	H3, 3.1, 4, 5, 18, 19, 20
	S170 E CR13	17.0	13.4	1.25	1.80	5	
	S170 E CR15	17.0	12.9	1.5	2.05	5	

* For complete toolholder description see pages 23-24

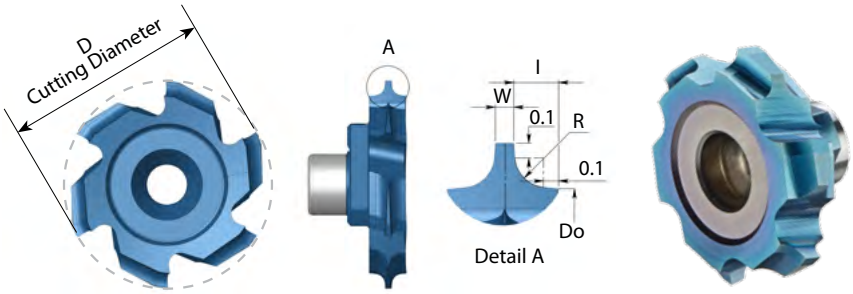
Front and Back Corner Rounding



Insert Type	Ordering Code	D	Do	R	W	I	Holder Code*
C10	**C10 CRD08**	10.0	8.2	0.8	1.2	0.90	H1, 1.1, 2, 15, 16, 17
C18	**C18 CRD15**	17.8	14.6	1.5	1.8	1.60	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23
C25	**C25 CRD20**	25.0	20.7	2.0	2.0	2.10	H10, 11, 24, 25

Front and Back Corner Rounding

Multi Flute

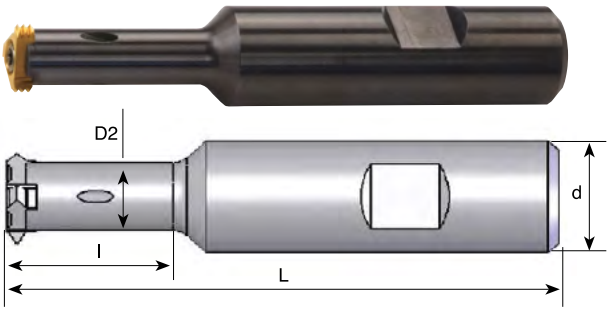


Insert Type	Ordering Code	D	Do	R	W	I	No. of Flutes	Holder Code*
S17	**S170 F CRD08**	17.0	15.2	0.8	1.2	0.90	6	H3, 3.3, 4, 5, 18, 19, 20
S20	**S200 F CRD15**	20.0	16.8	1.5	1.8	1.60	6	H5.1, 5.2, 6, 7, 8, 9, 21, 22, 23

