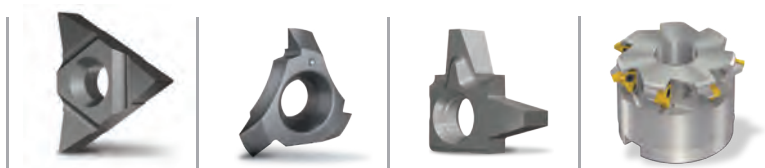




# TMSD

Thread Mill for Deep Holes



INCH

# TMSD

## Thread Mill for Deep Holes

A multi-flute, highly productive and economical solution for milling threads in deep holes

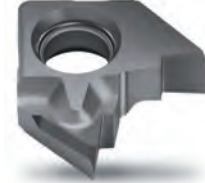
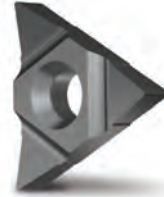


See it in action



### Full Profile Inserts

See pages 12-14, 18-19



American UN, ISO, NPT, API RD

American Buttress

### U Style For Large Pitches

Weldon Shank



Tool Overhang (L1) 1.57-5.70  
Cutting Dia. (D2) .58-1.66  
No. of Flutes (Z) 1-4

Carbide Cylindrical Shank



Tool Overhang (L1) Max 5.30  
Cutting Dia. (D2) .58-1.24  
No. of Flutes (Z) 1-4

Steel Cylindrical Shank



Tool Overhang (L1) Max 5.65  
Cutting Dia. (D2) .91-1.46  
No. of Flutes (Z) 2-4

Shell Mill



Tool Overhang (L1) Max 7.87  
Cutting Dia. (D2) 1.69-4.35  
No. of Flutes (Z) 4-7

### L Style (Mini L) For Small Bores and Short L2

Weldon Shank



Tool Overhang (L1) 1.14-1.65  
Cutting Dia. (D2) .51-.70  
No. of Flutes (Z) 1-3

Carbide Cylindrical Shank



Tool Overhang (L1) Max 2.55  
Cutting Dia. (D2) .51-.70  
No. of Flutes (Z) 1-3

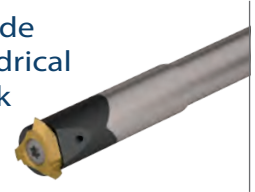
### Vertical Style (7V, 9V, 11V)

Weldon Shank



Tool Overhang (L1) .98-1.77  
Cutting Dia. (D2) .413-.827  
No. of Flutes (Z) 3

Carbide Cylindrical Shank



Tool Overhang (L1) Max 2.56  
Cutting Dia. (D2) .413-.827  
No. of Flutes (Z) 3

### L Style (3/8" L) For Large Trapezoid Profiles and ABUT

Weldon Shank



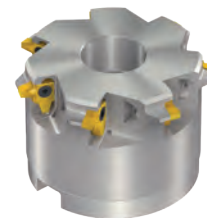
Tool Overhang (L1) 2.0-3.5  
Cutting Dia. (D2) .85-1.3  
No. of Flutes (Z) 1-3

Carbide Cylindrical Shank



Tool Overhang (L1) Max 4.43  
Cutting Dia. (D2) .85-1.32  
No. of Flutes (Z) 1-3

Shell Mill



Tool Overhang (L1) Max 7.87  
Cutting Dia. (D2) 3.15  
No. of Flutes (Z) 5-7

### A Style For Shorter L2

Steel Cylindrical Shank



Tool Overhang (L1) Max 5.12  
Cutting Dia. (D2) 1.02-1.39  
No. of Flutes (Z) 3

## TMSD CATALOG

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### TMSD Line System Advantages

#### Smooth Cut

- Reduced load on cutting edges due to single point insert design

#### Wide Range of Profiles

- Full profile: UN, ISO, NPT and , ABUT and API Round **NEW**
- Partial profile: 60°, 55°
- Semi Partial profile for: TR, ACME, Stub ACME

#### Cost Effective

- Up to 3 cutting edges per insert
- Very high feed per tooth

#### Fast Machining

- Multi-flute, up to 7 cutting edges (inserts)

#### Long Overhang

- Up to 5.65" (7.87" in Shell Mill)

#### Coolant Thru

- For improved chip evacuation and cooling at the cutting corner

#### New Vertical Inserts

- Reinforced Cutting Corner Support

#### Smaller Tool Cutting Diameter with 3 Flutes

- As small as .413"

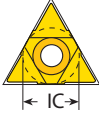
#### Conical Thread Preparation




- Capabilities to machine conical threads from a cylindrical pre-drilled hole

# Vardex Ordering Code System

## TMSD Inserts

<b>2</b>	<b>U</b>	<b>I</b>	<b>DB</b>	<b>60</b>	<b>TM</b>	<b>VBX</b>
1	2	3	4	5	6	7

1- Insert Size
5L - IC5.0 mm
2 - IC1/4"
3 - IC3/8"
4 - IC1/2"
5 - IC5/8"
7 - IC6.8 mm
9 - IC8.5 mm
11 - IC10.7 mm


2 - Insert Style
U - 
A - 
L - 
V - Vertical Style 7, 9, 11
V - V Style 5/8"

3 - Type of Insert
I - Internal
EI - External + Internal

4 - Pitch					
Full Profile - Pitch Range					
	mm		tpi		
	1.0-8.0		18-2.5		
Partial Profile - U, A, L Styles			Partial Profile - Vertical Style		
	mm	tpi		mm	tpi
DA	0.5-1.5	48-16	VA	0.5-1.0	28-27
DB	1.5-2.0	16-12	VB	-	11-9
DC	2.5-4.0	10-6	VC	-	16-10
DD	2.0-2.5	9-12	VD	1.0-2.0	24-12
DE	2.5-3.5	10-7	VE	2.0-3.0	12-8
DH	4.0-6.0	6-4	VF	1.0-1.5	24-16
DK	6.0-8.0	4-3	VG	1.5-2	16-12
DL	-	11-7	VH	-	16-14
DM	2.5	10	VK	2.0-2.5	12-10
DN	1.0-2.0	24-11	VJ	-	26-19
DP	1.5-3.0	16-8	VM	-	8-7
DR	-	26-14	VN	1.5-2.5	16-11
DT	2.0-4.0	12-6			

5 - Standard
60° - Partial Profile 60°
55° - Partial Profile 55°
ISO - ISO Metric
UN - American UN
NPT - NPT
TR - Trapez DIN 103
ACME - ACME
STACME - Stub ACME
ABUT - American Buttress

6 - System
TM - TMSD (U, A, L Styles)
TM3 - TMSD Vertical

7 - Carbide Grade
VBX, VTX

## TMSD Toolholders (U, A, L Styles)

<b>C</b>	<b>TM</b>	<b>2</b>	<b>S</b>	<b>C</b>	<b>14</b>	<b>C</b>	<b>17</b>	-	<b>65</b>	-	<b>2</b>	<b>U</b>
1	2	3	4	5	6	7	8		9		10	11

1- Shank Style	2- System	3- No. of Flutes	4- Insert Type	5- Cooling	6- Shank Dia.	7- Shank Type	8- Cutting Dia.
None - Steel C - Carbide Shank	TM	1-4	S - Single Point	C - Coolant	9.5 - 40	W - Weldon C - Cylindrical	13 - 42

9- Max. Tool Overhang	10- Insert Size	11- Insert Style	12- Tool Application
144	5 - IC5.0 mm 2 - IC1/4" 3 - IC3/8" 4 - IC1/2"	U A L	ABUT - For American Buttress

## TMSD Toolholders (Vertical Style)

<b>C</b>	<b>GM</b>	<b>C</b>	<b>9</b>	<b>C</b>	<b>13</b>	-	<b>45</b>	-	<b>7</b>	-	<b>3</b>
1	2	3	4	5	6		7		8		9

1- Holder Type	2- System	3- Cooling	4- Shank Dia.	5- Shank Style	6- Cutting Dia.	7- Tool Overhang	8- Insert Size
None - Steel Shank C - Carbide Shank	GM - Groove Milling and Thread Milling	C - Coolant	8, 9, 11.5, 12, 14, 15, 20, 25	C - Cylindrical W - Weldon	10.5-22.0	25-65	7 - IC6.8 mm 9 - IC8.5 mm 11 - IC10.7 mm

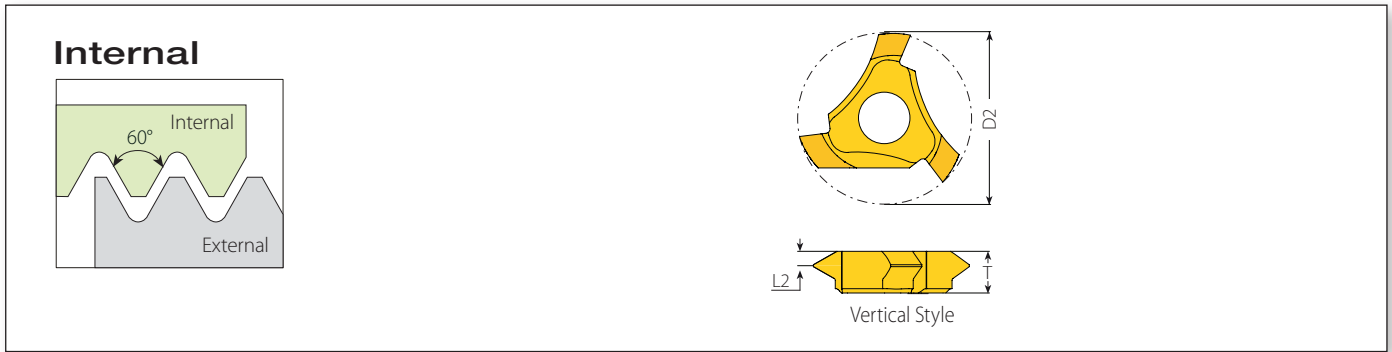
9- Number of Flutes
3

## TMSD Shell Mill (U, L, V Styles)

<b>TM</b>	<b>4</b>	<b>S</b>	<b>C</b>		<b>D42</b>	-	<b>16</b>	-	<b>3</b>	<b>U</b>	
1	2	3	4		5		6		7	8	9

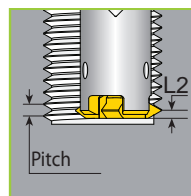
1- System	2- No. of Flutes	3- Insert Type	4- Cooling	5- Cutting Dia.	6- Drive Hole Dia.	7- Insert Size	8- Insert Style
TM	4-7	S - Single Point	C - Coolant	42 - 98	16, 22, 27, 32	3 - IC3/8" 4 - IC1/2" 5 - IC5/8"	U, L, V
9- Tool Application	ABUT - For ABUT Inserts						

# Partial Profile 60°



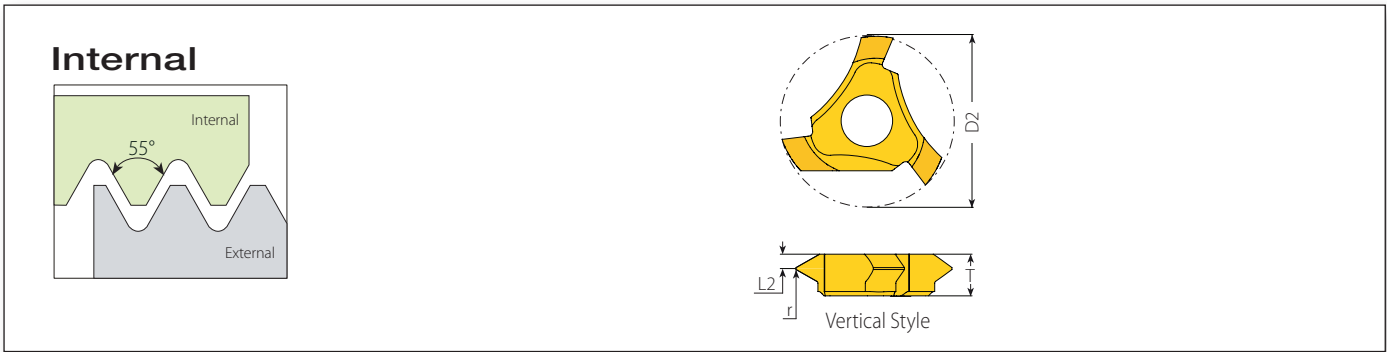
## Vertical Style

Insert Style	Pitch		Ordering Code	EDP No.			Dimensions (inch)			Application (Min. Thread Size)				Toolholder
	mm	tpi		Internal	VTX	VBX	D2	T	L2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	
7V	0.5-1.0	28-27	7VIVA60 TM3 ...	59605	59606	.413	.024	-	M11.5x0.5; M11.5x0.75; M12x1.0	-	1/2-28UNEF; 1/2-27UNS		CGMC 5/16C13-40-7-3 GMC 075W050-100-7-3 CGMC 9C13-45-7-3	
	1.0-1.5	24-16	7VIVF60 TM3 ...	59607	59608	.437	.11	.031	M12.5x1; M13x1.5	-	1/2-24UNS; 1/2-20UNF; 5/16-18UNF; 5/16-16UN			
	1.5-2.0	16-12	7VIVG60 TM3 ...	59611	59612	.465	.039	M14x2.0	M14x1.5	-	5/16-16UN; 5/16-14UNS; 5/8-12UN			
9V	0.5-1.0	28-27	9VIVA60 TM3 ...	59613	59614	.516	.024	-	M14x0.5; M14x0.75; M15x1	-	5/16-28UN; 5/16-27UNS		CGMC 7/16C17-45-9-3 GMC 075W066-118-9-3 CGMC 11.5C17-50-9-3	
	1.0-1.5	24-16	9VIVF60 TM3 ...	59615	59616	.539	.17	.031	M15x1; M15.5x1.5	-	5/8-24UNEF; 5/8-20UN; 5/8-18UNF; 5/8-16UN			
	1.5-2.0	16-12	9VIVG60 TM3 ...	59617	59618	.567	.039	M16.5x1.5, M17x2	-	11/16-16UN; 3/4-14UNS; 11/16-12UN				
	2.0-2.5	12-10	9VIVK60 TM3 ...	59619	59620	.594	.055	M17.5x2; M18x2.5	3/4-10	11/16-12UN;				
11V	1.0-2.0	24-12	11VVD60 TM3 ...	59621	59622	.697	.22	.039	M19x1; M19.5x1.25; M19.5x1.5; M20x2	-	7/8-24UNS; 13/16-20UNEF; 7/8-18UNS; 7/8-16UN; 7/8-14UNF; 7/8-12UN		CGMC 5/8C22-65-11-3 GMC 100W085-175-11-3 CGMC 15C22-65-11-3	
	2.0-3.0	12-8	11VIVE60 TM3 ...	59623	59624	.752	.059	M22x2.5 M24x3	M23x2	1-8	15/16-12UN; 1-10UNS			



