TOOTOOL®

www.ttooltec.com

S	E	R	20	20	-	K	16	V
1	2	3	4	5		6	7	8
Clamping Method of Insert	Holder Type	Hand of holder	Height of shank	Width of shank		Length of Holder	Insert Size	Special features

1 Clmaping System

S E R 20 20 - K 16 V

S : Screw on system
C : Clamp on system

2 Holder Type

S E R 20 20 - K 16 V

E : For External **N** : For Internal

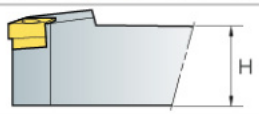
3 Hand of holder

S E R 20 20 - K 16 V

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

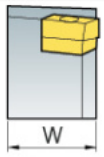
4 Height of shank

S E R 20 20 - K 16 V

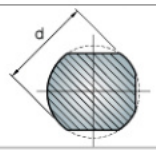


5 Width of shank Bar Diameter

S E R 20 20 - K 16 V



For External



For Internal

6 Length of Holder

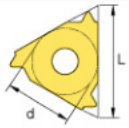
S E R 20 20 - K 16 V

A=32	H=100	Q=180	X-Special Item
B=40	J=110	R=200	
C=50	K=125	S=250	
D=60	L=140	T=300	
E=70	M=150	U=350	
F=80	N=160	V=400	
G=90	P=170	W=450	

7 Insert Size (mm)

S E R 20 20 - K 16 V

08 : d=4.76
11 : d=6.35
16 : d=9.525
22 : d=12.7
27 : d=15.875

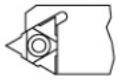


8 Special features

S E R 20 20 - K 16 V

B-Coolant Hole	None Code Standard
C-Carbide Shank	
CB-Carbide Shank with Coolant Hole	
A-Api(oil)	
U- U_Style Insert	
V-Vertical Type Insert	
G-Gang Tool	
VS-Slim Throat	

Standard Style Insert and Toolholder Pocket



U-Style Insert and Toolholder Pocket

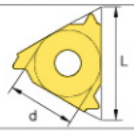
Threading Code System

16	□	E	R	□	1.50	ISO	□	□	TTIP30
1	2	3	4	5	6	7	8	9	10
Insert Size	Insert Style	Insert Type	Hand of Insert	Chip Breaker	Pitch	Standard	API Size	Multi-Tooth Style	Carbide Grade

1 Insert Size (mm)

16 □ E R □ 1.50 ISO □ □ TTIP30

08 : d = 4.76
11 : d = 6.35
16 : d = 9.525
22 : d = 12.7
27 : d = 15.875



2 Insert Style

16 □ E R □ 1.50 ISO □ □ TTIP30

U

V

3 Insert Type

16 □ E R □ 1.50 ISO □ □ TTIP30

E:External thread I:Internal thread

4 Hand of Insert

16 □ E R □ 1.50 ISO □ □ TTIP3

R : Right handed L : Left handed

5 Chip Breaker

16 □ E R □ 1.50 ISO □ □ TTIP30

None Code: Regular Type

M: M type Chip Breaker

6 Pitch

16 □ E R □ 1.50 ISO □ □ TTIP30

Full profile		Partial profile	
mm	tpi	mm	tpi
0.35 - 6.0	72 - 3	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

9 No.of Teeth

16 □ E R □ 1.50 ISO □ □ TTIP30

For Multi-Tooth Style
2 3 5 6 8

7 Standard

16 □ E R □ 1.50 ISO □ □ TTIP30

60° - Partial Profile 60°
55° - Partial Profile 55°
STACME - Stub ACME
UN - American UN
W - Whitworth for BSW, BSP
BSPT - Britsh Standard Pipe Thread
ABUT - American Butterss
BBUT - British Buttress
SAGE - Metric Buttress DIN 513
RD - Round DIN 405
RD20400 - Round DIN 20400
BUT - API Buttress Casing
APIRD - API Round Casing & Tubing
EL - Extreme Line Casing
NPT - NPT
NPTF - NPTF
NPS - NPS
PG - Pg DIN 40430
API - API
VAM - VAM
H90 - H90
ISO - ISO Metric
UNJ - UNJ
MJ - ISO 5855
TR - Tarpez DIN 103
ACME - ACME

8 API Size&Taper

16 □ E R □ 1.50 ISO □ □ TTIP30

380.5	APIV-0..38R		502	APIV-0.050	1:6
382	APIV-0.038R1:6		503	APIV-0.050	1:4
383	APIV-0.038R1:4		551	APIV-0.055	1:8
403	APIV-0.040	1:4			

10 Carbide Grade

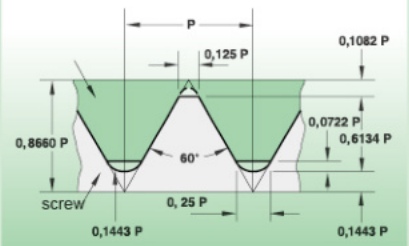
16 □ E R □ 1.50 ISO □ □ TTIP30

TTIP30 TTIM45 TTIG30 TTIN30

Common Thread Forms

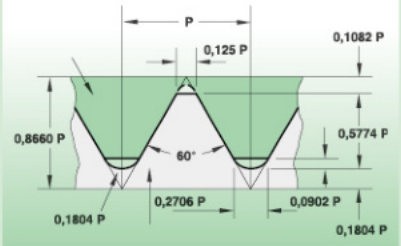
Common Thread Forms

ISO M (Metric) and UN (Unified National)



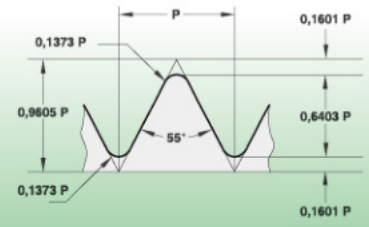
Use: All branches of mechanical industry.

UNJ (controlled root radius)



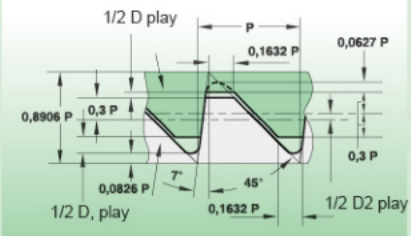
Use: Aircraft and space industry.

Whitworth (BSW)



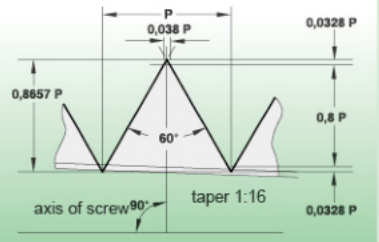
Use: Fittings and pipe couplings for gas, water, and sewer lines (replaced by ISO).

American Buttress



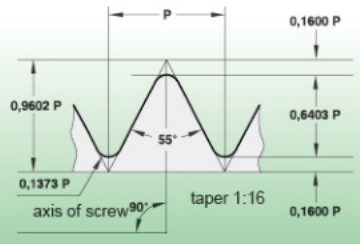
Use: Fittings and pipe couplings.

NPT (American National Pipe Thread)



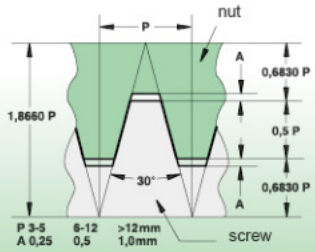
Use: Fittings and pipe couplings.

BSPT (British Standard Pipe Thread)



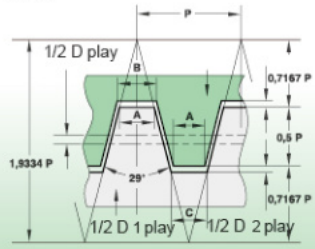
Use: Pipe thread for steam, gas, and water lines.

TR DIN 103



Use: Mechanical industry for motion transmission screws.

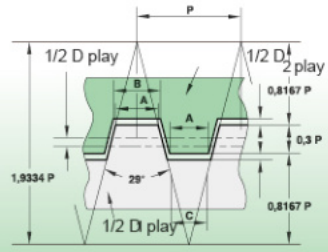
Acme



A = 0,0307 P
B = 0,3707 P—x D play
C = 0,3707 P—(D1 play—D2 play)

Use: Acme-General is used in mechanical industry for motion transmission screws.

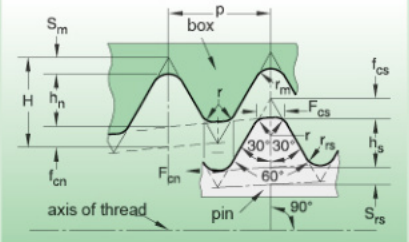
Acme, truncated (Stub)



A = 0,4224 P
B = 0,4224 P—x D play
C = 0,4224 P—(D1 play—D2 play)

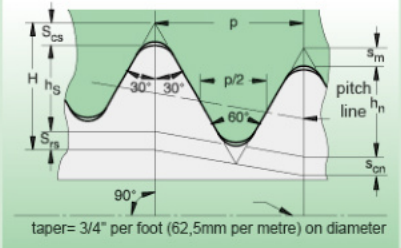
Use: Where normal Acme is too deep.

API Rotary Shoulder Connection



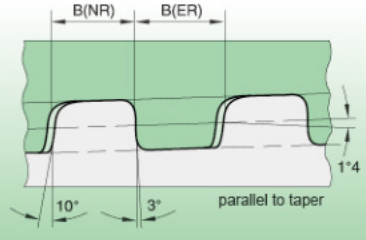
NOTE: Taper shown exaggerated.

API Casing and Tubing Round Thread Form



NOTE: Taper shown exaggerated.

API Buttress



Technical Information for Threading

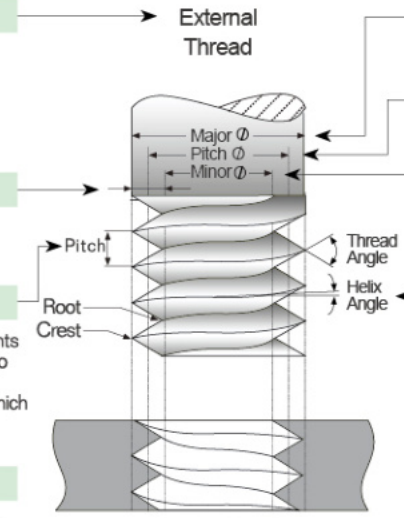
Special Features

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

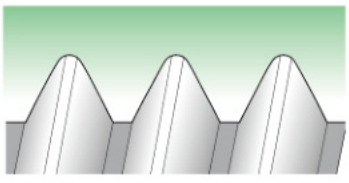
Minor Diameter
The smallest diameter of a screw thread

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

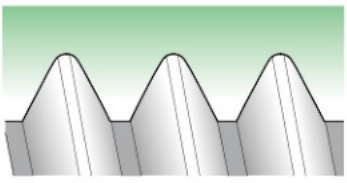
Taper Thread
A thread formed on a cone

Left handed thread



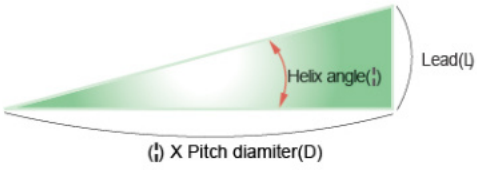
A thread which, when viewed axially, winds in a counter clockwise and receding direction. All left handed threads are designated LH

Right handed thread



A thread which, when viewed axially, winds in a clockwise and receding direction
Threads are always right handed unless they are specified

The Helix Angle(ϕ)

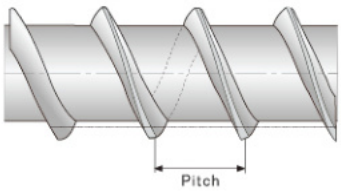


For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the angle opposite of the lead

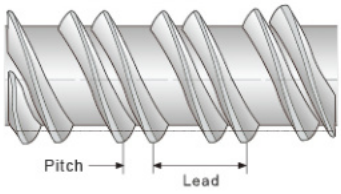
Machining a Multi-start Thread

▶ 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

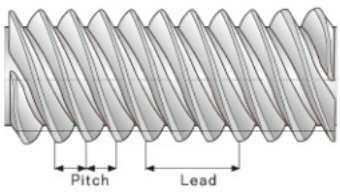
First Start Machined



Second Start Machined

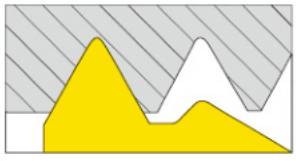


Third Start Machined (Final, 3 Starts Thread)



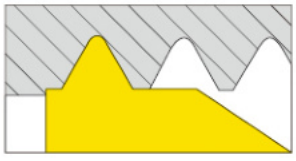
Insert Profile Style

Partial Profile



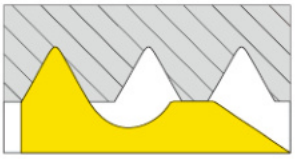
The V partial profile insert cuts without topping the outer diameter of the thread. The same insert can be used for a range of different thread pitches which have a common thread angle

Full Profile



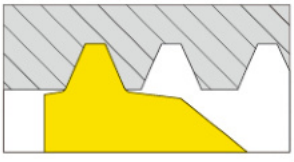
The full profile insert will form a complete thread profile including the crest. For every thread pitch and standard, a separate insert is required

Full Profile for Fine Pitches



The full profile for Fine Pitches will form a complete thread
The topping of the outer diameter is generated by second tooth

Semi Full

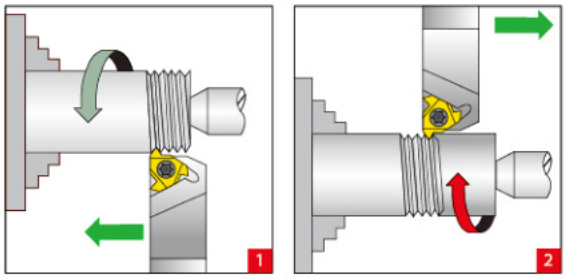


The Semi profile insert will form a complete thread including crest radius but without topping the outer diameter
Mainly used for trapezoidal profiles

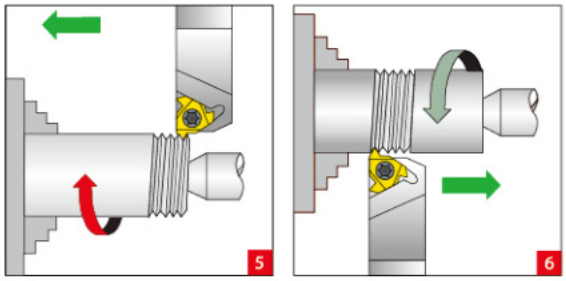
Thread Turning Method

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

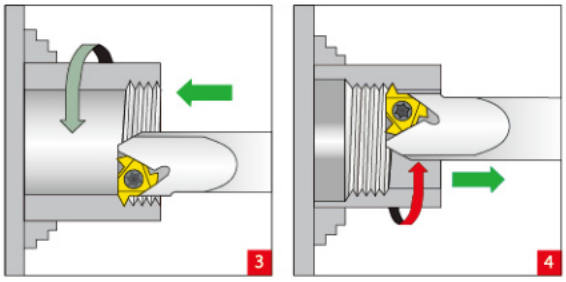
External RH Thread



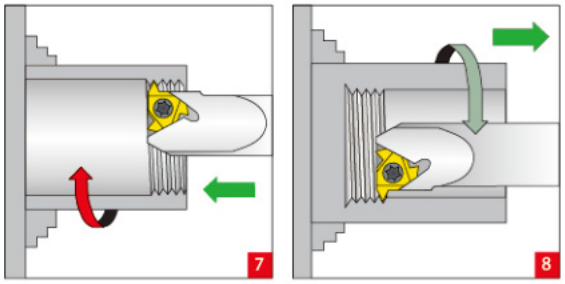
External LH Thread



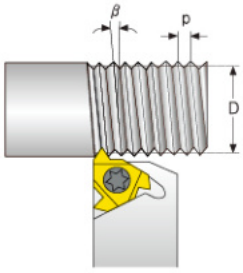
Internal RH Thread



Internal LH Thread



Calculating the Helix Angle(β)



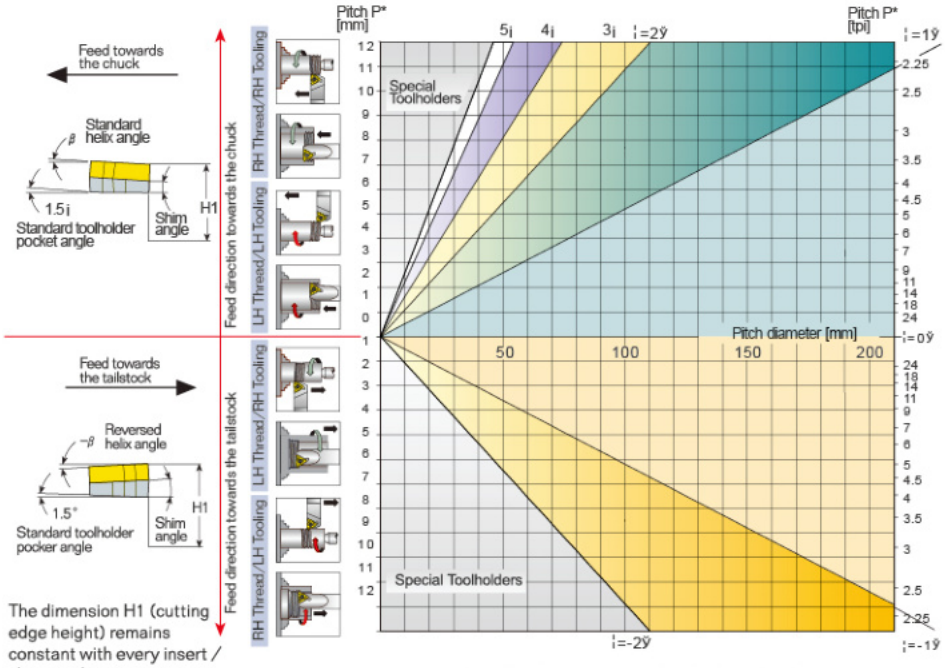
- The helix angle is calculated by the following formula :

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

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

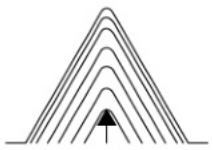
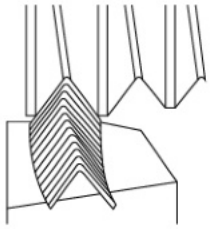
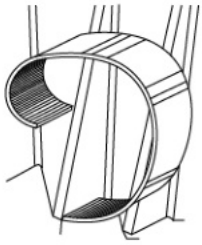
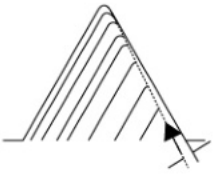
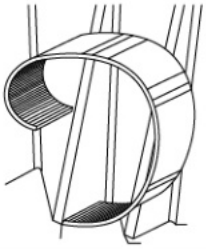


The dimension H1 (cutting edge height) remains constant with every insert / shim combination

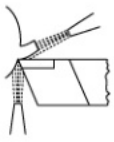
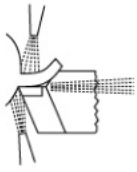
* For Multi-start threads, use the lead value instead of the pitch

Technical Information for Threading

Infeed Angle Selection And Chip Formation Typical Chip Formation

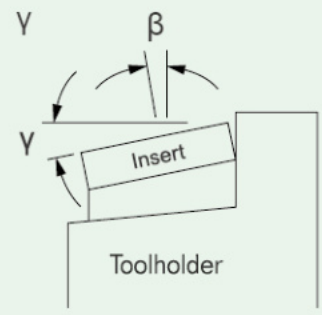
Infeed Angle 0° Benefit:Cutting edge is protected from chipping by both sides in cut. Problem :Both sides of insert are heated by the wokpiece. Produces " Vee " chips which can be very difficult to handle.		 d
Infeed Angle 30° Benefit :Chip is curled away from thread form. Problem: Trailing edge may drag rather than cut, which may cause chipping.		
Infeed Angle 29° Benefit: Cutting edge is protected from chipping by both sides in cut. Chip is curled away from thread from. Part of the heat gene-ratedis dissipated to the trailing edge.Final pass infeed angle should be 0°		
Alternating Flank Infeed For very large thread forms Benefit: Increased tool life because both edges are used effectively. Final pass should be 0°		 

The coolant should provided

				
Fast heat removal	Good surface coverage	Non-corrosiveness	Homogeneity and stability	Good lubricant qualities

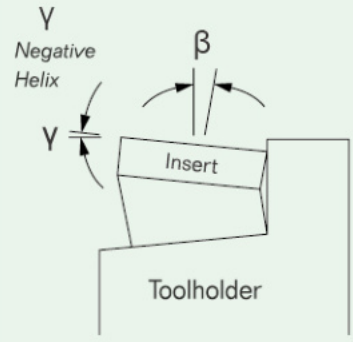
Standard and slanted Anvils

TOOTOOL toolholder and boring bar pockets have a built-in 1.5 helix compensation angle. This angle may be adjusted to match the helix angle of the thread being produced by replacing the anvil.



Positive Helix Angles

Applicable when turning RH thread with RH holder or LH thread with LH holder.



