D

THREADING

Korloy threading tools are available for machining of various shapes of thread at various pitches with high quality.

C O N T E N T S

Threading Code System

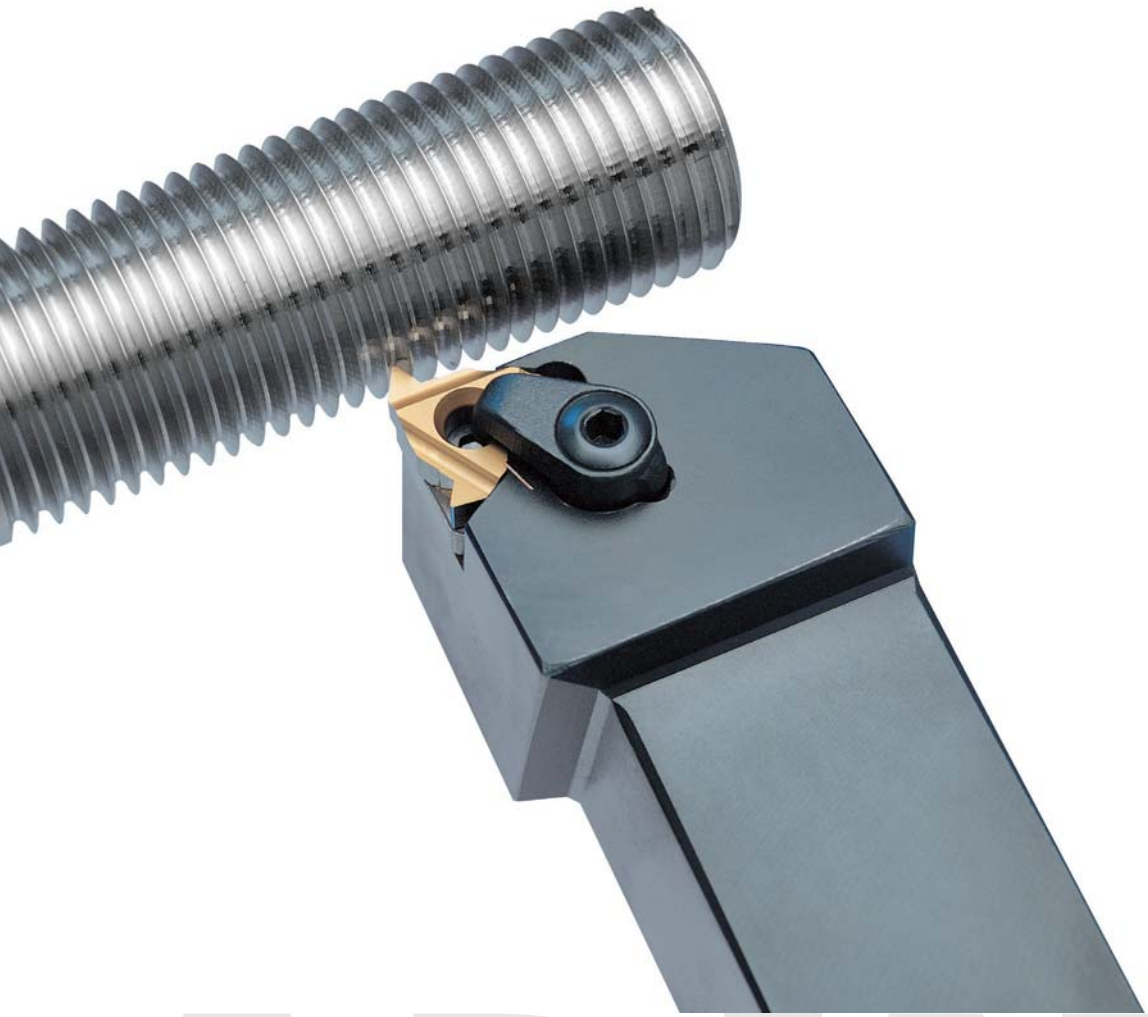
D02 Thread Insert Code System
D02 External / Internal Code System

Technical Information for Threading

D03 Technical Information for Threading
D09 Threading Insert with Chip Breaker

Thread Inserts

D10 Partial profile 60°
D11 Partial profile 55°
D12 ISO Metric
D16 American UN
D18 Whit Worth
D22 British Standard Pipe Thread
D22 National Pipe Thread
D23 National Pipe Thread - Dry seal
D23 Round DIN405
D24 Trapez DIN103



ADING

Thread Inserts

D24 American ACME
D25 Stub ACME
D26 UNJ
D28 American Buttress
D28 British Buttress
D29 Metric Buttress
D29 API
D30 API Buttress Casing
D30 API Round Casing & Tubing
D30 Extreme Line Casing

Thread Holders

D31 External Holder
D32 Internal Holder
D33 Vertical Type Holder

Thread Milling Inserts

D34 Technical Information for Thread Milling Inserts
D44 Thread Milling Inserts
D49 Thread Milling Holders

Thread Milling Solid Endmill

D50 Technical Information for Thread Milling Solid Endmill
D51 Thread Milling Solid Endmill

Threading Holder Code System

E R H 031 (N) - 11 (C)

1	2	3	4	5	6	7
Holder Type	Hand of Insert	Name	Height of shank	Shim	Insert Size (inch)	Clmaping System

1 Holder Type
E R H 031 (N) - 11 (C)

E : For External **I** : For Internal

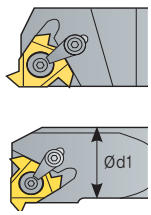
2 Hand of Insert
E R H 031 (N) - 11 (C)

R : Right handed L : Left handed

3 Name
E R H 031 (N) - 11 (C)

H : Holder

4 Height of shank
E R H 031 (N) - 11 (C)



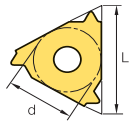
0375 : 0.375
050 : 0.50
0625 : 0.625
075 : 0.75
100 : 1.00
125 : 1.25
150 : 1.50
200 : 2.00
250 : 2.50

5 Shim
E R H 031 (N) - 11 (C)

No code : Shim required
N : No shim required

6 Insert Size (inch)
E R H 031 (N) - 11 (C)

11 : d=1/4
16 : d=3/8
22 : d=1/2
27 : d=5/8



7 Clmaping System
E R H 031 (N) - 11 (C)

No code : Screw on system
C : Clamp on system

Threading Insert Code System

E R M 16 - 1.5 ISO

1	2	3	4	5	6
Insert Type	Hand of Insert	Chip Breaker	Insert Size (inch)	Pitch	Standard

1 Insert Type
E R M 16 - 1.5 ISO

E : External thread **I** : Internal thread

2 Hand of Insert
E R M 16 - 1.5 ISO

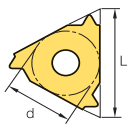
R : Right handed **L** : Left handed

3 Chip Breaker
E R M 16 - 1.5 ISO

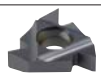
M : With Chip Breaker

4 Insert Size (inch)
E R M 16 - 1.5 ISO

11 : d=1/4
16 : d=3/8
22 : d=1/2
27 : d=5/8



Insert Shape


<ER / IR>

<ERM / IRM>

5 Pitch
E R M 16 - 1.5 ISO

Full profile	
mm	tpi
0.35 - 6.0	72 - 3

Partial profile		
	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
Q	5.5 - 6.0	4.5 - 4

6 Standard
E R M 16 - 1.5 ISO

Partial profile 60°
Partial Profile 55°
ISO Metric (Full Profile)
American UN (Full Profile) UN, UNC, UNF, UNEF
Whitworth (Full Profile) BSW, BSF, BSP
British Standard Pipe thread (Full Profile) BSPT
National Pipe Thread (Full Profile) NPT
National Pipe Threads-Dryseal (Full Profile) NPTF
Round DIN 405
Trapez DIN 103
American ACME
Stub ACME
UNJ
American Buttress
British Buttress
Metric Buttress-Sagengewinde
API
API Buttress Casing
API Round Casing & Tubing
EL-Extreme Line

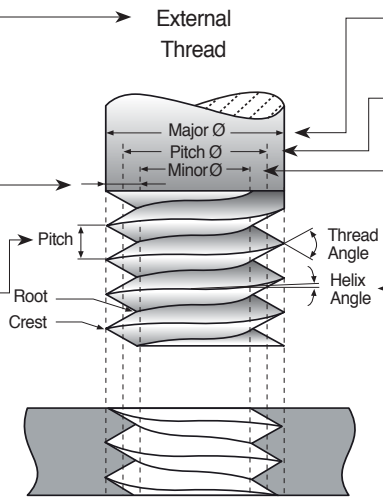
Special Features

External Thread
A thread on the external surface of a cylinder screw or cone

Depth of Thread
The distance between the crest and root measured from normal to the axis

Pitch
The distance between the corresponding points on adjacent thread forms measured parallel to the axis. This distance can be defined in millimeters or by the tpi (threads per inch), which is the reciprocal of the pitch

Nominal Diameter
The diameter of which the diameter limits are derived by the application of deviation allowances and tolerances



Internal Thread
A thread on the internal surface of a cylinder or cone

Major Diameter
The largest diameter of a screw thread

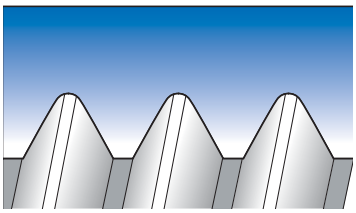
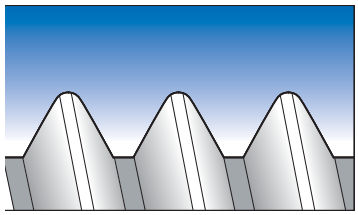
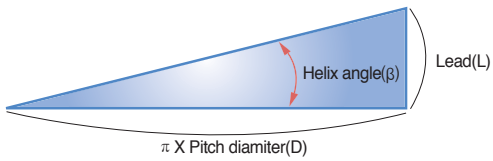
Pitch Diameter
On a straight thread, the diameter of an imaginary cylinder, the surface of which cuts the thread forms where the width of the thread and groove are equal

Minor Diameter
The smallest diameter of a screw thread

Helix Angle
For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the angle opposite of the lead

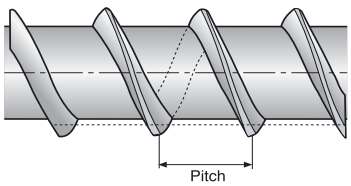
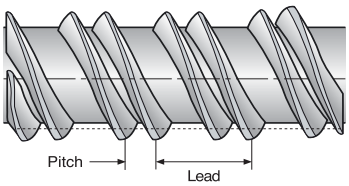
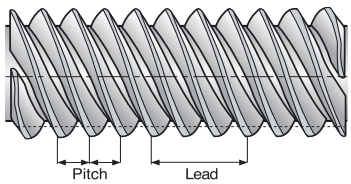
Straight Thread
A thread formed on a cylinder

Taper Thread
A thread formed on a cone

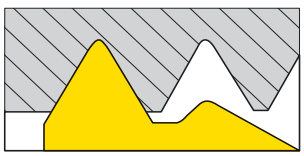
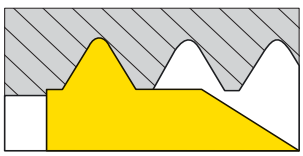
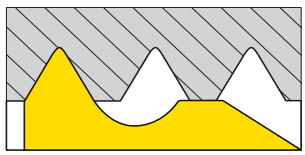
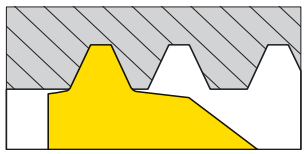
Left handed thread	Right handed thread	The Helix Angle (β)
		
A thread which, when viewed axially, winds in a counter clockwise and receding direction. All left handed threads are designated LH	A thread which, when viewed axially, winds in a clockwise and receding direction Threads are always right handed unless they are specified	For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the angle opposite of the lead

Machining a Multi-start Thread

▶ A thread in which the lead is an integral multiple, greater than one, of the pitch. A multi-start thread permits a more rapid advance without a coarser (larger) thread form

First Start Machined	Second Start Machined	Third Start Machined (Final, 3 Starts Thread)
		

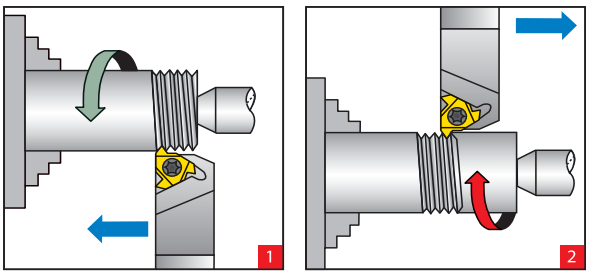
Insert Profile Style

Partial Profile	Full Profile	Full Profile for Fine Pitches	Semi Full
			
The V partial profile insert cuts without topping the outer diameter of the thread. The same insert can be used for a range of different thread pitches which have a common thread angle	The full profile insert will form a complete thread profile including the crest. For every thread pitch and standard, a separate insert is required	The full profile for Fine Pitches will form a complete thread The topping of the outer diameter is generated by second tooth	The Semi profile insert will form a complete thread including crest radius but without topping the outer diameter Mainly used for trapezoidal profiles

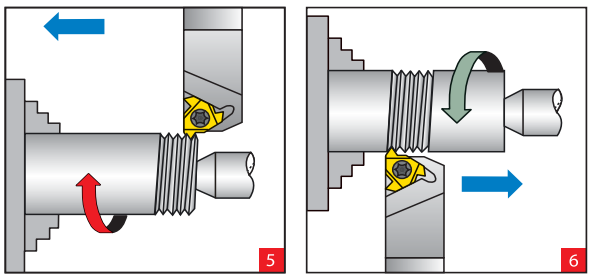
Thread Turning Method

Thread	Inserts & Tool holder	Rotation	Feed Direction	Helix Method	Drawing No.
Right Hand External	EX RH	Counter clockwise	Towards chuck	Regular	1
	EX LH	Clockwise	From chuck	Reversed	2
Right Hand Internal	IN RH	Counter clockwise	Towards chuck	Regular	3
	IN LH	Clockwise	From chuck	Reversed	4
Left Hand External	EX LH	Counter clockwise	Towards chuck	Regular	5
	EX RH	Clockwise	From chuck	Reversed	6
Left Hand Internal	IN LH	Counter clockwise	Towards chuck	Regular	7
	IN RH	Clockwise	From chuck	Reversed	8

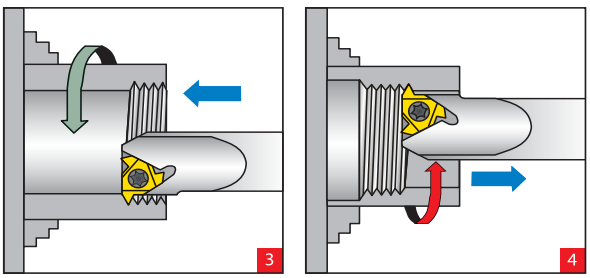
External RH Thread



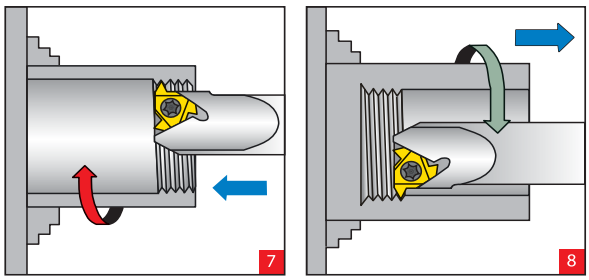
External LH Thread



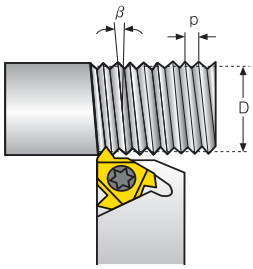
Internal RH Thread



Internal LH Thread



Calculating the Helix Angle(β)



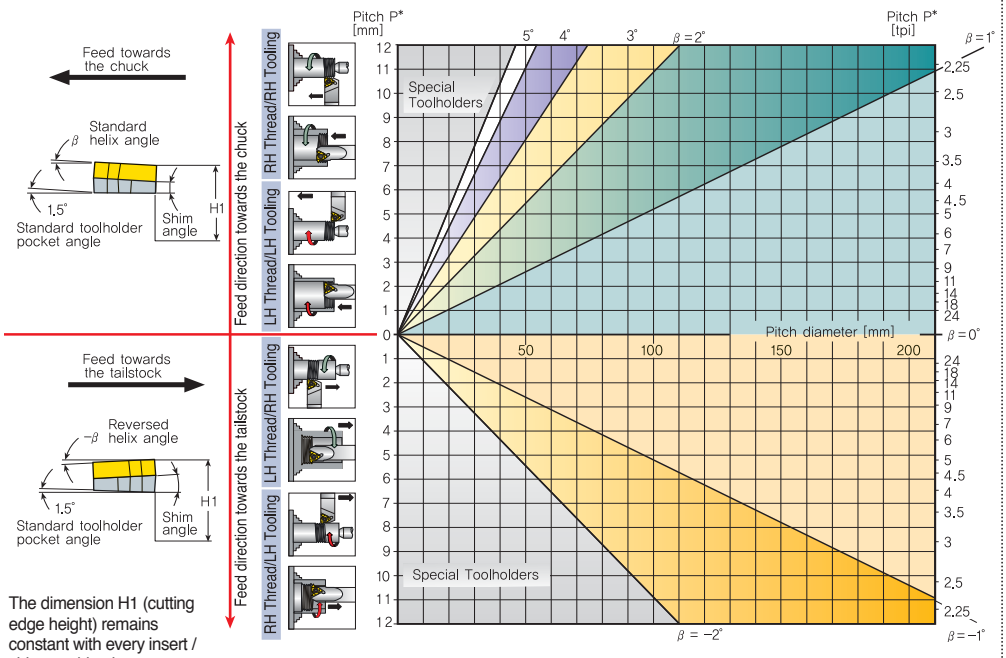
- The helix angle is calculated by the following formula :

$$\beta = \tan^{-1} \frac{P \times N}{\pi \times D}$$

β - Helix angle( )°
P - Pitch(mm)
N - No. of starts
D - Pitch diameter(mm)
Lead = P x N

- The helix angle can also be found from the diagram below

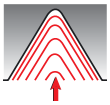
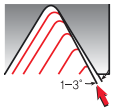
Helix Angle Diagram



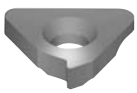
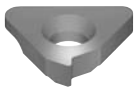
The dimension H1 (cutting edge height) remains constant with every insert / shim combination

* For Multi-start threads, use the lead value instead of the pitch

Thread Infeed Method

Radial Infeed	Flank Infeed (modified)	Alternate Flank Infeed
 Radial infeed is the simplest and quickest method.The feed is perpendicular to the turning axis, and both flanks of the insert perform the cutting operation. Radial infeed is recommended in 3 cases	 Flank infeed is recommended in the following cases	Use of the alternate flank method is recommended especially in large pitches and for materials with long chils
• when the pitch is smaller than 16 tpi • for material with short chips • for work with hardened material	• When the thread pitch is greater than 16 tpi. Using the radial method,the effective cutting edge length is too large, resulting in chatter. for TRAPEZ and ACME. The radial method result in three cutting edges, making chip flow very difficult	• This method divides the load equally on both flanks, resulting in equal wear along the cutting edges. Alternate flank infeed requires more complicated programming, and is not available on all lathes

Shim

Standard Shim			Helix angle 1.5°						
	ATE	ATI	Insert Size	d	9.525(3/8)		12.7(1/2)		15.875(5/8)	
				L	16		22		27	
			Holder		ER(L)H	IR(L)H	ER(L)H	IR(L)H	ER(L)H	IR(L)H
			Ordering Code		ATE16	ATI16	ATE22	ATI22	ATE27	ATI27

※ Standard shim has lead angle 1.5°

Application grade

Grade	Features	Available insert type
PC5300	• **PVD Universal Grade** For chip breaker type only Stable machining on a wide application due to fine-grained carbide substrate with balanced heat resistance and toughness Excellent wear resistance and oxidation resistance due to AiTN coating film Outstanding performance on high speed machining	ERM/IRM (Insert with Chip breaker)
PC3030T	• **General Grade** A tough sub-micron substrate with TiAlN coating provides good fracture toughness and excellent wear resistance Outstanding performance on STS and hard to cut materials	ER/IR (Ground insert)

Recommended Cutting Speed as per workpiece(vc)

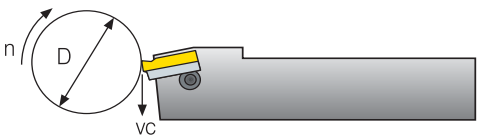
ISO	Work piece	● ←→ ✠
P	Carbon steel, Alloy steel, Cast Steel	PC5300 PC3030T
M	Stainless steel, Heat resistant steel, Titanium alloy steel	PC5300 PC3030T
K	Carbon Iron, Aluminum, Cast Steel, Copper	PC5300 PC3030T

Recommended Cutting Speed as per workpiece(vc)

Material			Hardness Brinell (HB)	ISO vc(sfm) PC3030T
P	Carbon steel	Low carbon (C=0.1-0.25 %)	125	380~630
		Medium carbon (C=0.25-0.55 %)	150	330~580
		High carbon (C=0.55-0.85 %)	170	300~510
	Low alloy steel (alloying elements ≤ 5%)	Non hardened	180	330~600
		Hardened	275	250~460
		Hardened	350	230~450
	High alloy steel (alloying elements > 5%)	Annealed	200	260~400
		Hardened	325	170~330
	Cast steel	Low alloy (alloying elements <5%)	200	230~430
		High alloy (alloying elements >5%)	225	200~400
M	Stainless steel Ferritic	Non hardened	200	230~430
		Hardened	330	170~310
	Stainless steel Austenitic	Austenitic	180	260~400
		Super austenitic	200	100~330
	Stainless steel Cast ferritic	Non hardened	200	300~400
		Hardened	330	220~360
	Stainless steel Cast austenitic	Austenitic	200	280~360
		Hardened	330	200~330
	High temperature alloy	Annealed (Iron based)	200	150~200
		Aged (Iron based)	280	100~170
		Annealed (Nickel or Cobalt based)	250	70~100
		Aged (Nickel or Cobalt based)	350	50~80
	Titanium alloy	99.5% pure Titanium	400Rm	460~560
		Titanium alloy	1050Rm	170~230
K	Extra hard steel	Hardened & tempered	55HRC	150~200
	Malleable cast iron	Ferritic (short chips)	130	230~400
		Pearlitic (long chips)	230	230~400
	Gray cast iron	Low tensile strength	180	230~430
		High tensile strength	260	200~330
	Nodular SG iron	Ferritic	160	410~530
		Pearlitic	260	300~400
	Aluminum alloy Wrought	non aging	60	330~830
		Aged	100	260~600
	Aluminum alloy	Cast	75	660~1300
		Cast & aged	90	660~920
		Cast Si 13-22%	130	200~500
	Copper and copper alloy	Brass	90	260~400
		Bronze and non leaded copper	100	260~400

Calculation of N [RPM]

$$n = \frac{vc \times 12}{\pi \times D} \qquad vc = \frac{\pi \times D \times n}{12}$$



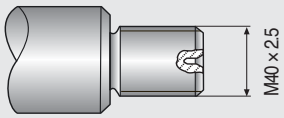
n - Revolution Per Minute [min-1]
vc - Cutting Speed [sfm]
D - Workpiece Diameter [mm]

Number of Passes

Pitch																
mm	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	8.00
tpi	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
No. of passes	4~6	4~7	4~8	5~9	6~10	7~12	7~12	8~14	9~16	10~18	11~18	11~19	12~20	12~20	12~20	15~24

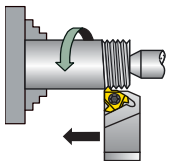
※ One cutting depth is calculated by total cutting depth divided into machining times
ex) ER16-1.5ISO, hmin 0.92 : If 10times machining, one cutting depth is 0.092(0.92/10)

Step by step Thread Turning



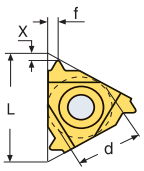
Application Thread : External Right Hand ISO Metric M40x2.5
Material : 4140 (25 HRC)

1 Choose the Thread Turning Method



Feed direction towards the chuck was chosen
Therefore an external right hand insert and an external right hand holder will be used

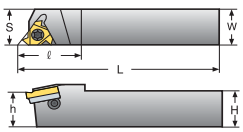
2 Choose the Insert Size



Chosen insert : **ER16 - 2.5 ISO**

Insert size	Pitch	Ordering Code	Shim	Tool holder
d	mm	RH	RH	
3/8	2.5	ER16-2.5ISO	ATE16	ERH□□-16

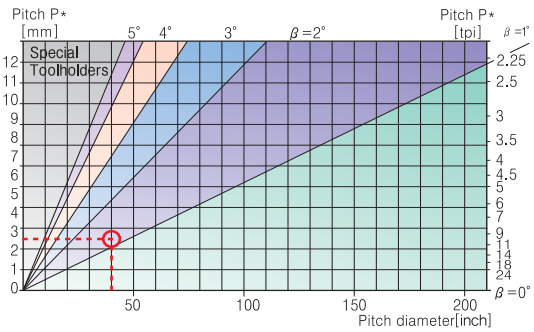
3 Choose the Tool holder



Chosen tool holder **: ERH 25 - 16**

Insert size	Ordering code	Dimensions(inch)				
d	RH	H=h	W	S	L	ℓ
3/8	ER0625-16	0.625	0.625	0.625	5.0	1.02

4 Determine the Helix Angle



From the table, using a pitch of 2.5 mm(10 tpi) and a workpiece diameter of 40mm (1.57″), we find the helix angle to be 1.5°

5 Choose the Correct Shim

Shim Chosen **: ATE16**

Resultant Helix Angle		1.5°
Insert size	d	3/8
	L	16
Odering Code		ATE16

6 Choose the Carbide Grade and Cutting Speed

Carbide grade chosen : PC3030T / Cutting speed : 140sfm

Material			HB	vc(sfm) PC3030T
P	Low alloy steel (alloying elements ≤5%)	Non hardened	180	330~600
		Hardened	275	250~460
		Hardened	350	230~450

7 Determine the Number of Passes

Carbide grade chosen : PC3030T
Cutting speed : 140sfm

Pitch	**mm**	1.50	1.75	2.00	2.50	3.00	3.50	4.00
	tpi	16	14	12	10	8	7	6
No.of passes		6~10	7~12	7~12	8~14	9~16	10~18	11~18

8 Summary

Thread type	ISO M40 x 2.5External Right Hand
1. Feed Direction	Towards the chuck
2. Insert and Grade	ER16-2.5 ISO, PC3030T
3. Tool holder	ERH25-16
4. Helix Angle	1.5°
5. Shim	ATE16
6. Cutting Speed	460 sfm
7. Number of Passes	10

Cutting Condition depending on

Workpiece	Material Type	
	Material Dimension	D, L
	Diameter and Length Chipflow Character	
	Material Hardness	HRC / HB
Thread Application	External or Internal	
	Profile Shape	
	Surface Finish	
Machine	Machine Stability	
	Max. RPM	RPM n
	Clamping System Stability	

Coolant	Coolant Type	
Holders	Holder Cross Section Area	
	Holder Overhang	Overhang
	Through Coolant Option	
	Shank Type: Carbide, Alloy,	
Insert	Carbide Implant Grade	P M K
	Profile Shape: Pitch and Depth	
	Nose Radius	R
	Chipbreaker Style	

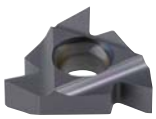
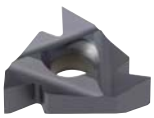
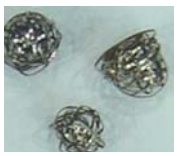
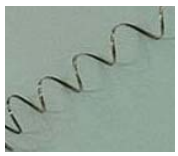
Trouble Shooting

Problem	Possible Cause	Solution
Increased flank wear	Cutting speed too hight	Reduce cutting speed/ use coated insert
	Depth of cut too low/too many passes	Increase the depth of cut per pass
	Unsuitable carbide grade	Use a coated carbide grade
	Insufficient cooling	Increase coolant flow rate
Uneven cutting edge wear	Incorrect helix angle	Choose the correct shim
	Wrong infeed method	Use the Alternating Flank Infeed method
Extreme plastic deformation	Depth of cut too large	Decrease depth of cut/ increase number of passes
	Insufficient cooling	Increase coolant flow rate
	Cutting speed too high	Reduce cutting speed
	Unsuitable carbide grade	Use a tougher carbide
	Nose radius too small	Use an insert with a larger radius, if possible
Cutting edge breakage	Depth of cut too large	Decrease depth of cut/ increase number of passes.
	Extreme plastic deformation	Use a tougher carbide
	Insufficient cooling	Increase flow rate and/ or correct flow direction
	Unsuitable carbide grade	Use a tougher carbide
	Instability	Check stability of the system
Built-up edge	Incorrect cutting speed	Change the cutting speed
	Unsuitable carbide grade	Use a coated carbide
Thread profile is too shallow	The tool is not at the workpiece axis height	Change tool height
	Insert is not machining the thread crest	Measure the workpiece diameter
	Worn insert	Change the cutting edge sooner
Poor surface quality	Too low cutting speed	Increase cutting speed
	Wrong shim	Choose correct shim
	Flank infeed method is not appropriate	Use the alternate flank or radial infeed method

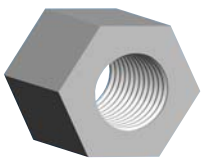
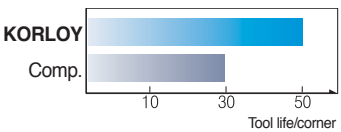
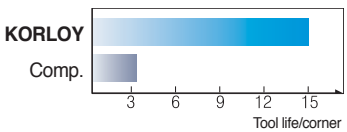
Threading insert with chip breaker

Features

- ▶ Economical insert
- ▶ Good toughness and high accuracy as ground type inserts
- ▶ Exclusive insert design improves chip control.
- ▶ New grade for general application of various kinds of workpieces

Type	Ground insert		Insert with a chip breaker			
C/B Code	None		None		U	
Designation	ER16-1.5ISO		ERM16-1.5ISO		ERM16-1.5ISO-U	
Machining	External	Internal	External	Internal	External	Internal
Insert Shape						
Chip Shape						
Class	P, M, K, N, S		P, M, K		P, M, K	
Application	G-Class		M-Class		M-Class	
Features	• Groove-shaped chip breaker with superior chip evacuation lowers cutting load. • Enables high precision machining. • Applicable for machining of various shapes of threads. • Applicable for machining of various workpieces.		• Unique 3 dimensional chip breaker improves machinability with good chip control. • Excellent cutting edge treatment technology ensures high precision sharp cutting edge.		• Groove-shaped chip breaker with superior chip evacuation lowers cutting load. • Reduces machining pass by 10~30%. • Excellent cutting edge treatment achieves high precision sharp cutting edge.	