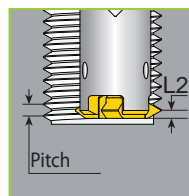
Vertical Style

# Partial Profile 55°



## Vertical Style

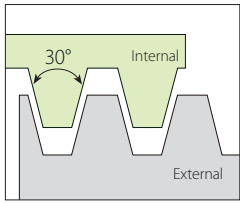
Insert Style	tpi	Ordering Code	EDP No.		Dimensions (inch)				Application (Min. Thread Size)		
			Internal	VTX	VBX	D2	T	L2	r	BSP (G)	Partial 55°
7V	26-19	7VIVJ55 TM3 ...	59625	59626	.447	.11	.031	.003	1/4-19; 3/8-19		CGMC 5/16C13-40-7-3 GMC 075W050-100-7-3 CGMC 9C13-45-7-3
	16-14	7VIVH55 TM3 ...	59627	59628	.472		.039	.005	1/2-14; 5/8-14; 3/4-14; 7/8-14;	9/16-16 5/8-14	
9V	26-19	9VIVJ55 TM3 ...	59629	59630	.526	.17	.031	.004	3/8-19	5/8-26; 3/8-16	CGMC 7/16C17-45-9-3 GMC 075W066-118-9-3 CGMC 11.5C17-50-9-3
	16-10	9VIVC55 TM3 ...	59631	59632	.606		.047	.006	1/2-14	3/4-16; 1/16-14; 3/4-12; 7/8-11; 3/4-10	
11V	16-12	11VIVG55 TM3 ...	59633	59634	.701	.22	.035	.006	1/2-14	13/16-16; 13/16-12	CGMC 5/8C22-65-11-3 GMC 100W085-175-11-3 CGMC 15C22-65-11-3
	11-9	11VIVB55 TM3 ...	59635	59636	.752		.051	.008	1-11	7/8-11; 1-10; 1 1/8-9	
	8-7	11VIVM55 TM3 ...	59637	59638	.827		.059	.014		1-8; 1 1/8-7	



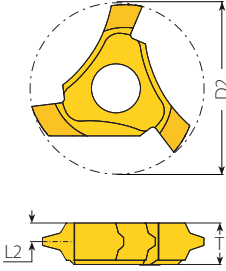
Vertical Style

# Trapez

**Internal**



Defined by: DIN 103  
Tolerance class: 7e/7H



Vertical Style

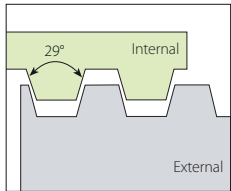
## Vertical Style



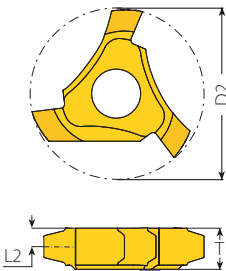
Insert Style		Ordering Code		EDP No.		Dimensions (inch)			Application (Min. Thread Size)	
IC	mm	Internal	VTX	VBX	D2	T	L2	Trapez	Toolholder	
7V	2.0	7VI2.0TR-1 TM3 ...	59639	59640	.484	.11	.051	TR16x2	CGMC 5/16C13-40-7-3 GMC 075W050-100-7-3 CGMC 9C13-45-7-3	
		7VI2.0TR-2 TM3 ...	59641	59642				TR18x2		
		7VI2.0TR-3 TM3 ...	59643	59644				TR20x2		
9V	3.0	9VI3.0TR-1 TM3 ...	59645	59646	.606	.17	.077	TR22x3	CGMC 7/16C17-45-9-3 GMC 075W066-118-9-3 CGMC 11.5C17-50-9-3	
		9VI3.0TR-2 TM3 ...	59647	59648				TR24x3		

# Stub ACME

**Internal**



Defined by: ANSI B1.8: 1988  
Tolerance class: 2G



Vertical Style

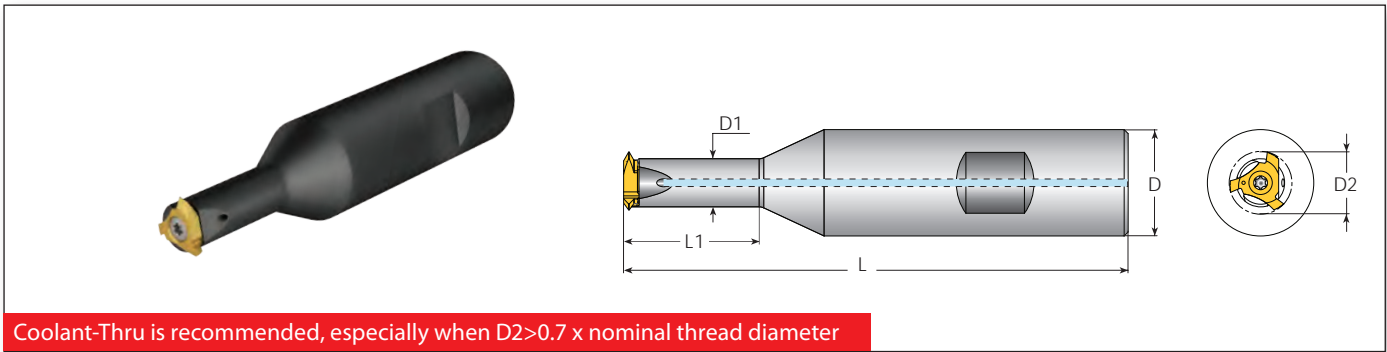
## Vertical Style



Insert Style		Ordering Code		EDP No.		Dimensions (inch)			Application (Min. Thread Size)	
IC	tpi	Internal	VTX	VBX	D2	T	L2	Stub ACME	Toolholder	
7V	8	7VI8.0STACME TM3 ...	59649	59650	.484	.11	.051	5/8-8	CGMC 5/16C13-40-7-3 GMC 075W050-100-7-3 CGMC 9C13-45-7-3	
		7VI6.0STACME-1 TM3 ...	59651	59652				3/4-6		
	6	7VI6.0STACME-2 TM3 ...	59653	59654	.500	3/8-6				
9V	5	9VI5.0STACME-1 TM3 ...	59655	59656	.657	.17	.077	1-5	CGMC 7/16C17-45-9-3 GMC 075W066-118-9-3 CGMC 11.5C17-50-9-3	
		9VI5.0STACME-2 TM3 ...	59657	59658				1 1/8-5		
		9VI5.0STACME-3 TM3 ...	59659	59660				1 1/4-5		
11V	4	11VI4.0STACME-1 TM3 ...	59661	59662	.787	.22	.102	1 3/8-4	CGMC 5/8C22-65-11-3 GMC 100W085-175-11-3 CGMC 15C22-65-11-3	
		11VI4.0STACME-2 TM3 ...	59663	59664				1 1/2-4		
		11VI4.0STACME-3 TM3 ...	59665	59666				1 3/4-4		
		11VI4.0STACME-4 TM3 ...	59667	59668				2-4		



# Vertical Toolholders - Weldon Shank

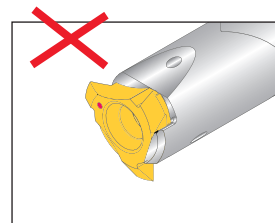
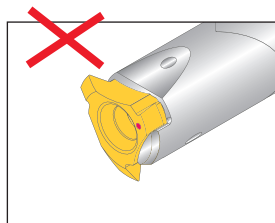
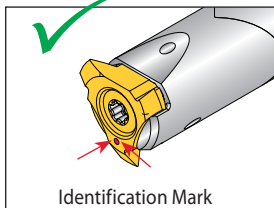
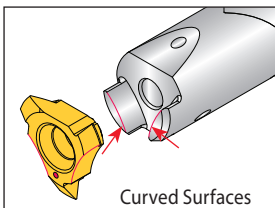


Coolant-Thru is recommended, especially when  $D2 > 0.7 \times$  nominal thread diameter

Insert Style	Ordering Code	EDP No.	Dimensions (inch)					Spare Parts (Ordering Code & EDP No.)			
			L	L1	D	D1	D2*	Insert Screw	Torx Key	Blade	Handle
7V	GMC 075W050-100-7-3	67146	3.78	.98	.75	.35	.41-.50	SN2T8-M1 (M3.0x0.5x9) (70266)	K2T (70020)	-	-
9V	GMC 075W066-118-9-3	67147	4.13	1.18	.75	.45	.51-.65	SN3T15-M2 (M4x0.7x13.5) (70267)	-	Blade T15-1/4 (72009)	Smart Handle 1/4x2 (72010)
11V	GMC 100W085-175-11-3	67148	4.53	1.77	1.0	.63	.70-.82	SN4T20-M3 (M5x0.8x15.5) (70268)	-	Blade T20-1/4 (72008)	Smart Handle 1/4x2 (72010)

\*The tool cutting diameter (D2) is defined by the insert (See pages 5-7)

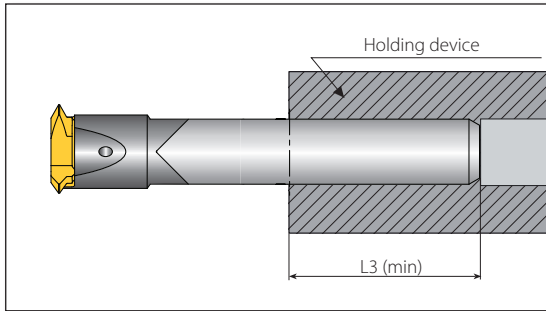
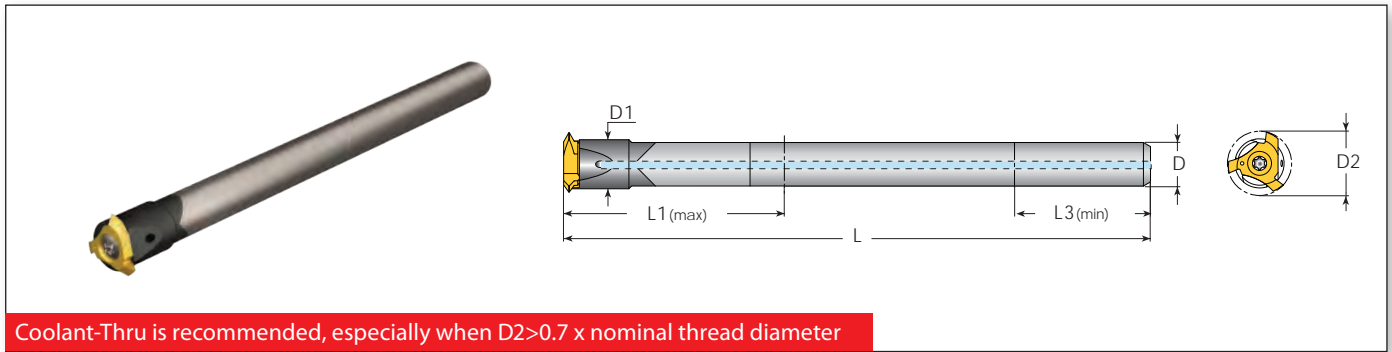
## For Correct Clamping:



Always mount insert with the identification mark between the two curved surfaces on the toolholder.



# Vertical Toolholders - Carbide Cylindrical Shank

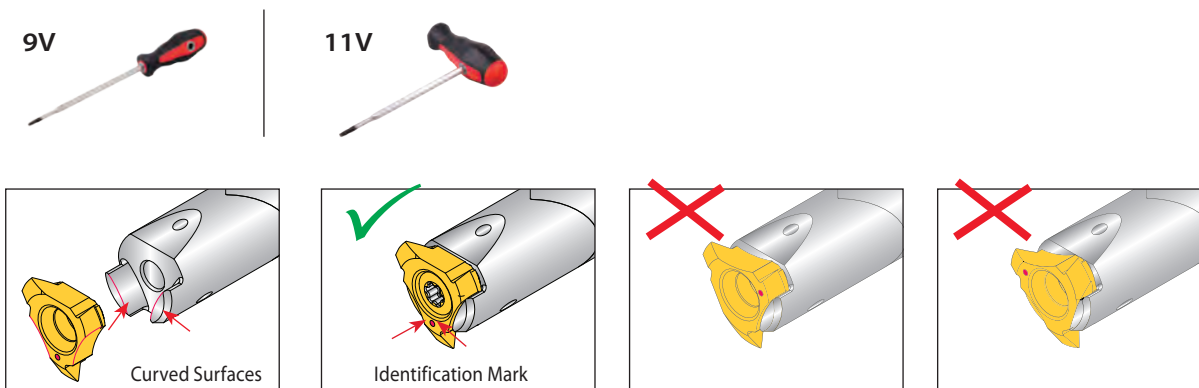


## Spare Parts (Ordering Code & EDP No.)

Insert Style	Ordering Code	EDP No.	Dimensions (inch)						Spare Parts (Ordering Code & EDP No.)			
			L	L1	L3 (min)	D	D1	D2*	Insert Screw	Torx Key	Blade	Handle
<b>Toolholder</b>												
7V	CGMC 9C13-45-7-3	67140	4.53	1.77	.79	.354	.35	.41-.50	SN2T8-M1 (M3.0x0.5x9) (70266)	K2T (70020)	-	-
	CGMC 5/16C13-40-7-3	67141		1.57	.71	5/16						
9V	CGMC 11.5C17-50-9-3	67142	4.92	1.97	.98	.453	.45	.51-.65	SN3T15-M2 (M4x0.7x13.5) (70267)	-	Blade T15-1/4 (72009)	Smart Handle 1/4x2 (72010)
	CGMC 7/16C17-45-9-3	67143		1.77	.98	7/16						
11V	CGMC 15C22-65-11-3	67144	5.31	2.56	1.26	.591	.59	.70-.82	SN4T20-M3 (M5x0.8x15.5) (70268)	-	Blade T20-1/4 (72008)	Smart Handle 1/4x2 (72010)
	CGMC 5/8C22-65-11-3	67145		2.56	1.34	5/8						

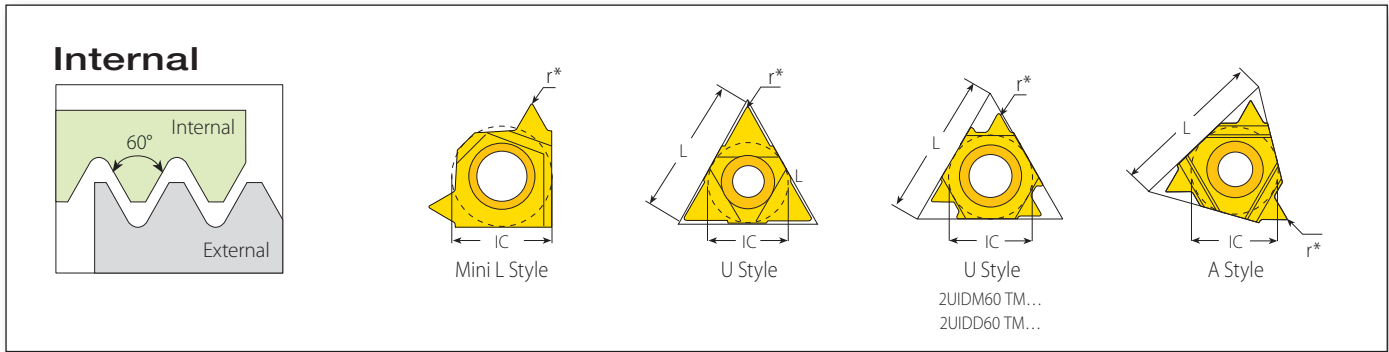
\* The tool cutting diameter (D2) is defined by the insert (See pages 5-7)

## For Correct Clamping:



Always mount insert with the identification mark between the two curved surfaces on the toolholder.

# Partial Profile 60°



## Mini L



Insert Size		Pitch		Ordering Code	EDP No.		Dimensions (inch)	
IC	L	mm	tpi	Internal	VTX	VBX	r *	Toolholder
5.0L (Mini L)	-	0.5-1.5	48-16	5LIDA60 TM...	50264	50263	.002	TM.SC...5L
		1.0-2.0	24-11	5LIDN60 TM...	50267	50266	.002	CTM.SC...5L

## U Style



2UIDM60 TM...  
2UIDD60 TM...