Negative Helix Angles

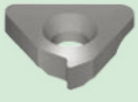
Applicable when turning RH thread with LH holder or LH thread with RH holder.

Anvils

Resultant Helix Angle		Holder	4.5°	3.5°	2.5°	1.5°	0.5°	0°	-0.5°	-1.5°
Insert Size			Ordering Code							
d	Lmm									
9.525	16	ER/NL	STM16R-3P	STM16R-2P	STM16R-1P	**STM16R**	STM16R-1N	STM16R-1.5N	STM16R-2N	STM16R-3N
		EL/NR	STM16L-3P	STM16L-2P	STM16L-1P	**STM16L**	STM16L-1N	STM16L-1.5N	STM16L-2N	STM16L-3N
12.7	22	ER/NL	STM22R-3P	STM22R-2P	STM22R-1P	**STM22R**	STM22R-1N	STM22R-1.5N	STM22R-2N	STM22R-3N
		EL/NR	STM22L-3P	STM22L-2P	STM22L-1P	**STM22L**	STM22L-1N	STM22L-1.5N	STM22L-2N	STM22L-3N
12.7	22	ER/NL	STM22UR-3P	STM22UR-2P	STM22UR-1P	**STM22UR**	STM22UR-1N	STM22UR-1.5N	STM22UR-2N	STM22UR-3N
		EL/NR	STM22UL-3P	STM22UL-2P	STM22UL-1P	**STM22UL**	STM22UL-1N	STM22UL-1.5N	STM22UL-2N	STM22UL-3N
15.875	27	ER/NL	STM27R-3P	STM27R-2P	STM27R-1P	**STM27R**	STM27R-1N	STM27R-1.5N	STM27R-2N	STM27R-3N
		EL/NR	STM27L-3P	STM27L-2P	STM27L-1P	**STM27L**	STM27L-1N	STM27L-1.5N	STM27L-2N	STM27L-3N
15.875	27	ER/NL	STM27UR-3P	STM27UR-2P	STM27UR-1P	**STM27UR**	STM27UR-1N	STM27UR-1.5N	STM27UR-2N	STM27UR-3N
		EL/NR	STM27UL-3P	STM27UL-2P	STM27UL-1P	**STM27UL**	STM27UL-1N	STM27UL-1.5N	STM27UL-2N	STM27UL-3N

Standard Shim

SMT-R



STM-L

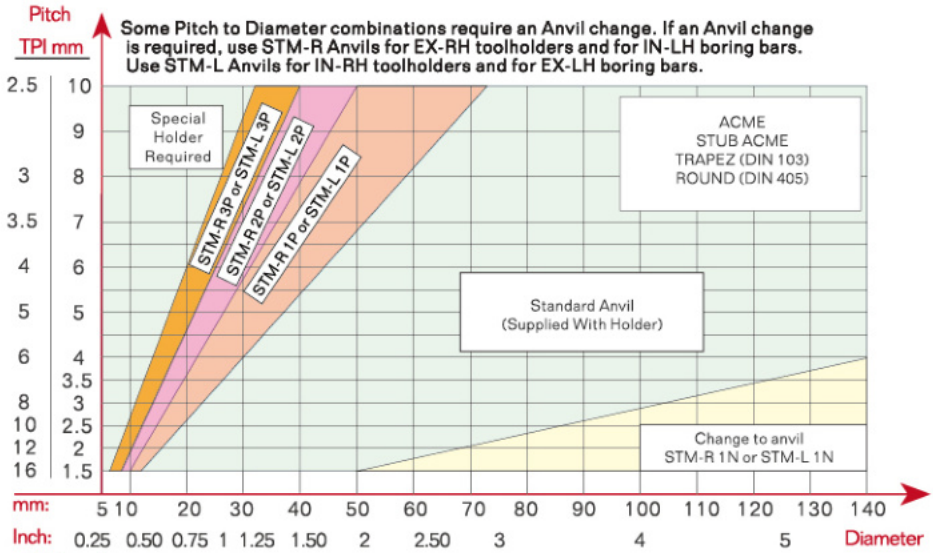
Helix angle 1.5°

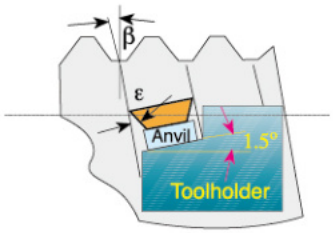
Insert Size	d	9.525		12.7		15.875	
	L	16		22		27	
Holder		ER/NL	EL/NR	ER/NL	EL/NR	ER/NL	EL/NR
Ordering Code		STM16R	STM16L	STM22L	STM22R	STM27L	STM27R

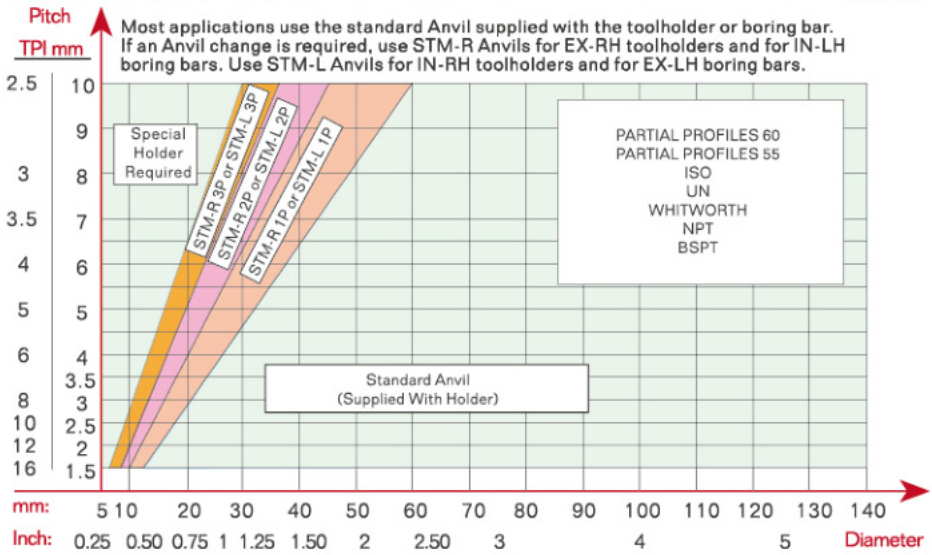
※Standard anvil has lead angle 1.5°

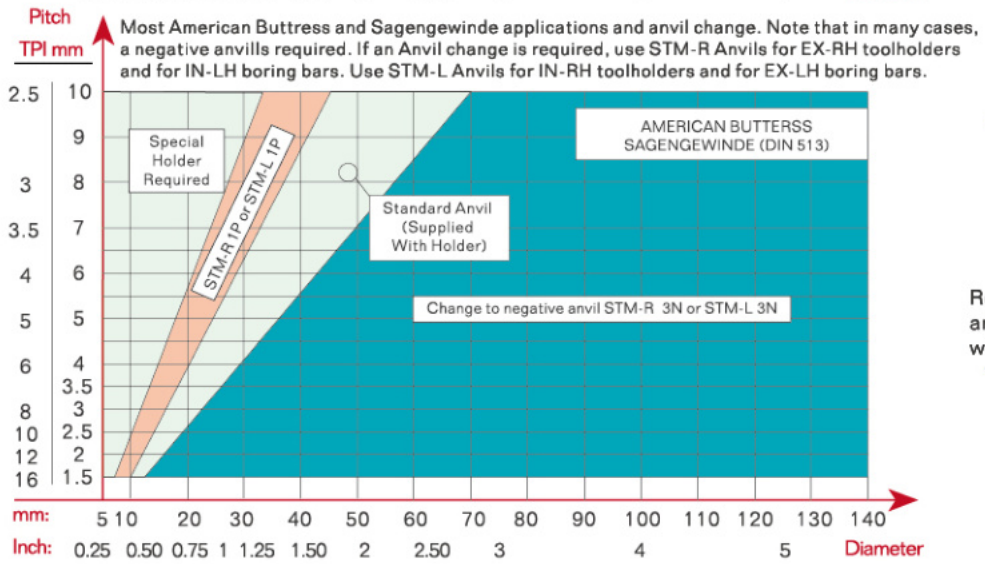
Technical Information for Threading

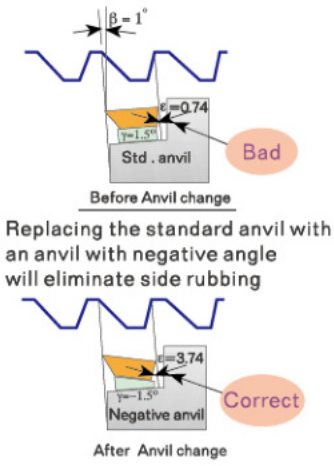
Anvil Change Recommendation



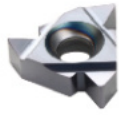
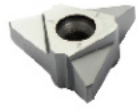
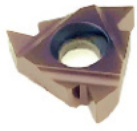








Grade Use

TTIP30	P10-P25, K10-K20	TiN coated, yellow color, the universal grade for general steel, recommended for rigid cutting condition.	
TTIM45	P20-P40, K20-K30	TiALN coated, black color; Multi-Layer PVD coated for stainless steel & steel medium machining	
TTIG30	P20-P30, K20-K30	TiALN coated, purple color, is a very high versatility coating with excellent toughness and chipping resistance, can play a high performance in a variety of processing.	
TTIS30	P10-P30, K10-K30	Sub-micro grade with AlTiN multy-layer coating, Brozen color, compatible with all series of stainless steel & steel ≤ HRC50 high & medium machining	
TPK01	K10-K30	uncoated grade for non-ferrous, cast iron and titanium-alloy materials	

Recommended cutting speed as per workpiece

	Workpiece	● ◄ ····· ► ✱
P	Carbon steel, Alloy steel, Cast steel	TTIP30 TTIM45
M	Stainless steel, Heat resistant steel, Titanium alloy steel	TTIS30 TTIM45 TTIG30
K	Carbon Iron, Aluminum, Cast steel, Copper	TTIP30 TTIM45

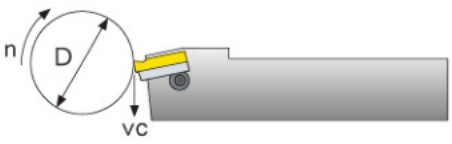
Technical Information for Threading

Recommended Cutting Speed

Material		Hardness	Vc (m/min)				
			TTIP30	TTIM45	TTIG30	TTIS30	TPK01
P Steel	Low alloy steel (alloying elements ≤5%)	≤HB180	100-180	80-130	60-140	70-140	
	High alloy steel (alloying elements > 5%), cast steel, and tool steel	HB180-280	50-70	60-80	60-80	50-100	
M Stainless steel	Stainless steel & Cast steel	≤HB200	60-90	90-130	40-120	90-140	
K Cast iron	Cast iron Nodular (GGG)	HB160-260	80-110	100-130	60-120	90-120	
	Grey cast iron (GG)	Tensile Strength ≤ 350Mpa	90-100	120-130	80-120	60-130	
	Malleable cast iron	HB130-230	80-100	100-130	60-120	60-140	
N Non-ferrous alloy	Aluminum alloy	≤HB100	50-350	200-500		200-400	200-550
	Copper and cooper alloy	≤HB100	110-180	260-400		80-225	150-250
	Non metallic		150-210				100-200
S Heat resistant material	High Temperature. Alloys, Super Alloys			25-60	20-40	30-50	
	Titanium Alloy			35-45	25-65	50-70	35-45
H Hardened material	Hardened steel	HRC45-55		35-45	20-60	40-60	

Calculation of N [RPM]

$$n = \frac{vc \times 1000}{\pi \times D} \qquad vc = \frac{\pi \times D \times n}{1000}$$



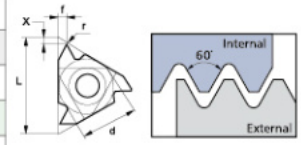
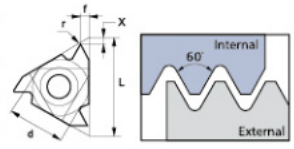
n - Revolution Per Minute [min-1]
vc - Cutting Speed [m/min]
D - Workpiece Diameter [mm]

Number of Passes

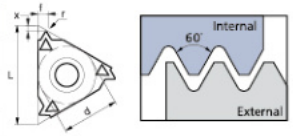
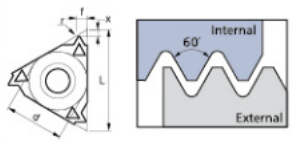
Pitch																
mm	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	8.00
tpi	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
No. of passes	4~6	4~7	4~8	5~9	6~10	7~12	7~12	8~14	9~16	10~18	11~18	11~19	12~2	12~20	12~20	15~24

※One cutting depth is calculated by total cutting depth divided into machining times
ex)16ER-1.5ISO, hmin 0.92 : If 10times machining, one cutting depth is 0.092(0.92/10)

Partial Profile 60°

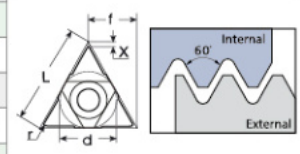
Type	Designation (Right)	Designation (Left)	Pitch		Dimensions					Picture
			mm	tpi	d	L	r	x	f	
External	**ER** 11-A60	**EL** 11-A60	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	
	16-A60	16-A60	0.5-1.5	48-16	9.525	16	0.05	0.8	0.9	
	16-G60	16-G60	1.75-3.0	14-8	9.525	16	0.27	1.2	1.7	
	16-AG60	16-AG60	0.5-3.0	48-8	9.525	16	0.08	1.2	1.7	
	22-N60	22-N60	3.5-5.0	7-5	12.7	22	0.53	1.7	2.5	
	27-Q60	27-Q60	5.5-6.0	4.5-4	15.875	27	0.64	2.1	3.1	
	27-S60	27-S60	5.5-8.0	4.5-4	15.875	27	0.39	2.5	4.0	
Internal	**IR** 06-A60	**IL** 06-A60	0.5-1.25	48-20	3.97	6	0.04	0.6	0.6	
	08-A60	08-A60	0.5-1.5	48-16	4.76	8	0.05	0.6	0.7	
	11-A60	11-A60	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	
	16-A60	16-A60	0.5-1.5	48-16	9.525	16	0.05	0.8	0.9	
	16-G60	16-G60	1.75-3.0	14-8	9.525	16	0.16	1.2	1.7	
	16-AG60	16-AG60	0.5-3.0	48-8	9.525	16	0.05	1.2	1.7	
	22-N60	22-N60	3.5-5.0	7-5	12.7	22	0.30	1.7	2.5	
	27-Q60	27-Q60	5.5-6.0	4.5-4	15.875	27	0.30	1.8	2.7	
	27-S60	27-S60	5.5-8.0	4.5-4	15.875	27	0.39	2.5	4.0	

Partial profile 60° (M Chip Breaker)

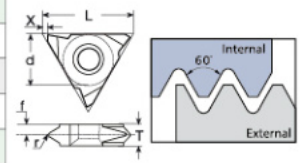
Type	Designation (Right)	Designation (Left)	Pitch		Dimensions					Picture
			mm	tpi	d	L	r	x	f	
External	**ERM** 16-A60		0.5-1.5	48-16	9.525	16	0.08	0.8	0.9	
	16-G60		1.75-3.0	14-8	9.525	16	0.08	1.2	1.7	
	16-AG60		0.5-3.0	48-8	9.525	16	0.25	1.1	1.5	
	22-N60		3.5-5.0	7-5	12.7	22	0.51	1.7	2.5	
Internal	**IRM** 08-A60		0.5-1.5	48-16	4.76	8	0.08	0.6	0.7	
	11-A60		0.5-1.5	48-16	6.35	11	0.08	0.8	0.9	
	16-A60		0.5-1.5	48-16	9.525	16	0.08	0.8	0.9	
	16-G60		1.75-3.0	14-8	9.525	16	0.13	1.2	1.7	
	16-AG60		0.5-3.0	48-8	9.525	16	0.25	1.1	1.5	
	22-N60		3.5-5.0	7-5	12.7	22	0.30	1.7	2.5	

Thread Insert

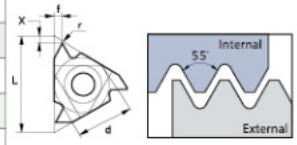
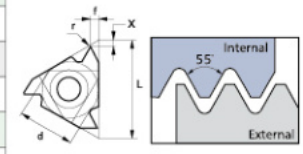
Partial profile 60° (U Style)

Type	Designation (Right+Left)	Pitch		Dimensions					Picture
		mm	tpi	d	L	r	x	f	
External Internal	**UEI** 08-U60	1.75-2.0	14-11	4.76U	8	0.15	0.8	4.0	
	11-U60	1.5-4.0	16-6	6.35U	11	0.10	0.8	5.5	
	16-U60	2.5-6.0	10-4	9.525U	16	0.20	1.2	8.2	
	22-U60	5.5-8.0	4.5-3.25	12.7U	22	0.30	0.6	11.0	
	27-U60	6.5-9.0	4-2.75	15.875U	27	0.37	1.0	13.7	

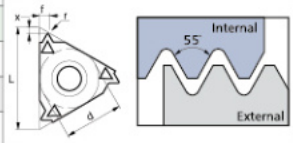
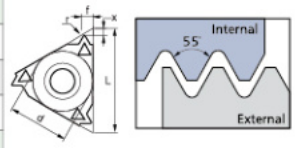
Partial profile 60° (V Sytle)

Type	Designation (Right)	Designation (Left)	Pitch		Dimensions						Picture
			mm	tpi	d	L	r	x	f	T	
External	**VER** 11-A60	**VEL** 11-A60	0.5-1.5	48-16	6.35V	11	0.05	0.69	2.3	3.2	
	16-A60	16-A60	0.5-1.5	48-16	9.525V	16	0.05	1.1	2.7	3.5	
	16-G60	16-G60	1.75-3.0	14-8	9.525V	16	0.27	1.1	1.9	3.5	
	16-AG60	16-AG60	0.5-3.0	48-8	9.525V	16	0.08	1.1	1.9	3.5	
	22-N60	22-N60	3.5-5.0	7-5	12.70V	22	0.53	1.1	2.3	4.8	
	27-V60	27-V60	6.0-10.0	4-2.5	15.875V	27	0.75	5.2	5.2	10.2	

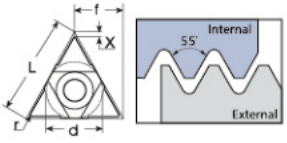
Partial profile 55°

Type	Designation (Right)	Designation (Left)	Pitch		Dimensions					Picture
			mm	tpi	d	L	r	x	f	
External	**ER** 11-A55	**EL** 11-A55	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	
	16-A55	16-A55	0.5-1.5	48-16	9.525	16	0.05	0.8	0.9	
	16-G55	16-G55	1.75-3.0	14-8	9.525	16	0.21	1.2	1.7	
	16-AG55	16-AG55	0.5-3.0	48-8	9.525	16	0.07	1.2	1.7	
	22-N55	22-N55	3.5-5.0	7-5	12.7	22	0.43	1.7	2.5	
	27-Q55	27-Q55	5.5-6.0	4.5-4	15.875	27	0.60	2.0	2.9	
	27-S55	27-S55	5.5-8.0	4.5-4	15.875	27	0.77	2.5	4.0	
Internal	**IR** 06-A55	**IL** 06-A55	0.5-1.25	48-20	3.97	6	0.07	0.6	0.6	
	11-A55	11-A55	0.5-1.5	48-16	6.35	11	0.05	0.8	0.9	
	16-A55	16-A55	0.5-1.5	48-16	9.525	16	0.05	0.8	0.9	
	16-G55	16-G55	1.75-3.0	14-8	9.525	16	0.21	1.2	1.7	
	16-AG55	16-AG55	0.5-3.0	48-8	9.525	16	0.07	1.2	1.7	
	22-N55	22-N55	3.5-5.0	7-5	12.7	22	0.43	1.7	2.5	
	27-Q55	27-Q55	5.5-6.0	4.5-4	15.875	27	0.60	2.0	2.9	
	27-S55	27-S55	5.5-8.0	4.5-4	15.875	27	0.77	2.5	4.0	

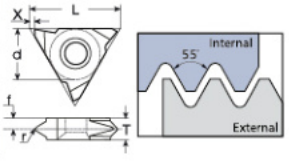
Partial profile 55° (M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch		Dimensions					Picture
			mm	tpi	d	L	r	x	f	
External	**ERM** 16-A55		0.5-1.5	48-16	9.525	16	0.08	0.8	0.9	
	16-G55		1.75-3.0	14-8	9.525	16	0.21	1.2	1.7	
	16-AG55		0.5-3.0	48-8	9.525	16	0.08	1.1	1.5	
	22-N55		3.5-5.0	7-5	12.7	22	0.43	1.7	2.5	
Internal	**IRM** 11-A55		0.5-1.5	48-16	6.35	11	0.08	0.8	0.9	
	16-A55		0.5-1.5	48-16	9.525	16	0.05	0.8	0.9	
	16-G55		1.75-3.0	14-8	9.525	16	0.08	1.2	1.7	
	16-AG55		0.5-3.0	48-8	9.525	16	0.08	1.1	1.5	
	22-N55		3.5-5.0	7-5	12.7	22	0.43	1.7	2.5	