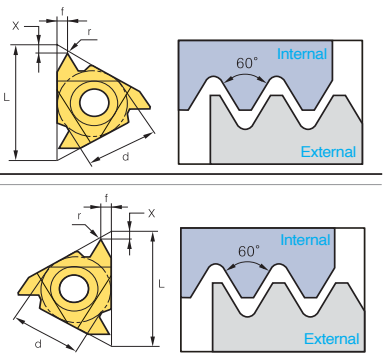
Machining Example

Korloy		ERM16-1.5ISO [PC3030T]	IRM16-2.0ISO [PC3030T]
Competitor tools		ERM16-1.5ISO [K-Maker]	IRM16-2.0ISO [S-Maker]
Workpiece	Material	4140	304
	Figure		
Cutting condition	Cutting speed (sfm)	200	400
	Pass	8	9
	Machining	Radial infeed	Radial infeed
	Pitch	1.5	2.0
Coolant		Wet	Wet
Result			
		Increased tool life with good chip breaking	Prevention outbreak damage of insert due to smooth chip control

Partial profile 60°

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ER 11-A60	●	EL 11-A60		0.5~1.5	48~16	1/4	0.433	0.002	0.03	0.04
	16-A60	●	16-A60	●	0.5~1.5	48~16	3/8	0.630	0.011	0.05	0.07
	16-G60	●	16-G60		1.75~3.0	14~8	3/8	0.630	0.011	0.05	0.07
	16-AG60	●	16-AG60	●	0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N60	●	22-N60		3.5~5.0	7~5	1/2	0.866	0.021	0.07	0.10
	27-Q60	●	27-Q60		5.5~6.0	4.5~4	5/8	1.063	0.021	0.07	0.10
Internal	IR 11-A60	●	IL 11-A60		0.5~1.5	48~16	1/4	0.433	0.002	0.03	0.04
	16-A60	●	16-A60		0.5~1.5	48~16	3/8	0.630	0.002	0.03	0.04
	16-G60	●	16-G60		1.75~3.0	14~8	3/8	0.630	0.006	0.05	0.07
	16-AG60	●	16-AG60	●	0.5~3.0	48~8	3/8	0.630	0.002	0.05	0.07
	22-N60	●	22-N60		3.5~5.0	7~5	1/2	0.866	0.012	0.08	0.10
	27-Q60	●	27-Q60		5.5~6.0	4.5~4	5/8	1.063	0.012	0.07	0.11

Picture



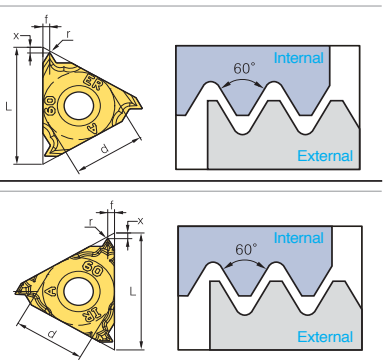
Applicable holders, see pages D31, D32

● : Stock item

Partial profile 60° (M Chip Breaker)

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ERM 16-A60	●				0.5~1.5	48~16	3/8	0.630	0.003	0.05	0.07
	16-G60	●				1.75~3.0	14~8	3/8	0.630	0.003	0.05	0.07
	16-AG60	●				0.5~3.0	48~8	3/8	0.630	0.030	0.05	0.07
	22-N60	●				3.5~5.0	7~5	1/2	0.866	0.021	0.07	0.10
Internal	IRM 11-A60	●				0.5~1.5	48~16	1/4	0.433	0.003	0.03	0.04
	16-A60	●				0.5~1.5	48~16	3/8	0.630	0.003	0.03	0.04
	16-G60	●				1.75~3.0	14~8	3/8	0.630	0.047	0.05	0.07
	16-AG60	●				0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N60	●				3.5~5.0	7~5	1/2	0.866	0.012	0.07	0.10

Picture



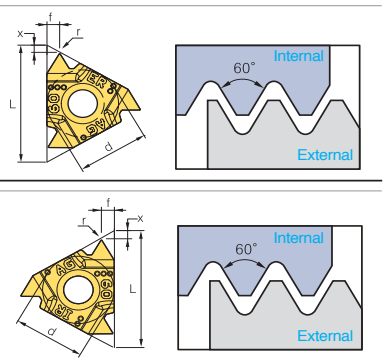
Applicable holders, see pages D31, D32

● : Stock item

Partial profile 60° (U Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ERM 16-AG60-U					0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
Internal	IRM 16-AG60-U					0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07

Picture



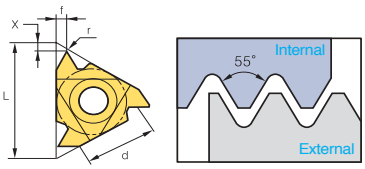
Applicable holders, see pages D31, D32

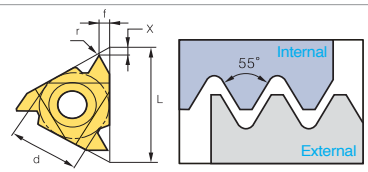
● : Stock item

Partial profile 55°

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ER 11-A55		EL 11-A55		0.5~1.5	48~16	1/4	0.433	0.002	0.03	0.04
	16-A55	●	16-A55		0.5~1.5	48~16	3/8	0.630	0.002	0.03	0.04
	16-G55	●	16-G55		1.75~3.0	14~8	3/8	0.630	0.008	0.05	0.07
	16-AG55	●	16-AG55	●	0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N55	●	22-N55		3.5~5.0	7~5	1/2	0.866	0.017	0.07	0.10
	27-Q55	●	27-Q55		5.5~6.0	4.5~4	5/8	1.063	0.024	0.08	0.11
Internal	IR 11-A55	●	IL 11-A55		0.5~1.5	48~16	1/4	0.433	0.002	0.03	0.04
	16-A55	●	16-A55		0.5~1.5	48~16	3/8	0.630	0.020	0.02	0.04
	16-G55	●	16-G55		1.75~3.0	14~8	3/8	0.630	0.008	0.05	0.07
	16-AG55	●	16-AG55		0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N55	●	22-N55		3.5~5.0	7~5	1/2	0.866	0.017	0.67	0.10
	27-Q55	●	27-Q55		5.5~6.0	4.5~4	5/8	1.063	0.024	0.08	0.10

Picture





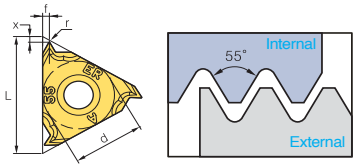
Applicable holders, see pages D31, D32

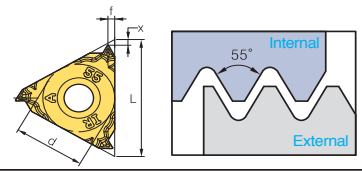
● : Stock item

Partial profile 55° (M Chip Breaker)

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ERM 16-A55	●				0.5~1.5	48~16	3/8	0.630	0.003	0.03	0.04
	16-G55	●				1.75~3.0	14~8	3/8	0.630	0.008	0.05	0.07
	16-AG55	●				0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N55	●				3.5~5.0	7~5	1/2	0.866	0.017	0.07	0.10
Internal	IRM 11-A55	●				0.5~1.5	48~16	1/4	0.433	0.003	0.03	0.04
	16-A55					0.5~1.5	48~16	3/8	0.630	0.003	0.03	0.04
	16-G55					1.75~3.0	14~8	3/8	0.630	0.009	0.05	0.07
	16-AG55	●				0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
	22-N55	●				3.5~5.0	7~5	1/2	0.866	0.017	0.07	0.10

Picture





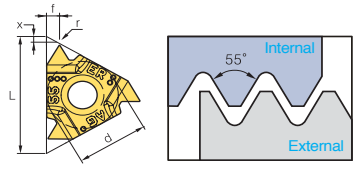
Applicable holders, see pages D31, D32

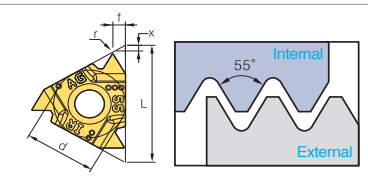
● : Stock item

Partial profile 55° (U Chip Breaker) Neu

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Pitch (tpi)	d	L	r	x	f
External	ERM 16-AG55-U					0.5~3.0	48~8	3/8	0.630	0.003	0.05	0.07
Internal	IRM 16-AG55-U					0.5~3.0	48~8	3/8	0.630	0.003	0.005	0.07

Picture

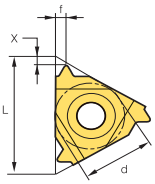
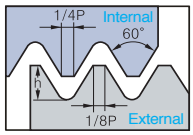




Applicable holders, see pages D31, D32

● : Stock item

ISO Metric

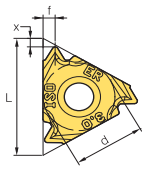
Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-0.35ISO		EL 11-0.35ISO		0.35	1/4	0.433	0.008	0.03	0.02	
	11-0.4ISO		11-0.4ISO		0.4	1/4	0.433	0.011	0.03	0.02	
	11-0.45ISO		11-0.45ISO		0.45	1/4	0.433	0.011	0.03	0.02	
	11-0.5ISO		11-0.5ISO		0.5	1/4	0.433	0.012	0.02	0.02	
	11-0.6ISO		11-0.6ISO		0.6	1/4	0.433	0.015	0.02	0.02	
	11-0.7ISO		11-0.7ISO		0.7	1/4	0.433	0.017	0.02	0.02	
	11-0.75ISO		11-0.75ISO		0.75	1/4	0.433	0.017	0.02	0.02	
	11-0.8ISO		11-0.8ISO		0.8	1/4	0.433	0.019	0.02	0.02	
	11-1.0ISO		11-1.0ISO		1.0	1/4	0.433	0.024	0.02	0.03	
	11-1.25ISO		11-1.25ISO		1.25	1/4	0.433	0.030	0.03	0.04	
	11-1.5ISO		11-1.5ISO		1.5	1/4	0.433	0.036	0.03	0.04	
	11-1.75ISO		11-1.75ISO		1.75	1/4	0.433	0.042	0.03	0.04	
	16-0.35ISO		16-0.35ISO		0.35	3/8	0.630	0.008	0.03	0.02	
	16-0.4ISO		16-0.4ISO		0.4	3/8	0.630	0.010	0.03	0.02	
	16-0.45ISO		16-0.45ISO		0.45	3/8	0.630	0.011	0.03	0.02	 
	16-0.5ISO	●	16-0.5ISO		0.5	3/8	0.630	0.012	0.03	0.02	
	16-0.6ISO		16-0.6ISO		0.6	3/8	0.630	0.015	0.02	0.02	
	16-0.7ISO	●	16-0.7ISO		0.7	3/8	0.630	0.017	0.02	0.02	
	16-0.75ISO	●	16-0.75ISO		0.75	3/8	0.630	0.018	0.02	0.02	
	16-0.8ISO	●	16-0.8ISO		0.8	3/8	0.630	0.019	0.02	0.03	
	16-1.0ISO	●	16-1.0ISO		1.0	3/8	0.630	0.024	0.02	0.03	
	16-1.25ISO	●	16-1.25ISO		1.25	3/8	0.630	0.030	0.03	0.04	
	16-1.5ISO	●	16-1.5ISO	●	1.5	3/8	0.630	0.036	0.03	0.04	
	16-1.75ISO	●	16-1.75ISO		1.75	3/8	0.630	0.042	0.04	0.05	
	16-2.0ISO	●	16-2.0ISO	●	2.0	3/8	0.630	0.048	0.04	0.05	
	16-2.5ISO	●	16-2.5ISO	●	2.5	3/8	0.630	0.06	0.04	0.07	
	16-3.0ISO	●	16-3.0ISO	●	3.0	3/8	0.060	0.067	0.05	0.07	
	22-3.0ISO		22-3.0ISO		3.0	1/2	0.866	0.072	0.05	0.06	
	22-3.5ISO	●	22-3.5ISO		3.5	1/2	0.866	0.085	0.06	0.09	
	22-4.0ISO	●	22-4.0ISO		4.0	1/2	0.866	0.096	0.06	0.09	
	22-4.5ISO	●	22-4.5ISO		4.5	1/2	0.866	0.109	0.06	0.09	
	22-5.0ISO	●	22-5.0ISO		5.0	1/2	0.866	0.121	0.06	0.10	
	27-5.5ISO		27-5.5ISO		5.5	5/8	1.063	0.133	0.06	0.11	
	27-6.0ISO		27-6.0ISO		6.0	5/8	1.063	0.145	0.08	0.11	

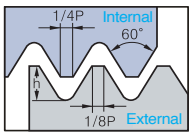
Applicable holders, see pages D31

● : Stock item

ISO Metric (M Chip Breaker)

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
External	ERM 16-1.0ISO					1.0	3/8	0.630	0.024	0.02	0.03	
	16-1.25ISO					1.25	3/8	0.630	0.030	0.03	0.04	
	16-1.5ISO	●				1.5	3/8	0.630	0.036	0.03	0.04	
	16-1.75ISO	●				1.75	3/8	0.630	0.042	0.04	0.05	
	16-2.0ISO	●				2.0	3/8	0.630	0.049	0.04	0.05	
	16-2.5ISO	●				2.5	3/8	0.630	0.060	0.04	0.05	
	16-3.0ISO	●				3.0	3/8	0.630	0.073	0.05	0.06	



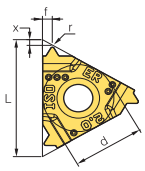


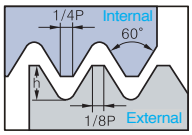
Applicable holders, see pages D31

● : Stock item

ISO Metric (U Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
External	ERM 16-1.5ISO-U					1.5	3/8	0.630	0.036	0.03	0.04	
	16-2.0ISO-U					2.0	3/8	0.630	0.049	0.04	0.05	

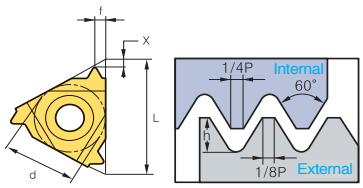




Applicable holders, see pages D31

● : Stock item

ISO Metric

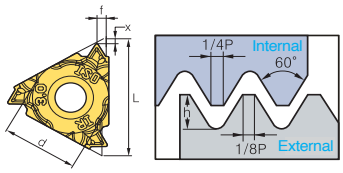
Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
Internal	IR 11-0.35ISO		IL 11-0.35ISO		0.35	1/4	0.433	0.008	0.03	0.01	
	11-0.4ISO		11-0.4ISO		0.4	1/4	0.433	0.009	0.03	0.02	
	11-0.45ISO		11-0.45ISO		0.45	1/4	0.433	0.010	0.03	0.02	
	11-0.5ISO	●	11-0.5ISO		0.5	1/4	0.433	0.001	0.02	0.02	
	11-0.6ISO		11-0.6ISO		0.6	1/4	0.433	0.014	0.02	0.02	
	11-0.7ISO		11-0.7ISO		0.7	1/4	0.433	0.016	0.02	0.02	
	11-0.75ISO	●	11-0.75ISO		0.75	1/4	0.433	0.017	0.02	0.02	
	11-0.8ISO		11-0.8ISO		0.8	1/4	0.433	0.018	0.02	0.03	
	11-1.0ISO	●	11-1.0ISO		1.0	1/4	0.433	0.023	0.02	0.03	
	11-1.25ISO	●	11-1.25ISO		1.25	1/4	0.433	0.028	0.03	0.04	
	11-1.5ISO	●	11-1.5ISO		1.5	1/4	0.433	0.034	0.03	0.04	
	11-1.75ISO	●	11-1.75ISO		1.75	1/4	0.433	0.040	0.04	0.04	
	11-2.0ISO	●	11-2.0ISO		2.0	1/4	0.433	0.045	0.03	0.04	
	11-2.5ISO	●	11-2.5ISO		2.5	1/4	0.433	0.057	0.03	0.04	
	16-0.35ISO		16-0.35ISO		0.35	3/8	0.630	0.008	0.03	0.01	
	16-0.4ISO		16-0.4ISO		0.4	3/8	0.630	0.009	0.03	0.02	
	16-0.45ISO		16-0.45ISO		0.45	3/8	0.630	0.010	0.03	0.02	
	16-0.5ISO	●	16-0.5ISO		0.5	3/8	0.630	0.011	0.03	0.02	
	16-0.6ISO		16-0.6ISO		0.6	3/8	0.630	0.014	0.02	0.02	
	16-0.7ISO		16-0.7ISO		0.7	3/8	0.630	0.016	0.02	0.02	
	16-0.75ISO	●	16-0.75ISO		0.75	3/8	0.630	0.017	0.02	0.02	
	16-0.8ISO	●	16-0.8ISO		0.8	3/8	0.630	0.018	0.02	0.02	
	16-1.0ISO	●	16-1.0ISO		1.0	3/8	0.630	0.023	0.02	0.03	
	16-1.25ISO	●	16-1.25ISO		1.25	3/8	0.630	0.028	0.03	0.04	
	16-1.5ISO	●	16-1.5ISO		1.5	3/8	0.630	0.034	0.03	0.04	
	16-1.75ISO	●	16-1.75ISO		1.75	3/8	0.630	0.040	0.04	0.05	
	16-2.0ISO	●	16-2.0ISO		2.0	3/8	0.630	0.045	0.04	0.05	
	16-2.5ISO	●	16-2.5ISO		2.5	3/8	0.630	0.057	0.04	0.07	
	16-3.0ISO	●	16-3.0ISO		3.0	3/8	0.630	0.068	0.04	0.06	
	22-3.5ISO	●	22-3.5ISO		3.5	1/2	0.866	0.08	0.06	0.09	
	22-4.0ISO	●	22-4.0ISO		4.0	1/2	0.866	0.091	0.06	0.09	
	22-4.5ISO	●	22-4.5ISO		4.5	1/2	0.866	0.102	0.06	0.09	
	22-5.0ISO	●	22-5.0ISO		5.0	1/2	0.866	0.114	0.06	0.09	
	27-5.5ISO	●	27-5.5ISO		5.5	5/8	1.063	0.125	0.06	0.09	
	27-6.0ISO		27-6.0ISO		6.0	5/8	1.063	0.136	0.07	0.10	

Applicable holders, see pages D32

● : Stock item

ISO Metric (M Chip Breaker)

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
Internal	IRM 11-1.5ISO	●				1.5	1/4	0.433	0.034	0.03	1.04	
	16-1.0ISO					1.0	3/8	0.630	0.023	0.02	0.03	
	16-1.25ISO					1.25	3/8	0.630	0.034	0.03	0.04	
	16-1.5ISO	●				1.5	3/8	0.630	0.028	0.03	1.04	
	16-1.75ISO					1.75	3/8	0.630	0.034	1.04	1.05	
	16-2.0ISO	●				2.0	3/8	0.630	0.045	1.04	1.05	
	16-2.5ISO					2.5	3/8	0.630	0.057	1.04	1.06	
	16-3.0ISO	●				3.0	3/8	0.630	0.068	1.04	1.06	

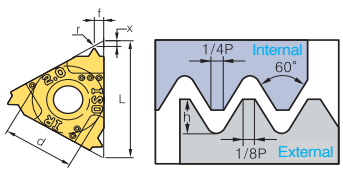


Applicable holders, see pages D32

● : Stock item

ISO Metric (U Chip Breaker) New

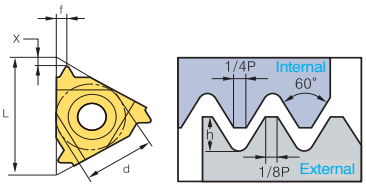
Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
Internal	IRM 16-1.5ISO-U					1.5	3/8	0.630	0.034	0.03	1.04	
	16-2.0ISO-U					2.0	3/8	0.630	0.045	1.04	1.05	



Applicable holders, see pages D32

● : Stock item

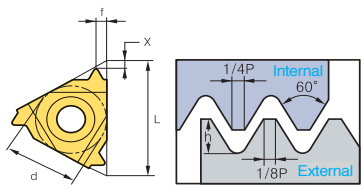
American UN (UN, UNC, UNF, UNEF, UNS)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-72UN		EL 11-72UN		72	1/4	0.433	0.009	1/32	0.016	
	11-64UN		11-64UN		64	1/4	0.433	0.009	1/32	0.016	
	11-56UN		11-56UN		56	1/4	0.433	0.011	0.028	0.016	
	11-48UN		11-48UN		48	1/4	0.433	0.013	0.024	0.024	
	11-44UN		11-44UN		44	1/4	0.433	0.014	0.024	0.024	
	11-40UN		11-40UN		40z	1/4	0.433	0.015	0.024	0.024	
	11-36UN		11-36UN		36	1/4	0.433	0.017	0.024	0.024	
	11-32UN		11-32UN		32	1/4	0.433	0.019	0.024	0.024	
	11-28UN		11-28UN		28	1/4	0.433	0.022	0.024	0.028	
	11-27UN		11-27UN		27	1/4	0.433	0.023	0.028	0.031	
	11-24UN		11-24UN		24	1/4	0.433	0.026	0.028	0.031	
	11-20UN		11-20UN		20	1/4	0.433	0.031	1/32	0.035	
	11-18UN		11-18UN		18	1/4	0.433	0.034	1/32	0.039	
	11-16UN		11-16UN		16	1/4	0.433	0.038	0.035	0.043	
	11-14UN		11-14UN		14	1/4	0.433	0.044	0.035	0.043	
	16-72UN		16-72UN		72	3/8	0.630	0.009	1/32	0.016	
	16-64UN		16-64UN		64	3/8	0.630	0.009	1/32	0.016	
	16-56UN		16-56UN		56	3/8	0.630	0.011	0.028	0.016	
	16-48UN		16-48UN		48	3/8	0.630	0.013	0.024	0.024	
	16-44UN		16-44UN		44	3/8	0.630	0.014	0.024	0.024	
	16-40UN		16-40UN		40	3/8	0.630	0.015	0.024	0.024	
	16-36UN		16-36UN		36	3/8	0.630	0.017	0.024	0.024	
	16-32UN		16-32UN		32	3/8	0.630	0.008	0.024	0.024	
	16-28UN		16-28UN		28	3/8	0.630	0.022	0.024	0.028	
	16-27UN		16-27UN		27	3/8	0.630	0.023	0.028	0.031	
	16-24UN	●	16-24UN		24	3/8	0.630	0.026	0.028	0.031	
	16-20UN	●	16-20UN		20	3/8	0.630	0.031	1/32	0.035	
	16-18UN	●	16-18UN		18	3/8	0.630	0.034	1/32	0.039	
	16-16UN	●	16-16UN		16	3/8	0.630	0.038	0.035	0.043	
	16-14UN	●	16-14UN		14	3/8	0.630	0.004	0.039	0.047	
	16-13UN	●	16-13UN		13	3/8	0.630	0.047	0.039	0.051	
	16-12UN	●	16-12UN		12	3/8	0.630	0.051	0.043	0.055	
	16-11.5UN		16-11.5UN		11.5	3/8	0.630	0.053	0.043	0.059	
	16-11UN	●	16-11UN		11	3/8	0.630	0.056	0.043	0.059	
	16-10UN	●	16-10UN		10	3/8	0.630	0.061	0.043	0.059	
	16-9UN	●	16-9UN		9	3/8	0.630	0.068	0.047	0.067	
	16-8UN	●	16-8UN		8	3/8	0.630	0.077	0.047	0.063	
	22-7UN		22-7UN		7	1/2	0.866	0.087	0.063	0.091	
	22-6UN		22-6UN		6	1/2	0.866	0.102	0.063	0.091	
	22-5UN		22-5UN		5	1/2	0.866	0.123	0.067	0.098	
	27-4.5UN		27-4.5UN		4.5	5/8	1.063	0.136	0.075	0.106	
	27-4UN		27-4UN		4	5/8	1.063	0.153	0.083	0.118	

