

# THREAD MAKING

A collection of precision metal tools for thread making, including drill bits, reamers, and inserts, arranged on a dark background. The tools are primarily made of high-speed steel (HSS) and are shown in various orientations, highlighting their intricate designs and sharp edges. A prominent feature is the golden-colored cutting edges of the tools, which are likely coated with a hardening material. The background is dark, making the metallic surfaces stand out. A blue banner at the top contains the title 'THREAD MAKING' in white, bold, sans-serif font. At the bottom center, there is a small blue button with the word 'Contents' in white text.

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# THREAD MAKING



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• For more technical information, see TaeguTec technical guide part TC

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Holder Page



➤ TS-THREAD  
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### TS-THREAD (Thread Milling)

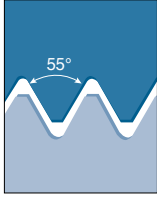
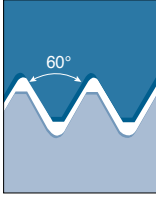
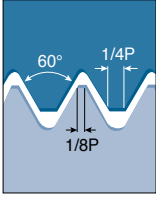
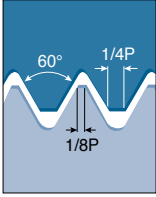





Solid Carbide End Mill Designation System	C68
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### T-TAP (Tapping)

Straight Flute with Spiral Point	C118
Right Hand Spiral Flute (40°)	C120
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# Tool Selection Guide

## Threading inserts

		<b>T-THREAD</b>			
		<b>55° thread</b>	<b>60° thread</b>	<b>Metric ISO</b>	<b>American UN</b>
<b>Thread</b>					
<b>Pages</b>		C25	C26	C27 - C31	C32 - C36
<b>Type of threading</b>		Partial profile	Partial profile	Full profile	Full profile
<b>Application</b>		General use for 55° thread forms for wide range of pitches	General use for 60° thread forms for wide range of pitches	General usage for all industries	General usage for all industries
 M - type	ER	●	●	●	●
	IR	●	●	●	●
 Regular type	ER/IR	●	●	●	●
	EL/IL	●	●	●	●
 B - type	ER	●	●	●	●
	IR	●	●	●	●
 U - type	IRL	●	●	●	●
	EIRL	●	●		
	ERL			●	●
 Multi-tooth type	ER			●	●
	IR			●	●

**ER:** External right hand

**ERL:** External right / left hand

**EL:** External left hand

**IRL:** Internal Right / left hand

**IR:** Internal right hand

**EIRL:** External / internal right / left hand

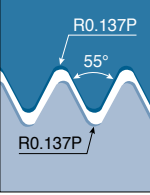
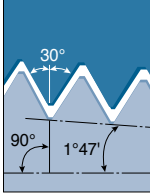
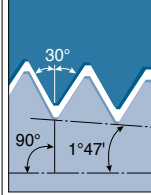
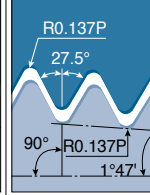
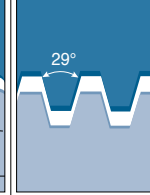
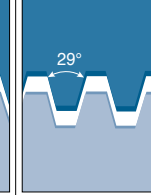
**IL:** Internal left hand



# Tool Selection Guide

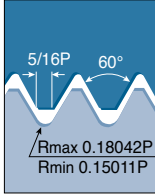
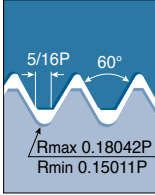
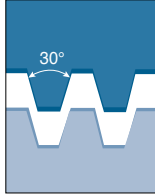
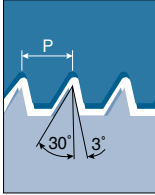





## Threading inserts

### T-THREAD

Whitworth	NPT	NPTF	BSPT	STUB ACME	ACME
					
C37 - C41	C42 - C43	C44	C45	C46	C47
Full profile	Full profile	Full profile	Full profile	Partial profile	Partial profile
General industries. Pipe fittings and couplings	Steam, gas and water pipes	Steam, gas and water pipes. Dry seal	55° form for steam, gas and water pipes	Shallow ACME profile for motion transmission	Motion transmission. Feed screws
•	•		•		
•	•		•		
•	•	•	•	•	•
•	•	•	•	•	•
•	•		•		
•	•		•		
					•
•					•
•	•				
•	•				

# Tool Selection Guide

## Threading inserts

		<b>T-THREAD</b>			
		UNJ	MJ	Trapez DIN 103	Sagengengewinde DIN 513
<b>Thread</b>					
<b>Pages</b>		C48 - C49	C50	C51	C53
<b>Type of threading</b>		Full profile	Full profile	Partial profile	Full profile
<b>Application</b>		Aviation and aerospace industry	Aviation and aerospace industry	Motion transmission. Feed screws	For high force in one direction
 M - type	ER				
	IR				
 Regular type	ER/IR	●	●	●	●
	EL/IL	●		●	●
 B - type	ER				
	IR				
 U - type	ER/IR				●
	EL/IL				●
	ERL/IRL			●	
 Multi-tooth type	ER				
	IR				

**ER:** External right hand

**EL:** External left hand

**IR:** Internal right hand

**IL:** Internal left hand

**ERL:** External right / left hand

**IRL:** Internal Right / left hand

**EIRL:** External / internal right / left hand

# Tool Selection Guide

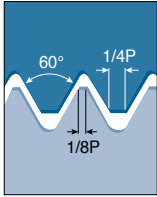
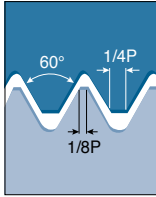
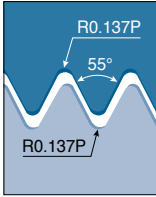
## Threading inserts

### T-THREAD

American buttress	Round DIN 405	API round	API	Buttress casing	Extreme line casing
C54	C55	C56 - C57	C58	C59	C59
Full profile	Full profile	Full profile	Full profile	Full profile	Full profile
For high force in one direction	Pipe coupling in fire fighting, chemical and food industries	60° thread with large radius in the oil and gas industry	60° thread form for pipe connections in the oil and gas industry	Tube and casings in the oil and gas industry	Tube and casings in the oil and gas industry
	•				
	•				
•	•	•	•	•	•
•	•				
•					
•					

# Tool Selection Guide

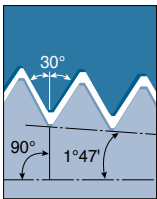
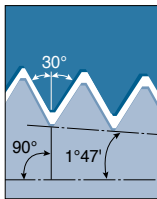
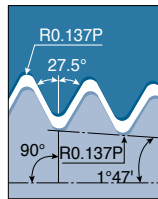
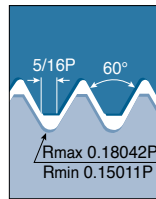
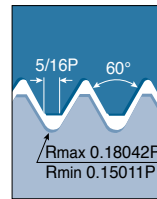
## Solid carbide threading end mills

Thread	TS-THREAD		
	Metric ISO	American UN	Whitworth
			
<b>Application</b>	General usage for all industries	General usage for all industries	General industries. Pipe fittings and couplings
TMTEC General type	● C71	● C79	● C86
TMTECB Internal coolant hole	● C69	● C77	● C86
TMTECZ Internal coolant in the flutes	● C70	● C78	● C86
TMTECS Short head	● C74-C75	● C82-C83	
TMTECSH Short head for hard materials	● C76	● C84-C85	
TMTECQ Reduced neck diameter for deep threading	● C72	● C80	
TMTECI Partial profile	● C91	● C91	
TMTEC E External threading	● C73	● C81	

• For correct tool choice and CNC programming, use the 'TS-thread guide' software (Available at [www.taegutec.com](http://www.taegutec.com))

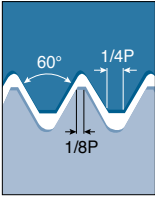
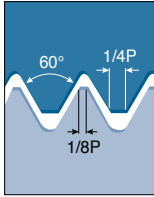
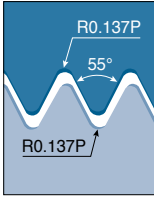







# Tool Selection Guide

## Solid carbide threading end mills

<b>TS-THREAD</b>				
NPT	NPTF	BSPT	UNJ	MJ
				
Steam, gas and water pipes	Steam, gas and water pipes. Dry seal	55° form for steam, gas and water pipes	Aviation and aerospace industry	Aviation and aerospace industry
● C87	● C88	● C89		
● C87	● C88	● C89		
● C87	● C88	● C89		
			● C90	● C90

# Tool Selection Guide

## Indexable insert type

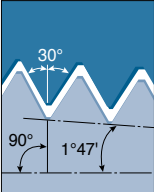
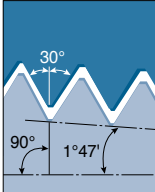
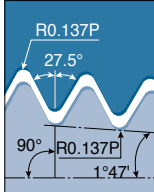
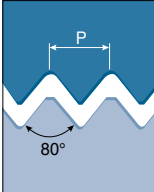
Thread	<b>TS-THREAD</b>		
	Metric ISO	American UN	Whitworth
			
<b>Insert page</b>	C101, C109	C102, C103, C110	C104, C111
<b>Application</b>	General usage for all industries	General usage for all industries	General industries. Pipe fittings and couplings
TMTSR C93 Single insert		•	•
TMTSR -C C94 Solid carbide shank		•	•
TMTSR -2 C95 Twin insert		•	•
TMTSRH C96 Helical end mill		•	•
TMTSR -00 C97 Large diameter thread		•	•
TMTSLE C98 Multi tooth-external threading		•	•
TMTSRH C99 Helical shell mill		•	•

• For correct tool choice and CNC programming, use the 'TS-thread guide' software (Available at [www.taegutec.com](http://www.taegutec.com))

# Tool Selection Guide

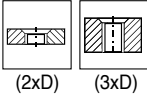
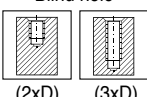
## Indexable insert type

### TS-THREAD

NPT	NPTF	BSPT	PG
			
C105, C111	C106	C107, C112	C108
Steam, gas and water pipes	Steam, gas and water pipes. Dry seal	55° form for steam, gas and water pipes	Electrical connector
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

# Tool Selection Guide

## Straight flute with spiral point tap

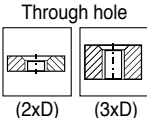
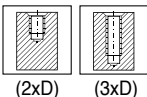
Series		<b>T-TAP</b>		
		<b>Straight flute with spiral point tap</b>		
		TPH...52B	TPH...52B05	TPH...52B10
<b>Pages</b>		C118	C118	C118
<b>Coating type</b>		Uncoated	Steam tempered	TiN coated
<b>Chamfer form</b>		Form B 4-5 threads chamfer	Form B 4-5 threads chamfer	Form B 4-5 threads chamfer
<b>Range (ISO metric)</b>	Coarse threads	M2 - M20	M2 - M20	M2 - M20
	Fine threads	M8 - M16	M8 - M16	M8 - M16
<b>Tolerance</b>		ISO 2-6H	ISO 2-6H	ISO 2-6H
<b>Material</b>	<b>P</b>	○	●	●
	<b>M</b>		●	●
	<b>K</b>	○	○	○
	<b>N</b>	●	○	○
	<b>S</b>			○
<b>Application</b>	Through hole  (2xD) (3xD)	●	●	●
	Blind hole  (2xD) (3xD)			

● Recommended, ○ Suitable



# Tool Selection Guide

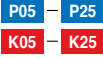
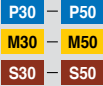
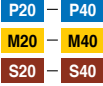
## 40° right hand spiral flute tap

Series		<b>T-TAP</b>		
		<b>40° right hand spiral flute tap</b>		
		TPH...54C	TPH...54C05	TPH...54C10
Pages		C120	C120	C120
Coating type		Uncoated	Steam tempered	TiN coated
Chamfer form		Form C 2-3 threads chamfer	Form C 2-3 threads chamfer	Form C 2-3 threads chamfer
Range (ISO metric)	Coarse threads	M2 - M20	M2 - M20	M2 - M20
	Fine threads	M8 - M16	M8 - M16	M8 - M16
Tolerance		ISO 2-6H	ISO 2-6H	ISO 2-6H
Material	<b>P</b>	○	●	●
	<b>M</b>		●	●
	<b>K</b>	○	○	○
	<b>N</b>	●	○	○
	<b>S</b>			○
Application	Through hole  (2xD) (3xD)			
	Blind hole  (2xD) (3xD)	●	●	●

● Recommended, ○ Suitable

# Grades

## Thread making grades

Grades	ISO	Characteristics & applications
<b>TT7010</b> PVD coated		General machining of steel and cast iron
<b>TT8010</b> PVD coated		Toughest grade in threading product line For a wide range of threading on low carbon steel & low carbon alloy steel Medium to low speed threading of stainless steel and exotic materials
<b>TT9030</b> PVD coated		General machining of steel General machining of stainless steel General machining of heat-resistant alloy

# T-THREAD

Thread Turning



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# Holder Designation System



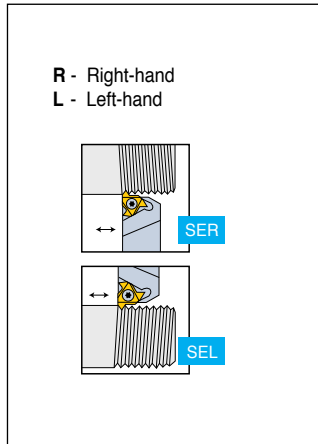
## 1 Clamping system

S - Screw clamping

## 2 Application

E - External  
I - Internal

## 3 Hand of tool



## 4 Shank size

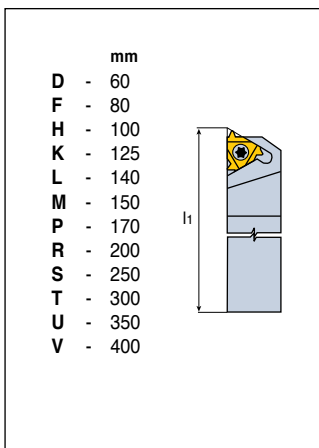
**External toolholders**  
Shank: hxb

**2020:** 20x20 mm

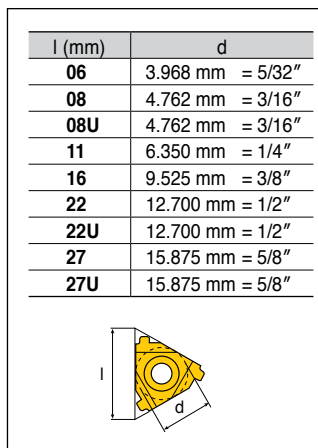
**Internal toolholders**  
Neck diameter

**0025:** Neck diameter 25 mm

## 5 Tool length



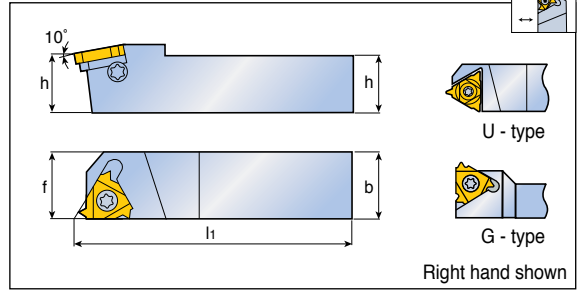
## 6 Insert size



## 7 Optional specifications

**U** - For U-type inserts  
**B** - Bore for coolant  
**C** - Carbide shank  
**D** - Drop head  
**G** - Gang tool  
**AD** - Short type  
**SP** - Special

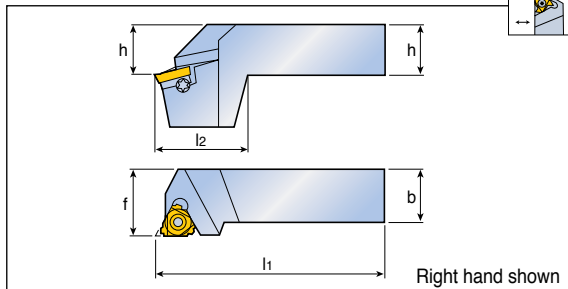
## External threading toolholders



Designation	Dimension (mm)				Insert <sup>(2)</sup>
	h	b	l <sub>1</sub>	f	
SER 0808 H11 <sup>(1)</sup>	8	8	100	11	11 ER...
1616 K16G	16	16	125	21.7	16 ER...
4040 R27	40	40	200	40	27 ER...
SER/L 1010 H11 <sup>(1)</sup>	10	10	100	11	11 ER/L...
1212 F16	12	12	80	16	16 ER/L...
1616 H16	16	16	100	16	16 ER/L...
2020-16-AD	20	20	67	25	16 ER/L...
2020 K16	20	20	125	20	16 ER/L...
2525 M16	25	25	150	25	16 ER/L...
3232 P16	32	32	170	32	16 ER/L...
2525 M22	25	25	150	25	22 ER/L...
3232 P22	32	32	170	32	22 ER/L...
4040 R22	40	40	200	40	22 ER/L...
2525 M22U	25	25	150	28	22 UERL...
3232 P22U	32	32	170	32	22 UERL...
4040 R22U	40	40	200	40	22 UERL...
2525 M27	25	25	150	25	27 ER/L...
3232 P27	32	32	170	32	27 ER/L...
2525 M27U	25	25	150	32	27 UERL...
3232 P27U	32	32	170	32	27 UERL...
4040 R27U	40	40	200	40	27 UERL...

- <sup>(1)</sup> Toolholders without anvil
- <sup>(2)</sup> Right-hand inserts (ER) for right-hand tools (SER)
- All Toolholders are made with 1.5° helix angle
- For multi-tooth inserts, use anvils AE16M or AI16M
- Please check for spare parts [C21](#) page

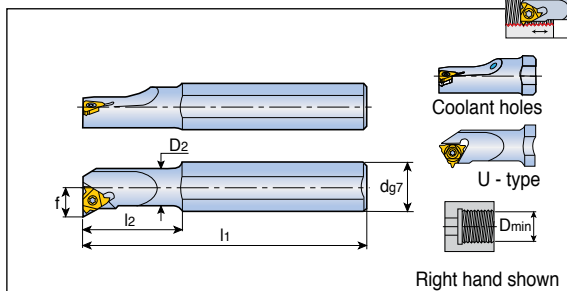
## External threading drophead toolholders



Designation		Dimension (mm)					Insert
		h	b	l <sub>1</sub>	f	l <sub>2</sub>	
<b>SER</b>	<b>2020 K16D</b>	20	20	125	25	38	16 ER...
	<b>2525 M16D</b>	25	25	150	32	38	16 ER...
	<b>2525 M22D</b>	25	25	150	32	38	22 ER...

- All Toolholders are made with 1.5° helix angle
- Please check for spare parts C21 page

## Internal threading toolholders



Designation	Dimension (mm)						Coolant	Insert <sup>(2)</sup>
	d	D2	l1	l2	Dmin	f		
<b>SIR/L</b> 0005 H06 <sup>(1)</sup>	12	5.1	100	12	6.4	4.3	X	06 IR/L...
0007 K08 <sup>(1)</sup>	16	6.6	125	18	7.8	5.3	X	08 IR/L...
0008 K08U <sup>(1)</sup>	16	7.4	125	21	9.0	6.4	X	08 UIRL...
0010 H11 <sup>(1)</sup>	10	10	100	-	12	7.4	X	11 IR/L...
<b>SIR</b> 0010 H11B <sup>(1)</sup>	10	10	100	-	12	7.4	●	11 IR...
<b>SIR/L</b> 0010 K11 <sup>(1)</sup>	16	10	125	25	12	6.5	X	11 IR/L...
0010 K11B <sup>(1)</sup>	16	10	125	25	12	7.4	●	11 IR/L...
0013 L11 <sup>(1)</sup>	16	13	140	32	15	8.9	X	11 IR/L...
0013 M16 <sup>(1)</sup>	16	13	150	32	16	10.0	X	16 IR/L...
0013 M16B <sup>(1)</sup>	16	13	150	32	16	10.2	●	16 IR/L...
0016 P16 <sup>(1)</sup>	20	16	170	40	19	11.4	X	16 IR/L...
0016 P16B <sup>(1)</sup>	20	16	170	40	19	11.7	●	16 IR/L...
0020-16-AD	20	20	80	-	24	13.7	X	16 IR/L...
0020 P16	20	20	170	-	24	13.4	X	16 IR/L...
0020 P16B	20	20	170	-	24	13.7	●	16 IR/L...
0025-16-AD	25	25	120	-	29	16.3	X	16 IR/L...
0025 R16	25	25	200	-	29	16.3	X	16 IR/L...
0025 R16B	25	25	200	-	29	16.2	●	16 IR/L...
0032 S16	32	32	250	-	36	19.6	X	16 IR/L...
0040 T16	40	40	300	-	44	23.8	X	16 IR/L...
0050 U16	50	50	350	-	54	28.7	X	16 IR/L...
0020 P22 <sup>(1)</sup>	20	20	170	-	24	15.6	X	22 IR/L...
0025 R22	25	25	200	-	29	17.2	X	22 IR/L...
0025 R22B	25	25	200	-	29	18.1	●	22 IR/L...
0032 S22	32	32	250	-	38	21.5	X	22 IR/L...
0040 T22	40	40	300	-	46	25.8	X	22 IR/L...
0050 U22	50	50	350	-	56	30.6	X	22 IR/L...
0032 S22U	32	32	250	-	38	25.5	X	22 UIRL...
0040 T22U	40	40	300	-	46	29.5	X	22 UIRL...
0032 S27	32	32	250	-	40	22.4	X	27 IR/L...
0040 T27	40	40	300	-	48	26.4	X	27 IR/L...
0050 U27	50	50	350	-	58	31.4	X	27 IR/L...
0060 V27	60	60	400	-	68	36.4	X	27 IR/L...
0032 S27U	32	32	250	-	40	24.7	X	27 UIRL...
0040 T27U	40	40	300	-	48	29.4	X	27 UIRL...
0050 U27U	50	50	350	-	58	34.3	X	27 UIRL...
0060 V27U	60	60	400	-	68	39.3	X	27 UIRL...

<sup>(1)</sup> Toolholders without anvil • <sup>(2)</sup> Right-hand inserts (IR) for right-hand tools (SIR)

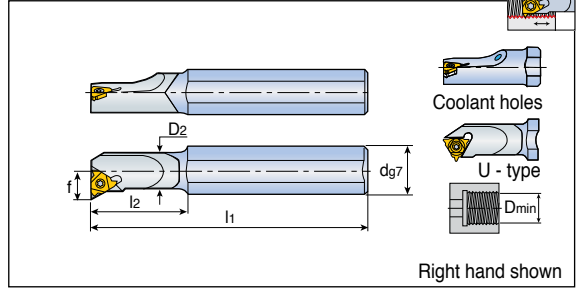
• All Toolholders are made with 1.5° helix angle

• Please check for spare parts C21 page

# SIR/L...C

## T-THREAD

### Solid carbide threading bars for high rigidity





Designation	Dimension (mm)						Coolant	Insert <sup>(2)</sup>
	d	D2	l1	l2	Dmin	f		
SIR/L 0005 H06C <sup>(1)</sup>	6	5.1	100	25	6.4	4.3	●	06 IR/L...
0007 K08C <sup>(1)</sup>	8	6.6	125	30	7.8	5.3	●	08 IR/L...
0008 K08UC <sup>(1)</sup>	8	7.3	125	35	9.0	6.4	●	08 UIRL...
0010 M11C <sup>(1)</sup>	10	10	150	-	12	7.4	●	11 IR/L...
0012 P11C <sup>(1)</sup>	12	12	170	-	15	8.4	●	11 IR/L...
0016 R16C <sup>(1)</sup>	16	16	200	-	19	11.7	●	16 IR/L...
0020 S16C	20	20	250	-	28	13.7	●	16 IR/L...
0025 S16C	25	25	250	-	28	16.2	●	16 IR/L...






- <sup>(1)</sup> Toolholders without anvil
- All Toolholders are made with 1.5° helix angle
- Please check for spare parts C21 page
- <sup>(2)</sup> Right-hand inserts (IR) for right-hand tools (SIR)
- All carbide shank Toolholders are coolant through type



## SER/L






Designation	Insert screw	Anvil screw	Anvil int./ext. right	Anvil int./ext. left	Torx wrench
					
<b>SER 0808 H11</b>	S11				T-8/5
<b>SER/L 1010 H11</b>	S11				T-8/5
<b>SEL 1212 F16</b>	S16	A16		AI16	T-10/5
<b>SER 1212 F16</b>	S16	A16	AE16		T-10/5
<b>SEL 1616 H16</b>	S16	A16		AI16	T-10/5
<b>SER 1616 H16</b>	S16	A16	AE16		T-10/5
<b>SER 1616 K16G</b>	S16	A16	AE16		T-10/5
<b>SEL 2020-16-AD</b>	S16	A16		AI16	T-10/5
<b>SER 2020-16-AD</b>	S16	A16	AE16		T-10/5
<b>SEL 2020 K16</b>	S16	A16		AI16	T-10/5
<b>SER 2020 K16</b>	S16	A16	AE16		T-10/5
<b>SEL 2525 M16</b>	S16	A16		AI16	T-10/5
<b>SER 2525 M16</b>	S16	A16	AE16		T-10/5
<b>SEL 3232 P16</b>	S16	A16		AI16	T-10/5
<b>SER 3232 P16</b>	S16	A16	AE16		T-10/5
<b>SEL 2525 M22</b>	S22	A22		AI22	T-20/5
<b>SER 2525 M22</b>	S22	A22	AE22		T-20/5
<b>SEL 3232 P22</b>	S22	A22		AI22	T-20/5
<b>SER 3232 P22</b>	S22	A22	AE22		T-20/5
<b>SEL 4040 R22</b>	S22	A22		AI22	T-20/5
<b>SER 4040 R22</b>	S22	A22	AE22		T-20/5
<b>SEL 2525 M22U</b>	S22	A22		AI22U	T-20/5
<b>SER 2525 M22U</b>	S22	A22	AE22U		T-20/5
<b>SEL 3232 P22U</b>	S22	A22		AI22U	T-20/5
<b>SER 3232 P22U</b>	S22	A22	AE22U		T-20/5
<b>SEL 4040 R22U</b>	S22	A22		AI22U	T-20/5
<b>SEL 2525 M27</b>	TS40	A27		AI27	TK40
<b>SER 2525 M27</b>	TS40	A27	AE27		TK40
<b>SEL 3232 P27</b>	TS40	A27		AI27	TK40
<b>SER 3232 P27</b>	TS40	A27	AE27		TK40
<b>SER 4040 R27</b>	TS40	A27	AE27		TK40
<b>SEL 2525 M27U</b>	TS40	A27		AI27U	TK40
<b>SEL 3232 P27U</b>	TS40	A27		AI27U	TK40
<b>SER 3232 P27U</b>	TS40	A27	AE27U		TK40
<b>SEL 4040 R27U</b>	TS40	A27		AI27U	TK40

## SER-D

Designation	Insert screw	Anvil screw	Anvil int./ext. right	Anvil int./ext. left	Torx wrench
					
<b>SER 2525 M16D</b>	S16	A16	AE16		T-10/5
<b>SER 2525 M22D</b>	S22	A22	AE22		T-20/5








## SIR/L

Designation	Insert screw	Anvil screw	Anvil int./ext. right	Anvil int./ext. left	Torx wrench
					
<b>SIR/L 0005 H06</b>	TS 20038I				T-6/5
<b>SIR/L 0005 H06CB</b>	TS 20038I				T-6/5
<b>SIR 0005 H06-W</b>	TS 20038I				T-6/5
<b>SIR/L 0007 K08</b>	TS 20054I				T-6/5
<b>SIR/L 0007 K08CB</b>	TS 20054I				T-6/5
<b>SIR/L 0008 K08U</b>	TS 20054I				T-6/5
<b>SIR 0008 K08UCB</b>	TS 20054I				T-6/5
<b>SIR/L 0010 H11</b>	S11				T-8/5
<b>SIR 0010 H11B</b>	S11				T-8/5
<b>SIR/L 0010 K11</b>	S11				T-8/5
<b>SIR/L 0010 K11B</b>	S11				T-8/5
<b>SIR/L 0010 M11CB</b>	S11				T-8/5
<b>SIR/L 0012 P11CB</b>	S11				T-8/5
<b>SIR/L 0013 L11</b>	S11				T-8/5
<b>SIR/L 0013 M16</b>	S16S				T-10/5
<b>SIR/L 0013 M16B</b>	S16S				T-10/5
<b>SIR/L 0016 P16</b>	S16S				T-10/5
<b>SIR/L 0016 P16B</b>	S16S				T-10/5
<b>SIR 0016 R16CB</b>	S16S				T-10/5
<b>SIL 0020-16-AD</b>	S16	A16	AE16		T-10/5
<b>SIR 0020-16-AD</b>	S16	A16		AI16	T-10/5
<b>SIL 0020 P16</b>	S16	A16	AE16		T-10/5
<b>SIR 0020 P16</b>	S16	A16		AI16	T-10/5
<b>SIL 0020 P16B</b>	S16	A16	AE16		T-10/5
<b>SIR 0020 P16B</b>	S16	A16		AI16	T-10/5
<b>SIR 0020 S16CB</b>	S16	A16		AI16	T-10/5
<b>SIL 0025-16-AD</b>	S16	A16	AE16		T-10/5
<b>SIR 0025-16-AD</b>	S16	A16		AI16	T-10/5
<b>SIL 0025 R16</b>	S16	A16	AE16		T-10/5
<b>SIR 0025 R16</b>	S16	A16		AI16	T-10/5
<b>SIL 0025 R16B</b>	S16	A16	AE16		T-10/5
<b>SIR 0025 R16B</b>	S16	A16		AI16	T-10/5
<b>SIR 0025 S16CB</b>	S16	A16		AI16	T-10/5
<b>SIL 0032 S16</b>	S16	A16	AE16		T-10/5
<b>SIR 0032 S16</b>	S16	A16		AI16	T-10/5
<b>SIL 0040 T16</b>	S16	A16	AE16		T-10/5
<b>SIR 0040 T16</b>	S16	A16		AI16	T-10/5
<b>SIL 0050 U16</b>	S16	A16	AE16		T-10/5
<b>SIR 0050 U16</b>	S16	A16		AI16	T-10/5

Components



TC23

Designation	Insert screw	Anvil screw	Anvil int./ext. right	Anvil int./ext. left	Torx wrench
					
SIL 0020 P22	S22S				T-20/5
SIR 0020 P22	S22S				T-20/5
SIL 0025 R22	S22	A22	AE22		T-20/5
SIR 0025 R22	S22	A22		AI22	T-20/5
SIL 0025 R22B	S22	A22	AE22		T-20/5
SIR 0025 R22B	S22	A22		AI22	T-20/5
SIL 0032 S22	S22	A22	AE22		T-20/5
SIR 0032 S22	S22	A22		AI22	T-20/5
SIL 0040 T22	S22	A22	AE22		T-20/5
SIR 0040 T22	S22	A22		AI22	T-20/5
SIL 0050 U22	S22	A22	AE22		T-20/5
SIR 0050 U22	S22	A22		AI22	T-20/5
SIL 0032 S22U	S22	A22	AE22U		T-20/5
SIR 0032 S22U	S22	A22		AI22U	T-20/5
SIR 0040 T22U	S22	A22		AI22U	T-20/5
SIL 0032 S27	TS40	A27	AE27		TK40
SIR 0032 S27	TS40	A27		AI27	TK40
SIL 0040 T27	TS40	A27	AE27		TK40
SIR 0040 T27	TS40	A27		AI27	TK40
SIL 0050 U27	TS40	A27	AE27		TK40
SIR 0050 U27	TS40	A27		AI27	TK40
SIL 0060 V27	TS40	A27	AE27		TK40
SIR 0060 V27	TS40	A27		AI27	TK40
SIL 0032 S27U	TS40	A27	AE27U		TK40
SIR 0032 S27U	TS40	A27		AI27U	TK40
SIR 0040 T27U	TS40	A27		AI27U	TK40
SIL 0050 U27U	TS40	A27	AE27U		TK40
SIR 0050 U27U	TS40	A27		AI27U	TK40
SIL 0060 V27U	TS40	A27	AE27U		TK40
SIR 0060 V27U	TS40	A27		AI27U	TK40



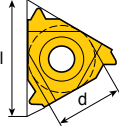
# Insert Designation System

**16 E R M 1.50 ISO 2M TT9030**

1 2 3 4 5 6 7 8

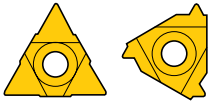
## 1 Insert size

l (mm)	d
06	3.968 mm = 5/32"
08	4.762 mm = 3/16"
11	6.350 mm = 1/4"
16	9.525 mm = 3/8"
22	12.700 mm = 1/2"
27	15.875 mm = 5/8"