Partial profile 55° (U Style)

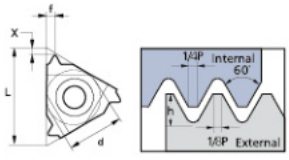
Type	Designation (Right+Left)	Pitch		Dimensions					Picture
		mm	tpi	d	L	r	x	f	
External Internal	**UEI** 08-U55	1.75-2.0	14-11	4.76U	8	0.25	0.8	4.0	
	11-U55	1.5-4.0	16-6	6.35U	11	0.10	0.8	5.5	
	16-U55	2.5-6.0	10-4	9.525U	16	0.20	1.2	8.2	
	22-U55	5.5-8.0	4.5-3.25	12.7U	22	0.60	0.9	11.0	
	27-U55	6.5-9.0	4-2.75	15.875U	27	0.80	1.2	13.7	

Partial profile 55° (V Sytle)

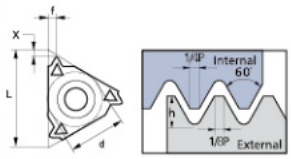
Type	Designation (Right)	Designation (Left)	Pitch		Dimensions						Picture
			mm	tpi	d	L	r	x	f	T	
External	**VER** 11-A55	**VEL** 11-A55	0.5-1.5	48-16	6.35V	11	0.05	0.8	2.7	3.2	
	16-A55	16-A55	0.5-1.5	48-16	9.525V	16	0.05	1.0	0.9	3.6	
	16-G55	16-G55	1.75-3.0	14-8	9.525V	16	0.21	1.0	1.7	3.6	
	16-AG55	16-AG55	0.5-3.0	48-8	9.525V	16	0.07	1.0	1.8	3.6	
	22-N55	22-N55	3.5-5.0	7-5	12.70V	22	0.43	1.2	2.5	4.8	
	27-V55	27-V55	6.0-10.0	4-2.5	15.875V	27	0.70	1.8	5.2	8.7	

Thread Insert

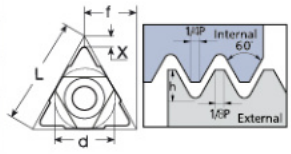
ISO Metric

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	**ER** 11-0.40ISO	**EL** 11-0.40ISO	0.4	6.35	11	0.25	0.7	0.4	
	11-0.45ISO	11-0.45ISO	0.45	6.35	11	0.28	0.7	0.4	
	11-0.50ISO	11-0.50ISO	0.5	6.35	11	0.31	0.6	0.4	
	11-0.60ISO	11-0.60ISO	0.6	6.35	11	0.37	0.6	0.6	
	11-0.70ISO	11-0.70ISO	0.7	6.35	11	0.43	0.6	0.6	
	11-0.75ISO	11-0.75ISO	0.75	6.35	11	0.46	0.6	0.6	
	11-0.80ISO	11-0.80ISO	0.8	6.35	11	0.49	0.6	0.6	
	11-1.00ISO	11-1.00ISO	1.0	6.35	11	0.61	0.7	0.7	
	11-1.25ISO	11-1.25ISO	1.25	6.35	11	0.77	0.8	0.9	
	11-1.50ISO	11-1.50ISO	1.5	6.35	11	0.92	0.8	1.0	
	11-1.75ISO	11-1.75ISO	1.75	6.35	11	1.07	0.8	1.1	
	11-2.00ISO	11-2.00ISO	2.0	6.35	11	1.23	0.8	1.1	
	16-0.40ISO	16-0.40ISO	0.4	9.525	16	0.25	0.7	0.4	
	16-0.45ISO	16-0.45ISO	0.45	9.525	16	0.28	0.7	0.4	
	16-0.50ISO	16-0.50ISO	0.5	9.525	16	0.31	0.6	0.4	
	16-0.60ISO	16-0.60ISO	0.6	9.525	16	0.37	0.6	0.6	
	16-0.70ISO	16-0.70ISO	0.7	9.525	16	0.43	0.6	0.6	
	16-0.75ISO	16-0.75ISO	0.75	9.525	16	0.46	0.6	0.6	
	16-0.80ISO	16-0.80ISO	0.8	9.525	16	0.49	0.6	0.6	
	16-1.00ISO	16-1.00ISO	1.0	9.525	16	0.61	0.7	0.7	
	16-1.25ISO	16-1.25ISO	1.25	9.525	16	0.77	0.8	0.9	
	16-1.50ISO	16-1.50ISO	1.5	9.525	16	0.92	0.8	1.0	
	16-1.75ISO	16-1.75ISO	1.75	9.525	16	1.07	0.9	1.2	
	16-2.00ISO	16-2.00ISO	2.0	9.525	16	1.23	1.0	1.3	
	16-2.50ISO	16-2.50ISO	2.5	9.525	16	1.53	1.1	1.5	
	16-3.00ISO	16-3.00ISO	3.0	9.525	16	1.84	1.2	1.6	
	16-3.50ISO	16-3.50ISO	3.5	9.525	16	2.15	1.6	1.9	
	22-3.50ISO	22-3.50ISO	3.5	12.70	22	2.15	1.6	2.3	
	22-4.00ISO	22-4.00ISO	4.0	12.70	22	2.45	1.6	2.3	
	22-4.50ISO	22-4.50ISO	4.5	12.70	22	2.78	1.7	2.4	
	22-5.00ISO	22-5.00ISO	5.0	12.70	22	3.07	1.7	2.5	
	22-5.50ISO	22-5.50ISO	5.5	12.70	22	3.37	1.9	2.7	
	22-6.00ISO	22-6.00ISO	6.0	12.70	22	3.68	1.8	2.7	
	27-5.50ISO	27-5.50ISO	5.5	15.875	27	3.37	1.9	2.7	
	27-6.00ISO	27-6.00ISO	6.0	15.875	27	3.68	2.0	2.9	
	27-7.00ISO	27-7.00ISO	7.0	15.875	27	4.30	2.4	3.3	
	27-8.00ISO	27-8.00ISO	8.0	15.875	27	4.91	2.2	3.2	

Partial profile 60° (M Chip Breaker)

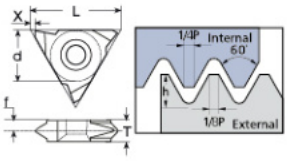
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	**ERM** 16-1.00ISO		1.0	9.525	16	0.61	0.8	0.7	
	16-1.25ISO		1.25	9.525	16	0.77	0.8	0.9	
	16-1.50ISO		1.5	9.525	16	0.93	0.8	1.0	
	16-1.75ISO		1.75	9.525	16	1.09	1.2	1.2	
	16-2.00ISO		2.0	9.525	16	1.25	1.2	1.3	
	16-2.50ISO		2.5	9.525	16	1.55	1.2	1.5	
	16-3.00ISO		3.0	9.525	16	1.87	1.2	1.5	
	22-3.50ISO		3.5	12.7	22	2.15	1.6	2.3	
	22-4.00ISO		4.0	12.7	22	2.45	1.6	2.3	
	22-4.50ISO		4.5	12.7	22	2.78	1.7	2.4	
	22-5.00ISO		5.0	12.7	22	3.07	1.7	2.5	
	22-5.50ISO		5.5	12.7	22	3.37	1.9	2.7	
	22-6.00ISO		6.0	12.7	22	3.68	1.9	2.7	

ISO Metric (U Style)

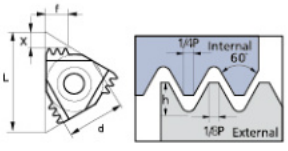
Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		mm	d	L	hmin	x	f	
External	**UE** 22-5.00ISO	5.0	4.76U	22	3.07	2.2	11.0	
	22-5.50ISO	5.5	6.35U	22	3.37	2.2	11.0	
	22-6.00ISO	6.0	12.70U	22	3.68	2.2	11.0	
	27-8.00ISO	8.0	15.875U	27	4.91	2.4	13.7	
	33-12.00ISO	12.0	19.05U	33	7.36	2.5	16.5	
Internal	**UI** 08-2.00ISO	2.0	4.76U	8	1.15	0.9	4.0	
	22-5.00ISO	5.0	12.7U	22	2.89	2.4	11.0	
	22-5.50ISO	5.5	12.7U	22	3.17	2.4	11.0	
	22-6.00ISO	6.0	12.7U	22	3.46	2.1	11.0	
	27-8.00ISO	8.0	15.875U	27	4.26	2.4	13.7	
	33-12.00ISO	12.0	19.05U	33	7.36	3.5	16.9	

Thread Insert

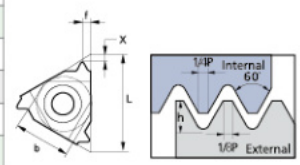
ISO Metric (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			mm	d	L	hmin	x	f	T	
External	**VER** 11-0.75ISO	**VEL** 11-0.75ISO	0.75	6.35V	11	0.46	0.7	2.6	3.20	
	11-1.00ISO	11-1.00ISO	1.0	6.35V	11	0.61	0.7	2.5	3.20	
	11-1.25ISO	11-1.25ISO	1.5	6.35V	11	0.92	0.7	2.2	3.20	
	11-1.50ISO	11-1.50ISO	1.75	6.35V	11	1.07	0.7	2.1	3.20	
	11-1.75ISO	11-1.75ISO	2.0	6.35V	11	1.23	0.7	1.9	3.20	
	11-2.00ISO	11-2.00ISO	0.35	6.35V	16	0.20	1.1	3.25	3.60	
	16-0.40ISO	16-0.40ISO	0.4	9.525V	16	0.25	1.1	3.2	3.60	
	16-0.45ISO	16-0.45ISO	0.5	9.525V	16	0.31	1.1	3.0	3.60	
	16-0.75ISO	16-0.75ISO	0.75	9.525V	16	0.46	1.1	3.0	3.60	
	16-0.80ISO	16-0.80ISO	0.8	9.525V	16	0.49	1.1	3.0	3.60	
	16-1.00ISO	16-1.00ISO	1.0	9.525V	16	0.61	1.1	2.9	3.60	
	16-1.25ISO	16-1.25ISO	1.25	9.525V	16	0.77	1.1	2.7	3.60	
	16-1.50ISO	16-1.50ISO	1.5	9.525V	16	0.92	1.1	2.6	3.60	
	16-1.75ISO	16-1.75ISO	1.75	9.525V	16	1.07	1.1	2.45	3.60	
	16-2.00ISO	16-2.00ISO	2.0	9.525V	16	1.23	1.1	2.3	3.60	
	16-2.50ISO	16-2.50ISO	2.5	9.525V	16	1.53	1.1	2.1	3.60	
	16-3.00ISO	16-3.00ISO	3.0	9.525V	16	1.84	1.1	2.0	3.60	
	27-5.50ISO	27-5.50ISO	5.5	15.875V	27	3.37	1.0	3.3	6.35	
	27-6.00ISO	27-6.00ISO	6.0	15.875V	27	3.68	1.0	3.3	6.35	
	27-8.00ISO	27-8.00ISO	8.0	15.875V	27	4.91	1.8	5.2	8.70	
	27-10.00ISO	27-10.00ISO	10.0	15.875V	27	6.13	1.8	5.2	10.2	

ISO Metric (M+ Style)

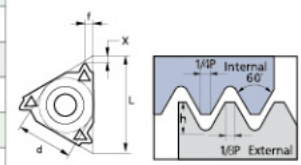
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Tooth	Picture
			mm	d	L	hmin	x	f		
External	**ER** 16-1.00ISO 3M		1.0	9.525	16	0.61	1.8	2.6	3	
	16-1.50ISO 2M		1.5	9.525	16	0.92	1.6	2.4	2	
	16-2.00ISO 2M		2.0	9.525	16	1.23	2.1	3.1	2	
	22-1.50ISO 3M		1.5	12.7	22	0.92	2.5	3.8	3	
	22-2.00ISO 2M		2.0	12.7	22	1.23	2.1	3.1	2	
	22-2.00ISO 3M		2.0	12.7	22	1.23	3.2	5.1	3	
	22-2.50ISO 2M		2.5	12.7	22	1.53	2.5	3.9	2	
	27-3.00ISO 2M		3.0	15.875	27	1.84	3.0	4.7	2	

ISO Metric

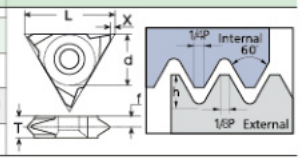
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	IR 06-0.50ISO	IL 06-0.50ISO	0.5	3.97	6	0.29	0.9	0.5	
	06-0.75ISO	06-0.75ISO	0.75	3.97	6	0.43	0.8	0.5	
	06-1.00ISO	06-1.00ISO	1.0	3.97	6	0.58	0.7	0.6	
	06-1.25ISO	06-1.25ISO	1.25	3.97	6	0.72	0.6	0.6	
	08-0.50ISO	08-0.50ISO	0.5	4.76	8	0.29	0.6	0.5	
	08-0.75ISO	08-0.75ISO	0.75	4.76	8	0.43	0.6	0.5	
	08-1.00ISO	08-1.00ISO	1.0	4.76	8	0.58	0.6	0.6	
	08-1.25ISO	08-1.25ISO	1.25	4.76	8	0.72	0.6	0.7	
	08-1.50ISO	08-1.50ISO	1.5	4.76	8	0.87	0.6	0.7	
	08-1.75ISO	08-1.75ISO	1.75	4.76	8	1.01	0.6	0.8	
	11-0.40ISO	11-0.40ISO	0.4	6.35	11	0.23	0.8	0.4	
	11-0.45ISO	11-0.45ISO	0.45	6.35	11	0.26	0.8	0.4	
	11-0.50ISO	11-0.50ISO	0.5	6.35	11	0.29	0.6	0.4	
	11-0.60ISO	11-0.60ISO	0.6	6.35	11	0.35	0.6	0.6	
	11-0.70ISO	11-0.70ISO	0.7	6.35	11	0.40	0.6	0.6	
	11-0.75ISO	11-0.75ISO	0.75	6.35	11	0.43	0.6	0.6	
	11-0.80ISO	11-0.80ISO	0.8	6.35	11	0.46	0.6	0.6	
	11-1.00ISO	11-1.00ISO	1.0	6.35	11	0.58	0.6	0.7	
	11-1.25ISO	11-1.25ISO	1.25	6.35	11	0.72	0.8	0.9	
	11-1.50ISO	11-1.50ISO	1.5	6.35	11	0.87	0.8	1.0	
	11-1.75ISO	11-1.75ISO	1.75	6.35	11	1.01	0.9	1.1	
	11-2.00ISO	11-2.00ISO	2.0	6.35	11	1.15	0.9	1.1	
	11-2.50ISO	11-2.50ISO	2.5	6.35	11	1.44	0.8	1.1	
	16-0.40ISO	16-0.40ISO	0.4	9.525	16	0.23	0.8	0.4	
	16-0.45ISO	16-0.45ISO	0.45	9.525	16	0.26	0.8	0.4	
	16-0.50ISO	16-0.50ISO	0.5	9.525	16	0.29	0.6	0.4	
	16-0.60ISO	16-0.60ISO	0.6	9.525	16	0.35	0.6	0.6	
	16-0.70ISO	16-0.70ISO	0.7	9.525	16	0.40	0.6	0.6	
	16-0.75ISO	16-0.75ISO	0.75	9.525	16	0.43	0.6	0.6	
	16-0.80ISO	16-0.80ISO	0.8	9.525	16	0.46	0.6	0.6	
	16-1.00ISO	16-1.00ISO	1.0	9.525	16	0.58	0.6	0.7	
	16-1.25ISO	16-1.25ISO	1.25	9.525	16	0.72	0.8	0.9	
	16-1.50ISO	16-1.50ISO	1.5	9.525	16	0.87	0.8	1.0	
	16-1.75ISO	16-1.75ISO	1.75	9.525	16	1.01	0.9	1.2	
	16-2.00ISO	16-2.00ISO	2.0	9.525	16	1.15	1.0	1.3	
	16-2.50ISO	16-2.50ISO	2.5	9.525	16	1.44	1.1	1.5	
	16-3.00ISO	16-3.00ISO	3.0	9.525	16	1.73	1.1	1.5	
	16-3.50ISO	16-3.50ISO	3.5	9.525	16	2.02	1.2	1.5	
	22-3.50ISO	22-3.50ISO	3.5	12.7	22	2.02	1.6	2.3	
	22-4.00ISO	22-4.00ISO	4.0	12.7	22	2.31	1.6	2.3	
	22-4.50ISO	22-4.50ISO	4.5	12.7	22	2.60	1.6	2.4	
	22-5.00ISO	22-5.00ISO	5.0	12.7	22	2.89	1.6	2.3	
	22-5.50ISO	22-5.50ISO	5.5	12.7	22	3.17	1.6	2.3	
	22-6.00ISO	22-6.00ISO	5.5	12.7	22	3.46	1.8	2.5	
	27-4.50ISO	27-4.50ISO	4.5	15.875	27	2.60	1.6	2.4	
	27-5.00ISO	27-5.00ISO	5.0	15.875	27	2.89	1.6	2.3	
	27-5.50ISO	27-5.50ISO	5.5	15.875	27	3.17	1.6	2.3	
	27-6.00ISO	27-6.00ISO	6.0	15.875	27	3.46	1.8	2.5	
	27-7.00ISO	27-7.00ISO	7.0	15.875	27	4.05	2.0	3.0	
	27-8.00ISO	27-8.00ISO	8.0	15.875	27	4.26	2.2	3.2	

Thread Insert

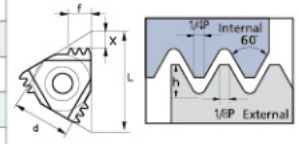
ISO Metric (M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	**IRM** 11-1.00ISO		1.0	6.35	11	0.58	0.8	0.7	
	11-1.25ISO		1.25	6.35	11	0.72	0.8	0.9	
	11-1.50ISO		1.5	6.35	11	0.87	0.8	1.0	
	11-1.75ISO		1.75	6.35	11	1.01	0.9	1.1	
	16-1.00ISO		1.0	9.525	16	0.58	0.8	0.7	
	16-1.25ISO		1.25	9.525	16	0.72	0.8	0.9	
	16-1.50ISO		1.5	9.525	16	0.85	0.8	1.0	
	16-1.75ISO		1.75	9.525	16	1.01	1.2	1.2	
	16-2.00ISO		2.0	9.525	16	1.12	1.2	1.3	
	16-2.50ISO		2.5	9.525	16	1.44	1.2	1.5	
	16-3.00ISO		3.0	9.525	16	1.69	1.2	1.5	
	22-3.50ISO		3.5	12.7	22	2.02	1.6	2.3	
	22-4.00ISO		4.0	12.7	22	2.31	1.6	2.3	
	22-4.50ISO		4.5	12.7	22	2.60	1.7	2.4	
	22-5.00ISO		5.0	12.7	22	2.89	1.7	2.5	
	22-5.50ISO		5.5	12.7	22	3.17	1.9	2.7	
	22-6.00ISO		6.0	12.7	22	3.46	1.9	2.7	

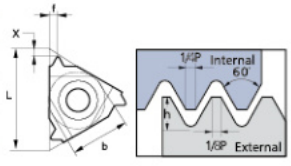
ISO Metric (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			mm	d	L	hmin	x	f	T	
Internal	**VIR** 27-6.00ISO	**VIL** 27-6.00ISO	6.0	15.875V	27	3.46	1.0	3.3	6.35	
	27-8.00ISO	27-8.00ISO	8.0	15.875V	27	4.62	1.8	5.2	8.70	
	27-10.00ISO	27-10.00ISO	10.0	15.875V	27	5.77	1.8	5.2	10.20	

ISO Metric (M+ Style)

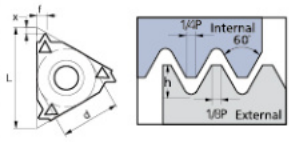
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Tooth	Picture
			mm	d	L	hmin	x	f		
Internal	**ER** 16-1.00ISO 3M		1.0	9.525	16	0.58	1.7	2.6	3	
	16-1.50ISO 2M		1.5	9.525	16	0.87	1.6	2.4	2	
	16-2.00ISO 2M		2.0	9.525	16	1.15	2.0	3.1	2	
	22-1.50ISO 3M		1.5	12.7	22	0.87	2.5	3.8	3	
	22-2.00ISO 2M		2.0	12.7	22	1.15	2.0	3.1	2	
	22-2.00ISO 3M		2.0	12.7	22	1.15	3.2	5.1	3	
	27-3.00ISO 2M		3.0	15.875	27	1.73	3.0	4.7	2	