* For complete toolholder description see pages 23-24

Steel Toolholders

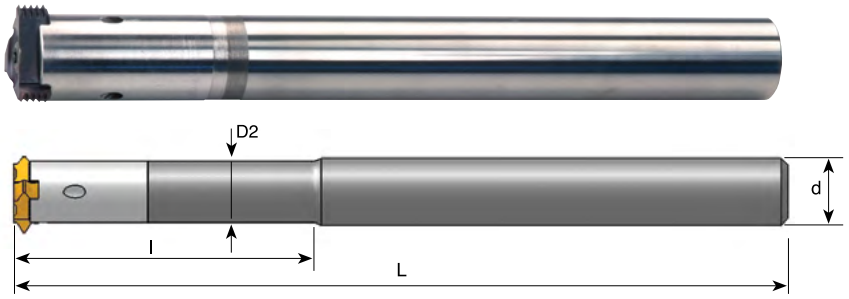
With internal coolant



Tool No.	Ordering Code	Insert Type	d	D2	l	L	Insert Screw	Torx Key
H1	SRC 1210 E	C10	12	7.3	19	70	S5	K5
H1.1	SRC 1210 F		12	8.0	25	80	S5	K5
H2	SRC 1610 G		16	7.3	19	90	S5	K5
H3	SRC 1212 E	C12, S17	12	9.0	25	70	S10	K10
H3.1	SRC 1212 G		12	10.0	40	90	S10	K10
H4	SRC 1612 G		16	9.0	25	90	S10	K10
H5	SRC 1612 H		16	9.0	35	100	S10	K10
H5.1	SRC 1618 F	C18, S20	16	12.0	25	80	S16	K16
H5.2	SRC 1618 G		16	12.0	40	90	S16	K16
H6	SRC 1618 H		16	13.8	48	100	S16	K16
H7	SRC 2018 H		20	13.8	32	100	S16	K16
H8	SRC 2018 J		20	13.8	48	110	S16	K16
H9	SRC 2018 L		20	13.8	74	140	S16	K16
H10	SRC 2525 J	C25	25	17.5	45	115	S27	K27
H11	SRC 2525 M		25	17.5	80	150	S27	K27
H12	SRC 2035 K	S35	20	22.0	44	130	S33	K33
H13	SRC 2535 H		25	22.0	40	100	S33	K33
H14	SRC 2535 K		25	22.0	60	130	S33	K33

Carbide Shank Toolholders

With internal coolant



Tool No.	Ordering Code	Insert Type	d	D2	l	L	Insert Screw	Torx Key
H15	**CRC 0810 L35 K**	C10	8	7.3	35	125	S5	K5
H16	**CRC 0810 K**		8	8.0	---	125	S5	K5
H17	**CRC 1010 L45 M**		10	7.3	45	150	S5	K5
H18	**CRC 1012 L40 M**	C12, S17	10	9.0	40	150	S10	K10
H19	**CRC 1012 M**		10	10.0	---	150	S10	K10
H20	**CRC 1212 L57 P**		12	9.0	57	165	S10	K10
H21	**CRC 1218 P**	C18, S20	12	12.0	---	170	S16	K16
H22	**CRC 1618 L48 R**		16	13.8	48	195	S16	K16
H23	**CRC 1618 L74 R**		16	13.8	74	195	S16	K16
H24	**CRC 1625 R**	C25	16	17.5	28	205	S27	K27
H25	**CRC 2025 L85 S**		20	17.5	85	250	S27	K27
H26	**CRC 2035 S**	S35	20	22.0	37	260	S33	K33

Toolholders without Weldon

CMT Multi Insert Milling Cutters

CMT indexable milling inserts and cutters for Grooving, Chamfering and Threading

Inserts

- Insert profiles are fully ground
- Spiral inserts for smooth cutting operation
- Three cutting edges on each insert
- For a wide range of materials and applications