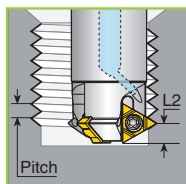
Insert Size		Pitch		Ordering Code	EDP No.		Dimensions (inch)	
IC	L	mm	tpi	Internal	VTX	VBX	r *	Toolholder
1/4"U	.43	0.5-1.5	48-16	2UIDA60 TM...	50305	50299	.002	TM.SC...2U
		1.5-2.0	16-12	2UIDB60 TM...	50018	50008	.002	CTM.SC...2U
		2.0-2.5	9-12	2UIDD60 TM...	50355	50352	.004	CTM2SC 056C068-235-2U
		2.5	10	2UIDM60 TM...	50296	50291	.004	
3/8"U	.63	2.5-4.0	10-6	2UIDC60 TM...	50033	50026	.006	TM.SC...2U CTM.SC...2U
		1.5-2.0	16-12	3UIDB60 TM...	50040	50034	.002	TM.SC...3U
		2.5-3.5	10-7	3UIDE60 TM...	50044	50041	.006	
1/2"U	.87	6.0-8.0	4-3	4UIDK60 TM...	50052	50049	.012	TM.SC D...4U

## A Style

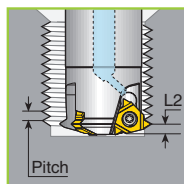


Insert Size		Pitch		Ordering Code	EDP No.		Dimensions (inch)	
IC	L	mm	tpi	Internal	VTX	VBX	r *	Toolholder
1/4"A	.43	1.5-3.0	16-8	2AIDP60 TM...	50219	50200	.002	TM.SC...2A
3/8"A	.63	2.0-4.0	12-6	3AIDT60 TM...	50227	50226	.003	TM.SC...3A

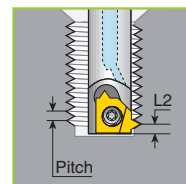
\* The indicated radius (r) refers to the insert nose radius only.



U Style  
For Large Pitches



A Style  
For Shorter L2



Mini-L Style  
For Small Bores and Short L2

# Partial Profile 55°



## Mini L



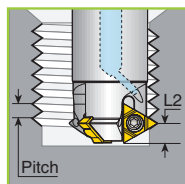
Insert Size	Pitch	Ordering Code	EDP No.		Dimensions (inch)	
			VTX	VBX	r*	Toolholder
IC	tpi	Internal	VTX	VBX	r*	Toolholder
5.0L (Mini L)	26-14	5LIDR55 TM...	50269	50268	.004	TM.SC...5L CTM. SC...5L

## U Style

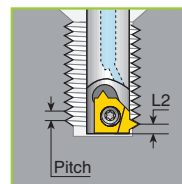


Insert Size		Pitch	Ordering Code	EDP No.		Dimensions (inch)	
IC	L			VTX	VBX	r*	Toolholder
1/4"U	.43	48-16	2UIDA55 TM...	50317	50309	.004	TM.SC...2U CTM. SC...2U
		16-12	2UIDB55 TM...	50055	50053	.003	
		11-7	2UIDL55 TM...	50061	50056	.010	
3/8"U	.63	16-12	3UIDB55 TM...	50067	50062	.003	TM.SC...3U
		11-7	3UIDL55 TM...	50091	50068	.009	
		6-4	3UIDH55 TM...	50148	50233	.011	
1/2"U	.87	4-3	4UIDK55 TM...	50190	50189	.020	TM.SC D..4U

\* The indicated radius (r) refers to the insert nose radius only.



U Style  
For Large Pitches



Mini-L Style  
For Small Bores and Short L2

# American UN - UNC; UNF; UNEF; UNS



### Internal

Defined by: ANSI B1.1:74  
Tolerance class: 2A/2B

Mini L Style  
5LI14UNTM...  
5LI12UNTM...

Mini L Style

U Style

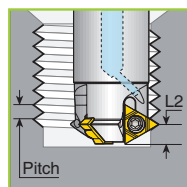
## L Style

Insert Size	Pitch	Ordering Code	EDP No.		Toolholder	Toolholder Cutting Diameter D2 (inch)
			IC	tpi		Internal
5.0L (Mini L)	18	5LI18UNTM...	59722	59721	TM.SC...5L CTM.SC...5L	-
	16	5LI16UNTM...	59788	59787		
	14	5LI14UNTM...	59786	59785		
	12	5LI12UNTM...	59784	59783		

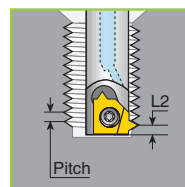
## U Style

Insert Size	Pitch	Ordering Code	EDP No.		Toolholder	Toolholder Cutting Diameter D2 (inch)
			IC	L mm		tpi
1/4"U	14	2UI14UNTM...	50448	50447	TM2SC 100W090-275-2U; TM3SC 100W102-315-2U; TM4SC 125W122-374-2U; TM2SC 062C090-300-2U; TM3SC 075C102-415-2U; TM4SC 100C122-452-2U; CTM3SC 075C102-433-2U; CTM4SC 100C124-530-2U	For 14UN change D2 to D2-.042
	12	2UI12UNTM...	50441	50436		For 12UN change D2 to D2-.045

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.



U Style  
For Large Pitches

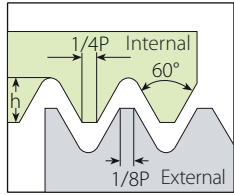


Mini-L Style  
For Small Bores and Short L2

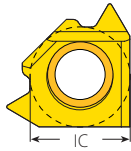
ISO



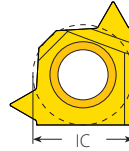
**Internal**



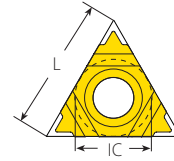
Defined by: R262 (DIN 13)  
Tolerance class: 6g/6H



Mini L Style  
5LI2.0ISOTM...



Mini L Style



U Style

**L Style**



5LI2.0ISO TM...

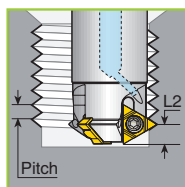
Insert Size	Pitch	Ordering Code	EDP No.		Toolholder	Toolholder Cutting Diameter D2 (inch)
			VTX	VBX		D2 Adjustment
5.0L (Mini L)	1.0	5LI1.0ISOTM...	59726	59725	TM.SC...5L CTM.SC...5L	-
	1.5	5LI1.5ISOTM...	59780	59779		-
	2.0	5LI2.0ISOTM...	59782	59781		-

**U Style**

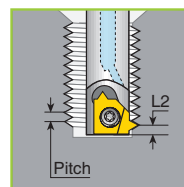


Insert Size	Pitch	Ordering Code	EDP No.		Toolholder	Toolholder Cutting Diameter D2 (inch)
			VTX	VBX		* D2 Adjustment
1/4"U	1.5	2UI1.5ISOTM...	50419	50418	TM2SC 100W090-275-2U; TM3SC 100W102-315-2U; TM4SC 125W122-374-2U; TM2SC 062C090-300-2U; TM3SC 075C102-415-2U; TM4SC 100C122-452-2U; CTM3SC 075C102-433-2U; CTM4SC 100C124-530-2U	For 1.5ISO change D2 to D2-.039
	2.0	2UI2.0ISOTM...	50435	50427		For 2.0ISO change D2 to D2-.045

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.



U Style  
For Large Pitches

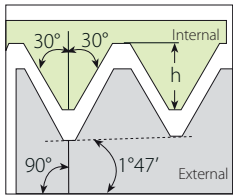


Mini-L Style  
For Small Bores and Short L2

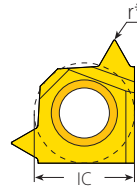
# NPT



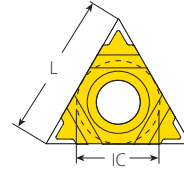
## External / Internal



Defined by: USAS B2.1:1968  
Tolerance class: Standard NPT



Mini L Style



U Style

## L Style



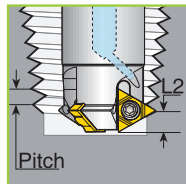
Insert Size	Pitch	Ordering Code	EDP No.		Toolholder Cutting Diameter D2 (inch)	
IC	tpi	External/Internal	VTX	VBX	Toolholder	D2 Adjustment
5.0L (Mini L)	18	5LEI18NPTTM...	59724	59723	TM.SC...5L CTM.SC...5L	-

## U Style

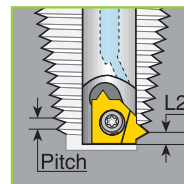


Insert Size	Pitch	Ordering Code	EDP No.		Toolholder Cutting Diameter D2 (inch)		
IC	L mm	tpi	Internal/External	VTX	VBX	* Adjusted D2	
1/4"U	14	2UEI14NPTTM...	50408	50404	TM1SC062W059-157-2U;	.574	
					CTM1SC031C059-157-2U;	.574	
					CTM1SC043C061-235-2U	.590	
	11	11.5	2UEI11.5NPTTM...	50397	50391	TM2SC100W082-236-2U;	.807
						CTM2SC056C082-256-2U;	.807
						CTM2SC062C082-315-2U	.807
						TM2SC100W090-275-2U;	.891
						TM2SC062C090-300-2U	.891
						TM3SC100W102-315-2U;	1.009
						TM3SC075C102-415-2U;	1.009
CTM3SC075C102-433-2U	1.009						
3/8"U	16	3UEI11.5NPTTM...	50461	50457	TM4SC125W122-374-2U;	1.206	
					TM4SC100C122-452-2U;	1.206	
					CTM4SC100C124-530-2U	1.225	
	11.5	8	3UEI8NPTTM...	50454	50449	TM3SC125W143-374-3U;	1.404
						TM3SC125W144-570-3U;	1.404
						TM3SC100C143-512-3U;	1.404
						TM3SC112C146-565-3U	1.429
						TM4SC 150W165-472-3U;	1.620
						TM4SC D169-050-3U	1.659
						TM5SC D208-075-3U	2.053
22	8	4UEI8NPTTM...	50468	50467	TM3SC 125W143-374-3U;	1.404	
					TM3SC125W144-570-3U;	1.404	
					TM3SC 100C143-512-3U;	1.404	
					TM3SC 112C146-565-3U	1.429	
8	8	4UEI8NPTTM...	50468	50467	TM4SC 150W165-472-3U;	1.620	
					TM4SC D169-050-3U	1.659	
					TM5SC D208-075-3U	2.053	
					TM6SCD346-100-4U	3.467	
8	8	4UEI8NPTTM...	50468	50467	TM7SCD435-150-4U	4.353	

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.



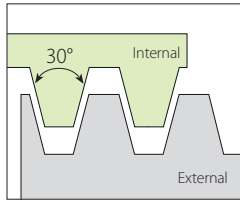
U Style  
For Large Pitches



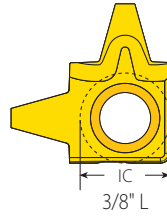
Mini-L Style  
For Small Bores and Short L2

# Trapez

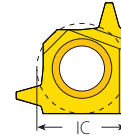
## Internal



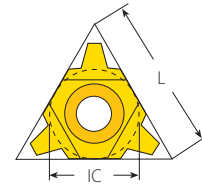
Defined by: DIN 103  
Tolerance class: 7e/7H



3/8" L



Mini L Style



U Style

## L Style



Insert Size	Pitch	Ordering Code	EDP No.		Application	
			IC	mm	Internal	VTX
5.0L (Mini L)	2.0	5LI2.0TR-1 TM...	50359	50207	TR16x2, TR20x2	TM.SC...5L CTM.SC...5L
	2.0	5LI2.0TR-2 TM...	50367	50361	TR18x2	
3/8"L	6.0	3LI6.0TR-1 TM...	59509	59503	(TR30-TR36)x6	TM1SC 100W085-200-3L CTM1SC 050C085-295-3L
	6.0	3LI6.0TR-2 TM...	59516	59515	(TR115-TR130)x6	TM7SC D315-100-3L
	7.0	3LI7.0TR TM...	59518	59517	(TR38-TR44)x7	TM2SC 100W112-275-3L CTM2SC062C112-330-3L
	8.0	3LI8.0TR-1 TM...	59571	59519	(TR46-TR52)x8	TM3SC 125W132-350-3L CTM3SC075C132-443-3L
	8.0	3LI8.0TR-2 TM...	59573	59572	(TR175-TR240)x8	TM7SC D315-100-3L

## U Style

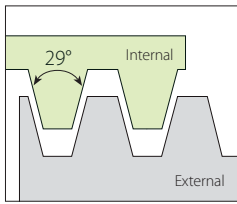


Insert Size	Pitch	Ordering Code	EDP No.		Application		
			IC	L	mm	Internal	VTX
1/4"U	3.0	2UI3.0TR-1 TM...	50383	50372	(TR22-TR30)x3	See pages 21-22	
		2UI3.0TR-2 TM...	50389	50386	(TR32-TR60)x3		
	4.0	2UI4.0TR-1 TM...	50396	50394	(TR20-TR28)x4		
		2UI4.0TR-2 TM...	50415	50399	(TR65-TR110)x4		
	5.0	2UI5.0TR-1 TM...	50428	50417	TR22x5; TR28x5		
		2UI5.0TR-2 TM...	50438	50431	TR24x5; TR26x5		

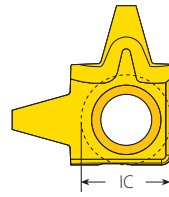


# American ACME

## Internal



Defined by: ANSI B1.5: 1988  
Tolerance class: 3G



3/8" L

## L Style

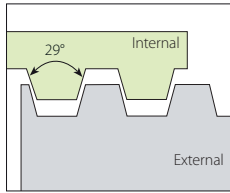


3/8" L

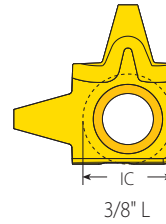
Insert Size	Pitch	Ordering Code	EDP No.		Application	
			VTX	VBX	Internal	Toolholder
3/8" L	5	3LI5ACME TM...	59575	59574	1¼-5ACME	
	4	3LI4ACME-1 TM...	59577	59576	1¾-4ACME	TM1SC 100W085-200-3L CTM1SC 050C085-295-3L
		3LI4ACME-2 TM...	59579	59578	1½-4ACME	
		3LI4ACME-3 TM...	59581	59580	1¾-4ACME	TM2SC 100W112-275-3L CTM2SC062C112-330-3L
	3LI4ACME-4 TM...	59583	59582	2-4ACME		
	3	3LI3ACME-1 TM...	59585	59584	2¼-3ACME	TM3SC 125W132-350-3L CTM3SC075C132-443-3L
		3LI3ACME-2 TM...	59587	59586	2½-3ACME	
		3LI3ACME-3 TM...	59589	59588	2¾-3ACME	

# Stub ACME

## Internal



Defined by: ANSI B1.8: 1988  
Tolerance class: 2G



## L Style



Insert Size	Pitch	Ordering Code	EDP No.		Application	
			VTX	VBX	Internal	Toolholder
3/8"L	5	3LI5STACME TM...	59591	59590	1¼-5STACME	TM1SC 100W085-200-3L CTM1SC 050C085-295-3L
		3LI4STACME-1 TM...	59593	59592	1¾-4STACME	
		3LI4STACME-2 TM...	59595	59594	1½-4STACME	
	4	3LI4STACME-3 TM...	59597	59596	2-4STACME	TM3SC 125W132-350-3L CTM3SC075C132-443-3L
		3LI3STACME-1 TM...	59599	59598	2¼-3STACME	
		3LI3STACME-2 TM...	59601	59600	2½-3STACME	
	3	3LI3STACME-3 TM...	59603	59602	2¾-3STACME	