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

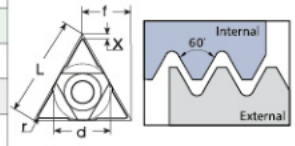
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	**ER** 11-64UN	**EL** 11-64UN	64	6.35	11	0.24	0.8	0.4	
	11-56UN	11-56UN	56	6.35	11	0.28	0.7	0.4	
	11-48UN	11-48UN	48	6.35	11	0.32	0.6	0.6	
	11-44UN	11-44UN	44	6.35	11	0.35	0.6	0.6	
	11-40UN	11-40UN	40	6.35	11	0.39	0.6	0.6	
	11-36UN	11-36UN	36	6.35	11	0.43	0.6	0.6	
	11-32UN	11-32UN	32	6.35	11	0.49	0.6	0.6	
	11-28UN	11-28UN	28	6.35	11	0.56	0.6	0.7	
	11-27UN	11-27UN	27	6.35	11	0.58	0.7	0.8	
	11-24UN	11-24UN	24	6.35	11	0.65	0.7	0.8	
	11-20UN	11-20UN	20	6.35	11	0.78	0.8	0.9	
	11-18UN	11-18UN	18	6.35	11	0.87	0.8	1.0	
	11-16UN	11-16UN	16	6.35	11	0.97	0.9	1.1	
	11-14UN	11-14UN	14	6.35	11	1.11	0.9	1.1	
	16-64UN	16-64UN	64	9.525	16	0.24	0.8	0.4	
	16-56UN	16-56UN	56	9.525	16	0.28	0.7	0.4	
	16-48UN	16-48UN	48	9.525	16	0.32	0.6	0.6	
	16-44UN	16-44UN	44	9.525	16	0.35	0.6	0.6	
	16-40UN	16-40UN	40	9.525	16	0.39	0.6	0.6	
	16-36UN	16-36UN	36	9.525	16	0.43	0.6	0.6	
	16-32UN	16-32UN	32	9.525	16	0.49	0.6	0.6	
	16-28UN	16-28UN	28	9.525	16	0.56	0.6	0.7	
	16-27UN	16-27UN	27	9.525	16	0.58	0.7	0.8	
	16-24UN	16-24UN	24	9.525	16	0.65	0.7	0.8	
	16-20UN	16-20UN	20	9.525	16	0.78	0.8	0.9	
	16-18UN	16-18UN	18	9.525	16	0.87	0.8	1.0	
	16-16UN	16-16UN	16	9.525	16	0.97	0.9	1.1	
	16-14UN	16-14UN	14	9.525	16	1.11	1.0	1.2	
	16-13UN	16-13UN	13	9.525	16	1.20	1.0	1.3	
	16-12UN	16-12UN	12	9.525	16	1.30	1.1	1.4	
	16-11.5UN	16-11.5UN	11.5	9.525	16	1.35	1.1	1.5	
	16-11UN	16-11UN	11	9.525	16	1.42	1.1	1.5	
	16-10UN	16-10UN	10	9.525	16	1.56	1.1	1.5	
	16-9UN	16-9UN	9	9.525	16	1.73	1.2	1.7	
	16-8UN	16-8UN	8	9.525	16	1.95	1.2	1.6	
	22-7UN	22-7UN	7	12.7	22	2.22	1.6	2.3	
	22-6UN	22-6UN	6	12.7	22	2.60	1.6	2.3	
	22-5UN	22-5UN	5	12.7	22	3.12	1.7	2.5	
	27-4.5UN	27-4.5UN	4.5	15.875	27	3.46	1.9	2.7	
	27-4UN	27-4UN	4	15.875	27	3.89	2.1	3.0	

Thread Insert

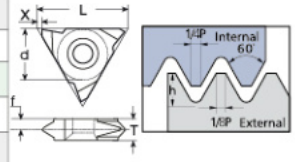
American UN(UN,UNC,UNF,UNEF,UNS)(M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ERM** 16-24UN		24	9.535	16	0.78	0.8	0.8	
	16-20UN		20	9.525	16	0.78	0.8	0.9	
	16-18UN		18	9.525	16	0.87	0.8	1.0	
	16-16UN		16	9.525	16	0.97	0.9	1.1	
	16-14UN		14	9.525	16	1.11	1.2	1.5	
	16-12UN		12	9.525	16	1.30	1.2	1.5	
	16-10UN		10	9.525	16	1.56	1.2	1.5	
	16-8UN		8	9.525	16	1.95	1.3	1.7	

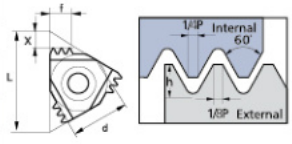
American UN (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External	**UE** 22-4.5UN	4.5	12.7U	22	3.46	2.2	11.0	
	22-4UN	4	12.7U	22	3.89	2.2	11.0	
	27-3UN	3	15.875U	27	5.19	2.5	13.7	
	33-2UN	2	19.05U	33	7.79	2.8	16.5	

American UN (V Style)

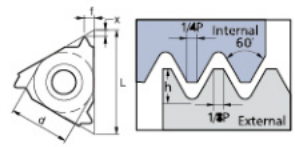
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 11-20UN	**VEL** 11-20UN	20	6.35V	11	0.78	0.69	2.3	3.20	
	11-18UN	11-18UN	18	6.35V	11	0.87	0.69	2.2	3.20	
	11-16UN	11-16UN	16	6.35V	11	0.97	0.69	2.2	3.20	
	11-14UN	11-14UN	14	6.35V	11	1.11	0.69	2.0	3.20	
	11-12UN	11-12UN	12	6.35V	11	1.30	0.69	1.8	3.20	
	16-32UN	16-32UN	32	6.35V	16	0.48	1.1	3.0	3.60	
	16-28UN	16-28UN	28	9.525V	16	0.56	1.1	3.0	3.60	
	16-24UN	16-24UN	24	9.525V	16	0.65	1.1	2.9	3.60	
	16-20UN	16-20UN	20	9.525V	16	0.78	1.1	2.7	3.60	
	16-18UN	16-18UN	18	9.525V	16	0.87	1.1	2.6	3.60	
	16-16UN	16-16UN	16	9.525V	16	0.97	1.1	2.55	3.60	
	16-14UN	16-14UN	14	9.525V	16	1.11	1.1	2.5	3.60	
	16-12UN	16-12UN	12	9.525V	16	1.30	1.1	2.2	3.60	
	16-10UN	16-10UN	10	9.525V	16	1.56	1.1	2.1	3.60	
	16-8UN	16-8UN	8	9.525V	16	1.95	1.1	2.0	3.60	
	22-7UN	22-7UN	7	12.7V	22	2.22	1.2	2.3	4.80	
	27-4UN	27-4UN	4	15.875V	27	3.89	1.0	3.3	6.35	
	27-3UN	27-3UN	3	15.875V	27	5.19	1.8	5.2	8.70	

American UN (M+ Style)

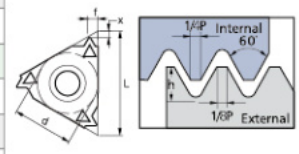
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Tooth	Picture
			tpi	d	L	hmin	x	f		
External	**ER** 16-24UN 2M		24	9.525	16	0.65	1.1	1.7	2	
	16-20UN 3M		20	9.525	16	0.78	2.2	3.3	3	
	16-18UN 2M		18	9.525	16	0.87	1.5	2.2	2	
	16-18UN 3M		18	9.525	16	0.87	2.3	2.6	3	
	16-16UN 2M		16	9.525	16	0.97	1.7	2.5	2	
	16-14UN 2M		14	9.525	16	1.11	1.9	2.8	2	
	16-12UN 2M		12	9.525	16	1.30	2.2	3.3	2	
	22-16UN 3M		16	12.7	22	0.97	2.6	4.1	3	
	22-14UN 2M		14	12.7	22	1.33	1.9	2.8	2	
	22-13UN 3M		13	12.7	22	1.20	3.0	4.9	3	
	22-12UN 2M		12	12.7	22	1.30	2.2	3.3	2	
	22-12UN 3M		12	12.7	22	1.30	3.4	5.4	3	
	22-11UN 2M		11	12.7	22	1.42	2.3	3.6	2	
	22-10UN 2M		10	12.7	22	1.56	2.5	3.9	2	
	27-8UN 2M		8	15.875	27	1.95	3.1	4.9	2	

Thread Insert

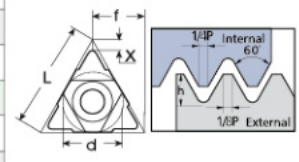
American UN (UN,UNC,UNFUNEF,UNS)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
Internal	IR 06-32UN	IL 06-32UN	32	3.97	6	0.46	0.8	0.5	
	06-28UN	06-28UN	28	3.97	6	0.52	0.8	0.6	
	06-24UN	06-24UN	24	3.97	6	0.61	0.7	0.6	
	06-20UN	06-20UN	20	3.97	6	0.73	0.6	0.6	
	06-18UN	06-18UN	18	3.97	6	0.81	0.6	0.7	
	08-32UN	08-32UN	32	4.76	8	0.46	0.6	0.5	
	08-28UN	08-28UN	28	4.76	8	052	0.6	0.6	
	08-24UN	08-24UN	24	4.76	8	0.61	0.6	0.6	
	08-20UN	08-20UN	20	4.76	8	0.73	0.6	0.7	
	08-18UN	08-18UN	18	4.76	8	0.81	0.6	0.7	
	08-16UN	08-16UN	16	4.76	8	0.92	0.6	0.7	
	08-14UN	08-14UN	14	4.76	8	1.05	0.6	0.8	
	08-13UN	08-13UN	13	4.76	8	1.20	0.8	0.9	
	11-64UN	11-64UN	64	6.35	11	0.24	0.8	0.4	
	11-56UN	11-56UN	56	6.35	11	0.28	0.7	0.4	
	11-48UN	11-48UN	48	6.35	11	0.32	0.6	0.6	
	11-44UN	11-44UN	44	6.35	11	0.35	0.6	0.6	
	11-40UN	11-40UN	40	6.35	11	0.39	0.6	0.6	
	11-36UN	11-36UN	36	6.35	11	0.43	0.6	0.6	
	11-32UN	11-32UN	32	6.35	11	0.49	0.6	0.6	
	11-28UN	11-28UN	28	6.35	11	0.56	0.6	0.7	
	11-27UN	11-27UN	27	6.35	11	0.58	0.7	0.8	
	11-24UN	11-24UN	24	6.35	11	0.65	0.7	0.8	
	11-20UN	11-20UN	20	6.35	11	0.78	0.8	0.9	
	11-18UN	11-18UN	18	6.35	11	0.87	0.8	1.0	
	11-16UN	11-16UN	16	6.35	11	0.97	0.9	1.1	
	11-14UN	11-14UN	14	6.35	11	1.11	0.9	1.1	
	16-64UN	16-64UN	64	9.525	16	0.24	0.8	0.4	
	16-56UN	16-56UN	56	9.525	16	0.28	0.7	0.4	
	16-48UN	16-48UN	48	9.525	16	0.32	0.6	0.6	
	16-44UN	16-44UN	44	9.525	16	0.35	0.6	0.6	
	16-40UN	16-40UN	40	9.525	16	0.39	0.6	0.6	
	16-36UN	16-36UN	36	9.525	16	0.43	0.6	0.6	
	16-32UN	16-32UN	32	9.525	16	0.49	0.6	0.6	
	16-28UN	16-28UN	28	9.525	16	0.56	0.6	0.7	
	16-27UN	16-27UN	27	9.525	16	0.58	0.7	0.8	
	16-24UN	16-24UN	24	9.525	16	0.65	0.7	0.8	
	16-20UN	16-20UN	20	9.525	16	0.78	0.8	0.9	
	16-18UN	16-18UN	18	9.525	16	0.87	0.8	1.0	
	16-16UN	16-16UN	16	9.525	16	0.97	0.9	1.1	
	16-14UN	16-14UN	14	9.525	16	1.11	1.0	1.2	
	16-13UN	16-13UN	13	9.525	16	1.20	1.0	1.3	
	16-12UN	16-12UN	12	9.525	16	1.30	1.1	1.4	
	16-11.5UN	16-11.5UN	11.5	9.525	16	1.35	1.1	1.5	
	16-11UN	16-11UN	11	9.525	16	1.42	1.1	1.5	
	16-10UN	16-10UN	10	9.525	16	1.56	1.1	1.5	
	16-9UN	16-9UN	9	9.525	16	1.73	1.2	1.7	
	16-8UN	16-8UN	8	9.525	16	1.95	1.2	1.5	
	22-7UN	22-7UN	7	12.7	22	2.22	1.6	2.3	
	22-6UN	22-6UN	6	12.7	22	2.60	1.6	2.3	
	22-5UN	22-5UN	5	12.7	22	3.12	1.7	2.3	
	27-4.5UN	27-4.5UN	4.5	15.875	27	3.46	1.9	2.4	
	27-4UN	27-4UN	4	15.875	27	3.89	2.1	2.7	

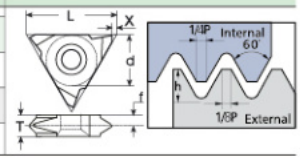
American UN(UN,UNC,UNF,UNEF,UNS)(M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
Internal	**IRM** 11-20UN		20	6.35	11	0.73	0.8	0.9	
	11-18UN		18	6.35	11	0.81	0.8	1.0	
	16-24UN		24	9.525	16	0.61	0.8	0.8	
	16-20UN		20	9.525	16	0.73	0.8	0.9	
	16-18UN		18	9.525	16	0.81	0.8	1.0	
	16-16UN		16	9.525	16	0.92	0.9	1.1	
	16-14UN		14	9.525	16	1.05	1.2	1.5	
	16-12UN		12	9.525	16	1.22	1.2	1.5	
	16-10UN		10	9.525	16	1.47	1.2	1.5	
	16-8UN		8	9.525	16	1.83	1.3	1.7	

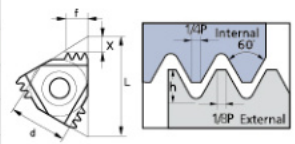
American UN (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		mm	d	L	hmin	x	f	
Internal	**UI** 08-13UN	13	4.76U	8	1.20	1.0	4.0	
	08-12UN	12	4.76U	8	1.30	0.9	4.0	
	08-11UN	11	4.76U	8	1.42	0.9	4.0	
	11-11UN	11	6.35U	11	1.33	1.2	5.5	
	22-4.5UN	4.5	12.7U	22	3.26	2.4	11.0	
	22-4UN	4	12.7U	22	3.57	2.4	11.0	
	27-3UN	3	15.875U	27	4.89	2.7	13.7	
	33-2UN	2	19.05U	33	7.79	3.6	16.9	

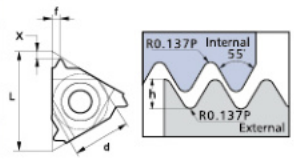
American UN (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
Internal	**VIR** 27-4UN	**VIL** 27-4UN	4	15.875V	27	3.67	1.0	3.3	6.35	
	27-3UN	27-3UN	3	15.875V	27	4.89	1.8	5.2	8.70	

American UN (M+ Style)

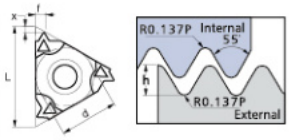
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	Tooth	
Internal	**IR** 16-24UN 2M		24	9.525	16	0.61	1.1	1.7	2	
	16-20UN 3M		20	9.525	16	0.73	1.4	2.0	3	
	16-18UN 2M		18	9.525	16	0.81	1.5	2.2	2	
	16-16UN 2M		16	9.525	16	0.92	1.7	2.5	2	
	16-14UN 2M		14	9.525	16	1.05	1.9	2.8	2	
	16-12UN 2M		12	9.525	16	1.22	2.2	3.3	2	
	22-16UN 3M		16	12.7	22	0.92	2.6	4.1	3	
	22-14UN 2M		14	12.7	22	1.05	1.9	2.8	2	
	22-12UN 2M		12	12.7	22	1.22	2.2	3.3	2	
	22-12UN 3M		12	12.7	22	1.22	3.4	5.4	3	
	27-8UN 2M		8	15.875	27	1.83	3.1	4.9	2	

Whitworth (BSW, BSF, BSP, BSB)

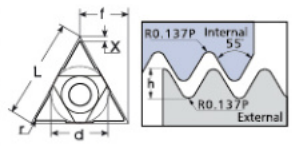
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-60W	**EL** 11-60W	60	6.35	11	0.27	0.7	0.4	
	11-56W	11-56W	56	6.35	11	0.29	0.7	0.4	
	11-48W	11-48W	48	6.35	11	0.34	0.6	0.6	
	11-40W	11-40W	40	6.35	11	0.41	0.6	0.6	
	11-36W	11-36W	36	6.35	11	0.45	0.6	0.6	
	11-32W	11-32W	32	6.35	11	0.51	0.6	0.6	
	11-28W	11-28W	28	6.35	11	0.58	0.6	0.7	
	11-26W	11-26W	26	6.35	11	0.63	0.7	0.8	
	11-24W	11-24W	24	6.35	11	0.68	0.7	0.8	
	11-22W	11-22W	22	6.35	11	0.74	0.8	0.9	
	11-20W	11-20W	20	6.35	11	0.81	0.8	0.9	
	11-19W	11-19W	19	6.35	11	0.86	0.8	1.0	
	11-18W	11-18W	18	6.35	11	0.90	0.8	1.0	
	11-16W	11-16W	16	6.35	11	1.02	0.9	1.1	
	11-14W	11-14W	14	6.35	11	1.16	1.0	1.2	
	16-60W	16-60W	60	9.525	16	0.27	0.7	0.4	
	16-56W	16-56W	56	9.525	16	0.29	0.7	0.4	
	16-48W	16-48W	48	9.525	16	0.34	0.6	0.6	
	16-40W	16-40W	40	9.525	16	0.41	0.6	0.6	
	16-36W	16-36W	36	9.525	16	0.45	0.6	0.6	
	16-32W	16-32W	32	9.525	16	0.51	0.6	0.6	
	16-30W	16-30W	30	9.525	16	0.55	0.6	0.7	
	16-28W	16-28W	28	9.525	16	0.58	0.6	0.7	
	16-26W	16-26W	26	9.525	16	0.63	0.7	0.8	
	16-24W	16-24W	24	9.525	16	0.68	0.7	0.8	
	16-22W	16-22W	22	9.525	16	0.74	0.8	0.9	
	16-20W	16-20W	20	9.525	16	0.81	0.8	0.9	
	16-19W	16-19W	19	9.525	16	0.86	0.8	1.0	
	16-18W	16-18W	18	9.525	16	0.90	0.8	1.0	
	16-16W	16-16W	16	9.525	16	1.02	0.9	1.1	
	16-14W	16-14W	14	9.525	16	1.16	1.0	1.2	
	16-12W	16-12W	12	9.525	16	1.36	1.1	1.4	
	16-11W	16-11W	11	9.525	16	1.48	1.1	1.5	
	16-10W	16-10W	10	9.525	16	1.63	1.1	1.5	
	16-9W	16-9W	9	9.525	16	1.81	1.2	1.7	
	16-8W	16-8W	8	9.525	16	2.03	1.2	1.5	
	22-7W	22-7W	7	12.7	22	3.32	1.6	2.3	
	22-6W	22-6W	6	12.7	22	2.71	1.6	2.3	
	22-5W	22-5W	5	12.7	22	3.25	1.7	2.4	
	27-4.5W	27-4.5W	4.5	15.875	27	3.61	1.8	2.6	
	27-4W	27-4W	4	15.875	27	4.07	2.0	2.9	

Thread Insert

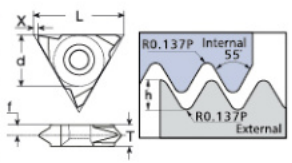
Whitworth (BSW, BSF, BSP, BSB)(M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ERM** 16-19W		19	9.525	16	0.86	0.8	1.0	
	16-18W		18	9.525	16	0.90	0.8	1.0	
	16-16W		16	9.525	16	1.02	0.9	1.1	
	16-14W		14	9.525	16	1.16	1.2	1.5	
	16-12W		12	9.525	16	1.36	1.2	1.5	
	16-11W		11	9.525	16	1.48	1.2	1.5	
	16-10W		10	9.525	16	1.63	1.1	1.5	

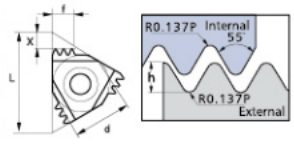
Whitworth (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External Internal	**UEI** 22-4.5W	4.5	12.7U	22	3.61	2.3	11.0	
	22-4W	4	12.7U	22	4.07	1.8	11.0	
	22-3.5W	3.5	12.7U	22	4.65	2.1	11.0	
	22-3.25W	3.25	12.7U	22	5.00	2.0	11.0	
	27-3.5W	3.5	15.875U	22	4.65	2.1	13.7	
	27-3.25W	3.25	15.875U	22	5.00	2.0	13.7	
	27-3W	3	15.875U	22	5.42	2.3	13.7	
	27-2.75W	2.75	15.875U	22	5.94	2.4	13.7	

Whitworth (V Style)