## 2 Application

- E - External
- I - Internal
- UE - U-type, external
- UI - U-type, Internal
- UEI - U-type, external and internal



U-type      Regular type

## 3 Hand of tool

- R - Right-hand
- L - Left-hand
- RL - Right and left-hand

## 4 Type

- M - With a chip breaker
- B - Peripherally ground & chip breaker
- No indication regular type

## 5 Pitch

<b>Full profile</b>		
Value by number		
0.35 - 9.0	mm	
72 - 2	TPI	
<b>Partial profile</b>		
Range by letter		
	mm	TPI
A	0.5 - 1.5	48 - 16
AG	0.5 - 3.0	48 - 8
G	1.75 - 3.0	14 - 8
N	3.5 - 5.0	7 - 5
U	5.5 - 6.0	4.5 - 4
Q	5.5 - 9.0	4.5 - 2.75

## 6 Thread standard

60	- Partial profile 60°
55	- Partial profile 55°
ISO	- ISO metric
UN	- American UN
W	- Whitworth
BSPT	- British BSPT
RND	- Round DIN 405
TR	- Trapeze DIN 103
ACME	- ACME
STACME	- Stub ACME
ABUT	- American buttress
UNJ	- UNJ
MJ	- MJ
NPT	- NPT
API RD	- API round
BUT	- API buttress casing
API	- API
EL	- Extreme line casing
SAGE	- Segengewinde DIN 513

## 7 No. of teeth (Optional)

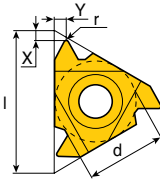
2M	- 2 teeth
3M	- 3 teeth

## 8 Grades

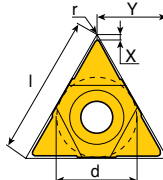
<b>Coated</b>	
TT7010	
TT8010	
TT9030	
<b>Uncoated</b>	
P30	

# Partial Profile 55°

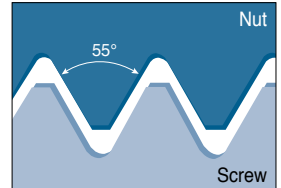
External & internal








External right-hand shown  
(Internal left-hand)

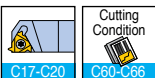


U-type



• Application: General industry

Insert	Designation	Pitch		Dimension (mm)					Coated			Uncoated
		mm	TPI	d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External  Regular  B/M	<b>11ER/L A 55</b>	0.5-1.5	48-16	1/4"	11	0.05	0.8	0.9	●	●		●
	<b>16ER/L A 55</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●		●
	<b>16ER/L AG 55</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●	●	●
	<b>16ERB AG 55</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7		●		
	<b>16ERM AG 55</b>	0.5-3.0	48-8	3/8"	16	0.07	1.2	1.7	●	●		●
	<b>16ER/L G 55</b>	1.75-3.0	14-8	3/8"	16	0.20	1.2	1.7	●	●		●
	<b>16ERB G 55</b>	1.75-3.0	14-8	3/8"	16	0.20	1.2	1.7		●		
	<b>16ERM G 55</b>	1.75-3.0	14-8	3/8"	16	0.23	1.2	1.7	●	●		●
	<b>22ER/L N 55</b>	3.5-5.0	7-5	1/2"	22	0.42	1.7	2.5	●	●		●
	<b>27ER Q 55</b>	5.5-6.0	4.5-4	5/8"	27	0.60	2.0	2.9	●	●		●
Internal  Regular  B/M	<b>06IR/L A 55</b>	0.5-1.25	48-20	5/32"	6	0.05	0.5	0.6			●	
	<b>08IR/L A 55</b>	0.5-1.5	48-16	3/16"	8	0.05	0.6	0.7			●	
	<b>11IR/L A 55</b>	0.5-1.5	48-16	1/4"	11	0.05	0.8	0.9	●	●	●	●
	<b>16IR A 55</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●		●
	<b>16IR/L AG 55</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●	●	●
	<b>16IRB AG 55</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7		●		
	<b>16IRM AG 55</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●		●
	<b>16IR/L G 55</b>	1.75-3.0	14-8	3/8"	16	0.20	1.2	1.7	●	●		●
	<b>16IRB G 55</b>	1.75-3.0	14-8	3/8"	16	0.20	1.2	1.7		●		
	<b>16IRM G 55</b>	1.75-3.0	14-8	3/8"	16	0.20	1.2	1.7	●	●		●
 U	<b>22IR/L N 55</b>	3.5-5.0	7-5	1/2"	22	0.42	1.7	2.5	●	●		●
	<b>27IR/L Q 55</b>	5.5-6.0	4.5-4	5/8"	27	0.60	2.0	2.9	●	●		●
	<b>08UIRL U 55</b>	1.75-2.0	14-11	3/16"	8	0.10	0.9	4.0			●	
	<b>22UEIRL U 55</b>	5.5-8.0	4.5-3.25	1/2"	22	0.60	0.9	11.0	●			●
	<b>27UEIRL U 55</b>	6.5-9.0	4-2.75	5/8"	27	0.81	1.2	13.7	●			●



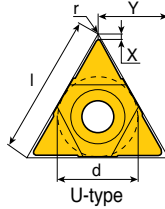
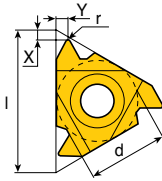
• ERB / ERM / IRB / IRM with pressed chip breaker

● Standard item

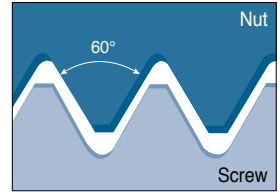
# Partial Profile 60°

**T-THREAD**






External & internal

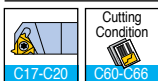


External right-hand shown  
(Internal left-hand)



• Application: General industry

Insert	Designation	Pitch		Dimension (mm)					Coated			Uncoated
		mm	TPI	d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External  Regular  B/M	<b>11ER/L A 60</b>	0.5-1.5	48-16	1/4"	11	0.05	0.8	0.9	●	●		●
	<b>16ER/L A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●	●	●
	<b>16ERB A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9		●		
	<b>16ERM A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●		●
	<b>16ER/L AG 60</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●	●	●
	<b>16ERB AG 60</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7		●		
	<b>16ERM AG 60</b>	0.5-3.0	48-8	3/8"	16	0.06	1.2	1.7	●	●		●
	<b>16ER/L G 60</b>	1.75-3.0	14-8	3/8"	16	0.17	1.2	1.7	●	●	●	●
	<b>16ERB G 60</b>	1.75-3.0	14-8	3/8"	16	0.17	1.2	1.7		●		
	<b>16ERM G 60</b>	1.75-3.0	14-8	3/8"	16	0.17	1.2	1.7	●	●		●
	<b>22ER/L N 60</b>	3.5-5.0	7-5	1/2"	22	0.32	1.7	2.5	●	●	●	●
	<b>22ERM N 60</b>	3.5-5.0	7-5	1/2"	22	0.32	1.7	2.5	●	●		●
<b>27ER/L Q 60</b>	5.5-6.0	4.5-4	5/8"	27	0.63	2.1	3.1	●		●	●	
Internal  Regular  B/M	<b>06IR/L A 60</b>	0.5-1.25	48-20	5/32"	6	0.05	0.6	0.6			●	
	<b>06IRM A 60</b>	0.5-1.25	48-20	5/32"	6	0.05	0.5	0.6			●	
	<b>08IR/L A 60</b>	0.5-1.5	48-16	3/16"	8	0.05	0.6	0.7			●	
	<b>08IRM A 60</b>	0.5-1.5	48-16	3/16"	8	0.05	0.6	0.7		●	●	
	<b>11IR/L A 60</b>	0.5-1.5	48-16	1/4"	11	0.05	0.8	0.9	●	●	●	●
	<b>11IRM A 60</b>	0.5-1.5	48-16	1/4"	11	0.05	0.7	0.9	●	●		●
	<b>16IR/L A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●	●	●
	<b>16IRB A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9		●		
	<b>16IRM A 60</b>	0.5-1.5	48-16	3/8"	16	0.05	0.8	0.9	●	●		●
	<b>16IR/L AG 60</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●	●	●
	<b>16IRB AG 60</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7		●	●	
	<b>16IRM AG 60</b>	0.5-3.0	48-8	3/8"	16	0.05	1.2	1.7	●	●		●
<b>16IR/L G 60</b>	1.75-3.0	14-8	3/8"	16	0.12	1.2	1.7	●	●	●	●	
<b>16IRB G 60</b>	1.75-3.0	14-8	3/8"	16	0.12	1.2	1.7		●			
<b>16IRM G 60</b>	1.75-3.0	14-8	3/8"	16	0.10	1.2	1.7	●	●		●	
<b>22IR/L N 60</b>	3.5-5.0	7-5	1/2"	22	0.22	1.7	2.5	●	●	●	●	
<b>22IRM N 60</b>	3.5-5.0	7-5	1/2"	22	0.19	1.7	2.5	●	●		●	
<b>27IR/L Q 60</b>	5.5-6.0	4.5-4	5/8"	27	0.31	2.1	3.1	●	●		●	
U 	<b>08UIRL U 60</b>	1.75-2.0	14-11	3/16"	8	0.10	0.8	4.0			●	
	<b>22UEIRL U 60</b>	5.5-8.0	4.5-3.25	1/2"	22	0.28	0.6	11.0	●			●
	<b>27UEIRL U 60</b>	6.5-9.0	4-2.75	5/8"	27	0.28	1.0	13.7	●			●

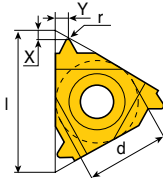


• ERB / ERM / IRB / IRM with pressed chip breaker

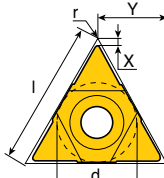
• Standard item

# External ISO Metric

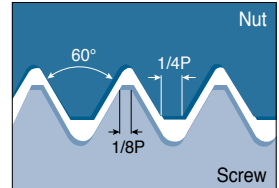
Full profile (DIN13 12-1986 class: 6G)



External right-hand shown  
(Internal left-hand)

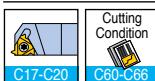


U-type



- Application: General industry

Insert	Designation	Pitch (mm)	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External	<b>11ER/L 0.35 ISO</b>	0.35	1/4"	11	0.04	0.8	0.4	●	●	●	●
	<b>11ER 0.40 ISO</b>	0.40	1/4"	11	0.04	0.7	0.4	●	●	●	●
Regular	<b>11ER 0.45 ISO</b>	0.45	1/4"	11	0.05	0.7	0.4	●	●	●	●
	<b>11ER/L 0.50 ISO</b>	0.50	1/4"	11	0.05	0.6	0.6	●	●	●	●
	<b>11ER 0.60 ISO</b>	0.60	1/4"	11	0.07	0.6	0.6	●	●	●	●
	<b>11ER 0.70 ISO</b>	0.70	1/4"	11	0.07	0.6	0.6	●	●	●	●
	<b>11ER/L 0.75 ISO</b>	0.75	1/4"	11	0.08	0.6	0.6	●	●	●	●
	<b>11ER 0.80 ISO</b>	0.80	1/4"	11	0.09	0.6	0.6	●	●	●	●
	<b>11ER/L 1.00 ISO</b>	1.00	1/4"	11	0.12	0.7	0.7	●	●	●	●
	<b>11ER 1.25 ISO</b>	1.25	1/4"	11	0.15	0.8	0.9	●	●	●	●
	<b>11ER/L 1.50 ISO</b>	1.50	1/4"	11	0.18	0.8	1.0	●	●	●	●
	<b>11ER 1.75 ISO</b>	1.75	1/4"	11	0.21	0.8	1.1	●	●	●	●
B/M	<b>16ER/L 0.35 ISO</b>	0.35	3/8"	16	0.04	0.8	0.4	●	●	●	●
	<b>16ER/L 0.40 ISO</b>	0.40	3/8"	16	0.04	0.7	0.4	●	●	●	●
	<b>16ER 0.45 ISO</b>	0.45	3/8"	16	0.05	0.7	0.4	●	●	●	●
	<b>16ER/L 0.50 ISO</b>	0.50	3/8"	16	0.04	0.6	0.6	●	●	●	●
	<b>16ER 0.60 ISO</b>	0.60	3/8"	16	0.07	0.6	0.6	●	●	●	●
	<b>16ER/L 0.70 ISO</b>	0.70	3/8"	16	0.07	0.6	0.6	●	●	●	●
	<b>16ER/L 0.75 ISO</b>	0.75	3/8"	16	0.08	0.6	0.6	●	●	●	●
	<b>16ERM 0.75 ISO</b>	0.75	3/8"	16	0.08	0.6	0.6	●	●	●	●
	<b>16ER/L 0.80 ISO</b>	0.80	3/8"	16	0.09	0.6	0.6	●	●	●	●
	<b>16ERB 0.80 ISO</b>	0.80	3/8"	16	0.09	0.6	0.6	●	●	●	●
<b>16ER/L 1.00 ISO</b>	1.00	3/8"	16	0.12	0.7	0.7	●	●	●	●	
<b>16ERB 1.00 ISO</b>	1.00	3/8"	16	0.12	0.7	0.7	●	●	●	●	
<b>16ERM 1.00 ISO</b>	1.00	3/8"	16	0.11	0.7	0.7	●	●	●	●	
<b>16ER/L 1.25 ISO</b>	1.25	3/8"	16	0.15	0.8	0.9	●	●	●	●	
<b>16ERB 1.25 ISO</b>	1.25	3/8"	16	0.15	0.8	0.9	●	●	●	●	
<b>16ERM 1.25 ISO</b>	1.25	3/8"	16	0.14	0.8	0.9	●	●	●	●	
<b>16ER/L 1.50 ISO</b>	1.50	3/8"	16	0.18	0.8	1.0	●	●	●	●	
<b>16ERB 1.50 ISO</b>	1.50	3/8"	16	0.18	0.8	1.0	●	●	●	●	
<b>16ERM 1.50 ISO</b>	1.50	3/8"	16	0.19	0.8	1.0	●	●	●	●	
<b>16ER/L 1.75 ISO</b>	1.75	3/8"	16	0.21	0.9	1.2	●	●	●	●	
<b>16ERB 1.75 ISO</b>	1.75	3/8"	16	0.21	0.9	1.2	●	●	●	●	
<b>16ERM 1.75 ISO</b>	1.75	3/8"	16	0.20	0.9	1.2	●	●	●	●	

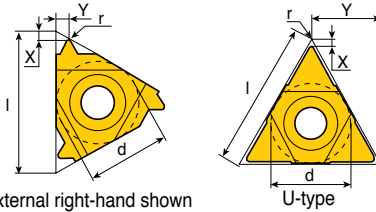


- ERB / ERM with pressed chip breaker

- Standard item

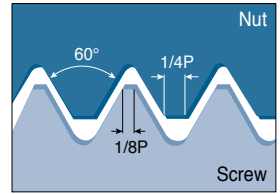
# External ISO Metric

Full profile (DIN13 12-1986 class: 6G)





External right-hand shown  
(Internal left-hand)

U-type

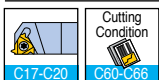


• Application: General industry

Insert	Designation	Pitch (mm)	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
 Regular B/M	<b>16ER/L 2.00 ISO</b>	2.00	3/8"	16	0.25	1.0	1.3	●	●	●	●
	<b>16ERB 2.00 ISO</b>	2.00	3/8"	16	0.25	1.0	1.3		●		
	<b>16ERM 2.00 ISO</b>	2.00	3/8"	16	0.24	1.0	1.3	●	●		●
	<b>16ER/L 2.50 ISO</b>	2.50	3/8"	16	0.31	1.1	1.5	●	●		●
	<b>16ERB 2.50 ISO</b>	2.50	3/8"	16	0.31	1.1	1.5		●		
	<b>16ERM 2.50 ISO</b>	2.50	3/8"	16	0.30	1.1	1.5	●	●		●
	<b>16ER/L 3.00 ISO</b>	3.00	3/8"	16	0.38	1.2	1.6	●	●	●	●
	<b>16ERB 3.00 ISO</b>	3.00	3/8"	16	0.38	1.2	1.6		●		
	<b>16ERM 3.00 ISO</b>	3.00	3/8"	16	0.38	1.2	1.6	●	●		●
	<b>22ER/L 3.50 ISO</b>	3.50	1/2"	22	0.44	1.6	2.3	●	●	●	●
	<b>22ERM 3.50 ISO</b>	3.50	1/2"	22	0.44	1.6	2.3		●		
	<b>22ER/L 4.00 ISO</b>	4.00	1/2"	22	0.52	1.6	2.3	●	●		●
	<b>22ERM 4.00 ISO</b>	4.00	1/2"	22	0.52	1.6	2.3		●		
	<b>22ER/L 4.50 ISO</b>	4.50	1/2"	22	0.58	1.7	2.4	●	●		●
<b>22ER/L 5.00 ISO</b>	5.00	1/2"	22	0.64	1.7	2.5	●	●		●	
<b>22ER/L 6.00 ISO</b>	6.00	1/2"	22	0.78	2.0	2.7	●	●			
<b>27ER/L 5.50 ISO</b>	5.50	5/8"	27	0.70	1.9	2.7	●	●			
<b>27ER/L 6.00 ISO</b>	6.00	5/8"	27	0.78	2.0	2.9	●	●	●	●	
 U	<b>22UERL 5.50 ISO</b>	5.50	1/2"	22	0.70	2.3	11.0	●		●	
	<b>22UERL 6.00 ISO</b>	6.00	1/2"	22	0.78	2.6	11.0	●	●	●	
	<b>27UERL 8.00 ISO</b>	8.00	5/8"	27	1.08	2.4	13.7	●	●		

• ERB / ERM with pressed chip breaker

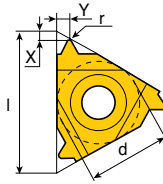
● Standard item



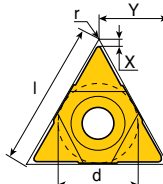


# Internal ISO Metric

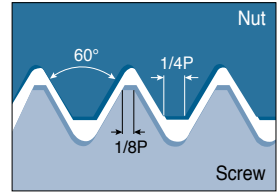
Full profile (DIN13 12-1986 class: 6H)





External right-hand shown  
(Internal left-hand)

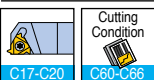


U-type



• Application: General industry

Insert	Designation	Pitch (mm)	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
Internal 	<b>06IR/L 0.50 ISO</b>	0.50	5/32"	6	0.03	0.9	0.5			•	
	<b>06IR/L 0.75 ISO</b>	0.75	5/32"	6	0.04	0.8	0.5			•	
Regular 	<b>06IR/L 1.00 ISO</b>	1.00	5/32"	6	0.05	0.7	0.6			•	
	<b>06IR/L 1.25 ISO</b>	1.25	5/32"	6	0.07	0.6	0.6			•	
	<b>08IR/L 0.50 ISO</b>	0.50	3/16"	8	0.05	0.6	0.5			•	
	<b>08IR 0.75 ISO</b>	0.75	3/16"	8	0.04	0.6	0.5			•	
	<b>08IR/L 1.00 ISO</b>	1.00	3/16"	8	0.05	0.6	0.6		•	•	
	<b>08IR/L 1.25 ISO</b>	1.25	3/16"	8	0.07	0.6	0.7			•	
	<b>08IR/L 1.50 ISO</b>	1.50	3/16"	8	0.08	0.6	0.7			•	
	<b>08IR/L 1.75 ISO</b>	1.75	3/16"	8	0.10	0.6	0.8			•	
	<b>11IR/L 0.35 ISO</b>	0.35	1/4"	11	0.02	0.8	0.3		•		
	<b>11IR 0.40 ISO</b>	0.40	1/4"	11	0.02	0.8	0.4		•		
<b>11IR/L 0.50 ISO</b>	0.50	1/4"	11	0.03	0.6	0.6	•	•		•	
<b>11IR 0.70 ISO</b>	0.70	1/4"	11	0.04	0.6	0.6		•			
<b>11IR/L 0.75 ISO</b>	0.75	1/4"	11	0.08	0.6	0.6	•	•		•	
<b>11IR 0.80 ISO</b>	0.80	1/4"	11	0.04	0.6	0.6	•	•			
<b>11IR/L 1.00 ISO</b>	1.00	1/4"	11	0.05	0.6	0.7	•	•	•	•	
<b>11IRM 1.00 ISO</b>	1.00	1/4"	11	0.05	0.6	0.7		•			
<b>11IR/L 1.25 ISO</b>	1.25	1/4"	11	0.07	0.8	0.8	•	•		•	
<b>11IR/L 1.50 ISO</b>	1.50	1/4"	11	0.08	0.8	1.0	•	•	•	•	
<b>11IRM 1.50 ISO</b>	1.50	1/4"	11	0.08	0.8	1.0	•	•			
<b>11IR/L 1.75 ISO</b>	1.75	1/4"	11	0.10	0.8	1.1	•	•		•	
<b>11IR/L 2.00 ISO</b>	2.00	1/4"	11	0.12	0.8	0.9	•	•	•		
<b>16IR 0.35 ISO</b>	0.35	3/8"	16	0.02	0.8	0.3		•			
<b>16IR/L 0.40 ISO</b>	0.40	3/8"	16	0.02	0.8	0.4		•			
<b>16IL 0.45 ISO</b>	0.45	3/8"	16	0.02	0.8	0.4		•			
<b>16IR/L 0.50 ISO</b>	0.50	3/8"	16	0.03	0.6	0.6	•	•		•	
<b>16IR/L 0.60 ISO</b>	0.60	3/8"	16	0.03	0.6	0.6		•		•	
<b>16IR/L 0.70 ISO</b>	0.70	3/8"	16	0.04	0.6	0.6	•	•		•	
<b>16IR/L 0.75 ISO</b>	0.75	3/8"	16	0.04	0.6	0.6	•	•	•	•	
<b>16IR/L 0.80 ISO</b>	0.80	3/8"	16	0.04	0.6	0.6	•	•		•	
<b>16IR/L 1.00 ISO</b>	1.00	3/8"	16	0.05	0.6	0.7	•	•		•	
<b>16IRB 1.00 ISO</b>	1.00	3/8"	16	0.05	0.6	0.7		•			
<b>16IRM 1.00 ISO</b>	1.00	3/8"	16	0.05	0.6	0.7	•	•		•	

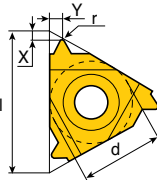


• IRB / IRM with pressed chip breaker

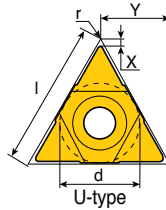
• Standard item

# Internal ISO Metric

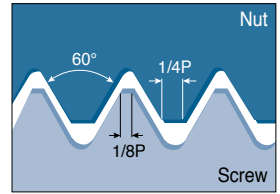
Full profile (DIN13 12-1986 class: 6H)





External right-hand shown  
(Internal left-hand)

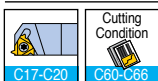


U-type



• Application: General industry

Insert	Designation	Pitch (mm)	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
 <p>Internal Regular B/M</p>	<b>16IR/L 1.25 ISO</b>	1.25	3/8"	16	0.07	0.8	0.9	●	●	●	●
	<b>16IRB 1.25 ISO</b>	1.25	3/8"	16	0.07	0.8	0.9		●		
	<b>16IRM 1.25 ISO</b>	1.25	3/8"	16	0.06	0.8	0.9	●	●		●
	<b>16IR/L 1.50 ISO</b>	1.50	3/8"	16	0.08	0.8	1.0	●	●	●	●
	<b>16IRB 1.50 ISO</b>	1.50	3/8"	16	0.08	0.8	1.0		●		
	<b>16IRM 1.50 ISO</b>	1.50	3/8"	16	0.08	0.8	1.0	●	●		●
	<b>16IR/L 1.75 ISO</b>	1.75	3/8"	16	0.10	0.9	1.2	●	●		●
	<b>16IRB 1.75 ISO</b>	1.75	3/8"	16	0.10	0.9	1.2		●		
	<b>16IRM 1.75 ISO</b>	1.75	3/8"	16	0.10	0.9	1.2	●	●		●
	<b>16IR/L 2.00 ISO</b>	2.00	3/8"	16	0.12	1.0	1.3	●	●	●	●
	<b>16IRB 2.00 ISO</b>	2.00	3/8"	16	0.12	1.0	1.3		●		
	<b>16IRM 2.00 ISO</b>	2.00	3/8"	16	0.11	1.0	1.3	●	●		●
	<b>16IR/L 2.50 ISO</b>	2.50	3/8"	16	0.15	1.1	1.5	●	●	●	●
	<b>16IRB 2.50 ISO</b>	2.50	3/8"	16	0.15	1.1	1.5		●		
	<b>16IRM 2.50 ISO</b>	2.50	3/8"	16	0.14	1.1	1.5	●	●		●
	<b>16IR/L 3.00 ISO</b>	3.00	3/8"	16	0.18	1.1	1.5	●	●	●	●
	<b>16IRB 3.00 ISO</b>	3.00	3/8"	16	0.18	1.1	1.5		●		
	<b>16IRM 3.00 ISO</b>	3.00	3/8"	16	0.17	1.1	1.5	●	●		●
 <p>U</p>	<b>22IL 3.00 ISO</b>	3.00	1/2"	22	0.17	1.1	1.5			●	
	<b>22IR/L 3.50 ISO</b>	3.50	1/2"	22	0.22	1.6	2.3	●	●		●
	<b>22IR/L 4.00 ISO</b>	4.00	1/2"	22	0.25	1.6	2.3	●	●		●
	<b>22IR/L 4.50 ISO</b>	4.50	1/2"	22	0.29	1.6	2.4	●	●		●
	<b>22IR/L 5.00 ISO</b>	5.00	1/2"	22	0.32	1.6	2.3	●	●		●
	<b>27IR/L 5.50 ISO</b>	5.50	5/8"	27	0.35	1.6	2.3	●	●	●	
	<b>27IR/L 6.00 ISO</b>	6.00	5/8"	27	0.39	1.8	2.5	●	●		●
	<b>08UIRL 2.00 ISO</b>	2.00	3/16"	8	0.12	0.9	4.0			●	
	<b>22UIRL 5.50 ISO</b>	5.50	1/2"	22	0.35	2.4	11.0	●			●
	<b>22UIRL 6.00 ISO</b>	6.00	1/2"	22	0.39	2.1	11.0	●			●
<b>27UIRL 8.00 ISO</b>	8.00	5/8"	27	0.53	2.4	13.7		●			

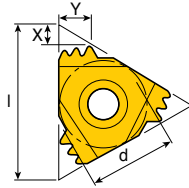


• IRB / IRM with pressed chip breaker

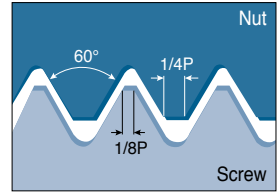
● Standard item

# External & Internal ISO Metric

Full profile, multi-tooth



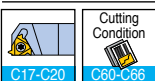
External right-hand shown  
(Internal left-hand)



- Application: General industry

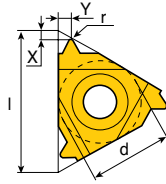
Insert	Designation	Pitch (mm)	Dimension (mm)				No. of Teeth	Coated			Uncoated
			d	l	X	Y		TT7010	TT9030	TT8010	
Internal / External 	<b>16ER 0.75 ISO 3M</b>	0.75	3/8"	16	1.3	1.9	3	●			
	<b>16ER/IR 1.00 ISO 3M</b>	1.0	3/8"	16	1.7	2.5	3	●			
	<b>16ER/IR 1.50 ISO 2M</b>	1.5	3/8"	16	1.5	2.3	2	●	●		
	<b>16ER/IR 2.00 ISO 2M</b>	2.00	3/8"	16	2.0	3.0	2	●	●		
	<b>22ER/IR 1.50 ISO 3M</b>	1.5	1/2"	22	2.3	3.7	3	●	●		
	<b>22ER/IR 2.00 ISO 2M</b>	2.0	1/2"	22	2.0	3.0	2	●	●		
	<b>22ER/IR 2.00 ISO 3M</b>	2.0	1/2"	22	3.1	5.0	3	●	●		
	<b>27ER/IR 3.00 ISO 2M</b>	3.0	5/8"	27	2.9	4.6	2	●			

● Standard item

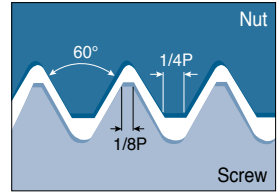


# External American UN




Full profile, UN, UNC, UNF, UNEF

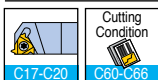


External right-hand shown  
(Internal left-hand)



• Application: General industry

Insert	Designation	TPI	Dimension (mm)						Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
External 	<b>11ER 44 UN</b>	44	1/4"	11	0.05	0.6	0.6		•			
	<b>11ER 36 UN</b>	36	1/4"	11	0.07	0.6	0.6		•			
	<b>11ER 32 UN</b>	32	1/4"	11	0.09	0.6	0.6		•			
Regular 	<b>11ER/L 28 UN</b>	28	1/4"	11	0.10	0.6	0.7		•		•	
	<b>11ER/L 24 UN</b>	24	1/4"	11	0.12	0.7	0.8		•			
	<b>11ER/L 20 UN</b>	20	1/4"	11	0.15	0.8	0.9	•	•			
B/M 	<b>11ER 18 UN</b>	18	1/4"	11	0.17	0.8	1.0		•			
	<b>11ER 16 UN</b>	16	1/4"	11	0.18	0.9	1.1	•	•		•	
	<b>16ER 72 UN</b>	72	3/8"	16	-	0.8	0.4		•			
	<b>16ER 56 UN</b>	56	3/8"	16	0.04	0.7	0.4		•			
	<b>16ER 48 UN</b>	48	3/8"	16	0.05	0.6	0.6		•	•		
	<b>16ER/L 40 UN</b>	40	3/8"	16	0.06	0.6	0.6		•	•		
	<b>16ER/L 36 UN</b>	36	3/8"	16	0.07	0.6	0.6		•			•
	<b>16ER/L 32 UN</b>	32	3/8"	16	0.09	0.6	0.6	•	•			•
	<b>16ER/L 28 UN</b>	28	3/8"	16	0.10	0.6	0.7	•	•			•
	<b>16ER/L 24 UN</b>	24	3/8"	16	0.12	0.7	0.8	•	•	•		•
	<b>16ERB 24 UN</b>	24	3/8"	16	0.12	0.7	0.8		•			
	<b>16ERM 24 UN</b>	24	3/8"	16	0.11	0.7	0.8	•	•			•
	<b>16ER/L 20 UN</b>	20	3/8"	16	0.15	0.8	0.9	•	•			•
	<b>16ERB 20 UN</b>	20	3/8"	16	0.15	0.8	0.9		•			
	<b>16ERM 20 UN</b>	20	3/8"	16	0.14	0.8	0.9	•	•			•
	<b>16ER/L 18 UN</b>	18	3/8"	16	0.17	0.8	1.0	•	•			•
	<b>16ERB 18 UN</b>	18	3/8"	16	0.17	0.8	1.0		•			
	<b>16ERM 18 UN</b>	18	3/8"	16	0.15	0.8	1.0	•	•	•		•
	<b>16ER/L 16 UN</b>	16	3/8"	16	0.18	0.9	1.1	•	•	•		•
	<b>16ERB 16 UN</b>	16	3/8"	16	0.18	0.9	1.1		•			
<b>16ERM 16 UN</b>	16	3/8"	16	0.19	0.9	1.1	•	•			•	
<b>16ER/L 14 UN</b>	14	3/8"	16	0.22	1.0	1.2	•	•			•	
<b>16ERB 14 UN</b>	14	3/8"	16	0.22	1.0	1.2		•				
<b>16ERM 14 UN</b>	14	3/8"	16	0.22	1.0	1.2	•	•			•	
<b>16ER/L 13 UN</b>	13	3/8"	16	0.24	1.0	1.3	•	•			•	
<b>16ERB 13 UN</b>	13	3/8"	16	0.24	1.0	1.3		•				
<b>16ERM 13 UN</b>	13	3/8"	16	0.24	1.0	1.3		•				



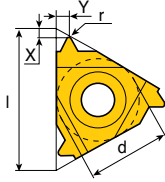
- ERB / ERM with pressed chip breaker
- Tolerance: Class 2A

• Standard item

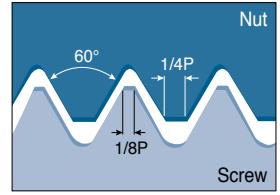
# External American UN

**T-THREAD**

Full profile, UN, UNC, UNF, UNEF

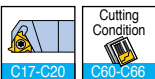


External right-hand shown  
(Internal left-hand)



- Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated	
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
External 	<b>16ER/L 12 UN</b>	12	3/8"	16	0.26	1.1	1.4	•	•		•	
	<b>16ERB 12 UN</b>	12	3/8"	16	0.26	1.1	1.4		•			
	<b>16ERM 12 UN</b>	12	3/8"	16	0.25	1.1	1.4	•	•		•	
Regular 	<b>16ER 11.5 UN</b>	11.5	3/8"	16	0.27	1.1	1.5	•	•		•	
	<b>16ER/L 11 UN</b>	11	3/8"	16	0.28	1.1	1.5	•	•		•	
	<b>16ERB 11 UN</b>	11	3/8"	16	0.28	1.1	1.5		•			
B/M 	<b>16ER/L 10 UN</b>	10	3/8"	16	0.32	1.1	1.5	•	•		•	
	<b>16ERB 10 UN</b>	10	3/8"	16	0.32	1.1	1.5		•			
	<b>16ER/L 9 UN</b>	9	3/8"	16	0.36	1.2	1.7		•		•	
	<b>16ERB 9 UN</b>	9	3/8"	16	0.36	1.2	1.7		•			
	<b>16ER/L 8 UN</b>	8	3/8"	16	0.41	1.2	1.6	•	•		•	
	<b>16ERB 8 UN</b>	8	3/8"	16	0.41	1.2	1.6		•			
	<b>16ERM 8 UN</b>	8	3/8"	16	0.41	1.2	1.6	•	•		•	
	<b>22ER 7 UN</b>	7	1/2"	22	0.47	1.6	2.3	•			•	
	<b>22ER/L 6 UN</b>	6	1/2"	22	0.67	1.6	2.3	•	•		•	
	<b>22ER 5 UN</b>	5	1/2"	22	0.67	1.7	2.5	•	•		•	
	<b>27ER 4.5 UN</b>	4.5	5/8"	27	0.75	1.9	2.7		•		•	
	<b>27ER/L 4 UN</b>	4	5/8"	27	0.85	2.1	3.0	•			•	



- ERB / ERM with pressed chip breaker
- Tolerance: Class 2A

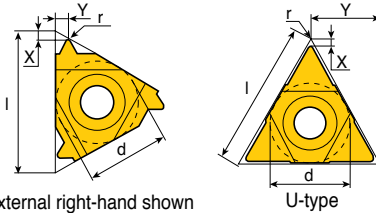
- Standard item

Contents

# Internal American UN

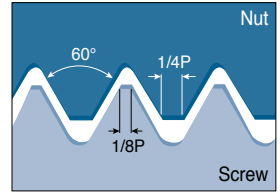
**T-THREAD**

Full profile, UN, UNC, UNF, UNEF





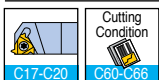
External right-hand shown  
(Internal left-hand)

U-type



• Application: General industry

Insert	Designation	TPI	Dimension (mm)						Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
Internal 	<b>06IR 32 UN</b>	32	5/32"	6	0.04	0.8	0.5			•		
	<b>06IL 28 UN</b>	28	5/32"	6	0.04	0.8	0.6			•		
	<b>06IR/L 24 UN</b>	24	5/32"	6	0.05	0.7	0.6			•		
Regular 	<b>06IR/L 20 UN</b>	20	5/32"	6	0.06	0.6	0.6			•		
	<b>06IR/L 18 UN</b>	18	5/32"	6	0.07	0.6	0.7			•		
	<b>08IR 32 UN</b>	32	3/16"	8	0.04	0.6	0.5			•		
	<b>08IR/L 28 UN</b>	28	3/16"	8	0.04	0.6	0.6			•		
	<b>08IR/L 24 UN</b>	24	3/16"	8	0.05	0.6	0.6			•		
	<b>08IR/L 20 UN</b>	20	3/16"	8	0.06	0.6	0.7			•		
	<b>08IR 18 UN</b>	18	3/16"	8	0.07	0.6	0.7			•		
	<b>08IR/L 16 UN</b>	16	3/16"	8	0.09	0.6	0.7			•		
	<b>08IR 14 UN</b>	14	3/16"	8	0.10	0.6	0.8		•	•		
	<b>11IR 64 UN</b>	64	1/4"	11	0.02	0.8	0.4		•			
	<b>11IR 36 UN</b>	36	1/4"	11	0.04	0.6	0.6		•			
	<b>11IR/L 32 UN</b>	32	1/4"	11	0.04	0.6	0.6		•		•	
	<b>11IR/L 28 UN</b>	28	1/4"	11	0.04	0.6	0.7		•			
	<b>11IR/L 24 UN</b>	24	1/4"	11	0.05	0.7	0.8	•	•		•	
	<b>11IR/L 20 UN</b>	20	1/4"	11	0.06	0.8	0.9		•		•	
	<b>11IR/L 18 UN</b>	18	1/4"	11	0.07	0.8	1.0	•	•	•	•	
	<b>11IR/L 16 UN</b>	16	1/4"	11	0.09	0.9	1.1	•	•	•	•	
	<b>11IR/L 14 UN</b>	14	1/4"	11	0.10	0.9	1.1	•	•		•	
<b>11IR 12 UN</b>	12	1/4"	11	0.12	0.9	1.1	•					
<b>11IR 11 UN</b>	11	1/4"	11	0.14	0.8	1.1	•					
<b>16IR 44 UN</b>	44	3/8"	16	0.03	0.6	0.6		•				
<b>16IR 32 UN</b>	32	3/8"	16	0.04	0.6	0.6	•	•		•		
<b>16IR 27 UN</b>	27	3/8"	16	0.04	0.7	0.8				•		
<b>16IR/L 28 UN</b>	28	3/8"	16	0.04	0.6	0.7		•		•		
<b>16IR 24 UN</b>	24	3/8"	16	0.05	0.7	0.8	•	•		•		
<b>16IRB 24 UN</b>	24	3/8"	16	0.05	0.7	0.8		•				
<b>16IR/L 20 UN</b>	20	3/8"	16	0.06	0.8	0.9	•	•		•		
<b>16IRB 20 UN</b>	20	3/8"	16	0.06	0.8	0.9		•				
<b>16IRM 20 UN</b>	20	3/8"	16	0.06	0.8	0.9	•	•		•		
<b>16IR/L 18 UN</b>	18	3/8"	16	0.07	0.8	1.0	•	•		•		
<b>16IRB 18 UN</b>	18	3/8"	16	0.07	0.8	1.0		•				
<b>16IRM 18 UN</b>	18	3/8"	16	0.08	0.8	1.0	•	•		•		

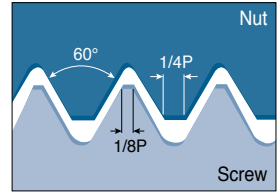
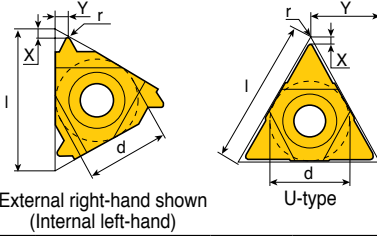


- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986



• Standard item

# Internal American UN

Full profile, UN, UNC, UNF, UNEF

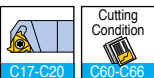


• Application: General industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
 Internal Regular	<b>16IR/L 16 UN</b>	16	3/8"	16	0.09	0.9	1.1	●	●		●
	<b>16IRB 16 UN</b>	16	3/8"	16	0.09	0.9	1.1		●		
	<b>16IRM 16 UN</b>	16	3/8"	16	0.09	0.9	1.1	●	●		●
	<b>16IR/L 14 UN</b>	14	3/8"	16	0.10	0.9	1.2	●	●		●
	<b>16IRB 14 UN</b>	14	3/8"	16	0.10	0.9	1.2		●		
	<b>16IRM 14 UN</b>	14	3/8"	16	0.11	0.9	1.2	●	●		●
	<b>16IR/L 13 UN</b>	13	3/8"	16	0.11	1.0	1.3		●		●
	<b>16IR/L 12 UN</b>	12	3/8"	16	0.12	1.1	1.4	●	●	●	●
	<b>16IRM 12 UN</b>	12	3/8"	16	0.12	1.1	1.4	●	●		●
	<b>16IR 11.5 UN</b>	11.5	3/8"	16	0.13	1.1	1.5		●		●
	<b>16IR 11 UN</b>	11	3/8"	16	0.14	1.1	1.5	●	●		●
	<b>16IR/L 10 UN</b>	10	3/8"	16	0.15	1.1	1.5	●	●		●
	<b>16IRB 10 UN</b>	10	3/8"	16	0.15	1.1	1.5		●		
	<b>16IR 9 UN</b>	9	3/8"	16	0.17	1.2	1.7		●		
	<b>16IR/L 8 UN</b>	8	3/8"	16	0.19	1.1	1.5	●	●		●
	<b>16IRB 8 UN</b>	8	3/8"	16	0.19	1.1	1.5		●		
	<b>16IRM 8 UN</b>	8	3/8"	16	0.20	1.1	1.5	●	●		●
	<b>22IR/L 7 UN</b>	7	1/2"	22	0.22	1.6	2.3	●	●	●	
	<b>22IR/L 6 UN</b>	6	1/2"	22	0.26	1.6	2.3	●	●		●
	<b>22IR 5 UN</b>	5	1/2"	22	0.32	1.6	2.3	●			●
<b>27IR 4.5 UN</b>	4.5	5/8"	27	0.36	1.7	2.4	●				
<b>27IR/L 4 UN</b>	4	5/8"	27	0.41	1.8	2.7	●	●		●	
 Internal U	<b>08UIRL 13 UN</b>	13	3/16"	8	0.10	1.0	4.0		●		
	<b>08UIRL 12 UN</b>	12	3/16"	8	0.10	0.9	4.0	●			
	<b>08UIRL 11 UN</b>	11	3/16"	8	0.10	0.9	4.0	●			
	<b>22UIRL 4.5 UN</b>	4.5	1/2"	22	0.36	2.4	11.0	●			
	<b>22UIRL 4 UN</b>	4	1/2"	22	0.41	2.4	11.0		●		

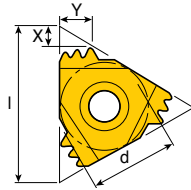
- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986

● Standard item

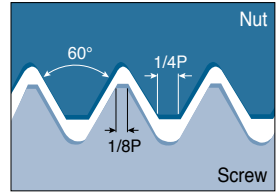


# External & Internal American UN

Full profile, multi-tooth, UN, UNC, UNF, UNEF

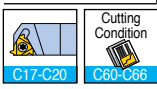


External right-hand shown  
(Internal left-hand)



- Application: General industry

Insert	Designation	TPI	Dimension (mm)				No. of Teeth	Coated			Uncoated
			d	l	X	Y		TT7010	TT9030	TT8010	P30
Internal / External 	<b>16ER/IR 16 UN 2M</b>	16	3/8"	16	1.5	2.3	2	●			
	<b>16ER 12 UN 2M</b>	12	3/8"	16	2.2	3.4	2	●			
	<b>22ER/IR 16 UN 3M</b>	16	3/8"	22	2.5	4.0	3	●			
	<b>22ER/IR 12 UN 3M</b>	12	1/2"	22	2.2	3.4	2	●			
	<b>22ER/IR 12 UN 3M</b>	12	1/2"	22	3.3	5.3	3	●			●

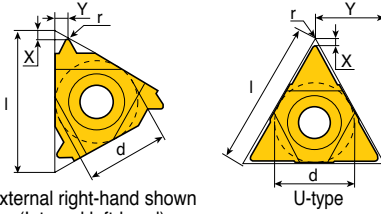


● Standard item



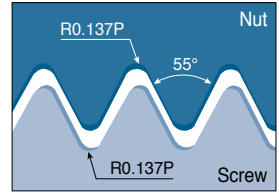
# External Whitworth

Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)



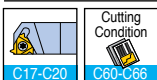
External right-hand shown  
(Internal left-hand)

U-type



- Application: General industry, fittings and pipe couplings

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External	<b>11ER 36 W</b>	36	1/4"	11	0.07	0.6	0.6		•		
	<b>11ER 20 W</b>	20	1/4"	11	0.14	0.8	0.9				•
Regular	<b>11ER/L 19 W</b>	19	1/4"	11	0.15	0.8	1.0		•		
	<b>11ER 18 W</b>	18	1/4"	11	0.16	0.8	1.0	•			
B/M	<b>11ER 16 W</b>	16	1/4"	11	0.18	0.9	1.1				•
	<b>11ER 14 W</b>	14	1/4"	11	0.21	0.9	1.1	•			•
	<b>16ER/L 32 W</b>	32	3/8"	16	0.09	0.6	0.6		•		•
	<b>16ER/L 28 W</b>	28	3/8"	16	0.09	0.6	0.7	•	•		•
	<b>16ER 26 W</b>	26	3/8"	16	0.10	0.7	0.7	•	•		•
	<b>16ER/L 24 W</b>	24	3/8"	16	0.11	0.7	0.8	•	•		•
	<b>16ER/L 22 W</b>	22	3/8"	16	0.13	0.8	0.9	•	•		•
	<b>16ER 20 W</b>	20	3/8"	16	0.14	0.8	0.9	•	•	•	•
	<b>16ER/L 19 W</b>	19	3/8"	16	0.15	0.8	1.0	•	•	•	•
	<b>16ERB 19 W</b>	19	3/8"	16	0.15	0.8	1.0		•		
	<b>16ERM 19 W</b>	19	3/8"	16	0.16	0.8	1.0	•	•		•
	<b>16ER/L 18 W</b>	18	3/8"	16	0.16	0.8	1.0	•	•		•
	<b>16ER/L 16 W</b>	16	3/8"	16	0.18	0.9	1.1	•	•		•
	<b>16ERB 16 W</b>	16	3/8"	16	0.18	0.9	1.1		•		
	<b>16ERM 16 W</b>	16	3/8"	16	0.20	0.9	1.1	•	•		•
	<b>16ER/L 14 W</b>	14	3/8"	16	0.21	1.0	1.2	•	•	•	•
	<b>16ERB 14 W</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16ERM 14 W</b>	14	3/8"	16	0.24	1.0	1.2	•	•		•
	<b>16ER/L 12 W</b>	12	3/8"	16	0.25	1.1	1.4	•	•		•
	<b>16ER/L 11 W</b>	11	3/8"	16	0.27	1.1	1.5	•	•	•	•
	<b>16ERB 11 W</b>	11	3/8"	16	0.27	1.1	1.5		•		
	<b>16ERM 11 W</b>	11	3/8"	16	0.27	1.1	1.5	•	•		•
	<b>16ER/L 10 W</b>	10	3/8"	16	0.31	1.1	1.5	•	•		•
	<b>16ERB 10 W</b>	10	3/8"	16	0.31	1.1	1.5		•		
	<b>16ER 9 W</b>	9	3/8"	16	0.34	1.2	1.7	•			•
	<b>16ER/L 8 W</b>	8	3/8"	16	0.39	1.2	1.5	•	•		•
	<b>22ER 7 W</b>	7	1/2"	22	0.45	1.6	2.3		•		•
	<b>22ER 6 W</b>	6	1/2"	22	0.52	1.6	2.3	•	•		•
	<b>22ER 5 W</b>	5	1/2"	22	0.65	1.7	2.4	•			•
	<b>27ER 4.5 W</b>	4.5	5/8"	27	0.73	1.8	2.6				•
	<b>27ER 4 W</b>	4	5/8"	27	0.82	2.0	2.9		•		•

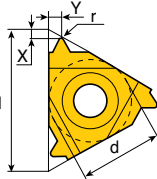


- ERB / ERM with pressed chip breaker
- Tolerance: Medium class

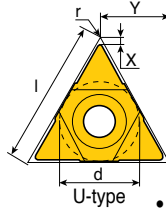
- Standard item

# Internal Whitworth

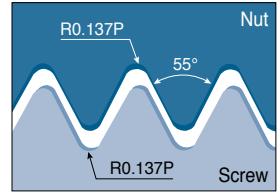
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)






External right-hand shown  
(Internal left-hand)



U-type

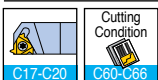


• Application: General industry, fittings and pipe couplings

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated	
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
Internal 	<b>06IR 26 W</b>	26	5/32"	6	0.10	0.7	0.6				●	
	<b>06IR 20 W</b>	20	5/32"	6	0.14	0.6	0.7				●	
	<b>08IR 28 W</b>	28	3/16"	8	0.09	0.6	0.6				●	
Regular 	<b>08IR 24 W</b>	24	3/16"	8	0.11	0.6	0.6				●	
	<b>08IR 20 W</b>	20	3/16"	8	0.14	0.6	0.7				●	
	<b>08IR/L 19 W</b>	19	3/16"	8	0.15	0.6	0.7				●	
	<b>08IR 18 W</b>	18	3/16"	8	0.16	0.6	0.7				●	
	<b>08IR 16 W</b>	16	3/16"	8	0.18	0.6	0.7				●	
	B/M 	<b>11IR 36 W</b>	36	1/4"	11	0.07	0.6	0.6				
<b>11IR 28 W</b>		28	1/4"	11	0.10	0.6	0.7	●				
<b>11IR 26 W</b>		26	1/4"	11	0.10	0.7	0.7				●	●
<b>11IR/L 24 W</b>		24	1/4"	11	0.11	0.7	0.8	●	●			
<b>11IR 20 W</b>		20	1/4"	11	0.14	0.8	0.9	●	●			●
<b>11IR 19 W</b>		19	1/4"	11	0.15	0.8	1.0	●	●			●
<b>11IR/L 18 W</b>		18	1/4"	11	0.16	0.8	1.0	●	●			●
<b>11IR 16 W</b>		16	1/4"	11	0.18	0.9	1.1	●	●			●
<b>11IR/L 14 W</b>		14	1/4"	11	0.21	0.9	1.1	●	●	●		●
<b>11IL 12 W</b>		12	1/4"	11	0.27	1.0	1.1		●			

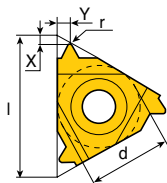
• Tolerance: Medium class

• Standard item

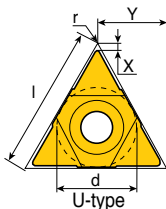


# Internal Whitworth

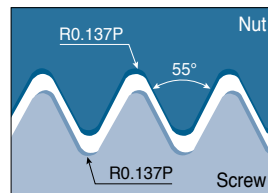
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)






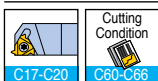
External right-hand shown  
(Internal left-hand)



- Application: General industry, fittings and pipe couplings



Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
Internal 	<b>16IR 40 W</b>	40	3/8"	16	0.06	0.6	0.6				•
	<b>16IR/L 32 W</b>	32	3/8"	16	0.09	0.6	0.6				•
Regular 	<b>16IR/L 28 W</b>	28	3/8"	16	0.09	0.6	0.7	•			•
	<b>16IR 26 W</b>	26	3/8"	16	0.10	0.7	0.7	•	•		•
B/M 	<b>16IR/L 24 W</b>	24	3/8"	16	0.11	0.7	0.8	•	•		•
	<b>16IR/L 22 W</b>	22	3/8"	16	0.13	0.8	0.9	•	•		•
	<b>16IR/L 20 W</b>	20	3/8"	16	0.14	0.8	0.9	•	•		•
	<b>16IRM 20 W</b>	20	3/8"	16	0.14	0.8	0.9		•		
	<b>16IR/L 19 W</b>	19	3/8"	16	0.15	0.8	1.0	•	•		•
	<b>16IRB 19 W</b>	19	3/8"	16	0.15	0.8	1.0		•		
	<b>16IRM 19 W</b>	19	3/8"	16	0.15	0.8	1.0	•			•
	<b>16IR/L 18 W</b>	18	3/8"	16	0.16	0.8	1.0	•	•		•
	<b>16IR/L 16 W</b>	16	3/8"	16	0.18	0.9	1.1				•
	<b>16IRB 16 W</b>	16	3/8"	16	0.18	0.9	1.1		•		
	<b>16IRM 16 W</b>	16	3/8"	16	0.18	0.9	1.1	•	•		
	<b>16IR/L 14 W</b>	14	3/8"	16	0.21	1.0	1.2	•	•	•	•
	<b>16IRB 14 W</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16IRM 14 W</b>	14	3/8"	16	0.21	1.0	1.2	•	•		•
	<b>16IR/L 12 W</b>	12	3/8"	16	0.25	1.1	1.4	•	•		•
	<b>16IRB 11 W</b>	11	3/8"	16	0.27	1.1	1.5		•	•	
	<b>16IRM 11 W</b>	11	3/8"	16	0.27	1.1	1.5	•			•
	<b>16IR/L 10 W</b>	10	3/8"	16	0.31	1.1	1.5	•	•		•
	<b>16IRB 10 W</b>	10	3/8"	16	0.31	1.1	1.5		•		
	<b>16IR/L 9 W</b>	9	3/8"	16	0.34	1.2	1.7	•			•
	<b>16IR/L 8 W</b>	8	3/8"	16	0.39	1.2	1.5	•	•		•
	<b>22IR 7 W</b>	7	1/2"	22	0.45	1.6	2.3		•		•
	<b>22IR 6 W</b>	6	1/2"	22	0.52	1.6	2.3	•			•
	<b>22IR/L 5 W</b>	5	1/2"	22	0.65	1.7	2.4	•			•
	<b>27IR 4.5 W</b>	4.5	5/8"	27	0.73	1.8	2.6	•			
	<b>27IR 4 W</b>	4	5/8"	27	0.82	2.0	2.9		•		



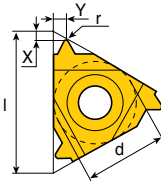
- IRB / IRM with pressed chip breaker
- Tolerance: Medium class

• Standard item

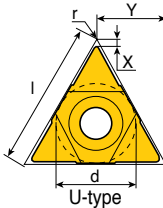
# Internal Whitworth



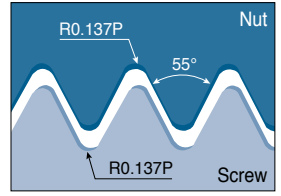
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)




External right-hand shown  
(Internal left-hand)



U-type

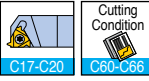


• Application: General industry, fittings and pipe couplings

Insert	Designation	TPI	Dimension (mm)						Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
Internal / External  U	<b>08UIRL 12 W</b>	12	3/16"	8	0.25	0.9	4.0				•	
	<b>22UEIRL 4.5 W</b>	4.5	1/2"	22	0.73	2.3	11.0				•	
	<b>22UEIRL 4 W</b>	4	1/2"	22	0.73	1.8	11.0				•	
	<b>27UEIRL 3.5 W</b>	3.5	5/8"	27	0.95	2.1	13.7	•	•			
	<b>27UEIRL 3 W</b>	3	5/8"	27	1.12	2.3	13.7	•				
	<b>27UEIRL 2.75 W</b>	2.75	5/8"	27	1.21	2.4	13.7					•

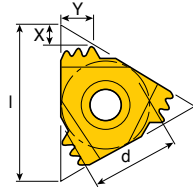
• Tolerance: Medium class

• Standard item

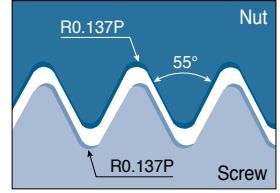


# External & Internal Whitworth


Full profile, multi-tooth, BSW, BSF, BSP



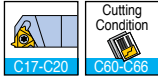
External right-hand shown  
(Internal left-hand)



- Application: General industry, fittings and pipe couplings

Insert	Designation	TPI	Dimension (mm)				No. of teeth	Coated			Uncoated
			d	l	X	Y		TT7010	TT9030	TT8010	
Internal / External 	<b>16ER/IR 14 W 2M</b>	14	3/8"	16	1.7	2.7	2	●			P30
	<b>22ER/IR 14 W 3M</b>	14	1/2"	22	2.8	4.5	3	●			
	<b>22ER/IR 11 W 2M</b>	11	1/2"	22	2.3	3.4	2	●			

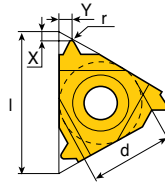
● Standard item



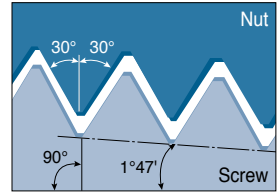
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# External & Internal NPT



Full profile, national pipe threads (ANSI/ASME B1.20.1-1983)

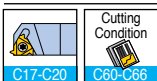


External right-hand shown  
(Internal left-hand)



• Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)						Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30	
 B/M	<b>16ER 27 NPT</b>	27	3/8"	16	0.04	0.7	0.8	●	●		●	
	<b>16ER/L 18 NPT</b>	18	3/8"	16	0.06	0.8	1.0	●	●		●	
	<b>16ERB 18 NPT</b>	18	3/8"	16	0.06	0.8	1.0		●			
	<b>16ERM 18 NPT</b>	18	3/8"	16	0.05	0.8	1.0	●	●			
	<b>16ER/L 14 NPT</b>	14	3/8"	16	0.07	0.9	1.2	●	●	●	●	
	<b>16ERB 14 NPT</b>	14	3/8"	16	0.07	0.9	1.2		●			
	<b>16ERM 14 NPT</b>	14	3/8"	16	0.05	0.9	1.2	●	●		●	
	<b>16ER/L 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5	●	●		●	
	<b>16ERB 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5		●			
	<b>16ERM 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5	●	●		●	
	<b>16ER 8 NPT</b>	8	3/8"	16	0.12	1.3	1.8	●	●		●	
	<b>16ERB 8 NPT</b>	8	3/8"	16	0.12	1.3	1.8		●			
<b>16ERM 8 NPT</b>	8	3/8"	16	0.15	1.3	1.8	●	●		●		
 B/M	<b>06IR 27 NPT</b>	27	5/32"	6	0.04	0.6	0.6			●	●	
	<b>08IR 27 NPT</b>	27	3/16"	8	0.04	0.6	0.6			●		
	<b>08IR/L 18 NPT</b>	18	3/16"	8	0.06	0.6	0.6			●	●	
	<b>11IR 27 NPT</b>	27	1/4"	11	0.04	0.7	0.8	●				
	<b>11IR/L 18 NPT</b>	18	1/4"	11	0.06	0.8	1.0	●	●	●		
	<b>11IR/L 14 NPT</b>	14	1/4"	11	0.07	0.8	1.0	●		●		
	<b>16IR 27 NPT</b>	27	3/8"	16	0.04	0.7	0.8		●		●	
	<b>16IR 18 NPT</b>	18	3/8"	16	0.06	0.8	1.0	●	●		●	
	<b>16IR/L 14 NPT</b>	14	3/8"	16	0.07	0.9	1.2	●	●	●	●	
	<b>16IRB 14 NPT</b>	14	3/8"	16	0.07	0.9	1.2		●			
	<b>16IRM 14 NPT</b>	14	3/8"	16	0.05	0.9	1.2	●	●		●	
	<b>16IR/L 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5	●	●	●	●	
	<b>16IRB 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5		●			
	<b>16IRM 11.5 NPT</b>	11.5	3/8"	16	0.09	1.1	1.5	●	●		●	
	<b>16IR/L 8 NPT</b>	8	3/8"	16	0.12	1.3	1.8	●	●		●	
	<b>16IRB 8 NPT</b>	8	3/8"	16	0.12	1.3	1.8		●			
	<b>16IRM 8 NPT</b>	8	3/8"	16	0.12	1.3	1.8	●	●		●	

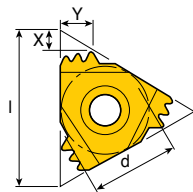


• ERB / ERM / IRB / IRM with pressed chip breaker

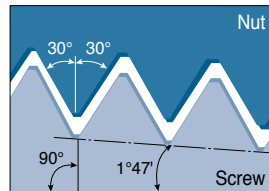
● Standard item

# External & Internal NPT


Full profile, multi-tooth, national pipe threads




External right-hand shown  
(Internal left-hand)



- Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)				No. of teeth	Coated			Uncoated
			d	l	X	Y		TT7010	TT9030	TT8010	
Internal / External 	<b>22ER/IR 11.5 NPT 2M</b>	11.5	1/2"	22	2.3	3.5	2		●		
	<b>27ER/IR 11.5 NPT 3M</b>	11.5	5/8"	27	3.3	5.5	3		●		
	<b>27ER/IR 8 NPT 2M</b>	8	5/8"	27	3.1	5.0	2		●		

● Standard item

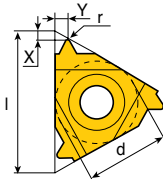


**Cutting Condition**  
C17-C20   C60-C66

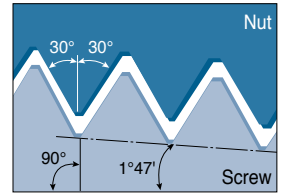
Contents

# External & Internal NPTF



Full profile, national pipe threads-dryseal (ANSI / ASME B1.20.1-1976)



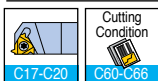
External right-hand shown  
(Internal left-hand)



- Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External  Regular	<b>11ER 18 NPTF</b>	18	1/4"	11	0.05	0.8	1.0	●			
	<b>11ER 14 NPTF</b>	14	1/4"	11	0.07	0.8	1.0		●		
	<b>16ER 27 NPTF</b>	27	3/8"	16	0.04	0.7	0.7		●		●
	<b>16ER 18 NPTF</b>	18	3/8"	16	0.06	0.8	1.0		●		
	<b>16ER 14 NPTF</b>	14	3/8"	16	0.07	0.9	1.2	●	●		●
	<b>16ER 11.5NPTF</b>	11.5	3/8"	16	0.09	1.1	1.5		●		●
Internal  Regular	<b>06IR 27 NPTF</b>	27	5/32"	6	0.04	0.7	0.6			●	
	<b>08IR 27 NPTF</b>	27	3/16"	8	0.04	0.6	0.6			●	
	<b>08IR 18 NPTF</b>	18	3/16"	8	0.06	0.6	0.6			●	
	<b>11IR 18 NPTF</b>	18	1/4"	11	0.06	0.8	1.0		●		
	<b>11IR 14 NPTF</b>	14	1/4"	11	0.07	0.8	1.0		●		
	<b>16IR 18 NPTF</b>	18	3/8"	16	0.06	0.8	1.0		●		
	<b>16IR/L 14 NPTF</b>	14	3/8"	16	0.07	0.9	1.2	●	●		
	<b>16IR 11.5NPTF</b>	11.5	3/8"	16	0.09	1.1	1.5	●	●		
	<b>16IR 8 NPTF</b>	8	3/8"	16	0.10	1.3	1.8		●		

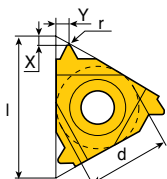
● Standard item



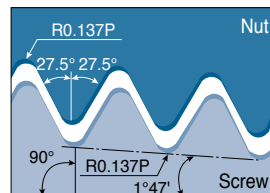


# External & Internal BSPT





Full profile, british standard pipe (B.S. 21-1957)

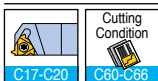


External right-hand shown  
(Internal left-hand)



- Application: Steam, gas and water pipes

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
  B/M	<b>16ER 28 BSPT</b>	28	3/8"	16	0.11	0.6	0.6	•	•		
	<b>16ER/L 19 BSPT</b>	19	3/8"	16	0.16	0.8	0.9	•	•		•
	<b>16ER/L 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2	•	•		•
	<b>16ERB 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16ERM 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16ER/L 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5	•	•		•
	<b>16ERB 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5		•		
	<b>16ERM 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5		•		
  B/M	<b>06IR 28 BSPT</b>	28	5/32"	6	0.11	0.7	0.6				•
	<b>08IR 28 BSPT</b>	28	3/16"	8	0.11	0.6	0.6				•
	<b>08IR 19 BSPT</b>	19	3/16"	8	0.16	0.6	0.6				•
	<b>11IR 19 BSPT</b>	19	1/4"	11	0.16	0.8	0.9	•	•		
	<b>11IR/L 14 BSPT</b>	14	1/4"	11	0.21	0.9	1.0	•	•		
	<b>16IR 28 BSPT</b>	28	3/8"	16	0.11	0.6	0.6	•			
	<b>16IR 19 BSPT</b>	19	3/8"	16	0.16	0.8	0.9	•			•
	<b>16IR/L 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2	•	•		•
	<b>16IRB 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16IRM 14 BSPT</b>	14	3/8"	16	0.21	1.0	1.2		•		
	<b>16IR/L 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5	•	•	•	•
	<b>16IRB 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5		•		
	<b>16IRM 11 BSPT</b>	11	3/8"	16	0.28	1.1	1.5		•		