Applicable holders, see pages D31

● : Stock item

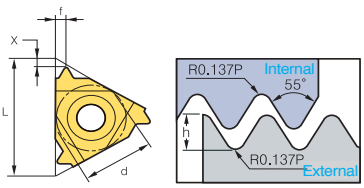
American UN (UN, UNC, UNF, UNEF, UNS)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
Internal	IR 11-72UN		IL 11-72UN		72	1/4	0.433	0.008	1/32	0.012	
	11-64UN		11-64UN		64	1/4	0.433	0.009	1/32	0.016	
	11-56UN		11-56UN		56	1/4	0.433	0.010	0.028	0.016	
	11-48UN		11-48UN		48	1/4	0.433	0.012	0.024	0.024	
	11-44UN		11-44UN		44	1/4	0.433	0.013	0.024	0.024	
	11-40UN		11-40UN		40	1/4	0.433	0.015	0.024	0.024	
	11-36UN		11-36UN		36	1/4	0.433	0.016	0.024	0.024	
	11-32UN		11-32UN		32	1/4	0.433	0.018	0.024	0.024	
	11-28UN		11-28UN		28	1/4	0.433	0.020	0.024	0.028	
	11-27UN		11-27UN		27	1/4	0.433	0.021	0.028	0.031	
	11-24UN		11-24UN		24	1/4	0.433	0.024	0.028	0.031	
	11-20UN		11-20UN		20	1/4	0.433	0.029	1/32	0.035	
	11-18UN		11-18UN		18	1/4	0.433	0.032	1/32	0.039	
	11-16UN		11-16UN		16	1/4	0.433	0.036	0.035	0.043	
	11-14UN		11-14UN		14	1/4	0.433	0.041	0.035	0.043	
	11-12UN		11-12UN		12	1/4	0.433	0.048	1/32	0.043	
	11-11UN		11-11UN		11	1/4	0.433	0.052	1/32	0.043	
	16-72UN		16-72UN		72	3/8	0.630	0.008	1/32	0.012	
	16-64UN		16-64UN		64	3/8	0.630	0.009	1/32	0.016	
	16-56UN		16-56UN		56	3/8	0.630	0.010	0.028	0.016	
	16-48UN		16-48UN		48	3/8	0.630	0.012	0.024	0.024	
	16-44UN		16-44UN		44	3/8	0.630	0.013	0.024	0.024	
	16-40UN		16-40UN		40	3/8	0.630	0.015	0.024	0.024	
	16-36UN		16-36UN		36	3/8	0.630	0.016	0.024	0.024	
	16-32UN		16-32UN		32	3/8	0.630	0.020	0.024	0.024	
	16-28UN		16-28UN		28	3/8	0.630	0.020	0.024	0.028	
	16-27UN		16-27UN		27	3/8	0.630	0.021	0.028	0.031	
	16-24UN	●	16-24UN		24	3/8	0.630	0.024	0.028	0.031	
	16-20UN	●	16-20UN		20	3/8	0.630	0.029	1/32	0.035	
	16-18UN		16-18UN		18	3/8	0.630	0.032	1/32	0.039	
	16-16UN	●	16-16UN		16	3/8	0.630	0.036	0.035	0.043	
	16-14UN	●	16-14UN		14	3/8	0.630	0.041	0.035	0.047	
	16-13UN		16-13UN		13	3/8	0.630	0.044	0.039	0.051	
	16-12UN	●	16-12UN		12	3/8	0.630	0.048	0.043	0.055	
	16-11.5UN		16-11.5UN		11.5	3/8	0.630	0.050	0.043	0.059	
	16-11UN	●	16-11UN		11	3/8	0.630	0.052	0.043	0.059	
	16-10UN	●	16-10UN		10	3/8	0.630	0.058	0.043	0.059	
	16-9UN		16-9UN		9	3/8	0.630	0.064	0.047	0.067	
	16-8UN	●	16-8UN		8	3/8	0.630	0.072	0.043	0.059	
	22-7UN		22-7UN		7	1/2	0.866	0.082	0.063	0.091	
	22-6UN		22-6UN		6	1/2	0.866	0.096	0.063	0.091	
	22-5UN		22-5UN		5	1/2	0.866	0.115	0.063	0.091	
	27-4.5UN		27-4.5UN		4.5	5/8	1.063	0.128	0.067	0.094	
	27-4UN		27-4UN		4	5/8	1.063	0.144	0.071	0.106	

Applicable holders, see pages D32

● : Stock item

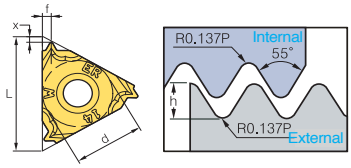
Whitworth (BSW, BSF, BSP, BSB)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-72W		EL 11-72W		72	1/4	0.433	0.009	0.028	0.016	
	11-60W		11-60W		60	1/4	0.433	0.011	0.028	0.016	
	11-56W		11-56W		56	1/4	0.433	0.011	0.028	0.016	
	11-48W		11-48W		48	1/4	0.433	0.013	0.024	0.024	
	11-40W		11-40W		40	1/4	0.433	0.016	0.024	0.024	
	11-36W		11-36W		36	1/4	0.433	0.018	0.024	0.024	
	11-32W		11-32W		32	1/4	0.433	0.020	0.024	0.024	
	11-28W		11-28W		28	1/4	0.433	0.023	0.024	0.028	
	11-26W		11-26W		26	1/4	0.433	0.025	0.028	0.031	
	11-24W		11-24W		24	1/4	0.433	0.027	0.028	0.031	
	11-22W		11-22W		22	1/4	0.433	0.029	1/32	0.035	
	11-20W		11-20W		20	1/4	0.433	0.032	1/32	0.035	
	11-19W		11-19W		19	1/4	0.433	0.034	1/32	0.039	
	11-18W		11-18W		18	1/4	0.433	0.035	1/32	0.039	
	11-16W		11-16W		16	1/4	0.433	0.040	0.035	0.043	
	11-14W		11-14W		14	1/4	0.433	0.046	0.039	0.047	
	16-72W		16-72W		72	3/8	0.630	0.009	0.028	0.016	
	16-60W		16-60W		60	3/8	0.630	0.011	0.028	0.016	
	16-56W		16-56W		56	3/8	0.630	0.011	0.028	0.016	
	16-48W		16-48W		48	3/8	0.630	0.013	0.024	0.024	
	16-40W		16-40W		40	3/8	0.630	0.016	0.024	0.024	
	16-36W		16-36W		36	3/8	0.630	0.018	0.024	0.024	
	16-32W		16-32W		32	3/8	0.630	0.020	0.024	0.024	
	16-30W		16-30W		30	3/8	0.630	0.022	0.024	0.028	
	16-28W	●	16-28W		28	3/8	0.630	0.023	0.024	0.028	
	16-26W		16-26W		26	3/8	0.630	0.025	0.028	0.031	
	16-24W		16-24W		24	3/8	0.630	0.027	0.028	0.031	
	16-22W		16-22W		22	3/8	0.630	0.029	1/32	0.035	
	16-20W		16-20W		20	3/8	0.630	0.032	1/32	0.035	
	16-19W	●	16-19W		19	3/8	0.630	0.034	1/32	0.039	
	16-18W	●	16-18W		18	3/8	0.630	0.035	1/32	0.039	
	16-16W	●	16-16W		16	3/8	0.630	0.040	0.035	0.043	
	16-14W	●	16-14W		14	3/8	0.630	0.046	0.039	0.047	
	16-12W		16-12W		12	3/8	0.630	0.054	0.043	0.055	
	16-11W	●	16-11W		11	3/8	0.630	0.058	0.043	0.059	
	16-10W	●	16-10W		10	3/8	0.630	0.064	0.043	0.059	
	16-9W		16-9W		9	3/8	0.630	0.071	0.047	0.067	
	16-8W		16-8W		8	3/8	0.630	0.080	0.047	0.059	
	22-7W		22-7W		7	1/2	0.866	0.131	0.063	0.091	
	22-6W		22-6W		6	1/2	0.866	0.107	0.063	0.091	
	22-5W		22-5W		5	1/2	0.866	0.128	0.067	0.094	
	27-4.5W		27-4.5W		4.5	5/8	1.063	0.142	0.071	0.102	
	27-4W		27-4W		4	5/8	1.063	0.160	0.079	0.114	

Applicable holders, see pages D31

● : Stock item

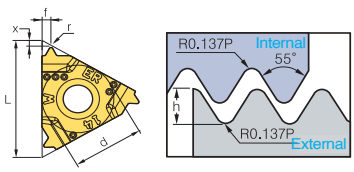
Whitworth (M Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ERM 16-14W					14	3/8	0.630	0.046	0.039	0.047	
	16-11W					11	3/8	0.630	0.058	0.043	0.059	

Applicable holders, see pages D31

● : Stock item

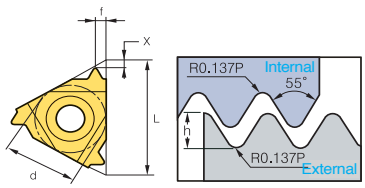
Whitworth (U Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ERM 16-14W-U					14	3/8	0.630	0.046	0.039	0.047	
	16-11W-U					11	3/8	0.630	0.058	0.043	0.059	

Applicable holders, see pages D31

● : Stock item

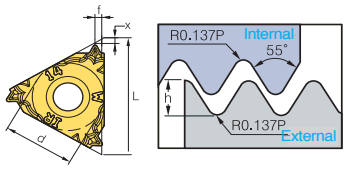
Whitworth (BSW, BSF, BSP, BSB)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
Internal	IR 11-72W		IL 11-72W		72	1/4	0.433	0.009	0.028	0.016	
	11-60W		11-60W		60	1/4	0.433	0.011	0.028	0.016	
	11-56W		11-56W		56	1/4	0.433	0.011	0.028	0.016	
	11-48W		11-48W		48	1/4	0.433	0.013	0.024	0.024	
	11-40W		11-40W		40	1/4	0.433	0.016	0.024	0.024	
	11-36W		11-36W		36	1/4	0.433	0.018	0.024	0.024	
	11-32W		11-32W		32	1/4	0.433	0.02	0.024	0.024	
	11-28W		11-28W		28	1/4	0.433	0.023	0.024	0.028	
	11-26W		11-26W		26	1/4	0.433	0.025	0.028	0.031	
	11-24W		11-24W		24	1/4	0.433	0.027	0.028	0.031	
	11-22W		11-22W		22	1/4	0.433	0.029	1/32	0.035	
	11-20W		11-20W		20	1/4	0.433	0.032	1/32	0.035	
	11-19W	●	11-19W		19	1/4	0.433	0.034	1/32	0.039	
	11-18W		11-18W		18	1/4	0.433	0.035	1/32	0.039	
	11-16W	●	11-16W		16	1/4	0.433	0.04	0.035	0.043	
	11-14W	●	11-14W		14	1/4	0.433	0.046	0.035	0.043	
	11-12W		11-12W		12	1/4	0.433	0.052	0.035	0.047	
	16-72W		16-72W		72	3/8	0.63	0.009	0.028	0.016	
	16-60W		16-60W		60	3/8	0.63	0.011	0.028	0.016	
	16-56W		16-56W		56	3/8	0.63	0.011	0.028	0.016	
	16-48W		16-48W		48	3/8	0.63	0.013	0.024	0.024	
	16-40W		16-40W		40	3/8	0.63	0.016	0.024	0.024	
	16-36W		16-36W		36	3/8	0.63	0.018	0.024	0.024	
	16-32W		16-32W		32	3/8	0.63	0.02	0.024	0.024	
	16-30W		16-30W		30	3/8	0.63	0.022	0.024	0.028	
	16-28W		16-28W		28	3/8	0.63	0.023	0.024	0.028	
	16-26W		16-26W		26	3/8	0.63	0.025	0.028	0.031	
	16-24W		16-24W		24	3/8	0.63	0.027	0.028	0.031	
	16-22W		16-22W		22	3/8	0.63	0.029	1/32	0.035	
	16-20W		16-20W		20	3/8	0.63	0.032	1/32	0.035	
	16-19W	●	16-19W		19	3/8	0.63	0.034	1/32	0.039	
	16-18W		16-18W		18	3/8	0.63	0.035	1/32	0.039	
	16-16W		16-16W		16	3/8	0.63	0.04	0.035	0.043	
	16-14W	●	16-14W		14	3/8	0.63	0.046	0.039	0.047	
	16-12W	●	16-12W		12	3/8	0.63	0.054	0.043	0.055	
	16-11W	●	16-11W		11	3/8	0.63	0.058	0.043	0.059	
	16-10W	●	16-10W		10	3/8	0.63	0.064	0.043	0.059	
	16-9W		16-9W		9	3/8	0.63	0.071	0.047	0.067	
	16-8W		16-8W		8	3/8	0.63	0.08	0.047	0.056	
	22-7W		22-7W		7	1/2	0.866	0.131	0.063	0.097	
	22-6W		22-6W		6	1/2	0.866	0.107	0.063	0.097	
	22-5W		22-5W		5	1/2	0.866	0.128	0.067	0.094	
	27-4.5W		27-4.5W		4.5	5/8	1.063	0.142	0.071	0.102	
	27-4W		27-4W		4	5/8	1.063	0.16	0.079	0.114	

Applicable holders, see pages D32

● : Stock item

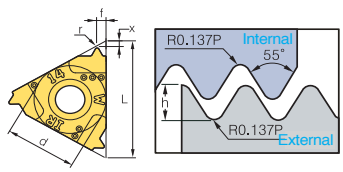
Whitworth (M Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
Internal	IRM 16-14W					14	3/8	0.630	0.046	0.039	0.047	
	16-11W					11	3/8	0.630	0.058	0.043	0.059	

Applicable holders, see pages D32

● : Stock item

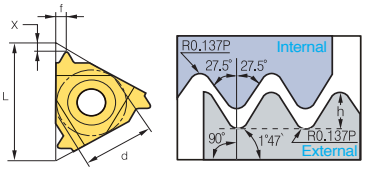
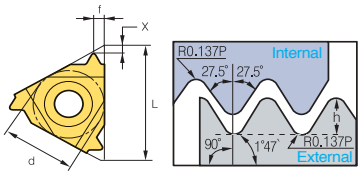
Whitworth (U Chip Breaker) New

Type	Designation (Right)	PC3030T	PC5300	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
Internal	IRM 16-14W-U					14	3/8	0.630	0.046	0.039	0.047	
	16-11W-U					11	3/8	0.630	0.058	0.043	0.059	

Applicable holders, see pages D32

● : Stock item

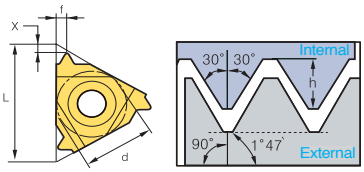
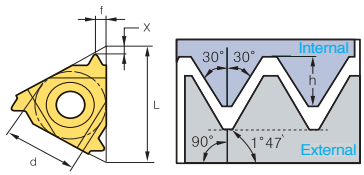
British Standard Pipe Thread (BSPT)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-28BSPT		EL 11-28BSPT		28	1/4	0.43	0.023	0.02	0.02	
	11-19BSPT		11-19BSPT		19	1/4	0.43	0.034	0.04	0.04	
	11-14BSPT		11-14BSPT		14	1/4	0.43	0.046	0.04	0.04	
	16-28BSPT		16-28BSPT		28	3/8	0.63	0.023	0.02	0.02	
	16-19BSPT	●	16-19BSPT		19	3/8	0.63	0.034	0.04	0.04	
	16-14BSPT	●	16-14BSPT		14	3/8	0.63	0.046	0.05	0.05	
	16-11BSPT	●	16-11BSPT		11	3/8	0.63	0.056	0.06	0.06	
Internal	IR 11-28BSPT		IL 11-28BSPT		28	1/4	0.43	0.023	0.02	0.02	
	11-19BSPT		11-19BSPT		19	1/4	0.43	0.034	0.03	0.04	
	11-14BSPT		11-14BSPT		14	1/4	0.43	0.046	0.04	0.04	
	16-28BSPT		16-28BSPT		28	3/8	0.63	0.023	0.02	0.02	
	16-19BSPT		16-19BSPT		19	3/8	0.63	0.034	0.03	0.04	
	16-14BSPT	●	16-14BSPT		14	3/8	0.63	0.046	0.04	0.05	
	16-11BSPT	●	16-11BSPT		11	3/8	0.63	0.058	0.04	0.06	

Applicable holders, see pages D31, D32

● : Stock item

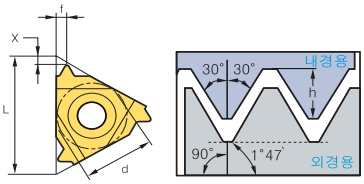
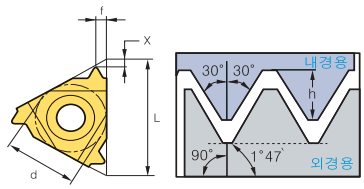
National Pipe Thread (NPT)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-27NPT		EL 11-27NPT		27	1/4	0.43	0.026	0.03	0.03	
	11-18NPT		11-18NPT		18	1/4	0.43	0.040	0.03	0.04	
	11-14NPT		11-14NPT		14	1/4	0.43	0.052	0.03	0.04	
	16-27NPT		16-27NPT		27	3/8	0.63	0.026	0.03	0.03	
	16-18NPT	●	16-18NPT		18	3/8	0.63	0.040	0.03	0.004	
	16-14NPT	●	16-14NPT		14	3/8	0.63	0.052	0.04	0.005	
	16-11.5NPT	●	16-11.5NPT		11.5	3/8	0.63	0.065	0.04	0.06	
	16-8NPT		16-8NPT		8	3/8	0.63	0.095	0.05	0.07	
Internal	IR 11-27NPT		IL 11-27NPT		27	1/4	0.43	0.026	0.03	0.03	
	11-18NPT	●	11-18NPT		18	1/4	0.43	0.040	0.03	0.04	
	11-14NPT	●	11-14NPT		14	1/4	0.43	0.052	0.03	0.04	
	16-27NPT		16-27NPT		27	3/8	0.63	0.026	0.03	0.03	
	16-18NPT	●	16-18NPT		18	3/8	0.63	0.040	0.03	0.04	
	16-14NPT	●	16-14NPT		14	3/8	0.63	0.052	0.04	0.05	
	16-11.5NPT	●	16-11.5NPT		11.5	3/8	0.63	0.065	0.04	0.06	
	16-8NPT	●	16-8NPT		8	3/8	0.63	0.095	0.05	0.06	

Applicable holders, see pages D31, D32

● : Stock item

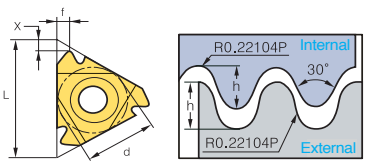
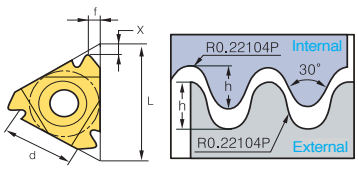
National Pipe Threads-Dryseal (NPTF)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-27NPTF		EL 11-27NPT		27	1/4	0.43	0.025	0.03	0.03	
	11-18NPTF		11-18NPT		18	1/4	0.43	0.039	0.03	0.04	
	11-14NPTF		11-14NPT		14	1/4	0.43	0.053	0.03	0.04	
	16-27NPTF		16-27NPT		27	3/8	0.63	0.025	0.03	0.03	
	16-18NPTF		16-18NPT		18	3/8	0.63	0.039	0.03	0.04	
	16-14NPTF		16-14NPT		14	3/8	0.63	0.053	0.04	0.05	
	16-11.5NPTF		16-11.5NPT		11.5	3/8	0.63	0.064	0.04	0.06	
	16-8NPTF		16-8NPT		8	3/8	0.63	0.094	0.05	0.07	
Internal	IR 11-27NPTF		IL 11-27NPT		27	1/4	0.43	0.025	0.03	0.03	
	11-18NPTF		11-18NPT		18	1/4	0.43	0.039	0.03	0.04	
	11-14NPTF		11-14NPT		14	1/4	0.43	0.053	0.03	0.04	
	16-27NPTF		16-27NPT		27	3/8	0.63	0.025	0.03	0.03	
	16-18NPTF		16-18NPT		18	3/8	0.63	0.039	0.03	0.04	
	16-14NPTF		16-14NPT		14	3/8	0.63	0.053	0.04	0.05	
	16-11.5NPTF		16-11.5NPT		11.5	3/8	0.63	0.064	0.04	0.06	
	16-8NPTF		16-8NPT		8	3/8	0.63	0.094	0.05	0.07	

Applicable holders, see pages D31, D32

● : Stock item

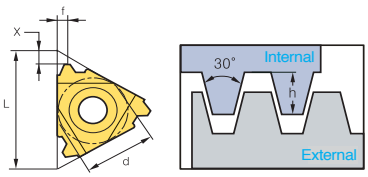
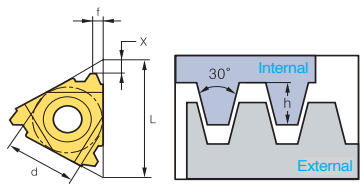
Round DIN 405

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 16-10RD		EL 16-10RD		10	3/8	0.63	0.050	0.04	0.05	
	16-8RD		16-8RD		8	3/8	0.63	0.063	0.06	0.05	
	16-6RD		16-6RD		6	3/8	0.63	0.083	0.06	0.07	
	22-6RD		22-6RD		6	1/2	0.87	0.083	0.06	0.07	
	22-4RD		22-4RD		4	1/2	0.87	0.125	0.09	0.09	
	27-4RD		27-4RD		4	5/8	1.06	0.125	0.09	0.09	
Internal	IR 16-10RD		IL 16-10RD		10	3/8	0.63	0.050	0.04	0.05	
	16-8RD		16-8RD		8	3/8	0.63	0.063	0.06	0.05	
	16-6RD		16-6RD		6	3/8	0.63	0.083	0.06	0.07	
	22-6RD		22-6RD		6	1/2	0.87	0.083	0.06	0.07	
	22-4RD		22-4RD		4	1/2	0.87	0.125	0.09	0.09	
	27-4RD		27-4RD		4	5/8	1.06	0.125	0.09	0.09	

Applicable holders, see pages D31, D32

● : Stock item

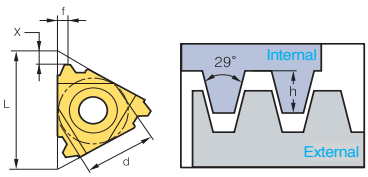
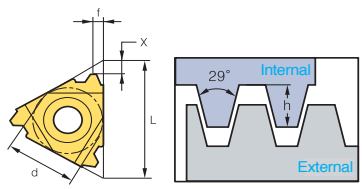
Trapez DIN 103 (TR)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (inch)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-1.5TR		EL 11-1.5TR		1.5	1/4	0.43	0.035	0.03	0.04	
	16-1.5TR		16-1.5TR		1.5	3/8	0.63	0.035	0.04	0.04	
	16-2.0TR	●	16-2.0TR		2.0	3/8	0.63	0.049	0.04	0.05	
	16-3.0TR	●	16-3.0TR		3.0	3/8	0.63	0.069	0.05	0.06	
	22-4.0TR	●	22-4.0TR		4.0	1/2	0.87	0.089	0.07	0.07	
	22-5.0TR	●	22-5.0TR		5.0	1/2	0.87	0.108	0.08	0.10	
	27-6.0TR	●	27-6.0TR		6.0	5/8	1.06	0.138	0.09	0.11	
Internal	IR 11-1.5TR		IL 11-1.5TR		1.5	1/4	0.43	0.035	0.03	0.04	
	16-1.5TR		16-1.5TR		1.5	3/8	0.63	0.035	0.04	0.04	
	16-2.0TR		16-2.0TR		2.0	3/8	0.63	0.049	0.04	0.05	
	16-2.5TR		16-2.5TR		2.5	3/8	0.63	0.060	0.05	0.06	
	16-3.0TR	●	16-3.0TR		3.0	3/8	0.63	0.069	0.05	0.06	
	22-4.0TR	●	22-4.0TR		4.0	1/2	0.87	0.089	0.07	0.07	
	22-5.0TR	●	22-5.0TR		5.0	1/2	0.87	0.108	0.08	0.10	
	27-6.0TR	●	27-6.0TR		6.0	5/8	1.06	0.138	0.09	0.11	

Applicable holders, see pages D31, D32

● : Stock item

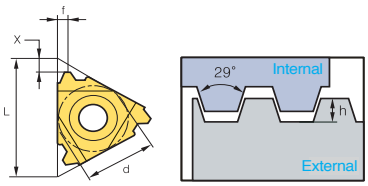
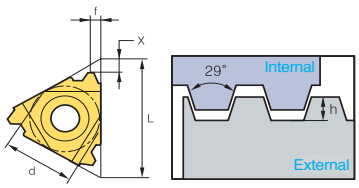
American ACME (ACME)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-16ACME		EL 11-16ACME		16	1/4	0.43	0.036	0.04	0.04	
	16-16ACME		16-16ACME		16	3/8	0.63	0.036	0.04	0.04	
	16-14ACME		16-14ACME		14	3/8	0.63	0.041	0.04	0.05	
	16-12ACME		16-12ACME		12	3/8	0.63	0.047	0.04	0.05	
	16-10ACME		16-10ACME		10	3/8	0.63	0.06	0.05	0.06	
	16-8ACME		16-8ACME		8	3/8	0.63	0.072	0.06	0.06	
	16-6ACME		16-6ACME		6	3/8	0.63	0.093	0.07	0.07	
	22-6ACME	●	22-6ACME		6	1/2	0.87	0.093	0.07	0.08	
	22-5ACME	●	22-5ACME	●	5	1/2	0.87	0.11	0.08	0.09	
	27-4ACME		27-4ACME		4	5/8	1.06	0.135	0.09	0.11	
Internal	IR 11-16ACME		IL 11-16ACME		16	1/4	0.43	0.036	0.04	0.04	
	16-16ACME		16-16ACME		16	3/8	0.63	0.036	0.04	0.04	
	16-14ACME		16-14ACME		14	3/8	0.63	0.041	0.04	0.05	
	16-12ACME		16-12ACME		12	3/8	0.63	0.047	0.05	0.05	
	16-10ACME		16-10ACME		10	3/8	0.63	0.06	0.05	0.05	
	16-8ACME		16-8ACME		8	3/8	0.63	0.072	0.06	0.06	
	16-6ACME		16-6ACME		6	3/8	0.63	0.093	0.07	0.07	
	22-6ACME		22-6ACME		6	1/2	0.87	0.093	0.07	0.08	
	22-5ACME	●	22-5ACME		5	1/2	0.87	0.11	0.08	0.09	
	27-4ACME		27-4ACME		4	5/8	1.06	0.135	0.09	0.10	

Applicable holders, see pages D31, D32

● : Stock item

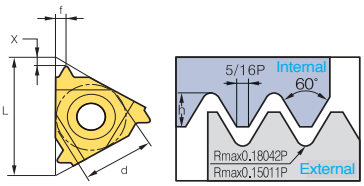
Stub ACME (STACME)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-16STACME		EL 11-16STACME		16	1/4	0.43	0.024	0.04	0.04	
	16-16STACME		16-16STACME		16	3/8	0.63	0.024	0.04	0.04	
	16-14STACME		16-14STACME		14	3/8	0.63	0.026	0.04	0.04	
	16-12STACME		16-12STACME		12	3/8	0.63	0.03	0.05	0.05	
	16-10STACME		16-10STACME		10	3/8	0.63	0.04	0.05	0.05	
	16-8STACME		16-8STACME		8	3/8	0.63	0.048	0.06	0.06	
	16-6STACME		16-6STACME		6	3/8	0.63	0.06	0.07	0.07	
	22-6STACME		22-6STACME		6	1/2	0.78	0.06	0.07	0.07	
	22-5STACME		22-5STACME		5	1/2	0.78	0.07	0.08	0.08	
	27-4STACME		27-4STACME		4	5/8	1.06	0.085	0.09	0.09	
	27-3STACME		27-3STACME		3	5/8	0.43	0.11	0.11	0.11	
Internal	IR 11-16STACME		IL 11-16STACME		16	1/4	0.63	0.024	0.04	0.04	
	16-16STACME		16-16STACME		16	3/8	0.63	0.024	0.04	0.04	
	16-14STACME		16-14STACME		14	3/8	0.63	0.026	0.04	0.04	
	16-12STACME		16-12STACME		12	3/8	0.63	0.03	0.04	0.05	
	16-10STACME		16-10STACME		10	3/8	0.63	0.04	0.05	0.05	
	16-8STACME		16-8STACME		8	3/8	0.63	0.048	0.06	0.06	
	16-6STACME		16-6STACME		6	3/8	0.87	0.06	0.07	0.07	
	22-6STACME		22-6STACME		6	1/2	0.87	0.06	0.07	0.07	
	22-5STACME		22-5STACME		5	1/2	0.87	0.07	0.08	0.09	
	27-4STACME		27-4STACME		4	5/8	1.06	0.085	0.09	0.09	
	27-3STACME		27-3STACME		3	5/8	1.06	0.11	0.11	0.11	