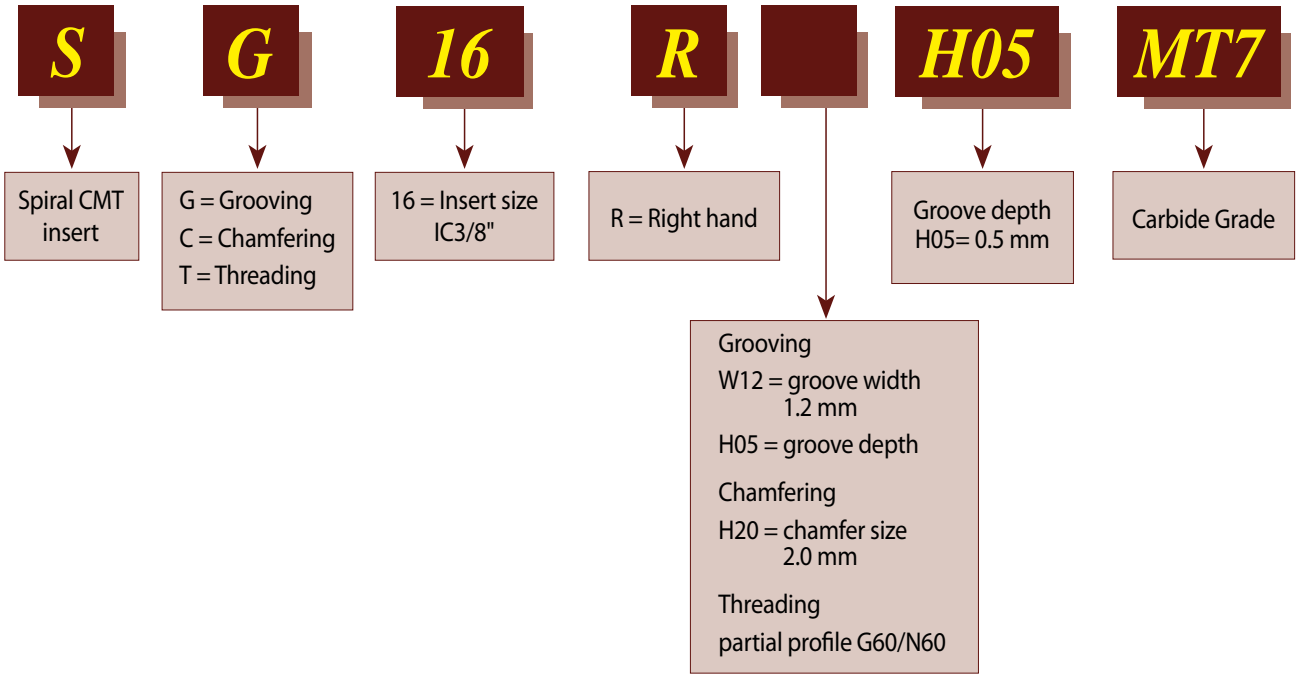
Carbide grade: MT7

Milling cutters / Disc milling cutter

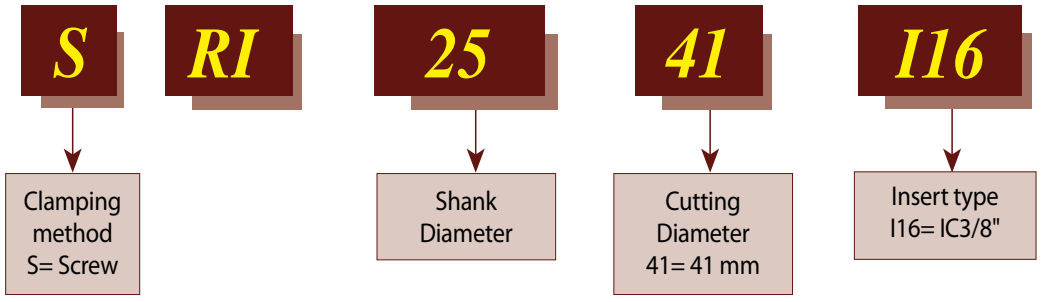
- 4 - 8 inserts per holder, for high productivity
- For use with Carmex standard CMT S35 toolholders
- The milling cutters are coated with a special layer (silver color) for high anti-corrosive resistance and extra protection against cutting burrs

Product Identification - Ordering Codes

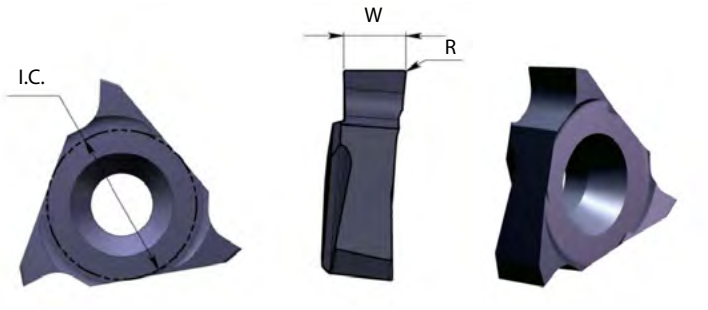
Inserts



Toolholders



Groove Milling



DIN 471 / 472

Insert Type	I.C.	Ordering Code	W	R	Holder Code*
SI16	3/8"	**SG 16 R W14**	1.40	0.10	H27, 28, 29
		SG 16 R W17	1.70	0.10	
		SG 16 R W19	1.95	0.15	
		SG 16 R W22	2.25	0.15	
		SG 16 R W27	2.75	0.20	
		SG 16 R W32	3.25	0.20	
		SG 16 R W42	4.25	0.20	
		SG 16 R W43	4.35	0.20	H27, 29, 30