# American Buttress

**Internal**

Defined by: ANSI B1.9.1973  
Tolerance class: Class 2

## L Style

	Insert Size	Pitch	Ordering Code	EDP No.		Application	
	IC	tpi	Internal	VTX	VBX	Internal	Toolholder
	5.0L (Mini L)	16	5LI16ABUT TM ...	59671	59670	.875"-4.0" ABUT	TM2SC 062W055-140-5L-ABUT CTM2SC 037C055-200-5L-ABUT
						1.25"-4.0" ABUT	TM3SC 075W072-180-5L-ABUT CTM3SC 055C072-256-5L-ABUT
		12	5LI12ABUT TM ...	59673	59672	.875"-6.0" ABUT	TM2SC 062W055-140-5L-ABUT CTM2SC 037C055-200-5L-ABUT
						1.25"-6.0" ABUT	TM3SC 075W072-180-5L-ABUT CTM3SC 055C072-256-5L-ABUT
		10	5LI10ABUT TM ...	59675	59674	.875"-16.0" ABUT	TM2SC 062W055-140-5L-ABUT CTM2SC 037C055-200-5L-ABUT
						1.25"-16.0" ABUT	TM3SC 075W072-180-5L-ABUT CTM3SC 055C072-256-5L-ABUT
	16	3LI16ABUT TM ...	59677	59676	1.75"-4.0" ABUT	TM2SC 100W104-315-3L-ABUT CTM2SC 075C104-450-3L-ABUT	
					2.5"-4.0" ABUT	TM3SC 125W140-413-3L-ABUT	
	12	3LI12ABUT TM ...	59679	59678	1.75"-6.0" ABUT	TM2SC 100W104-315-3L-ABUT CTM2SC 075C104-450-3L-ABUT	
					2.5"-6.0" ABUT	TM3SC 125W140-413-3L-ABUT	
	10	3LI10ABUT TM ...	59681	59680	1.75"-6.0" ABUT	TM2SC 100W104-315-3L-ABUT CTM2SC 075C104-450-3L-ABUT	
					2.5"-6.0" ABUT	TM3SC 125W140-413-3L-ABUT	
	8	3LI8ABUT TM ...	59683	59682	4.0"-6.0" ABUT	TM6SC D228-075-3L-ABUT	
					1.75"-6.0" ABUT	TM2SC 100W104-315-3L-ABUT CTM2SC 075C104-450-3L-ABUT"	
	6	3LI6ABUT TM ...	59685	59684	2.5"-6.0" ABUT	TM3SC 125W140-413-3L-ABUT	
					4.0"-6.0" ABUT	TM6SC D228-075-3L-ABUT	

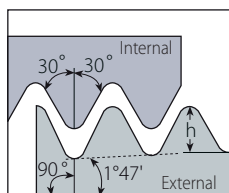
## V Style

	Insert Size	Pitch	Ordering Code	EDP No.		Dimensions (inch)	Application	
	IC	tpi	Internal	VTX	VBX	T	Internal	Toolholder
	5/8"V	4	5VI4ABUT TM ...	59687	59686	.24	5.5"-24.0" ABUT	TM6SC D346-125-5V6-ABUT
		3	5VI3ABUT TM ...	59689	59688	.31	6.0"-24.0" ABUT	TM6SC D346-125-5V8-ABUT
		2.5	5VI2.5ABUT TM ...	59691	59690	.39	7.0"-24.0" ABUT	

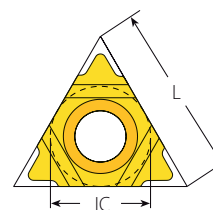
# API Round Casing & Tubing



## Internal



Defined by: API STD. 5B:1979  
Tolerance class: Standard API RD



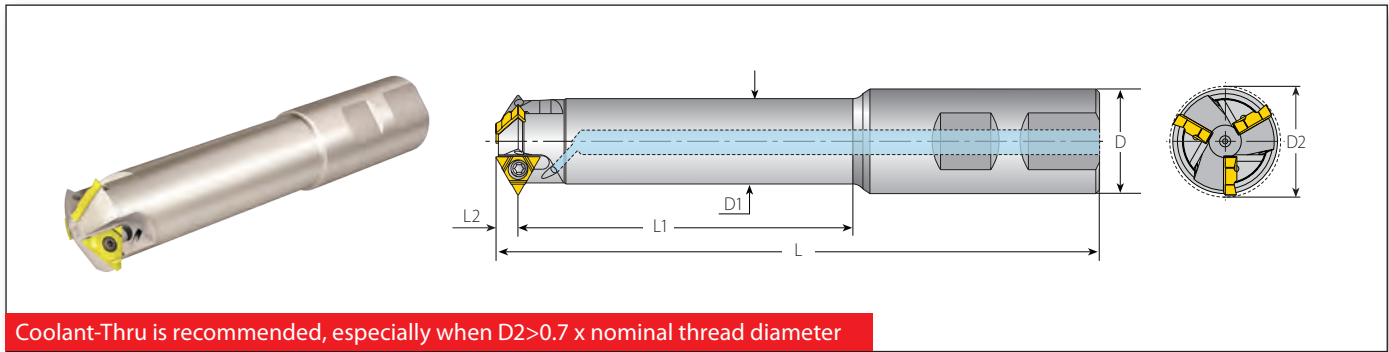
## U Style



Insert Size		Pitch	Ordering Code		Toolholder Cutting Diameter D2 (inch)
IC	L mm	tpi	Internal	Toolholder	* Adjusted D2
1/4"U	11	10	2UI10APIRDTM...	TM2SC100W090-275-2U	.844
				TM2SC062C090-300-2U	
				TM3SC100W102-315-2U	.962
				TM3SC075C102-415-2U	
3/8"U	16	8	3UI8APIRDTM...	TM4SC125W122-374-2U	1.159
				TM4SC100C122-452-2U	
				TM3SC125W143-374-3U	1.366
				TM3SC125W144-570-3U	
				TM3SC100C143-512-3U	1.389
				TM3SC112C146-565-3U	
				TM4SC150W165-472-3U	
3/8"U	16	8	3UI8APIRDTM...	TM4SCD169-050-3U	1.622
				TM5SCD208-075-3U	2.016

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

## Standard Toolholders - Weldon Shank (U Style)



### Weldon Shank for U Style Inserts

Spare Parts (Ordering Code & EDP No.)

Insert Size	Ordering Code	EDP No.	Dimensions (inch)						No. of Flutes	Spare Parts	
			L	L1	L2	D	D1	D2		Insert Screw	Torx Key
1/4"U	TM1SC 062W059-157-2U	67116	3.76	1.57	.21	.625	.42	.58*	1	SN2T (70036)	HK2T (70227)
	TM2SC 100W082-236-2U	67117	4.92	2.36		1.00	.63	.81*	2		
	TM2SC 100W090-275-2U	67722	5.38	2.75		1.00	.70	.91	2		
	TM3SC 100W102-315-2U	67724	5.79	3.15		1.00	.80	1.02	3		
3/8"U	TM4SC 125W122-374-2U	67725	6.37	3.74	.32	1.25	1.01	1.22	4	SA3T (70028)	HK3T (70228)
	TM3SC 125W143-374-3U	67742	6.45	3.74		1.25	1.14	1.44	3		
	TM3SC 125W144-570-3U	67763	8.80	5.70		1.25	1.10	1.44	3		
	TM4SC 150W165-472-3U	67743	7.82	4.72		1.50	1.35	1.66	4		

\* For TR inserts use the CNC program (D2+0.25mm).

## Weldon Shank (U Style) Applications

### Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø							
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
TM1SC 062W059-157-2U	.58*	M18x2.5, M24x3.0	M16x0.5, M16x0.75, M16x1.0, M17x1.25, M17x1.5, M17x2.0	¾-10	⅝-32UN, ⅝-28UN, ⅝-27UNS, ⅜-24UN, ⅜-20UN, ⅜-16UN, ¾-14UNS, ¾-12UN	¾-19, ½-14, 1-11	⅜-14; ¾-12; ⅜-11; ¾-10; ⅜-9; 1-8; 1½-7	TR22x3, TR24x3
TM2SC 100W082-236-2U	.81*	M24x3.0, M30x3.5	M22x0.5, M22x0.75, M22x1.0, M23x1.25, M23x1.5, M23x2.0	1-8, 1½-7, 1½-6	⅝-32UN, ⅝-28UN, ⅝-27UNS, ⅝-24UNS, ⅝-20UNEF, 1-18UNS, 1½-16UN, 1-14UNS, 1½-12UN, 1-10UNS	¾-14, 1-11	1-26, 1-20, 1-16, 1-12, 1-10, 1 ½-9, 1-8, 1 ½-7	TR26-TR60x3
TM2C 100W090-275-2U	.91	M27x3.0, M30x3.5, M36x4.0	M24x0.5, M24x0.75, M25x1.0, M25x1.25, M26x1.5, M26x2.0, M27x2.5	1½-7	1-32UN, 1-28UN, 1-27UNS, 1-24UNS, 1-20UNEF, 1-18UNS, 1-16UN, 1-14UNS, 1-12UNF, 1½-10UNS, 1½-8UN	¾-14, 1-11	1-26, 1-20, 1-16, 1½-12, 1½-9, 1½-7	-
TM3SC 100W102-315-2U	1.02	M30x3.5, M36x4.0	M27x0.5, M27x0.75, M28x1.0, M28x1.25, M28x1.5, M29x2.0, M30x2.5, M30x3.0	1¼-7, 1½-6	1½-28UN, 1½-24UNS, 1½-20UN, 1½-18UNEF, 1½-16UN, 1½-14UNS, 1½-12UNF, 1¼-10UNS, 1½-8UN	⅞-14, 1-11	1½-26, 1½-20, 1½-16, 1½-12, 1½-8, 1¼-7	-
TM4SC 125W122-374-2U	1.22	M36x4.0	M32x0.5, M32x0.75, M33x1.0, M33x1.25, M33x1.5, M34x2.0, M34x2.5, M35x3.0, M36x3.5	1½-6	1½-28UN, 1½-24UNS, 1½-20UN, 1½-18UNEF, 1½-16UN, 1½-14UNS, 1½-12UNF, 1½-10UNS, 1½-8UN	1½-11	1½-26, 1½-20, 1½-16, 1½-12, 1½-8	-
TM3SC 125W143-374-3U TM3SC 125W144-570-3U	1.44	M42x4.5, M48x5.0, M56x5.5, M64x6.0	M39x1.5, M39x2.0, M40x2.5, M41x3.0, M42x3.5, M42x4.0	1¾-5, 2-4.5, 2½-4	1½-16UN, 1½-14UNS, 1½-12UN, 1½-10UNS, 1½-8UN, 1½-6UN	1¼-11	1½-16, 1½-12, 1½-8, 1½-6, 1¾-5	-
TM4SC 150W165-472-3U	1.66	M48x5.0, M56x5.5, M64x6.0	M45x1.5, M45x2.0, M46x2.5, M48x3.0, M48x3.5, M48x4.0	2-4.5, 2½-4	1¾-16UN, 1¾-14UNS, 1¾-12UN, 1¾-8UN, 1¾-6UN	1½-11	1½-16, 1½-12, 1¾-8, 2¼-6, 2-4.5	-

## Weldon Shank (U Style) Applications (con't)

### Thread Applications for Full Profile Inserts (ISO & UN)

Toolholder	Pitch		Toolholder cutting diameter D2 (inch)	Min. Thread Dia.	
	mm	tpi		ISO Fine	UN/UNF/UNEF/UNS
TM2SC100W090-275-2U	1.5	-	.866	M26x1.5	-
	2.0	-	.860	M26x2.0	-
	-	14	.864	-	1-14UNS
	-	12	.860	-	1-12UNF
TM3SC100W102-315-2U	1.5	-	.984	M28x1.5	-
	2.0	-	.978	M29x2.0	-
	-	14	.982	-	1½-14UNS
	-	12	.978	-	1½-12UNF
TM4SC125W122-374-2U	1.5	-	1.181	M33x1.5	-
	2.0	-	1.175	M34x2.0	-
	-	14	1.179	-	1¾-14UNS
	-	12	1.175	-	1¾-12UNF

### Thread Applications for Full Profile Inserts (NPT)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
			*D2 Adjustment	tpi
TM1SC062W059-157-2U	.574	14	½-14NPT; ¾-14NPT	-
TM2SC100W082-236-2U	.807	14	¾-14NPT	-
TM2SC100W090-275-2U	.891	11.5	1-11.5NPT; 1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC100W102-315-2U	1.009	11.5	1-11.5NPT; 1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM4SC125W122-374-2U	1.206	11.5	1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC125W143-374-3U	1.404	11.5	1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC125W144-570-3U				
TM3SC125W143-374-3U	1.404	8	-	2½...10-8NPT
TM3SC125W144-570-3U				
TM4SC150W165-472-3U	1.620	11.5	1½-11.5NPT; 2-11.5NPT	-
TM4SC150W165-472-3U	1.620	8	-	2½...10-8NPT

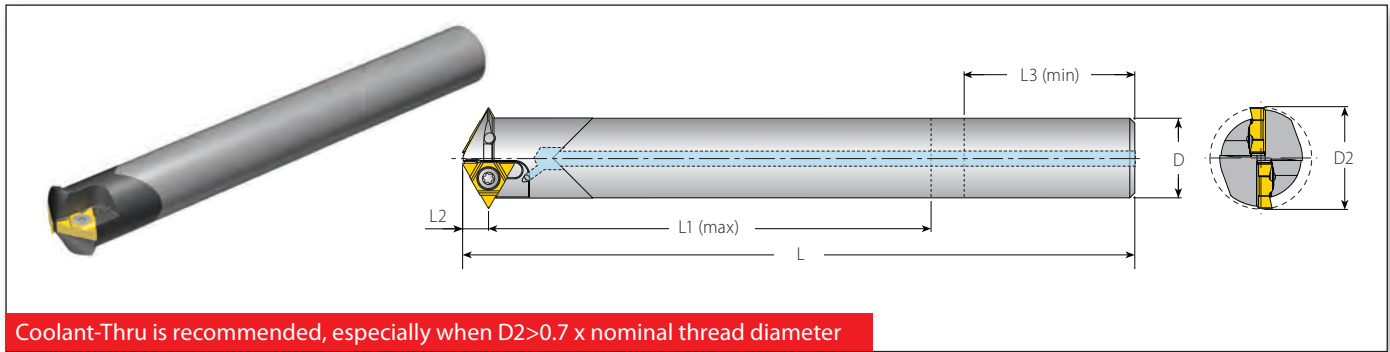
\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

\*\* Note: When the pre-drilled hole for 8 NPT is conical, the thread can be machined in one pass.