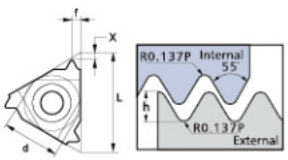
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 11-19W	**VEL** 11-19W	19	6.35V	11	0.86	0.69	2.3	3.20	
	11-14W	11-14W	14	6.35V	11	1.16	0.69	2.0	3.20	
	11-11W	11-11W	11	6.35V	11	1.48	0.69	1.7	3.20	
	16-20W	16-20W	20	9.525V	16	0.81	1.0	0.9	3.60	
	16-19W	16-19W	19	9.525V	16	0.86	1.1	2.7	3.60	
	16-18W	16-18W	18	9.525V	16	0.90	1.31	2.6	3.60	
	16-16W	16-16W	16	9.525V	16	1.02	1.1	2.6	3.60	
	16-14W	16-14W	14	9.525V	16	1.16	1.1	2.4	3.60	
	16-12W	16-12W	12	9.525V	16	1.36	1.1	2.2	3.60	
	16-11W	16-11W	11	9.525V	16	1.48	1.1	2.1	3.60	
	27-4W	27-4W	4	15.875V	27	4.07	1.0	3.3	6.35	
	27-3W	27-3W	3	15.875V	27	5.42	1.0	4.3	8.70	
	27-2.5W	27-2.5W	2.5	15.875V	27	6.51	1.0	5.2	10.20	

Whitworth (M+ Style)

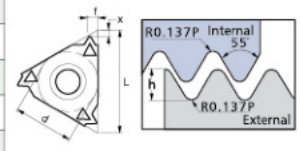
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	Tooth	
External	**ER** 16-28W 2M		28	9.525	16	0.58	1.2	1.6	2	
	16-19W 2M		19	9.525	16	0.86	1.6	2.3	2	
	16-19W 3M		19	9.525	16	0.86	2.2	3.4	3	
	16-14W 2M		14	9.525	16	1.16	2.0	3.0	2	
	16-11W 2M		11	9.525	16	1.48	2.1	3.2	2	
	22-14W 2M		14	12.7	22	1.16	2.9	4.6	2	
	22-11W 2M		11	12.7	22	1.48	2.3	3.5	2	

Thread Insert

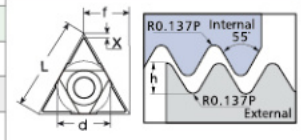
Whitworth (BSW, BSF, BSP, BSB)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
Internal	IR 06-26W	IL 06-26W	26	3.97	6	0.63	0.7	0.6	
	06-22W	06-22W	22	3.97	6	0.74	0.6	0.6	
	06-20W	06-20W	20	3.97	6	0.81	0.6	0.7	
	06-18W	06-18W	18	3.97	6	0.90	0.6	0.7	
	08-28W	08-28W	28	4.76	8	0.58	0.6	0.6	
	08-24W	08-24W	24	4.76	8	0.68	0.6	0.6	
	08-20W	08-20W	20	4.76	8	0.81	0.6	0.7	
	08-19W	08-19W	19	4.76	8	0.86	0.6	0.7	
	08-18W	08-18W	18	4.76	8	0.90	0.6	0.7	
	08-16W	08-16W	16	4.76	8	1.02	0.6	0.7	
	11-60W	11-60W	60	6.35	11	0.27	0.7	0.4	
	11-56W	11-56W	56	6.35	11	0.29	0.7	0.4	
	11-48W	11-48W	48	6.35	11	0.34	0.6	0.6	
	11-40W	11-40W	40	6.35	11	0.41	0.6	0.6	
	11-36W	11-36W	36	6.35	11	0.45	0.6	0.6	
	11-32W	11-32W	32	6.35	11	0.51	0.6	0.6	
	11-28W	11-28W	28	6.35	11	0.58	0.6	0.7	
	11-26W	11-26W	26	6.35	11	0.63	0.7	0.8	
	11-24W	11-24W	24	6.35	11	0.68	0.7	0.8	
	11-22W	11-22W	22	6.35	11	0.74	0.8	0.9	
	11-20W	11-20W	20	6.35	11	0.81	0.8	0.9	
	11-19W	11-19W	19	6.35	11	0.86	0.8	1.0	
	11-18W	11-18W	18	6.35	11	0.90	0.8	1.0	
	11-16W	11-16W	16	6.35	11	1.02	0.9	1.1	
	11-14W	11-14W	14	6.35	11	1.16	1.0	1.2	
	11-12W	11-12W	12	6.35	11	1.32	0.1	1.1	
	11-11W	11-11W	11	6.35	11	1.43	0.9	1.2	
	16-48W	16-48W	48	9.525	16	0.34	0.6	0.6	
	16-40W	16-40W	40	9.525	16	0.41	0.6	0.6	
	16-36W	16-36W	36	9.525	16	0.45	0.6	0.6	
	16-32W	16-32W	32	9.525	16	0.51	0.6	0.6	
	16-30W	16-30W	30	9.525	16	0.55	0.6	0.7	
	16-28W	16-28W	28	9.525	16	0.58	0.6	0.7	
	16-26W	16-26W	26	9.525	16	0.63	0.7	0.8	
	16-24W	16-24W	24	9.525	16	0.68	0.7	0.8	
	16-22W	16-22W	22	9.525	16	0.74	0.8	0.9	
	16-20W	16-20W	20	9.525	16	0.81	0.8	0.9	
	16-19W	16-19W	19	9.525	16	0.86	0.8	1.0	
	16-18W	16-18W	18	9.525	16	0.90	0.8	1.0	
	16-16W	16-16W	16	9.525	16	1.02	0.9	1.1	
	16-14W	16-14W	14	9.525	16	1.16	1.0	1.2	
	16-12W	16-12W	12	9.525	16	1.36	1.1	1.4	
	16-11W	16-11W	11	9.525	16	1.48	1.1	1.5	
	16-10W	16-10W	10	9.525	16	1.63	1.1	1.5	
	16-9W	16-9W	9	9.525	16	1.81	1.2	1.7	
	16-8W	16-8W	8	9.525	16	2.03	1.2	1.5	
	22-7W	22-7W	7	12.7	22	3.32	1.6	2.3	
	22-6W	22-6W	6	12.7	22	2.71	1.6	2.3	
	22-5W	22-5W	5	12.7	22	3.25	1.7	2.4	
	27-4.5W	27-4.5W	4.5	15.875	27	3.61	1.8	2.6	
	27-4W	27-4W	4	15.875	27	4.07	2.0	2.9	

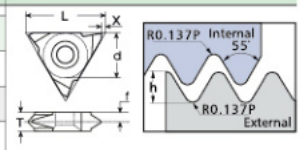
Whitworth (M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
Internal	**IRM** 11-19W		19	6.35	11	0.86	0.9	1.1	
	11-14W		14	6.35	11	1.16	0.9	1.1	
	16-19W		19	9.525	16	0.86	0.8	1.0	
	16-18W		18	9.525	16	0.90	0.8	1.0	
	16-16W		16	9.525	16	1.02	0.9	1.1	
	16-14W		14	9.525	16	1.16	1.2	1.5	
	16-12W		12	9.525	16	1.36	1.2	1.5	
	16-11W		11	9.525	16	1.48	1.2	1.5	
	16-8W		8	9.525	16	2.03	1.2	1.5	

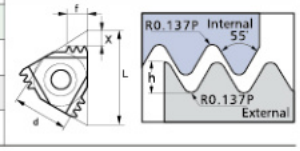
Whitworth (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
Internal	**UI** 08-14W	14	4.76U	8	1.16	1.0	4.0	
	08-12W	12	4.76U	8	1.36	0.9	4.0	
	08-11W	11	4.76U	8	1.48	0.9	4.0	

Whitworth (V Style)

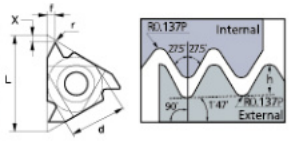
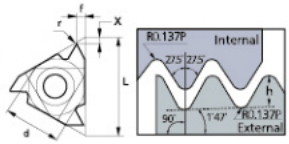
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
Internal	**VIR** 27-4W	**VIL** 27-4W	4	15.875V	27	4.07	1.0	3.3	6.35	
	27-3W	27-3W	3	15.875V	27	5.42	1.0	4.3	8.70	
	27-2.5W	27-2.5W	2.5	15.875V	27	6.51	1.0	5.2	10.2	

Whitworth (M+ Style)

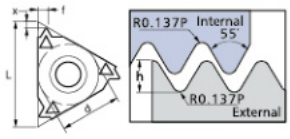
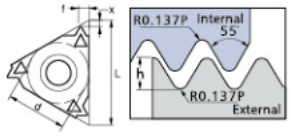
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			mm	d	L	hmin	x	f	Tooth	
Internal	**IR** 16-14W 2M		14	9.525	16	1.16	2.0	3.0	2	
	16-11W 2M		11	9.525	16	1.48	2.1	3.2	2	
	22-14W 3M		11	12.7	22	1.16	2.8	4.5	3	
	22-11W 2M		11	12.7	22	1.48	2.3	3.5	2	

Thread Insert

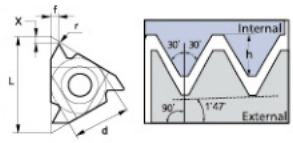
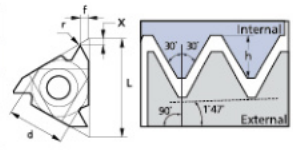
British Standard Pipe Thread (BSPT)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-28BSPT	**EL** 11-28BSPT	28	6.35	11	0.58	0.6	0.6	
	11-19BSPT	11-19BSPT	19	6.35	11	0.86	0.8	0.9	
	11-14BSPT	11-14BSPT	14	6.35	11	1.16	0.9	1.0	
	16-28BSPT	16-28BSPT	28	9.525	16	0.58	0.6	0.6	
	16-19BSPT	16-19BSPT	19	9.525	16	0.86	0.8	0.9	
	16-14BSPT	16-14BSPT	14	9.525	16	1.16	1.0	1.2	
	16-11BSPT	16-11BSPT	11	9.525	16	1.48	1.1	1.5	
Internal	**IR** 06-28BSPT	**IL** 06-28BSPT	28	3.97	6	0.58	0.7	0.6	
	08-28BSPT	08-28BSPT	28	4.76	8	0.58	0.6	0.6	
	08-19BSPT	08-19BSPT	19	4.76	8	0.58	0.6	0.6	
	11-28BSPT	11-28BSPT	28	6.35	11	0.58	0.6	0.6	
	11-19BSPT	11-19BSPT	19	6.35	11	0.86	0.8	0.9	
	11-14BSPT	11-14BSPT	14	6.35	11	1.16	0.9	1.0	
	16-28BSPT	16-28BSPT	28	9.525	16	0.58	0.6	0.6	
	16-19BSPT	16-19BSPT	19	9.525	16	0.86	0.8	0.9	
	16-14BSPT	16-14BSPT	14	9.525	16	1.16	1.0	1.2	
	16-11BSPT	16-11BSPT	11	9.525	16	1.48	1.1	1.5	

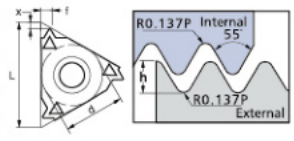
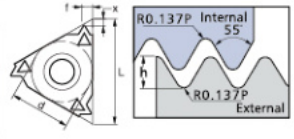
British Standard Pipe Thread (BSPT) (M Chip Breaker)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ERM** 16-28BSPT		28	9.525	16	0.58	0.7	0.8	
	16-19BSPT		19	9.525	16	0.86	0.8	1.0	
	16-14BSPT		14	9.525	16	1.16	1.2	1.5	
	16-11BSPT		11	9.525	16	1.48	1.2	1.5	
Internal	**IRM** 11-19BSPT		19	6.35	11	0.86	0.8	1.0	
	11-14BSPT		14	6.35	11	1.16	0.9	1.1	
	16-28BSPT		28	9.525	16	0.58	0.7	0.8	
	16-19BSPT		19	9.525	16	0.86	0.8	1.0	
	16-14BSPT		14	9.525	16	1.16	1.2	1.5	
	16-11BSPT		11	9.525	16	1.48	1.2	1.5	

National Pipe Thread (NPT)

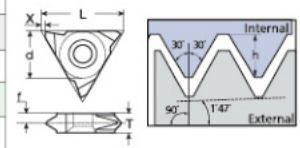
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-27NPT	**EL** 11-27NPT	27	6.35	11	0.66	0.7	0.8	
	11-18NPT	11-18NPT	18	6.35	11	1.01	0.8	1.0	
	11-14NPT	11-14NPT	14	6.35	11	1.33	0.8	1.0	
	16-27NPT	16-27NPT	27	9.525	16	0.66	0.7	0.8	
	16-18NPT	16-18NPT	18	9.525	16	1.01	0.8	1.0	
	16-14NPT	16-14NPT	14	9.525	16	1.33	0.9	1.2	
	16-11.5NPT	16-11.5NPT	11.5	9.525	16	1.64	1.1	1.5	
	16-8NPT	16-8NPT	8	9.525	16	2.42	1.3	1.8	
Internal	**IR** 06-27NPT	**IL** 06-27NPT	27	3.97	6	0.66	0.6	0.6	
	08-27NPT	08-27NPT	27	4.76	8	0.66	0.6	0.6	
	08-18NPT	08-18NPT	18	4.76	8	1.01	0.6	0.6	
	11-27NPT	11-27NPT	27	6.35	11	0.66	0.7	0.8	
	11-18NPT	11-18NPT	18	6.35	11	1.01	0.8	1.0	
	11-14NPT	11-14NPT	14	6.35	11	1.33	0.8	1.0	
	16-27NPT	16-27NPT	27	9.525	16	0.66	0.7	0.8	
	16-18NPT	16-18NPT	18	9.525	16	1.01	0.8	1.0	
	16-14NPT	16-14NPT	14	9.525	16	1.33	0.9	1.2	
	16-11.5NPT	16-11.5NPT	11.5	9.525	16	1.64	1.1	1.5	
	16-8NPT	16-8NPT	8	9.525	16	2.42	1.3	1.8	

National Pipe Thread (NPT) (M Chip Breaker)

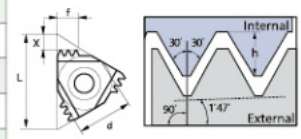
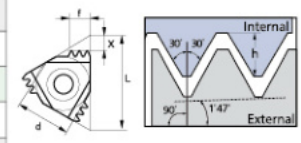
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ERM** 16-27NPT		27	9.525	16	0.66	0.7	0.8	
	16-18NPT		18	9.525	16	1.01	0.8	1.0	
	16-14NPT		14	9.525	16	1.33	1.2	1.5	
	16-11.5NPT		11.5	9.525	16	1.64	1.2	1.5	
	16-8NPT		8	9.525	16	2.42	1.3	1.5	
Internal	**IRM** 11-18NPT		18	6.35	11	1.01	0.8	1.0	
	16-27NPT		27	9.525	16	0.66	0.7	0.8	
	16-18NPT		18	9.525	16	1.01	0.8	1.0	
	16-14NPT		14	9.525	16	1.33	1.2	1.5	
	16-11.5NPT		11.5	9.525	16	1.64	1.2	1.5	
	16-8NPT		8	9.525	16	2.42	1.3	1.5	

Thread Insert

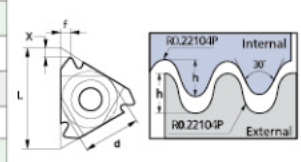
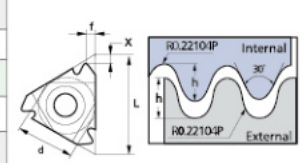
National Pipe Thread (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 11-27NPT	**VEL** 11-27NPT	27	6.35V	11	0.66	0.7	2.0	3.2	
	11-18NPT	11-18NPT	18	6.35V	11	1.01	0.7	1.8	3.2	
	11-14NPT	11-14NPT	14	6.35V	11	1.33	0.7	1.8	3.2	
	11-11.5NPT	11-11.5NPT	11.5	6.35V	11	1.64	0.7	2.1	3.2	
	16-27NPT	16-27NPT	27	9.525V	16	0.66	1.10	2.9	3.6	
	16-18NPT	16-18NPT	18	9.525V	16	1.01	1.10	2.6	3.6	
	16-14NPT	16-14NPT	14	9.525V	16	1.33	1.00	1.2	3.6	
	16-11.5NPT	16-11.5NPT	11.5	9.525V	16	1.64	1.10	2.1	3.6	

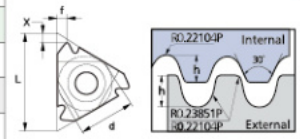
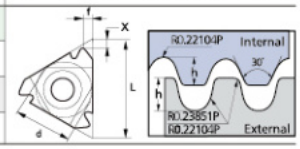
National Pipe Thread (M+ Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	Tooth	
External	**ER** 16-18NPT 2M		18	9.525	16	1.01	1.4	2.1	2	
	16-11.5NPT 2M		11.5	9.525	16	1.64	2.0	3.2	2	
	16-14NPT 2M		14	9.525	16	1.33	2.0	3.0	2	
	22-11.5NPT 2M		11.5	12.7	22	1.64	2.2	3.4	2	
	27-11.5NPT 3M		11.5	15.875	27	1.64	3.5	5.6	3	
Internal	**IR** 27-8NPT 2M		8	15.875	27	2.42	3.1	4.9	2	
	16-18NPT 2M		18	9.525	16	1.01	1.4	2.1	2	
	16-11.5NPT 2M		11.5	9.525	16	1.64	2.0	3.2	2	
	16-14NPT 2M		14	9.525	16	1.33	2.0	3.0	2	
	22-11.5NPT 2M		11.5	12.7	22	1.64	2.2	3.4	2	
	27-11.5NPT 3M		11.5	15.875	27	1.64	3.5	5.6	3	
	27-8NPT 2M		8	15.875	27	2.42	3.1	4.9	2	

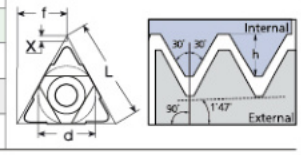
Round DIN 405

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 16-10RD	**EL** 16-10RD	10	9.525	16	1.27	1.1	1.2	
	16-8RD	16-8RD	8	9.525	16	1.59	1.4	1.3	
	16-6RD	16-6RD	6	9.525	16	2.12	1.5	1.7	
	22-6RD	22-6RD	6	12.7	22	2.12	1.5	1.7	
	22-4RD	22-4RD	4	12.7	22	3.18	2.2	2.3	
	27-4RD	27-4RD	4	15.875	27	3.18	2.2	2.3	
Internal	**IR** 16-10RD	**IL** 16-10RD	10	9.525	16	1.27	1.1	1.2	
	16-8RD	16-8RD	8	9.525	16	1.59	1.4	1.3	
	16-6RD	16-6RD	6	9.525	16	2.12	1.5	1.7	
	22-6RD	22-6RD	6	12.7	22	2.12	1.5	1.7	
	22-4RD	22-4RD	4	12.7	22	3.18	2.2	2.3	
	27-4RD	27-4RD	4	15.875	27	3.18	2.2	2.3	

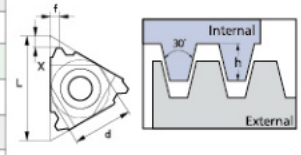
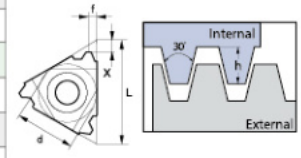
Round DIN 20400

Type	Designation (Right)	Designation (Left)	Pitch mm	Dimensions d	L	hmin	x	f	Picture
External	**ER** 22-3.0RD 20400	**EL** 22-3.0RD 20400	3.0	12.7	22	1.65	1.3	1.7	
	22-4.0RD 20400	22-4.0RD 20400	4.0	12.7	22	2.20	1.6	2.2	
	22-5.0RD 20400	22-5.0RD 20400	5.0	12.7	22	2.75	1.4	1.7	
	22-6.0RD 20400	22-6.0RD 20400	6.0	12.7	22	3.30	1.7	2.1	
Internal	**IR** 22-3.0RD 20400	**IL** 22-3.0RD 20400	3.0	12.7	22	1.65	1.3	1.7	
	22-4.0RD 20400	22-4.0RD 20400	4.0	12.7	22	2.20	1.6	2.2	
	22-5.0RD 20400	22-5.0RD 20400	5.0	12.7	22	2.75	1.4	1.7	
	22-6.0RD 20400	22-6.0RD 20400	6.0	12.7	22	3.30	1.7	2.1	

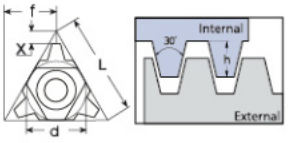
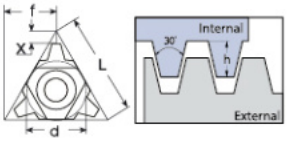
Round DIN 20400 (U Style)

Type	Designation (Right+Left)	Pitch mm	Dimensions d	L	hmin	x	f	Picture
Internal	**UEI** 27-8.0RD 20400	8.0	15.875U	27	4.40	3.0	13.7	
	27-10.0RD 20400	10.0	15.875U	27	5.50	3.4	13.7	