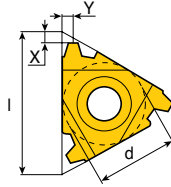
- ERB / ERM / IRB / IRM with pressed chip breaker

- Standard item

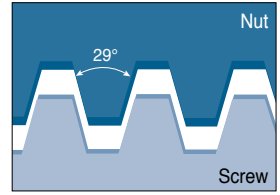
# External & Internal STUB ACME





ASME / ANSI B.1.8-1988: 2G



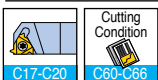
External right-hand shown  
(Internal left-hand)



- Application: Control valves and modified ACME thread forms

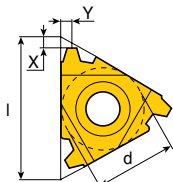
Insert	Designation	TPI	Dimension (mm)				Coated			Uncoated	
			d	l	X	Y	TT7010	TT9030	TT8010	P30	
External 	<b>16ER/L 16 STACME</b>	16	3/8"	16	1.0	1.0	●	●		●	
	<b>16ER/L 14 STACME</b>	14	3/8"	16	1.1	1.1				●	
	<b>16ER/L 12 STACME</b>	12	3/8"	16	1.2	1.2	●	●		●	
	<b>16ER/L 10 STACME</b>	10	3/8"	16	1.3	1.3				●	
	<b>16ER/L 8 STACME</b>	8	3/8"	16	1.5	1.5	●	●		●	
	<b>16ER/L 6 STACME</b>	6	3/8"	16	1.8	1.8	●	●			
	<b>22ER/L 5 STACME</b>	5	1/2"	22	2.0	2.3	●	●		●	
	<b>27ER/L 4 STACME</b>	4	5/8"	27	2.3	2.4	●			●	
Internal 	<b>27ER/L 3 STACME</b>	3	5/8"	27	2.8	2.9	●	●	●		
	<b>16IR/L 16 STACME</b>	16	3/8"	16	1.0	1.0					●
	<b>16IR/L 14 STACME</b>	14	3/8"	16	1.1	1.1					●
	<b>16IR/L 12 STACME</b>	12	3/8"	16	1.2	1.2	●	●		●	
	<b>16IR/L 10 STACME</b>	10	3/8"	16	1.3	1.3				●	
	<b>16IR/L 8 STACME</b>	8	3/8"	16	1.5	1.5				●	
	<b>16IR/L 6 STACME</b>	6	3/8"	16	1.8	1.8	●	●			
	<b>22IR/L 5 STACME</b>	5	1/2"	22	2.0	2.3	●	●		●	
	<b>22UIR 3 STACME</b>	3	1/2"	22	3.3	11.0	●				
	<b>27IR/L 4 STACME</b>	4	5/8"	27	2.3	2.4	●	●		●	
	<b>27IR/L 3 STACME</b>	3	5/8"	27	2.8	2.9	●				

● Standard item

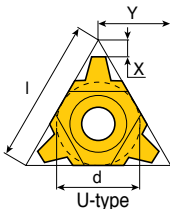


# External & Internal ACME

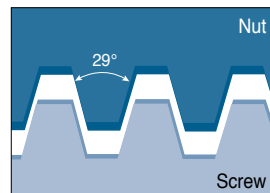
ASME / ANSI B.1.8-1988 class 3G






External right-hand shown  
(Internal left-hand)



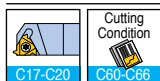
U-type



• Application: Feed screws

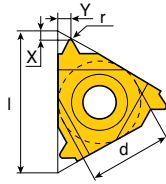
Insert	Designation	TPI	Dimension (mm)				Coated			Uncoated
			d	l	X	Y	TT7010	TT9030	TT8010	P30
 External	<b>11ER 16 ACME</b>	16	1/4"	11	0.9	1.0		•		
	<b>16ER/L 16 ACME</b>	16	3/8"	16	0.9	1.0		•		•
	<b>16ER/L 14 ACME</b>	14	3/8"	16	1.0	1.2				•
	<b>16ER/L 12 ACME</b>	12	3/8"	16	1.1	1.2	•	•		•
	<b>16ER/L 10 ACME</b>	10	3/8"	16	1.3	1.3	•			•
	<b>16ER/L 8 ACME</b>	8	3/8"	16	1.5	1.5	•	•		•
	<b>22ER/L 6 ACME</b>	6	1/2"	22	1.8	2.1	•	•		•
	<b>22ER/L 5 ACME</b>	5	1/2"	22	2.0	2.3	•	•		•
	<b>22ER/L 4 ACME</b>	4	1/2"	22	2.1	2.2		•		
 Internal	<b>16IR/L 16 ACME</b>	16	3/8"	16	0.9	1.0	•		•	•
	<b>16IR/L 14 ACME</b>	14	3/8"	16	1.0	1.2				•
	<b>16IR/L 12 ACME</b>	12	3/8"	16	1.1	1.2	•	•		•
	<b>16IR/L 10 ACME</b>	10	3/8"	16	1.3	1.3	•			•
	<b>16IR/L 8 ACME</b>	8	3/8"	16	1.5	1.5	•	•		•
	<b>22IR/L 6 ACME</b>	6	1/2"	22	1.8	2.1	•	•		•
	<b>22IR/L 5 ACME</b>	5	1/2"	22	2.0	2.3	•	•		•
	<b>22IR 4 ACME</b>	4	1/2"	22	2.1	2.2		•		
	<b>27IR/L 4 ACME</b>	4	5/8"	27	2.3	2.7	•	•	•	•
 Internal / External	<b>22UERL 4 ACME</b>	4	1/2"	22	2.3	11		•		•
	<b>27UERL 3 ACME</b>	3	5/8"	27	2.8	13.7	•	•		
	<b>22UIRL 4 ACME</b>	4	1/2"	22	2.3	11				•
	<b>27UIRL 3 ACME</b>	3	5/8"	27	2.8	13.7	•	•		

• Standard item

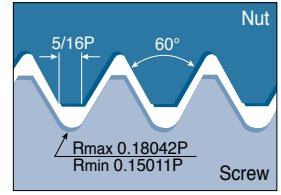


# External UNJ


Full profile (MIL-S-8879C 9-1992 class 3A)





External right-hand shown  
(Internal left-hand)



- Application: Aircraft and aerospace industry

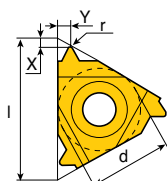
Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External 	<b>11ER 28 UNJ</b>	28	1/4"	11	0.04	0.6	0.6		●		
	<b>11ER 24 UNJ</b>	24	1/4"	11	0.05	0.7	0.8		●		
	<b>11ER/L 20 UNJ</b>	20	1/4"	11	0.06	0.8	0.9		●		
	<b>11EL 18 UNJ</b>	18	1/4"	11	0.07	0.8	1.0		●		
	<b>16ER 48 UNJ</b>	48	3/8"	16	0.03	0.6	0.6		●		
	<b>16ER 44 UNJ</b>	44	3/8"	16	0.03	0.6	0.6		●		
	<b>16ER 40 UNJ</b>	40	3/8"	16	0.03	0.6	0.6		●		
	<b>16ER 36 UNJ</b>	36	3/8"	16	0.04	0.6	0.6		●		
	<b>16ER/L 32 UNJ</b>	32	3/8"	16	0.04	0.6	0.6		●		●
	<b>16ER 28 UNJ</b>	28	3/8"	16	0.04	0.6	0.6	●	●		●
	<b>16ER/L 24 UNJ</b>	24	3/8"	16	0.05	0.7	0.8	●	●		●
	<b>16ER/L 20 UNJ</b>	20	3/8"	16	0.06	0.8	0.9	●	●		●
	<b>16ER/L 18 UNJ</b>	18	3/8"	16	0.07	0.8	1.0	●	●		●
	<b>16ER/L 16 UNJ</b>	16	3/8"	16	0.09	0.8	1.0	●	●		●
	<b>16ER/L 14 UNJ</b>	14	3/8"	16	0.10	1.0	1.2	●	●		●
	<b>16ER 13 UNJ</b>	13	3/8"	16	0.12	1.1	1.3		●		
	<b>16ER/L 12 UNJ</b>	12	3/8"	16	0.12	1.1	1.4	●	●		●
	<b>16ER 11 UNJ</b>	11	3/8"	16	0.13	1.1	1.5		●		
<b>16ER 10 UNJ</b>	10	3/8"	16	0.15	1.1	1.5		●		●	
<b>16ER/L 8 UNJ</b>	8	3/8"	16	0.15	1.2	1.6	●			●	

● Standard item

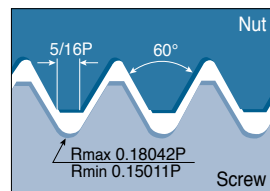



# Internal UNJ


## Full profile



External right-hand shown  
(Internal left-hand)



- Application: Aircraft and aerospace industry

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
	08IR 20 UNJ	20	3/16"	8	0.06	0.8	0.9			●	
	08IR 18 UNJ	18	3/16"	8	0.07	0.8	1.0			●	
	11IR 32 UNJ	32	1/4"	11	0.04	0.6	0.6		●		
	11IR 28 UNJ	28	1/4"	11	0.04	0.6	0.6		●		
	11IR 24 UNJ	24	1/4"	11	0.05	0.7	0.8		●		
	11IR 20 UNJ	20	1/4"	11	0.06	0.8	0.9		●		
	11IR 18 UNJ	18	1/4"	11	0.07	0.8	1.0		●		
	11IR 16 UNJ	16	1/4"	11	0.09	0.8	1.0		●		
	16IR 28 UNJ	28	3/8"	16	0.04	0.6	0.6				●
	16IR 24 UNJ	24	3/8"	16	0.05	0.7	0.8				●
	16IR 20 UNJ	20	3/8"	16	0.06	0.8	0.9			●	●
	16IR 18 UNJ	18	3/8"	16	0.07	0.8	1.0				●
	16IR/L 16 UNJ	16	3/8"	16	0.09	0.8	1.0		●	●	●
	16IR 14 UNJ	14	3/8"	16	0.10	1.0	1.2			●	●
	16IR/L 12 UNJ	12	3/8"	16	0.12	1.1	1.4		●	●	●
	16IR/L 8 UNJ	8	3/8"	16	0.19	1.2	1.6			●	●

C17-C20

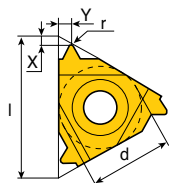
Cutting  
Condition

C60-C66

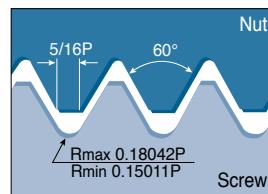
●: Standard item

# External & Internal MJ



Full profile (ISO 5855)



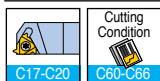
External right-hand shown  
(Internal left-hand)



- Application: Aircraft and aerospace industry

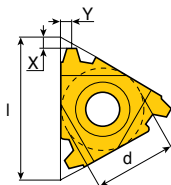
Insert	Designation	Pitch (mm)	Dimension (mm)					Coated			Uncoated
			d	l	r	X	Y	TT7010	TT9030	TT8010	P30
External 	16ER 1.00 MJ	1.00	3/8"	16	0.16	0.7	0.8		●		
	16ER 1.25 MJ	1.25	3/8"	16	0.20	0.8	0.9		●		
	16ER 1.50 MJ	1.50	3/8"	16	0.23	0.8	1.0	●			
	16ER 2.00 MJ	2.00	3/8"	16	0.32	1.0	1.3		●		
Internal 	11IR 1.00 MJ	1.00	1/4"	11	0.05	0.7	0.8		●		
	11IR 1.25 MJ	1.25	1/4"	11	0.07	0.8	0.9		●		
	11IR 1.50 MJ	1.50	1/4"	11	0.08	0.8	1.0		●		
	11IR 2.00 MJ	2.00	1/4"	11	0.12	0.9	1.0		●		
	16IR 1.00 MJ	1.00	3/8"	16	0.05	0.7	0.8		●		
	16IR 1.25 MJ	1.25	3/8"	16	0.07	0.8	0.9		●		
	16IR 1.50 MJ	1.50	3/8"	16	0.08	0.8	1.0		●		

● Standard item

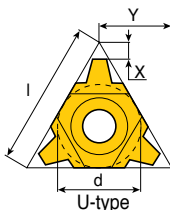


# External & Internal Trapez

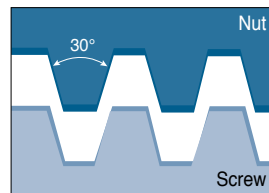
DIN 103






External right-hand shown  
(Internal left-hand)

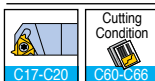


U-type



• Application: Feed screws

Insert	Designation	Pitch (mm)	Dimension (mm)				Coated			Uncoated
			d	l	X	Y	TT7010	TT9030	TT8010	P30
 External	<b>16ER/L 1.5 TR</b>	1.5	3/8"	16	1.0	1.1	●	●		●
	<b>16ER/L 2 TR</b>	2.0	3/8"	16	1.0	1.3	●	●		●
	<b>16ER/L 3 TR</b>	3.0	3/8"	16	1.3	1.5	●	●	●	●
	<b>22ER/L 4 TR</b>	4.0	1/2"	22	1.8	1.9	●	●		●
	<b>22ER/L 5 TR</b>	5.0	1/2"	22	2.0	2.4	●	●	●	●
	<b>22ER/L 6 TR</b>	6.0	1/2"	22	2.0	2.4		●		
	<b>27ER/L 6 TR</b>	6.0	5/8"	27	2.3	2.7	●	●		
	<b>27ER/L 7 TR</b>	7.0	5/8"	27	2.2	2.6	●	●		
 Internal	<b>08IR/L 1.5 TR<sup>(1)</sup></b>	1.5	3/16"	8	0.6	0.6			●	
	<b>16IR 1.5 TR</b>	1.5	3/8"	16	1.0	1.1			●	
	<b>16IR/L 2 TR</b>	2.0	3/8"	16	1.0	1.3	●	●		●
	<b>16IR/L 3 TR</b>	3.0	3/8"	16	1.3	1.5	●	●	●	●
	<b>22IR/L 4 TR</b>	4.0	1/2"	22	1.8	1.9	●	●		●
	<b>22IR/L 5 TR</b>	5.0	1/2"	22	2.0	2.4	●	●	●	●
	<b>22IR/L 6 TR</b>	6.0	1/2"	22	2.0	2.4	●	●	●	●
	<b>27IR/L 6 TR</b>	6.0	5/8"	27	2.3	2.7	●	●		
	<b>27IR/L 7 TR</b>	7.0	5/8"	27	2.2	2.6	●			
 Internal / External U	<b>22UERL 6 TR</b>	6.0	1/2"	22	2.0	11.0	●	●	●	●
	<b>22UERL 7 TR</b>	7.0	1/2"	22	2.3	11.0	●			●
	<b>22UERL 8 TR</b>	8.0	1/2"	22	2.5	11.0	●			●
	<b>27UERL 8 TR</b>	8.0	5/8"	27	2.5	13.7	●	●	●	
	<b>27UERL 9 TR</b>	9.0	5/8"	27	3.0	13.7	●	●		
	<b>27UERL 10 TR<sup>(1)</sup></b>	10.0	5/8"	27	3.2	13.7	●	●		
	<b>08UIRL 2 TR</b>	2.0	3/16"	8	0.9	4.0			●	
	<b>22UIRL 6 TR</b>	6.0	1/2"	22	2.0	11.0	●	●		●
	<b>22UIRL 7 TR</b>	7.0	1/2"	22	2.3	11.0	●			●
	<b>27UIRL 8 TR</b>	8.0	5/8"	27	2.5	13.7	●	●	●	●
	<b>27UIRL 9 TR</b>	9.0	5/8"	27	3.0	13.7	●	●		
	<b>27UIRL 10 TR<sup>(1)</sup></b>	10.0	5/8"	27	3.2	13.7		●		

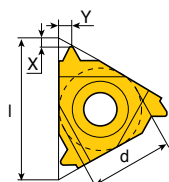


- <sup>(1)</sup> One cutting edge only
- DIN 103 04 / 1977, 150 2901 / 1977 Class 7H (7E)

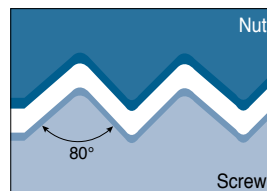
● Standard item

# External & Internal PG



Full profile (DIN 40430)



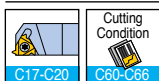
External right-hand shown  
(Internal left-hand)



- Application: Electrical industry

Insert	Designation	Pitch (mm)	Dimension (mm)				Coated			Uncoated	
			d	l	X	Y	TT7010	TT9030	TT8010	P30	
External 	<b>16ER 16 PG</b>	16	3/8"	16	0.8	1.0		•		•	
	<b>16ER 18 PG</b>	18	3/8"	16	0.8	0.9		•			
	<b>16ER 20 PG</b>	20	3/8"	16	0.7	0.8		•			
Internal 	<b>11IR 18 PG</b>	18	1/4"	11	0.8	0.9	•	•			
	<b>16IR/L 16 PG</b>	16	3/8"	16	0.8	1.0		•		•	
	<b>16IR 18 PG</b>	18	3/8"	16	0.8	0.9		•			
	<b>16IL 20 PG</b>	20	3/8"	16	0.8	1.0		•			

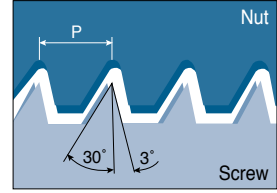
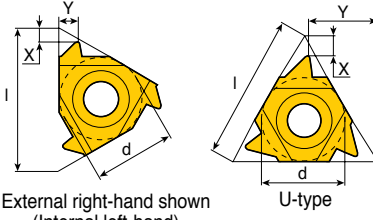
• Standard item









# External & Internal Sagengengewinde

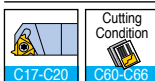
DIN 513

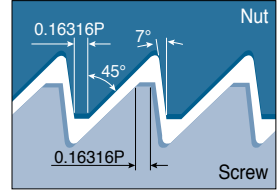
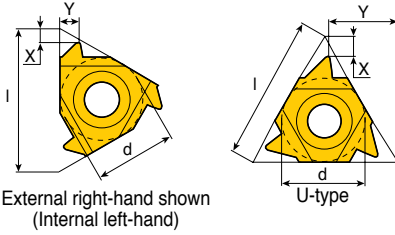


• Application: For high forces in one direction





Insert	Designation	Pitch (mm)	Dimension (mm)				Coated			Uncoated
			d	I	X	Y	TT7010	TT9030	TT8010	P30
 External	<b>16ER/L 2 SAGE</b>	2.0	3/8"	16	1.1	1.6		•		
	<b>22ER/L 3 SAGE</b>	3.0	1/2"	22	1.5	2.4		•		
	<b>22ER/L 4 SAGE</b>	4.0	1/2"	22	1.9	3.1	•	•		
 External U	<b>22UER/L 5 SAGE</b>	5.0 <sup>(1)</sup>	1/2"	22	1.2	11.6	•	•		
	<b>22UER/L 6 SAGE</b>	6.0 <sup>(1)</sup>	1/2"	22	1.2	11.7		•		
 Internal	<b>16IR/L 2 SAGE</b>	2.0	3/8"	16	1.2	1.7		•		
	<b>22IR/L 3 SAGE</b>	3.0	1/2"	22	1.9	2.9	•	•		
	<b>22IR 4 SAGE</b>	4.0	1/2"	22	2.3	3.5		•		
 Internal U	<b>22UIR 5 SAGE</b>	5.0 <sup>(1)</sup>	1/2"	22	1.9	11.7	•	•		
	<b>22UIR 6 SAGE</b>	6.0 <sup>(1)</sup>	1/2"	22	2.1	11.9		•		

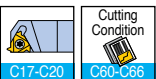
• <sup>(1)</sup> Requires special anvil • Standard item





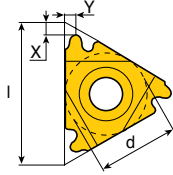
• Application: For high forces in one direction

Insert	Designation	TPI	Dimension (mm)				Coated			Uncoated	
			d	l	X	Y	TT7010	TT9030	TT8010	P30	
External 	<b>11ER 20 ABUT</b>	20	1/4"	11	1.0	1.3	●	●			
	<b>11ER 16 ABUT</b>	16	1/4"	11	1.0	1.5					
	<b>16ER 20 ABUT</b>	20	3/8"	16	1.0	1.3		●			
	<b>16ER/L 16 ABUT</b>	16	3/8"	16	1.1	1.5	●	●			
	<b>16ER/L 12 ABUT</b>	12	3/8"	16	1.4	2.0	●	●		●	
	<b>16ER/L 10 ABUT</b>	10	3/8"	16	1.5	2.3		●		●	
	<b>22ER 8 ABUT</b>	8	1/2"	22	2.1	3.3	●				
External  U	<b>22UER 4 ABUT</b>	4	1/2"	22	2.3	9.5	●			●	
	<b>27UER/L 3 ABUT</b>	3	5/8"	27	3.1	11.7	●				
Internal 	<b>11IR 20 ABUT</b>	20	1/4"	11	1.0	1.3		●			
	<b>11IR/L 16 ABUT</b>	16	1/4"	11	1.0	1.5	●	●	●		
	<b>16IR 20 ABUT</b>	20	3/8"	16	1.0	1.3	●	●			
	<b>16IR/L 16 ABUT</b>	16	3/8"	16	1.0	1.5	●	●			
	<b>16IR/L 12 ABUT</b>	12	3/8"	16	1.4	2.0	●	●		●	
	<b>16IR/L 10 ABUT</b>	10	3/8"	16	1.5	2.3	●	●		●	
	<b>22IR 8 ABUT</b>	8	1/2"	22	2.1	3.3		●			
Internal  U	<b>22UIR 4 ABUT</b>	4	1/2"	22	2.3	9.5		●		●	
	<b>27UIR/L 3 ABUT</b>	3	5/8"	27	3.1	11.7		●			

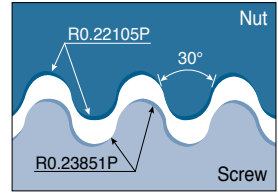


• ANSI B1.9-1973 class 2



• Standard item

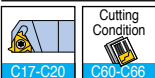


External right-hand shown  
(Internal left-hand)



- Application: Pipe couplings in fire fighting and food industries

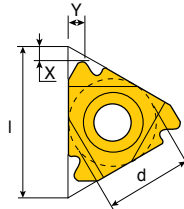
Insert	Designation	TPI	Dimension (mm)				Coated			Uncoated
			d	l	X	Y	TT7010	TT9030	TT8010	P30
 External	<b>16ER/L10 RND</b>	10	3/8"	16	1.1	1.2	●	●		●
	<b>16ER/L 8 RND</b>	8	3/8"	16	1.4	1.3	●	●		●
	<b>16ERM 8 RND</b>	8	3/8"	16	1.4	1.3		●		
	<b>16ER/L 6 RND</b>	6	3/8"	16	1.5	1.7	●			●
	<b>16ERM 6 RND</b>	6	3/8"	16	1.5	1.7		●		
	<b>22ER/L 6 RND</b>	6	1/2"	22	1.5	1.7	●	●	●	●
	<b>22ER/L 4 RND</b>	4	1/2"	22	2.2	2.3	●	●		●
	<b>27ER 4 RND</b>	4	5/8"	27	2.2	2.3	●			●
 Internal	<b>16IR 10 RND</b>	10	3/8"	16	1.1	1.2	●	●		●
	<b>16IR/L 8 RND</b>	8	3/8"	16	1.4	1.4	●	●		●
	<b>16IR/L 6 RND</b>	6	3/8"	16	1.4	1.5	●	●	●	
	<b>16IRM 6 RND</b>	6	3/8"	16	1.4	1.5	●	●		●
	<b>22IR 6 RND</b>	6	1/2"	22	1.5	1.7	●	●		●
	<b>22IR/L 4 RND</b>	4	1/2"	22	2.2	2.3	●	●		●
	<b>27IR/L 4 RND</b>	4	5/8"	27	2.2	2.3	●	●		●



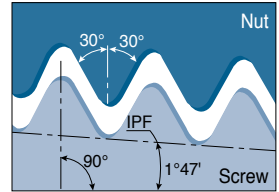
- ERM / IRM with pressed chip breaker
- Tolerance class 7H

● Standard item



## Round profile





External right-hand shown  
(Internal left-hand)



• Application: Oil & gas industry

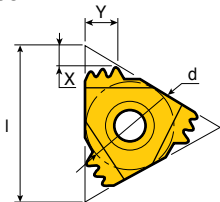
Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			d	l	IPF	X	Y	TT7010	TT9030	TT8010	P30
External 	<b>16ER 10 API RD</b>	10	3/8"	16	0.75	1.5	1.4	●	●		●
	<b>16ER/L 8 API RD</b>	8	3/8"	16	0.75	1.3	1.6	●	●		●
Internal 	<b>16IR/L 10 API RD</b>	10	3/8"	16	0.75	1.5	1.4	●	●	●	●
	<b>16IR/L 8 API RD</b>	8	3/8"	16	0.75	1.3	1.6	●			●

● Standard item

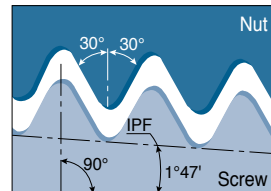
 C17-C20	 C60-C66
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# API - Oil Threads


Round profile, multi-tooth

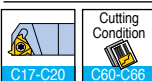


External right-hand shown  
(Internal left-hand)



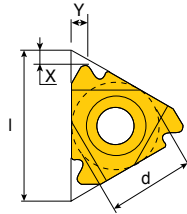
- Application: Oil & gas industry

Insert	Designation	TPI	Dimension (mm)					No. of Teeth	Coated			Uncoated	
			d	l	IPF	X	Y		TT7010	TT9030	TT8010	P30	
Internal / External 	<b>22ER/IR 10 API RD 2M</b>	10	1/2"	22	0.75	2.4	3.7	2	●				
	<b>27ER/IR 10 API RD 3M</b>	10	5/8"	27	0.75	3.8	6.2	3	●				
	<b>27ER/IR 8 API RD 2M</b>	8	5/8"	27	0.75	3.0	4.5	2	●				

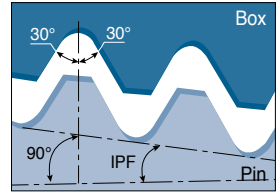


• API Spec 5B8-1996



• Standard item

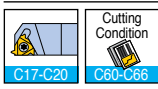


External right-hand shown  
(Internal left-hand)



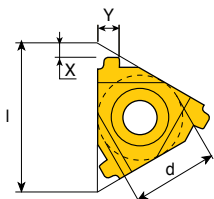
• Application: Oil & gas industry

Insert	Designation	TPI	Dimension (mm)					Connection No. or size	Coated			Uncoated
			d	l	IPF	X	Y		TT7010	TT9030	TT8010	P30
 External	<b>22ER/L 5 API 403<sup>(1)</sup></b>	5	1/2"	22	3	1.8	2.5	2.375"-4.5"REG	●	●		●
	<b>27ER/L 4 API 382<sup>(2)</sup></b>	4	5/8"	27	2	2.1	2.8	NC23-NC50	●	●		
	<b>27ER 4 API 383<sup>(2)</sup></b>	4	5/8"	27	3	2.1	2.8	NC56-NC77	●	●		
	<b>27ER/L 4 API 502<sup>(3)</sup></b>	4	5/8"	27	2	2.0	3.0	6-5/8"REG	●	●		●
	<b>27ER 4 API 503<sup>(3)</sup></b>	4	5/8"	27	3	2.0	3.0	5-1/2, 7-5/8, 8-5/8"REG	●	●		●
 Internal	<b>22IR/L 5 API 403<sup>(1)</sup></b>	5	1/2"	22	3	1.8	2.5	2.375"-4.5"REG	●	●		●
	<b>27IR/L 4 API 382<sup>(2)</sup></b>	4	5/8"	27	2	2.1	2.8	NC23-NC50	●	●		●
	<b>27IR 4 API 383<sup>(2)</sup></b>	4	5/8"	27	3	2.1	2.8	NC56-NC77		●		
	<b>27IR/L 4 API 502<sup>(3)</sup></b>	4	5/8"	27	2	2.0	3.0	6-5/8"REG	●			●
	<b>27IR/L 4 API 503<sup>(3)</sup></b>	4	5/8"	27	3	2.0	3.0	5-1/2, 7-5/8, 8-5/8"REG	●			●

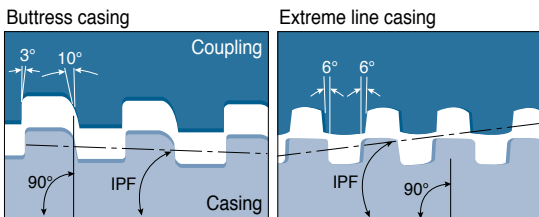


• <sup>(1)</sup> V-0.040    <sup>(2)</sup> V-0.038R    <sup>(3)</sup> V-0.050  
 • 0.050, API spec 74-1994

• Standard item

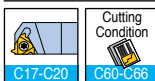


External right-hand shown  
(Internal left-hand)



- Application: Oil & gas industry

Insert	Designation	TPI	Dimension (mm)					Connection No. or size	Coated			Uncoated	
			d	l	IPF	X	Y		TT7010	TT9030	TT8010	P30	
	<b>22ER/IR 5 BUT 0.75</b>	5	1/2"	22	0.75	2.2	2.4	4-1/2" - 13-3/8"	•	•		•	
	<b>22ER/IR 5 BUT 1.0</b>	5	1/2"	22	1.0	2.3	2.4	16" - 20"	•				
	<b>22ER 6 EL 1.5</b>	6	1/2"	22	1.5	1.9	1.9	5" - 7-5/8"	•	•			
	<b>22IR 6 EL 1.5</b>	6	1/2"	22	1.5	1.9	1.9	5" - 7-5/8"		•			
	<b>22ER 5 EL 1.25</b>	5	1/2"	22	1.25	2.4	2.3	8-5/8" - 10-3/4"	•	•			
	<b>22IR 5 EL 1.25</b>	5	1/2"	22	1.25	2.4	2.3	8-5/8" - 10-3/4"	•				



• ANSI B1.9-1973 class 2

• Standard item

# Recommended Cutting Conditions

**T-THREAD**

According to DIN/ISO513 and VDI 3323

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	0.1-0.25 %C Annealed	420	125	1	
		0.25-0.25 %C Annealed	650	190	2	
		0.25-0.25 %C Quenched and tempered	850	250	3	
		0.55-0.80 %C Annealed	750	220	4	
		0.55-0.80 %C Quenched and tempered	1000	300	5	
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Annealed	600	200	6	
			930	275	7	
		Quenched and tempered	1000	300	8	
			1200	350	9	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	
Quenched and tempered		1100	325	11		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	
		Martensitic	820	240	13	
		Austenitic	600	180	14	
K	Gray cast iron (GG)	Ferritic		160	15	
		Pearlitic		250	16	
	Cast iron nodular (GGG)	Ferritic		180	17	
		Pearlitic		260	18	
	Malleable cast iron	Ferritic		130	19	
		Pearlitic		230	20	
N	Aluminum - Wrought alloy	Not cureable		60	21	
		Cured		100	22	
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temp.		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
		Electrolitic copper		100	28	
	Non-metallic	Duroplastics, fiber plastics				29
		Hard rubber				30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium, Ti alloys		Rm 400			36
		Alpha+beta alloys cured	Rm 1050			37
H	Hardened steel	Hardened		55HRC	38	
		Hardened		60HRC	39	
	Chilled cast iron	Cast		400	40	
	Cast iron nodular	Hardened		55HRC	41	

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel



Cutting speed (m/min)					
Coated			Uncoated		
TT7010	TT9030	TT8010	P30		
120-200	140-220	85-125	80-120		
120-200	140-220	85-125	80-120		
110-190	130-210	80-120	70-110		
110-190	130-210	80-120	70-110		
90-170	110-190	70-100	65-95		
70-120	70-120	50-70	70-110		
90-170	110-190	70-100	65-95		
80-120	100-140	60-100	70-110		
70-120	90-140	40-80	40-80		
70-100	70-100	40-70	40-70		
40-80	40-80	40-70	40-70		
85-125	90-130	40-70	40-70		
120-180	130-190	80-120	80-120		
50-100	60-110	40-60	40-60		
-	100-140	80-120	-		
-	110-150	80-120	-		
-	110-150	80-120	-		
-	80-120	80-120	-		
-	110-150	60-100	-		
-	80-120	55-95	-		
-	1300-1500	700-900	-		
-	400-600	330-430	-		
-	500-800	350-450	-		
-	370-470	300-360	-		
-	200-280	150-210	-		
-	260-340	160-240	-		
-	350-450	250-310	-		
-	100-140	80-120	-		
-	250-350	160-200	-		
-	250-350	150-210	-		
-	50-70	20-50	-		
-	30-50	20-50	-		
-	30-50	20-40	-		
-	20-40	15-30	-		
-	20-40	15-30	-		
-	120-140	90-110	-		
-	40-60	20-50	-		
-	30-60	20-35	-		
-	20-40	20-30	-		
-	20-40	20-30	-		
-	20-30	15-25	-		