### Thread Application for Full Profile Inserts (API Round)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drill hole (for cylindrical 2 radial passes 50%/50%; for conical one radial pass)	Conical pre-drill hole only (one pass)
			*D2 Adjustment	tpi
TM2SC100W090-275-2U	.844	10	1.05x10APIRD (for UP TBG; UP TBG Long); 1.315...1.66x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
TM3SC100W102-315-2U	.962		1.66...2.875x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	
TM4SC125W122-374-2U	1.159		1.66...3.5x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	
TM3SC125W143-374-3U	1.366	8	2.375...13.375x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...5.5x8APIRD (for LCSG)	-
TM3SC125W144-570-3U			2.375...20x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...7.625x8APIRD (for LCSG)	8.625...20x8APIRD (for LCSG)
TM4SC150W165-472-3U			1.583	2.875...20x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...7.625x8APIRD (for LCSG)

## Standard Toolholders - Carbide Cylindrical Shank (U Style)



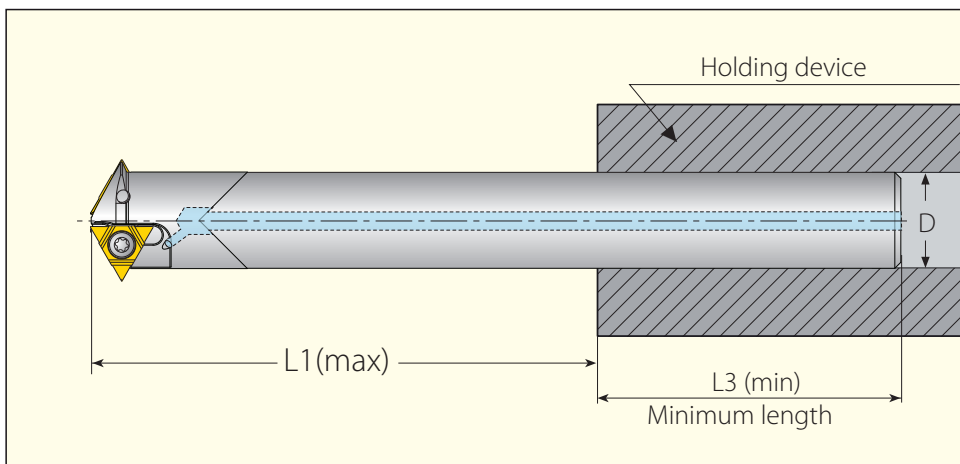
### Carbide Cylindrical Shank for U Style Inserts

Carbide Cylindrical Shank for U Style Inserts									Spare Parts (Ordering Code & EDP No.)		
Insert Size	Ordering Code	EDP No.	Dimensions (inch)					No. of Flutes			
IC			L	L1 (max)	L2	L3 (min)	D	D2	Z	Insert Screw	Torx Key
1/4"U	CTM1SC 031C059-157-2U	67121	4.30	1.57	.21	.65	.3125	.58*	1	SN2T (70036)	HK2T (70227)
	CTM1SC 043C061-235-2U	67123	4.72	2.35	.21	.90	.4375	.60*	1		
	CTM2SC 056C068-235-2U	67125	5.35	2.35	.21	1.15	.5625	.68**	2		
	CTM2SC 056C082-256-2U	67122	5.38	2.56	.21	1.15	.5625	.81*	2		
	CTM2SC 062C082-315-2U	67124	5.30	3.15	.21	1.28	.625	.81*	2		
	CTM3SC 075C102-433-2U	67129	6.50	4.33	.21	1.57	.75	1.02*	3		
	CTM4SC 100C124-530-2U	67128	7.60	5.30	.21	1.81	1.00	1.24*	4		

\* For TR inserts use the CNC program (D2 + .010").

\*\* To be used only with inserts 2UIDD60TM... or 2UIDM60TM...  
For insert 2UIDD60 TM... use the CNC program (D2 + .028").

The overhang-to-bar diameter ratio should be as small as possible to eliminate the chance of chatter (vibration). The minimum length inside a holding device should be 2 times the diameter of the bar shank.





# Carbide Cylindrical Shank (U Style) Applications

## Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø							
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
CTM1SC 031C059-157-2U	.58*	M18x2.5, M24x3.0, M30x3.5, M36x4.0	M16x0.5, M16x0.75, M16x1.0, M17x1	¾-10, ⅞-9, 1-8, 1⅛-7, 1⅜-6	⅝-32UN, ⅞-28UN, ⅞-27UNS, 1⅛-24UNEF, 1⅛-20UN, 1⅛-16UN, ¾-14UNS, 1⅛-12UN	½-14, 1-11	1⅛-26, 1⅛-20, 1⅛-16, 1⅛-14, ¾-12, ⅞-11, ¾-10, ⅞-9, 1-8, 1⅛-7	TR22x3, TR24x3, TR20x4, TR22x5, TR24x5, TR26x5, TR28x5
CTM1SC 043C061-235-2U	.60*	M18x2.5, M24x3.0	M16x0.5, M16x0.75, M16x1.0, M17x1.25, M17x1.5, M17x2.0	¾-10, ⅞-9, 1-8	⅝-32UN, ⅞-28UN, ⅞-27UNS, 1⅛-24UNEF, 1⅛-20UN, 1⅛-16UN, ¾-14UNS, 1⅛-12UN	½-14, 1-11	1⅛-26, 1⅛-20, 1⅛-16, 1⅛-14, ¾-12, ⅞-11, ¾-10, ⅞-9	TR22x3, TR24x3
CTM2SC 056C068-235-2U	.68**	M20x2.5, M22x2.5	M21x2.0	⅞-9	⅞-10UNS; 1⅜-12UN	-	-	-
CTM2SC 056C082-256-2U	.81*	M24x3.0, M30x3.5, M36x4.0	M22x0.5, M22x0.75, M22x1.0, M23x1.25, M23x1.5, M23x2.0	1-8, 1⅛-7, 1⅜-6	⅞-32UN, ⅞-28UN, ⅞-27UNS, ⅞-24UNS, ⅞-20UNEF, 1-18UNS, 1⅜-16UN, 1-14UNS, 1⅜-12UN, 1-10UNS	¾-14, 1-11	1-26, 1-20, 1-16, 1-12, 1-10, 1⅛-9, 1-8, 1⅛-7	(TR26-TR60)x3, TR28x4, (TR65-TR110)x4, TR28x5
CTM2SC 062C082-315-2U	.81*	M24x3.0, M30x3.5	M22x0.5, M22x0.75, M22x1.0, M23x1.25, M23x1.5, M23x2.0	1-8, 1⅛-7, 1⅜-6	⅞-32UN, ⅞-28UN, ⅞-27UNS, ⅞-24UNS, ⅞-20UNEF, 1-18UNS, 1⅜-16UN, 1-14UNS, 1⅜-12UN, 1-10UNS	¾-14, 1-11	1-26, 1-20, 1-16, 1-12, 1-10, 1⅛-9, 1-8, 1⅛-7	(TR26-TR60)x3
CTM3SC 075C102-433-2U	1.02*	M30x3.5; M36x4.0	M27x0.5; M27x0.75; M28x1.0; M28x1.25; M28x1.5; M29x2.0; M30x2.5; M30x3.0	1¼-7, 1⅜-6	1⅛-28UN; 1⅛-24UNS; 1⅛-20UN; 1⅛-18UNEF; 1⅛-16UN; 1⅛-14UNS; 1⅛-12UNF; 1⅜-10UNS; 1⅜-8UN	⅞-14, 1-11	1⅛-26; 1⅛-20; 1⅜-16; 1⅜-12; 1⅜-8; 1¼-7	(TR40-TR60)x3; (TR65-TR110)x4
CTM4SC 100C124-530-2U	1.24*	M36x4.0	M32x0.5; M32.5x0.75; M33x1.0; M33x1.25; M33.5x1.5; M34x2.0; M34.5x2.5; M35x3.0; M36x3.5	1½-6	1⅜-28UN; 1½-24UNS; 1½-20UN; 1⅜-18UNEF; 1⅜-16UN; 1⅜-14UNS; 1⅜-12UNF; 1⅜-10UNS; 1⅜-8UN	1⅜-11	1⅜-26; 1⅜-20; 1⅜-16; 1⅜-12; 1⅜-8	(TR40-TR60)x3; (TR65-TR110)x4

\* For TR inserts use the CNC program (D2 + .010").

\*\* To be used only with inserts 2UIDD60TM... or 2UIDM60TM...

For insert 2UIDD60 TM... use the CNC program (D2 + .028").

## Thread Applications for Full Profile Inserts (ISO & UN)

Toolholder	Pitch		Toolholder cutting diameter D2 (inch)	Min. Thread Dia.	
	mm	tpi		*D2 Adjustment	ISO Fine
CTM3SC 075C102-433-2U	1.5	-	.984	M28x1.5	-
	2.0	-	.978	M29x2.0	-
	-	14	.982	-	1⅛-14UNS
	-	12	.978	-	1⅛-12UNF
CTM4SC 100C124-530-2U	1.5	-	1.181	M33x1.5	-
	2.0	-	1.175	M34x2.0	-
	-	14	1.179	-	1⅜-14UNS
	-	12	1.175	-	1⅜-12UNF

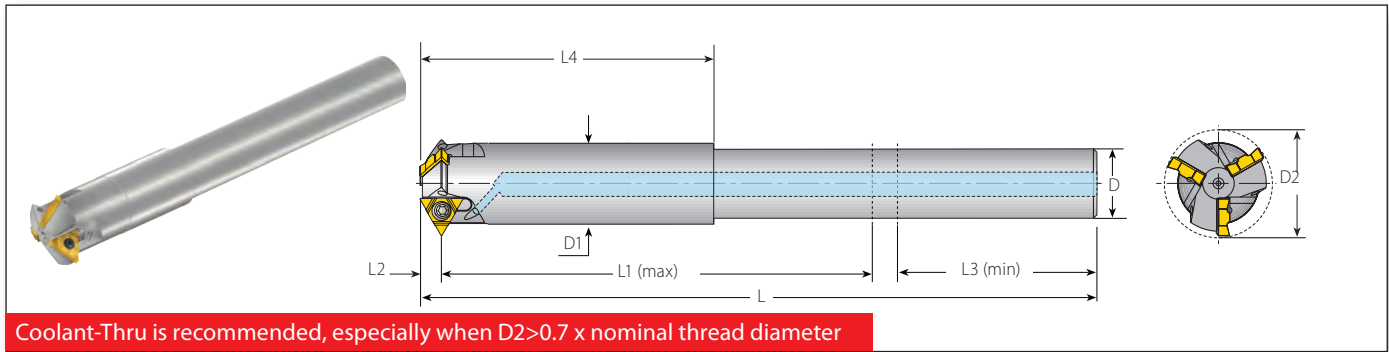
## Thread Applications for Full Profile Inserts (NPT)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drilled hole	
			*D2 Adjustment	tpi
CTM1SC031C059-157-2U	.574	14	1/2-14NPT; 3/4-14NPT	-
CTM1SC043C061-235-2U				-
CTM2SC056C082-256-2U	.807	14	3/4-14NPT	-
CTM2SC062C082-315-2U				-
CTM3SC075C102-433-2U	1.009	11.5	1-11.5NPT; 1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
CTM4SC100C124-530-2U	1.206	11.5	1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-



Remark: each NPT thread can be produced on the base of conically prepared hole without any limitation by 1 pass.

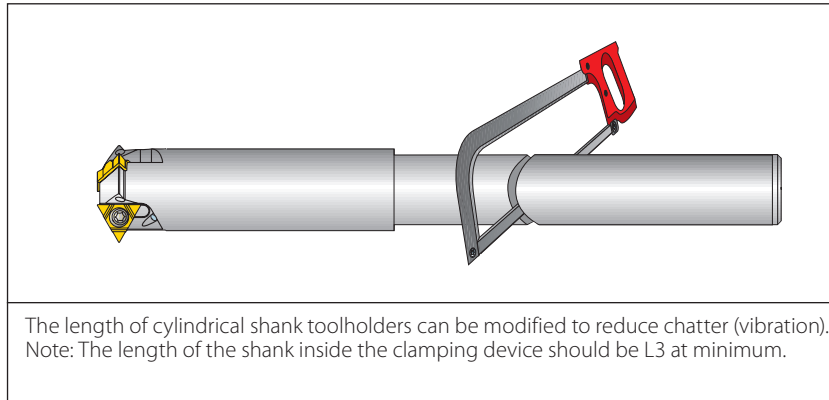
\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

## Standard Toolholders - Steel Cylindrical Shank (U Style)



### Steel Cylindrical Shank for U Style Inserts

Steel Cylindrical Shank for U Style Inserts											Spare Parts (Ordering Code & EDP No.)		
Insert Size	Ordering Code	EDP No.	Dimensions (inch)							No. of Flutes			
IC			L	L1 (max)	L2	L3 (min)	L4	D	D1	D2	Z	Insert Screw	Torx Key
1/4"U	TM2SC 062C090-300-2U	67744	5.60	3.00	.21	1.35	2.16	.625	.70	.91	2	SN2T (70036)	HK2T (70227)
	TM3SC 075C102-415-2U	67745	7.20	4.15	.21	1.57	-	.75	.75	1.02	3		
	TM4SC 100C122-452-2U	67746	7.70	4.52	.21	1.80	-	1.00	1.00	1.22	4		
3/8"U	TM3SC 100C143-512-3U	67747	8.35	5.12	.31	1.80	3.08	1.00	1.14	1.44	3	SA3T (70028)	HK3T (70228)
	TM3SC 112C146-565-3U	67762	8.75	5.65	.31	2.35	3.08	1.125	1.14	1.46	3		



## Steel Cylindrical Shank (U Style) Applications

### Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø						
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°
TM2SC 062C090-300-2U	.91	M27x3.0; M30x3.5; M36x4.0	M26x1.5, M26x2.0, M27x2.5	1 $\frac{1}{8}$ -7	1-16UNS, 1-14UNS, 1 $\frac{1}{16}$ -16UN, 1 $\frac{1}{16}$ -8UN,	$\frac{3}{4}$ -14, 1-11	1 $\frac{1}{8}$ -16, 1 $\frac{1}{8}$ -12, 1 $\frac{1}{8}$ -9, 1 $\frac{1}{8}$ -7
TM3SC 075C102-415-2U	1.02	M30x3.5, M36x4.0	M28x1.5, M29x2.0, M30x2.5, M30x3.0	1 $\frac{1}{4}$ -7, 1 $\frac{3}{8}$ -6	1 $\frac{1}{8}$ -16UN, 1 $\frac{1}{8}$ -14UNS, 1 $\frac{3}{16}$ -12UN, 1 $\frac{1}{4}$ -10UNS, 1 $\frac{3}{16}$ -8UN	$\frac{7}{8}$ -14, 1-11	1 $\frac{3}{16}$ -16, 1 $\frac{3}{16}$ -12, 1 $\frac{3}{16}$ -8, 1 $\frac{1}{4}$ -7
TM4SC 100C122-452-2U	1.22	M36x4.0	M33x1.5, M34x2.0, M34x2.5, M35x3.0, M36x3.5	1 $\frac{1}{2}$ -6	1 $\frac{3}{8}$ -16UN, 1 $\frac{3}{8}$ -14UNS, 1 $\frac{3}{8}$ -12UNF, 1 $\frac{3}{8}$ -10UNS, 1 $\frac{7}{16}$ -8UN	1 $\frac{1}{8}$ -11	1 $\frac{3}{8}$ -16, 1 $\frac{3}{8}$ -12, 1 $\frac{7}{16}$ -8
TM3SC 100C143-512-3U	1.44	M42x4.5, M48x5.0, M56x5.5, M64x6.0	M39x1.5, M39x2.0, M40x2.5, M41x3.0, M42x3.5, M42x4.0	1 $\frac{3}{4}$ -5, 2-4.5, 2 $\frac{1}{2}$ -4	1 $\frac{1}{16}$ -16UN, 1 $\frac{1}{8}$ -14UNS, 1 $\frac{1}{16}$ -12UN, 1 $\frac{1}{8}$ -10UNS, 1 $\frac{5}{8}$ -8UN, 1 $\frac{5}{8}$ -6UN	1 $\frac{1}{4}$ -11	1 $\frac{1}{8}$ -16, 1 $\frac{1}{8}$ -12, 1 $\frac{1}{8}$ -8, 1 $\frac{1}{8}$ -6, 1 $\frac{3}{4}$ -5
TM3SC 112C146-565-3U	1.46	M42.5x4.5, M48x5.0, M56x5.5, M64x6.0	M39x1.5, M40x2.0; M40x2.5, M41x3.0, M42x3.5, M42x4.0	1 $\frac{3}{4}$ -5, 2-4.5, 2 $\frac{1}{2}$ -4	1 $\frac{1}{16}$ -16UN, 1 $\frac{1}{8}$ -14UNS, 1 $\frac{1}{16}$ -12UN, 1 $\frac{1}{8}$ -10UNS, 1 $\frac{5}{8}$ -8UN, 1 $\frac{11}{16}$ -6UN	1 $\frac{1}{4}$ -11	1 $\frac{1}{8}$ -16, 1 $\frac{1}{8}$ -12, 1 $\frac{1}{8}$ -8, 1 $\frac{1}{8}$ -6, 1 $\frac{3}{4}$ -5