Applicable holders, see pages D31, D32

● : Stock item

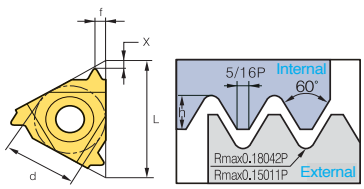
UNJ (Unified Constant Thread)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-48UNJ		EL 11-48UNJ		48	1/4	0.43	0.012	0.02	0.02	
	11-44UNJ		11-44UNJ		44	1/4	0.43	0.013	0.02	0.02	
	11-40UNJ		11-40UNJ		40	1/4	0.43	0.015	0.02	0.02	
	11-36UNJ		11-36UNJ		36	1/4	0.43	0.016	0.02	0.02	
	11-32UNJ		11-32UNJ		32	1/4	0.43	0.018	0.02	0.03	
	11-28UNJ		11-28UNJ		28	1/4	0.43	0.02	0.03	0.03	
	11-24UNJ		11-24UNJ		24	1/4	0.43	0.024	0.03	0.03	
	11-20UNJ		11-20UNJ		20	1/4	0.43	0.029	0.03	0.04	
	11-18UNJ		11-18UNJ		18	1/4	0.43	0.032	0.03	0.04	
	11-16UNJ		11-16UNJ		16	1/4	0.43	0.036	0.04	0.04	
	11-14UNJ		11-14UNJ		14	1/4	0.43	0.041	0.04	0.05	
	16-48UNJ		16-48UNJ		48	3/8	0.63	0.012	0.02	0.02	
	16-44UNJ		16-44UNJ		44	3/8	0.63	0.013	0.02	0.02	
	16-40UNJ		16-40UNJ		40	3/8	0.63	0.015	0.02	0.02	
	16-36UNJ		16-36UNJ		36	3/8	0.63	0.016	0.02	0.02	
	16-32UNJ		16-32UNJ		32	3/8	0.63	0.018	0.02	0.03	
	16-28UNJ		16-28UNJ		28	3/8	0.63	0.02	0.03	0.03	
	16-24UNJ		16-24UNJ		24	3/8	0.63	0.024	0.03	0.03	
	16-20UNJ		16-20UNJ		20	3/8	0.63	0.029	0.03	0.04	
	16-18UNJ		16-18UNJ		18	3/8	0.63	0.032	0.03	0.04	
	16-16UNJ		16-16UNJ		16	3/8	0.63	0.036	0.04	0.04	
	16-14UNJ		16-14UNJ		14	3/8	0.63	0.041	0.04	0.05	
	16-13UNJ		16-13UNJ		13	3/8	0.63	0.044	0.04	0.05	
	16-12UNJ		16-12UNJ		12	3/8	0.63	0.048	0.04	0.05	
	16-11UNJ		16-11UNJ		11	3/8	0.63	0.052	0.05	0.06	
	16-10UNJ		16-10UNJ		10	3/8	0.63	0.058	0.05	0.06	
	16-9UNJ		16-9UNJ		9	3/8	0.63	0.064	0.05	0.07	
	16-8UNJ		16-8UNJ		8	3/8	0.63	0.072	0.05	0.06	
	22-7UNJ		22-7UNJ		7	1/2	0.87	0.082	0.07	0.09	
	22-6UNJ		22-6UNJ		6	1/2	0.87	0.096	0.07	0.09	
	22-5UNJ		22-5UNJ		5	1/2	0.87	0.115	0.07	0.10	
	27-4.5UNJ		27-4.5UNJ		4.5	5/8	1.06	0.128	0.08	0.11	
	27-4UNJ		27-4UNJ		4	5/8	1.06	0.144	0.09	0.12	

Applicable holders, see pages D31

● : Stock item

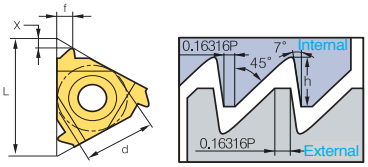
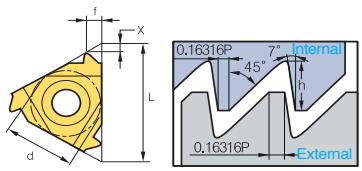
UNJ (Unified Constant Thread)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
Internal	IR 11-48UNJ		IL 11-48UNJ		48	1/4	0.43	0.012	0.02	0.02	
	11-44UNJ		11-44UNJ		44	1/4	0.43	0.013	0.02	0.02	
	11-40UNJ		11-40UNJ		40	1/4	0.43	0.015	0.02	0.02	
	11-36UNJ		11-36UNJ		36	1/4	0.43	0.016	0.02	0.02	
	11-32UNJ		11-32UNJ		32	1/4	0.43	0.018	0.02	0.03	
	11-28UNJ		11-28UNJ		28	1/4	0.43	0.020	0.03	0.03	
	11-24UNJ		11-24UNJ		24	1/4	0.43	0.024	0.03	0.03	
	11-20UNJ		11-20UNJ		20	1/4	0.43	0.029	0.03	0.04	
	11-18UNJ		11-18UNJ		18	1/4	0.43	0.032	0.03	0.04	
	11-16UNJ		11-16UNJ		16	1/4	0.43	0.036	0.04	0.04	
	11-14UNJ		11-14UNJ		14	1/4	0.43	0.041	0.04	0.05	
	16-48UNJ		16-48UNJ		48	3/8	0.63	0.012	0.02	0.02	
	16-44UNJ		16-44UNJ		44	3/8	0.63	0.013	0.02	0.02	
	16-40UNJ		16-40UNJ		40	3/8	0.63	0.015	0.02	0.02	
	16-36UNJ		16-36UNJ		36	3/8	0.63	0.016	0.02	0.02	
	16-32UNJ		16-32UNJ		32	3/8	0.63	0.018	0.02	0.03	
	16-28UNJ		16-28UNJ		28	3/8	0.63	0.020	0.03	0.03	
	16-24UNJ		16-24UNJ		24	3/8	0.63	0.024	0.03	0.03	
	16-20UNJ		16-20UNJ		20	3/8	0.63	0.029	0.03	0.04	
	16-18UNJ		16-18UNJ		18	3/8	0.63	0.032	0.03	0.04	
	16-16UNJ		16-16UNJ		16	3/8	0.63	0.036	0.04	0.04	
	16-14UNJ		16-14UNJ		14	3/8	0.63	0.041	0.04	0.05	
	16-13UNJ		16-13UNJ		13	3/8	0.63	0.044	0.04	0.05	
	16-12UNJ		16-12UNJ		12	3/8	0.63	0.048	0.04	0.05	
	16-11UNJ		16-11UNJ		11	3/8	0.63	0.052	0.05	0.06	
	16-10UNJ		16-10UNJ		10	3/8	0.63	0.058	0.05	0.06	
	16-9UNJ		16-9UNJ		9	3/8	0.63	0.064	0.05	0.07	
	16-8UNJ		16-8UNJ		8	3/8	0.63	0.072	0.05	0.06	
	22-7UNJ		22-7UNJ		7	1/2	0.87	0.082	0.07	0.09	
	22-6UNJ		22-6UNJ		6	1/2	0.87	0.096	0.07	0.09	
	22-5UNJ		22-5UNJ		5	1/2	0.87	0.115	0.07	0.100	
	27-4.5UNJ		27-4.5UNJ		4.5	5/8	1.06	0.128	0.08	0.11	
	27-4UNJ		27-4UNJ		4	5/8	1.06	0.144	0.09	0.12	

Applicable holders, see pages D32

● : Stock item

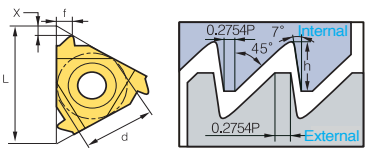
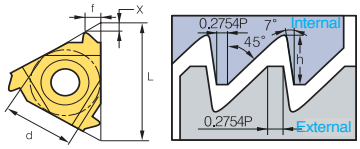
American Buttress (ABUT)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 11-20ABUT		EL 11-20ABUT		20	1/4	0.43	0.033	0.04	0.06	
	11-16ABUT		11-16ABUT		16	1/4	0.43	0.041	0.05	0.07	
	16-20ABUT		16-20ABUT		20	3/8	0.63	0.033	0.04	0.06	
	16-16ABUT		16-16ABUT		16	3/8	0.63	0.041	0.05	0.07	
	16-12ABUT		16-12ABUT		12	3/8	0.63	0.055	0.06	0.08	
	16-10ABUT		16-10ABUT		10	3/8	0.63	0.066	0.06	0.09	
	22-8ABUT		22-8ABUT		8	1/2	0.87	0.083	0.08	0.13	
	22-6ABUT		22-6ABUT		6	1/2	0.87	0.110	0.09	0.14	
Internal	IR 11-20ABUT		IL 11-20ABUT		20	1/4	0.43	0.033	0.04	0.06	
	11-16ABUT		11-16ABUT		16	1/4	0.43	0.041	0.05	0.07	
	16-20ABUT		16-20ABUT		20	3/8	0.63	0.033	0.04	0.06	
	16-16ABUT		16-16ABUT		16	3/8	0.63	0.041	0.05	0.07	
	16-12ABUT		16-12ABUT		12	3/8	0.63	0.055	0.06	0.08	
	16-10ABUT		16-10ABUT		10	3/8	0.63	0.066	0.06	0.09	
	22-8ABUT		22-8ABUT		8	1/2	0.87	0.083	0.08	0.13	
	22-6ABUT		22-6ABUT		6	1/2	0.87	0.110	0.09	0.14	

Applicable holders, see pages D31, D32

● : Stock item

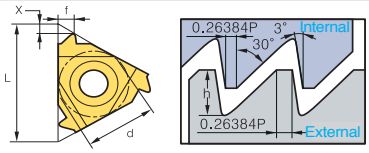
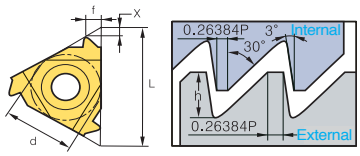
British Buttress (BBUT)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 16-16BBUT		EL 16-16BBUT		16	3/8	0.63	0.032	0.04	0.06	
	16-12BBUT		16-12BBUT		12	3/8	0.63	0.042	0.06	0.08	
	16-10BBUT		16-10BBUT		10	3/8	0.63	0.050	0.06	0.09	
	16-8BBUT		16-8BBUT		8	3/8	0.63	0.063	0.06	0.10	
	22-8BBUT		22-8BBUT		8	1/2	0.87	0.063	0.06	0.10	
Internal	IR 16-16BBUT		IL 16-16BBUT		16	3/8	0.63	0.032	0.04	0.06	
	16-12BBUT		16-12BBUT		12	3/8	0.63	0.042	0.06	0.08	
	16-10BBUT		16-10BBUT		10	3/8	0.63	0.050	0.06	0.09	
	16-8BBUT		16-8BBUT		8	3/8	0.63	0.063	0.06	0.10	
	22-8BBUT		22-8BBUT		8	1/2	0.87	0.063	0.06	0.10	

Applicable holders, see pages D31, D32

● : Stock item

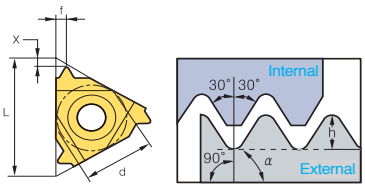
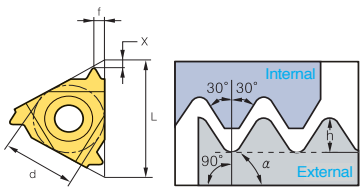
Metric Buttress (SAGE)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (mm)	Dimensions d	L	hmin	x	f	Picture
External	ER 16-2.0SAGE		EL 16-2.0SAGE		2.0	3/8	0.63	0.069	0.06	0.08	
	22-2.0SAGE		22-2.0SAGE		2.0	1/2	0.87	0.069	0.06	0.08	
	22-3.0SAGE	●	22-3.0SAGE		3.0	1/2	0.87	0.102	0.07	0.10	
	27-4.0SAGE	●	27-4.0SAGE		4.0	5/8	1.06	0.140	0.08	0.13	
Internal	IR 16-2.0SAGE		IL 16-2.0SAGE		2.0	3/8	0.63	0.059	0.06	0.09	
	22-3.0SAGE		22-3.0SAGE		3.0	1/2	0.87	0.089	0.07	0.11	
	27-4.0SAGE	●	27-4.0SAGE		4.0	5/8	1.06	0.122	0.08	0.13	

Applicable holders, see pages D31, D32

● : Stock item

API

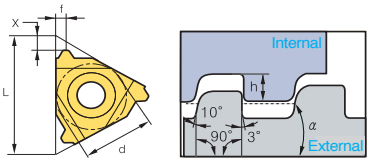
Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 22-4API382		EL 22-4API382		4	1/2	0.87	0.122	0.08	0.11	
	22-4API383		22-4API383		4	1/2	0.87	0.122	0.08	0.11	
	22-4API502		22-4API502		4	1/2	0.87	0.148	0.08	0.11	
	22-4API503		22-4API503		4	1/2	0.87	0.148	0.08	0.11	
	22-5API403		22-5API403		5	1/2	0.87	0.118	0.07	0.10	
	22-6API551		22-6API551		6	1/2	0.87	0.056	0.10	0.09	
	27-4API382		27-4API382		4	5/8	0.63	0.122	0.08	0.11	
	27-4API383		27-4API383		4	5/8	0.63	0.122	0.08	0.11	
	27-4API502		27-4API502		4	5/8	0.63	0.148	0.08	0.12	
	27-4API503		27-4API503		4	5/8	0.63	0.148	0.08	0.12	
	27-5API403		27-5API403		5	5/8	0.63	0.056	0.07	0.11	
Internal	IR 22-4API382		IL 22-4API382		4	1/2	0.87	0.122	0.08	0.11	
	22-4API383		22-4API383		4	1/2	0.87	0.122	0.08	0.11	
	22-4API502		22-4API502		4	1/2	0.87	0.148	0.08	0.12	
	22-4API503		22-4API503		4	1/2	0.87	0.148	0.08	0.11	
	22-5API403		22-5API403		5	1/2	0.87	0.118	0.07	0.10	
	22-6API551		22-6API551		6	1/2	0.87	0.056	0.10	0.09	
	27-4API382		27-4API382		4	5/8	0.63	0.122	0.08	0.11	
	27-4API383		27-4API383		4	5/8	0.63	0.122	0.08	0.11	
	27-4API502		27-4API502		4	5/8	0.63	0.148	0.08	0.12	
	27-4API503		27-4API503		4	5/8	0.63	0.148	0.08	0.12	
	27-5API403		27-5API403		5	5/8	0.63	0.056	0.07	0.11	

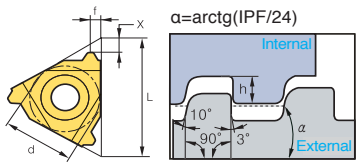
Applicable holders, see pages D31, D32

● : Stock item

API Buttress Casing (BUT)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	IPF	Dimensions d	L	hmin	x	f	Picture
External	ER 22-5BUT75		EL 22-5BUT75		5	0.75	1/2	0.87	0.061	0.12	0.12	
	22-5BUT1		22-5BUT1		5	1	1/2	0.87	0.061	0.12	0.12	
Internal	IR 22-5BUT75		IL 22-5BUT75		5	0.75	1/2	0.87	0.061	0.12	0.12	α=arctg(IPF/24)
	22-5BUT1		22-5BUT1		5	1	1/2	0.87	0.061	0.12	0.12	



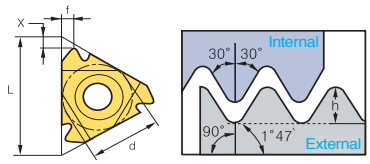


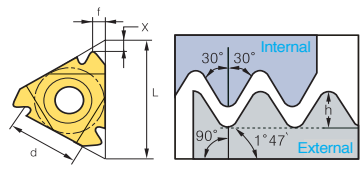
Applicable holders, see pages D31, D32

● : Stock item

API Round Casing & Tubing (APIRD)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	Dimensions d	L	hmin	x	f	Picture
External	ER 16-10APIRD	●	EL 16-10APIRD		10	3/8	0.63	0.056	0.05	0.06	
	16-8APIRD		16-8APIRD		8	3/8	0.63	0.071	0.05	0.06	
Internal	IR 16-10APIRD	●	IL 16-10APIRD		10	3/8	0.63	0.056	0.05	0.06	
	16-8APIRD		16-8APIRD		8	3/8	0.63	0.071	0.05	0.06	



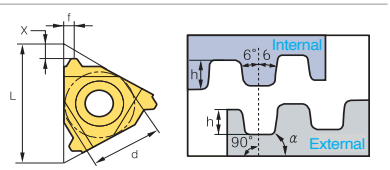


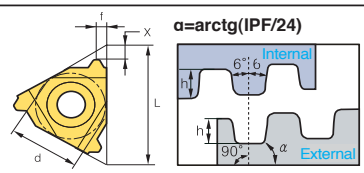
Applicable holders, see pages D31, D32

● : Stock item

Extreme Line Casing (EL)

Type	Designation (Right)	PC3030T	Designation (Left)	PC3030T	Pitch (tpi)	IPF	Dimensions d	L	hmin	x	f	Picture
External	ER 22-6EL15		EL 22-6EL15		6	1.5	1/2	0.087	0.048	0.07	0.07	
	22-5EL125		22-5EL125		5	1.25	1/2	0.087	0.067	0.09	0.09	
Internal	IR 22-6EL15		IL 22-6EL15		6	1.5	1/2	0.087	0.055	0.07	0.07	α=arctg(IPF/24)
	22-5EL125		22-5EL125		5	1.25	1/2	0.087	0.075	0.09	0.09	

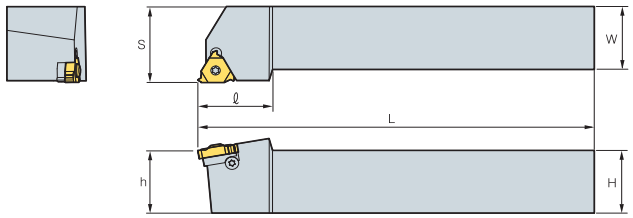


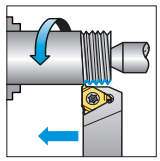


Applicable holders, see pages D31, D32

● : Stock item

ER(L)H
(Screw on system)





Righthand drawing

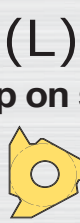
(inch)

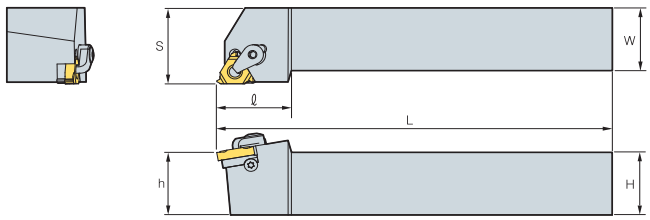
Designation		Inscribed circle	H	W	L	S	h	ℓ	Insert Screw	Shim Screw	Screw RH	Screw LH	Wrwnch
ER(L)H	031N-11	1/4	0.31	0.31	5.37	0.425	0.31	0.69	ST11N	-	-	-	TW08P
	050N-16	3/8	0.50	0.50	3.27	0.625	0.50	0.87	ST16N	-	-	-	TW10P
	3/8-16	3/8	0.375	0.375	2.45	0.625	0.375	0.76	ST16	-	-	-	TW10P
	050-16	3/8	0.50	0.50	3.27	0.625	0.50	0.87					
	0625-16	3/8	0.625	0.625	5.00	0.625	0.625	1.02					
	075-16	3/8	0.75	0.75	5.00	0.75	0.75	1.02					
	100-16	3/8	1.00	1.00	6.00	1.00	1.00	1.20					
	125-16	3/8	1.25	1.25	7.00	1.25	1.25	1.18					
	100-22	1/2	1.00	1.00	6.00	1.00	1.00	1.42	ST22	STA22	ATE22	ATI22	TW20P
	125-22	1/2	1.25	1.25	7.00	1.25	1.25	1.42					
	150-22	1/2	1.50	1.50	8.00	1.50	1.50	1.42					
	100-27	5/8	1.00	1.00	6.00	1.25	1.00	1.57	ST27	STA27	ATE27	ATI27	TW25L
	125-27	5/8	1.25	1.25	7.00	1.25	1.25	1.57					
	150-27	5/8	1.50	1.50	8.00	1.50	1.50	1.57					
	200-27	5/8	2.00	2.00	10.00	2.00	2.00	1.57					

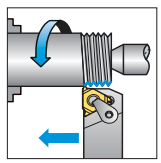
Applicable inserts, see pages D10~D13, D16, D18, D19, D22, D23~D26

- Helix angle is 1.5° for all holders.
- No shim needed for N type holder

ER(L)H-C
(Clamp on system)







Righthand drawing

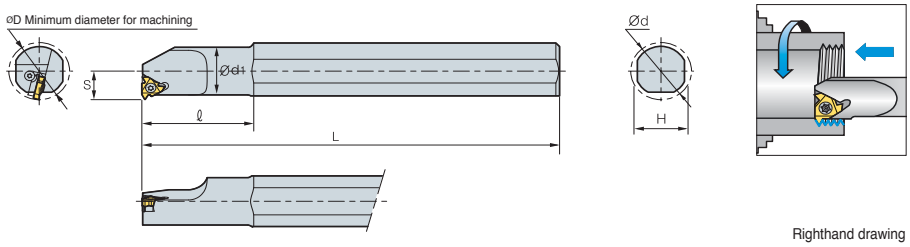
(inch)

Designation		Inscribed circle	H	W	L	S	h	ℓ	Shim Screw	Clamp	Screw RH	Screw LH	Wrwnch
ER(L)H-C	075-16C	3/8	0.75	0.75	5.00	0.75	0.75	1.02	STA16	CTH16	ATE16	ATI16	TW10P TW15P
	100-16C	3/8	1.00	1.00	6.00	1.00	1.00	1.20					
	125-16C	3/8	1.25	1.25	7.00	1.25	1.25	1.18					
	100-22C	1/2	1.00	1.00	6.00	1.00	1.00	1.42	STA22	CTH22	ATE22	ATI22	TW20P
	125-22C	1/2	1.25	1.25	7.00	1.25	1.25	1.42					
	150-22C	1/2	1.50	1.50	8.00	1.50	1.50	1.42					
	100-27C	5/8	1.00	1.00	6.00	1.00	1.00	1.57	STA27	CTH27	ATE27	ATI27	TW25L
	125-27C	5/8	1.25	1.25	7.00	1.25	1.25	1.57					
	150-27C	5/8	1.50	1.50	8.00	1.50	1.50	1.57					
	200-27C	5/8	2.00	2.00	10.00	2.00	2.00	1.57					

Applicable inserts, see pages D10~D13, D16, D18, D19, D22, D23~D26

- Helix angle is 1.5° for all holders.

IR(L)H
(Screw on system)



Righthand drawing

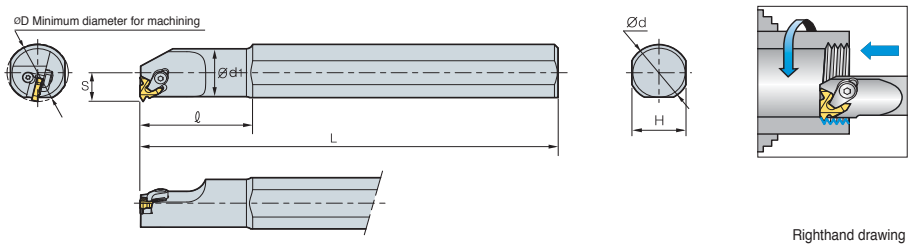
(inch)

Designation		Inscribed circle	ØD	Ød	Ød1	H	L	S	ℓ	Insert Screw	Shim Screw	Screw LH	Screw RH	Wrwnch
IR(L)H	0375N-11	1/4	0.50	0.75	0.375	0.67	7.0	0.28	1.00	ST11N	-	-	-	TW08P
	050N-11	1/4	0.65	0.75	0.50	0.67	7.0	0.37	1.25					
	050N-16	3/8	0.67	0.75	0.50	0.67	7.0	0.40	1.25	ST16N	-	-	-	TW10P
	0625N-16	3/8	0.80	0.75	0.625	0.67	7.0	0.46	1.50					
	0625DN-16	3/8	0.80	0.625	0.625	0.58	6.0	0.46	1.25					
	075-16	3/8	0.90	0.75	0.75	0.67	7.0	0.51	1.50	ST16	STA16	ATI16	ATE16	TW10P
	100-16	3/8	0.12	1.25	1.00	1.12	10.0	0.65	2.50					
	100D-16	3/8	1.20	1.00	1.00	0.90	8.0	0.65	1.75					
	125-16	3/8	1.45	1.25	1.25	1.12	10.0	0.77	2.50					
	150-16	3/8	1.65	1.50	1.50	1.34	12.0	0.90	2.50					
	075N-22	1/2	1.00	0.75	0.75	0.67	7.0	0.59	2.00	ST22N	-	-	-	TW20P
	100-22	1/2	1.25	1.25	1.00	1.12	10.0	0.71	2.50	ST22	STA22	ATI22	ATE22	TW20P
	100D-22	1/2	1.25	1.00	1.00	0.88	8.0	0.71	1.75					
	125-22	1/2	1.50	1.25	1.25	1.12	10.0	0.85	2.50					
	150-22	1/2	1.75	1.50	1.50	1.34	12.0	0.98	2.50					
	125-27	5/8	1.55	1.25	1.25	1.12	10.0	0.88	2.50	ST27	STA27	ATI27	ATE27	TW25L
	150-27	5/8	1.80	1.50	1.50	1.34	12.0	1.00	2.50					
	200-27	5/8	2.30	2.00	2.00	1.80	14.0	1.25	3.00					
	250-27	5/8	2.80	2.50	2.50	2.26	16.0	1.50	3.00					

Applicable inserts, see pages D10, D11, D14, D15, D17, D 20~D25, D27~D30

- Helix angle is 1.5° for all holders.
- No shim needed for N type holder

IR(L)H-C
(Clamp on system)



Righthand drawing

(inch)

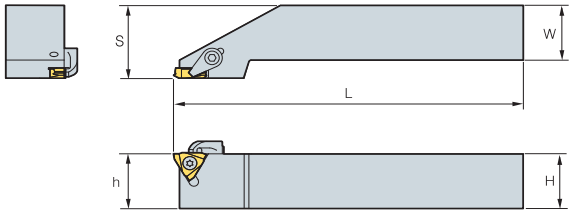
Designation		Inscribed circle	ØD	Ød	Ød1	H	L	S	ℓ	Shim Screw	Clamp	Screw LH	Screw RH	Wrwnch
IR(L)H	075-16C	3/8	0.90	0.75	0.75	0.67	7.0	0.51	1.50	STA16	CTH16	ATI16	ATE16	TW10P TW15P
	100-16C	3/8	1.20	1.25	1.00	1.12	10.0	0.65	2.50					
	100D-16C	3/8	1.20	1.00	1.00	0.9	8.0	0.65	1.75					
	125-16C	3/8	1.45	1.25	1.25	1.12	10.0	0.77	2.50					
	150-16C	3/8	1.65	1.50	1.50	1.34	12.0	0.90	2.50					
	100-22C	1/2	1.25	1.25	1.00	1.12	10.0	0.71	2.50	STA22	CTH22	ATI22	ATE22	TW20P
	100D-22C	1/2	1.25	1.00	1.00	0.88	8.0	0.71	1.75					
	125-22C	1/2	1.50	1.25	1.25	1.12	10.0	0.85	2.50					
	150-22C	1/2	1.75	1.50	1.50	1.34	12.0	0.98	2.50					
	125-27C	5/8	1.55	1.25	1.25	1.12	10.0	0.88	2.50	STA27	CTH27	ATI27	ATE27	TW25L
	150-27C	5/8	1.80	1.50	1.50	1.34	12.0	1.00	2.50					
	200-27C	5/8	2.30	2.00	2.00	1.8	14.0	1.25	3.00					
	250-27C	5/8	2.80	2.50	2.50	2.26	16.0	1.50	3.00					

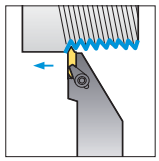
Applicable inserts, see pages D10, D11, D14, D15, D17, D 20~D25, D27~D30

- Helix angle is 1.5° for all holders.