## Maximum depth of first cut for CNC control / external threading - M-type inserts

Full profile	Pitch		Insert designation	No. of passes		Max. depth for first pass (D1) mm	
	mm	TPI		Min.	Max.	Low carbon steel	
						Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>
ISO metric	1.00		<b>16 ERM 1.00 ISO</b>	5	9	0.34	0.51
	1.25		<b>16 ERM 1.25 ISO</b>	6	11	0.42	0.63
	1.50		<b>16 ERM 1.50 ISO</b>	6	12	0.46	0.69
	1.75		<b>16 ERM 1.75 ISO</b>	8	13	0.48	0.72
	2.00		<b>16 ERM 2.00 ISO</b>	8	14	0.50	0.75
	2.50		<b>16 ERM 2.50 ISO</b>	10	15	0.53	0.80
	3.00		<b>16 ERM 3.00 ISO</b>	12	17	0.56	0.84
American UN		24	<b>16 ERM 24 UN</b>	5	9	0.34	0.51
		20	<b>16 ERM 20 UN</b>	6	10	0.42	0.63
		18	<b>16 ERM 18 UN</b>	6	11	0.46	0.69
		16	<b>16 ERM 16 UN</b>	7	12	0.47	0.71
		14	<b>16 ERM 14 UN</b>	6	13	0.46	0.69
		12	<b>16 ERM 12 UN</b>	8	14	0.50	0.75
		8	<b>16 ERM 8 UN</b>	12	17	0.56	0.84
British BSW		19	<b>16 ERM 19 W</b>	6	11	0.35	0.52
		16	<b>16 ERM 16 W</b>	7	12	0.47	0.71
		14	<b>16 ERM 14 W</b>	8	13	0.50	0.75
		11	<b>16 ERM 11 W</b>	9	14	0.44	0.66
NPT		18	<b>16 ERM 18 NPT</b>	10	20	0.24	0.36
		14	<b>16 ERM 14 NPT</b>	13	26	0.24	0.36
		11.5	<b>16 ERM 11.5 NPT</b>	15	24	0.27	0.40
		8	<b>16 ERM 8 NPT</b>	17	30	0.31	0.46
Round		6	<b>16 ERM 6 RND</b>	9	20	0.42	0.63
Partial profile 60°		48-16	<b>16 ERM A 60</b>	(1)		0.22	0.33
		14-8	<b>16 ERM G 60</b>			0.50	0.75
		48-8	<b>16 ERM AG 60</b>			0.24	0.36
		7-5	<b>16 ERM N 60</b>			0.41	0.62
Partial profile 55°		14-8	<b>16 ERM G 55</b>	(1)		0.50	0.75
		48-8	<b>16 ERM AG 55</b>			0.22	0.33

• <sup>(1)</sup> As per the number of passes for the relevant pitch

<sup>(2)</sup> Equal depth of cut method

<sup>(3)</sup> Diminished depth of cut for each pass method

Max. depth for first pass (D1) mm							
High carbon steel		Alloy steel		Stainless steel		Nonferrous aluminum	
Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>
0.31	0.46	0.27	0.41	0.22	0.33	0.48	0.71
0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
0.41	0.62	0.37	0.55	0.30	0.45	0.64	0.97
0.43	0.65	0.38	0.58	0.31	0.47	0.67	1.01
0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
0.48	0.72	0.42	0.64	0.34	0.52	0.74	1.12
0.50	0.76	0.45	0.67	0.36	0.55	0.78	1.18
0.31	0.46	0.27	0.41	0.22	0.33	0.48	0.71
0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
0.41	0.62	0.37	0.55	0.30	0.45	0.64	0.97
0.42	0.64	0.38	0.57	0.31	0.46	0.66	0.99
0.41	0.62	0.37	0.55	0.28	0.41	0.64	0.97
0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
0.50	0.76	0.45	0.67	0.36	0.55	0.78	1.18
0.32	0.47	0.28	0.42	0.21	0.31	0.49	0.73
0.42	0.64	0.38	0.57	0.31	0.46	0.66	0.99
0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
0.40	0.59	0.35	0.53	0.29	0.43	0.62	0.92
0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
0.22	0.32	0.19	0.29	0.14	0.22	0.34	0.50
0.24	0.36	0.22	0.32	0.18	0.26	0.38	0.56
0.28	0.41	0.25	0.37	0.20	0.30	0.43	0.64
0.38	0.57	0.34	0.50	0.27	0.41	0.59	0.88
0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
0.37	0.56	0.33	0.50	0.27	0.40	0.57	0.87
0.45	0.68	0.40	0.60	0.33	0.49	0.70	1.05
0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46

## Maximum depth of first cut for CNC control / external threading - M-type inserts

Full profile	Pitch		Insert designation	No. of passes		Max. depth for first pass (D1) mm	
	mm	TPI		Min.	Max.	Low carbon steel	
						Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>
ISO metric	1.50		<b>11 IRM 1.50 ISO</b>	10	20	0.20	0.30
	1.00		<b>16 IRM 1.00 ISO</b>	9	16	0.14	0.20
	1.25		<b>16 IRM 1.25 ISO</b>	9	16	0.19	0.28
	1.50		<b>16 IRM 1.50 ISO</b>	10	20	0.20	0.30
	1.75		<b>16 IRM 1.75 ISO</b>	11	18	0.21	0.32
	2.00		<b>16 IRM 2.00 ISO</b>	12	21	0.22	0.33
	2.50		<b>16 IRM 2.50 ISO</b>	14	21	0.23	0.34
	3.00		<b>16 IRM 3.00 ISO</b>	16	22	0.24	0.35
American UN		20	<b>16 IRM 20 UN</b>	7	13	0.20	0.30
		18	<b>16 IRM 18 UN</b>	8	15	0.20	0.30
		16	<b>16 IRM 16 UN</b>	11	19	0.20	0.30
		14	<b>16 IRM 14 UN</b>	11	20	0.21	0.31
		12	<b>16 IRM 12 UN</b>	12	21	0.23	0.34
		8	<b>16 IRM 8 UN</b>	14	20	0.24	0.36
British BSW		19	<b>16 IRM 19 W</b>	7	12	0.28	0.42
		16	<b>16 IRM 16 W</b>	9	14	0.26	0.39
		14	<b>16 IRM 14 W</b>	10	16	0.27	0.41
		11	<b>16 IRM 11 W</b>	12	19	0.31	0.46
NPT		14	<b>16 IRM 14 NPT</b>	21	35	0.13	0.20
		11.5	<b>16 IRM 11.5 NPT</b>	21	33	0.17	0.25
		8	<b>16 IRM 8 NPT</b>	20	34	0.23	0.34
Round		6	<b>16 IRM 6 RND</b>	12	24	0.30	0.46
Partial profile 60°		48-16	<b>06 IRM A 60</b>	(1)		0.22	0.33
		48-16	<b>08 IRM A 60</b>		0.13	0.20	
		48-16	<b>11 IRM A 60</b>		0.13	0.20	
		48-16	<b>16 IRM A 60</b>		0.13	0.20	
		14-8	<b>16 IRM G 60</b>		0.22	0.33	
		48-8	<b>16 IRM AG 60</b>		0.14	0.21	
		7-5	<b>22 IRM N 60</b>		0.23	0.34	
Partial profile 55°		14-8	<b>16 IRM G 55</b>		0.34	0.50	
		48-8	<b>16 IRM AG 55</b>		0.14	0.20	

• <sup>(1)</sup> As per the number of passes for the relevant pitch

<sup>(2)</sup> Equal depth of cut method

<sup>(3)</sup> Diminished depth of cut for each pass method

## Number of cutting passes for regular type inserts

Pitch	mm	0.5	1.0	1.5	2.0	2.5	3.0	4.0	6.0
	TPI		48	24	16	12	10	8	6
Number of passes		4-6	5-9	5-12	6-14	7-15	8-17	10-20	11-22

• For mini-tools (06IR or 08IR) add 1-3 passes. Increase for hard materials

Max. depth for first pass (D1) mm							
High carbon steel		Alloy steel		Stainless steel		Nonferrous aluminum	
Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>	Eq. <sup>(2)</sup>	Dim. <sup>(3)</sup>
0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28
0.17	0.25	0.15	0.22	0.12	0.18	0.27	0.39
0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
0.19	0.29	0.17	0.26	0.14	0.21	0.29	0.45
0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
0.18	0.27	0.16	0.24	0.12	0.18	0.28	0.42
0.18	0.27	0.16	0.24	0.13	0.20	0.28	0.42
0.19	0.28	0.17	0.25	0.13	0.19	0.29	0.43
0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
0.22	0.32	0.19	0.29	0.16	0.23	0.34	0.50
0.25	0.38	0.22	0.34	0.17	0.25	0.39	0.59
0.23	0.35	0.21	0.31	0.17	0.25	0.36	0.55
0.24	0.37	0.22	0.33	0.18	0.27	0.38	0.57
0.28	0.41	0.25	0.37	0.20	0.30	0.43	0.64
0.12	0.18	0.10	0.16	0.08	0.12	0.18	0.28
0.15	0.23	0.14	0.20	0.11	0.16	0.24	0.35
0.21	0.31	0.18	0.27	0.14	0.20	0.32	0.48
0.27	0.41	0.24	0.37	0.20	0.30	0.42	0.64
0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
0.12	0.18	0.10	0.16	0.08	0.13	0.18	0.28
0.20	0.30	0.18	0.26	0.14	0.21	0.31	0.46
0.13	0.19	0.11	0.17	0.09	0.14	0.20	0.29
0.21	0.31	0.18	0.27	0.15	0.22	0.32	0.48
0.31	0.45	0.27	0.40	0.22	0.33	0.48	0.70
0.13	0.18	0.11	0.16	0.09	0.13	0.20	0.28

# Recommended Number of Passes

For multi-tooth insert

Full profile	Insert description	No. of passes	1 <sup>st</sup> pass	2 <sup>nd</sup> pass	3 <sup>rd</sup> pass	4 <sup>th</sup> pass	External / internal
ISO metric	<b>16 ER 1.0 ISO 3M</b>	2	0.39	0.24	-	-	External
	<b>16 ER 1.5 ISO 2M</b>	3	0.40	0.31	0.21	-	External
	<b>22 ER 1.5 ISO 3M</b>	2	0.54	0.38	-	-	External
	<b>22 ER 2.0 ISO 2M</b>	3	0.56	0.42	0.27	-	External
	<b>22 ER 2.0 ISO 3M</b>	2	0.75	0.50	-	-	External
	<b>27 ER 3.0 ISO 2M</b>	4	0.60	0.52	0.44	0.30	External
	<b>16 IR 1.0 ISO 3M</b>	2	0.32	0.26	-	-	Internal
	<b>16 IR 1.5 ISO 2M</b>	3	0.36	0.29	0.22	-	Internal
	<b>22 IR 1.5 ISO 3M</b>	2	0.49	0.38	-	-	Internal
	<b>22 IR 2.0 ISO 2M</b>	3	0.50	0.40	0.25	-	Internal
	<b>22 IR 2.0 ISO 3M</b>	2	0.72	0.43	-	-	Internal
	<b>27 IR 3.0 ISO 2M</b>	4	0.57	0.45	0.38	0.33	Internal
UN	<b>16 ER 16 UN 2M</b>	3	0.45	0.32	0.20	-	External
	<b>22 ER 16 UN 3M</b>	2	0.60	0.37	-	-	External
	<b>22 ER 12 UN 2M</b>	3	0.60	0.39	0.31	-	External
	<b>22 ER 12 UN 3M</b>	2	0.80	0.50	-	-	External
	<b>27 ER 8 UN 2M</b>	4	0.63	0.55	0.42	0.36	External
	<b>16 IR 16 UN 2M</b>	3	0.40	0.29	0.23	-	Internal
	<b>22 IR 16 UN 3M</b>	2	0.57	0.35	-	-	Internal
	<b>22 IR 12 UN 2M</b>	3	0.55	0.39	0.28	-	Internal
	<b>22 IR 12 UN 3M</b>	2	0.75	0.47	-	-	Internal
<b>27 IR 8 UN 2M</b>	4	0.65	0.49	0.42	0.27	Internal	
NPT	<b>22 ER 11.5 NPT 2M</b>	4	0.55	0.46	0.35	0.32	External
	<b>27 ER 11.5 NPT 3M</b>	3	0.75	0.57	0.36	-	External
	<b>27 ER 8 NPT 2M</b>	4	0.80	0.62	0.54	0.45	External
	<b>22 IR 11.5 NPT 2M</b>	4	0.55	0.46	0.35	0.32	Internal
	<b>27 IR 11.5 NPT 3M</b>	3	0.75	0.57	0.36	-	Internal
	<b>27 IR 8 NPT 2M</b>	4	0.80	0.62	0.54	0.45	Internal
Whitworth	<b>16 ER 14 W 2M</b>	3	0.51	0.39	0.26	-	External
	<b>22 ER 14 W 3M</b>	2	0.72	0.44	-	-	External
	<b>22 ER 11 W 2M</b>	3	0.65	0.46	0.37	-	External
	<b>16 IR 14 W 2M</b>	3	0.51	0.39	0.26	-	Internal
	<b>22 IR 14 W 3M</b>	2	0.72	0.44	-	-	Internal
	<b>22 IR 11 W 2M</b>	3	0.65	0.46	0.37	-	Internal
API round	<b>22 ER 10 API RD 2M</b>	3	0.58	0.53	0.30	-	External
	<b>27 ER 10 API RD 3M</b>	2	0.98	0.43	-	-	External
	<b>27 ER 8 API RD 2M</b>	3	0.82	0.59	0.40	-	External
	<b>22 IR 10 API RD 2M</b>	3	0.58	0.53	0.30	-	Internal
	<b>27 IR 10 API RD 3M</b>	2	0.98	0.43	-	-	Internal
	<b>27 IR 8 API RD 2M</b>	3	0.82	0.59	0.40	-	Internal

# **TS-THREAD**

**Thread Milling**



[Contents](#)

# Designation System

Solid carbide end mill

**TMTEC**  **06 04 C 14 1.0 ISO TT9030**

1 2 3 4 5 6 7 8 9

## 1 TaeguTec mill thread

T - TaeguTec  
MT - Mill thread  
E - End mill  
C - Carbide

## 2 End mill type

B - Axial coolant bore  
Z - Coolant hole in the flutes  
S - Short head  
SH - Short head for threading hard materials  
Q - Reduced diameter neck  
I - Partial profile

## 3 Shank diameter

06 6.0 mm  
10 10.0 mm

## 4 Cutting diameter

031 3.1 mm  
04 4.0 mm

## 5 No. of flutes

C - 3 flutes  
D - 4 flutes  
E - 5 flutes  
F - 6 flutes

## 6 Length of thread (ap)

10 10.0 mm

## 7 Thread pitch

0.25-4.0 pitch (mm)  
72-7 TPI

## 8 Thread standard

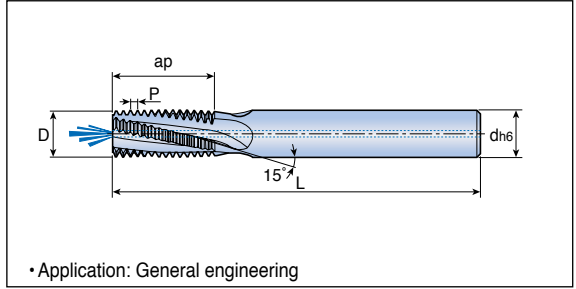
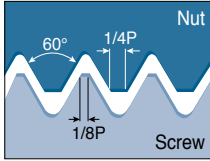
ISO - ISO Metric  
UN - American UN  
W - Whitworth  
NPT - NPT  
NPTF - NPTF  
BSPT - British BSPT  
UNJ - UNJ  
MJ - MJ

## 9 Grades

Coated  
TT9030  
TT1040



## Solid carbide threading end mills with internal coolant hole

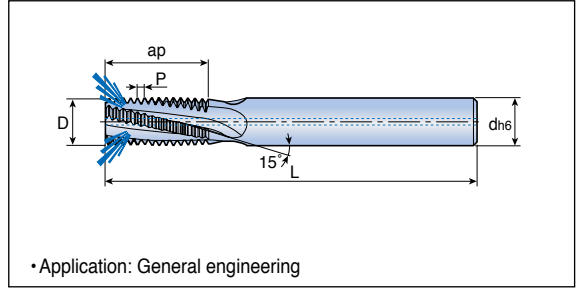
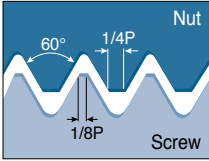


Designation	Pitch (mm)	M coarse	M fine	Dimension (mm)				No. of flutes	Grade TT9030
				d	D	ap	L		
<b>TMTECB 06038C10 0.5 ISO</b>	0.5	-	$\varnothing \geq 5$	6	3.8	10.3	58	3	●
<b>06031C7 0.7 ISO</b>	0.7	M4	$\varnothing \geq 5$	6	3.1	7.4	58	3	●
<b>06045C10 0.75 ISO</b>	0.75	-	$\varnothing \geq 6$	6	4.5	10.1	58	3	●
<b>1010D24 0.75 ISO</b>	0.75	-	$\varnothing \geq 12$	10	10.0	24.4	73	4	●
<b>06038C9 0.8 ISO</b>	0.8	M5	$\varnothing \geq 6$	6	3.8	9.2	58	3	●
<b>06046C10 1.0 ISO</b>	1.0	M6	$\varnothing \geq 7$	6	4.6	10.5	58	3	●
<b>06046C14 1.0 ISO</b>	1.0	M6	$\varnothing \geq 7$	6	4.6	14.5	58	3	●
<b>0606C12 1.0 ISO</b>	1.0	-	$\varnothing \geq 9$	6	6.0	12.5	58	3	●
<b>0808D16 1.0 ISO</b>	1.0	-	$\varnothing \geq 10$	8	8.0	16.5	64	4	●
<b>1010D24 1.0 ISO</b>	1.0	-	$\varnothing \geq 12$	10	10.0	24.5	73	4	●
<b>0606C14 1.25 ISO</b>	1.25	M8	$\varnothing \geq 10$	6	6.0	14.4	58	3	●
<b>0606C19 1.25 ISO</b>	1.25	M8	$\varnothing \geq 10$	6	6.0	19.4	58	3	●
<b>08078C17 1.5 ISO</b>	1.5	M10	$\varnothing \geq 12$	8	7.8	17.0	64	3	●
<b>08078C24 1.5 ISO</b>	1.5	M10	$\varnothing \geq 12$	8	7.8	24.8	64	3	●
<b>1010D21 1.5 ISO</b>	1.5	-	$\varnothing \geq 14$	10	10.0	21.8	73	4	●
<b>1212D26 1.5 ISO</b>	1.5	-	$\varnothing \geq 16$	12	12.0	26.3	84	4	●
<b>1616F33 1.5 ISO</b>	1.5	-	$\varnothing \geq 20$	16	16.0	33.8	105	6	●
<b>1009C20 1.75 ISO</b>	1.75	M12	$\varnothing \geq 12$	10	9.0	20.1	73	3	●
<b>1009C28 1.75 ISO</b>	1.75	M12	$\varnothing \geq 12$	10	9.0	28.9	73	3	●
<b>1010C27 2.0 ISO</b>	2.0	M14	$\varnothing \geq 15$	10	10.0	27.0	73	3	●
<b>12118D27 2.0 ISO</b>	2.0	M16	$\varnothing \geq 17$	12	11.8	27.0	84	4	●
<b>12118D39 2.0 ISO</b>	2.0	M16	$\varnothing \geq 17$	12	11.8	39.0	105	4	●
<b>2020F41 2.0 ISO</b>	2.0	-	$\varnothing \geq 26$	20	20.0	41.0	105	6	●
<b>1615E33 2.5 ISO</b>	2.5	M20	$\varnothing \geq 22$	16	15.0	33.8	105	5	●
<b>1615E48 2.5 ISO</b>	2.5	M20	$\varnothing \geq 22$	16	15.0	48.8	105	5	●
<b>2018D40 3.0 ISO</b>	3.0	M24	$\varnothing \geq 25$	20	18.0	40.5	105	4	●
<b>2018D58 3.0 ISO</b>	3.0	M24	$\varnothing \geq 25$	20	18.0	58.5	120	4	●
<b>2020D43 3.0 ISO</b>	3.0	M27	$\varnothing \geq 27$	20	20.0	43.5	105	4	●

● Standard item



Solid carbide with internal coolant in the flutes, for internal threading

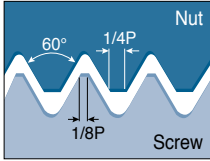
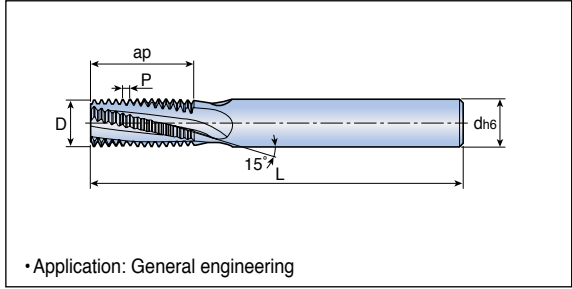


Designation	Pitch (mm)	M coarse	M fine	Dimension (mm)				No. of flutes	Grade TT9030
				d	D	ap	L		
TMTECZ 06048C10 1.0 ISO	1.0	M6	$\varnothing \geq 7$	6	4.8	10.5	58	3	●
0606C12 1.0 ISO	1.0	-	$\varnothing \geq 9$	6	6.0	12.5	58	3	●
0808D16 1.0 ISO	1.0	-	$\varnothing \geq 10$	8	8.0	16.5	64	4	●
0606C14 1.25 ISO	1.25	M8	$\varnothing \geq 10$	6	6.0	14.4	58	3	●
0606C19 1.25 ISO	1.25	M8	$\varnothing \geq 10$	6	6.0	19.4	58	3	●
08078C17 1.5 ISO	1.5	M10	$\varnothing \geq 12$	8	7.8	17.0	64	3	●
1010D21 1.5 ISO	1.5	-	$\varnothing \geq 14$	10	10.0	21.8	73	4	●
1212D26 1.5 ISO	1.5	-	$\varnothing \geq 16$	12	12.0	26.3	84	4	●
1616E33 1.5 ISO	1.5	-	$\varnothing \geq 20$	16	16.0	33.8	101	5	●
1009C20 1.75 ISO	1.75	M12	$\varnothing \geq 12$	10	9.0	20.1	73	3	●
1009C28 1.75 ISO	1.75	M12	$\varnothing \geq 12$	10	9.0	28.9	73	3	●
1010C27 2.0 ISO	2.0	M14	$\varnothing \geq 15$	10	10.0	27.0	73	3	●
12118D27 2.0 ISO	2.0	M16	$\varnothing \geq 17$	12	11.8	27.0	84	4	●
1615E33 2.5 ISO	2.5	M20	$\varnothing \geq 22$	16	15.0	33.8	101	5	●



● Standard item

## Solid carbide threading end mills for internal threading

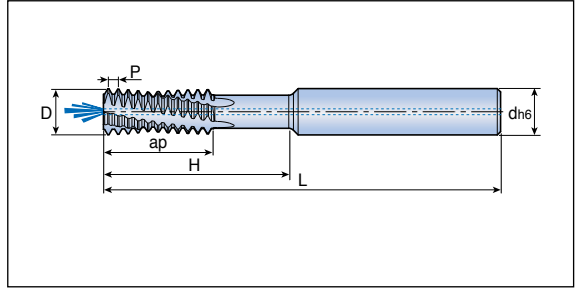
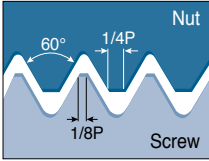


Designation	Pitch (mm)	M coarse	M fine	Dimension (mm)				No. of flutes	Grade TT9030	
				d	D	ap	L			
<b>TMTEC 06022C5 0.5 ISO</b>	0.5	M3	Ø ≥ 4	6	2.2	5.3	58	3	●	
<b>06038C10 0.5 ISO</b>	0.5	-	Ø ≥ 5	6	3.8	10.4	58	3	●	
<b>06031C7 0.7 ISO</b>	0.7	M4	Ø ≥ 5	6	3.1	7.4	58	3	●	
<b>06045C10 0.75 ISO</b>	0.75	-	Ø ≥ 6	6	4.5	10.1	58	3	●	
<b>06036C9 0.8 ISO</b>	0.8	M5	Ø ≥ 6	6	3.6	9.2	58	3	●	
<b>0604C10 1.0 ISO</b>	1.0	M6	Ø ≥ 7	6	4	10.5	58	3	●	
<b>0604C14 1.0 ISO</b>	1.0	M6	Ø ≥ 7	6	4	14.5	58	3	●	
<b>0606C12 1.0 ISO</b>	1.0	-	Ø ≥ 9	6	6	12.5	58	3	●	
<b>0808D16 1.0 ISO</b>	1.0	-	Ø ≥ 10	8	8	16.5	64	4	●	
<b>0605C14 1.25 ISO</b>	1.25	M8	Ø ≥ 10	6	5	14.4	58	3	●	
<b>0605C19 1.25 ISO</b>	1.25	M8	Ø ≥ 10	6	5	19.4	58	3	●	
<b>0807C17 1.5 ISO</b>	1.5	M10	Ø ≥ 12	8	7	17.3	64	3	●	
<b>0807C24 1.5 ISO</b>	1.5	M10	Ø ≥ 12	8	7	24.8	76	3	●	
<b>1010D21 1.5 ISO</b>	1.5	-	Ø ≥ 14	10	10	21.8	73	4	●	
<b>1616F33 1.5 ISO</b>	1.5	-	Ø ≥ 20	16	16	33.8	105	6	●	
<b>0808C20 1.75 ISO</b>	1.75	M12	Ø ≥ 14	8	8	20.1	64	3	●	
<b>0808C28 1.75 ISO</b>	1.75	M12	Ø ≥ 14	8	8	28.9	76	3	●	
<b>1010C27 2.0 ISO</b>	2.0	M16	Ø ≥ 17	10	10	27.0	73	3	●	
<b>1010C39 2.0 ISO</b>	2.0	M16	Ø ≥ 17	10	10	39.0	105	3	●	
<b>1212D27 2.0 ISO</b>	2.0	-	Ø ≥ 18	12	12	27.0	84	4	●	
<b>2020F41 2.0 ISO</b>	2.0	-	Ø ≥ 26	20	20	41.0	105	6	●	
<b>1414D33 2.5 ISO</b>	2.5	M20	Ø ≥ 22	14	14	33.8	84	4	●	
<b>1414D48 2.5 ISO</b>	2.5	M20	Ø ≥ 22	14	14	48.8	105	4	●	
<b>1616C40 3.0 ISO</b>	3.0	M24	Ø ≥ 25	16	16	40.5	105	3	●	
<b>1616C58 3.0 ISO</b>	3.0	M24	Ø ≥ 25	16	16	58.5	120	3	●	
<b>2020D43 3.0 ISO</b>	3.0	M27	Ø ≥ 28	20	20	43.5	105	4	●	

● Standard item



Solid carbide thread end mills with internal coolant holes and a reduced diameter neck for deep internal threading

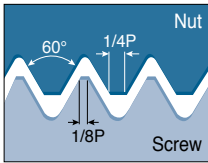
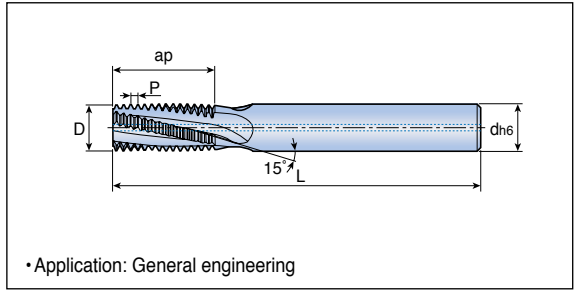


Designation	Pitch (mm)	Thread size	Dimension (mm)					No. of flutes	Grade	
			d	D	ap	H	L		TT9030	
<b>TMTECQ 1010D32 1.0 ISO</b>	1.0	$\varnothing \geq 12$	10	10.0	18.0	32.0	73	4	●	
<b>1212D38 1.0 ISO</b>	1.0	$\varnothing \geq 14$	12	12.0	21.0	38.0	84	4	●	
<b>1616F45 1.0 ISO</b>	1.0	$\varnothing \geq 18$	16	16.0	26.0	45.0	105	6	●	
<b>1010D30 1.5 ISO</b>	1.5	$\varnothing \geq 13$	10	10.0	18.0	30.0	73	4	●	
<b>1212D34 1.5 ISO</b>	1.5	$\varnothing \geq 15$	12	12.0	19.5	34.5	84	4	●	
<b>1616F43 1.5 ISO</b>	1.5	$\varnothing \geq 19$	16	16.0	25.5	43.5	105	6	●	
<b>2020F60 1.5 ISO</b>	1.5	$\varnothing \geq 23$	20	20.0	36.0	60.0	105	6	●	
<b>1212D42 2.0 ISO</b>	2.0	$\varnothing \geq 16$	12	12.0	24.0	42.0	84	4	●	
<b>1616E45 2.0 ISO</b>	2.0	$\varnothing \geq 20$	16	12.0	26.0	45.0	105	5	●	
<b>2020F56 2.0 ISO</b>	2.0	$\varnothing \geq 24$	20	20.0	34.0	56.0	105	6	●	
<b>1616D45 3.0 ISO</b>	3.0	$\varnothing \geq 22$	16	16.0	30.0	45.0	105	4	●	
<b>2020E54 3.0 ISO</b>	3.0	$\varnothing \geq 26$	20	20.0	33.0	54.0	105	5	●	
<b>2020D45 3.5 ISO</b>	3.5	$\varnothing \geq 26$	20	20.0	28.0	45.5	105	4	●	
<b>2525D64 4.0 ISO</b>	4.0	$\varnothing \geq 31$	25	25.0	40.0	64.0	105	4	●	



● Standard item

## Solid carbide end mills for external threading



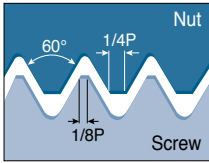
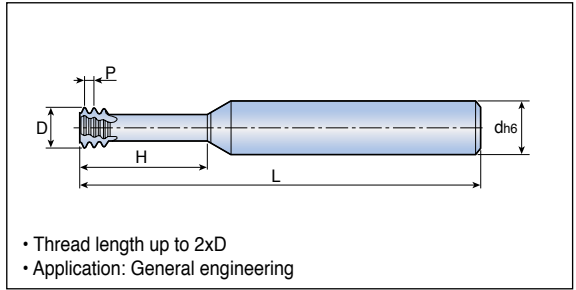
Designation	Pitch (mm)	Dimension (mm)				No. of flutes	Grade TT9030
		d	D	ap	L		
<b>TMTEC E 1010D16 1.0 ISO</b>	1.0	10	10.0	16.5	73	4	●
<b>1212E20 1.0 ISO</b>	1.0	12	12.0	20.5	84	5	●
<b>1010D16 1.25 ISO</b>	1.25	10	10.0	16.9	73	4	●
<b>1010D15 1.5 ISO</b>	1.5	10	10.0	15.8	73	4	●
<b>1212D20 1.5 ISO</b>	1.5	12	12.0	20.3	84	4	●
<b>1010D20 1.75 ISO</b>	1.75	12	12.0	20.1	84	4	●
<b>1010C17 2.0 ISO</b>	2.0	10	10.0	17.0	73	3	●
<b>1212D21 2.0 ISO</b>	2.0	12	12.0	21.0	84	4	●



● Standard item

# TMTECS-ISO

## Short solid carbide end mills for internal threading

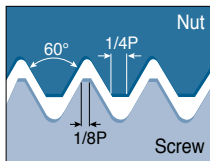
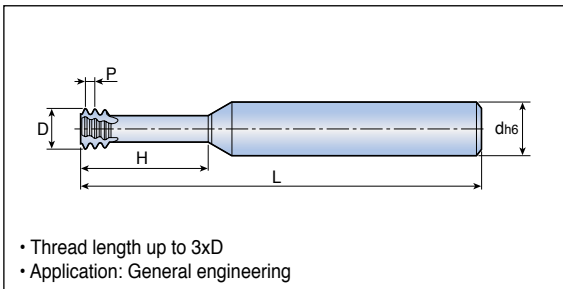