## Steel Cylindrical Shank (U Style) Applications (con't)

### Thread Applications for Full Profile Inserts (ISO & UN)

Toolholder	Pitch		Toolholder cutting diameter D2 (inch)	Min. Thread Dia.	
	mm	tpi		*D2 Adjustment	ISO Fine
TM2SC 062C090-300-2U	1.5	-	.866	M26x1.5	-
	2.0	-	.860	M26x2.0	-
	-	14	.864	-	1-14UNS
	-	12	.860	-	1-12UNF
TM3SC 075C102-415-2U	1.5	-	.984	M28x1.5	-
	2.0	-	.978	M29x2.0	-
	-	14	.982	-	1½-14UNS
	-	12	.978	-	1½-12UNF
TM4SC 100C122-452-2U	1.5	-	1.181	M33x1.5	-
	2.0	-	1.175	M34x2.0	-
	-	14	1.179	-	1¾-14UNS
	-	12	1.175	-	1¾-12UNF

### Thread Applications for Full Profile Inserts (NPT)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
			*D2 Adjustment	tpi
TM2SC062C090-300-2U	.891	11.5	1-11.5NPT; 1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC075C102-415-2U	1.009	11.5	1-11.5NPT; 1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM4SC100C122-452-2U	1.206	11.5	1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC100C143-512-3U	1.404	11.5	1¼-11.5NPT; 1½-11.5NPT; 2-11.5NPT	-
TM3SC112C146-565-3U				
TM3SC100C143-512-3U	1.404	8	-	2½...10-8NPT
TM3SC112C146-565-3U				

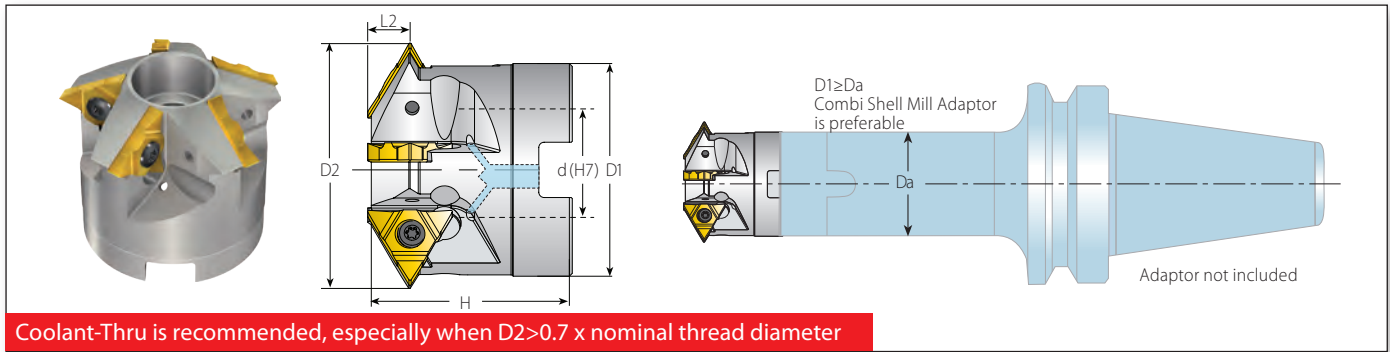
### Thread Application for Full Profile Inserts (API Round)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drill hole (for cylindrical 2 radial passes 50%/50%; for conical one radial pass)	Conical pre-drill hole only (one pass)
			*D2 Adjustment	tpi
TM2SC062C090-300-2U	.844	10	1.05x10APIRD (for UP TBG; UP TBG Long); 1.315...1.66x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
TM3SC075C102-415-2U	.962		1.66...2.875x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
TM4SC100C122-452-2U	1.159		1.66...3.5x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
TM3SC100C143-512-3U	1.366	8	2.375...20x8APIRD (for CSG; TBG; UP TBG; UP TBG Long);	8.625...9.625x8APIRD (for LCSG)
TM3SC112C146-565-3U	1.389		4.5...7.625x8APIRD (for LCSG)	8.625...20x8APIRD (for LCSG)




\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

\*\* Note: When the pre-drilled hole for 8 NPT is conical, the thread can be machined in one pass.

## Shell Mill (U Style)



### Shell Mill for U Style Inserts

Insert Size	Ordering Code	EDP No.	Dimensions (inch)						No. of Flutes	Spare Parts (Ordering Code & EDP No.)		
			D1	D2	d(H7)	H	L2	Z				
3/8"U	TM4SC D169-050-3U	67750	1.38	1.69	.50	1.58	.31	4	SN3T (70038)	HK3T (70228)	1/4-28x1.25 (70222)	
	TM5SC D208-075-3U	67751	1.77	2.09	.75	1.58	.31	5			3/8-24x1.25 (70223)	
1/2"U	TM6SC D346-100-4U	67752	2.99	3.47	1.0	2.00	.39	6	SA4T (70032)	HK4T (70241)	1/2-20x1.5 (70224)	
	TM8SC D435-150-4U	67761	3.83	4.35	1.5	2.17	.39	8			3/4-16x1.75 (70226)	

Remark: each NPT thread can be produced on the base of conically prepared hole without any limitation by 1 pass.

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

\*\* Note: When the pre-drilled hole for 8 NPT is conical, the thread can be machined in one pass.

# Shell Mill (U Style) Applications

## Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø						
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°
TM4SC D169-050-3U	1.69	M56x5.5 M64x6.0	M45x1.5, M48x2.0 M48x3.0, M48x4.0	2-4.5, 2½ - 4	1 <sup>3</sup> / <sub>16</sub> -16UN; 1 <sup>7</sup> / <sub>8</sub> -14UNS; 1 <sup>13</sup> / <sub>16</sub> -12UN; 1 <sup>7</sup> / <sub>8</sub> -10UNS; 1 <sup>7</sup> / <sub>8</sub> -8UN; 1 <sup>15</sup> / <sub>16</sub> -6UN	1½ - 11	1 <sup>7</sup> / <sub>8</sub> -16; 1 <sup>7</sup> / <sub>8</sub> -12; 1 <sup>7</sup> / <sub>8</sub> -8; 2 <sup>1</sup> / <sub>8</sub> -6; 2- 4.5; 2¼ - 4
TM5SC D208-075-3U	2.09	M64x6.0	M55x1.5, M56x2.0, M58x3.0, M58x4.0	2½ - 4	2¼-16UN; 2¼-14UNS; 2¼-12UN; 2¼-10UNS; 2¼-8UN; 2 <sup>3</sup> / <sub>8</sub> -6UN	2 - 11	2¼-16; 2¼-12; 2 <sup>3</sup> / <sub>8</sub> -8; 2 <sup>3</sup> / <sub>8</sub> -6; 3-5; 3½-4.5
TM6SC D346-100-4U	3.47	-	M95x6, M125x8	4 - 4	4¼-4UN	3½ - 11	4¼-4, 4-3
TM8SC D435-150-4U	4.35	-	M120x6, M125x8	-	4¾-4UN	-	-

## Thread Applications for Full Profile Inserts (NPT)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drilled hole	
			Cylindrical pre-drilled hole	Cylindrical pre-drilled hole
*D2 Adjustment		tpi	NPT Threading by 1 Radial Pass	**NPT Threading by 2 Radial Passes (50% / 50%)
TM4SC D169-050-3U	1.659	11.5	1½-11.5NPT; 2-11.5NPT	-
TM4SC D169-050-3U	1.659	8	-	2½...10-8NPT
TM5SC D208-075-3U	2.053	11.5	2-11.5NPT	-
TM5SC D208-075-3U	2.053	8	-	2½...10-8NPT
TM6SC D346-100-4U	3.467	8	3½ ... 160D-8NPT	160D...240D-8NPT
TM7SC D435-150-4U	4.353	8	4 ... 160D-8NPT...	160D...240D-8NPT

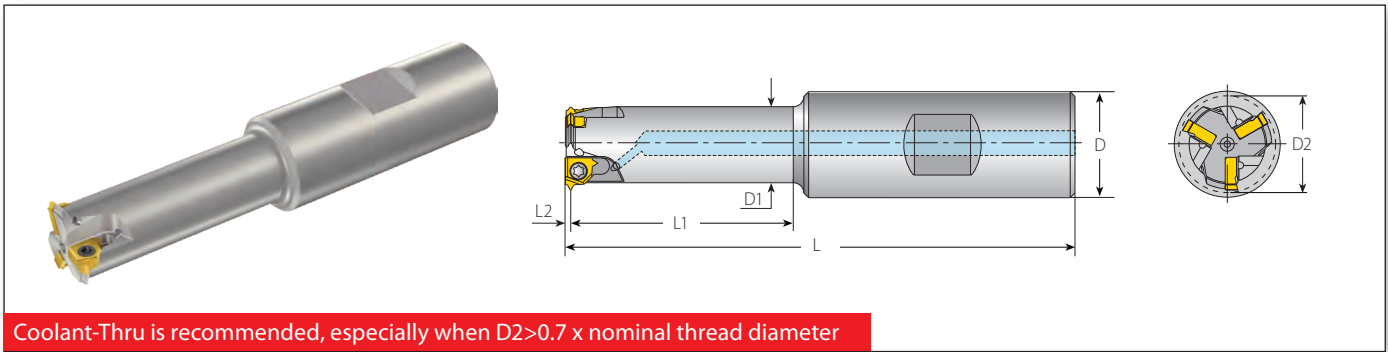
\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

## Thread Application for Full Profile Inserts (API Round)

Toolholder	Toolholder cutting diameter D2 (inch)	Pitch	Cylindrical or Conical pre-drill hole (for cylindrical 2 radial passes 50%/50%; for conical one radial pass)	
			Conical pre-drill hole only (one pass)	Conical pre-drill hole only (one pass)
*D2 Adjustment		tpi	Thread Dia.	
TM4SC D169-050-3U	1.622	8	2.875...20x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...7.625x8APIRD (for LCSG)	8.625...20x8APIRD (for LCSG)
TM5SC D208-075-3U	2.016		3.5...20x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...7.625x8APIRD (for LCSG)	

\* Correct the toolholder cutting diameter D2 according to adjustment, as indicated in the above table.

## Standard Toolholders - Weldon Shank (L Style - Mini L)



### Weldon Shank for Mini L Style Inserts

Insert Size	Ordering Code	EDP No.	Dimensions (inch)							No. of Flutes	Spare Parts (Ordering Code & EDP No.)	
			L	L1	L2	D	D1	D2	Z		Insert Screw	Torx Key
5.0L (Mini L)	TM1SC 062W051-114-5L	67111	3.20	1.14		.625	.38	.51	1	SN5LTR (72007)	Torx Key  K7T (70026)	
	TM2SC 062W054-130-5L	67114	3.40	1.30	.04	.625	.41	.53	2			
	TM3SC 075W069-165-5L	67115	3.80	1.65		.75	.56	.70	3			
	TM2SC 062W055-140-5L-ABUT	67780	3.50	1.40	.074	.625	.41	.55	2			
	TM3SC 075W072-180-5L-ABUT	67781	4.00	1.80		.75	.56	.72	3			

## Weldon Shank (L Style - Mini L) Applications

### Thread Applications for Partial Profile Inserts

Toolholder		Min. Thread Ø						
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
TM1SC 062W051-114-5L	.51	M16x2	M14x0.5; M14x0.75; M14.5x1.0; M15x1.5; M17x2.0	5/8-11	5/16-32UN; 5/16-28UN; 5/16-27UNS; 5/16-24UNEF; 5/8-20UN; 5/8-18UNF; 5/8-16UN; 5/8-14UNS; 5/8-12UN	3/8-19	5/8-14	TR16X2; TR18X2
TM2SC 062W054-130-5L	.53	M16x2	M15x0.5; M15x0.75; M15x1.0; M16x1.5; M17x2.0	-	5/8-32UN; 5/8-28UN; 5/8-27UNS; 5/8-24UNEF; 5/8-20UN; 5/8-18UNF; 5/8-16UN; 5/8-14UNS; 1/16-12UN	3/8-19	1/16-14	TR16X2; TR18X2
TM3SC 075W069-165-5L	.70	-	M19x0.5; M19x0.75; M19x1.0; M20x1.5; M20x2.0	-	3/4-32UN; 3/4-28UN; 7/8-27UNS; 3/4-24UNS; 13/16-20UNEF; 5/8-18UNS; 13/16-16UN; 7/8-14UNF; 13/16-12UN	1/2-14	-	TR20X2

### Thread Applications for Full Profile Inserts

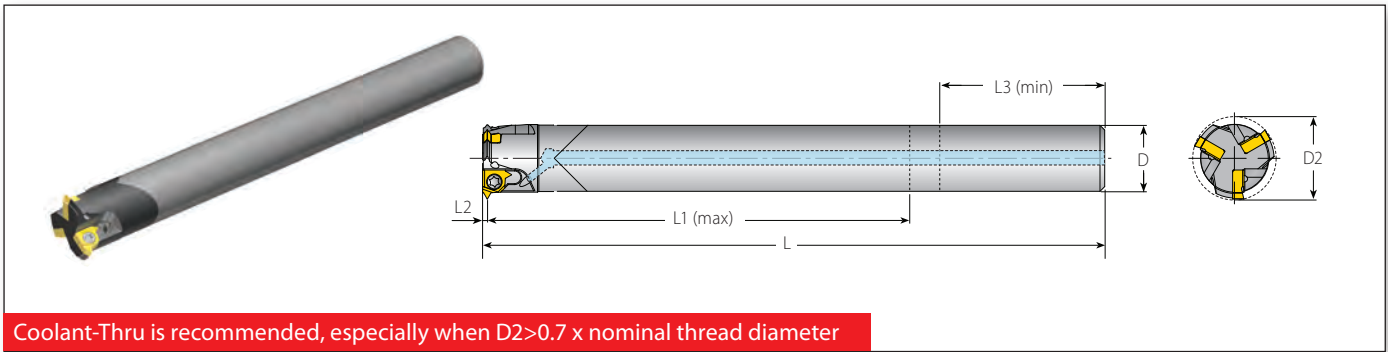
Toolholder		Min. Thread Dia.		
	D2	ISO Fine	UN/UNF/UNEF/UNS	NPT
TM1SC 062W051-114-5L	.51	M14.5x1.0; M15x1.5; M17x2.0	5/8-18UNF; 5/8-16UN; 5/8-14UNS; 5/8-12UN	3/8-18NPT
TM2SC 062W054-130-5L	.53	M15x1.0; M16x1.5; M17x2.0	5/8-18UNF; 5/8-16UN; 5/8-14UNS; 1/16-12UN	3/8-18NPT
TM3SC 075W069-165-5L	.70	M19x1.0; M20x1.5; M20x2.0	7/8-18UNS; 13/16-16UN; 7/8-14UNF; 13/16-12UN	-