VTH

VETR





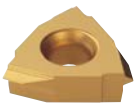
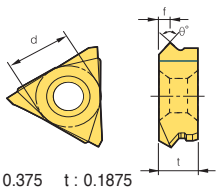
Righthand drawing

(inch)

Designation		H=(h)	W	L	S	Inserts	Clamp	Clamp Screw	Screw	Wrwnch
VTH	12R	0.787	0.787	4.921	1.039	VETR	CS6R1	DHA0617	FTKA03510	TW15P, HW30L
	16R	0.984	0.984	5.906	1.315					
	85R	1.260	0.984	6.693	1.315					

Vertical Type Thread Insert

(inch)

Picture	Designation		Coated PC130	Cermet CN20	Uncoated ST10P	Dimensions Pitch (inch)	θ	f	Picture
	VETR	080				0.8	60°	0.055	 d : 0.375 t : 0.1875
		100			●	1.0	60°	0.055	
		125				1.25	60°	0.055	
		150			●	1.5	60°	0.047	
		175				1.75	60°	0.047	
		200			●	2.0	60°	0.047	
		250			●	2.5	60°	0.055	
		300			●	3.0	60°	0.063	
		150F		●	●	0.8~1.5	60°	0.055	
		300F	●	●	●	1.5~3.0	60°	0.063	

● : Stock item

Thread Milling Holders code system

TM S R L 050 - 11

1	2	3	4	5	6
Insert Style	Holder Style	Hand	Shank Type	Shank Dia.	Cutting edge Length

1 Insert Style
TM S R L 050 - 11

Thread Milling Holder

3 Hand
TM S R L 050 - 11

R : Right Hand **L** : Left Hand

5 Shank Dia.
TM S R L 050 - 11

050 : 0.50	100 : 1.00
0625 : 0.625	125 : 1.25
075 : 0.75	150 : 1.50

2 Holders Style
TM S R L 050 - 11

S : Shank Type

4 Shank Type
TM S R L 050 - 11

None : Standard
L : Long Type
T : Taper Type

6 Cutting edge Length
TM S R L 050 - 11

10 : 0.41	**22** : 0.87
11 : 0.43	**27** : 1.06
16 : 0.63	**38** : 1.52

Thread Milling Inserts code system

TM 2 I 16 - 1.5 ISO

1	2	3	4	5	6
Insert Style	Cutting Edge	Type of Insert	Cutting edge Length	Pitch	Standard

1 Insert Style
TM 2 I 16 - 1.5 ISO

Thread Milling Holder

2 Cutting Edge
TM 2 I 16 - 1.5 ISO

None : 1 cutting edge
2 : 2 cutting edge

3 Type of Insert
TM 2 I 16 - 1.5 ISO

I : Internal
E : External
EI : External & Internal

4 Cutting edge Length (inch)
TM 2 I 16 - 1.5 ISO

10 : 0.41
11 : 0.43
16 : 0.63
22 : 0.87
27 : 1.06
38 : 1.52

5 Pitch
TM 2 I 16 - 1.5 ISO

mm : 0.5 - 6.0 **tpi** : 48 - 6

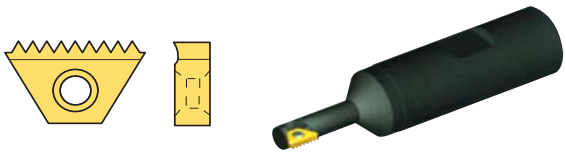
6 Standard
TM 2 I 16 - 1.5 ISO

ISO Metric
American UN(UNC, UNF, UNEF)
UNJ
Whit Worth (BSW, BSF, BSP, BSB)
National Pipe Thread (NPT)
National Pipe Thread (NPTF)
British Standard Pipe Thread (BSPT)

Thread Milling

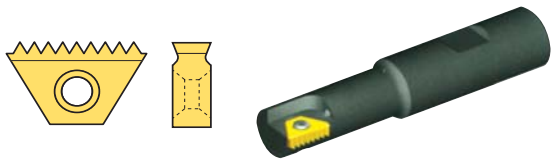
The right Tool for the Job

Small diameter type



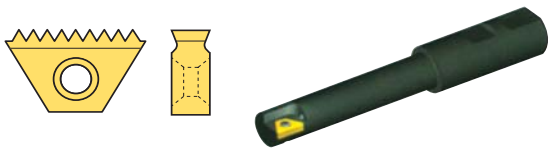
Tool holder : TMSR **Insert** : TM L=0.41inch
For small bore diameters down to 0.37inch

Standard Type



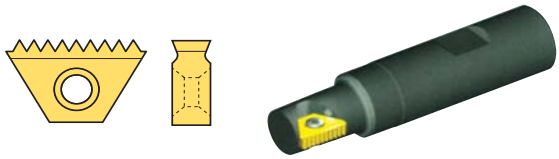
Tool holder : TMSR **Insert** : TM2
For standard length threads

Long Type



Tool holder : TMSR **Insert** : TM2
For long or remote threads

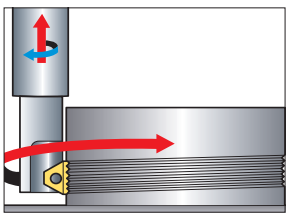
Tapered Type



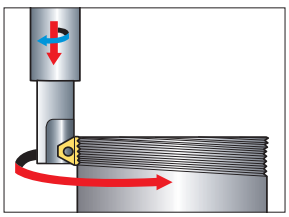
Tool holder : TMSR **Insert** : TM2(BSPT, NPT, NPTF)
standard length threads

Thread milling methods

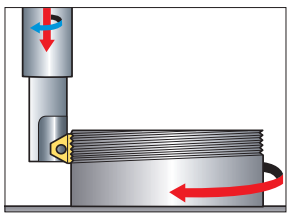
External threading



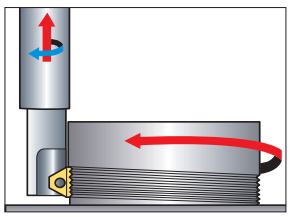
Right handed Thread
Conventional Milling



Left handed Thread
Conventional Milling

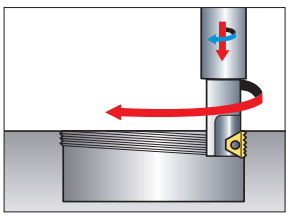


Right handed Thread
Conventional Milling

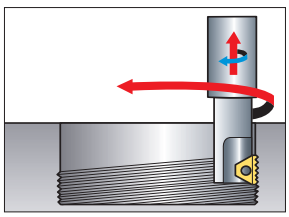


Left handed Thread
Conventional Milling

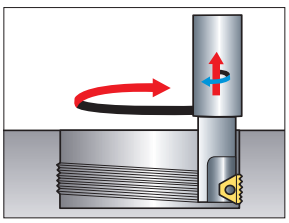
Internal threading



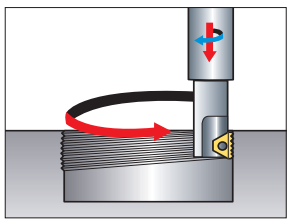
Right handed Thread
Conventional Milling



Left handed Thread
Conventional Milling

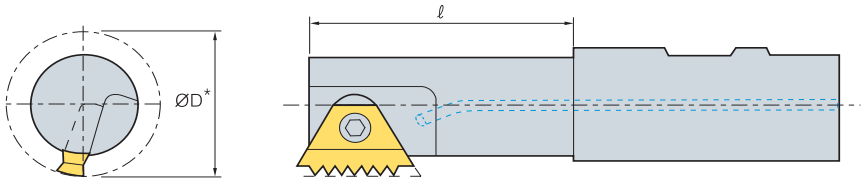


Right handed Thread
Conventional Milling



Left handed Thread
Conventional Milling

Tooling recommendation* for given INTERNAL thread specification

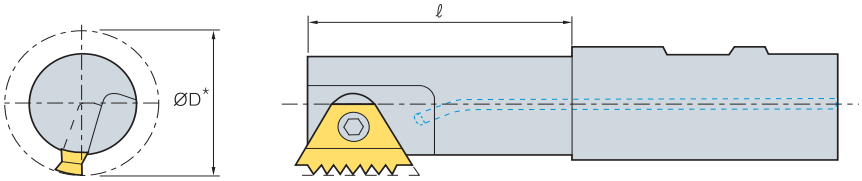


ISO

Pitch	Nominal Dia.	Holder	Insert	ℓ-Tool holder	D-Tool	Min.Thread Depth
mm	mm			overhang	cutting dia.*	Profile depth
0.75	11	TMSR 12-10	TM2I 10-0.75ISO	0.47	0.35	0.017
1.0	12-14	TMSR 12-10	TM2I 10-1.0ISO	0.47	0.35	0.023
	15-18	TMSR 12-11	TM2I 11-1.0ISO	0.47	0.45	
	20	TMSR 16-16	TM2I 16-1.0ISO	0.87	0.67	
	22	TMSR 20-22	TM2I 22-1.0ISO	1.14	0.75	
	24	TMSR 20-16	TM2I 16-1.0ISO	1.69	0.79	
	25-28	TMSRL 25-16	TM2I 16-1.0ISO	0.98	0.87	
1.25	14	TMSR 12-10	TM2I 10-1.25ISO	0.47	0.35	0.028
1.5	14-15	TMSR 12-10	TM2I 10-1.5ISO	0.47	0.35	0.034
	16-20	TMSR 12-11	TM2I 11-1.5ISO	0.47	0.45	
	22	TMSR 16-16	TM2I 16-1.5ISO	0.87	0.67	
	24	TMSR 20-22	TM2I 22-1.5ISO	1.14	0.75	
	25-26	TMSR 20-16	TM2I 16-1.5ISO	1.69	0.79	
	27-30	TMSRL 25-16	TM2I 16-1.5ISO	0.98	0.87	
	35-42	TMSR 25-27	TM2I 27-1.5ISO	2.05	1.18	
	45	TMSR 32-27	TM2I 27-1.5ISO	2.28	1.46	
2.0	22	TMSRT 16-16	TM2I16-2.0ISO	0.87	0.61	0.045
	24	TMSR 16-16	TM2I 16-2.0ISO	0.87	0.67	
	25	TMSR 20-22	TM2I 22-2.0ISO	1.14	0.75	
	27	TMSR 20-16	TM2I 16-2.0ISO	1.69	0.79	
	28-32	TMSRL 25-16	TM2I 16-2.0ISO	0.98	0.87	
	39-42	TMSR 25-27	TM2I 27-2.0ISO	2.05	1.18	
	45-48	TMSR 32-27	TM2I 27-2.0ISO	2.28	1.46	
3.0	42-48	TMSR 25-27	TM2I 27-3.0ISO	2.05	1.18	0.068
	50-52	TMSR 32-27	TM2I 27-3.0ISO	2.28	1.46	
4.0	45-52	TMSR 25-27	TM2I 27-4.0ISO	2.05	1.18	0.091
	55	TMSR 32-38	TM2I 38-4.0ISO	2.17	1.38	
	56-58	TMSR 32-27	TM2I 27-4.0ISO	2.28	1.46	
	60-65	TMSR 40-38	TM2I 38-4.0ISO	2.56	1.81	
5.0	48-52	TMSR 32-38	TM2I 38-5.0ISO	2.05	1.18	0.114
5.5	56	TMSR 32-38	TM2I 38-5.5ISO	2.17	1.38	0.125
	60	TMSR 40-38	TM2I 38-5.5ISO	2.56	1.81	
6.0	64-68	TMSR 40-38	TM2I 38-6.0ISO	2.56	1.81	0.136

• The recommended holder is the largest for the given thread specification
* Holder with smaller or equal cutting diameters (D2) can also be used

Tooling recommendation* for given INTERNAL thread specification

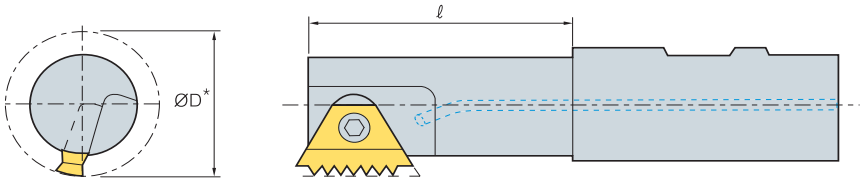


UN

Pitch tpi	Nominal Dia. inch	Holder	Insert	ℓ -Tool holder overhang	D-Tool cutting dia.*	Min.Thread Depth Profile depth
32	7/16-1/2	TMSR050-10	TMI 10-32UN	0.47	0.35	0.018
	9/16-11/16	TMSR050-11	TM2I 11-32UN	0.47	0.45	
	3/4-13/16	TMSR0625-16	TM2I 16-32UN	0.87	0.67	
	7/8-15/16	TMSR075-16	TM2I 16-32UN	1.69	0.79	
	1	TMSR100-16	TM2I 16-32UN	0.98	0.87	
28	7/16-1/2	TMSR050-10	TMI 10-28UN	0.47	0.35	0.020
	9/16-3/4	TMSR050-11	TM2I 11-28UN	0.47	0.45	
	13/16-7/8	TMSR0625-16	TM2I 16-28UN	0.87	0.67	
	15/16	TMSR075-16	TM2I 16-28UN	1.69	0.79	
	1-1 1/8	TMSRL100-16	TM2I 16-28UN	0.98	0.87	
24	9/16-11/16	TMSR050-11	TM2I 11-24UN	0.47	0.45	0.024
20	1/2-9/16	TMSR050-10	TMI 10-20UN	0.47	0.35	0.029
	5/8-13/16	TMSR050-11	TM2I 11-20UN	0.47	0.45	
	7/8	TMSR0625-16	TM2I 16-20UN	0.87	0.67	
	15/16-1	TMSR075-16	TM2I 16-20UN	0.69	0.79	
	1 1/16-1 1/8	TMSRL100-16	TM2I 16-20UN	0.98	0.87	
	1 3/8-1 5/8	TMSR100-27	TM2I 27-20UN	2.05	1.18	
	1 11/16-1 13/16	TMSR125-27	TM2I 27-20UN	2.28	1.46	
18	5/8	TMSR050-11	TM2I 11-18UN	0.47	0.45	0.032
	1 1/16-1 3/16	TMSRL100-16	TM2I 16-18UN	0.98	0.87	
	1 7/16-1 5/8	TMSR100-27	TM2I 27-18UN	2.05	1.18	
	1 11/16	TMSR125-27	TM2I 27-18UN	2.28	1.46	
16	11/16-13/16	TMSR050-11	TM2I 11-16UN	0.47	0.45	0.036
	7/8-15/16	TMSR0625-16	TM2I 16-16UN	0.87	0.67	
	1	TMSR075-16	TM2I 16-16UN	1.69	0.79	
	1 1/16-1 3/16	TMSRL100-16	TM2I 16-16UN	0.98	0.87	
	1 7/16-1 5/8	TMSR100-27	TM2I 27-16UN	2.05	1.18	
	1 11/16-1 7/8	TMSR125-27	TM2I 27-16UN	2.28	1.46	
14	7/8	TMSR050-11	TM2I 11-14UN	0.47	0.45	0.041
12	7/8	TMSRT0625-16	TM2I 16-12UN	0.87	0.61	0.048
	15/16	TMSR0625-16	TM2I 16-12UN	0.87	0.67	
	1	TMSR075-22	TM2I 22-12UN	1.14	0.75	
	1 1/16	TMSR075-16	TM2I 16-12UN	1.69	0.79	
	1 1/8-1 1/4	TMSRL100-16	TM2I 16-12UN	0.98	0.87	
	1 1/2-1 11/16	TMSR100-27	TM2I 27-12UN	2.05	1.18	
	1 3/4-1 15/16	TMSR125-27	TM2I 27-12UN	2.28	1.46	
8	1 11/16-1 15/16	TMSR100-27	TM2I 27-8UN	2.05	1.18	0.072
	2-1 1/8	TMSR125-27	TM2I 27-8UN	2.28	1.46	
6	2-2 1/8	TMSR100-27	TM2I 27-6UN	2.05	1.18	0.096
	2 1/4	TMSR125-27	TM2I 27-6UN	2.28	1.46	
	2 3/8-2 1/2	TMSR150-38	TM2I 38-6UN	2.56	1.18	
4.5	2-2 1/4	TMSR125-38	TM2I 38-4.5UN	2.17	1.38	0.128
4	2 1/2	TMSR150-38	TM2I 38-4UN	2.56	1.81	0.144

• The recommended holder is the largest for the given thread specification
* Holder with smaller or equal cutting diameters (D2) can also be used

Tooling recommendation* for given INTERNAL thread specification



UNJ

Pitch tpi	Nominal Dia. inch	Holder	Insert	ℓ-Tool holder overhang	D-Tool cutting dia.*	Min.Thread Depth Profile depth
24	9/16-11/16	TMSR050-11	TM2I 11-24UNJ	0.47	0.45	0.024
20	1/2	TMSR050-10	TMI 10-20UNJ	0.47	0.35	0.029
	3/4-13/16	TMSR050-11	TM2I 11-20UNJ	0.47	0.45	
	7/8	TMSR0625-16	TM2I 16-20UNJ	0.87	0.67	
	15/16-1	TMSR075-16	TM2I 16-20UNJ	1.69	0.79	
18	5/8	TMSR050-11	TM2I 11-18UNJ	0.47	0.45	0.032
	1 1/16-1 3/16	TMSRL100-16	TM2I 16-18UNJ	0.98	0.87	
16	11/16-13/16	TMSR050-11	TM2I 11-16UNJ	0.47	0.45	0.036
	7/8-15/16	TMSR0625-16	TM2I 16-16UNJ	0.87	0.67	
	1	TMSR075-16	TM2I 16-16UNJ	1.69	0.79	
	1 1/16-1 3/16	TMSRL100-16	TM2I 16-16UNJ	0.98	0.87	
	1 7/16-1 5/8	TMSR100-27	TM2I 27-16UNJ	2.05	1.18	
	1 11/16-1 7/8	TMSR125-27	TM2I 27-16UNJ	2.28	1.46	
14	7/8	TMSR050-11	TM2I 11-14UNJ	0.47	0.45	0.041
12	7/8	TMSRT0625-16	TM2I 16-12UNJ	0.87	0.61	0.048
	15/16-1	TMSR0625-16	TM2I 16-12UNJ	0.87	0.67	
	1 1/16	TMSR075-16	TM2I 16-12UNJ	1.69	0.79	
	1 1/8-1 1/4	TMSRL100-16	TM2I 16-12UNJ	0.98	0.87	
	1 1/2-1 11/16	TMSR100-27	TM2I 27-12UNJ	2.05	1.18	
	1 3/4-1 15/16	TMSR125-27	TM2I 27-12UNJ	2.28	1.46	

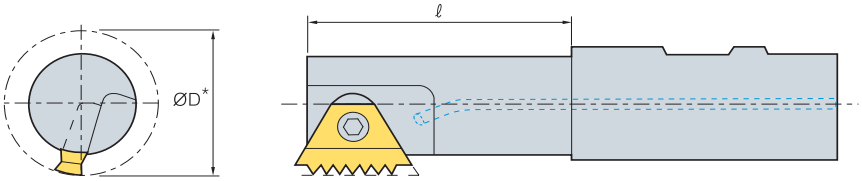
W

Pitch tpi	Nominal Dia. inch	Holder	Insert	ℓ-Tool holder overhang	D-Tool cutting dia.*	Min.Thread Depth Profile depth
26	1/2-9/16	TMSR050-10	TMEI 10-26W	0.47	0.35	0.025
	5/8-3/4	TMSR050-11	TM2EI 11-26 W	0.47	0.45	
	13/16-7/8	TMSR0625-16	TM2EI 16-26W	0.87	0.67	
	15/16-1	TMSR075-16	TM2EI 16-26W	1.69	0.79	
	1 1/16-1 1/8	TMSRL100-16	TM2EI 16-26W	0.98	0.87	
20	9/16	TMSR050-10	TM2EI 10-20W	0.47	0.35	0.032
	5/8-13/16	TMSR050-11	TM2EI 11-20W	0.47	0.45	
	7/8-15/16	TMSR0625-16	TM2EI 16-20W	0.87	0.67	
	1	TMSR075-16	TM2EI 16-20W	1.69	0.79	
	1 1/16-1 3/16	TMSRL100-16	TM2EI 16-20W	0.98	0.87	
16	13/16	TMSR0625-16	TM2EI 16-16W	0.87	0.61	0.040
	7/8-15/16	TMSR0625-16	TM2EI 16-16W	0.87	0.67	
	1-1 1/16	TMSR075-16	TM2EI 16-16W	1.69	0.79	
	1 1/8-1 1/4	TMSRL100-16	TM2EI 16-16W	0.98	0.87	
	1.4-1 5/8	TMSR100-27	TM2EI 27-16W	2.05	1.18	
	1 3/4-1.9	TMSR125-27	TM2EI 27-16W	2.28	1.46	
12	1 1/2-1 3/4	TMSR100-27	TM2EI 27-12W	2.05	1.18	0.054
	1 7/8	TMSR125-27	TM2EI 27-12W	2.28	1.46	
8	1 7/8-1.9	TMSR100-27	TM2EI 27-8W	2.05	1.18	0.080
	2.1-2 1/8	TMSR125-27	TM2EI 27-8W	2.28	1.46	
7	2	TMSR100-27	TM2EI 27-7W	2.05	1.18	0.091
6	2.1-2 1/8	TMSR100-27	TM2EI 27-6W	2.05	1.18	0.107
	2 1/4	TMSR125-38	TM2EI 38-6W	2.17	1.38	
	2 3/8-2.6	TMSR125-27	TM2EI 27-6W	2.28	1.46	
	2 5/8-2 3/4	TMSR150-38	TM2EI 38-6W	2.56	1.81	
5	3	TMSR150-38	TM2EI 38-5W	2.56	1.81	0.128
4.5	3 1/2	TMSR150-38	TM2EI 38-4.5W	2.56	1.81	0.142

• The recommended holder is the largest for the given thread specification

* Holder with smaller or equal cutting diameters (D2) can also be used

Tooling recommendation* for given INTERNAL thread specification



BSPT

Pitch	Nominal Dia.	Holder	Insert	l-Tool holder	D-Tool	Min.Thread Depth
tpi	inch			overhang	cutting dia.*	Profile depth
19	3/8	TMSR 21-11	TM2EI 11-19 BSPT	0.79	0.45	0.034
14	1/2-3/4	TMSRT 16-11	TM2EI 16-14 BSPT	0.87	0.61	0.046
11	1-1 1/4	TMSRT 20-16	TM2EI 16-11 BSPT	0.91	0.75	0.058
	1 1/2	TMSR 25-27	TM2EI 27-11 BSPT	2.05	1.18	
	2-6	TMSRT 32-27	TM2EI 27-11 BSPT	2.28	1.46	

NPT

Pitch	Nominal Dia.	Holder	Insert	l-Tool holder	D-Tool	Min.Thread Depth
tpi	inch			overhang	cutting dia.*	Profile depth
14	1/2	TMSRT 16-16	TM2EI 16-14 NPT	0.87	0.61	0.052
	3/4	TMSRT 20-16	TM2EI 16-14 NPT	0.91	0.75	
11.5	1	TMSRT 20-16	TM2EI 16-11.5 NPT	0.91	0.75	0.056
	1 1/4	TMSR 25-27	TM2EI 27-11.5 NPT	2.05	1.18	
	1 1/2-2	TMSRT 32-27	TM2EI 27-11.5 NPT	2.28	1.46	
8	2 1/2	TMSRT 32-27	TM2EI 27-8 NPT	2.28	1.46	0.095
	3-24	TMSR 40-38	TM2EI 38-8 NPT	2.28	1.81	

NPTF

Pitch	Nominal Dia.	Holder	Insert	l-Tool holder	D-Tool	Min.Thread Depth
tpi	inch			overhang	cutting dia.*	Profile depth
14	1/2	TMSRT 16-16	TM2EI 16-14 NPTF	0.87	0.61	0.053
	3/4	TMSRT 20-16	TM2EI 16-14 NPTF	0.91	0.75	
11.5	1	TMSRT 20-16	TM2EI 16-11.5 NPTF	0.91	0.75	0.064
	1 1/2	TMSR 25-27	TM2EI 27-11.5 NPTF	2.05	1.18	
	2	TMSRT 32-27	TM2EI 27-11.5 NPTF	2.28	1.46	
8	2 1/2	TMSRT 32-27	TM2EI 27-8 NPTF	2.28	1.46	0.095
	3	TMSR 40-38	TM2EI 38-8 NPTF	2.28	1.81	

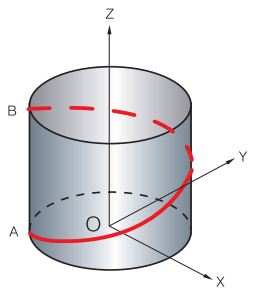
• The recommended holder is the largest for the given thread specification
* Holder with smaller or equal cutting diameters (D2) can also be used

Minimum Bore Diameters for Thread milling

Pitch	mm	0.5	0.6	0.7	0.75 0.80	0.9	1.0	1.25	1.5	1.75	2.0	-	2.5	3.0	3.5	4.0	4.5	5.0	5.5	-	6.0	-
	tpi	48	44	36	32	28	26 24	20 19	18 16	14	13 12	11.5 11	10	9 8	7	6	-	5	-	4.5	-	4
Holder Designation	diameter	Minimum diameter for machining																				
TMSR 12-10	0.35	0.37	0.38	0.39	0.39	0.41	0.42	0.45	0.47													
TMSR 20-10	0.35	0.37	0.38	0.39	0.39	0.41	0.42	0.45	0.47													
TMSR 12-11	0.45	0.47	0.48	0.49	0.49	0.51	0.52	0.55	0.57	0.59												
TMSR 20-11	0.45	0.47	0.48	0.49	0.49	0.51	0.52	0.55	0.57	0.5												
TMSRL 25-11	0.45	0.47	0.48	0.49	0.49	0.51	0.52	0.55	0.57	0.59												
TMSRT 16-16	0.61	0.63	0.64	0.65	0.65	0.67	0.68	0.70	0.73	0.75	0.77	0.79										
TMSR 16-16	0.67	0.69	0.70	0.71	0.72	0.74	0.75	0.77	0.79	0.81	0.83	0.85										
TMSR 16-22	0.67	0.69	0.70	0.71	0.72	0.74	0.75	0.77	0.79	0.81	0.83	0.85										
TMSR 20-22	0.75	0.78	0.79	0.80	0.80	0.82	0.83	0.85	0.87	0.89	0.91	0.93										
TMSRT 20-16	0.75	0.78	0.79	0.80	0.80	0.82	0.83	0.85	0.87	0.89	0.91	0.93										
TMSR 20-16	0.79	0.81	0.83	0.83	0.84	0.86	0.87	0.89	0.91	0.93	0.94	0.96										
TMSRW 25-22	0.87	0.89	0.91	0.91	0.92	0.94	0.94	0.97	0.98	1.00	1.02	1.04										
TMSRL 25-22	0.87	0.89	0.91	0.91	0.92	0.94	0.94	0.97	0.98	1.00	1.02	1.04										
TMSRL 25-16	0.87	0.89	0.91	0.91	0.92	0.94	0.94	0.97	0.98	1.00	1.02	1.04										
TMSR 25-27	1.18	1.21	1.22	1.23	1.24	1.25	1.26	1.29	1.32	1.34	1.36	1.40	1.44	1.54	1.65	1.77	1.89					
TMSRL 25-27	1.18	1.21	1.22	1.23	1.24	1.25	1.26	1.29	1.32	1.34	1.36	1.40	1.44	1.54	1.65	1.77	1.89					
TMSR 32-38	1.38															1.97	2.10	1.67	1.97	1.76	2.26	2.23
TMSR 32-27	1.46	1.50	1.50	1.51	1.52	1.54	1.56	1.59	1.61	1.63	1.65	1.69	1.73	1.83	1.93	2.05	2.19					
TMSRL 32-27	1.46	1.50	1.50	1.51	1.52	1.54	1.56	1.59	1.61	1.63	1.65	1.69	1.73	1.83	1.93	2.05	2.19					
TMSRT 32-27	1.46	1.50	1.50	1.51	1.52	1.54	1.56	1.59	1.61	1.63	1.65	1.69	1.73	1.83	1.93	2.05	2.19					
TMSR 40-38	1.81															2.19	2.17	2.07	2.13	2.15	2.26	2.23
TMSRL 40-38	1.81															2.19	2.17	2.07	2.13	2.15	2.26	2.23

In order to perform a thread milling operation, a milling machine with three-axis control capability of helical interpolation is required. Helical interpolation is a CNC function producing tool movement along a helical path. This helical motion combines circular movement in one plane with a simulataneous linear motion in a plane perpendicular to the first. For example, the path from point A to point B(Fig,A) on the envelope of the cylinder combines a circular movemint in the xy plane with a linear dispalcement in the z direction
On most CNC systems this function can be execyted in two different ways:

GO2 : Heilcal interpolation in
a colckwise direction
GO3 : Helical interpolation in
a counter-clockwise direction



Fig,A

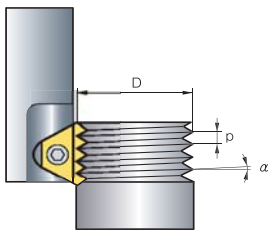


Fig.B

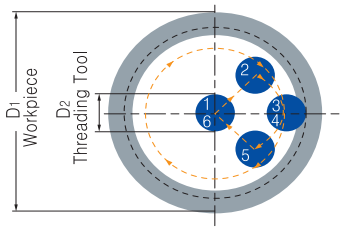
The thread milling operation (Fig. B) consists of circular rotation of fhe tool around its own axis togerther with an orbiting motion along the bore or workpiece circumference. During one such orbit, the tool will shift vertically one pitch length. These movements combined with the insert geometry create the required thread form. There are three acceptable ways of approaching the workpiece with the tool to initiate production of the thread:

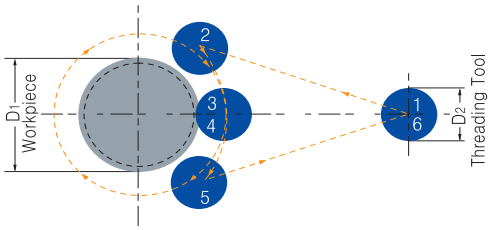
1. Tangential Arc Approach
2. Radial Approach
3. Tangential Line Approach

Tangential Arc Approach

With this method, the tool enters and exits the workpiece smoothly. No marks are left on the workpiece and there is no vibration, even with harder materials. Although it requires slightly more complex programming than the radial approach (see below), this is the method recommended for machining the highest quality threads

Internal Thread	External Thread





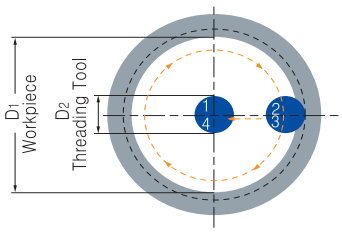
1-2 : rapid approach
2-3 : tool entry along tangential arc, with simultaneous feed along z-axis
3-4 : helical movement during one full orbit (360°)
4-5 : tool exit along tangential arc, with continuing feed along z-axis
5-6 : rapid return

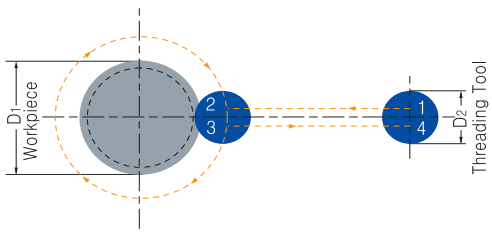
Radial Approach

This is the simplest method. There are two characteristics worth nothing about the radial approach:
A. a small vertical mark may be lift at the entry (and exit) point. This is of no significance to the thread itself
B. when using this method with very hard materials, there may be a tendency of the tool to vibrate as it approaches the full cutting depth

Note: Radial feed during entry to the full profile depth should only be 1/3 of the subsequent circular feed!