Right hand cutting

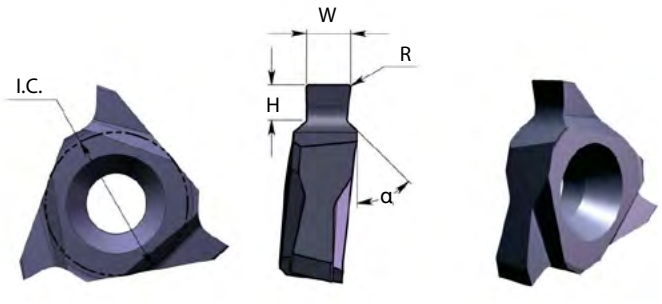
Insert Type	I.C.	Ordering Code	W	R	Holder Code*
SI16	3/8"	**SG 16 L W43**	4.35	0.20	H30

Left hand cutting

*Maximum groove depth (T max) according to the toolholder.

* For complete toolholder description see pages 30-31

Groove Milling with Chamfer

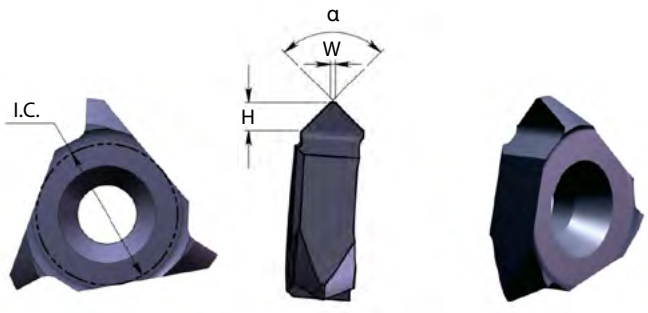


DIN 471 / 472

Insert Type	I.C.	Ordering Code	W	H max	R	α	Holder Code*
SI16	3/8"	**SG 16 R W12 H05**	1.20	0.50	0.10	45°	H27, 28, 29
		SG 16 R W14 H07	1.40	0.70			
		SG 16 R W14 H08	1.40	0.85			
		SG 16 R W17 H08	1.70	0.85			
		SG 16 R W17 H10	1.70	1.00			
		SG 16 R W19 H12	1.95	1.25	0.15		
		SG 16 R W22 H15	2.25	1.50			
		SG 16 R W27 H15	2.75	1.50			
		SG 16 R W27 H17	2.75	1.75			
		SG 16 R W32 H17	3.25	1.75			
		SG 16 R W42 H20	4.25	2.00			
		SG 16 R W42 H25	4.25	2.50			

Right hand cutting

Chamfering



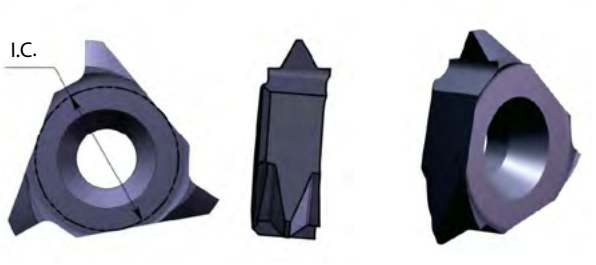
Insert Type	I.C.	Ordering Code	H max	W	α	Holder Code*
SI16	3/8"	**SC 16 R H20**	2.00	0.2	90°	H27, 28, 29
		SC 16 R H19	1.90	0.5		