### Thread Applications for Full Profile American Buttress Inserts



Toolholder		Thread Dia.	
	D2	American Buttress	
TM2SC 062W055-140-5L-ABUT	.55	(0.875"-4")-16; (0.875"-6")-12; (0.875"-16")-10	
TM3SC 075W072-180-5L-ABUT	.72	(1.25"-4")-16; (1.25"-6")-12; (1.25"-16")-10	



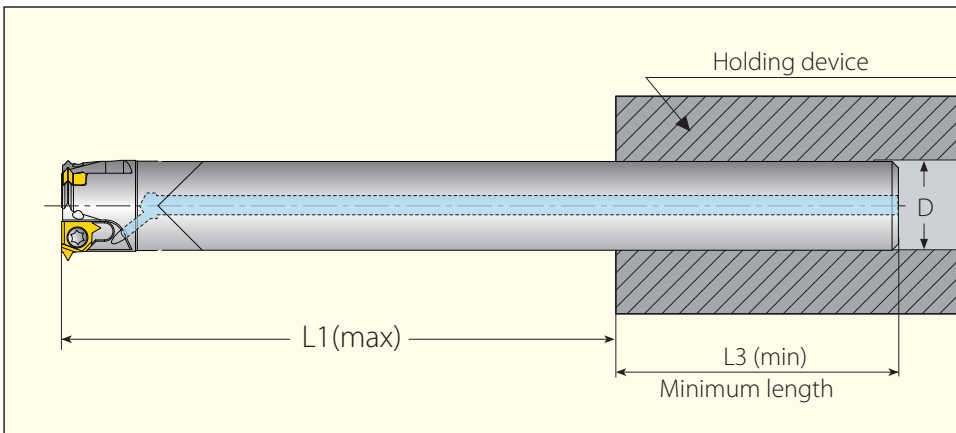
## Standard Toolholders - Carbide Cylindrical Shank (L Style - Mini L)



### Carbide Cylindrical Shank for Mini L Style Inserts

Carbide Cylindrical Shank for Mini L Style Inserts									Spare Parts (Ordering Code & EDP No.)		
Insert Size	Ordering Code	EDP No.	Dimensions (inch)						No. of Flutes		
IC (mm)			L	L1 (max)	L2	L3 (min)	D	D2	Z	Insert Screw	Torx Key
5.0L (Mini L)	CTM1SC 037C051-169-5L	67118	4.30	1.69		.8	.375	.51	1	SN5LTR (72007)	K7T (70026)
	CTM2SC 037C053-197-5L	67119	4.30	1.97	.04	.8	.375	.53	2		
	CTM3SC 056C069-255-5L	67120	5.20	2.55		1.15	.562	.70	3		
	CTM2SC 037C055-200-5L-ABUT	67784	4.30	2.00	.074	.87	.375	.55	2		
	CTM3SC 055C072-256-5L-ABUT	67785	5.20	2.56		1.18	.55	.72	3		

The overhang-to-bar diameter ratio should be as small as possible to eliminate the chance of chatter (vibration). The minimum length inside a holding device should be 2 times the diameter of the bar shank.



# Carbide Cylindrical Shank (L Style - Mini L) Applications

## Thread Applications for Partial Profile Inserts

Toolholder		Min. Thread Ø						
	D2	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
CTM1SC 037C051-169-5L	.51	M16x2	M14x0.5; M14x0.75; M14.5x1.0; M15x1.5; M17x2.0	5/8-11	5/16-32UN; 5/16-28UN; 5/16-27UNS; 5/16-24UNEF; 5/16-20UN; 5/16-18UNF; 5/16-16UN; 5/16-14UNS; 5/16-12UN	3/8-19	5/16-14	TR16X2; TR18X2
CTM2SC 037C053-197-5L	.53	M16x2	M15x0.5; M15x0.75; M15x1.0; M16x1.5; M17x2.0	-	5/16-32UN; 5/16-28UN; 5/16-27UNS; 5/16-24UNEF; 5/16-20UN; 5/16-18UNF; 5/16-16UN; 5/16-14UNS; 11/16-12UN	3/8-19	11/16-14	TR16X2; TR18X2
CTM3SC 056C069-255-5L	.70	-	M19x0.5; M19x0.75; M19x1.0; M20x1.5; M20x2.0	-	3/4-32UN; 3/4-28UN; 7/8-27UNS; 3/4-24UNS; 13/16-20UNEF; 7/8-18UNS; 13/16-16UN; 7/8-14UNF; 13/16-12UN	1/2-14	-	TR20X2

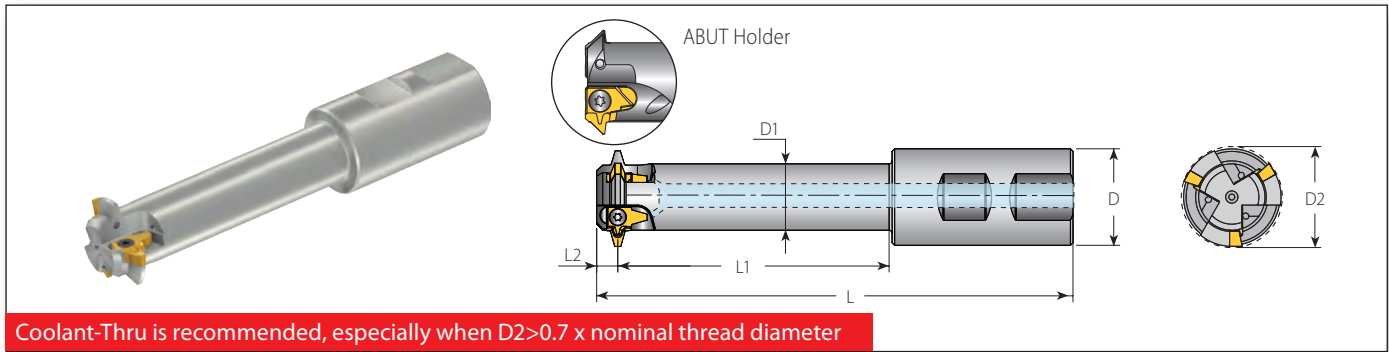
## Thread Applications for Full Profile Inserts

Toolholder		Min. Thread Dia.		
	D2	ISO Fine	UN/UNF/UNEF/UNS	NPT
CTM1SC 037C051-169-5L	.51	M14.5x1.0; M15x1.5; M17x2.0	5/8-18UNF; 5/8-16UN; 5/8-14UNS; 5/8-12UN	3/8-18NPT
CTM2SC 037C053-197-5L	.53	M15x1.0; M16x1.5; M17x2.0	5/8-18UNF; 5/8-16UN; 5/8-14UNS; 11/16-12UN	3/8-18NPT
CTM3SC 056C069-255-5L	.70	M19x1.0; M20x1.5; M20x2.0	7/8-18UNS; 13/16-16UN; 7/8-14UNF; 13/16-12UN	-



## Thread Applications for Full Profile American Buttress Inserts

Toolholder		Thread Dia.
	D2	American Buttress
CTM2SC 037C055-200-5L-ABUT	.55	(0.875"-4")-16; (0.875"-6")-12; (0.875"-16")-10
CTM3SC 055C072-256-5L-ABUT	.72	(1.25"-4")-16; (1.25"-6")-12; (1.25"-16")-10

## Standard Toolholders - Weldon Shank (L Style - 3/8" L)



### Weldon Shank for 3/8" L Style Inserts

Weldon Shank for 3/8" L Style Inserts										Spare Parts (Ordering Code & EDP No.)		
Insert Size	Ordering Code	EDP No.	Dimensions (inch)							No. of Flutes		
IC	Toolholder		L	L1	L2	D	D1	D2	Z	Insert Screw	Torx Key	
3/8"L	TM1SC 100W085-200-3L	67135	4.60	2.00	.276	1.00	.50	.85	1	SN3T (70038)	HK3T (70228)	
	TM2SC 100W112-275-3L	67136	5.32	2.75	.276	1.00	.71	1.12	2	SA3T (70028)		
	TM3SC 125W132-350-3L	67137	6.22	3.50	.276	1.25	.87	1.32	3	SN3T (70038)		
	TM2SC 100W104-315-3L-ABUT	67782	5.70	3.15	.185	1.00	.79	1.04	2	SA3T (70028)		
	TM3SC 125W140-413-3L-ABUT	67783	6.75	4.13		1.25	1.10	1.40	3			

## Weldon Shank (L Style - 3/8" L) Applications

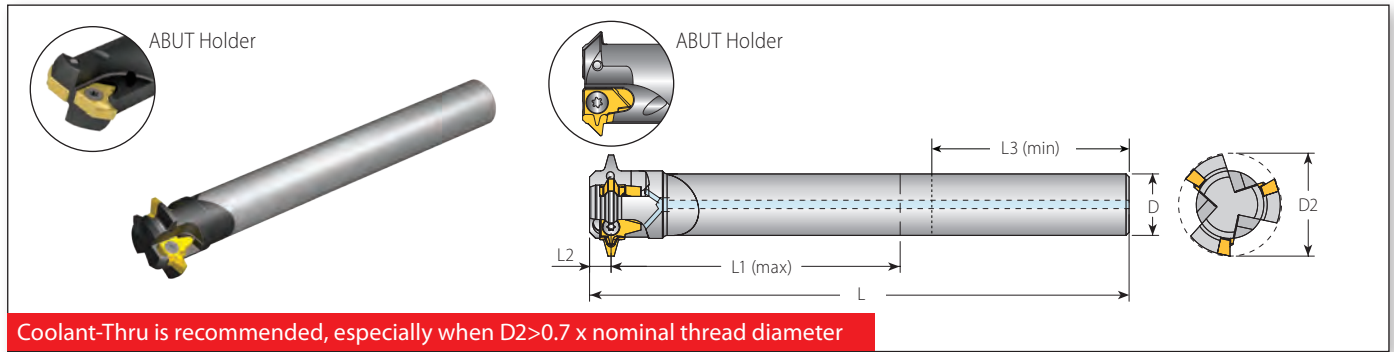
### Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø			
	D2	Trapez	American ACME	Stub ACME
TM1SC 100W085-200-3L	.85	(TR30-TR36)x6	1¼-5; 1⅜-4; 1½-4	1¼-5; 1⅜-4; 1½-4
TM2SC 100W112-275-3L	1.12	(TR38-TR44)x7	1¾-4	-
TM3SC 125W132-350-3L	1.32	(TR46-TR52)x8	2-4; 2¼-3; 2½-3; 2¾-3	2-4; 2¼-3; 2½-3; 2¾-3



### Thread Applications for Full Profile American Buttress Inserts

Toolholder	Thread Dia.	
	D2	American Buttress
TM2SC 100W104-315-3L-ABUT	1.04	(1.75"-4")-16; (1.75"-6")-12; (1.75"-6")-10; (1.75"-6")-8; (1.75"-6")-6
TM3SC 125W140-413-3L-ABUT	1.40	(2.5"-4")-16; (2.5"-6")-12; (2.5"-6")-10; (2.5"-6")-8; (2.5"-6")-6

# Standard Toolholders - Carbide Cylindrical Shank (L Style - 3/8" L)



## Carbide Cylindrical Shank for 3/8" L Style Inserts

Carbide Cylindrical Shank for 3/8" L Style Inserts										Spare Parts (Ordering Code & EDP No.)		
Insert Size	Ordering Code	EDP No.	Dimensions (inch)							No. of Flutes		
IC	Toolholder		L	L1 (max)	L2	L3 (min)	D	D2	Z	Insert Screw	Torx Key	
3/8" L	CTM1SC 050C085-295-3L	67132	4.53	2.95	.276	1.58	.50	.85	1	SN3T (70038)	HK3T (70228)	
	CTM2SC 062C112-330-3L	67133	6.10	3.30	.276	1.81	.625	1.12	2	SA3T (70028)		
	CTM3SC 075C132-443-3L	67134	6.60	4.43	.276	1.81	.75	1.32	3	SN3T (70038)		
	CTM2SC 075C104-450-3L-ABUT	67786	6.75	4.35	.185	1.57	.75	1.04	2	SA3T (70028)		

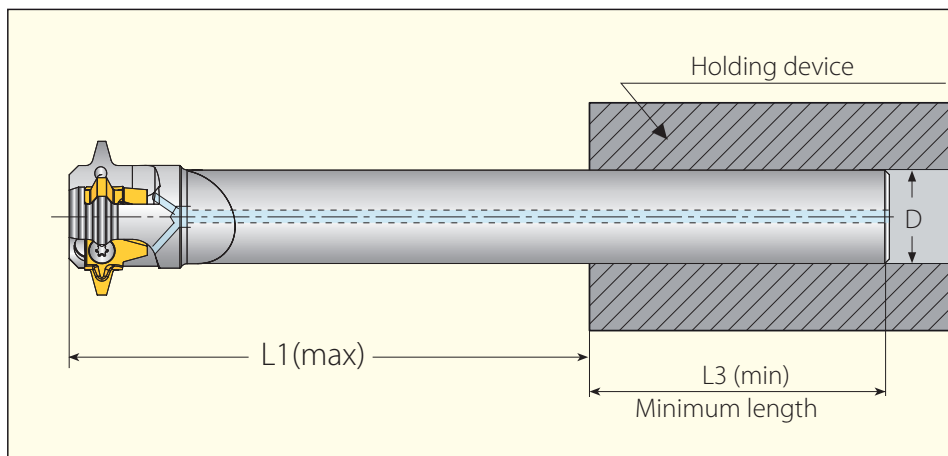
## Carbide Cylindrical Shank (L Style - 3/8" L) Applications

### Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø			
	D2	Trapez	American ACME	Stub ACME
CTM1SC 050C085-295-3L	.85	(TR30-TR36)x6	1¼-5; 1⅜-4; 1½-4	1¼-5; 1⅜-4; 1½-4
CTM2SC 062C112-330-3L	1.12	(TR38-TR44)x7	1¾-4	-
CTM3SC 075C132-443-3L	1.32	(TR46-TR52)x8	2-4; 2¼-3; 2½-3; 2¾-3	2-4; 2¼-3; 2½-3; 2¾-3

### Thread Applications for Full Profile American Buttress Inserts

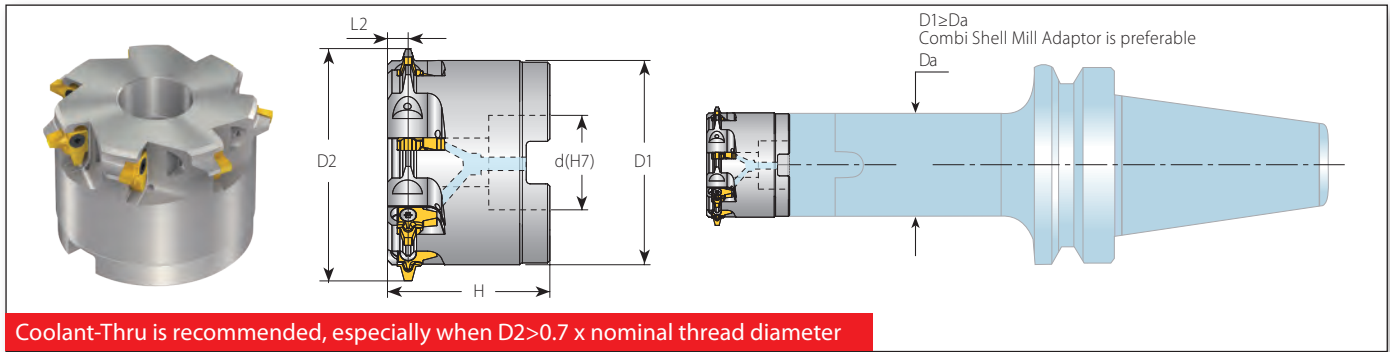
Toolholder	Thread Dia.	
	D2	American Buttress
CTM2SC 075C104-450-3L-ABUT	1.04	(1.75"-4")-16; (1.75"-6")-12; (1.75"-6")-10; (1.75"-6")-8; (1.75"-6")-6






The overhang-to-bar diameter ratio should be as small as possible to eliminate the chance of chatter (vibration).