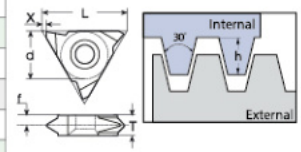
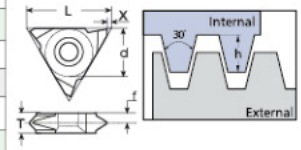
Trapez DIN 103 (TR)

Type	Designation (Right)	Designation (Left)	Pitch mm	Dimensions d	L	hmin	x	f	Picture
External	**ER** 11-1.5TR	**EL** 11-1.5TR	1.5	6.35	11	0.90	0.8	0.9	
	16-1.5TR	16-1.5TR	1.5	9.525	16	0.90	1.0	1.1	
	16-2.0TR	16-2.0TR	2.0	9.525	16	1.25	1.1	1.3	
	16-2.5TR	16-2.5TR	2.5	9.525	16	1.55	1.2	1.4	
	16-3.0TR	16-3.0TR	3.0	9.525	16	1.75	1.3	1.5	
	16-4.0TR	16-4.0TR	4.0	9.525	16	2.25	1.3	1.5	
	22-4.0TR	22-4.0TR	4.0	12.7	22	2.25	1.7	1.9	
	22-5.0TR	22-5.0TR	5.0	12.7	22	2.75	2.1	2.5	
	22-6.0TR	22-6.0TR	6.0	12.7	22	3.50	2.3	2.7	
	27-6.0TR	27-6.0TR	6.0	15.875	27	3.50	2.3	2.7	
	27-7.0TR	27-7.0TR	7.0	15.875	27	4.00	2.7	3.2	
Internal	**IR** 08-1.5TR	**IL** 08-1.5TR	1.5	4.76	8	0.85	0.6	0.6	
	11-1.5TR	11-1.5TR	1.5	6.35	11	0.90	0.8	0.9	
	16-1.5TR	16-1.5TR	1.5	9.525	16	0.90	1.0	1.1	
	16-2.0TR	16-2.0TR	2.0	9.525	16	1.25	1.1	1.3	
	16-2.5TR	16-2.5TR	2.5	9.525	16	1.53	1.2	1.4	
	16-3.0TR	16-3.0TR	3.0	9.525	16	1.75	1.3	1.5	
	16-4.0TR	16-4.0TR	4.0	9.525	16	2.25	1.5	1.5	
	22-4.0TR	22-4.0TR	4.0	12.7	22	2.25	1.7	1.9	
	22-5.0TR	22-5.0TR	5.0	12.7	22	2.75	2.1	2.5	
	22-6.0TR	22-6.0TR	6.0	12.7	22	3.50	2.3	2.7	
	27-6.0TR	27-6.0TR	6.0	15.875	27	3.50	2.3	2.7	
	27-7.0TR	27-7.0TR	7.0	15.875	27	4.00	2.7	3.2	

Trapez DIN 103 (TR)

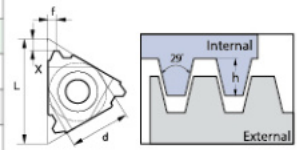
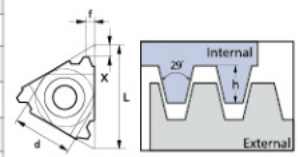
Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		mm	d	L	hmin	x	f	
External	UE 22-6.0TR	6.0	12.7U	22	3.5	2.0	11.0	
	22-7.0TR	7.0	12.7U	22	4.0	2.3	11.0	
	22-8.0TR	8.0	12.7U	22	4.5	2.6	11.0	
	27-8.0TR	8.0	12.7U	22	4.5	2.6	13.7	
	27-9.0TR	9.0	15.875U	27	5.0	3.0	13.7	
	27-10.0TR	10.0	15.875U	27	5.50	3.20	13.7	
	33-12.0TR	12.0	19.05U	33	6.50	3.90	16.9	
Internal	UI 08-2.0TR	2.0	4.76U	8	1.25	0.9	4.0	
	16-4.0TR	4.0	9.525U	16	2.25	2.10	8.0	
	16-5.0TR	5.0	9.525U	16	2.76	1.56	8.0	
	22-6.0TR	6.0	12.7U	22	3.50	2.00	11.0	
	22-7.0TR	7.0	12.7U	22	4.00	2.30	11.0	
	22-7.0TR40	7.0	12.7U	22	4.00	2.60	11.0	
	22-8.0TR	8.0	12.7U	22	4.50	2.60	11.0	
	27-8.0TR	8.0	15.875U	27	4.50	2.60	13.7	
	27-9.0TR	9.0	15.875U	27	5.00	3.00	13.7	
	27-10.0TR	10.0	15.875U	27	5.50	3.20	13.7	
	33-12.0TR	12.0	19.05U	33	6.50	3.90	16.9	

Trapez DIN 103 (V Style)

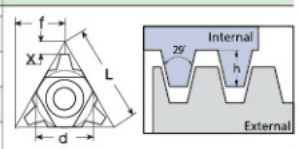
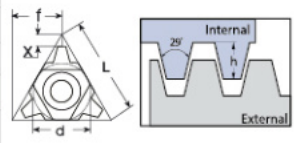
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 22-2.0TR	**VEL** 22-2.0TR	2.0	12.7V	22	1.25	1.0	2.4	4.76	
	22-3.0TR	22-3.0TR	3.0	12.7V	22	1.75	1.0	2.4	4.76	
	22-4.0TR	22-4.0TR	4.0	12.7V	22	2.25	1.0	2.4	4.76	
	22-5.0TR	22-5.0TR	5.0	12.7V	22	2.75	1.0	2.4	4.76	
	22-6.0TR	22-6.0TR	6.0	12.7V	22	3.50	1.0	2.4	4.76	
	22-7.0TR	22-7.0TR	7.0	12.7V	22	4.00	1.0	3.3	6.00	
	27-2.0TR	27-2.0TR	2.0	15.875V	27	1.25	1.0	3.3	6.35	
	27-3.0TR	27-3.0TR	3.0	15.875V	27	1.75	1.0	3.3	6.35	
	27-4.0TR	27-4.0TR	4.0	15.875V	27	2.25	1.0	3.3	6.35	
	27-5.0TR	27-5.0TR	5.0	15.875V	27	2.75	1.0	3.3	6.35	
	27-6.0TR	27-6.0TR	6.0	15.875V	27	3.50	1.0	3.3	6.35	
	27-7.0TR	27-7.0TR	7.0	15.875V	27	4.00	1.0	3.3	6.35	
	27-8.0TR	27-8.0TR	8.0	15.875V	27	4.50	1.0	3.3	6.35	
	27-9.0TR	27-9.0TR	9.0	15.875V	27	5.00	1.0	4.3	8.70	
	27-10.0TR	27-10.0TR	10.0	15.875V	27	5.50	1.0	4.3	8.70	
	27-12.0TR	27-12.0TR	12.0	15.875V	27	6.50	1.0	4.3	8.70	
	27-14.0TR	27-14.0TR	14.0	15.875V	27	8.00	1.8	5.2	10.20	
	35-16.0TR	35-16.0TR	16.0	20.0V	35	5.38	1.0	6.0	12.00	
	35-18.0TR	35-18.0TR	18.0	20.0V	35	5.38	1.0	6.5	15.00	
	35-20.0TR	35-20.0TR	20.0	20.0V	35	7.38	1.0	7.5	15.00	
Internal	**VIR** 22-2.0TR	**VIL** 22-2.0TR	2.0	12.7V	22	1.25	1.0	2.4	4.76	
	22-3.0TR	22-3.0TR	3.0	12.7V	22	1.75	1.0	2.4	4.76	
	22-4.0TR	22-4.0TR	4.0	12.7V	22	2.25	1.0	2.4	4.76	
	22-5.0TR	22-5.0TR	5.0	12.7V	22	2.75	1.0	2.4	4.76	
	22-6.0TR	22-6.0TR	6.0	12.7V	22	3.50	1.0	2.4	4.76	
	22-7.0TR	22-7.0TR	7.0	12.7V	22	4.00	1.0	3.3	6.00	
	27-2.0TR	27-2.0TR	2.0	15.875V	27	1.25	1.0	3.3	6.35	
	27-3.0TR	27-3.0TR	3.0	15.875V	27	1.75	1.0	3.3	6.35	
	27-4.0TR	27-4.0TR	4.0	15.875V	27	2.25	1.0	3.3	6.35	
	27-5.0TR	27-5.0TR	5.0	15.875V	27	2.75	1.0	3.3	6.35	
	27-6.0TR	27-6.0TR	6.0	15.875V	27	3.50	1.0	3.3	6.35	
	27-7.0TR	27-7.0TR	7.0	15.875V	27	4.00	1.0	3.3	6.35	
	27-8.0TR	27-8.0TR	8.0	15.875V	27	4.50	1.0	3.3	6.35	
	27-9.0TR	27-9.0TR	9.0	15.875V	27	5.00	1.0	4.3	8.70	
	27-10.0TR	27-10.0TR	10.0	15.875V	27	5.50	1.0	4.3	8.70	
	27-12.0TR	27-12.0TR	12.0	15.875V	27	6.50	1.0	4.3	8.70	
	27-14.0TR	27-14.0TR	14.0	15.875V	27	8.00	1.8	5.2	10.20	
	35-16.0TR	35-16.0TR	16.0	20.0V	35	5.38	1.0	6.0	12.00	
	35-18.0TR	35-18.0TR	18.0	20.0V	35	5.38	1.0	6.5	15.00	
	35-20.0TR	35-20.0TR	20.0	20.0V	35	7.38	1.0	7.5	15.00	

Thread Insert

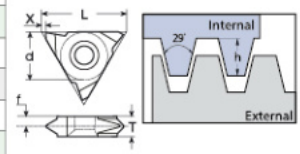
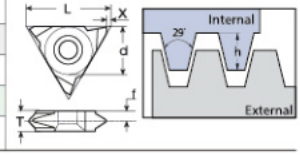
American ACME (ACME)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-16ACME	**EL** 11-16ACME	16	6.35	11	0.92	1.0	1.1	
	16-16ACME	16-16ACME	16	9.525	16	0.92	1.0	1.1	
	16-14ACNE	16-14ACNE	14	9.525	16	1.03	1.0	1.2	
	16-12ACME	16-12ACME	12	9.525	16	1.19	1.1	1.2	
	16-10ACME	16-10ACME	10	9.525	16	1.52	1.3	1.4	
	16-8ACME	16-8ACME	8	9.525	16	1.84	1.4	1.5	
	16-6ACME	16-6ACME	6	9.525	16	2.37	1.7	1.9	
	22-6ACME	22-6ACME	6	12.7	22	2.37	1.8	2.1	
	22-5ACME	22-5ACME	5	12.7	22	2.79	2.0	2.3	
	22-4ACME	22-4ACME	4	12.7	27	3.43	2.1	2.2	
	27-4ACME	27-4ACME	4	15.875	27	3.43	2.4	2.7	
Internal	**IR** 08-16ACME	**IL** 08-16ACME	16	4.76	8	0.92	0.6	0.6	
	11-16ACME	11-16ACME	16	6.35	11	0.92	0.9	0.9	
	16-16ACME	16-16ACME	16	9.525	16	0.92	1.0	1.1	
	16-14ACNE	16-14ACNE	14	9.525	16	1.03	1.1	1.2	
	16-12ACNE	16-12ACNE	12	9.525	16	1.19	1.2	1.3	
	16-10ACME	16-10ACME	10	9.525	16	1.52	1.2	1.3	
	16-8ACME	16-8ACME	8	9.525	16	1.84	1.4	1.5	
	16-6ACME	16-6ACME	6	9.525	16	2.37	1.7	1.9	
	22-6ACME	22-6ACME	6	12.7	22	2.37	1.8	2.1	
	22-5ACME	22-5ACME	5	12.7	22	2.79	2.0	2.3	
	22-4ACME	22-4ACME	4	12.7	27	3.43	2.1	2.2	
	27-4ACME	27-4ACME	4	15.875	27	3.43	2.3	2.6	

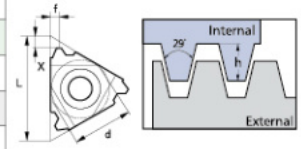
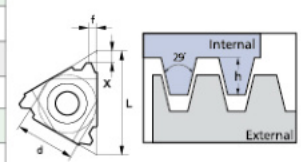
American ACME (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External	**UE** 22-4ACME	4	12.7U	22	3.43	2.3	11.0	
	22-3ACME	3	12.7U	22	4.49	2.9	11.0	
	27-3ACME	3	15.875U	27	4.49	2.9	13.7	
	33-2ACME	2	19.05U	33	6.54	4.3	16.9	
Internal	**UI** 08-14ACME	14	4.76U	8	1.03	0.8	4.0	
	08-12ACME	12	4.76U	8	1.19	0.8	4.0	
	08-10ACME	10	4.76U	8	1.52	0.8	4.0	
	11-8ACME	8	6.35U	11	1.84	1.0	5.5	
	22-4ACME	4	12.7U	22	3.43	2.3	11.0	
	22-3ACME	3	12.7U	22	4.49	2.9	11.0	
	27-3ACME	3	15.875U	27	4.49	2.9	13.7	
	33-2ACME	2	19.05U	33	6.54	4.3	16.9	

American ACME (V Style)

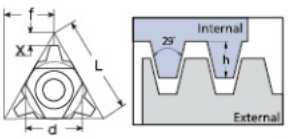
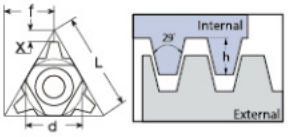
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 27-4ACME	**VEL** 27-4ACME	4	15.875V	27	3.43	1.0	3.3	6.35	
	27-3.5ACME	27-3.5ACME	3.5	15.875V	27	3.85	1.8	4.0	6.35	
	27-3ACME	27-3ACME	3	15.875V	27	4.49	1.8	4.6	6.35	
	27-2ACME	27-2ACME	2	15.875V	27	6.60	1.8	5.0	8.70	
Internal	**VIR** 27-4ACME	**VIL** 27-4ACME	4	15.875V	27	3.43	1.0	3.3	6.35	
	27-3.5ACME	27-3.5ACME	3.5	15.875V	27	3.85	1.8	4.0	6.35	
	27-3ACME	27-3ACME	3	15.875V	27	4.49	1.8	4.6	6.35	
	27-2ACME	27-2ACME	2	15.875V	27	6.60	1.8	5.0	8.70	

Stub ACME (STACME)

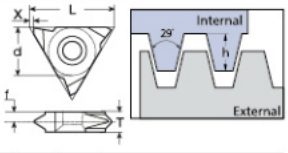
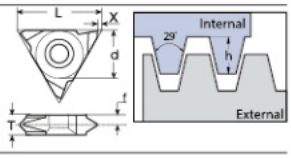
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-16STACME	**EL** 11-16STACME	16	6.35	11	0.60	1.0	1.0	
	16-16STACME	16-16STACME	16	9.525	16	0.60	1.0	1.0	
	16-14STACNE	16-14STACNE	14	9.525	16	0.67	1.1	1.1	
	16-12STACME	16-12STACME	12	9.525	16	0.76	1.2	1.2	
	16-10STACME	16-10STACME	10	9.525	16	1.02	1.2	1.3	
	16-8STACME	16-8STACME	8	9.525	16	1.21	1.4	1.5	
	16-6STACME	16-6STACME	6	9.525	16	1.52	1.7	1.8	
	22-6STACME	22-6STACME	6	12.7	22	1.52	1.7	1.8	
	22-5STACME	22-5STACME	5	12.7	22	1.78	2.1	2.3	
	22-4STACME	22-4STACME	4	12.7	22	2.16	2.3	2.3	
	27-4STACME	27-4STACME	4	15.875	27	2.16	2.3	2.4	
	27-3STACME	27-3STACME	3	15.875	27	2.79	2.9	2.9	
Internal	**IR** 08-16STACME	**IL** 08-16STACME	16	4.76	8	0.60	0.6	0.6	
	11-16STACME	11-16STACME	16	6.35	11	0.60	1.0	1.0	
	16-16STACME	16-16STACME	16	9.525	16	0.60	1.0	1.0	
	16-14STACNE	16-14STACNE	14	9.525	16	0.67	1.1	1.1	
	16-12STACME	16-12STACME	12	9.525	16	0.76	1.1	1.2	
	16-10STACME	16-10STACME	10	9.525	16	1.02	1.2	1.3	
	16-8STACME	16-8STACME	8	9.525	16	1.21	1.4	1.5	
	16-6STACME	16-6STACME	6	9.525	16	1.52	1.7	1.8	
	22-6STACME	22-6STACME	6	12.7	22	1.52	1.7	1.8	
	22-5STACME	22-5STACME	5	12.7	22	1.78	2.1	2.3	
	22-4STACME	22-4STACME	4	12.7	22	2.16	2.3	2.3	
	27-4STACME	27-4STACME	4	15.875	27	2.16	2.3	2.4	
	27-3STACME	27-3STACME	3	15.875	27	2.79	2.9	2.9	

Thread Insert

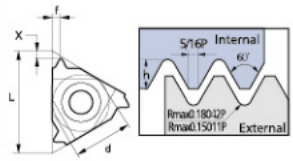
Stub ACME (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External	UE 22-4STACME	4	12.7U	22	2.16	2.6	11.0	
	22-3STACME	3	12.7U	22	2.79	3.4	11.0	
	33-2STACME	2	19.05U	33	4.06	5.0	16.9	
Internal	UI 08-14STACME	14	4.76U	8	0.67	0.8	4.0	
	08-12STACME	12	4.76U	8	1.76	0.9	4.0	
	08-10STACME	10	4.76U	8	1.02	1.0	4.0	
	22-4STACME	4	12.7U	22	2.16	2.5	11.0	
	27-3STACME	3	15.875U	22	2.79	3.3	11.0	
	33-2SSTACME	2	19.05U	33	4.06	5.0	16.9	

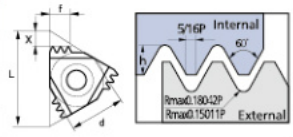
Stub ACME (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	VER 27-4STACME	VEL 27-4STACME	4	15.875V	27	2.16	1.0	3.3	6.35	
	27-3STACME	27-3STACME	3	15.875V	27	2.79	1.8	4.6	6.35	
	27-2STACME	27-2STACME	2	15.875V	27	4.06	1.8	5.0	8.70	
Internal	VIR 27-4STACME	VIL 27-4STACME	4	15.875V	27	2.16	1.0	3.3	6.35	
	27-3STACME	27-3STACME	3	15.875V	27	2.79	1.8	4.6	6.35	
	27-2STACME	27-2STACME	2	15.875V	27	4.06	1.8	5.0	8.70	

UNJ (Unified Constant Thread)

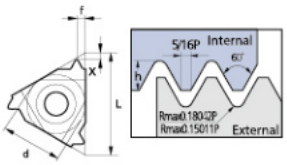
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-48UNJ	**EL** 11-48UNJ	48	6.35	11	0.31	0.6	0.5	
	11-44UNJ	11-44UNJ	44	6.35	11	0.33	0.6	0.6	
	11-40UNJ	11-40UNJ	40	6.35	11	0.37	0.6	0.6	
	11-36UNJ	11-36UNJ	36	6.35	11	0.41	0.6	0.6	
	11-32UNJ	11-32UNJ	32	6.35	11	0.46	0.6	0.7	
	11-28UNJ	11-28UNJ	28	6.35	11	0.52	0.7	0.7	
	11-24UNJ	11-24UNJ	24	6.35	11	0.61	0.7	0.8	
	11-20UNJ	11-20UNJ	20	6.35	11	0.73	0.8	0.9	
	11-18UNJ	11-18UNJ	18	6.35	11	0.81	0.8	1.0	
	11-16UNJ	11-16UNJ	16	6.35	11	0.92	0.9	1.1	
	11-14UNJ	11-14UNJ	14	6.35	11	1.05	1.0	1.2	
	16-48UNJ	16-48UNJ	48	9.525	16	0.31	0.6	0.5	
	16-44UNJ	16-44UNJ	44	9.525	16	0.33	0.6	0.6	
	16-40UNJ	16-40UNJ	40	9.525	16	0.37	0.6	0.6	
	16-36UNJ	16-36UNJ	36	9.525	16	0.41	0.6	0.6	
	16-32UNJ	16-32UNJ	32	9.525	16	0.46	0.6	0.7	
	16-28UNJ	16-28UNJ	28	9.525	16	0.52	0.7	0.7	
	16-24UNJ	16-24UNJ	24	9.525	16	0.61	0.7	0.8	
	16-20UNJ	16-20UNJ	20	9.525	16	0.73	0.8	0.9	
	16-18UNJ	16-18UNJ	18	9.525	16	0.81	0.8	1.0	
	16-16UNJ	16-16UNJ	16	9.525	16	0.92	0.9	1.1	
	16-14UNJ	16-14UNJ	14	9.525	16	1.05	1.0	1.2	
	16-13UNJ	16-13UNJ	13	9.525	16	1.13	1.0	1.3	
	16-12UNJ	16-12UNJ	12	9.525	16	1.22	1.1	1.3	
	16-11UNJ	16-11UNJ	11	9.525	16	1.33	1.2	1.5	
	16-10UNJ	16-10UNJ	10	9.525	16	1.47	1.2	1.5	
	16-9UNJ	16-9UNJ	9	9.525	16	1.63	1.3	1.7	
	16-8UNJ	16-8UNJ	8	9.525	16	1.83	1.2	1.6	
	22-7UNJ	22-7UNJ	7	12.7	22	2.09	1.7	2.3	
	22-6UNJ	22-6UNJ	6	12.7	22	2.44	1.7	2.3	
	22-5UNJ	22-5UNJ	5	12.7	22	2.93	1.8	2.5	
	27-4.5UNJ	27-4.5UNJ	4.5	15.875	27	3.26	2.0	2.7	
	27-4UNJ	27-4UNJ	4	15.875	27	3.67	2.2	3.0	