Right hand cutting

* For complete toolholder description see pages 30-31

Partial Profile 60° - ISO, UN

Same Insert for internal and external thread



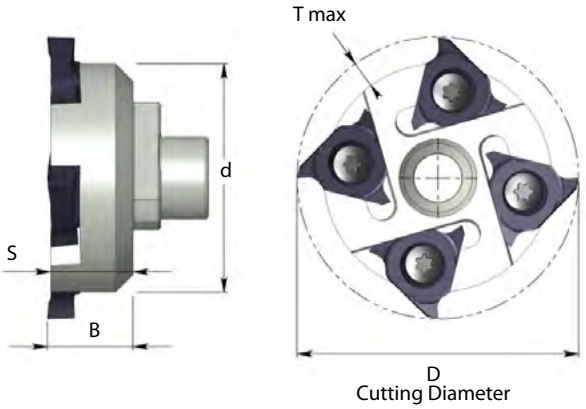
Insert Type	I.C.	Ordering Code	Pitch Range mm	Pitch Range TPI	Holder Code*
SI16	3/8"	**ST 16 R G60**	Int. 1.5-3.0	Int. 16-8	H27, 28, 29
			Ex. 1.25-3.0	Ex. 20-8	
		ST 16 R N60	Int. 3.5-5.0	Int. 7-5	
			Ex. 3.0-4.5	Ex. 8-6	

Right hand cutting

* For complete toolholder description see pages 30-31

Toolholders

Milling Cutter- Arbor

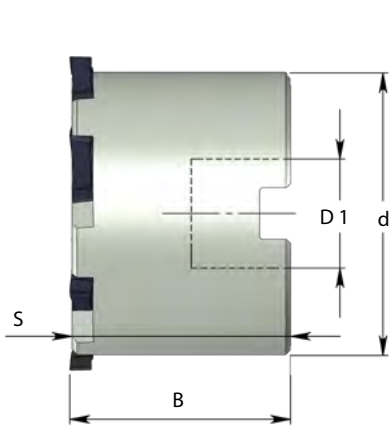


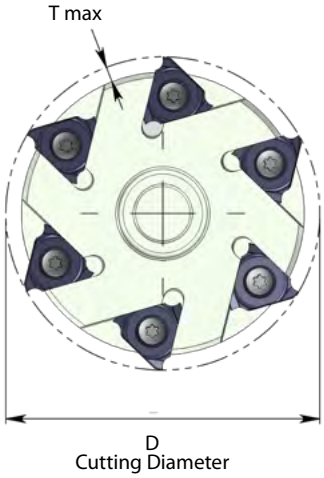
Tool No.	Ordering Code	Insert type	D	d	T max	B	S	Insert Screw	Torx Key
H27	**SRI 41- I16**	SI16	41	33.2	3.6	12.5	12.0	S16S	K16

Right hand cutting

To connect to the standard CMT toolholders S35: SRC 2035 K, SRC 2535 H, SRC 2535 K, CRC 2035 S

Milling Cutter- Shell Mill

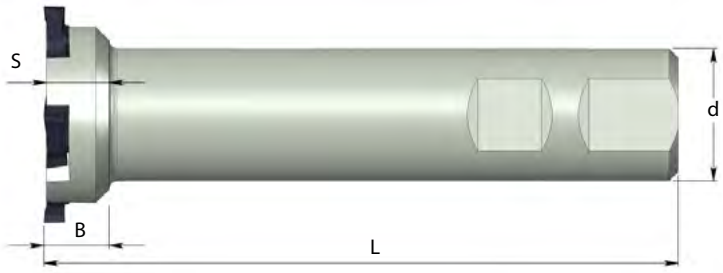


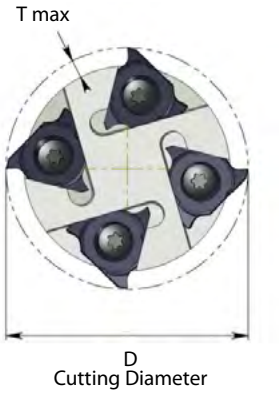


Tool No.	Ordering Code	Insert type	D	d	T max	B	S	D1	Insert Screw	Torx Key
H28	**SRI 0063-I16**	SI16	63	57	3.0	44.5	44.0	22	S16S	K16