The minimum length inside a holding device should be 2 times the diameter of the bar shank.

## Shell Mill (L Style - 3/8" L)



### Shell Mill for 3/8" L Style Inserts

Shell Mill for 3/8" L Style Inserts									Spare Parts (Ordering Code & EDP No.)			
Insert Size	Ordering Code	EDP No.	Dimensions (inch)						No. of Flutes			
IC	Toolholder		D1	D2	d(H7)	H	L2	Z	Insert Screw	Torx Key	Holder Screw	
3/8" L	TM7SC D315-125-3L	67775	2.72	3.15	1.25	2.16	.276	7	SA3T (70028)	HK3T (70228)	5/8-18UNx1 1/2 (70037)	
	TM6SC D228-075-3L-ABUT	67788	2.01	2.28	.75	1.58	.185	6			3/8-24x1.25 (70223)	

## Shell Mill (L Style - 3/8" L) Applications

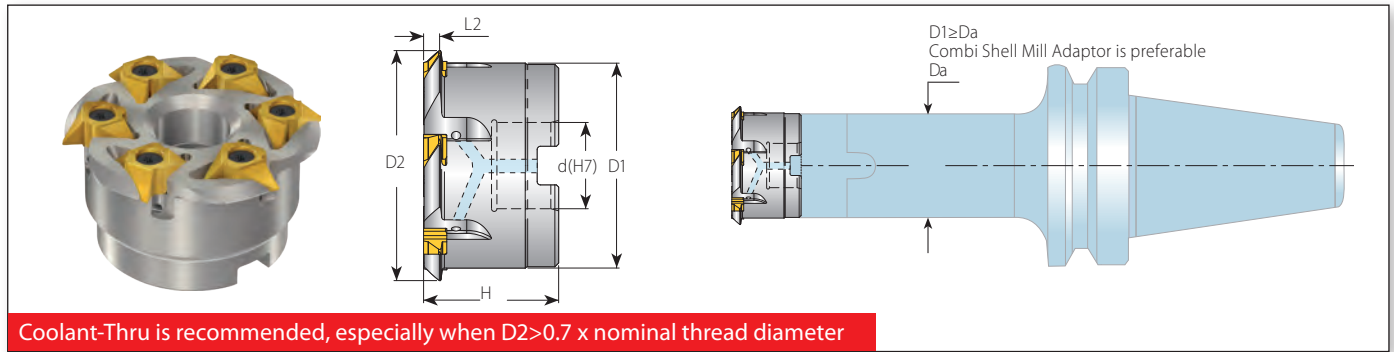
### Thread Applications for Partial Profile Inserts

Toolholder	Min. Thread Ø			
D2	Trapez	American ACME	Stub ACME	
TM7SC D315-125-3L	3.15	(TR115-TR130)x6; (TR175-TR240)x8	-	-

### Thread Applications for Full Profile American Buttress Inserts

Toolholder	Thread Dia.	
D2	American Buttress	
TM6SC D228-075-3L-ABUT	2.28	(4.0"-6")-12; (4.0"-6")-10; (4.0"-6")-8; (4.0"-6")-6

## Shell Mill (5/8" V Style)



Coolant-Thru is recommended, especially when  $D2 > 0.7 \times$  nominal thread diameter

### Shell Mill for 5/8" V Style Inserts

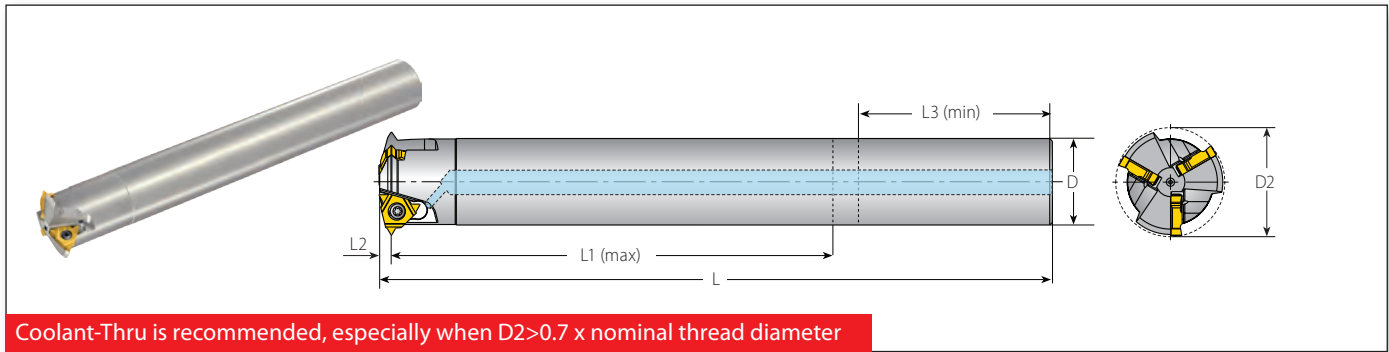
Insert Size	Ordering Code	EDP No.	Dimensions (inch)						No. of Flutes	Insert	Spare Parts (Ordering Code & EDP No.)		
			D1	D2	d(H7)	H	L2	Z			Insert Screw	Torx Key	Holder Screw
5/8"V	TM6SC D346-125-5V6-ABUT	67768	2.85	3.46	1.25	1.92	.21	6	5VI4ABUT TM ...	SA5T (70033)	HK5T (70011)	5/8-18UNx1 1/2 (70037)	
	TM6SC D346-125-5V8-ABUT	67789	2.85	3.46	1.25	2.07	.33	6	5VI2.5ABUT TM ...				
						2.00	.28		5VI3ABUT TM ...				

## Shell Mill (5/8" V Style) Applications



### Thread Applications for Full Profile American Buttress Inserts

Toolholder	D2	Thread Dia.
		American Buttress
TM6SC D346-125-5V6-ABUT	3.46	(5.0"-24")-4
TM6SC D346-125-5V8-ABUT	3.46	(6.0"-24")-3; (7.0"-24")-2.5

## Standard Toolholders - Steel Cylindrical Shank (A Style)



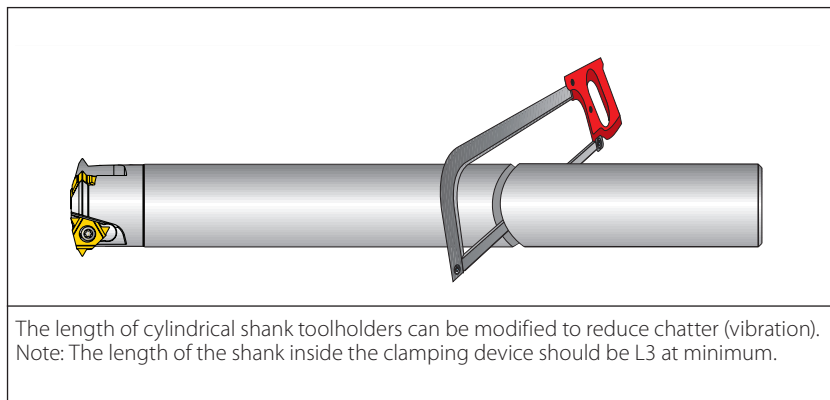
### Steel Cylindrical Shank for A Style Inserts

Insert Size	Ordering Code	EDP No.	Dimensions (inch)										Spare Parts (Ordering Code & EDP No.)	
			L	L1 (max)	L2	L3 (min)	L4	D	D1	D2	Z			
1/4"A	TM3SC 075C102-415-2A	67748	7.20	4.15	.12	1.57	-	.75	.75	1.02	3	SN2T (70036)	HK2T (70227)	
3/8"A	TM3SC 100C138-512-3A	67749	8.35	5.12	.16	1.80	3.08	1.00	1.11	1.39	3	SA3T (70028)	HK3T (70228)	

## Steel Cylindrical Shank (A Style) Applications

### Thread Application for A Style Toolholders (Steel Cylindrical Shank)

Toolholder	D2	Min. Thread Ø				
		ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP (G)
TM3SC 075C102-415-2A	1.02	-	M28x1.5, M29x2.0, M30x2.5, M30x3.0	-	1½-16UN, 1½-14UNS, 1½-12UN, 1¼-10UNS, 1¾-8UN	-
TM3SC 100C138-512-3A	1.39	-	M38x2.0, M39x2.5, M39x3.0, M40x4.0	-	1½-12UN, 1½-10UNS, 1½-8UN, 1½-6UN	-



## Recommended Grades, Cutting Speeds Vc [ft/min] and Feed f [inch/tooth]

Material Group	Vardex No.	Material	Hardness Brinell HB	Vc [ft/min]		Feed* f [inch/tooth] by Cutting Dia. (D2)			
				VBX	VTX	.51-.91	.94-1.65	Shell Mill	
<b>P</b> Steel	1	Unalloyed steel	Low carbon (C=0.1-0.25%)	125	328-689	295-590	.0079-.0126	.0118-.0197	.0118-.0295
	2		Medium carbon (C=0.25-0.55%)	150	328-590	295-558	.0079-.0126	.0118-.0197	.0118-.0295
	3		High Carbon (C=0.55-0.85%)	170	328-558	295-525	.0060-.0090	.0098-.0138	.0098-.0205
	4	Low alloy steel (alloying elements≤5%)	Non hardened	180	197-295	295-508	.0067-.0110	.0110-.0177	.0110-.0264
	5		Hardened	275	262-492	262-525	.0060-.0110	.0098-.0177	.0098-.0264
	6		Hardened	350	230-459	230-492	.0060-.0098	.0098-.0157	.0098-.0236
	7	High alloy steel (alloying elements>5%)	Annealed	200	197-426	230-377	.0060-.0087	.0079-.0118	.0079-.0177
	8		Hardened	325	227-361	197-328	.0051-.0083	.0071-.0118	.0071-.0177
	9	Cast steel	Low alloy (alloying elements <5%)	200	328-558	328-558	.0060-.0087	.0079-.0118	.0079-.0177
	10		High alloy (alloying elements >5%)	225	230-394	230-426	.0047-.0087	.0067-.0118	.0067-.0177
<b>M</b> Stainless Steel	11	Stainless steel Ferritic	Non hardened	200	328-558	394-590	.0060-.0087	.0087-.0134	.0087-.0197
	12		Hardened	330	328-558	394-590	.0063-.0090	.0083-.0126	.0083-.0188
	13	Stainless steel Austenitic	Austenitic	180	230-460	328-460	.0060-.0098	.0098-.0157	.0098-.0236
	14		Super Austenitic	200	230-460	328-459	.0047-.0079	.0067-.0102	.0067-.0153
	15	Stainless steel Cast Ferritic	Non hardened	200	230-460	328-459	.0063-.0094	.0098-.0146	.0098-.0216
	16		Hardened	330	230-460	328-459	.0047-.0079	.0067-.0102	.0067-.0153
	17	Stainless steel Cast austenitic	Austenitic	200	230-394	328-394	.0060-.0087	.0079-.0118	.0079-.0177
	18		Hardened	330	230-394	328-394	.0047-.0079	.0067-.0102	.0067-.0153
<b>K</b> Cast Iron	28	Malleable Cast iron	Ferritic (short chips)	130	197-426	328-394	.0063-.0095	.0098-.0146	.0098-.0216
	29		Pearlitic (long chips)	230	197-394	262-328	.0060-.0087	.0079-.0118	.0079-.0177
	30	Grey cast iron	Low tensile strength	180	197-426	262-328	.0060-.0087	.0087-.0134	.0087-.0197
	31		High tensile strength	260	197-328	262-328	.0060-.0087	.0079-.0118	.0079-.0177
	32	Nodular SG iron	Ferritic	160	197-410	262-328	.0039-.0079	.0059-.0098	.0059-.0146
	33		Pearlitic	260	164-295	197-295	.0060-.0087	.0079-.0118	.0079-.0177
<b>N(K)</b> Non-Ferrous Metals	34	Aluminium alloys Wrought	Non aging	60	328-820		.0118-.0197	.0236-.0394	.0236-.0590
	35		Aged	100	328-590		.0110-.0197	.0197-.0354	.0197-.0472
	36	Aluminium alloys Cast	Cast	75	492-1312		.0110-.0197	.0197-.0354	.0197-.0472
	37		Cast & aged	90	492-918		.0098-.0157	.0157-.0236	.0157-.0354
	38	Aluminium alloys Cast Si 13-22%	130	262-492		.0110-.0197	.0197-.0354	.0197-.0472	
	39	Copper and Copper alloys	Brass	90	394-689		.0118-.0197	.0236-.0394	.0236-.0590
	40		Bronze and non leaded copper	100	394-689		.0110-.0197	.0197-.0354	.0197-.0472
<b>S(M)</b> Heat Resistant Material	19	High temperature alloys	Annealed (Iron based )	200	66-148	66-131	.0035-.0059	.0047-.0087	.0047-.0130
	20		Aged (Iron based)	280	66-98	66-98	.0028-.0051	.0039-.0079	.0039-.0118
	21		Annealed (Nickel or Cobalt based)	250	49-66	49-66	.0031-.0059	.0031-.0079	.0031-.0118
	22		Aged (Nickel or Cobalt based)	350	33-49	33-49	.0031-.0059	.0031-.0079	.0031-.0118
	23	Titanium alloys	Pure 99.5 Ti	400Rm	230-459	230-394	.0028-.0051	.0039-.0079	.0040-.0118
	24		α+β alloys	1050Rm	66-164	66-164	.0028-.0051	.0039-.0079	.0040-.0118
<b>H(K)</b> Hardened Material	25	Extra hard steel	Hardened & tempered	45-50HRc	49-148	49-148	.0020-.0047	.0020-.0071	.0020-.0106
	26			51-55HRc	49-131	49-131	.0020-.0047	.0020-.0071	.0020-.0106

\* When using a Shell Mill toolholder, the feed can be increased by 50%

\* For 3/8" L it is recommended to machine in two passes and decrease the feed by 40%

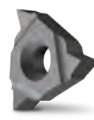
### Grades

Grade	Application
<b>VBX</b>	TiCN coated carbide grade. Excellent grade for <b>Steels and General Use.</b>
<b>VTX</b>	TiAlN coated carbide grade. Ideal for <b>Stainless Steels.</b>

U Style



A Style



Mini-L Style



3/8" L Style



Vertical Style



V Style







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