Internal Thread	External Thread



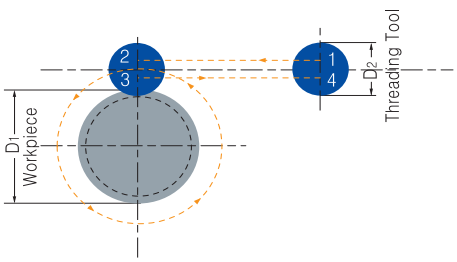


1-2 : radial entry
2-3 : helical movement during one full orbit (360°)
3-4 : radial exit

Tangential Line Approach

This method is very simple, and has all of the advantages of the tangential arc method. However, it is applicable only with external threads

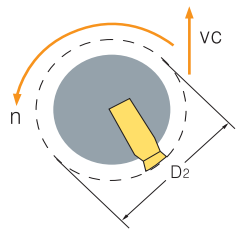
External Thread



1-2 : radial entry with simultaneous feed along z axis
2-3 : helical movement during one full orbit (360°)
3-4 : radial exit

Preparing for the Thread Milling Operation

Calculation of Rotational Velocity and Feed at the Cutting Edge



$$n = \frac{vc \times 12}{\pi \times D_2}$$

$$vc = \frac{n \times \pi \times D2}{12}$$

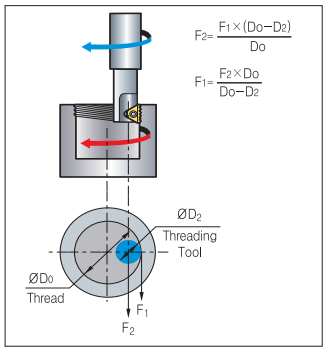
$$F1 = n \times z \times fn$$

- **n** - Rotational Velocity [R.P.M]
- **vc** - Cutting Speed [sfm]
- **D_2** - Tool holder Cutting Dia. [mm]
- **F_1** - Real Feed rate at the Cutting edges [msfm]
- **z** - No. of Cutting Edges
- **fn** - Feed per Rooth per Rotation [mm/rev]

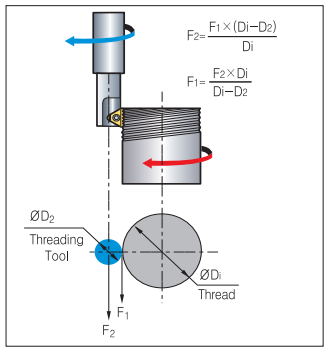
Calculation of Feed Rates at the Tool Center Line

On most CNC machines, the feed rate required for programming is that of the center-line of the tool. When dealing with linear tool movement, the feed rate at the cutting edge and the center line are identical, but with circular tool movement this is not the case
The equations define the relationship between feed rates at the cutting edge and at the tool center line

Internal Thread



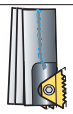
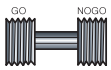
External Thread



Grades and Applications

Grade	Application
PC9570T	First Choice for steel and cast iron A tough sub-micron substrate with TiCN coating Provides good fracture toughness and excellent wear resistance
PC9070T	**General grade** Enhance wear Resisfomce with new-coating technology Multi layer film Superior performance for stainless steel and HSS

Trouble shooting

Problem	Possible	Solution
Increased insert flank wear	Cutting speed too high Chip is too thin Insufficient coolant	Reduce cutting speed/use coated insert Increase feed rate Increase coolant flow rate
Chipping of cutting edge	Chip is too thick Vibration	Redyce feed rate / Use the tangential arc method Increase RPM Check stability
Material Built-up on the cutting edge	Incorrect cutting speed Unsuitable carbide grade	Change cutting speed Use a coated carbide grade
 Chatter / Vibartion	Feed rate is too high Profile is too deep Thread length is too long	Reduce the feed. Execute two passes, each with increased cutting depth/ Execute two passes, each cutting only half the thread length Execute two passes, each cutting only half the thread length
 Insufficient thread accuracy	Tool deflection	Reduce feed rate / Execute a “zero” cut

Recommended cutting condition

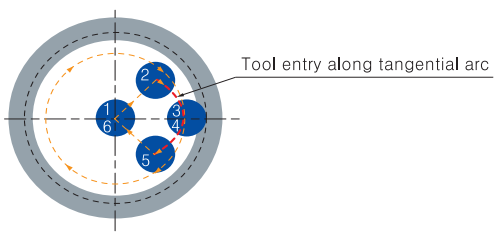
Workpiece			Hardness Brinell HB	vc[sfm] Grade PC9570T	vc[sfm] Grade PC9070M	Feed fz[ipt] Indexable Insert	Feed fz[ipt] Solid Endmill
P	Unalloyed steel	Low carbon(C+0.1-0.25%)	125	330-690	260~820	0.002-0.012	0.001~0.006
		Medium carbon(C=0.25-0.55%)	150	330-590	260~755	0.002-0.010	0.001~0.004
		High carbon (C=0.55-0.85%)	170	330-560	260~655	0.002-0.008	0.001~0.003
	Low alloy steel (alloying elements≤5%)	Non hardened	180	290-520	195~590	0.002-0.010	0.001~0.004
		Hardened	275	260-490	195~560	0.002-0.008	0.001~0.003
		Hardened	350	230-460	195~525	0.002-0.006	0.0004~0.001
	High alloy steel	Annealed	200	200-430	130~330	0.002-0.008	0.001~0.002
		Hardened	325	230-360	100~260	0.002-0.004	0.000~0.001
	Cast steel	Low alloy (alloying elements<5%)	200	330-560	260~820	0.002-0.006	0.001~0.004
		High alloy(alloying elements>5%)	225	230-390	195~560	0.002-0.004	0.0004~0.001
M	Stainless steel Feritic	Non hardened	200	330-560	195~490	0.002-0.006	0.002~0.004
		Hardened	330	330-560	195~395	0.002-0.004	0.0004~0.002
	Stainless steel Austenitic	Austentic	180	230-460	195~460	0.002-0.006	0.002~0.004
		Super austenitic	200	230-460	195~425	0.002-0.004	0.002~0.004
	Stainless steel Cast feritic	Non hardened	200	230-460	195~525	0.002-0.006	0.002~0.004
		Hardened	330	230-460	195~360	0.002-0.004	0.001~0.002
	Stainless steel Cast austenitic	Austenitic	200	230-390	195~490	0.002-0.006	0.002~0.004
		Hardened	330	230-390	195~330	0.002-0.004	0.001~0.002
	High eimperature alloys	Annealed (Iron based)	200	70-150	100~195	0.002-0.004	0.002~0.004
		Aged (Iron based)	280	70-100	65~165	0.001-0.002	0.0004~0.001
		Annealed(Nickel or Cobalt based)	250	50-70	50~115	0.001-0.002	0.0004~0.001
		Aged (Nickel or Cobalt based)	350	30-50	50~100	0.001--0.002	0.0004~0.001
	Titanium alloys	Pure 99.5 Ti	400Rm	230-460	130~260	0.001-0.002	0.001~0.002
		α +β alloys	1050Rm	70-160	65~165	0.001-0.002	0.001~0.002
K	Extra hard steel	Hardened & tempered	55HRC	70-150	50~160	0.0004-0.001	0.0002~0.0004
	Malleable cast iron	Ferritic (short chips)	130	200-430	230~525	0.0008-0.003	0.0004~0.001
		Pearlitic (long chips)	230	200-390	195~490	0.0008-0.002	0.001~0.002
	Grey cast iron	Low tensile strength	180	200-430	230~525	0.002-0.006	0.002~0.004
		High tensile strength	260	200-330	130~395	0.002-0.004	0.001~0.002
	Nodular SG iron	Feritic	160	200-410	130~360	0.002-0.006	0.002~0.004
		Pearlitic	260	160-290	130~330	0.002-0.004	0.001~0.002
	Aluminum alloys Wrought	non aging	60	330-820	655~985	0.004-0.016	0.004~0.010
		Aged	100	330-590	490~820	0.004-0.012	0.004~0.008
	Aluminum alloys	Cast	75	490-1310	330~655	0.004-0.012	0.004~0.008
		Cast & aged	90	490-920	395~720	0.002-0.010	0.004~0.006
		Cast Si 13-22%	130	260-490	655~985	0.004-0.012	0.004~0.008
	Copper and copper alloys	Brass	90	390-670	655~985	0.004-0.012	0.004~0.010
		Bronze and mom leaded copper	100	390-670	490~820	0.002-0.010	0.004~0.008

Recommendation :

At tool entry, set the Feed fz[ipt] to 70% lower than the threading Feed

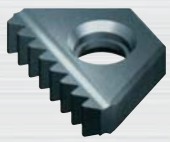
Example :

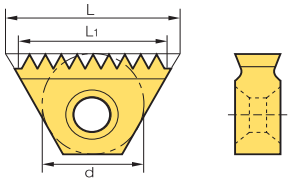
Threading Feed: 0.012[ipt]
Tool entry Feed: 0.004[ipt]

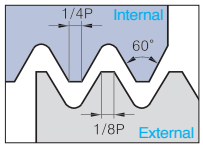


ISO Metric

External / Internal







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

(inch)

Insert Size d	Insert Size L	Pitch (mm)	Designation External	PC9570T	Designation Internal	PC9570T	L1	Tooth	Tool holder
0.236	0.41	0.5	-		TMI 10-0.5ISO	●	0.39	20	TMSR□□□- 10
		0.75	-		10-0.75ISO		0.38	13	
		1.0	-		10-1.0ISO	●	0.35	9	
		1.25	-		10-1.25ISO		0.34	7	
		1.5	-		10-1.5ISO	●	0.35	6	
1/4	0.43	0.5	-		TM2I 11-0.5ISO		0.39	20	TMSR□□□- 11
		0.75	TM2E 11-0.75ISO		11-0.75ISO	●	0.41	14	
		1.0	11-1.0ISO		11-1.0ISO	●	0.39	10	
		1.25	11-1.25ISO		-		0.39	8	
		1.25	-		11-1.25ISO	●	0.34	7	
		1.5	11-1.5ISO		-		0.35	6	
		1.5	-		11-1.5ISO	●	0.41	7	
3/8	0.63	0.5	-		TM2I 16-0.5ISO		0.59	30	TMSR□□□ - 16
		0.75	TM2E 16-0.75ISO		16-0.75ISO		0.59	20	
		0.8	-		16-0.8ISO		0.57	18	
		1.0	16-1.0ISO		-		0.55	14	
		1.0	-		16-1.0ISO		0.59	15	
		1.25	16-1.25ISO		16-1.25ISO		0.59	12	
		1.5	16-1.5ISO		16-1.5ISO	●	0.59	10	
		1.75	16-1.75ISO		16-1.75ISO		0.55	8	
		2.0	16-2.0ISO		16-2.0ISO	●	0.55	7	
3/8B	0.87	1.0	TM2E 22-1.0ISO		TM2I 22-1.0ISO		0.87	22	TMSR□□□- 22
		1.25	22-1.25ISO		22-1.25ISO		0.84	17	
		1.5	22-1.5ISO		22-1.5ISO	●	0.83	14	
		1.75	22-1.75ISO		22-1.75ISO		0.83	12	
		2.0	22-2.0ISO		22-2.0ISO	●	0.87	11	
5/8	1.06	1.0	TM2E 27-1.0ISO		TM2I 27-1.0ISO		1.02	26	MSR□□□ - 27
		1.25	27-1.25ISO		27-1.25ISO		0.98	20	
		1.5	27-1.5ISO		27-1.5ISO	●	1.00	17	
		1.75	27-1.75ISO		27-1.75ISO		0.96	14	
		2.0	27-2.0ISO		27-2.0ISO	●	0.94	12	
		2.5	27-2.5ISO		27-2.5ISO		0.98	10	
		3.0	27-3.0ISO		27-3.0ISO	●	0.94	8	
		3.5	27-3.5ISO		27-3.5ISO	●	0.96	7	
		4.0	27-4.0ISO		27-4.0ISO	●	0.94	6	
		4.5	27-4.5ISO		27-4.5ISO	●	0.89	5	
3/4B	1.52	1.5	TM2E 38-1.5ISO		TM2I 38-1.5ISO		1.42	24	TMSR□□□- 38
		2.0	38-2.0ISO		38-2.0ISO		1.42	18	
		3.0	38-3.0ISO		38-3.0ISO		1.42	12	
		4.0	38-4.0ISO		38-4.0ISO		1.26	8	
		4.5	38-4.5ISO		38-4.5ISO		1.24	7	
		5.0	38-5.0ISO		38-5.0ISO	●	1.18	6	
		5.5	38-5.5ISO		38-5.5ISO		1.30	6	
		6.0	38-6.0ISO		38-6.0ISO	●	1.18	5	

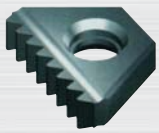
Applicable holders, see pages D49

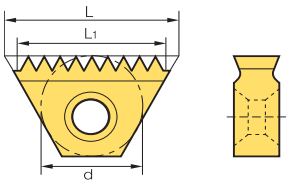
All inserts except TMI10 code have 2 cutting edges

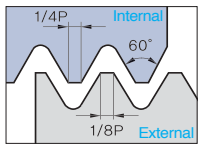
● : Stock item

American UN

External / Internal







Defined by : ANSI B1.1.74
Tolerance class : Class 2A/2B

(inch)

Insert Size d	Insert Size L	Pitch (tpi)	Designation External	Designation PC9570T	Designation Internal	Designation PC9570T	L1	Tooth	Tool holder
0.236	0.41	32	-		TMI 10-32UN		0.38	12	TMSR□□□- 10
		28	-		10-28UN		0.36	10	
		24	-		10-24UN		0.38	9	
		20	-		10-20UN		0.35	7	
		18	-		10-18UN		0.33	6	
		16	-		10-16UN		0.31	5	
1/4	0.43	48	-		TM2I 11-48UN		0.39	19	TMSR□□□- 11
		40	-		11-40UN		0.40	16	
		32	-		11-32UN		0.41	13	
		28	TM2E 11-28UN		11-28UN		0.39	11	
		27	11-27UN		11-27UN		0.41	11	
		24	11-24UN		11-24UN		0.38	9	
		20	11-20UN		11-20UN		0.40	8	
		18	11-18UN		11-18UN		0.39	7	
		16	11-16UN		11-16UN		0.38	6	
		14	11-14UN		11-14UN		0.36	5	
3/8	0.63	40	-		TM2I 16-40UN		0.58	40	TMSR□□□- 16
		32	-		16-32UN		0.59	32	
		28	TM2E 16-28UN		16-28UN		0.57	28	
		27	16-27UN		16-27UN		0.55	27	
		24	16-24UN		16-24UN		0.58	24	
		20	16-20UN		16-20UN		0.55	20	
		18	16-18UN		16-18UN		0.56	18	
		16	16-16UN		16-16UN		0.56	16	
		14	16-14UN		16-14UN	●	0.57	14	
		13	16-13UN		16-13UN		0.54	13	
		12	16-12UN		16-12UN	●	0.58	12	
		11.5	16-11.5UN		16-11.5UN		0.52	11.5	
3/8B	0.87	24	TM2E 22-24UN		TM2I 22-24UN		0.83	20	TMSR□□□- 22
		20	22-20UN		22-20UN		0.85	17	
		18	22-18UN		22-18UN		0.83	15	
		16	22-16UN		22-16UN		0.81	13	
		14	22-14UN		22-14UN		0.86	12	
		13	22-13UN		22-13UN		0.85	11	
		12	22-12UN		22-12UN		0.83	10	
5/8	1.06	24	TM2E 27-24UN		TM2I 27-24UN		1.00	24	TMSR□□□- 27
		20	27-20UN		27-20UN		1.00	20	
		18	27-18UN		27-18UN		1.00	18	
		16	27-16UN		27-16UN		1.00	16	
		14	27-14UN		27-14UN		1.00	14	
		13	27-13UN		27-13UN		1.00	13	
		12	27-12UN		27-12UN		1.00	12	
		11.5	27-11.5UN		27-11.5UN		0.96	11	
		11	27-11UN		27-11UN		1.00	11	
		10	27-10UN		-		0.90	9	
		10	-		27-10UN		1.00	10	
		9	27-9UN		27-9UN		0.89	8	
		8	27-8UN		27-8UN		0.88	7	
		7	27-7UN		-		0.86	6	
		7	-		27-7UN		1.00	7	
		6	27-6UN		-		0.83	5	
		6	-		27-6UN		1.00	6	
3/4B	1.52	6	TM2E 38-6UN		TM2I 38-6UN		1.33	8	TMSR□□□- 38
		5	38-5UN		38-5UN		1.20	6	
		4.5	38-4.5UN		38-4.5UN		1.33	6	
		4	38-4UN		38-4UN		1.25	5	

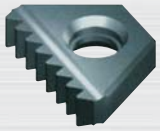
Applicable holders, see pages D49

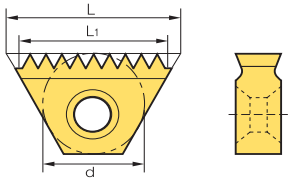
All inserts except TMI10 code have 2 cutting edges

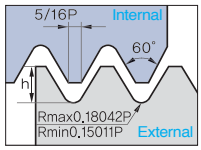
● : Stock item

UNJ (Unified Constant Thread)

External / Internal







Defined by : MIL-S-8879C
Tolerance class : 3A/3B

(inch)

Insert Size d	Insert Size L	Pitch (tpi)	Designation External	PC9570T	Designation Internal	PC9570T	L_1	Tooth	Tool holder
0.236	0.41	24	-		TMI 10-24UNJ		0.38	9	TMSR□□□- 10
		20	-		10-20UNJ		0.35	7	
		18	-		10-18UNJ		0.33	6	
		16	-		10-16UNJ		0.50	8	
1/4	0.43	24	TM2E 11-24UNJ		TM2I 11-24UNJ		0.38	9	TMSR□□□- 11
		20	11-20UNJ		11-20UNJ		0.40	8	
		18	-		11-18UNJ		0.39	7	
		16	11-16UNJ		11-16UNJ		0.38	6	
		14	11-14UNJ		11-14UNJ		0.36	5	
3/8	0.63	24	TM2E 16-24UNJ		16-24UNJ		0.58	14	TMSR□□□- 16
		20	16-20UNJ		16-20UNJ		0.55	11	
		18	16-18UNJ		16-18UNJ		0.56	10	
		16	16-16UNJ		16-16UNJ		0.56	9	
		14	16-14UNJ		16-14UNJ		0.57	8	
		13	16-13UNJ		-		0.54	7	
		12	16-12UNJ		16-12UNJ		0.58	7	
5/8	1.06	16	TM2E 27-16UNJ		27-16UNJ		1.00	16	TMSR□□□ - 27
		12	27-12UNJ		27-12UNJ		1.00	12	
		11	27-11UNJ		27-11UNJ		1.00	11	

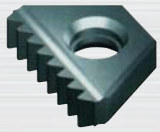
Applicable holders, see pages D49

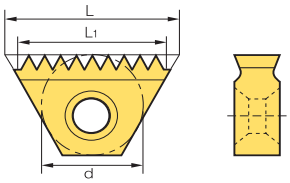
All inserts except TMI10 code have 2 cutting edges

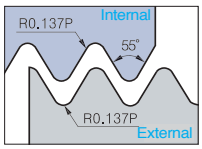
● : Stock item

Whithworth (BSW, BSF, BSP, BSB)

External / Internal







BSW Defined by : B.S.84:1956, DIN 259, ISO228/1:1982
BSP Defind by : B.S.2779:1956
Tolerance class : BSW-Medium class A, BSP-Medium class

(inch)

Insert Size d	Insert Size L	Pitch (tpi)	Designation External + Internal	Designation PC9570T	L_1	Tooth	Tool holder
0.236	0.41	28	TMEI 10-28W		0.36	10	TMSR□□□ - 10
		26	10-26W		0.35	9	
		24	10-24W		0.38	9	
		20	10-20W		0.35	7	
		19	10-19W		0.37	7	
1/4	0.43	28	TM2EI 11-28W		0.39	11	TMSR□□□ - 11
		26	11-26W		0.38	10	
		24	11-24W		0.38	9	
		20	11-20W		0.40	8	
		19	11-19W		0.37	7	
		14	11-14W		0.36	5	
3/8	0.63	26	TM2EI 16-26W		0.58	15	TMSR□□□ - 16
		24	16-24W		0.58	14	
		20	16-20W		0.55	11	
		19	16-19W		0.58	11	
		18	16-18W		0.56	10	
		16	16-16W		0.56	9	
		14	16-14W		0.57	8	
		12	16-12W		0.58	7	
		11	16-11W	●	0.55	6	
3/8B	0.87	24	TM2EI 22-24W		0.83	20	TMSR□□□ - 22
		20	22-20W		0.85	17	
		19	22-19W		0.84	16	
		18	22-18W		0.83	15	
		16	22-16W		0.81	13	
		14	22-14W		0.86	12	
		12	22-12W		0.83	10	
		11	22-11W		0.82	9	
5/8	1.06	16	TM2EI 27-16W		1.00	16	TMSR□□□ - 27
		14	27-14W		1.00	14	
		12	27-12W		0.92	11	
		11	27-11W		0.91	10	
		10	27-10W		1.00	10	
		9	27-9W		0.89	8	
		8	27-8W		0.88	7	
		7	27-7W		0.66	6	
		6	27-6W		0.83	5	
3/4B	1.52	11	TM2EI 38-11W		1.38	15	TMSR□□□ - 38
		6	38-6W		1.33	8	
		5	38-5W		1.20	6	
		4.5	38-4.5W		1.33	6	
		-	38-15W		-		

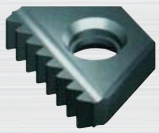
Applicable holders, see pages D49

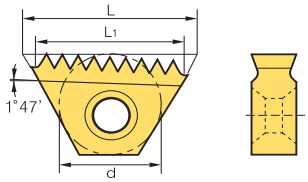
All inserts except TMI10 code have 2 cutting edges

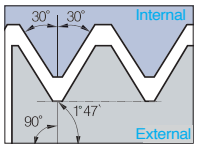
● : Stock item

NPT

External / Internal







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

(inch)

Insert Size		Pitch	Designation		L1	Tooth	Tool holder	
d	L	(tpi)	External + Internal	PC9570T			RH	LH
3/8	0.63	18	TM2E 16-18NPT *		0.56	10	TMSRT□□□ - 16	TMSLT□□□ - 16
		14	TM2EI 16-14NPT		0.57	8		
		11.5	16-11.5NPT		0.52	6		
3/8B	0.87	14	TM2EI 22-14NPT		0.86	12	TMSRT□□□ - 22	TMSLT□□□ - 22
5/8	1.06	11.5	TM2EI 27-11.5NPT		0.96	11	TMSR□□□ - 27	TMSL□□□ - 27
		8	27-8NPT		0.88	7		
3/4B	1.52	11.5	TM2EI 38-11.5NPT		1.39	16	TMSR □□□- 38	TMSL□□□ - 38
		8	38-8NPT		1.25	10		

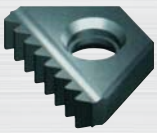
Applicable holders, see pages D49

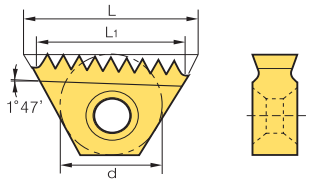
* TM2E16-18NPT is for external threading

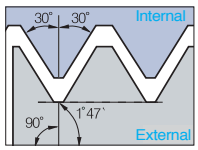
● : Stock item

NPTF

External / Internal







Defined by : ANSI 1.20.3-1976
Tolerance class : Standard NPTF

(inch)

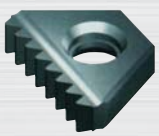
Insert Size		Pitch	Designation		L1	Tooth	Tool holder	
d	L	(tpi)	External + Internal	PC9570T			RH	LH
3/8	0.63	14	TM2EI 16-14NPTF	●	0.57	8	TMSRT□□□ - 16	TMSLT□□□ - 16
		11.5	16-11.5NPTF		0.52	6		
3/8B	0.87	14	TM2EI 22-14NPTF		0.86	12	TMSRT□□□ - 22	TMSLT□□□ - 22
		11.5	22-11.5NPTF		0.78	9		
5/8	1.06	11.5	TM2EI 27-11.5NPTF		0.96	11	TMSR□□□ - 27	TMSL□□□ - 27
		8	27-8NPTF		0.88	7		
3/4B	1.52	11.5	TM2EI 38-11.5NPTF		1.39	16	TMSR □□□- 38	TMSL□□□ - 38
		8	38-8NPTF		1.25	10		