Designation	Pitch (mm)	Thread size	Dimension (mm)				No. of flutes	Grade TT9030	
			d	D	H	L			
<b>TMTECS 06016C4 0.4 ISO</b>	0.40	M2	6	1.55	4.5	58	3	●	
<b>06017C5 0.45 ISO</b>	0.45	M2.2	6	1.65	5.0	58	3	●	
<b>0602C5 0.45 ISO</b>	0.45	M2.5	6	1.95	5.5	58	3	●	
<b>06024C6 0.5 ISO</b>	0.50	M3	6	2.35	6.5	58	3	●	
<b>06028C7 0.6 ISO</b>	0.60	M3.5	6	2.75	7.5	58	3	●	
<b>06031C9 0.7 ISO</b>	0.70	M4	6	3.10	9.0	58	3	●	
<b>06038C12 0.8 ISO</b>	0.80	M5	6	3.80	12.5	58	3	●	
<b>06047C14 1.0 ISO</b>	1.00	M6	6	4.65	14.0	58	3	●	
<b>0606C18 1.25 ISO</b>	1.25	M8	6	5.95	18.0	58	3	●	
<b>0808D25 0.75 ISO</b>	0.75	M10	8	8.00	25.0	64	4	●	
<b>08078C23 1.5 ISO</b>	1.50	M10	8	7.80	23.0	64	3	●	
<b>1009C26 1.75 ISO</b>	1.75	M12	10	9.00	26.0	73	3	●	
<b>12118D35 2.0 ISO</b>	2.00	M16	12	11.8	35.0	84	4	●	
<b>1615E43 2.5 ISO</b>	2.50	M20	16	15.00	43.0	105	5	●	

● Standard item



## Short solid carbide end mills for internal threading



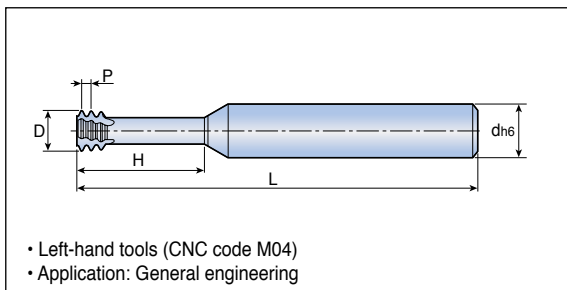
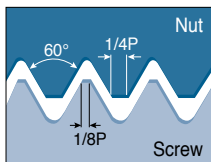
Designation	Pitch (mm)	Thread size	Dimension (mm)				No. of flutes	Grade TT9030
			d	D	H	L		
<b>TMTECS 03007C2 0.25 ISO</b>	0.25	M1.0	3	0.72	2.5	39	3	●
<b>03009C3 0.25 ISO</b>	0.25	M1.2	3	0.90	3.0	39	3	●
<b>03011C4 0.3 ISO<sup>(1)</sup></b>	0.30	M1.4	3	1.05	4.0	39	3	●
<b>03012C5 0.35 ISO<sup>(1)</sup></b>	0.35	M1.6	3	1.20	5.0	39	3	●
<b>03016C6 0.4 ISO<sup>(1)</sup></b>	0.40	M2	3	1.55	6.0	39	3	●
<b>0602C7 0.45 ISO</b>	0.45	M2.5	6	1.95	7.5	58	3	●
<b>06024C9 0.5 ISO</b>	0.50	M3	6	2.35	9.5	58	3	●
<b>06028C10 0.6 ISO</b>	0.60	M3.5	6	2.75	10.5	58	3	●
<b>06031C12 0.7 ISO</b>	0.70	M4	6	3.10	12.5	58	3	●
<b>06038C16 0.8 ISO</b>	0.80	M5	6	3.80	16.0	58	3	●
<b>06047C20 1.0 ISO</b>	1.00	M6	6	4.65	20.0	58	3	●
<b>0606C24 1.25 ISO</b>	1.25	M8	6	5.95	24.0	58	3	●



<sup>(1)</sup> Specially designed for the production of dental implants

● Standard item

## Short solid carbide end mills for internal threading of hardened steel



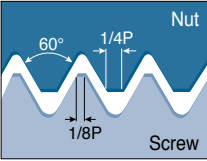
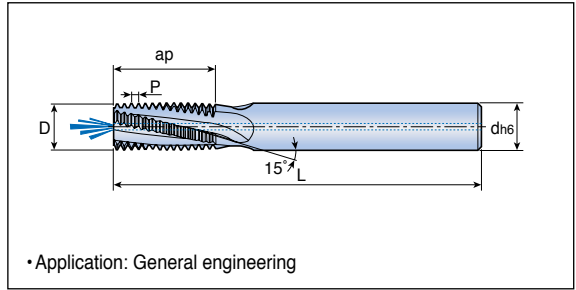
Designation	Pitch (mm)	Thread size	Dimension (mm)				No. of flutes	Grade TT1040
			d	D	H	L		
TMTECSH 03011C4 0.3 ISO	0.30	M1.4	3	1.05	4.0	39	3	●
03012C5 0.35 ISO	0.35	M1.6	3	1.20	4.8	39	3	●
03016C6 0.4 ISO	0.40	M2	3	1.55	6.0	58	3	●
06016C4 0.4 ISO	0.40	M2	6	1.55	4.5	58	3	●
06017C5 0.45 ISO	0.45	M2.2	6	1.65	5.0	58	3	●
0602C5 0.45 ISO	0.45	M2.5	6	1.95	5.5	58	3	●
06024C6 0.5 ISO	0.50	M3	6	2.35	6.5	58	3	●
06028C7 0.6 ISO	0.60	M3.5	6	2.75	7.5	58	3	●
06031C9 0.7 ISO	0.70	M4	6	3.10	9.0	58	3	●
06038C12 0.8 ISO	0.80	M5	6	3.80	12.5	58	3	●
06047C14 1.0 ISO	1.00	M6	6	4.65	14.0	58	3	●
0606C18 1.25 ISO	1.25	M8	6	5.95	18.0	58	3	●
08078C23 1.5 ISO	1.50	M10	8	7.80	23.0	64	3	●
1009C26 1.75 ISO	1.75	M12	10	9.00	26.0	73	3	●
12118D35 2.0 ISO	2.00	M16	12	11.8	35.0	84	4	●



● Standard item



Solid carbide end mills for internal threading with internal coolant hole

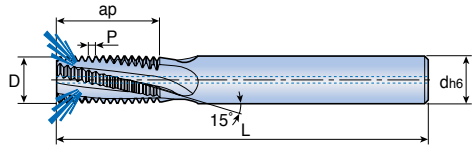
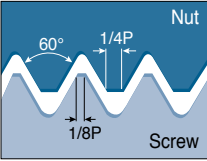


Designation	TPI	UNC	UNF	UNEF	Dimension (mm)				No. of flutes	Grade TT9030
					d	D	ap	L		
<b>TMTECB 06032C6 32 UN</b>	32	8	10	12	6	3.2	6.8	58	3	●
<b>0808D18 32 UN</b>	32	-	-	3/8	8	8.0	18.7	64	4	●
<b>0606C14 32 UN</b>	32	-	-	5/16	6	6.0	14.7	58	3	●
<b>0605C11 28 UN</b>	28	-	1/4	-	6	5.0	11.3	58	3	●
<b>0606C14 28 UN</b>	28	-	-	7/16-1/2	6	6.0	14.1	58	3	●
<b>08066C14 24 UN</b>	24	-	5/16	-	8	6.6	14.3	64	3	●
<b>0808D21 24 UN</b>	24	-	3/8	9/16-5/8	8	8.0	20.6	64	4	●
<b>06047C12 20 UN</b>	20	1/4	-	-	6	4.7	12.1	58	3	●
<b>0808C21 20 UN</b>	20	-	7/16	-	8	8.0	21.0	64	3	●
<b>1010D22 20 UN</b>	20	-	1/2	-	10	10.0	22.3	73	4	●
<b>1212E27 20 UN</b>	20	-	-	3/4-1	12	12.0	27.3	84	5	●
<b>06056C14 18 UN</b>	18	5/16	-	-	6	5.6	14.8	58	3	●
<b>12113D26 18 UN</b>	18	-	9/16-5/8	11/8-15/8	12	11.3	26.1	84	4	●
<b>08067C16 16 UN</b>	16	3/8	-	-	8	6.7	16.7	64	3	●
<b>1212D31 16 UN</b>	16	-	3/4	-	12	12.0	31.0	84	4	●
<b>08077C20 14 UN</b>	14	7/16	-	-	8	7.7	20.9	64	3	●
<b>1616E37 14 UN</b>	14	-	7/8	-	16	16.0	37.2	105	5	●
<b>10092C22 13 UN</b>	13	1/2	-	-	10	9.2	22.5	73	3	●
<b>12105C26 12 UN</b>	12	9/16	-	-	12	10.5	26.5	84	3	●
<b>1616E41 12 UN</b>	12	-	1-11/2	-	16	16.0	41.3	105	5	●
<b>12114C28 11 UN</b>	11	5/8	-	-	12	11.4	28.9	84	3	●
<b>16144D34 10 UN</b>	10	3/4	-	-	16	14.4	34.3	105	4	●
<b>1616C38 9 UN</b>	9	7/8	-	-	16	16.0	38.1	105	3	●
<b>20195D42 8 UN</b>	8	1	-	-	20	19.5	42.9	105	4	●
<b>2020D45 7 UN</b>	7	11/8-11/4	-	-	20	20.0	45.3	105	4	●

● Standard item



## Solid carbide with internal coolant in the flutes for internal threading



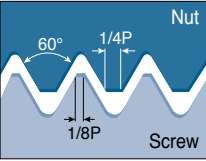
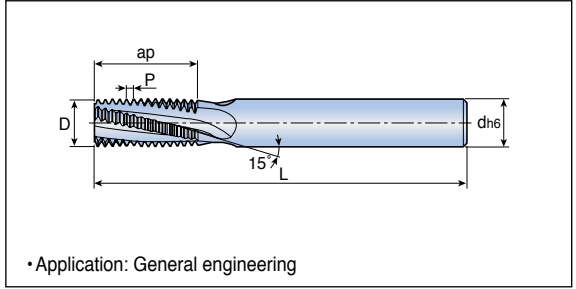
• Application: General engineering

Designation	TPI	UNC	UNF	UNEF	Dimension (mm)				No. of flutes	Grade TT9030
					d	D	ap	L		
<b>TMTECZ 0605C11 28 UN</b>	28	-	1/4	-	6	5.0	11.3	58	3	●
<b>0606C14 28 UN</b>	28	-	-	7/16-1/2	6	6.0	14.1	58	3	●
<b>08066C14 24 UN</b>	24	-	5/16	-	8	6.6	14.3	64	3	●
<b>0808D21 24 UN</b>	24	-	3/8	9/16-5/8	8	8.0	20.6	64	4	●
<b>0808C21 20 UN</b>	20	-	7/16	-	8	8.0	21.0	64	3	●
<b>1010D22 20 UN</b>	20	-	1/2	-	10	10.0	22.3	73	4	●
<b>1212E27 20 UN</b>	20	-	-	3/4-1	12	12.0	27.3	84	5	●
<b>06056C14 18 UN</b>	18	5/16	-	-	6	5.6	14.8	58	3	●
<b>12113D26 18 UN</b>	18	-	9/16-5/8	1 1/8-1 5/8	12	11.3	26.1	84	4	●
<b>08067C16 16 UN</b>	16	3/8	-	-	8	6.7	16.7	64	3	●
<b>1212D31 16 UN</b>	16	-	3/4	-	12	12.0	31.0	84	4	●
<b>08077C20 14 UN</b>	14	7/16	-	-	8	7.7	20.9	64	3	●
<b>1616E37 14 UN</b>	14	-	7/8	-	16	16.0	37.2	101	5	●
<b>10092C22 13 UN</b>	13	1/2	-	-	10	9.2	22.5	73	3	●
<b>12105C26 12 UN</b>	12	9/16	-	-	12	10.5	26.5	84	3	●
<b>12114C28 11 UN</b>	11	5/8	-	-	12	11.4	28.9	84	3	●
<b>16144D34 10 UN</b>	10	3/4	-	-	16	14.4	34.3	101	4	●



● Standard item

## Solid carbide threading end mills with internal threading



Designation	TPI	UNC	UNF	UNEF	Dimension (mm)				No. of flutes	Grade
					d	D	ap	L		
<b>TMTEC 06025C6 40 UN</b>	40	5	-	-	6	2.5	6.0	62	3	●
<b>06032C6 32 UN</b>	32	8	10	12	6	3.2	6.8	58	3	●
<b>0604C11 28 UN</b>	28	-	1/4	-	6	4.0	11.3	58	3	●
<b>0606C14 28 UN</b>	28	-	-	7/6-1/2	6	6.0	14.5	58	3	●
<b>0605C14 24 UN</b>	24	-	5/16	-	6	5.0	14.8	58	3	●
<b>0807C21 24 UN</b>	24	-	3/8	9/16-5/8	8	7.0	20.0	64	3	●
<b>06045C12 20 UN</b>	20	1/4	-	-	6	4.5	12.1	58	3	●
<b>0807C21 20 UN</b>	20	-	7/16-1/2	-	8	7.0	20.0	64	3	●
<b>1212E27 20 UN</b>	20	-	-	3/4-1	12	12.0	27.3	84	5	●
<b>0605C14 18 UN</b>	18	5/16	-	-	6	5.0	14.8	58	3	●
<b>1010D26 18 UN</b>	18	-	9/16-5/8	1 1/8-1 5/8	10	10.0	26.1	73	4	●
<b>0606C16 16 UN</b>	16	3/8	-	-	6	6.0	16.7	58	3	●
<b>1212D31 16 UN</b>	16	-	3/4	-	12	12.0	30.0	84	4	●
<b>0807C20 14 UN</b>	14	7/16	-	-	8	7.0	20.9	64	3	●
<b>1615E37 14 UN</b>	14	-	7/8	-	16	15.0	37.2	105	5	●
<b>0808C22 13 UN</b>	13	1/2	-	-	8	8.0	22.5	64	3	●
<b>1016C26 12 UN</b>	12	9/16	-	-	10	10.0	26.5	73	3	●
<b>1616E41 12 UN</b>	12	-	1-1 1/2	-	16	16.0	41.3	105	5	●
<b>1010C28 11 UN</b>	11	5/8	-	-	10	10.0	28.9	73	3	●
<b>1212C34 10 UN</b>	10	3/4	-	-	12	12.0	34.3	84	3	●
<b>1615C38 9 UN</b>	9	7/8	-	-	16	15.0	38.1	105	3	●
<b>1616C42 8 UN</b>	8	1	-	-	16	16.0	42.9	105	3	●
<b>2020D45 7 UN</b>	7	1 1/8-1 1/4	-	-	20	20.0	45.4	105	4	●

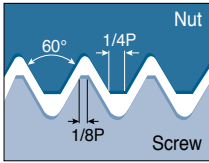
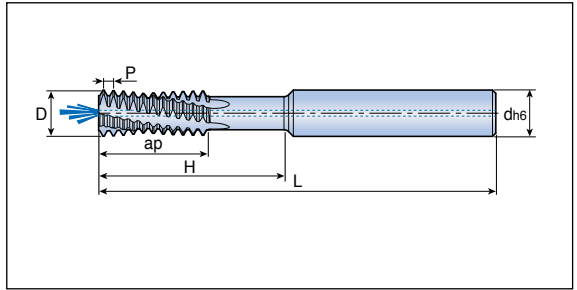
● Standard item



# TMTECQ-UN

## TS-THREAD

Solid carbide thread end mills with internal coolant holes and a reduced diameter neck for deep internal threading

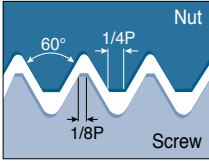
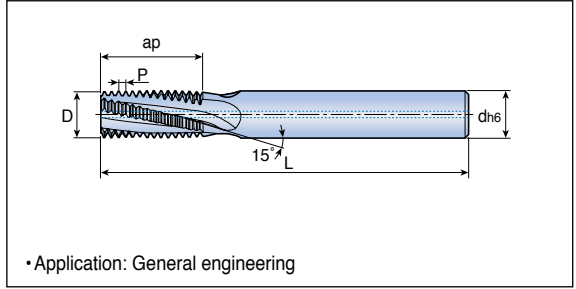


Designation	TPI	Thread size	Dimension (mm)					No. of flutes	Grade TT9030
			d	D	ap	H	L		
<b>TMTECQ 1010D30 20 UN</b>	20	$\text{\O} \geq 12$	10	10.0	17.8	30.5	73	4	●
<b>1212E35 20 UN</b>	20	$\text{\O} \geq 14$	12	12.0	20.3	35.6	84	5	●
<b>1616F43 20 UN</b>	20	$\text{\O} \geq 18$	16	16.0	25.4	43.2	105	6	●
<b>1212D35 18 UN</b>	18	$\text{\O} \geq 15$	12	12.0	19.7	35.3	84	4	●
<b>1212D35 16 UN</b>	16	$\text{\O} \geq 15$	12	12.0	20.7	35.0	84	4	●
<b>1616E42 16 UN</b>	16	$\text{\O} \geq 19$	16	16.0	25.4	42.8	105	5	●
<b>2020F58 16 UN</b>	16	$\text{\O} \geq 23$	20	20.0	36.6	58.8	105	6	●
<b>1616E45 14 UN</b>	14	$\text{\O} \geq 20$	16	16.0	25.4	45.3	105	5	●
<b>1212D42 12 UN</b>	12	$\text{\O} \geq 16$	12	12.0	25.4	42.3	84	4	●
<b>2020E55 12 UN</b>	12	$\text{\O} \geq 24$	20	20.0	33.9	55.1	105	5	●

● Standard item



**Solid carbide end mills for external threading**

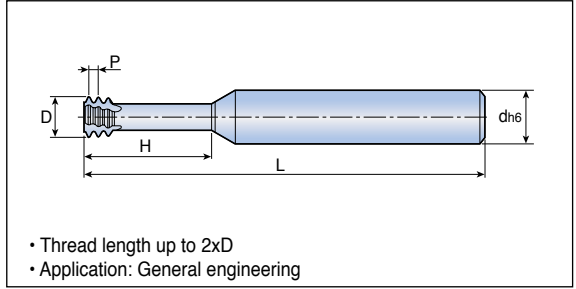
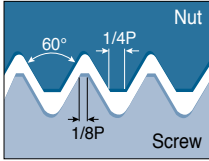


Designation	TPI	Dimension (mm)				No. of flutes	Grade TT9030
		d	D	ap	L		
<b>TMTEC E 1010D16 24 UN</b>	24	10	10.0	16.4	73	4	●
<b>1212E21 20 UN</b>	20	12	12.0	21.0	84	5	●
<b>1212D20 18 UN</b>	18	12	12.0	20.5	84	4	●
<b>1212D21 16 UN</b>	16	12	12.0	21.4	84	4	●
<b>1212D20 14 UN</b>	14	12	12.0	20.9	84	4	●
<b>1212D20 12 UN</b>	12	12	12.0	20.1	84	4	●

● Standard item



## Short solid carbide end mills for internal threading

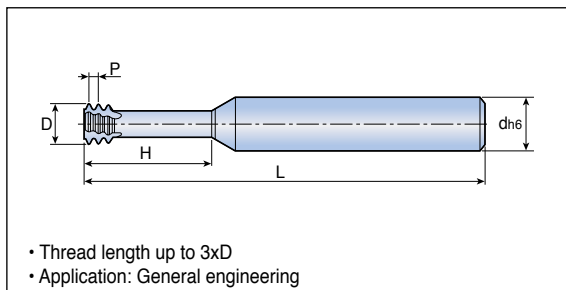
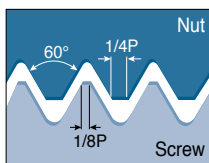


Designation	TPI	UNC	UNF	Dimension (mm)				No. of flutes	Grade TT9030
				d	D	H	L		
<b>TMTECS 06014C3 72 UN</b>	72	-	1	6	1.45	3.7	58	3	●
<b>06014C3 64 UN</b>	64	1	2	6	1.40	3.8	58	3	●
<b>06016C4 56 UN</b>	56	2	3	6	1.65	4.4	58	3	●
<b>06019C5 48 UN</b>	48	3	4	6	1.90	5.2	58	3	●
<b>06021C8 40 UN</b>	40	4	-	6	2.10	8.0	58	3	●
<b>06021C6 40 UN</b>	40	4	-	6	2.10	6.3	58	3	●
<b>06024C7 40 UN</b>	40	5	6	6	2.45	7.0	58	3	●
<b>06033C9 36 UN</b>	36	-	8	6	3.30	9.0	58	3	●
<b>06025C7 32 UN</b>	32	6	-	6	2.55	7.1	58	3	●
<b>06032C9 32 UN</b>	32	8	-	6	3.20	9.5	58	3	●
<b>06037C10 32 UN</b>	32	-	10	6	3.70	10.5	58	3	●
<b>06042C11 28 UN</b>	28	-	12	6	4.20	11.0	58	3	●
<b>0605C14 28 UN</b>	28	-	1/4	6	5.00	14.5	58	3	●
<b>06035C10 24 UN</b>	24	10,12	-	6	3.50	10.6	64	3	●
<b>08066C17 24 UN</b>	24	-	5/16, 3/8	8	6.60	17.0	58	3	●
<b>06047C14 20 UN</b>	20	1/4	-	6	4.75	14.0	58	3	●
<b>0808C25 20 UN</b>	20	-	7/16	8	8.00	25.0	64	3	●
<b>0606C17 18 UN</b>	18	5/16	-	6	6.00	17.0	58	3	●
<b>1212D35 18 UN</b>	18	-	5/8	12	12.00	35.0	84	4	●
<b>08067C22 16 UN</b>	16	3/8	-	8	6.70	22.0	64	3	●
<b>08077C25 14 UN</b>	14	7/16	-	8	7.70	25.0	64	3	●
<b>10092C27 13 UN</b>	13	1/2	-	10	9.20	27.5	73	3	●
<b>12105C31 12 UN</b>	12	9/16	-	12	10.50	31.5	84	3	●
<b>12114C34 11 UN</b>	11	5/8	-	12	11.40	34.5	84	3	●
<b>16144D41 10 UN</b>	10	3/4	-	16	14.40	41.5	105	4	●

● Standard item



## Short solid carbide end mills for internal threading



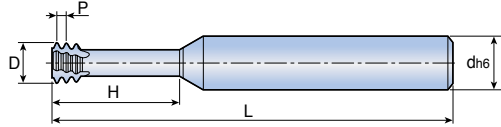
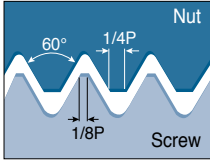
	Designation	TPI	UNC	UNF	Dimension (mm)				No. of flutes	Grade
					d	D	H	L		
TMTECS	<b>06012C4 80 UN</b>	80	-	0	6	1.15	4.0	58	3	●
	<b>03015C6 72 UN<sup>(1)</sup></b>	72	-	1	3	1.45	6.0	58	3	●
	<b>03016C6 56 UN</b>	56	2	3	3	1.65	6.6	39	3	●
	<b>06016C6 56 UN</b>	56	2	3	6	1.65	6.6	58	3	●
	<b>06024C9 40 UN</b>	40	5	6	6	2.45	9.6	58	3	●
	<b>03026C10 32 UN</b>	32	6	-	3	2.55	10.5	39	3	●
	<b>06032C12 32 UN</b>	32	8	-	6	3.20	12.5	58	3	●
	<b>06037C15 32 UN</b>	32	-	10	6	3.70	15.0	58	3	●
	<b>06025C10 32 UN</b>	32	6	-	6	2.55	10.5	58	3	●
	<b>0605C19 28 UN</b>	28	-	1/4	6	5.00	19.0	58	3	●
	<b>08066C24 24 UN</b>	24	-	5/16, 3/8	8	6.60	24.0	64	3	●
	<b>0647C19 20 UN</b>	20	1/4	-	6	4.75	19.0	58	3	●
<b>0606C23 18 UN</b>	18	5/16	-	6	6.00	23.0	58	3	●	



● <sup>(1)</sup> Specially designed for the production of dental implants

● Standard item

Short solid carbide end mills for internal threading of hardened steel (2xD)



- Left-hand tools (CNC code M04)
- Application: General engineering

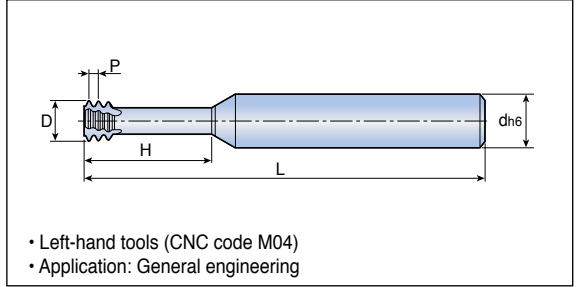
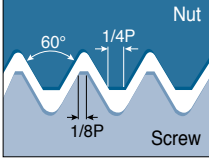
Designation	TPI	UNC	UNF	Dimension (mm)				No. of flutes	Grade
				d	D	H	L		
TMTECSH 06014C3 72 UN	72	-	1	6	1.45	3.7	58	3	●
06014C3 64 UN	64	1	2	6	1.40	3.8	58	3	●
06016C4 56 UN	56	2	3	6	1.65	4.4	58	3	●
06019C5 48 UN	48	3	4	6	1.90	5.2	58	3	●
06021C6 40 UN	40	4	-	6	2.10	6.3	58	3	●
06024C7 40 UN	40	5	6	6	2.45	7.0	58	3	●
06033C9 36 UN	36	-	8	6	3.30	9.0	58	3	●
06025C7 32 UN	32	6	-	6	2.55	7.1	58	3	●
06032C9 32 UN	32	8	-	6	3.20	9.5	58	3	●
06037C10 32 UN	32	-	10	6	3.70	10.5	58	3	●
06042C11 28 UN	28	-	12	6	4.20	11.0	58	3	●
0605C14 28 UN	28	-	1/4	6	5.00	14.5	58	3	●
06035C10 24 UN	24	10,12	-	6	3.50	10.6	58	3	●
08066C17 24 UN	24	-	5/16	8	6.60	17.0	64	3	●
06047C14 20 UN	20	1/4	-	6	4.75	14.0	58	3	●
0808C25 20 UN	20	-	7/16	8	8.00	25.0	64	3	●
0606C17 18 UN	18	5/16	-	6	6.00	17.0	58	3	●
1212D35 18 UN	18	-	5/8	12	12.0	35.0	84	4	●
08067C22 16 UN	16	3/8	-	8	6.70	22.0	64	3	●
08077C25 14 UN	14	7/16	-	8	7.70	25.0	64	3	●
1092C27 13 UN	13	1/2	-	10	9.20	27.5	73	3	●
12105C37 12 UN	12	9/16	-	12	10.5	31.5	84	3	●
12114C34 11 UN	11	5/8	-	12	11.4	41.5	84	3	●

● Standard item





Short solid carbide end mills for internal threading of hardened steel (3xD)



Designation	TPI	UNC	UNF	Dimension (mm)				No. of flutes	Grade TT1040
				d	D	H	L		
<b>TMTECSH 06012C4 80 UN</b>	80	-	0	6	1.15	4.00	58	3	●
<b>06024C9 40 UN</b>	40	5	6	6	2.45	9.60	58	3	●
<b>06032C12 32 UN</b>	32	8	-	6	3.20	12.5	58	3	●
<b>06037C15 32 UN</b>	32	-	10	6	3.70	15.0	58	3	●
<b>0605C19 28 UN</b>	28	-	1/4	6	5.00	19.0	58	3	●
<b>08066C24 24 UN</b>	24	-	5/16	8	6.60	24.0	64	3	●
<b>06047C19 20 UN</b>	20	1/4	-	6	4.75	19.0	58	3	●
<b>0606C23 18 UN</b>	18	5/16	-	6	6.00	23.0	58	3	●

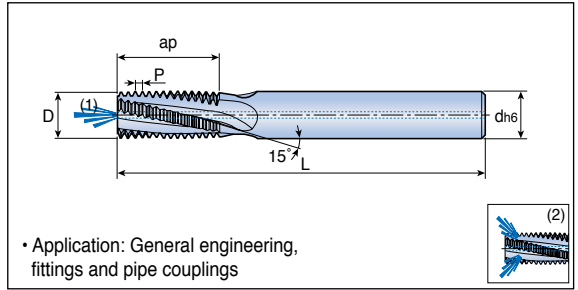
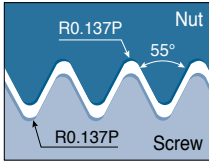


● Standard item

# TMTECB-W / TMTECZ-W / TMTEC-W

TS-THREAD

Solid carbide threading end mills with internal coolant hole



Designation	TPI	BSP	Dimension (mm)				No. of flutes	Grade	
			d	D	ap	L			
<b>TMTECB</b>	<b>08078C14 28 W</b>	28	G1/8	8	7.8	14.1	64	3	●
	<b>1010D16 19 W</b>	19	G1/4-3/8	10	10.0	16.7	73	4	●
	<b>1616E26 14 W</b>	14	G1/2-7/8	16	16.0	26.3	105	5	●
	<b>1616D38 11 W</b>	11	G ≥ 1	16	16.0	38.1	105	4	●
	<b>2020E47 11 W</b>	11	G ≥ 1	20	20.0	47.3	105	5	●
<b>TMTECZ</b>	<b>08078C14 28 W</b>	28	G1/8	8	7.8	14.1	64	3	●
	<b>1010D16 19 W</b>	19	G1/4-3/8	10	10.0	16.7	73	4	●
	<b>1616E26 14 W</b>	14	G1/2-7/8	16	16.0	26.3	101	5	●
	<b>1616D38 11 W</b>	11	G ≥ 1	16	16.0	38.1	101	4	●
	<b>TMTEC</b>	<b>0606C9 28 W</b>	28	G1/8	6	6	9.5	58	3
<b>0808C14 19 W</b>		19	G1/4-3/8	8	8	14.0	64	3	●
<b>1212D19 14 W</b>		14	G1/2-7/8	12	12	19.0	84	4	●
<b>1212D26 14 W</b>		14	G1/2-7/8	12	12	26.3	84	4	●
<b>1212C24 11 W</b>		11	G1-1 1/2	12	12	24.2	84	3	●
<b>1616D38 11 W</b>		11	G1-3	16	16	38.1	105	4	●
<b>2020E47 11 W</b>		11	G > 1	20	20	47.3	105	5	●

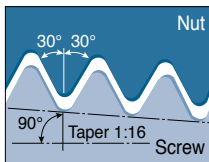
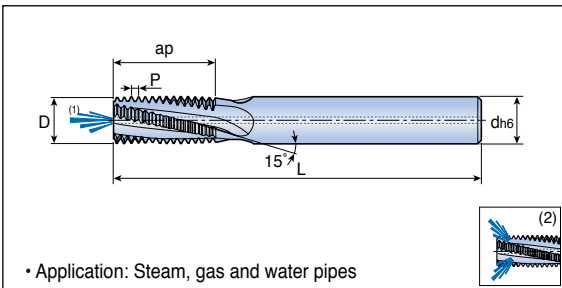


● <sup>(1)</sup> B type <sup>(2)</sup> Z type ● Standard item

# TMTECB-NPT / TMTECZ-NPT / TMTEC-NPT

**TS-THREAD**

Solid carbide end mills for internal or external threading



	Designation	TPI	NPT	Dimension (mm)				No. of flutes	Grade
				d	D	ap	L		
<b>TMTECB</b>	<b>08076C10 27 NPT</b>	27	1/8	8	7.6	10.8	64	3	●
	<b>1010D16 18 NPT</b>	18	1/4-3/8	10	10.0	16.2	73	4	●
	<b>16155D22 14 NPT</b>	14	1/2-3/4	16	15.5	22.7	105	4	●
	<b>2020D29 11.5 NPT</b>	11.5	1-2	20	20.0	29.8	105	4	●
	<b>2020D39 8 NPT</b>	8	≥ 2 1/2	20	20.0	39.7	105	4	●
<b>TMTECZ</b>	<b>08076C10 27 NPT</b>	27	1/8	8	7.6	10.8	64	3	●
	<b>1010D16 18 NPT</b>	18	1/4-3/8	10	10.0	16.2	73	4	●
	<b>16155D22 14 NPT</b>	14	1/2-3/4	16	15.5	22.7	101	4	●
<b>TMTEC</b>	<b>0606C9 27 NPT</b>	27	1/8	6	6	9.9	58	3	●
	<b>0808C14 18 NPT</b>	18	1/4-3/8	8	8	14.8	64	3	●
	<b>1212D20 14 NPT</b>	14	1/2-3/4	12	12	20.9	84	4	●
	<b>1616D27 11.5 NPT</b>	11.5	1-2	16	16	27.6	105	4	●
	<b>2020D39 8 NPT</b>	8	≥ 2 1/2	20	20	39.7	105	4	●