UNJ (M+ Style)

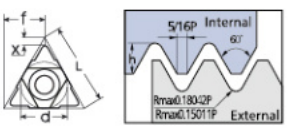
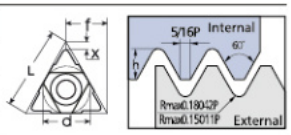
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	Tooth	
External	**ER** 16-16UNJ 2M		16	9.525	16	0.92	1.6	2.4	2	
	22-16UNJ 2M		16	12.7	16	0.92	2.3	3.8	2	

Thread Insert

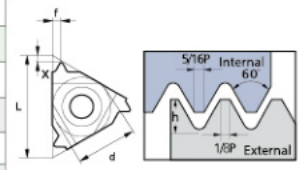
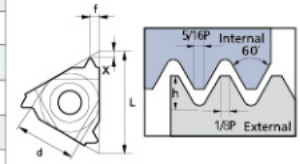
UNJ (Unified Constant Thread)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
Internal	IR 11-48UNJ	IL 11-48UNJ	48	6.35	11	0.28	0.6	0.5	
	11-44UNJ	11-44UNJ	44	6.35	11	0.30	0.6	0.6	
	11-40UNJ	11-40UNJ	40	6.35	11	0.33	0.6	0.6	
	11-36UNJ	11-36UNJ	36	6.35	11	0.37	0.6	0.6	
	11-32UNJ	11-32UNJ	32	6.35	11	0.42	0.6	0.7	
	11-28UNJ	11-28UNJ	28	6.35	11	0.47	0.7	0.7	
	11-24UNJ	11-24UNJ	24	6.35	11	0.55	0.7	0.8	
	11-20UNJ	11-20UNJ	20	6.35	11	0.66	0.8	0.9	
	11-18UNJ	11-18UNJ	18	6.35	11	0.74	0.8	1.0	
	11-16UNJ	11-16UNJ	16	6.35	11	0.83	0.9	1.1	
	11-14UNJ	11-14UNJ	14	6.35	11	0.95	1.0	1.2	
	16-48UNJ	16-48UNJ	48	9.525	16	0.28	0.6	0.5	
	16-44UNJ	16-44UNJ	44	9.525	16	0.30	0.6	0.6	
	16-40UNJ	16-40UNJ	40	9.525	16	0.33	0.6	0.6	
	16-36UNJ	16-36UNJ	36	9.525	16	0.37	0.6	0.6	
	16-32UNJ	16-32UNJ	32	9.525	16	0.42	0.6	0.7	
	16-28UNJ	16-28UNJ	28	9.525	16	0.47	0.7	0.7	
	16-24UNJ	16-24UNJ	24	9.525	16	0.55	0.7	0.8	
	16-20UNJ	16-20UNJ	20	9.525	16	0.66	0.8	0.9	
	16-18UNJ	16-18UNJ	18	9.525	16	0.74	0.8	1.0	
	16-16UNJ	16-16UNJ	16	9.525	16	0.83	0.9	1.1	
	16-14UNJ	16-14UNJ	14	9.525	16	0.95	1.0	1.2	
	16-13UNJ	16-13UNJ	13	9.525	16	1.02	1.0	1.3	
	16-12UNJ	16-12UNJ	12	9.525	16	1.11	1.1	1.3	
	16-11UNJ	16-11UNJ	11	9.525	16	1.21	1.2	1.5	
	16-10UNJ	16-10UNJ	10	9.525	16	1.33	1.2	1.5	
	16-9UNJ	16-9UNJ	9	9.525	16	1.48	1.3	1.7	
	16-8UNJ	16-8UNJ	8	9.525	16	1.66	1.2	1.6	
	22-7UNJ	22-7UNJ	7	12.7	22	1.90	1.7	2.3	
	22-6UNJ	22-6UNJ	6	12.7	22	2.21	1.7	2.3	
	22-5UNJ	22-5UNJ	5	12.7	22	2.66	1.8	2.5	
	27-4.5UNJ	27-4.5UNJ	4.5	15.875	27	2.95	2.0	2.7	
	27-4UNJ	27-4UNJ	4	15.875	27	3.32	2.2	3.0	

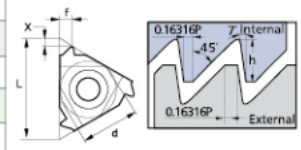
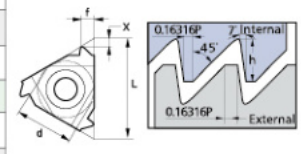
UNJ (U Style)

Type	Designation (Right+Left)	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External	UE 22-4.5UNJ	4.5	12.7U	22	3.26	2.1	11.0	
	22-4UNJ	4	12.7U	22	3.67	2.1	11.0	
Internal	UI 22-4.5UNJ	4.5	12.7U	22	3.26	2.1	11.0	
	22-4UNJ	4	12.7U	22	3.67	2.1	11.0	

MJ

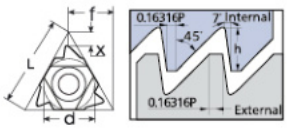
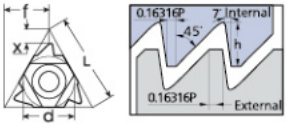
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	**ER** 11-1.00MJ	**EL** 11-1.00MJ	1.0	6.35	11	0.58	0.7	0.7	
	11-1.25MJ	11-1.25MJ	1.25	6.35	11	0.72	0.8	0.9	
	11-1.50MJ	11-1.50MJ	1.5	6.35	11	0.87	0.8	1.0	
	16-0.70MJ	16-0.70MJ	0.7	9.525	16	0.40	0.6	0.6	
	16-0.80MJ	16-0.80MJ	0.8	9.525	16	0.45	0.7	0.7	
	16-1.00MJ	16-1.00MJ	1.0	9.525	16	0.58	0.7	0.7	
	16-1.25MJ	16-1.25MJ	1.25	9.525	16	0.72	0.8	0.9	
	16-1.50MJ	16-1.50MJ	1.5	9.525	16	0.87	0.8	1.0	
	16-2.00MJ	16-2.00MJ	2.0	9.525	16	1.15	1.0	1.3	
	16-2.50MJ	16-2.50MJ	2.5	9.525	16	1.49	1.1	1.5	
	16-3.00MJ	16-3.00MJ	3.0	9.525	16	1.73	1.2	1.6	
Internal	**IR** 11-1.00MJ	**IL** 11-1.00MJ	1.0	6.35	11	0.49	0.6	0.7	
	11-1.25MJ	11-1.25MJ	1.25	6.35	11	0.61	0.8	0.9	
	11-1.50MJ	11-1.50MJ	1.5	6.35	11	0.73	0.8	1.0	
	11-2.00MJ	11-2.00MJ	2.0	6.35	11	0.97	0.8	1.0	
	16-0.75MJ	16-0.75MJ	0.75	9.525	16	0.37	0.6	0.6	
	16-0.80MJ	16-0.80MJ	0.8	9.525	16	0.44	0.7	0.7	
	16-1.00MJ	16-1.00MJ	1.0	9.525	16	0.49	0.6	0.7	
	16-1.25MJ	16-1.25MJ	1.25	9.525	16	0.61	0.8	0.9	
	16-1.50MJ	16-1.50MJ	1.5	9.525	16	0.73	0.8	1.0	
	16-2.00MJ	16-2.00MJ	2.0	9.525	16	0.97	0.8	1.3	
	16-2.50MJ	16-2.50MJ	2.5	9.525	16	1.23	1.1	1.5	
	16-3.00MJ	16-3.00MJ	3.0	9.525	16	1.46	1.2	1.6	

American Buttress (ABUT)

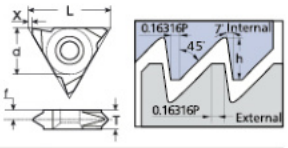
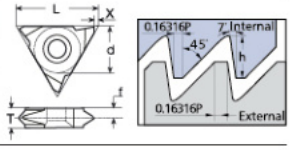
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 11-20ABUT	**EL** 11-20ABUT	20	6.35	11	0.84	1.0	1.4	
	11-16ABUT	11-16ABUT	16	6.35	11	1.05	1.3	1.9	
	16-20ABUT	16-20ABUT	20	9.525	16	0.84	1.0	1.4	
	16-16ABUT	16-16ABUT	16	9.525	16	1.05	1.3	1.9	
	16-12ABUT	16-12ABUT	12	9.525	16	1.40	1.4	2.0	
	16-10ABUT	16-10ABUT	10	9.525	16	1.68	1.5	2.3	
	22-8ABUT	22-8ABUT	8	12.7	22	2.10	2.0	3.2	
	22-6ABUT	22-6ABUT	6	12.7	22	2.80	2.2	3.5	
Internal	**IR** 11-20ABUT	**IL** 11-20ABUT	20	6.35	11	0.84	1.0	1.4	
	11-16ABUT	11-16ABUT	16	6.35	11	1.05	1.3	1.9	
	16-20ABUT	16-20ABUT	20	9.525	16	0.84	1.0	1.4	
	16-16ABUT	16-16ABUT	16	9.525	16	1.05	1.3	1.9	
	16-12ABUT	16-12ABUT	12	9.525	16	1.40	1.4	2.0	
	16-10ABUT	16-10ABUT	10	9.525	16	1.68	1.5	2.3	
	22-8ABUT	22-8ABUT	8	12.7	22	2.10	2.0	3.2	
	22-6ABUT	22-6ABUT	6	12.7	22	2.80	2.2	3.5	

Thread Insert

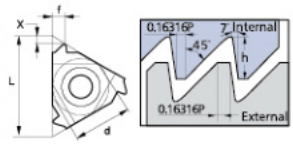
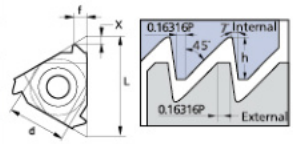
American Buttress (U Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**UER** 22-4ABUT	**UEL** 22-4ABUT	4	12.7U	22	4.21	2.4	9.8	
	22-3ABUT	22-3ABUT	3	12.7U	22	5.61	3.1	12.1	
Internal	**UIR** 22-4ABUT	**UIL** 22-4ABUT	4	12.7U	22	4.21	2.4	9.8	
	22-3ABUT	22-3ABUT	3	12.7U	22	5.61	3.1	12.1	

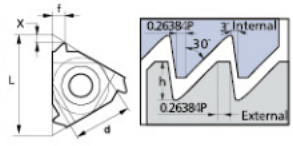
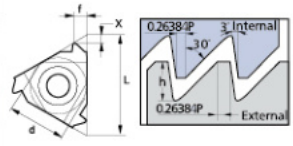
American Buttress (V Style)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			tpi	d	L	hmin	x	f	T	
External	**VER** 22-4ABUT	**VEL** 22-4ABUT	4	12.7V	22	4.21	0.6	1.8	6.35	
	22-3ABUT	22-3ABUT	3	12.7V	22	5.61	0.6	2.2	6.35	
	22-2.5ABUT	22-2.5ABUT	2.5	12.7V	22	6.73	0.6	2.7	8.70	
Internal	**VIR** 22-4ABUT	**VIL** 22-4ABUT	4	12.7V	22	4.21	0.6	1.8	6.35	
	22-3ABUT	22-3ABUT	3	12.7V	22	5.61	0.6	2.2	6.35	
	22-2.5ABUT	22-2.5ABUT	2.5	12.7V	22	6.73	0.6	2.7	8.70	

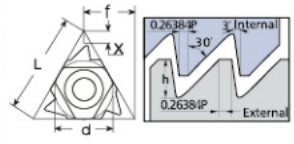
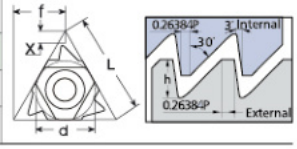
British Buttress (BBUT)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	ER 16-16BBUT	EL 16-16BBUT	16	9.525	16	0.80	1.1	1.6	
	16-12BBUT	16-12BBUT	12	9.525	16	1.07	1.4	2.1	
	16-10BBUT	16-10BBUT	10	9.525	16	1.28	1.4	2.2	
	16-8BBUT	16-8BBUT	8	9.525	16	1.61	1.6	2.5	
	22-6BBUT	22-6BBUT	8	12.7	22	1.61	1.6	2.5	
Internal	IR 16-16BBUT	IL 16-16BBUT	16	9.525	16	0.80	1.1	1.6	
	16-12BBUT	16-12BBUT	12	9.525	16	1.07	1.4	2.1	
	16-10BBUT	16-10BBUT	10	9.525	16	1.28	1.4	2.2	
	16-8BBUT	16-8BBUT	8	9.525	16	1.61	1.6	2.5	
	22-6BBUT	22-6BBUT	8	12.7	22	1.61	1.6	2.5	

Metric Buttress (SAGE)

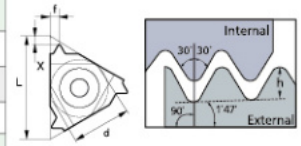
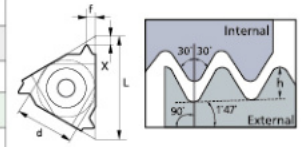
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			mm	d	L	hmin	x	f	
External	ER 16-2.0SAGE	EL 16-2.0SAGE	2.0	9.525	16	1.74	1.47	2.08	
	22-2.0SAGE	22-2.0SAGE	2.0	12.7	22	1.74	1.47	2.08	
	22-3.0SAGE	22-3.0SAGE	3.0	12.7	22	1.79	1.79	2.60	
	22-4.0SAGE	22-4.0SAGE	4.0	12.7	22	3.55	1.75	3.10	
	27-4.0SAGE	27-4.0SAGE	4.0	15.875	27	3.55	1.93	3.20	
Internal	IR 16-2.0SAGE	IL 16-2.0SAGE	2.0	9.525	16	1.50	1.52	2.2	
	22-3.0SAGE	22-3.0SAGE	3.0	12.7	22	2.25	1.66	2.9	
	22-4.0SAGE	22-4.0SAGE	4.0	12.7	22	3.09	2.03	3.25	
	27-4.0SAGE	27-4.0SAGE	4.0	15.875	27	3.09	2.12	3.2	

Metric Buttress (U Style)

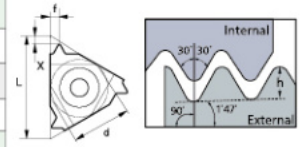
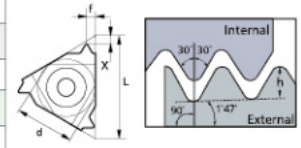
Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	UER 22-5.0SAGE	UEL 22-5.0SAGE	5.0	12.7U	22	4.41	1.27	10.35	
	22-6.0SAGE	22-6.0SAGE	6.0	12.7U	22	5.29	1.25	10.28	
Internal	UIR 22-5.0SAGE	UIL 22-5.0SAGE	5.0	12.7U	22	4.41	1.27	10.35	
	22-6.0SAGE	22-6.0SAGE	6.0	12.7U	22	5.29	1.25	10.28	

Thread Insert

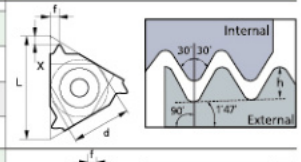
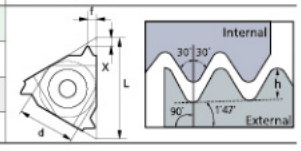
API V-0.038R (full form) API spec 7-2

Type	Designation	size	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 22-4API382	NC23-NC50	4	12.7	22	3.09	2.1	2.8	
	22-4API383	NC56-NC77	4	12.7	22	3.08	2.1	2.8	
	27-4API382	NC23-NC50	4	15.875	27	3.09	2.1	2.8	
	27-4API383	NC56-NC77	4	15.875	27	3.08	2.1	2.8	
Internal	**IR** 22-4API382	NC23-NC50	4	12.7	22	3.09	2.1	2.8	
	22-4API383	NC56-NC77	4	12.7	22	3.08	2.1	2.8	
	27-4API382	NC23-NC50	4	15.875	27	3.09	2.1	2.8	
	27-4API383	NC56-NC77	4	15.875	27	3.08	2.1	2.8	

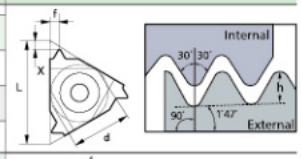
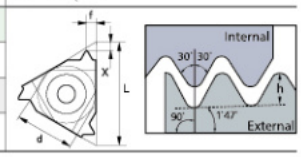
API V-0.040

Type	Designation	size	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 22-5API403	2 3/8"-4 1/2"REG	5	12.7	222	2.99	1.8	2.6	
	27-5API403	2 3/8"-4 1/2"REG	5	15.875	27	2.99	1.9	2.7	
Internal	**IR** 22-5API403	2 3/8"-4 1/2"REG	5	12.7	22	2.99	1.8	2.6	
	27-5API403	2 3/8"-4 1/2"REG	5	15.875	27	2.99	1.9	2.7	

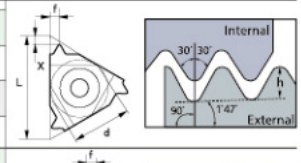
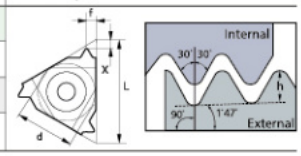
API V-0.050

Type	Designation	size	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 22-4API502	6 5/8"REG	4	12.7	22	3.75	2.0	2.9	
	22-4API503	5 1/2",7 5/8" 8 5/8"REG	4	12.7	22	3.74	2.0	2.9	
	27-4API502	6 5/8"REG	4	15.875	27	3.75	2.1	3.1	
	27-4API503	5 1/2",7 5/8" 8 5/8"REG	4	15.875	27	3.74	2.1	3.1	
Internal	**IR** 22-4API502	6 5/8"REG	4	12.7	22	3.75	2.1	3.1	
	22-4API503	5 1/2",7 5/8" 8 5/8"REG	4	12.7	22	3.74	2.0	2.9	
	27-4API502	6 5/8"REG	4	15.875	27	3.75	2.1	3.1	
	27-4API503	5 1/2",7 5/8" 8 5/8"REG	4	15.875	27	3.74	2.1	3.1	

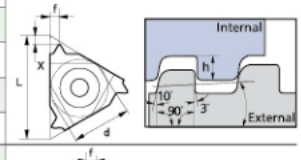
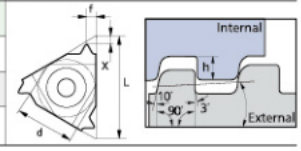
API V-0.055

Type	Designation	size	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 22-6API551.5	NC10-NC16	6	12.7	22	1.41	2.6	2.0	
Internal	**IR** 16-6API551.5	NC10-NC13	6	9.525	16	1.41	2.0	1.7	
	22-6API551.5	NC10-NC16	6	12.7	22	1.41	2.6	2.0	

API V-0.065

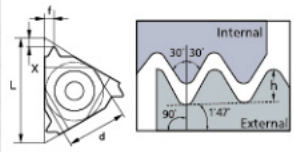
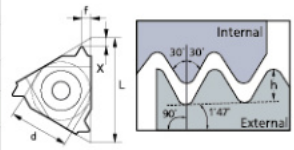
Type	Designation	size	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 27-4API652	2 3/8"IF - 5 1/2"IF	4	15.875	27	2.81	2.3	2.8	
Internal	**IR** 27-4API652	2 3/8"IF - 5 1/2"IF	4	15.875	27	2.81	2.3	2.8	

API Buttress Casing (BUT)

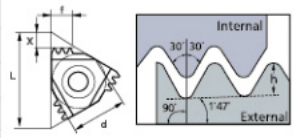
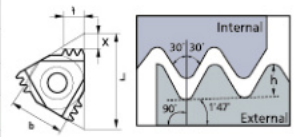
Type	Designation (Right)	Designation (Left)	Pitch	IPF	Dimensions					Picture
			tpi		d	L	hmin	x	f	
External	**ER** 22-5BUT75	**EL** 22-5BUT75	5	0.75	12.7	22	1.55	3.1	1.9	
	22-5BUT1	22-5BUT1	5	1	12.7	22	1.55	3.1	1.9	
Internal	**IR** 22-5BUT75	**IL** 22-5BUT75	5	0.75	12.7	22	1.55	3.1	1.9	
	22-5BUT1	22-5BUT1	5	1	12.7	22	1.55	3.1	1.9	