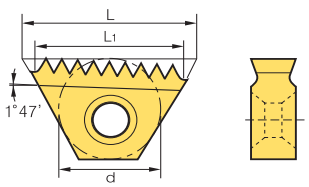
Applicable holders, see pages D49

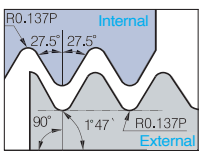
● : Stock item

BSPT

External / Internal







Defined by : B.S 21:1985
Tolerance class : Standard BSPT

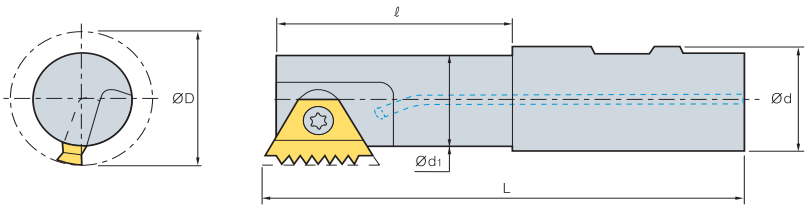
(inch)

Insert Size		Pitch	Designation		L1	Tooth	Tool holder	
d	L	(tpi)	External + Internal	PC9570T			RH	LH
1/4	0.43	19	TM2EI 11-19BSPT		0.37	7	TMSR □□□ - 10	TMSL □□□- 10
3/8	0.63	14	TM2EI 16-14BSPT		0.57	8	TMSRT □□□- 16	TMSLT □□□ - 16
		11	16-11BSPT		0.56	6		
5/8	1.06	11	TM2EI 27-11BSPT		0.91	10	TMSR □□□- 27	TMSL □□□- 27

Applicable holders, see pages D49

● : Stock item

Standard Type

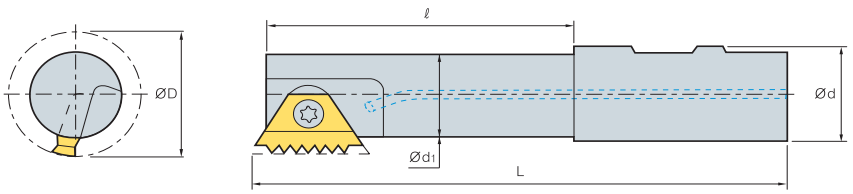


(inch)

Insert Size d	Designation	ØD	Ød	Ød1	ℓ	L	Screw	Wrwnch
0.236	TMSR 050-10	0.35	0.50	0.27	0.47	2.72	STM10	TW07P
	075-10	0.35	0.75	0.27	0.67	3.50		
1/4	TMSR 050-11	0.45	0.50	0.35	0.47	2.75	STM11	TW08P
	075-11	0.45	0.75	0.35	0.79	3.50		
3/8	TMSR 0625-16	0.67	0.625	0.54	0.87	3.56	STM1622	TW10P
	075-16	0.79	0.75	0.65	1.69	3.75		
3/8B	TMSR 0625-22	0.67	0.625	0.53	1.14	3.15	STM1622	TW10P
	075-22	0.75	0.75	0.61	1.14	3.27		
	100-22	0.75	1.00	0.61	1.18	3.68		
	TMSRW 100-22	0.87	1.00	0.73	1.18	3.62		
5/8	TMSR 100-27	1.18	1.00	0.94	2.05	4.38	STM27	TW25L
	TMSL 100-27	1.18	1.00	0.94	2.05	4.38		
	TMSR 125-27	1.46	1.25	1.22	2.28	4.75		
3/4B	TMSR 125-38	1.38	1.25	1.06	2.16	4.45	STM38	TW30L
	150-38	1.81	1.50	1.50	2.56	5.25		

Applicable inserts, see pages D44 ~ D48

Long Type

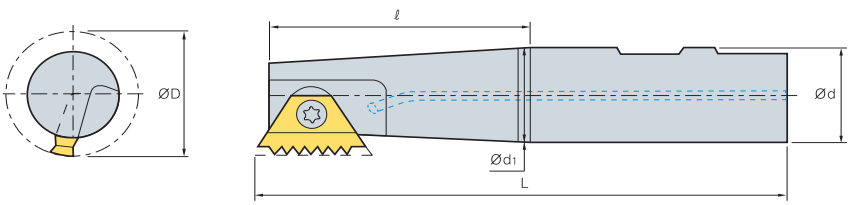


(inch)

Insert Size d	Designation	ØD	Ød	Ød1	ℓ	L	Screw	Wrwnch
3/8	TMSRL 100-16	0.87	1.00	0.73	0.98	5.00	STM11	TW08P
3/8B	100-16	0.87	1.00	0.73	2.50	4.95	STM1622	TW10P
5/8	TMSRL 075-22	0.75	0.75	0.61	1.73	3.86	STM1622	TW10P
	100-22	0.87	1.00	0.73	2.50	4.95		
5/8	TMSRL 100-27	1.18	1.00	0.94	3.62	5.88	STM27	TW25L
	125-27	1.46	1.25	1.22	3.86	6.33		
3/4B	TMSRL 150-38	1.81	1.50	1.50	3.74	6.55	STM38	TW30L

Applicable inserts, see pages D44 ~ D48

Tapered Type



(inch)

Insert Size d	Designation	ØD	Ød	Ød1	ℓ	L	Screw	Wrwnch
3/8	TMSRT 0625-16	0.61	0.625	0.49	0.87	3.56	STM1622	TW10P
	075-16	0.75	0.75	0.59	0.91	3.38	STMT16	
3/8B	TMSRT 0625-22	0.67	0.625	0.53	1.14	3.15	STM1622	TW10P
	075-22	0.75	0.75	0.61	1.14	3.27		
5/8	TMSRT 125-27	1.46	1.25	1.22	2.28	4.75	STM27	TW25L

Applicable inserts, see pages D44 ~ D48

Thread Milling Solid Endmill code system

STM D 25 189 L03 - I 1.00 ISO

1	2	3	4	5	6	7	8
Type	Flute style	Shank Dia.	Cutting Dia.	Cutting edge Length	Type of Tool	Pitch	Standard

1 Type
STM D 25 189 L03 - I 1.00 ISO

Solid Threading Endmill

2 Flute style
STM D 25 189 L03 - I 1.00 ISO

HC : Heli Cool

HCR : Heli Radial Cooling

HCC : Heli Cool Chamfering

HCD : Heli Cool C/F & Drilling

D : Deep Threading

3 Shank Dia.
STM D 25 189 L03 - I 1.00 ISO

25 : 0.25

4 Cutting Dia.
STM D 25 189 L03 - I 1.00 ISO

189 : 0.189

5 Cutting edge Length
STM D 25 189 L03 - I 1.00 ISO

L03 : 0.300

6 Type of Tool
STM D 25 189 L03 - I 1.00 ISO

I : Internal **E** : External

7 Pitch
STM D 25 189 L03 - I 1.00 ISO

mm : 0.35 ~ 3.0 **tpi** : 72 ~ 12

8 Standard
STM D 25 189 L03 - I 1.00 ISO

ISO Metric

American UN

Cutting edge Length UNJ

Whit Worth (BSW, BSF, BSP, BSB)

National Pipe Thread (NPT)

National Pipe Thread (NPTF)

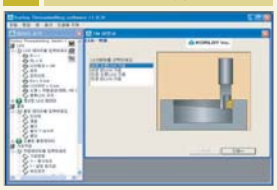
British Standard Pipe Thread (BSPT)

TM-INFO User Guide

CNC Program Composition
TM-INFO composes CNC program for Thread Milling process in a short time

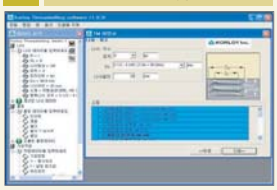
▶ Multilingual ▶ Window operation

1 Select thread type



2 Select thread standard

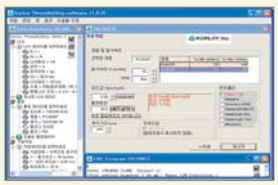
3 Select thread type



4 Input thread parameter

5 Select working way

6 Select tool



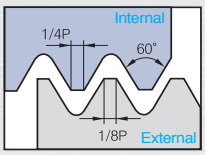
7 Confirm the working data & controler

download
Pls. visit our web-site to download.

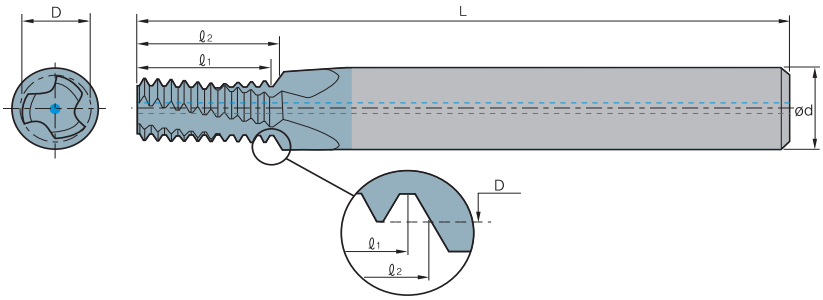
http://www.korloy.com

ISO Metric — Helical Flutes with Thru-Hole Coolant

Internal



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



(ℓ2≤1.5×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	mm	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
M3×0.5	M3.5~M16×0.5	0.5	STMHC 19094L01-I0.50ISO		3/16	0.094	1.772	0.177	0.187	3	9	0.098
M4×0.7		0.7	19124L02-I0.70ISO		3/16	0.124	1.772	0.248	0.262	3	9	0.129
M5×0.8		0.8	19159L02-I0.80ISO		3/16	0.159	2.244	0.283	0.299	3	9	0.165
M6×1.0	M8~M40×1.0	1.0	25189L03-I1.00ISO	●	1/4	0.189	2.244	0.354	0.374	3	9	0.197
M8×1.25		1.25	31256L05-I1.25ISO	●	5/16	0.256	2.402	0.492	0.524	3	10	0.268
M10×1.5	M12~M48×1.5	1.5	37323L06-I1.50ISO		3/8	0.323	2.874	0.591	0.62	3	10	0.335
M12×1.75		1.75	37370L07-I1.75ISO		3/8	0.37	2.874	0.689	0.724	4	10	0.405
M14×2.0	M17~M80×2.0	2.0	50457L08-I2.00ISO		1/2	0.457	2.874	0.787	0.827	4	10	0.472
M16×2.0	M17~M80×2.0	2.0	63535L09-I2.00ISO		5/8	0.535	3.622	0.945	0.984	4	12	0.551

(ℓ2≤2×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	mm	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
M3×0.5	M3.5~M16×0.5	0.5	STMHC 19094L02-I0.50ISO		3/16	0.094	1.772	0.263	0.246	3	12	0.098
	M4×0.5	0.5	19126L03-I0.50ISO		3/16	0.126	1.772	0.315	0.325	3	16	0.138
	M5×0.5	0.5	25165L04-I0.50ISO		1/4	0.165	2.244	0.394	0.404	3	20	0.177
M4×0.7		0.7	19124L03-I0.70ISO	●	3/16	0.124	1.722	0.331	0.344	3	12	0.129
	M6×0.75	0.75	25197L04-I0.75ISO		1/4	0.197	2.244	0.472	0.487	3	16	0.209
M5×0.8		0.8	19159L04-I0.80ISO		3/16	0.159	2.244	0.409	0.425	3	13	0.165
M6×1.0	M8~M40×1.0	1.0	25189L04-I1.00ISO	●	1/4	0.189	2.244	0.472	0.492	3	12	0.197
	M8×1.0	1.0	31264L06-I1.00ISO		5/16	0.264	2.402	0.630	0.650	3	16	0.276
	M10×1.0	1.0	37343L08-I1.00ISO		3/8	0.343	2.874	0.787	0.807	3	20	0.354
	M12×1.0	1.0	50421L09-I1.00ISO		1/2	0.421	2.874	0.945	0.965	4	24	0.433
M8×1.25		1.25	31256L06-I1.25ISO	●	5/16	0.256	2.402	0.640	0.664	3	13	0.268
	M10×1.25	1.25	37335L08-I1.25ISO		3/8	0.335	2.874	0.787	0.812	3	16	0.346
M10×1.5	M12~M48×1.5	1.5	37323L07-I1.50ISO	●	3/8	0.323	2.874	0.768	0.797	3	13	0.335
	M12×1.5	1.5	37370L09-I1.50-ISO	●	3/8	0.370	2.874	0.945	0.974	4	16	0.413
	M14×1.5	1.5	50469L11-I1.50ISO		1/2	0.469	3.150	1.122	1.152	4	19	0.492
	M16×1.5	1.5	63547L12-I1.50ISO		5/8	0.547	3.150	1.240	1.270	4	21	0.571
M12×1.75		1.75	37370L09-I1.75ISO	●	3/8	0.370	2.874	0.965	0.999	4	14	0.405
M14×2.0	M17~M80×2.0	2.0	50457L11-I2.00ISO		1/2	0.457	3.150	1.102	1.142	4	14	0.472
M16×2.0	M17~M80×2.0	2.0	63535L12-I2.00ISO		5/8	0.535	3.622	1.260	1.299	4	16	0.551
M18×2.5		2.5	63583L14-I2.50ISO		5/8	0.583	3.622	1.378	1.427	4	14	0.598
M 20×2.5		2.5	75673L16-I2.50ISO	●	3/4	0.673	4.016	1.575	1.624	4	16	0.687
M 24×3.0		3.0	75746L19-I3.00ISO		3/4	0.746	4.016	1.980	1.949	4	16	0.827

* Bore Diameter applies to smallest thread Dia

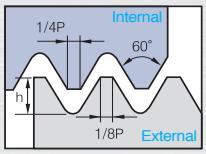
Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

● : Stock item

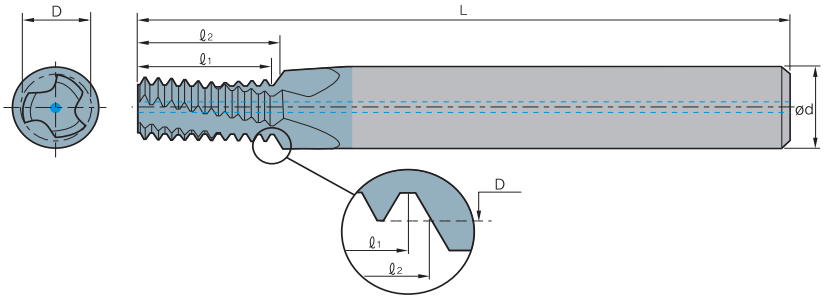
American UN

Helical Flutes with Thru-Hole Coolant

Internal



Defined by : ANSI B1.1.74
Tolerance class : 2B



(ℓ2≤1.5×Thread Diameter)

Thread			Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
UNC	UNF	UNEF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
No.10~24	5/16″ ,3/8″×24	9/16″~11/16″×24	24	STMHC 19141L03-I24UNC		3/16	0.141	1.722	0.292	0.312	3	7	0.150
No.10~24	5/16″ ,3/8″×24	9/16″~11/16″×24	24	25163L03-I24UNC		1/4	0.163	2.244	0.333	0.354	3	8	0.177
1/4″×20	7/16″ ,1/2″×20	3/4″~1″×20	20	25192L03-I20UNC		1/4	0.162	2.244	0.350	0.375	3	7	0.201
5/16″×18	9/16″ ,5/8″×18	11/16″~1 11/16″×18	18	31242L04-I18UNC		5/16	0.242	2.402	0.444	0.472	3	8	0.260
3/8″×16	3/4″×16		16	31301L05-I16UNC		5/16	0.301	2.402	0.563	0.594	3	9	0.315
7/16″×14	7/8″×14		14	37354L06-I14UNC		3/8	0.354	2.874	0.643	0.678	3	9	0.370
1/2″×13			13	50407L08-I13UNC		1/2	0.407	3.150	0.769	0.808	4	10	0.429
9/16″×12	1″~1 1/2″×12		12	50465L08-I12UNC		1/2	0.465	3.150	0.833	0.875	4	10	0.484

(ℓ2≤2×Thread Diameter)

Thread			Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
UNC	UNF	UNEF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	mm
	No.10~32	No. 12~3/8″×32	32	STMHC 19150L03-I32UNF		3/16	0.150	1.772	0.375	0.391	3	12	0.157
		No. 12~3/8″×32	32	25173L04-I32UNEF		1/4	0.173	2.244	0.438	0.453	3	14	0.185
	No.12, 1/4″×28	7/16″; 1/2″×28	28	25169L04-I28UNF		1/4	0.169	2.244	0.429	0.446	3	12	0.181
	1/4″×28	7/16″; 1/2″×28	28	25203L05-I28UNF		1/4	0.203	2.244	0.500	0.518	3	14	0.216
		7/16″; 1/2″×28	28	37371L08-I28UNEF		3/8	0.371	2.874	0.857	0.875	3	24	0.401
No.10~24	5/16″, 3/8″×24	9/16″~11/16″×24	24	19141L04-I24UNC		3/16	0.141	1.772	0.375	0.396	3	9	0.150
No.12~24	5/16″, 3/8″×24	9/16″~11/16″×24	24	25163L04-I24UNC		1/4	0.163	2.244	0.417	0.437	3	10	0.177
	5/16″, 3/8″×24	9/16″~11/16″×24	24	31263L06-I24UNF		5/16	0.263	2.402	0.625	0.646	3	15	0.272
	3/8″×24	9/16″~11/16″×24	24	37323L07-I24UNF		3/8	0.323	2.874	0.750	0.771	3	18	0.355
		9/16″~11/16″×24	24	50496L11-I24UNEF		1/2	0.496	3.150	1.125	1.145	4	27	0.520
1/4″×20	7/16″, 1/2″×20	3/4″~1″×20	20	25192L05-I20UNC		1/4	0.192	2.244	0.500	0.525	3	10	0.201
	7/16″, 1/2″×20	3/4″~1″×20	20	37362L08-I20UNF		3/8	0.362	2.874	0.850	0.875	3	17	0.390
	1/2″×20	3/4″~1″×20	20	50437L10-I20UNF		1/2	0.437	3.150	1.000	1.025	3	20	0.453
		3/4″~1″×20	20	75685L15-I20UNEF		3/4	0.685	4.016	1.500	1.525	4	30	0.701
5/16″×18	9/16″, 5/8″×18	11/16″~1 11/16″×18	18	31242L16-I18UNC		5/16	0.242	2.402	0.611	0.639	3	11	0.260
	9/16″, 5/8″×18	11/16″~1 11/16″×18	18	50492L11-I18UNF		1/2	0.492	3.150	1.111	1.139	4	20	0.512
	5/8″×18	11/16″~1 11/16″×18	18	63555L12-I18UNF		5/8	0.555	3.622	1.222	1.250	4	22	0.575
3/8″×16	3/4″×16		16	31301L07-I16UNC		5/16	0.301	2.402	0.750	0.781	3	12	0.315
	3/4″×16		16	75669L15-I16UNF		3/4	0.669	4.016	1.500	1.528	4	24	0.689
7/16″×14	7/8″×14		14	37354L08-I14UNC		3/8	0.354	2.874	0.857	0.893	3	12	0.370
	7/8″×14		14	75746L17-I14UNF		3/4	0.746	4.016	1.714	1.750	4	24	0.807
1/2″×13			13	50407L10-I13UNC		1/2	0.407	3.150	1.000	1.039	4	13	0.430
9/16″×12	1″~1 1/2″×12		12	50465L11-I12UNC		1/2	0.462	3.150	1.084	1.125	4	13	0.484
	1″~1 1/2″×12		12	75746L20-I12UNF		3/4	0.746	4.016	2.000	2.042	4	24	0.925
5/8″×11			11	63516L13-I11UNC		5/8	0.516	3.622	1.273	1.318	4	14	0.539
3/4″×10			10	63622L15-I10UNC		5/8	0.622	3.622	1.500	1.550	4	15	0.657
7/8″×9			9	75746L18-I9UNC		3/4	0.746	4.016	1.778	1.833	4	16	0.768
1″×8			8	75746L20-I8UNC		3/4	0.746	4.016	2.000	2.063	4	16	0.866

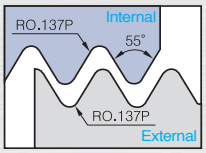
* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

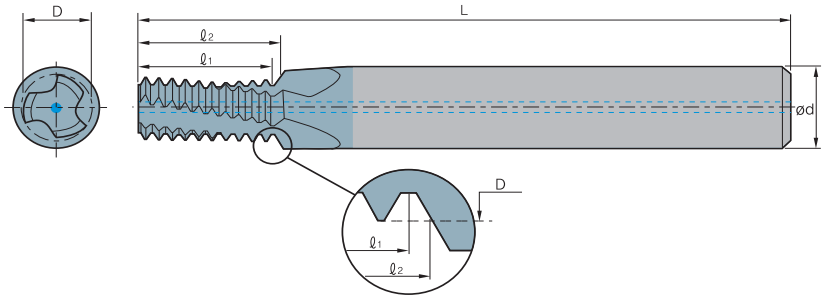
● : Stock item

Whitworth — Helical Flutes with Thru-Hole Coolant

External / Internal



Defined by : B.S.84 : 1956,
DIN 259, ISO228/1 : 1982
Tolerance class : Medium class A

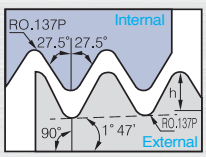


(ℓ2≤2×Thread Diameter)

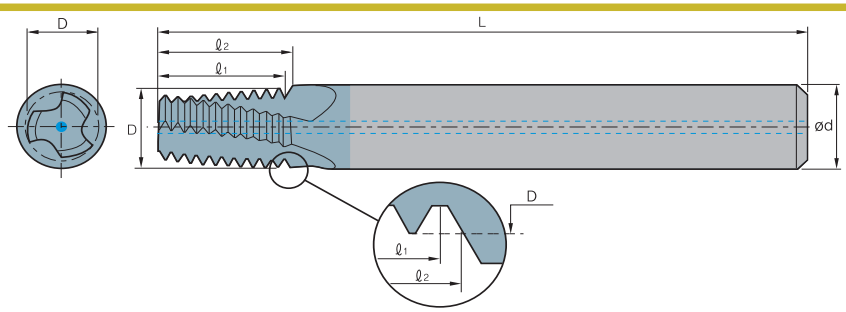
Thread		Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
BSW	BSF	(tpi)	External / Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
	1/4″×26	26	STMHC 25197L05-EI26BSF		1/4	0.197	2.244	0.500	0.519	3	13	0.209
	5/16″×22	22	31250L06-EI22BSF		5/16	0.250	2.402	0.636	0.659	3	14	0.264
1/4″×20	3/8″×20	20	25175L05-EI20BSW		1/4	0.175	2.244	0.500	0.525	3	10	0.197
	3/8″×20	20	31301L07-EI20BSF		5/16	0.301	2.402	0.750	0.775	3	15	0.323
5/16″×18	7/16″×18	18	25230L06-EI18BSW		1/4	0.230	2.244	0.611	0.639	3	11	0.256
	7/16″×18	18	37362L09-EI18BSF		3/8	0.362	2.874	0.889	0.917	3	16	0.382
3/8″×16	1/2″, 9/16″×16	16	31283L07-EI16BSW		5/16	0.283	2.402	0.750	0.781	3	12	0.311
	1/2″, 9/16″×16	16	50413L10-EI16BSF		1/2	0.413	2.840	1.000	1.031	4	16	0.437
	9/16″×16	16	50478L11-EI16BSF		1/2	0.478	3.150	1.125	1.156	4	18	0.496
7/16″×14	5/8″, 11/16″×14	14	37335L08-EI14BSW		3/8	0.335	2.874	0.857	0.893	3	12	0.362
	5/8″, 11/16″×14	14	63528L12-EI14BSF		5/8	0.528	3.150	1.214	1.250	4	17	0.551
	11/16″×14	14	63591L13-EI14BSF		5/8	0.591	3.622	1.357	1.393	4	19	0.614
1/2″×12	3/4″×12	12	37362L10-EI12BSW		3/8	0.362	2.874	1.000	1.042	3	12	0.413
9/16″×12	3/4″×12	12	50444L11-EI12BSW		1/2	0.444	3.150	1.083	1.125	4	13	0.476
	3/4″×12	12	63622L15-EI12BSF		5/8	0.622	3.622	1.500	1.542	4	18	0.661
5/8″×11	7/8″×11	11	50496L13-EI11BSW		1/2	0.496	3.150	1.273	1.318	4	14	0.528
11/16″×11		11	63559L14-EI11BSW		5/8	0.559	3.622	1.364	1.409	4	15	0.591

BSPT — Helical Flutes with Thru-Hole Coolant

External / Internal



Defined by : B.S.21 : 1985
Tolerance class : Standard BSPT



Thread	Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
Standard	(tpi)	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
1/16″×28	28	STMHC 25232L03-EI28BSPT		1/4	0.232	2.402	0.393	0.401	3	11	0.264
1/8″×28	28	31301L03-EI28BSPT		5/16	0.301	2.402	0.393	0.401	3	11	0.342
1/4″×19	19	50400L05-EI19BSPT		1/2	0.400	2.874	0.579	0.605	3	11	0.464
3/8″×19	19	50439L05-EI19BSPT		1/2	0.439	2.874	0.579	0.605	4	11	0.598
1/2″, 3/4″×14	14	63561L08-EI14BSPT		5/8	0.561	3.150	0.857	0.893	4	12	0.748
1″, 1 1/2″, 2″, 2 1/2″×11	11	75746L10-EI11BSPT		3/4	0.746	4.016	1.000	1.136	4	12	1.209

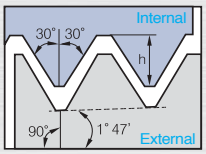
* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

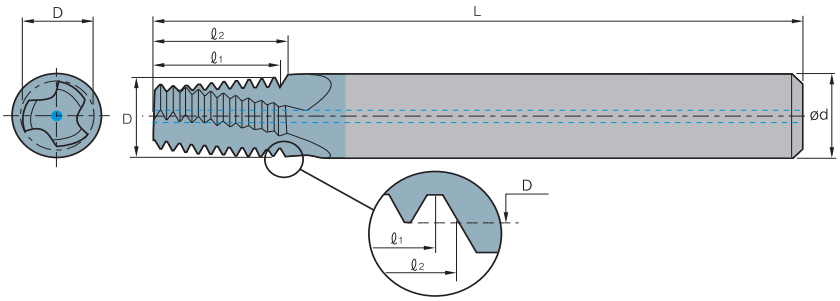
● : Stock item

NPT — Helical Flutes with Thru-Hole Coolant

External / Internal



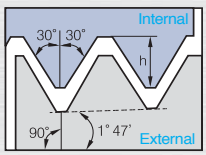
Defined by : USAS B2.1:1968
Tolerance class : Standard NPT



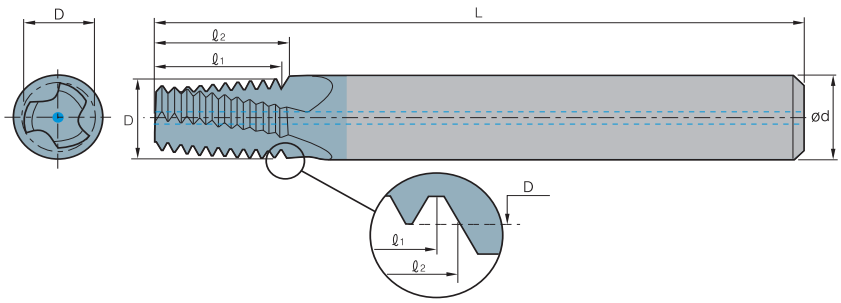
Thread	Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
Standard	(tpi)	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
1/16″×27	27	STMHC 25232L03-EI27NPT		1/4	0.232	2.244	0.370	0.389	3	10	0.244
1/8″×27	27	31301L03-EI27NPT		5/16	0.301	2.402	0.370	0.389	3	10	0.330
1/4″×18	18	37370L05-EI18NPT	●	3/8	0.370	2.874	0.556	0.583	3	10	0.437
3/8″×18	18	50439L05-EI18NPT		1/2	0.439	2.874	0.556	0.583	4	10	0.562
1/2″, 3/4″×14	14	63561L07-EI14NPT		5/8	0.561	3.150	0.714	0.750	4	10	0.407,0.905
1″, 1 1/14, 1 1/2″, 2″×11.5	11.5	75746L09-EI11.5NPT		3/4	0.746	4.016	0.870	0.913	4	10	1.411, 1.484, 1.732, 2.204
2 1/2″×8 ; 3″×8	8	75746L13-EI8NPT		3/4	0.746	4.016	1.250	1.313	4	10	2.625, 3.232