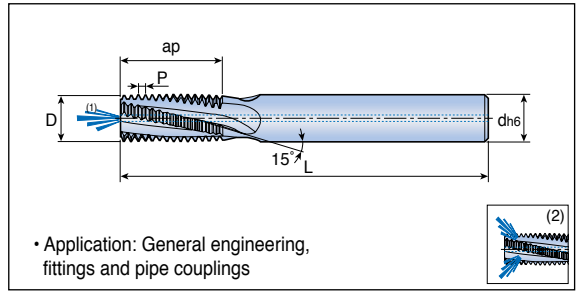
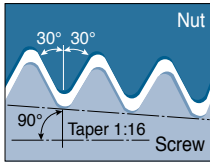
• <sup>(1)</sup> B type <sup>(2)</sup> Z type

● Standard item

Contents

# TMTECB-NPTF / TMTECZ-NPTF / TMTEC-NPTF *TS-THREAD*

Solid carbide end mills for internal or external threading



Designation	TPI	NPTF	Dimension (mm)				No. of flutes	Grade		
			d	D	ap	L				
<b>TMTECB</b>	<b>08076C10 27</b>	<b>NPTF</b>	27	1/8	8	7.8	10.8	64	3	●
	<b>1010D16 18</b>	<b>NPTF</b>	18	1/4-3/8	10	10.0	16.2	73	4	●
	<b>16155D22 14</b>	<b>NPTF</b>	14	1/2-3/4	16	15.5	22.7	105	4	●
	<b>2020D29 11.5</b>	<b>NPT</b>	11.5	1-2	20	20.0	29.8	105	4	●
<b>TMTECZ</b>	<b>2020D39 8</b>	<b>NPTF</b>	8	≥ 2 1/2	20	20.0	39.7	105	4	●
	<b>08076C10 27</b>	<b>NPTF</b>	27	1/8	8	7.6	10.8	64	3	●
	<b>1010D16 18</b>	<b>NPTF</b>	18	1/4-3/8	10	10.0	16.2	73	4	●
<b>TMTEC</b>	<b>16155D22 14</b>	<b>NPTF</b>	14	1/2-3/4	16	15.5	22.7	101	4	●
	<b>0606C9 27</b>	<b>NPTF</b>	27	1/8	6	6	9.9	58	3	●
	<b>0808C14 18</b>	<b>NPTF</b>	18	1/4-3/8	8	8	14.8	64	3	●
	<b>1212D20 14</b>	<b>NPTF</b>	14	1/2-3/4	12	12	20.9	84	4	●
	<b>1616D2 11.5</b>	<b>NPTF</b>	11.5	1-2	16	16	27.6	105	4	●
<b>2020D39 8</b>	<b>NPTF</b>	8	≥ 2 1/2	20	20	39.7	105	4	●	

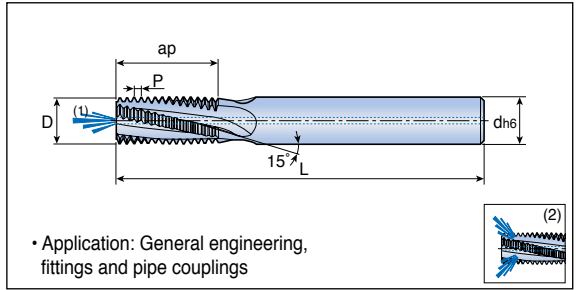
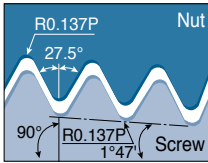


• (1) B type (2) Z type

● Standard item

# TMTECB-BSPT / TMTECZ-BSPT / TMTEC-BSPT *TS-THREAD*

Solid carbide end mills for internal or external threading



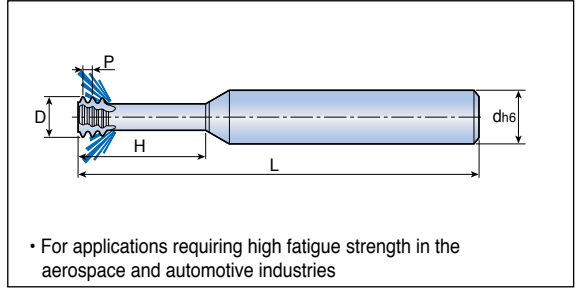
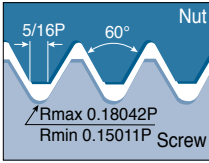
Designation	TPI	BSPT	Dimension (mm)				No. of flutes	Grade
			d	D	ap	L		
<b>TMTECB</b> 08078C14 28 BSPT	28	RC1/8	8	7.8	14.1	64	4	●
1010D16 19 BSPT	19	RC1/4-3/8	10	10.0	16.7	73	4	●
1616E26 14 BSPT	14	RC1/2-7/8	16	16.0	26.3	105	4	●
1616D28 11 BSPT	11	RC1-2	16	16.0	28.9	105	4	●
<b>TMTECZ</b> 08078C14 28 BSPT	28	RC1/8	8	7.8	14.1	64	3	●
1010D16 19 BSPT	19	RC1/4-3/8	10	10.0	16.7	73	4	●
1616E26 14 BSPT	14	RC1/2-7/8	16	16.0	26.3	101	5	●
1616D28 11 BSPT	11	RC1-2	16	16.0	28.9	101	4	●
<b>TMTEC</b> 0606C9 28 BSPT	28	RC1/8	6	6	9.5	58	3	●
0808C14 19 BSPT	19	RC1/4-3/8	8	8	14.0	64	3	●
1212D19 14 BSPT	14	RC1/2-7/8	12	12	19.1	84	4	●
1616D28 11 BSPT	11	RC1-2	16	16	28.9	105	4	●



• <sup>(1)</sup> B type <sup>(2)</sup> Z type

● Standard item

Thread mills for internal MJ and UNJ threads with coolant holes directed to the cutting edges

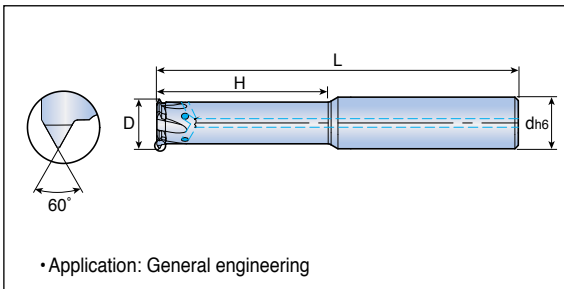
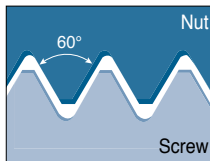


	Designation	Pitch (mm)	TPI	MJ size	UNJC	UNJF	Dimension (mm)				No. of flutes	Grade TT9030
							d	D	H	L		
<b>TMTECS</b>	<b>06032C10 0.7 MJ<sup>(1)</sup></b>	0.7	-	MJ4	-	-	6	3.20	10.0	58	3	●
	<b>06039C12 0.8 MJ<sup>(1)</sup></b>	0.8	-	MJ5	-	-	6	3.90	12.5	58	3	●
	<b>06048C15 1.0 MJ<sup>(1)</sup></b>	1.0	-	MJ6	-	-	6	4.80	15.0	58	3	●
	<b>08061C20 1.25 MJ</b>	1.25	-	MJ8	-	-	8	6.10	20.0	64	3	●
	<b>0808C25 1.5 MJ</b>	1.5	-	MJ10	-	-	8	8.00	25.0	64	3	●
	<b>10092C30 1.75 MJ</b>	1.75	-	MJ12	-	-	10	9.20	30.0	73	3	●
	<b>1010C35 2.0 MJ</b>	2.0	-	MJ14, MJ16	-	-	10	10.00	35.0	73	3	●
<b>TMTECS</b>	<b>06033C10 32 UNJ<sup>(1)</sup></b>	-	32	-	8	10	6	3.30	10.5	58	3	●
	<b>08051C16 28 UNJ</b>	-	28	-	-	1/4	8	5.10	16.0	64	3	●
	<b>08067C20 24 UNJ</b>	-	24	-	-	5/16, 3/8	8	6.70	20.0	64	3	●
	<b>06049C16 20 UNJ<sup>(1)</sup></b>	-	20	-	1/4	-	6	4.90	16.0	58	3	●
	<b>0808C28 20 UNJ</b>	-	20	-	-	7/16	8	8.00	28.0	64	3	●
	<b>08061C20 18 UNJ</b>	-	18	-	5/16	-	8	6.15	20.0	64	3	●
	<b>08069C24 16 UNJ</b>	-	16	-	3/8	-	8	6.90	24.0	64	3	●
	<b>08079C25 14 UNJ</b>	-	14	-	7/16	-	8	7.90	25.0	64	3	●
	<b>10094C27 13 UNJ</b>	-	13	-	1/2	-	10	9.40	37.5	73	3	●



● Standard item

Partial profile solid carbide thread mills with coolant holes directed to the cutting edges for internal and external threads



Designation	Pitch		Thread dia.	Dimension (mm)				No. of flutes	Grade	
	mm	TPI		d	D	H	L			TT9030
<b>TMTECI</b>	<b>0605D20 A60</b>	Int. 0.5-0.8	56-28	$\varnothing \geq 6$	6	5.0	20	58	4	●
	<b>0808D28 A60</b>	Ext. 0.4-0.8	64-32	$\varnothing \geq 9$	8	8.0	28	64	4	●
	<b>1212E38 A60</b>			$\varnothing \geq 13$	12	12.0	38	84	4	●
	<b>0808D30 A60</b>	Int. 1.0-1.75	28-14	$\varnothing \geq 10$	8	8	30	64	4	●
	<b>1010D35 A60</b>	Ext. 0.8-1.5	32-16	$\varnothing \geq 12$	10	10	35	73	4	●
	<b>1212E39 A60</b>			$\varnothing \geq 14$	12	12	39	84	5	●
	<b>1212E40 A60</b>	Int. 2.3-3.0	23-8 15-10	$\varnothing \geq 16$	12	12	40	84	5	●
	<b>1614E45 A60</b>	Ext. 1.75-2.5		$\varnothing \geq 18$	16	16	45	101	5	●
	<b>1616E50 A60</b>			$\varnothing \geq 20$	16	16	50	101	5	●

●: Standard item



# Tool Designation System

## End mills

**TMT S R 0020 H 14 C 2**

1 2 3 4 5 6 7 8

### 1 TaeguTec mill thread

T - TaeguTec  
M - Mill  
T - Thread

### 2 Clamping system

S - Screw clamping

### 3 Hand of tool

R - Right-hand

### 4 Cutting diameter

0020 20.0 mm



### 5 Tool length

F  
H  
J  
K  
M  
R  
S

### 6 Insert size (ap)

12	12.0 mm
14	14.0 mm
21	21.0 mm
30	30.0 mm
40	40.0 mm

### 7 Shank type

C Carbide shank

### 8 Number of inserts

2 2 inserts

## Cutters

**TMT S R 0063 C 21 - 5 - 22**

1 2 3 4 5 6 7 8

### 1 TaeguTec mill thread

T - TaeguTec  
M - Mill  
T - Thread

### 2 Clamping system

S - Screw clamping

### 3 Hand of tool

R - Right-hand

### 4 Cutting diameter

0063 63.0 mm

### 5 Tool length

C  
D  
E

### 6 Insert size (ap)

21	21.0 mm
30	30.0 mm
40	40.0 mm

### 7 Number of inserts

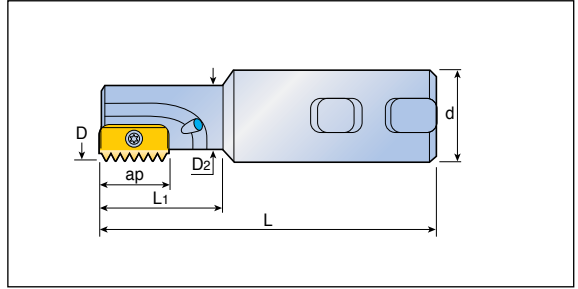
3	3 inserts
4	4 inserts
5	5 inserts

### 8 Bore diameter

22	22.0 mm
27	27.0 mm
32	32.0 mm



## Indexable threading end mills



Designation	Dimension (mm)						Insert
	ap	D	d	D <sub>2</sub>	L	L <sub>1</sub>	
<b>TMTSR 0009 H12</b>	12	9.5	20	7.5	85	14	TMT12
<b>0010 H12<sup>(1)</sup></b>	12	9.9	20	7.6	85	16	TMT12
<b>0012 F14</b>	14	12	20	8.9	75	20	TMT14
<b>0014 H14</b>	14	14.5	20	11.2	85	25	TMT14
<b>0017 H14</b>	14	17	20	13.4	85	30	TMT14
<b>0018 H21<sup>(2)</sup></b>	21	18	20	14.4	85	30	TMT21
<b>0021 H21</b>	21	21	20	16.5	94	40	TMT21
<b>0025 K21<sup>(3)</sup></b>	21	25	20	-	125	-	TMT21
<b>0029 J30</b>	30	29	25	23.0	110	50	TMT30
<b>0031 M30<sup>(3)</sup></b>	30	31	25	-	150	-	TMT30
<b>0038 M30<sup>(3)</sup></b>	30	38	32	-	150	-	TMT30
<b>0048 M40</b>	40	48	40	35.0	153	78	TMT40
<b>0048 R40<sup>(3)</sup></b>	40	48	40	-	210	-	TMT40

• All end mills are equipped with a bore for internal coolant

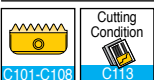
• <sup>(1)</sup> For conical thread inserts: 12-18 NPT, 12-18 NPTF, 12-19 BSPT

• <sup>(2)</sup> Not suitable for use with the following insert: 21 I 3.5 ISO, 21 I 8 UN, 21-11 BSPT, 21-11.5 NPT, 21-11.5 NPTF

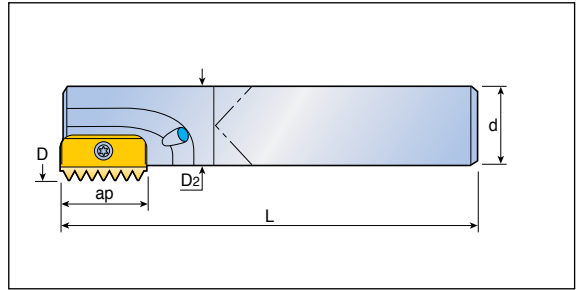
• <sup>(3)</sup> For long reach

## Spare parts

Designation	Screw	Torx wrench		
<b>TMTSR...12</b>	TS12	TK12		
<b>TMTSR...14</b>	S11	T-8/5		
<b>TMTSR...21</b>	TS21	TK21		
<b>TMTSR...30</b>	TS30	TK40		
<b>TMTSR...40</b>	TS40	TK40		



## Cylindrical carbide shank

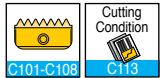


Designation	Dimension (mm)					Insert
	ap	D	d	D <sub>2</sub>	L	
<b>TMTSR 0010 K12C</b> <sup>(1)</sup>	12	9.9	8	8	125	TMT12
<b>0013 H14C</b>	14	13.2	10	10	110	TMT14
<b>0013 J14C</b>	14	13.2	10	10	150	TMT14
<b>0015 K14C</b>	14	15.2	12	12	175	TMT14
<b>0021 K21C</b>	21	21	16	16	130	TMT21
<b>0021 M21C</b>	21	21	16	16	200	TMT21
<b>0027 S30C</b>	30	27	20	20	270	TMT30

- <sup>(1)</sup> Without coolant bore
- For holders with long overhang, reduce the cutting speed and feed rate between 20 to 40% (depending on workpiece material, pitch and overhang)
- All end mills are equipped with bore for internal coolant

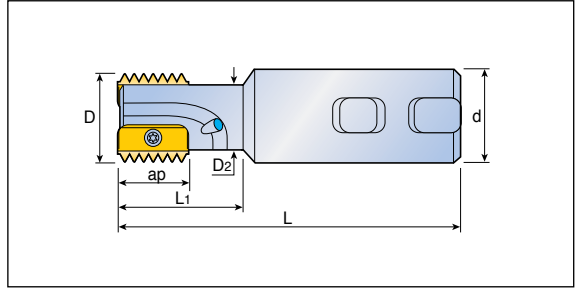
### Spare parts

Designation	Screw	Torx wrench		
<b>TMTSR...12C</b>	TS12	TK12		
<b>TMTSR...14C</b>	S11	T-8/5		
<b>TMTSR...21C</b>	TS21	TK21		
<b>TMTSR...30C</b>	TS30	TK40		



# TMTSR-Double

## Double insert thread milling end mills



Designation		Dimension (mm)						Insert
		ap	D	d	D <sub>2</sub>	L	L <sub>1</sub>	
<b>TMTSR 0020 H14-2</b>	2	14	20	20	16	93	41	TMT14
<b>0030 J21-2</b>	2	21	30	25	24	108	52	TMT21
<b>0040 L30-2</b>	2	30	40	32	30	130	70	TMT30
<b>0050 M40-2</b>	2	40	50	40	38	153	78	TMT40

• All end mills are equipped with a bore for internal coolant

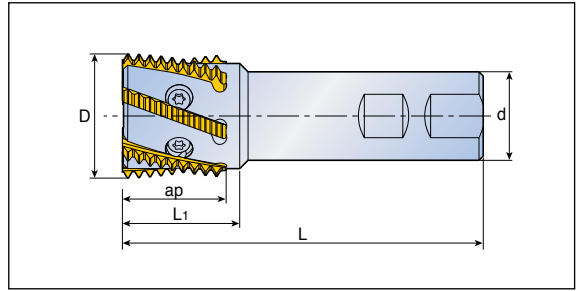
## Spare parts

Designation	Screw	Torx wrench		
<b>TMTSR 0020</b>	S11	T-8/5		
<b>TMTSR 0030</b>	TS21	TK21		
<b>TMTSR 0040</b>	TS30	TK40		
<b>TMTSR 0050</b>	TS40	TK40		

C101-C108

C113

## End mills with coolant holes for helical threading inserts

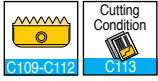


Designation		Dimension (mm)					Insert
		ap	D	d	L	L1	
<b>TMTSRH 23-2</b>	2	27	23	25	110	50	TMTH 23
<b>32-5</b>	5	32	32	32	130	60	TMTH 32
<b>45-6</b>	6	37	45	32	130	-	TMTH 45

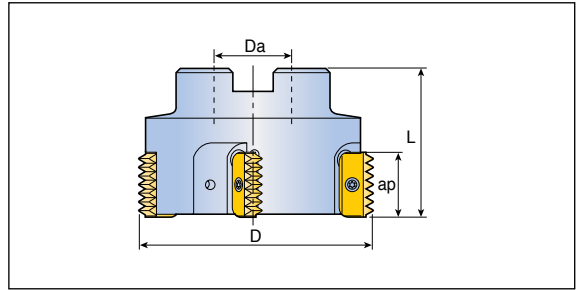
• All end mills are equipped with a bore for internal coolant

### Spare parts

Designation	Screw	Torx wrench		
<b>TMTSRH 23</b>	TS23	TK21		
<b>TMTSRH 32</b>	TS32	TK22		
<b>TMTSRH 45</b>	TS45	TK40		



Large diameter thread

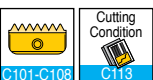


Designation		Dimension (mm)				Insert
		ap	D	Da	L	
<b>TMTSR 0063C21-5-22</b>	5	21	63	22	50	TMT21
<b>0063C30-4-22</b>	4	30	63	22	50	TMT30
<b>0080D30-4-27</b>	4	30	80	27	55	TMT30
<b>0100D30-4-32</b>	4	30	100	32	60	TMT30
<b>0080D40-4-27</b>	4	40	80	27	65	TMT40
<b>0100E40-4-32</b>	4	40	100	32	70	TMT40

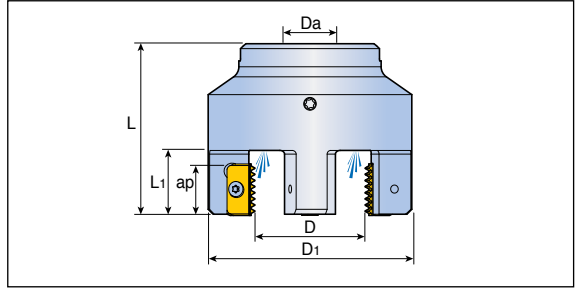
• All shell mills are equipped with a bore for internal coolant

### Spare parts

Designation	Screw	Torx wrench		
<b>TMTSR...C21</b>	TS21	TK21		
<b>TMTSR...C30/D30</b>	TS30	TK40		
<b>TMTSR...D40/E40</b>	TS40	TK40		



## External multi-tooth threading shell mills

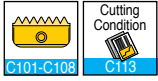


Designation		Dimension (mm)							Insert
		ap	D	Da	D1	L	L1		
<b>TMTSLE</b>	<b>0020D21-3</b>	3	21	20	22	58	65	25	TMT21 E
	<b>0030D21-3</b>	3	21	30	22	68	65	25	TMT21 E
	<b>0045E21-4</b>	4	21	45	27	83	70	25	TMT21 E

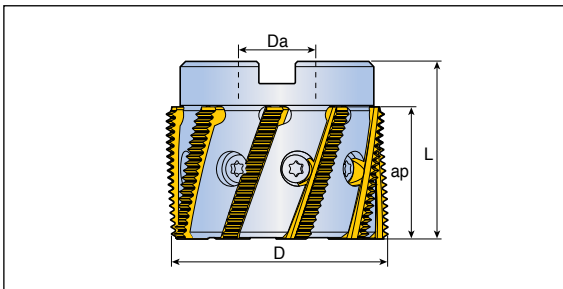
• All shell mills are equipped with a bore for internal coolant

## Spare parts

Designation	Screw	Torx wrench		
<b>TMTSLE</b>	TS21	TK21		



Helical shell mill for large thread diameters



Designation		Dimension (mm)				Insert
		ap	D	Da	L	
<b>TMTSRH 63-9</b>	9	38	63	22	50	TMTH 63

• All shell mills are equipped with a bore for internal coolant

### Spare parts

Designation	Screw	Torx wrench		
<b>TMTSRH</b>	TS63	TK40		

	<b>Cutting Condition</b> 
C109:C112	
	C113

# Insert Designation System

## Thread milling inserts

**TMT**

1

**30**

2

**E**

3

**1.5**

4

**ISO**

5

**TT9030**

6

### 1 TaeguTec mill thread

T - TaeguTec  
M - Mill  
T - Thread

### 2 Insert size (l)

12 12.0 mm  
14 14.0 mm  
21 21.0 mm  
30 30.0 mm  
40 40.0 mm



### 3 Application

E - External  
I - Internal  
□ - External + internal

### 4 Thread pitch

0.5 - 6.0 pitch (mm)  
32 - 4 TPI

### 5 Thread standard

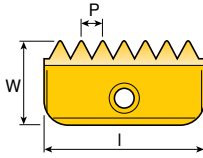
ISO - ISO Metric  
UN - American UN  
WHIT - Whitworth  
NPT - NPT  
NPTF - NPTF  
BSPT - British BSPT

### 6 Grades

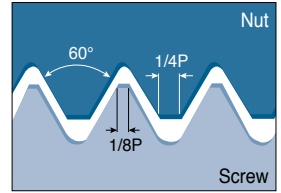
Coated  
TT9030




## Metric



TMT12 I <sup>(1)</sup>



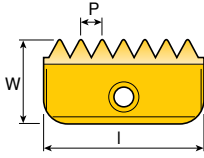
Insert	Designation	Pitch (mm)	Dimension (mm)			Grade TT9030
			l	W	t	
	TMT12 I 0.5 ISO <sup>(1)</sup>	0.5	12	6.3	2.9	●
	TMT12 I 0.75 ISO <sup>(1)</sup>	0.75	12	6.3	2.9	●
	TMT12 I 1.0 ISO <sup>(1)</sup>	1.0	12	6.3	2.9	●
	TMT12 I 1.25 ISO <sup>(1)</sup>	1.25	12	6.3	2.9	●
	TMT12 I 1.5 ISO <sup>(1)</sup>	1.5	12	6.3	2.9	●
	TMT14 I 0.5 ISO	0.5	14	7.5	3.1	●
	TMT14 E/I 0.75 ISO	0.75	14	7.5	3.1	●
	TMT14 E/I 1.0 ISO	1.0	14	7.5	3.1	●
	TMT14 E/I 1.25 ISO	1.25	14	7.5	3.1	●
	TMT14 E/I 1.5 ISO	1.5	14	7.5	3.1	●
	TMT14 E/I 1.75 ISO	1.75	14	7.5	3.1	●
	TMT14 E/I 2.0 ISO	2.0	14	7.5	3.1	●
	TMT14 E/I 2.5 ISO	2.5	14	7.5	3.1	●
	TMT21 E/I 1.0 ISO	1.0	21	12	4.7	●
	TMT21 E/I 1.5 ISO	1.5	21	12	4.7	●
	TMT21 I 1.75 ISO	1.75	21	12	4.7	●
	TMT21 E/I 2.0 ISO	2.0	21	12	4.7	●
	TMT21 E/I 2.5 ISO	2.5	21	12	4.7	●
	TMT21 E/I 3.0 ISO	3.0	21	12	4.7	●
	TMT21 I 3.5 ISO	3.5	21	12	4.7	●
	TMT30 E/I 1.5 ISO	1.5	30	16	5.5	●
	TMT30 E/I 2.0 ISO	2.0	30	16	5.5	●
	TMT30 E/I 3.0 ISO	3.0	30	16	5.5	●
	TMT30 E/I 3.5 ISO	3.5	30	16	5.5	●
	TMT30 E/I 4.0 ISO	4.0	30	16	5.5	●
	TMT30 I 4.5 ISO	4.5	30	16	5.5	●
	TMT30 I 5.0 ISO	5.0	30	16	5.5	●
	TMT40 E/I 1.5 ISO	1.5	40	20	6.3	●
TMT40 E/I 2.0 ISO	2.0	40	20	6.3	●	
TMT40 E/I 3.0 ISO	3.0	40	20	6.3	●	
TMT40 I 3.5 ISO	3.5	40	20	6.3	●	
TMT40 E/I 4.0 ISO	4.0	40	20	6.3	●	
TMT40 I 4.5 ISO	4.5	40	20	6.3	●	
TMT40 E/I 5.0 ISO	5.0	40	20	6.3	●	
TMT40 I 5.5 ISO	5.5	40	20	6.3	●	
TMT40 E/I 6.0 ISO	6.0	40	20	6.3	●	



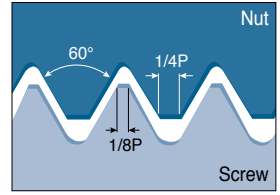
● <sup>(1)</sup> TMT12 insert with single cutting edge


● Standard item

UN, UNC, UNF, UNEF, UNS



TMT12 I <sup>(1)</sup>



Insert	Designation	TPI	Dimension (mm)			Grade
			l	W	t	
	TMT12 I 32 UN <sup>(1)</sup>	32	12	6.3	2.9	●
	TMT12 I 28 UN <sup>(1)</sup>	28	12	6.3	2.9	●
	TMT12 I 24 UN <sup>(1)</sup>	24	12	6.3	2.9	●
	TMT12 I 20 UN <sup>(1)</sup>	20	12	6.3	2.9	●
	TMT12 I 18 UN <sup>(1)</sup>	18	12	6.3	2.9	●
	TMT12 I 16 UN <sup>(1)</sup>	16	12	6.3	2.9	●
	TMT14 E/I 32 UN	32	14	7.5	3.1	●
	TMT14 E/I 28 UN	28	14	7.5	3.1	●
	TMT14 I 27 UN	27	14	7.5	3.1	●
	TMT14 E/I 24 UN	24	14	7.5	3.1	●
	TMT14 E/I 20 UN	20	14	7.5	3.1	●
	TMT14 E/I 18 UN	18	14	7.5	3.1	●
	TMT14 E/I 16 UN	16	14	7.5	3.1	●
	TMT14 E/I 14 UN	14	14	7.5	3.1	●
	TMT14 E/I 12 UN	12	14	7.5	3.1	●
	TMT14 I 11 UN	11	14	7.5	3.1	●
	TMT14 I 10 UN	10	14	7.5	3.1	●
	TMT21 E/I 24 UN	24	21	12	4.7	●
	TMT21 E/I 20 UN	20	21	12	4.7	●
	TMT21 E/I 18 UN	18	21	12	4.7	●
	TMT21 E/I 16 UN	16	21	12	4.7	●
	TMT21 E/I 14 UN	14	21	12	4.7	●
	TMT21 E/I 12 UN	12	21	12	4.7	●
	TMT21 E/I 10 UN	10	21	12	4.7	●
	TMT21 I 8 UN	8	21	12	4.7	●
	TMT21 I 7 UN	7	21	12	4.7	●
	TMT30 E/I 20 UN	20	30	16	5.5	●
	TMT30 E/I 18 UN	18	30	16	5.5	●
	TMT30 E/I 16 UN	16	30	16	5.5	●
	TMT30 E/I 14 UN	14	30	16	5.5	●
	TMT30 E/I 12 UN	12	30	16	5.5	●
	TMT30 E/I 10 UN	10	30	16	5.5	●
	TMT30 E/I 8 UN	8	30	16	5.5	●
TMT30 E/I 6 UN	6	30	16	5.5	●	
TMT30 I 5 UN	5	30	16	5.5	●	

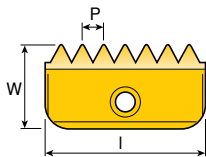


● <sup>(1)</sup> TMT12 insert with single cutting edge

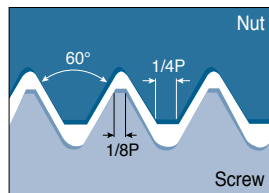
● Standard item


# TMT-UN

UN, UNC, UNF, UNEF, UNS



TMT12 I <sup>(1)</sup>



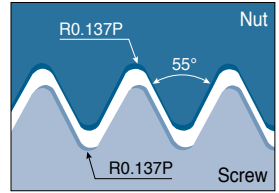
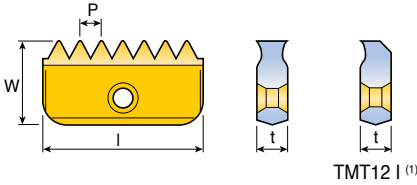
Insert	Designation	TPI	Dimension (mm)			Grade
			l	W	t	
	<b>TMT40 E/I 16 UN</b>	16	40	20	6.3	●
	<b>TMT40 E/I 14 UN</b>	14	40	20	6.3	●
	<b>TMT40 E/I 12 UN</b>	12	40	20	6.3	●
	<b>TMT40 E/I 10 UN</b>	10	40	20	6.3	●
	<b>TMT40 E/I 8 UN</b>	8	40	20	6.3	●
	<b>TMT40 E/I 6 UN</b>	6	40	20	6.3	●
	<b>TMT40 I 4.5 UN</b>	4.5	40	20	6.3	●
	<b>TMT40 I 4 UN</b>	4	40	20	6.3	●

TMTSR • <sup>(1)</sup> TMT12 insert with single cutting edge

● Standard item



Whitworth (BSW, BSF, BSP)



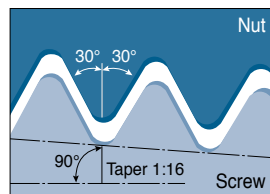
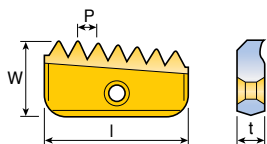
Insert	Designation	TPI	Dimension (mm)			Grade
			l	W	t	
	TMT12 19 W <sup>(1)</sup>	19	12	6.3	2.9	●
	TMT14 24 W	24	14	7.5	3.1	●
	TMT14 20 W	20	14	7.5	3.1	●
	TMT14 19 W	19	14	7.5	3.1	●
	TMT14 16 W	16	14	7.5	3.1	●
	TMT14 14 W	14	14	7.5	3.1	●
	TMT21 20 W	20	21	12	4.7	●
	TMT21 19 W	19	21	12	4.7	●
	TMT21 16 W	16	21	12	4.7	●
	TMT21 14 W	14	21	12	4.7	●
	TMT21 11 W	11	21	12	4.7	●
	TMT30 16 W	16	30	16	5.5	●
	TMT30 14 W	14	30	16	5.5	●
	TMT30 11 W	11	30	16	5.5	●
	TMT40 11 W	11	40	20	6.3	●
TMT40 8 W	8	40	20	6.3	●	