Right hand cutting

Milling Cutter- Weldon Shank

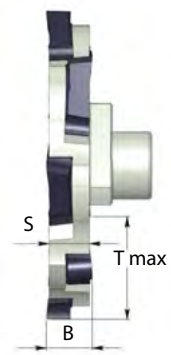


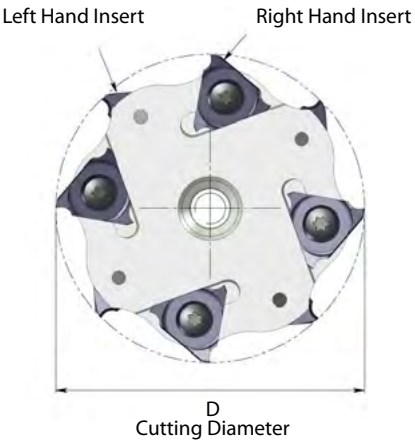


Tool No.	Ordering Code	Insert type	D	d	T max	B	S	L	Insert Screw	Torx Key
H29	**SRI 2541-I16**	SI16	41	25	3.6	12.5	12.0	125	S16S	K16

Right hand cutting

Milling Cutter - Disc Milling

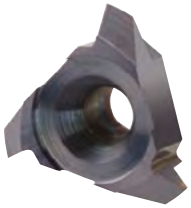




Tool No.	Ordering Code	Insert type	D	T max	B	S	Insert Screw	Torx Key
H30	**SRI 55-I16**	SI16	55	15.5	8.2	7.2	S16M	K16

Right hand cutting
To use only with inserts SG 16 R W43, and SG 16 L W43
To connect to the standard CMT toolholders S35: SRC 2035 K, SRC 2535 H, SRC 2535 K, CRC 2035 S

Technical Section

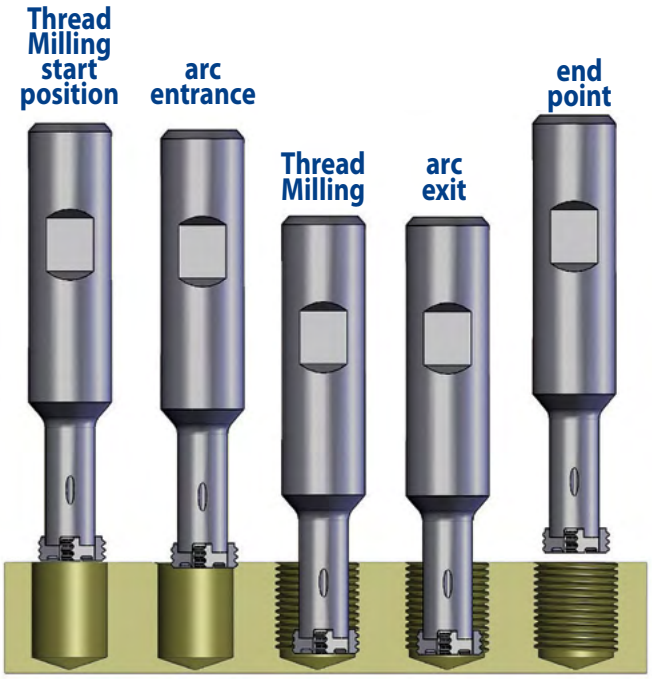


CMT type

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.

Cutting Data

ISO	Materials	Cutting Speed m/min	Feed mm/tooth Cutting Diameter=D			
			Ø10	Ø12	Ø18	Ø25
P	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
M	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
K	Cast Iron	40 - 80	0.16	0.17	0.20	0.22
N	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
S	Nickel Alloys, Titanium Alloys	20 - 40	0.07	0.07	0.10	0.12
H	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



CMT Spiral Multi Flute Inserts

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.

Cutting Data

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth Cutting Diameter = D
			Ø16-Ø35
P	Low and 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
M	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
K	Cast Iron	40- 80	0.14-0.24
N	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
S	Nickel Alloys, Titanium Alloys.	20- 40	0.05-0.14
H	Hardened Steel, 45-50HRc	60- 70	0.07-0.17
	Hardened Steel, 51-55HRc	50- 60	0.06-0.16

CMT Milling cutter

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.

Cutting Data

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth
P	Low and 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
M	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
K	Cast Iron	40-80	0.05-0.15
N	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
S	Nickel alloys, Titanium Alloys.	20-40	0.03-0.10
H	Hardened Steel, ≤ 45 HRc	60-70	0.03-0.10

Carmex®
Precision Tools Ltd.
The optimal tools for your industry™

Carmex CMT 09/2019 - Metric

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