NPTF — Helical Flutes with Thru-Hole Coolant

External / Internal



Defined by : ANSI 1.20.3-1976
Tolerance class : Standard NPTF



Thread	Pitch	Designation		Dimensions(inch)					No.of Flute	Tooth	*Bore Dia.
Standard	(tpi)	Internal	PC9070M	Ød	D	L	ℓ1	ℓ2	z	zt	inch
1/16″×27	27	STMHC 25232L03-EI27NPTF	●	1/4	0.232	2.244	0.370	0.389	3	10	0.240
1/8″×27	27	31301L03-EI27NPTF		5/16	0.301	2.402	0.370	0.389	3	10	0.330
1/4″×18	18	37370L05-EI18NPTF		3/8	0.370	2.874	0.556	0.583	3	10	0.437
3/8″×18	18	50439L05-EI18NPTF		1/2	0.439	2.874	0.556	0.583	4	10	0.562
1/2″, 3/4″×14	14	63561L07-EI14NPTF		5/8	0.561	3.150	0.714	0.750	4	10	0.704, 0.095
1″, 1 1/14, 1 1/2″, 2″×11.5	11.5	75746L09-EI11.5NPTF		3/4	0.746	4.016	0.870	0.913	4	10	1.411, 1.484, 1.720, 2.188
2 1/2″×8 ; 3″×8	8	75746L13-EI8NPTF		3/4	0.746	4.016	1.250	1.313	4	10	2.610, 3.232

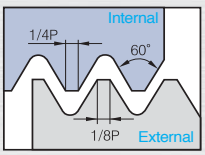
* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

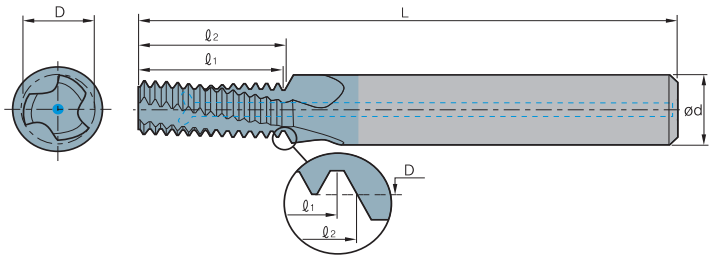
● : Stock item

American UN — Helical Flutes with Radial Cooling

Internal



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

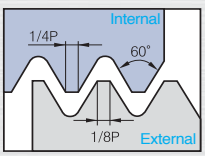


(ℓ2≤2×Thread Diameter)

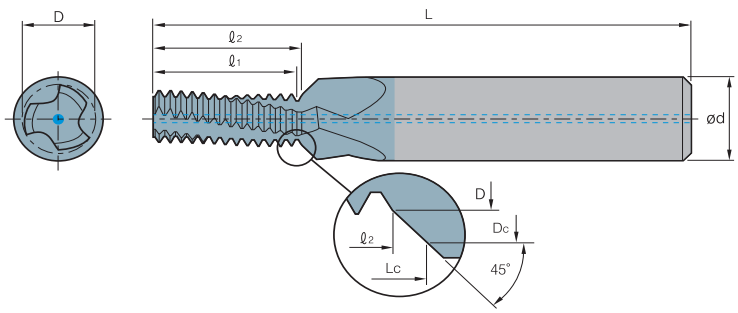
Thread			Designation	Dimensions(inch)					*Bore Dia.
UNC	UNF	UNEF	Internal	Ød	D	L	ℓ1	ℓ2	inch
	No.10-32	No.12-3/8X 32	STMHCR 19150L03-I32UNF	3/16	0.150	1.772	0.375	0.391	0.157
	1/4X 28	7/16,1/2X 28	25203L05-I28UNF	1/4	0.203	2.244	0.500	0.518	0.216
No.10-24	5/16, 3/8X 24	9/16-11/16X 24	19141L04-I24UNC	3/16	0.141	1.772	0.375	0.396	0.150
No.12-24	5/16, 3/8X 24	9/16-11/16X 24	19163L04-I24UNC	3/16	0.163	1.772	0.417	0.437	0.177
	5/16, 3/8X 24	9/16-11/16X 24	31263L06-I24UNF	5/16	0.263	2.402	0.625	0.646	0.272
	3/8X 24	9/16-11/16X 24	37323L07-I24UNF	3/8	0.323	2.874	0.750	0.771	0.335
1/4X 20	7/16X 1/2X 20	3/4-1X 20	25192L05-I20UNC	1/4	0.192	2.244	0.500	0.525	0.201
	1/2X 20	3/4-1X 20	50437L10-I20UNF	1/2	0.437	3.150	1.000	1.025	0.453
5/16X 18	9/16, 5/8X 18	11/16-1 11/16X 18	31242L16-I18UNC	5/16	0.242	2.402	0.611	0.639	0.260
3/8X 16	3/4X 16		31301L07-I16UNC	5/16	0.301	2.402	0.750	0.781	0.315
7/16X 14	7/8X 14		37354L08-I14UNC	3/8	0.354	2.874	0.857	0.893	0.370
1/2X 13			50407L10-I13UNC	1/2	0.407	3.150	1.000	1.039	0.430
9/16X 12	1-1 1/2X 12		50465L11-I12UNC	1/2	0.465	3.150	1.084	1.125	0.484

American UN — Helical Flutes with Thru-Hole Coolant - Thru & Chamfer

Internal



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



(ℓ2≤2×Thread Diameter)

Thread			Designation	Dimensions(inch)							*Bore Dia.
UNC	UNF	UNEF	Internal	Ød	D	Dc	L	ℓ1	ℓ2	Lc	inch
	No.10-32	No.12-3/8X 32	STMHCC 25150L03-I32UNF	1/4	0.150	0.202	2.244	0.375	0.391	0.417	0.157
	1/4X 28	7/16,1/2X 28	31203L05-I28UNF	5/16	0.203	0.262	2.402	0.500	0.518	0.549	0.216
No.10-24	5/16, 3/8X 24	9/16-11/16X 24	25141L04-I24UNC	1/4	0.141	0.202	2.244	0.375	0.396	0.425	0.150
No.12-24	5/16, 3/8X 24	9/16-11/16X 24	25163L04-I24UNC	1/4	0.163	0.228	2.244	0.417	0.437	0.468	0.177
	5/16, 3/8X 24	9/16-11/16X 24	37263L06-I24UNF	3/8	0.263	0.324	2.874	0.625	0.646	0.678	0.272
	3/8X 24	9/16-11/16X 24	50323L07-I24UNF	1/2	0.323	0.387	3.150	0.750	0.771	0.804	0.335
1/4X 20	7/16X 1/2X 20	3/4-1X 20	31192L05-I20UNC	5/16	0.192	0.262	2.402	0.500	0.525	0.558	0.201
	1/2X 20	3/4-1X 20	63437L10-I20UNF	5/8	0.437	0.512	3.622	1.000	1.025	1.065	0.453
5/16X 18	9/16, 5/8X 18	11/16-1 11/16X 18	37242L16-I18UNC	3/8	0.242	0.324	2.874	0.611	0.639	0.676	0.260
3/8X 16	3/4X 16		50301L07-I16UNC	1/2	0.301	0.387	3.150	0.750	0.781	0.814	0.315
7/16X 14	7/8X 14		50354L08-I14UNC	1/2	0.354	0.449	3.150	0.857	0.893	0.937	0.370
1/2X 13			63407L10-I13UNC	5/8	0.407	0.512	3.622	1.000	1.039	1.087	0.430
9/16X 12	1-1 1/2X 12		63465L11-I12UNC	5/8	0.465	0.574	3.622	1.084	1.125	1.178	0.484

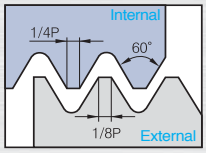
* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

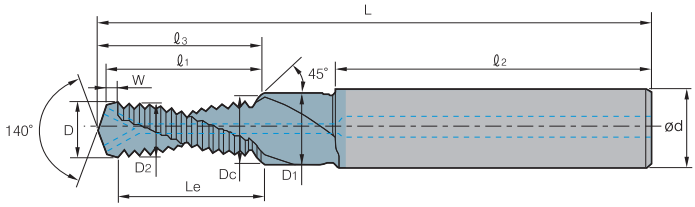
● : Stock item

ISO Metric — Drill, Chamfer & Thread with Thru-Hole Coolant

Internal



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



Thread	Pitch	Designation		Dimensions(inch)											No.of Flute	Tooth
ISO 2D M Coarse	mm	Internal	PC9070M	L	ℓ3	ℓ1	ℓ2	W	Le	D	Ød	D1	Dc	D2	z	zt
M6×1.0	1.0	STMHCD - IM6×1.0ISO-2D		2.441	0.571	0.539	1.417	0.039	0.5	0.197	8	0.260	0.248	0.191	2	11
M8×1.25	1.25	IM8×1.25ISO-2D		2.913	0.717	0.673	1.575	0.051	0.622	0.268	10	0.354	0.327	0.254	2	11
M10×1.5	1.5	IM10×1.5ISO-2D		3.11	0.921	0.87	1.772	0.059	0.811	0.335	12	0.433	0.406	0.318	2	12
M12×1.75	1.75	IM12×1.75ISO-2D		3.504	1.067	1.004	1.772	0.059	0.945	0.406	14	0.531	0.484	0.383	2	12

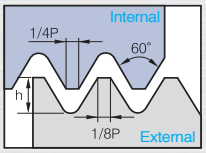
Thread	Pitch	Designation		Dimensions(inch)											No.of Flute	Tooth
ISO 2.5D M Coarse	mm	Internal	PC9070M	L	ℓ3	ℓ1	ℓ2	W	Le	D	Ød	D1	Dc	D2	z	zt
M6×1.0	1.0	STMHCD - IM6×1.0ISO-2.5D		2.441	0.650	0.618	1.417	0.039	0.579	0.197	8	0.260	0.248	0.191	2	13
M8×1.25	1.25	IM8×1.25ISO-2.5D		2.973	0.913	0.870	1.575	0.051	0.819	0.268	10	0.354	0.327	0.254	2	15
M10×1.5	1.5	IM10×1.5ISO-2.5D		3.110	1.098	1.047	1.772	0.059	0.988	0.335	12	0.433	0.406	0.318	2	15

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

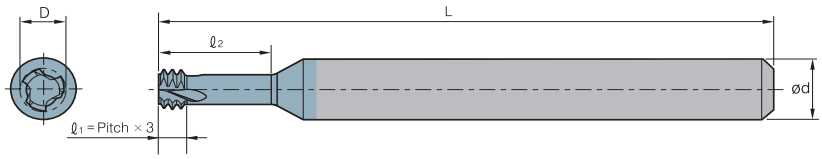
● : Stock item

ISO Metric — Deep Threading

Internal



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



(ℓ2≤2×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	(inch)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
M1.6×0.35		0.35	STMD3T 12047L134-I0.35ISO		1/8	0.047	1.181	0.134	3	3	0.049
M2×0.4		0.4	25061L165-I0.4ISO		1/4	0.061	2.244	0.165	3	3	0.063
M2.2×0.45		0.45	25065L181-I0.45ISO		1/4	0.065	2.244	0.181	3	3	0.069
M2.5×0.45		0.45	25077L205-I0.45ISO		1/4	0.077	2.244	0.205	3	3	0.081
M3×0.5	M3.5~M16×0.5	0.5	25094L244-I0.5ISO		1/4	0.094	2.244	0.244	3	3	0.098
M3.5×0.6		0.6	25108L287-I0.6ISO		1/4	0.108	2.244	0.287	3	3	0.114
M4×0.7		0.7	25124L327-I0.7ISO		1/4	0.124	2.244	0.327	3	3	0.130
M5×0.8		0.8	25159L409-I0.8ISO		1/4	0.159	2.244	0.409	3	3	0.165
M6×1.0	M8~M40×1.0	1.0	25189L492-I1.0ISO		1/4	0.189	2.244	0.492	3	3	0.197
M8×1.25		1.25	31256L654-I1.25ISO		5/16	0.256	2.480	0.654	3	3	0.268
M10×1.5	M12~M48×1.50	1.5	37323L819-I1.50ISO		3/8	0.323	2.874	0.819	3	3	0.335
M12×1.75		1.75	37371L984-I1.75ISO		3/8	0.371	2.874	0.984	3	3	0.406

3d (ℓ2≤3×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	(inch)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
M1.6×0.35		0.35	STMD3T 12047L197-I0.35ISO		1/8	0.047	1.187	0.197	3	3	0.079
M2×0.4		0.4	25061L244-I0.4ISO		1/4	0.061	2.244	0.244	3	3	0.063
M2.5×0.45		0.45	25077L276-I0.45ISO		1/4	0.077	2.244	0.276	3	3	0.081
M3×0.5	M3.5~M16×0.5	0.5	25094L362-I0.5ISO		1/4	0.094	2.244	0.362	3	3	0.098
M4×0.7		0.7	25124L484-I0.7ISO		1/4	0.124	2.244	0.484	3	3	0.130
M5×0.8		0.8	25159L606-I0.8ISO		1/4	0.159	2.244	0.606	3	3	0.165
M6×1.0	M8~M40×1.0	1.0	25189L728-I1.0ISO		1/4	0.189	2.244	0.728	3	3	0.197
M8×1.25		1.25	31256L969-I1.25ISO		5/16	0.256	2.48	0.969	3	3	0.268

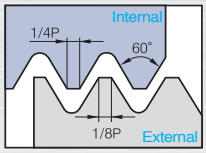
* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

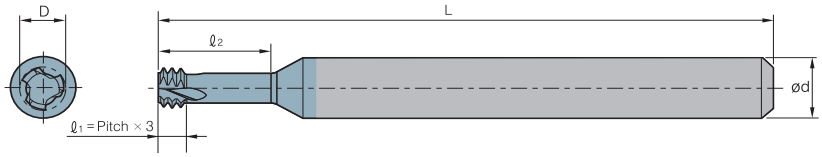
● : Stock item

American UN — Deep Threading

Internal



Defined by : ANSI B1.1.74
Tolerance class : 2B



(ℓ2≤2×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
UNC	UNF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
	No.1~72	72	STMD3T 25057L154-I72UN		1/4	0.057	2.244	0.154	3	3	0.059
No.1~64	No.2~64	64	25055L165-I64UN		1/4	0.055	2.244	0.165	3	3	0.059
No.2~56	No.3~56	56	25065L197-I56UN		1/4	0.065	2.244	0.197	3	3	0.071
No.3~48	No.4~48	48	25075L236-I48UN		1/4	0.075	2.244	0.263	3	3	0.079
No.4, No.5~40	No.6~40	40	25083L236-I40UN		1/4	0.083	2.244	0.236	3	3	0.090
No.5~40	No.6~40	40	25096L283-I40UN		1/4	0.096	2.244	0.283	3	3	0.102
	No.8~36	36	25130L343-I36UN		1/4	0.130	2.244	0.343	3	3	0.138
No.6, No.8~32	No.10~32	32	25100L292-I32UN		1/4	0.100	2.244	0.292	3	3	0.110
No.8~32	No.10~32	32	25126L394-I32UN		1/4	0.126	2.244	0.394	3	3	0.134
	1/4″×28	28	25207L520-I28UN		1/4	0.207	2.244	0.520	3	3	0.216
No.10~24	5/16″×24	24	25141L402-I24UN		1/4	0.141	2.244	0.402	3	3	0.150
	5/16″×24	24	31263L650-I24UN		5/16	0.263	2.480	0.650	3	3	0.272
1/4″×20	7/16″×20	20	25192L528-I20UN		1/4	0.192	2.244	0.528	3	3	0.201
	7/16″×20	20	37375L906-I20UN		3/8	0.375	2.874	0.906	3	3	0.390
3/8″×16		16	31264L752-I16UN		5/16	0.264	2.480	0.752	3	3	0.315
7/16″×14		14	7354L917-I14UN		3/8	0.354	2.874	0.917	3	3	0.370

(ℓ2≤3×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
UNC	UNF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
	No.1~72	72	STMD3T 25057L226-I72UN		1/4	0.057	2.244	0.226	3	3	0.059
No.4, No.5~40	No.6~40	40	25083L354-I40UN		1/4	0.083	2.244	0.354	3	3	0.091
No.5~40	No.6~40	40	25096L394-I40UN		1/4	0.096	2.244	0.394	3	3	0.102
No.6, No.8~32	No.10~32	32	25100L433-I32UN		1/4	0.100	2.244	0.433	3	3	0.110
No.8~32	No.10~32	32	25126L512-I32UN		1/4	0.126	2.244	0.512	3	3	0.134
	1/4″ 28	28	25207L772-I28UN		1/4	0.207	2.244	0.772	3	3	0.216
	5/16″×24	24	31263L965-I24UN		5/16	0.263	2.480	0.965	3	3	0.272
1/4″×20	7/16″×20	20	25192L780-I20UN		1/4	0.192	2.244	0.780	3	3	0.201

* Bore Diameter applies to smallest thread Dia

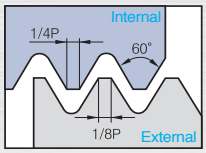
Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

● : Stock item

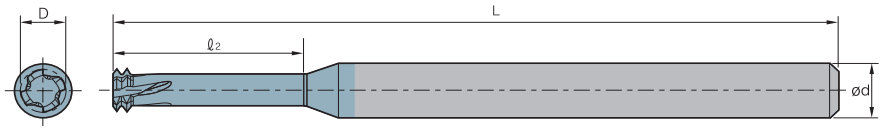
ISO Metric

Deep Threading for Hard Materials(~HRC62)

Internal



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



(ℓ2≤2×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	(inch)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
M2×0.4		0.4	STMD2L 25061L165-I0.4ISO		1/4	0.061	2.99	0.18	4	2	0.063
M2.2×0.45		0.45	25065L181-I0.45ISO		1/4	0.065	2.99	0.20	4	2	0.070
M2.5×0.45		0.45	25077L204-I0.45ISO		1/4	0.077	2.99	0.22	4	2	0.081
M3×0.5	M3.5~M16×0.5	0.5	25094L244 -I0.5ISO		1/4	0.094	2.99	0.27	4	2	0.101
M3.5×0.6		0.6	25108L287-I0.6ISO		1/4	0.108	2.99	0.31	4	2	0.116
M4×0.7		0.7	25124L326-I0.7ISO		1/4	0.124	2.99	0.36	4	2	0.128
M5×0.8		0.8	25159L409-I0.8ISO		1/4	0.159	2.99	0.44	4	2	0.169
M6×1.0	M8~M40×1.0	1.0	25189L492-I1.0ISO		1/4	0.189	2.99	0.53	4	2	0.201
M8×1.25		1.25	31256L653-I1.25ISO		5/16	0.256	3.15	0.70	4	2	0.268
M10×1.5	M12~M48×1.50	1.5	31308L818-I1.5ISO		5/16	0.308	3.15	0.88	4	2	0.339
M12×1.75		1.75	37371L984-I1.75ISO		3/8	0.371	3.98	1.05	4	2	0.406

(ℓ2≤3×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
M Coarse	M Fine	(inch)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
M2×0.4		0.4	STMD2L 25061L244-I0.4ISO		1/4	0.061	2.99	0.26	4	2	0.063
M2.2×0.45		0.45	25077L303-I0.45ISO		1/4	0.077	2.99	0.32	4	2	0.081
M3×0.5	M3.5~M16×0.5	0.5	25094L362-I0.5ISO		1/4	0.094	2.99	0.38	4	2	0.101
M4×0.7		0.7	25124L484-I0.7ISO		1/4	0.124	2.99	0.51	4	2	0.128
M5×0.8		0.8	25159L606-I0.8ISO		1/4	0.159	2.99	0.64	4	2	0.169
M6×1.0	M8~M40×1.0	1.0	25189L728-I1.0ISO		1/4	0.189	2.99	0.77	4	2	0.201
M8×1.25		1.25	31256L968-I1.25ISO		5/16	0.256	3.15	1.02	4	2	0.268

* Bore Diameter applies to smallest thread Dia

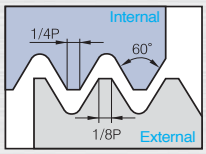
Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

● : Stock item

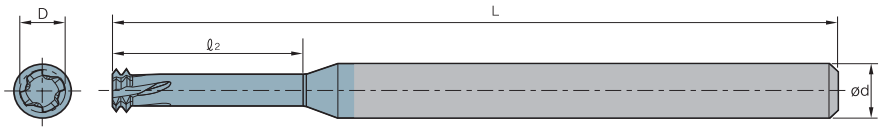
American UN

Deep Threading for Hard Materials(~HRC62)

Internal



Defined by : ANSI B1.1.74
Tolerance class : 2B



(ℓ2≤2×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
UNC	UNF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
No.2~56	No.3~56	56	STMD2L 25065L197-I56UN		1/4	0.065	3.00	0.21	4	2	0.070
No.3~48	No.4~48	48	25075L236-I48UN		1/4	0.075	3.00	0.26	4	2	0.093
No.4~40 ; No.5-40	No.6~40	40	25083L236-I40UN		1/4	0.083	3.00	0.26	4	2	0.093
No.5~40	No.6~40	40	25096L283-I40UN		1/4	0.096	3.00	0.31	4	2	0.116
	No.8~36	36	25130L343-I36UN		1/4	0.130	3.00	0.37	4	2	0.140
No.6~32 ; No.8~32	No.10~32	32	25100L292-I32UN		1/4	0.100	3.00	0.32	4	2	0.161
No.8~32	No.10~32	32	25126L394-I32UN		1/4	0.126	3.00	0.42	4	2	0.136
	1/4″×28	28	25207L520-I28UN		1/4	0.207	3.00	0.56	4	2	0.219
No.10~24	5/16″×24	24	25141L402-I24UN		1/4	0.141	3.00	0.44	4	2	0.154
	5/16″×24	24	31263L650-I24UN		5/16	0.263	3.15	0.69	4	2	0.277
1/4″×20	7/16″×20	20	25192L528-I20UN		1/4	0.192	3.00	0.58	4	2	0.204
	7/16″×20	20	37376L906-I20UN		3/8	0.376	4.00	0.96	4	2	0.390
3/8″×16		16	31301L776-I16UN		5/16	0.301	3.15	0.84	4	2	0.316
7/16″×14		14	37354L917-I14UN		3/8	0.354	4.00	0.99	4	2	0.375
1/2″×13		13	37390L101 -I13UN		3/8	0.390	4.00	1.08	4	2	0.422

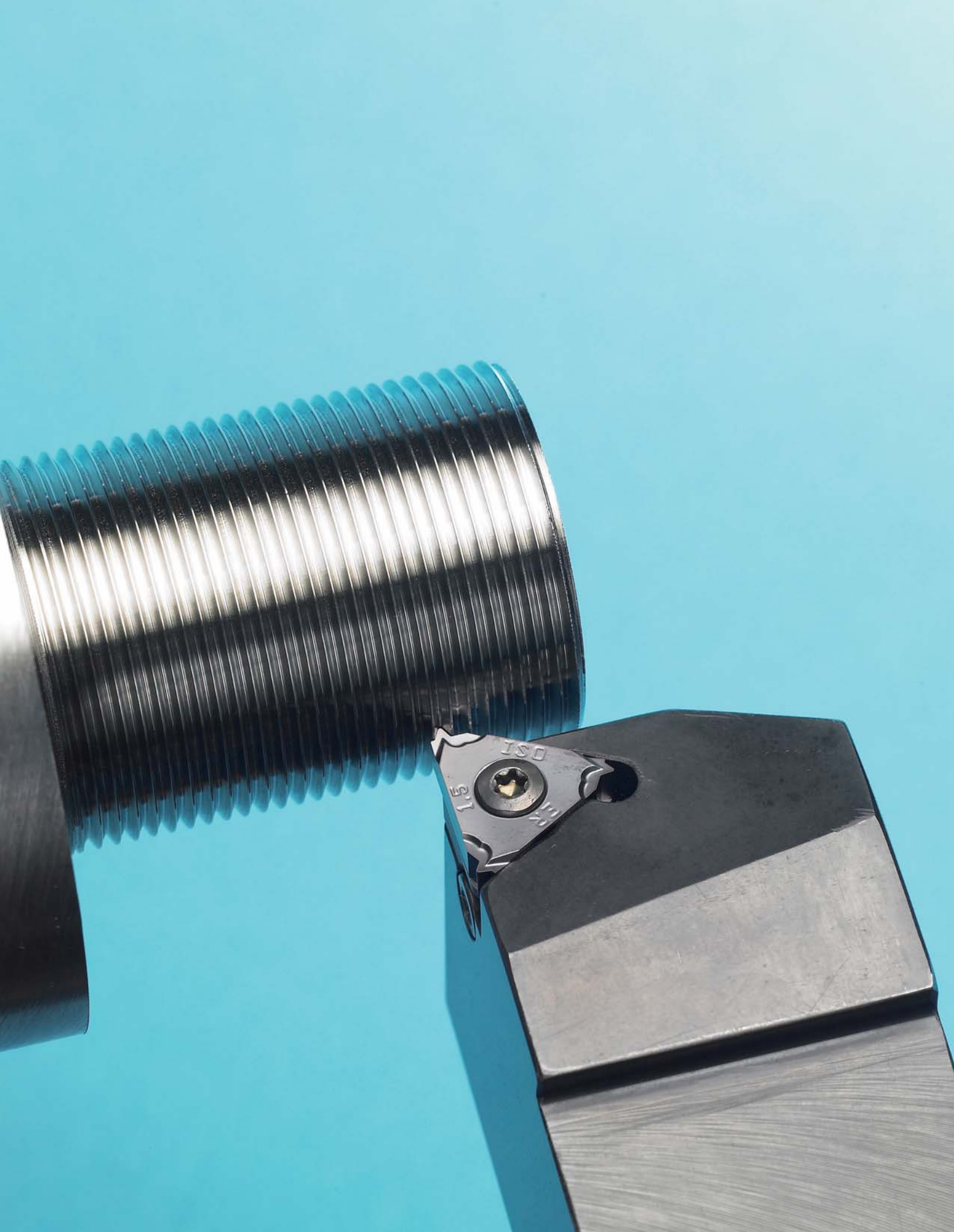
(ℓ2≤3×Thread Diameter)

Thread		Pitch	Designation		Dimensions(inch)				No.of Flute	Tooth	*Bore Dia.
UNC	UNF	(tpi)	Internal	PC9070M	Ød	D	L	ℓ2	z	zt	inch
No.4~40, No.5~40	No.6~40	40	STMD2L 25083L354-I40UN		1/4	0.083	3	0.38	4	2	0.093
No.5~40	No.6~40	40	25096L394-I40UN		1/4	0.096	3	0.41	4	2	0.104
No.6~32, No.8~32	No.10~32	32	25100L433-I32UN		1/4	0.1	3	0.46	4	2	0.111
No.8~32	No.10~32	32	25126L512-I32UN		1/4	0.126	3	0.54	4	2	0.136
	1/4″×28	28	25207L772-I28UN		1/4	0.207	3	0.81	4	2	0.219
	5/16″×24	24	31263L965-I24UN		5/16	0.263	3.15	1.01	4	2	0.272
1/4″~20	7/16″×20	20	25192L780-I20UN		1/4	0.192	3	0.83	4	2	0.204
7/16″×14		14	37354L131-I14UN		3/8	0.354	4	1.39	4	2	0.375

* Bore Diameter applies to smallest thread Dia

Maximum thread length = $\ell_2 - \frac{\text{Pitch}}{4}$

● : Stock item


ISO
1.5
5.1