- The same insert for external & internal thread
- <sup>(1)</sup>TMT12 insert with single cutting edge

● Standard item

NPT - National pipe taper thread



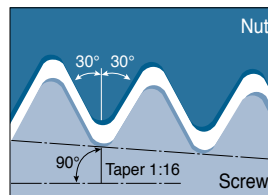
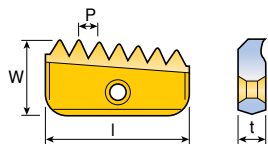
Insert	Designation	TPI	Dimension (mm)			Grade
			L	W	t	
	<b>TMT12 18 NPT</b>	18	12	6.3	2.9	●
	<b>TMT14 18 NPT</b>	18	14	7.5	3.1	●
	<b>TMT14 14 NPT</b>	14	14	7.5	3.1	●
	<b>TMT21 14 NPT</b>	14	21	12	4.7	●
	<b>TMT21 11.5 NPT</b>	11.5	21	12	4.7	●
	<b>TMT30 11.5 NPT</b>	11.5	30	16	5.5	●
	<b>TMT30 8 NPT</b>	8	30	16	5.5	●
	<b>TMT40 11.5 NPT</b>	11.5	40	20	6.3	●
	<b>TMT40 8 NPT</b>	8	40	20	6.3	●



- The same insert for external & internal thread
- Conical pipe thread inserts are single sided

• Standard item

NPTF - National pipe thread tapered (Dryseal)



Insert	Designation	TPI	Dimension (mm)			Grade
			L	W	t	
	TMT12 18 NPTF	18	12	6.3	2.9	●
	TMT14 18 NPTF	18	14	7.5	3.1	●
	TMT14 14 NPTF	14	14	7.5	3.1	●
	TMT21 14 NPTF	14	21	12	4.7	●
	TMT21 11.5 NPTF	11.5	21	12	4.7	●
	TMT30 11.5 NPTF	11.5	30	16	5.5	●
	TMT30 8 NPTF	8	30	16	5.5	●
	TMT40 11.5 NPTF	11.5	40	20	6.3	●
TMT40 8 NPTF	8	40	20	6.3	●	

TMTSR

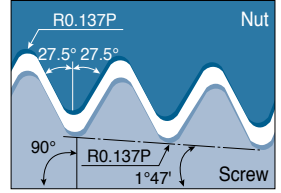
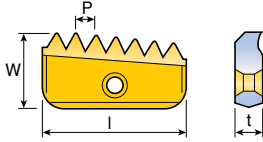
- The same insert for external & internal thread
- Conical pipe thread Inserts are single sided

C93-C98

● Standard item

# TMT-BSPT

**BSPT - British standard pipe tapered**



Insert	Designation	TPI	Dimension (mm)			Grade
			L	W	t	
	<b>TMT12 19 BSPT</b>	19	12	6.3	2.9	●
	<b>TMT14 19 BSPT</b>	19	14	7.5	3.1	●
	<b>TMT14 14 BSPT</b>	14	14	7.5	3.1	●
	<b>TMT21 14 BSPT</b>	14	21	12	4.7	●
	<b>TMT21 11 BSPT</b>	11	21	12	4.7	●
	<b>TMT30 11 BSPT</b>	11	30	16	5.5	●
	<b>TMT40 11 BSPT</b>	11	40	20	6.3	●



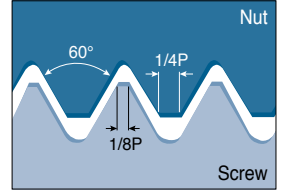
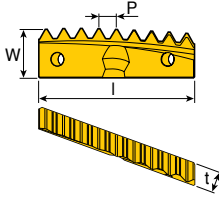
- The same insert for external & internal thread
- Conical pipe thread inserts are single sided

• Standard item





## Helical inserts for ISO metric threads (Internal)

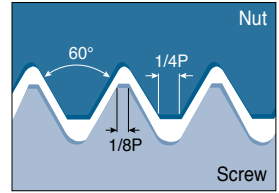
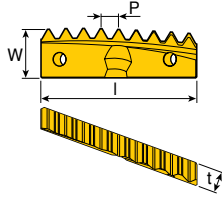


Insert	Designation	Pitch (mm)	Thread size	Dimension (mm)			Tool	Grade TT9030
				l	W	t		
	<b>TMTH 23 I 1.0 ISO</b>	1.0	≥M26	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 23 I 1.5 ISO</b>	1.5	≥M27	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 23 I 2.0 ISO</b>	2.0	≥M28	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 23 I 3.0 ISO</b>	3.0	≥M30	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 32 I 1.5 ISO</b>	1.5	≥M35	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 32 I 2.0 ISO</b>	2.0	≥M36	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 32 I 3.0 ISO</b>	3.0	≥M38	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 32 I 4.0 ISO</b>	4.0	≥M40	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 45 I 1.5 ISO</b>	1.5	≥M50	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 45 I 2.0 ISO</b>	2.0	≥M50	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 45 I 3.0 ISO</b>	3.0	≥M56	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 45 I 4.0 ISO</b>	4.0	≥M56	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 63 I 1.5 ISO</b>	1.5	≥M70	38	11.9	5.0	TMTSRH 63-9	●
	<b>TMTH 63 I 2.0 ISO</b>	2.0	≥M70	38	11.9	5.0	TMTSRH 63-9	●
<b>TMTH 63 I 3.0 ISO</b>	3.0	≥M75	38	11.9	5.0	TMTSRH 63-9	●	
<b>TMTH 63 I 4.0 ISO</b>	4.0	≥M75	38	11.9	5.0	TMTSRH 63-9	●	



●: Standard item

## Helical inserts for UN, UNC, UNF, UNEF, UNS threads (Internal)



Insert	Designation	TPI	Thread size	Dimension (mm)			Tool	Grade TT9030
				l	W	t		
	TMTH 23   24 UN	24	≥1"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   20 UN	20	≥1"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   18 UN	18	≥1 1/16"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   16 UN	16	≥1 1/16"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   14 UN	14	≥1 1/8"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   12 UN	12	≥1 1/8"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   8 UN	8	≥1 3/16"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 23   7 UN	7	≥1 1/4"	27	8.0	3.5	TMTSRH 23-2	●
	TMTH 32   20 UN	20	≥1 3/8"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 32   18 UN	18	≥1 3/8"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 32   16 UN	16	≥1 3/8"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 32   12 UN	12	≥1 7/16"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 32   8 UN	8	≥1 1/2"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 32   6 UN	6	≥1 9/16"	32	9.0	4.0	TMTSRH 32-5	●
	TMTH 45   16 UN	16	≥2"	37	11.9	5.0	TMTSRH 45-6	●
	TMTH 45   12 UN	12	≥2"	37	11.9	5.0	TMTSRH 45-6	●
	TMTH 45   8 UN	8	≥2 1/4"	37	11.9	5.0	TMTSRH 45-6	●
	TMTH 45   6 UN	6	≥2 1/4"	37	11.9	5.0	TMTSRH 45-6	●
	TMTH 63   16 UN	16	≥2 3/4"	38	11.9	5.0	TMTSRH 63-9	●
	TMTH 63   12 UN	12	≥2 3/4"	38	11.9	5.0	TMTSRH 63-9	●
TMTH 63   8 UN	8	≥3"	38	11.9	5.0	TMTSRH 63-9	●	
TMTH 63   6 UN	6	≥3"	38	11.9	5.0	TMTSRH 63-9	●	

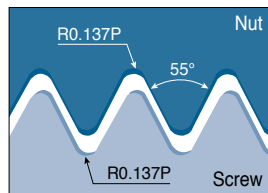
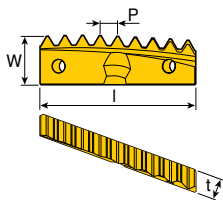
● Standard item




# TMTH-W

**TS-THREAD**

Helical inserts for whitworth threads, BSW, BSF, BSP (Internal and external)



Insert	Designation	TPI	Thread size		Dimension (mm)			Tool	Grade TT9030
			Internal	External	l	W	t		
	<b>TMTH 23 11 W</b>	11	≥G 1"	≥G 1"	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 32 11 W</b>	11	≥G 1 1/8"	≥G 1"	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 45 11 W</b>	11	≥G 1 3/4"	≥G 1"	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 63 11 W</b>	11	≥G 2 1/2"	≥G 1"	38	11.9	5.0	TMTSRH 63-9	●

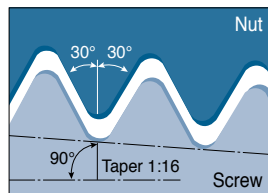
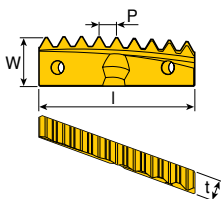



●: Standard Item

# TMTH-NPT

**TS-THREAD**

Helical inserts for NPT threads (Internal and external)

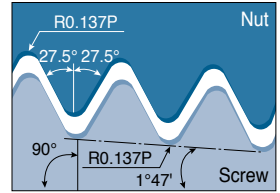
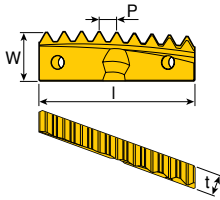



Insert	Designation	TPI	Thread size		Dimension (mm)			Tool	Grade TT9030
			Internal	External	l	W	t		
	<b>TMTH 23 11.5 NPT</b>	11.5	1"-2" NPT	1"-2" NPT	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 32 11.5 NPT</b>	11.5	1 1/4"-2" NPT	1"-2" NPT	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 45 11.5 NPT</b>	11.5	2" NPT	1"-2" NPT	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 63 11.5 NPT</b>	11.5	-	≥1" NPT	38	11.9	5.0	TMTSRH 63-9	●



●: Standard item

## Helical inserts for BSPT threads (Internal and external)



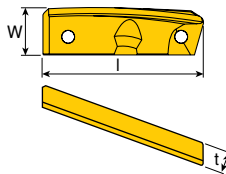
Insert	Designation	TPI	Thread size		Dimension (mm)			Tool	Grade TT9030
			Internal	External	l	W	t		
	<b>TMTH 23 11 BSPT</b>	11	≥G 1"	≥G 1"	27	8.0	3.5	TMTSRH 23-2	●
	<b>TMTH 32 11 BSPT</b>	11	≥G 1 1/8"	≥G 1"	32	9.0	4.0	TMTSRH 32-5	●
	<b>TMTH 45 11 BSPT</b>	11	≥G 1 3/4"	≥G 1"	37	11.9	5.0	TMTSRH 45-6	●
	<b>TMTH 63 11 BSPT</b>	11	≥G 2 1/2"	≥G 1"	38	11.9	5.0	TMTSRH 63-9	●



●: Standard Item

# TMTH-F

## Helical long edge finishing insert



Designation	Dimension (mm)			Tool	Grade TT9030
	l	W	t		
<b>TMTH 23F R0.2</b>	27	8.0	3.5	TMTSRH 23-2	●
<b>TMTH 23F R0.5</b>	27	8.0	3.5	TMTSRH 23-2	●
<b>TMTH 23F R1.0</b>	27	8.0	3.5	TMTSRH 23-2	●
<b>TMTH 32F R0.2</b>	32	9.0	4.0	TMTSRH 32-5	●
<b>TMTH 32F R0.5</b>	32	9.0	4.0	TMTSRH 32-5	●
<b>TMTH 32F R1.0</b>	32	9.0	4.0	TMTSRH 32-5	●
<b>TMTH 45F R0.2</b>	37	11.9	5.0	TMTSRH 45-6	●



●: Standard item

# Recommended Cutting Conditions

## Indexable insert threading tools

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc(m/min)	
						TT9030	
P	Non-alloy steel, cast steel, free cutting steel	0.1-0.25 %C	Annealed	420	125	1	100-200
		0.25-0.25 %C	Annealed	650	190	2	95-190
		0.25-0.25 %C	Quenched and tempered	850	250	3	90-180
		0.55-0.80 %C	Annealed	750	220	4	90-170
		0.55-0.80 %C	Quenched and tempered	1000	300	5	80-150
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Quenched and tempered	600	200	6	120-170	
			930	275	7	115-160	
			1000	300	8	105-150	
			1200	350	9	140	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	90-170	
Quenched and tempered		1100	325	11	75-145		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	110-170	
		Martensitic	820	240	13	100-160	
		Austenitic	600	180	14	90-145	
K	Gray cast iron (GG)	Ferritic		160	15	65-135	
		Pearlitic		250	16	65-110	
	Cast iron nodular (GGG)	Ferritic		180	17	65-135	
		Pearlitic		260	18	60-100	
Malleable cast iron	Ferritic		130	19	65-135		
	Pearlitic		230	20	60-120		
N	Aluminum - Wrought alloy	Not cureable		60	21	110-260	
		Cured		100	22	110-200	
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23	145-350
			Cured		90	24	145-275
		>12% Si	High temp.		130	25	95-225
	Copper alloys	>1% Pb	Free cutting		110	26	145-350
			Brass		90	27	145-350
			Electrolytic copper		100	28	145-350
	Non-metallic		Duroplastics, fiber plastics			29	90-370
			Hard rubber			30	80-330
S	High temp. alloys	Fe based	Annealed		200	31	20-60
			Cured		280	32	20-50
		Ni or Co based	Annealed		250	33	20-30
			Cured		350	34	10-20
			Cast		320	35	15-25
	Titanium, Ti alloys		Rm 400		36	30-90	
		Alpha+beta alloys cured	Rm 1050		37	20-70	
H	Hardened steel	Hardened		55HRC	38	25-60	
		Hardened		60HRC	39	20-40	
	Chilled cast iron	Cast		400	40	25-60	
	Cast iron nodular	Hardened		55HRC	41	20-50	

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

• Feed rate: 0.05 - 0.15 mm/tooth

# Recommended Cutting Conditions

## Solid carbide threading end mills

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc(m/min)	
						TT9030	
P	Non-alloy steel, cast steel, free cutting steel	0.1-0.25 %C	Annealed	420	125	1	100-250
		0.25-0.25 %C	Annealed	650	190	2	80-210
		0.25-0.25 %C	Quenched and tempered	850	250	3	65-170
		0.55-0.80 %C	Annealed	750	220	4	110-180
		0.55-0.80 %C	Quenched and tempered	1000	300	5	95-160
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Annealed	600	200	6	90-160	
			Quenched and tempered	930	275	7	65-200
			1000	300	8	70-210	
			1200	350	9	95-160	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	130-170	
		Quenched and tempered	1100	325	11	75-100	
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	110-170	
		Martensitic	820	240	13	70-155	
		Austenitic	600	180	14	85-100	
K	Gray cast iron (GG)	Ferritic		160	15	70-150	
		Pearlitic		250	16	110-140	
	Cast iron nodular (GGG)	Ferritic		180	17	120-160	
		Pearlitic		260	18	75-160	
	Malleable cast iron	Ferritic		130	19	120-160	
Pearlitic			230	20	110-140		
N	Aluminum - Wrought alloy	Not cureable		60	21	160-300	
		Cured		100	22		
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23	
			Cured		90	24	
		>12% Si	High temp.		130	25	
	Copper alloys	>1% Pb	Free cutting		110	26	
			Brass		90	27	
		Electrolitic copper		100	28		
	Non-metallic		Duroplastics, fiber plastics			29	100-400
			Hard rubber			30	
S	High temp. alloys	Fe based	Annealed		200	31	
			Cured		280	32	
		Ni or Co based	Annealed		250	33	20-80
			Cured		350	34	
			Cast		320	35	
	Titanium, Ti alloys		Rm 400		36		
		Alpha+beta alloys cured	Rm 1050		37	20-80	
H	Hardened steel	Hardened		55HRC	38	55-65	
		Hardened		60HRC	39	45-55	
	Chilled cast iron	Cast		400	40	90-105	
	Cast iron nodular	Hardened		55HRC	41	55-65	

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

# Recommended Cutting Conditions

## Solid carbide threading end mills

Feed (mm/tooth) for diameter (mm)											
Ø2	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø30
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
0.05	0.06	0.07	0.09	0.1	0.11	0.12	0.13	0.15	0.18	0.22	0.25
0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05

• For cutters with long cutting flute, reduce feed rate by 40%.

# Recommended Cutting Conditions

## Short solid carbide thread mills

ISO	Material	Hardness (HRC)	Cutting speed Vc (m/min)	Feed (mm/tooth) for diameter (mm)													
				Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø15	
P	Low & medium carbon steels		60-120	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18	
	High carbon steels		60-90	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.14	0.16	0.17	0.18	
	Alloy steels, treated steels		50-80	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14	
	Cast steels		70-90	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14	
M	Stainless steels		60-90	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	
K	Cast Iron		40-80	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18	
N	Aluminum		80-150	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18	
	Synthetics, duroplastics, thermoplastics		50-200	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.20	0.20	
S	Nickel alloys, titanium alloys.		20-40	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08	
H	Hardened steel	45-50	60-70	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08					
		51-55	50-60	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07					
		56-62	40-50	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06					

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel



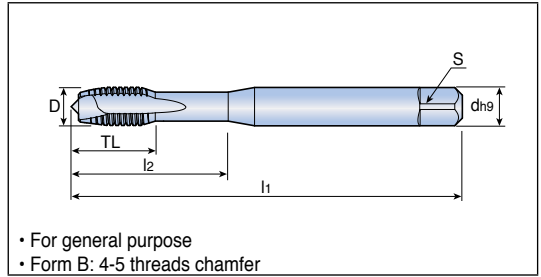
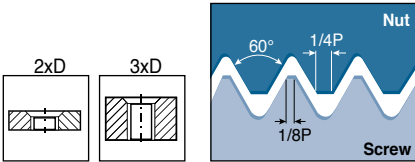
# T-TAP

Tapping



[Contents](#)

## Straight flute with spiral point



Metric ISO standard thread DIN 13 standard

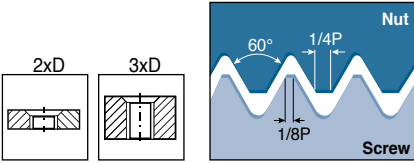
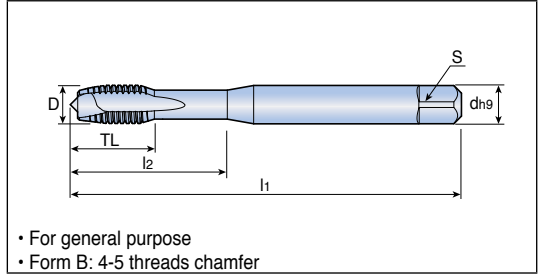
Designation			D	Pitch (mm)	Standard (DIN)	
Uncoated	Steam tempered	TiN coated				
TPH452B M2x0.4	TPH452B05 M2x0.4	TPH452B10 M2x0.4	M2	0.4	DIN371	
TPH452B M2.5x0.45	TPH452B05 M2.5x0.45	TPH452B10 M2.5x0.45	M2.5	0.45		
TPH452B M3x0.5	TPH452B05 M3x0.5	TPH452B10 M3x0.5	M3	0.5		
TPH452B M4x0.7	TPH452B05 M4x0.7	TPH452B10 M4x0.7	M4	0.7		
TPH452B M5x0.8	TPH452B05 M5x0.8	TPH452B10 M5x0.8	M5	0.8		
TPH452B M6x1.0	TPH452B05 M6x1.0	TPH452B10 M6x1.0	M6	1		
TPH452B M8x1.25	TPH452B05 M8x1.25	TPH452B10 M8x1.25	M8	1.25		
TPH452B M10x1.5	TPH452B05 M10x1.5	TPH452B10 M10x1.5	M10	1.5		
TPH652B M12x1.75	TPH652B05 M12x1.75	TPH652B10 M12x1.75	M12	1.75		DIN376
TPH652B M14x2.0	TPH652B05 M14x2.0	TPH652B10 M14x2.0	M14	2		
TPH652B M16x2.0	TPH652B05 M16x2.0	TPH652B10 M16x2.0	M16	2		
TPH652B M20x2.5	TPH652B05 M20x2.5	TPH652B10 M20x2.5	M20	2.5		

Metric ISO fine thread DIN 13 standard

Designation			D	Pitch (mm)	Standard (DIN)
Uncoated	Steam tempered	TiN coated			
TPH552B MF8x1.0	TPH552B05 MF8x1.0	TPH552B10 MF8x1.0	M8	1	DIN374
TPH552B MF10x1.25	TPH552B05 MF10x1.25	TPH552B10 MF10x1.25	M10	1.25	
TPH552B MF12x1.5	TPH552B05 MF12x1.5	TPH552B10 MF12x1.5	M12	1.5	
TPH552B MF14x1.5	TPH552B05 MF14x1.5	TPH552B10 MF14x1.5	M14	1.5	
TPH552B MF16x1.5	TPH552B05 MF16x1.5	TPH552B10 MF16x1.5	M16	1.5	



## Straight flute with spiral point

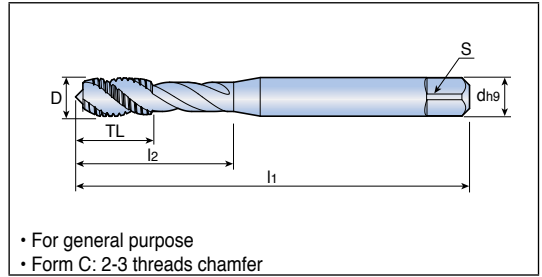
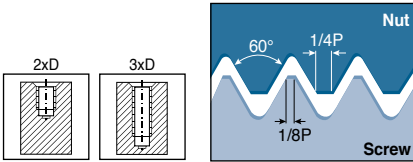


Tolerance	Dimension (mm)					
	l <sub>1</sub>	TL	l <sub>2</sub>	d	S	Core hole
ISO 2-6H	45	8	-	2.8	2.1	1.6
	50	9	-	2.8	2.1	2.05
	56	10	18	3.5	2.7	2.5
	63	12	21	4.5	3.4	3.3
	70	14	25	6	4.9	4.2
	80	16	30	6	4.9	5
	90	18	35	8	6.2	6.8
ISO 2-6H	100	20	39	10	8	8.5
	110	22	-	9	7	10.2
	110	24	-	11	9	12
	110	26	-	12	9	14
	140	30	-	16	12	17.5

Tolerance	Dimension (mm)					
	l <sub>1</sub>	TL	l <sub>2</sub>	d	S	Core hole
ISO 2-6H	90	15	-	6	4.9	7
	100	18	-	7	5.5	8.8
	100	18	-	9	7	10.5
	100	18	-	11	9	12.5
	100	18	-	12	9	14.5



## Right hand spiral flute (40°)



Metric ISO standard thread DIN 13 standard

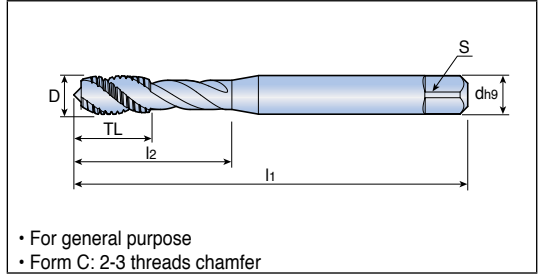
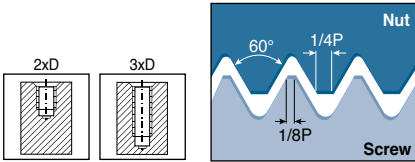
Designation			D	Pitch (mm)	Standard (DIN)	
Uncoated	Steam tempered	TiN coated				
TPH454C M2x0.4	TPH454C05 M2x0.4	TPH454C10 M2x0.4	M2	0.4	DIN371	
TPH454C M2.5x0.45	TPH454C05 M2.5x0.45	TPH454C10 M2.5x0.45	M2.5	0.45		
TPH454C M3x0.5	TPH454C05 M3x0.5	TPH454C10 M3x0.5	M3	0.5		
TPH454C M4x0.7	TPH454C05 M4x0.7	TPH454C10 M4x0.7	M4	0.7		
TPH454C M5x0.8	TPH454C05 M5x0.8	TPH454C10 M5x0.8	M5	0.8		
TPH454C M6x1.0	TPH454C05 M6x1.0	TPH454C10 M6x1.0	M6	1		
TPH454C M8x1.25	TPH454C05 M8x1.25	TPH454C10 M8x1.25	M8	1.25		
TPH454C M10x1.5	TPH454C05 M10x1.5	TPH454C10 M10x1.5	M10	1.5		
TPH654C M12x1.75	TPH654C05 M12x1.75	TPH654C10 M12x1.75	M12	1.75		DIN376
TPH654C M14x2.0	TPH654C05 M14x2.0	TPH654C10 M14x2.0	M14	2		
TPH654C M16x2.0	TPH654C05 M16x2.0	TPH654C10 M16x2.0	M16	2		
TPH654C M20x2.5	TPH654C05 M20x2.5	TPH654C10 M20x2.5	M20	2.5		

Metric ISO fine thread DIN 13 standard

Designation			D	Pitch (mm)	Standard (DIN)
Uncoated	Steam tempered	TiN coated			
TPH554C MF8x1.0	TPH554C05 MF8x1.0	TPH554C10 MF8x1.0	M8	1	DIN374
TPH554C MF10x1.25	TPH554C05 MF10x1.25	TPH554C10 MF10x1.25	M10	1.25	
TPH554C MF12x1.5	TPH554C05 MF12x1.5	TPH554C10 MF12x1.5	M12	1.5	
TPH554C MF14x1.5	TPH554C05 MF14x1.5	TPH554C10 MF14x1.5	M14	1.5	
TPH554C MF16x1.5	TPH554C05 MF16x1.5	TPH554C10 MF16x1.5	M16	1.5	



## Right hand spiral flute (40°)



Tolerance	Dimension (mm)					
	l <sub>1</sub>	TL	l <sub>2</sub>	d	S	Core hole
ISO 2-6H	45	6	10	2.8	2.1	1.6
	50	6	12	2.8	2.1	2.05
	56	7	18	3.5	2.7	2.5
	63	8	21	4.5	3.4	3.3
	70	10	25	6	4.9	4.2
	80	12	30	6	4.9	5
	90	15	35	8	6.2	6.8
	100	18	39	10	8	8.5
ISO 2-6H	110	18	-	9	7	10.2
	110	20	-	11	9	12
	110	20	-	12	9	14
	140	25	-	16	12	17.5

Tolerance	Dimension (mm)					
	l <sub>1</sub>	TL	l <sub>2</sub>	d	S	Core hole
ISO 2-6H	90	15	-	6	4.9	7
	100	18	-	7	5.5	8.8
	100	18	-	9	7	10.5
	100	18	-	11	9	12.5
	100	18	-	12	9	14.5



# Recommended Cutting Conditions

**T-TAP**

## Straight flute with spiral point tap

Cutting speed Vc(m/min)

ISO	Material	Condition	Straight flute with spiral point tap			Lubrication	
			Uncoated	Steam tempered	TiN coated		
P	Non-alloy steel, cast steel, free cutting steel	0.1-0.25 %C	Annealed	5-25	5-25 *	15-45 *	E/O
		0.25-0.25 %C	Annealed	5-20	5-20 *	10-40 *	E/O
		0.25-0.25 %C	Quenched and tempered	-	2-15 *	5-25 *	E/O
		0.55-0.80 %C	Annealed	5-20	5-20 *	10-40 *	E/O
		0.55-0.80 %C	Quenched and tempered	-	2-15 *	5-25 *	E/O
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Annealed	5-25	5-25 *	15-45 *	E/O	
		Quenched and tempered	-	2-15 *	5-20 *	E/O	
High alloy steel, cast steel and tool steel	Annealed	5-20	5-20	10-40 *	E/O		
	Quenched and tempered	-	-	5-20	O/S		
M	Stainless steel and cast steel	Ferritic / martensitic	-	2-10 *	5-20 *	E/O	
		Martensitic	-	2-10 *	5-20 *	E/O	
		Austenitic	-	2-10 *	5-20 *	E/O	
K	Gray cast iron (GG)	Ferritic	10-15	10-25	15-45	E/D	
		Pearlitic	10-15	10-25	10-40	E/D	
	Cast iron nodular (GGG)	Ferritic	8-12	5-20	10-30	E/D	
		Pearlitic	8-12	5-15	10-25	E/D	
Malleable cast iron	Ferritic	10-15	10-25	15-45	E/D		
	Pearlitic	10-15	10-20	10-40	E/D		
N	Aluminum - wrought alloy	Not cureable	15-25 *	15-25	15-25	E/O	
		Cured	15-25 *	15-25	15-25	E/O	
	Aluminum-cast, alloyed	<=12% Si	Not cureable	15-20 *	10-20	15-40 *	E/O
			Cured	15-20 *	10-20	15-40 *	E/O
		>12% Si	High temp.	15-20 *	15-20	10-30	E/O
	Copper alloys	>1% Pb	Free cutting	15-25 *	15-25	10-30	E/O
			Brass	10-40	10-40	20-60	E/O
			Electrolitic copper	10-15 *	2-10	5-25	E/O
	Non-metallic	Duroplastics, fiber plastics	-	10-20	10-20	D	
		Hard rubber	-	10-20	10-20	D	
S	High temp. alloys	Fe based	Annealed	-	-	3-5	S
			Cured	-	-	3-5	S
		Ni or Co based	Annealed	-	-	2-4	S
			Cured	-	-	2-4	S
	Titanium, Ti alloys		Cast	-	-	2-4	S
			Alpha+beta alloys cured	-	-	4-6	S

\* : Recommended

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel ■ Stainless steel ■ Cast iron ■ Nonferrous ■ High temp. alloys ■ Hardened steel

• **Lubrication** E: Emulsion O: Cutting oil S: Special cutting oil D: Dry/air

# Recommended Cutting Conditions

## 40° right hand spiral flute tap

Cutting speed Vc (m/min)

ISO	Material	Condition	40° right hand spiral flute tap			Lubrication	
			Uncoated	Steam tempered	TiN coated		
P	Non-alloy steel, cast steel, free cutting steel	0.1-0.25 %C	Annealed	5-25	5-25 *	15-45 *	E/O
		0.25-0.25 %C	Annealed	5-20	5-20 *	10-40 *	E/O
		0.25-0.25 %C	Quenched and tempered	-	2-15 *	5-25 *	E/O
		0.55-0.80 %C	Annealed	5-20	5-20 *	10-40 *	E/O
		0.55-0.80 %C	Quenched and tempered	-	2-15 *	5-25 *	E/O
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Annealed	5-25	5-25 *	15-45 *	E/O	
		Quenched and tempered	-	2-15 *	5-20 *	E/O	
High alloy steel, cast steel and tool steel	Annealed	5-20	5-20	10-40 *	E/O		
	Quenched and tempered	-	-	5-20	O/S		
M	Stainless steel and cast steel	Ferritic / martensitic	-	2-10 *	5-20 *	E/O	
		Martensitic	-	2-10 *	5-20 *	E/O	
		Austenitic	-	2-10 *	5-20 *	E/O	
K	Gray cast iron (GG)	Ferritic	10-15	10-25	15-45	E/D	
		Pearlitic	10-15	10-20	10-40	E/D	
	Cast iron nodular (GGG)	Ferritic	8-12	5-20	10-30	E/D	
		Pearlitic	8-12	5-15	10-25	E/D	
Malleable cast iron	Ferritic	10-15	10-25	15-45	E/D		
	Pearlitic	10-15	10-20	10-40	E/D		
N	Aluminum - wrought alloy	Not cureable	15-25 *	15-25	15-25	E/O	
		Cured	15-25 *	15-25	15-25	E/O	
	Aluminum-cast, alloyed	<=12% Si	Not cureable	15-20 *	10-20	15-40 *	E/O
			Cured	15-20 *	10-20	15-40 *	E/O
		>12% Si	High temp.	15-20 *	15-20	10-30	E/O
	Copper alloys	>1% Pb	Free cutting	15-25 *	15-25	10-30	E/O
			Brass	10-40	10-40	50-60	E/O
	Electrolitic copper	10-15 *	2-10	5-25	E/O		
Non-metallic	Duroplastics, fiber plastics		-	10-20	10-20	D	
	Hard rubber		-	10-20	10-20	D	
S	High temp. alloys	Fe based	Annealed	-	-	3-5	S
			Cured	-	-	3-5	S
		Ni or Co based	Annealed	-	-	2-4	S
			Cured	-	-	2-4	S
	Titanium, Ti alloys	Cast	-	-	2-4	S	
		Alpha+beta alloys cured	-	-	4-6	S	

\* : Recommended

• For more information of material groups, see the Technical Guide "material conversion table".

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

• **Lubrication**   
 **E:** Emulsion   
 **O:** Cutting oil   
 **S:** Special cutting oil   
 **D:** Dry/air