Thread Insert

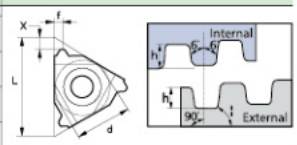
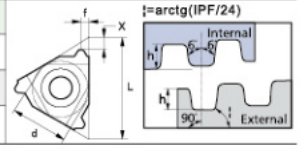
API Round Casing & Tubing (APIRD)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions					Picture
			tpi	d	L	hmin	x	f	
External	**ER** 16-10APIRD		10	9.525	16	1.41	1.2	1.4	
	16-8APIRD		8	9.525	16	1.81	1.3	1.5	
	22-10APIRD		10	12.7	22	1.47	1.45	1.8	
	22-8APIRD		8	12.7	22	1.88	1.85	2.0	
Internal	**IR** 16-10APIRD		10	9.525	16	1.41	1.2	1.4	
	16-8APIRD		8	9.525	16	1.81	1.3	1.5	
	22-10APIRD		10	12.7	22	1.47	1.45	1.8	
	22-8APIRD		8	12.7	22	1.88	1.85	2.0	

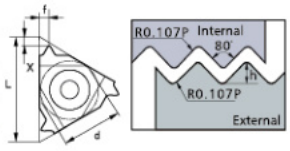
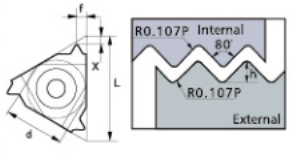
API Round Casing & Tubing (M+ Style)

Type	Designation (Right+Left))	Pitch	Dimensions					Picture
		tpi	d	L	hmin	x	f	
External	**ER** 22-10APIRD 2M	10	12.7	22	1.41	2.3	3.8	
	27-10APIRD 3M	10	15.875	27	1.41	2.3	3.8	
	27-8APIRD 2M	8	15.875	27	1.81	2.9	4.5	
Internal	**IR** 22-10APIRD 2M	10	12.7	22	1.41	2.3	3.7	
	27-10APIRD 3M	10	15.875	27	1.41	2.3	3.7	
	27-8APIRD 2M	8	15.875	27	1.81	2.9	4.5	

Extreme Line Casing (EL)

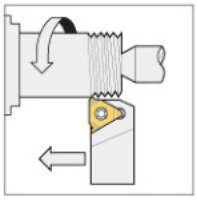
Type	Designation (Right)	Designation (Left)	Pitch	Taper	Dimensions					Picture
			tpi	IPF	d	L	hmin	x	f	
External	**ER** 22-6EL15		6	1.5	12.7	22	1.21	1.9	1.9	
	22-5EL125		5	1.25	12.7	22	1.71	2.3	2.4	
Internal	**IR** 22-6EL15		6	1.5	12.7	22	1.21	1.8	1.9	
	22-5EL125		5	1.25	12.7	22	1.71	2.2	2.4	

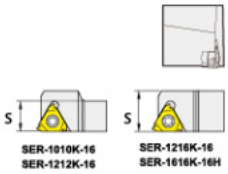
PG

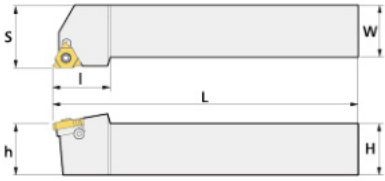
Type	Designation (Right)	Designation (Left)	Pitch	Thread	Dimensions					Picture
			tpi		d	L	hmin	x	f	
External	**ER** 11-20Pg	**EL** 11-20Pg	20	Pg7	6.35	11	0.61	0.8	0.9	
	11-18Pg	11-18Pg	18	Pg9/11/13.5/16	6.35	11	0.67	0.8	1.0	
	11-16Pg	11-16Pg	16	Pg21/29/36/42/48	6.35	11	0.76	0.9	1.1	
	16-20Pg	16-20Pg	20	Pg7	9.525	16	0.61	0.8	0.9	
	16-18Pg	16-18Pg	18	Pg9/11/13.5/16	9.525	16	0.67	0.8	1.0	
	16-16Pg	16-16Pg	16	Pg21/29/36/42/48	9.525	16	0.76	0.9	1.1	
Internal	**IR** 11-20Pg	**IL** 11-20Pg	20	Pg7	6.35	11	0.61	0.8	0.9	
	11-18Pg	11-18Pg	18	Pg9/11/13.5/16	6.35	11	0.67	0.8	1.0	
	11-16Pg	11-16Pg	16	Pg21/29/36/42/48	6.35	11	0.76	0.9	1.1	
	16-20Pg	16-20Pg	20	Pg7	9.525	16	0.61	0.8	0.9	
	16-18Pg	16-18Pg	18	Pg9/11/13.5/16	9.525	16	0.67	0.8	1.0	
	16-16Pg	16-16Pg	16	Pg21/29/36/42/48	9.525	16	0.76	0.9	1.1	

External Holder

SER/L

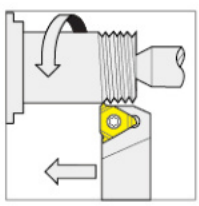


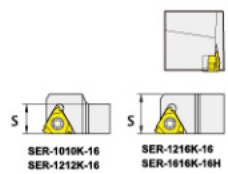


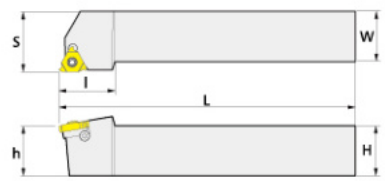


Designation	Stock		Dimensions(mm)						Application Insert	Spare parts			
	R	L	H	W	L	S	h	l		Shim	Screw	shim screw	Wrench
SER/L 0808-H11			8	8	100	11	8	17.5	11ER/EL	X	M2.5X8	X	T-8
1010-F11	●	●	10	10	80	11	10	17.5					
1212-F11	●	●	12	12	80	12	12	17.5					
1212-F16	●	●	12	12	80	16	12	22	16ER/EL	STM16R STM16L	M3.5X9	M3X6N	T-15
1616-H16	●	●	16	16	100	20	16	20.5			M3.5X12		T-15
2020-K16	●	●	20	20	125	25	20	30					
2525-M16	●	●	25	25	150	32	25	30					
3232-P16	●	●	32	32	170	40	32	30	22ER/EL	STM22R STM22L	M4.5x11.5	M4X6N	T-20
2525-M22	●	●	25	25	150	32	25	36					
3232-P22	●	●	32	32	170	40	32	36					
4040-R22	●	●	40	40	200	50	40	36					
2525-M27	●	●	25	25	150	32	25	35					
3232-P27	●	●	32	32	170	40	32	40	27ER/EL	STM27	M5.0X20	M4X6N	T-20
4040-R27			40	40	200	50	40	40					
5050-T27			50	50	300	60	50	40					

SER/L

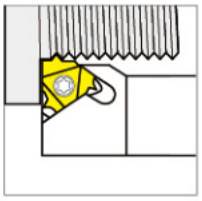


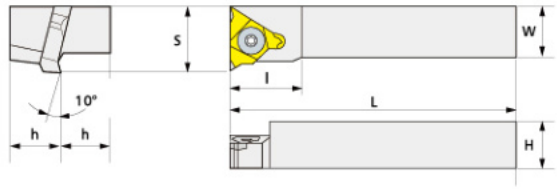




Designation	Stock		Dimensions(mm)						Application Insert	Spare parts	
	R	L	H	W	L	S	h	l		Insert screw	Wrench
SER/L 1216-K16			12	16	125	16	12	-	16ER/EL	M3.5x9	T-15
1010-K16H			10	10	125	10	10	-			
1212-K16H			12	12	125	12	12	-			
1616-K16H			16	16	125	16	16	-			

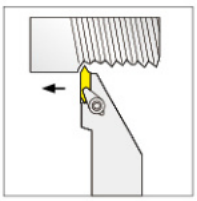
SER/L-G

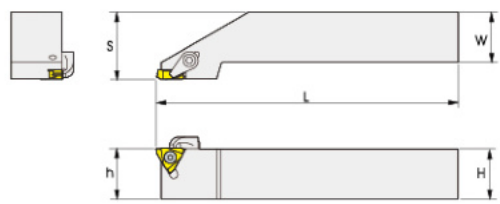




Designation	Stock		Dimensions(mm)						Application Insert	Spare parts			
	R	L	H	W	L	S	h	l		Shim	Screw	shim screw	Wrench
SER/L 0808-H11G			8	8	16	100	12	8	11ER/EL	X	M2.5X8	X	T-8
1010-H11G			10	10	16	100	16	10					
1010-H16G	●	○	10	10	16	100	16	12	16ER/EL		M3.5X9		T-15
1212-H16G	●	○	12	12	17.8	100	17.2	12					
1414-H16G			14	14	17.8	100	17.2	14					
1616-H16G	●	○	16	16	23	100	20	16		STM16R STM16L	M3.5X12	M3X6N	T-15
2020-K16G	●	○	20	20	23	100	25	20					

CER/L-V

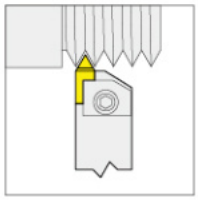


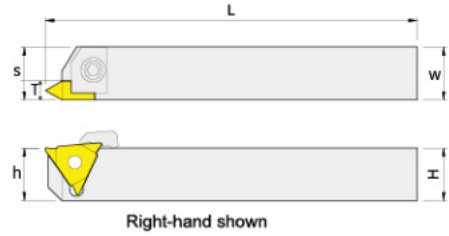


Designation	Stock		Dimensions(mm)					Application Insert	Spare parts			
	R	L	H	W	L	S	h		Clamp	Clamp Screw	Screw	Wrench
CER/L 1212-H16V	●	○	12	12	100	17	12	16VER/VEL	JTY16	JTS06	M3.5X9	T-15 HW30L
1616-H16V	●	○	16	16	100	20	16					
2020-K16V	●	○	20	20	125	25	20					
2525-M16V	●	○	25	25	150	30	25					
3232-P16V	●	○	32	32	170	40	32	22VER/VEL	JTY16	JTS06	M4.5x11.5	T-20 HW40L
2020-K22V	●	○	20	20	125	25	20					
2525-M22V	●	○	25	25	150	30	25					
3232-P22V	●	○	32	32	170	40	32					

External Holder

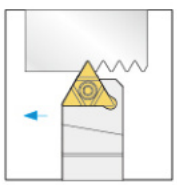
MTR/L(CVER/L)

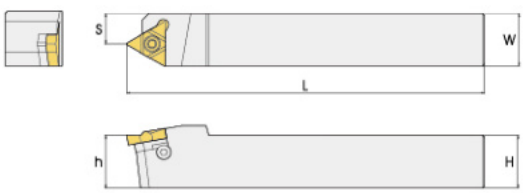




Designation	Stock		Dimensions(mm)						Application Insert	Spare parts				
	R	L	H	W	T	L	S	h		Clamp Bridge	Clamp screw	Spring	Wrench	Insert screw
MTR/L 2525-M22-6	●	○	25	25	6.35	150	32	25	22VER/VEL	YBG22	DSPM6	GTS06	HW40L T-20	M5.0x12
3232-P22-6	●	○	32	32	6.35	170	40	32						
2525-M27-6	●	○	25	25	6.35	150	32	25	27VER/VEL	YBG22	DSPM6	GTS06	HW40L T-20	M6.0X18
2525-M27-8	●	○	25	25	8.70	150	32	25						
3232-P27-6	●	○	32	32	6.35	170	40	32						
3232-P27-8	●	○	32	32	8.70	170	40	32						
2532-P27-10	●	○	25	32	10.20	170	40	25						
3232-P27-10	●	○	32	32	10.20	170	40	32						
4040-R27-6	●	○	40	40	6.35	200	50	40						
4040-R27-8	●	○	40	40	8.70	200	50	40						
4040-R27-10	●	○	40	40	10.20	200	50	40						
3232-R35-12	●	○	32	32	12.00	200	40	32	35VER/VEL	YBG22	DSPM6	GTS06	HW40L T-20	M6.0X18
3232-R35-15	●	○	32	32	15.00	200	40	32						
4040-S35-12	●	○	40	40	12.00	250	50	40						
4040-S35-15	●	○	40	40	15.00	250	50	40						

SER/L-U





Designation	Stock		Dimensions(mm)						Application Insert	Spare parts	
	R	L	H	W	I	L	S	h		Screw	Wrench
SER/L 2525-M22U			25	25	38	150	14	25	22UEI	M4.5X11.5	T-20
3232-P22U			32	32	38	170	21.5	32			
4040-R22U			40	40	38	200	29	40			
2525-M27U			25	25	40	150	14	25	27UEI	M5.0X12	T-20
3232-P27U			32	32	40	170	21.5	32			
4040-R27U			40	40	40	200	29	40			
5050-T27U			50	50	40	300	39	50			

SNR/L

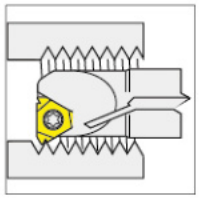


Fig1

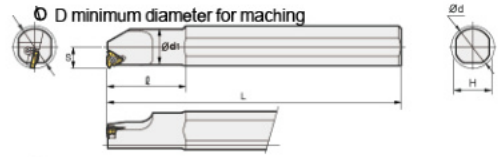
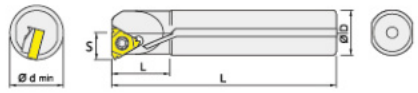


Fig2



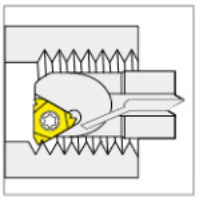
Designation	Stock		Dimensions(mm)							Application Insert	Spare parts				Flg.
	R	L	dmin	d	d1	H	L	s	l		Shim	Screw	shim screw	Wrench	
SNR/L 0616-K06			8	16	6.0	15	125	4.0	18	06IR/IL	X	M2.0X6	X	T-6	1
0712-K08			10	12	7.0	11	125	4.0	18	08IR/IL		M2.2x5		T-6	
0716-K08			10	16	7.0	15	125	5.0	18						
0008-K08	●	●	11	8	8.0	7	125	5.0	21						
0810-K08	●	●	11	10	8.0	9	125	5.0	24						
0816-K11	●	●	13	16	8.0	15	125	5.0	24	11IR/IL	X	M2.5X8	X	T-8	
1016-K11	●	●	13	16	10.0	15	125	7.3	30						
0010-K11	●	●	13	10	10.0	9	125	7.3	30						
0012-K11	●	●	15	12	12.0	11	125	8.4	28						
1216-K11	●	●	15	16	12.0	15	125	8.4	36						
0013-M16	●	●	17	16	12.7	15	150	10.3	32	16IR/IL	X	M3.5X9	X	T-15	
0016-Q16	●	●	20	16	16.0	15	180	11.5	40						
0020-Q16	●	●	24	20	20.0	18	180	13.4	40	16IR/IL	STM16R STM16L	M3.5X12	M3X6N	T-15	
0025-R16	●	●	29	25	24.5	23	200	16.3	45						
0032-S16	●	●	36	32	32.0	29	250	19.6	50						
0040-T16	●	●	44	40	40.0	36	300	23.8	55						
0050-U16	●	●	56	50	50.0	48	350	28.7	60						
0020-Q22	●	●	27	20	20.0	18	180	14.9	40	22IR/IL	STM22R STM22L	M4.5x16	M4X6N	T-20	
0025-R22	●	●	32	25	24.6	23	200	18.1	45						
0032-S22	●	●	39	32	32.0	29	250	21.5	50						
0040-T22	●	●	47	40	40.0	36	300	25.8	55						
0050-U22			57	50	50.0	48	350	30.6	70						
0032-S27	●	●	40	32	32.0	29	250	22.4	60	27IR/IL	STM27R STM27L	M5.0X20	M5X8N		
0040-T27	●	●	48	40	40.0	36	300	26.4	60						
0050-U27			58	50	50.0	45	350	31.4	75						

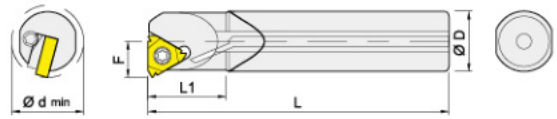
Standard With Coolant Hole

Designation	Stock		Dimensions(mm)							Application Insert	Spare parts				Flg.
	R	L	dmin	d	d1	H	L	s	l		Shim	Screw	shim screw	Wrench	
SNR/L 0010-K11B			13	10	10.0	9	125	7.3	25	11IR/IL	X	M2.5X8	X	T-8	2
0012-K11B			15	12	12.0	11	125	8.4	28						
0013-M16B			17	16	12.7	15	150	10.3	32	16IR/IL	X	M3.5X9	X	T-15	
0016-Q16B			20	16	16.0	15	180	11.5	40						
0020-Q16B			24	20	20.0	18	180	13.4	40		STM16R STM16L	M3.5X12	M3X6N	T-15	
0025-R16B			29	25	24.5	23	200	16.3	45						
0020-Q22B			27	20	20.0	18	180	14.9	40	22IR/IL	STM22R STM22L	M4.5X11.5	M4.5x16	T-20	
0025-R22B			32	25	24.6	23	200	18.1	45						

Internal Holder

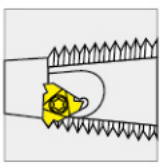
SNR/L-C With Carbide Shank

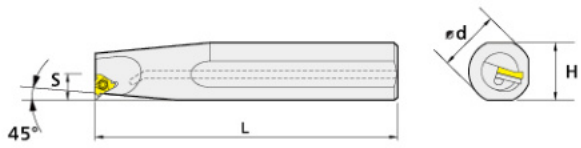




Designation	Stock		Dimensions(mm)							Application Insert	Spare parts			
	R	L	dmin	d	d1	H	L	s	l		Shim	Screw	shim screw	Wrench
SNR/L 0005-H06C			7	5	5	4.7	100	3.6	12	06IR/IL	X	M2.0X5	X	T-6
0006-K06C			8	6	6	5.7	125	4.1	15					
0006-K08C			8	6	6	5.7	125	4.1	15	08IR/IL	X	M2.2X5	X	T-6
0007-K08C			9	7	7	6.7	125	4.5	18					
0008-K08C			11	8	8	7.4	125	5.5	20					
0010-P11C			13	10	10	9.4	170	6.5	22	11IR/IL	X	M2.5X8	X	T-8
0012-Q11C			16	12	12	11.4	180	8.0	26					
0014-Q16C			17	14	14	13.2	180	9.0	28	16IR/IL	X	M3.5X9	X	T-15
0016-R16C			19	16	16	15.0	200	10.0	36					
0020-S16C			24	20	20	19.0	250	12.0	40		STM16R STM16L	M3.5X12	M3X6N	T-15
0025-T16C			29	25	25	24.0	300	14.5	45					
0032-T16C			36	32	32	29.0	300	18.5	50					

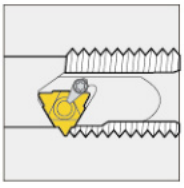
SNR/L for Oil & Gas





Designation	Stock		Thread form	Connection No or size	Dimensions(mm)				Helix Angle Deg.	Spare parts	
	R	L			d	H	L	S		Insert screw	Wrench
SNR/L 0025-S16-APIRD			8APIRD, 10APIRD	2.375"-20"; 1.315"-3.5"	25	29	250	14.5	1.0	M3.5x9	T-15
0032-S16-APIRD				2.375"-20"; 1.66"-3.5"	32	29	250	19.6	1.0		
0040-T16-APIRD				2.375"-20"; 1.9"-3.5"	40	36	300	22.0	1.0		
0040-T22-API			5BUT, V.038R, V.050, V.040, V.055	4-1/2"-20" NC10-NC77 all sizes	40	36	300	24.2	0.0	M4.5x11.5	T-20
0050-T27-V38			V.038R	NC23-NC38	50	45	300	22.6	1.5	M5.0x12	T-20
0080-V27-V50			V.050R	NC40-NC77	80	72	400	39.7	1.5		

SNR/L-UB



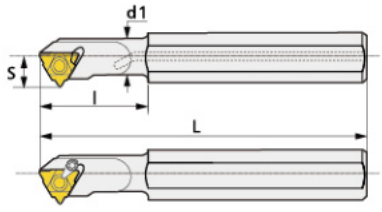


Fig.1

Fig.2

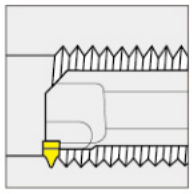
Designation	Stock		Dimensions(mm)							Application Insert	Spare parts		Flg.
	R	L	dmin	d	d1	H	L	S	l		Insert screw	Wrench	
SNR/L 1020-K08UB			13	20	8.0	18	125	5.86	20	08UEI	M2.2X5	T-6	1
1020-K11UB			13	20	10.0	18	125	7.40	25	11UEI	M2.5X8	T-15	
1220-K11UB			15	20	12.0	18	125	7.40	30				
0020-Q22UB			27	20	19.2	18	180	13.68	40	22UI	M4.5x11.5	T-20	
0025-R22UB			32	25	24.6	23	200	17.63	45				
0032-S22UB			39	32	29.7	29	250	18.76	50				
0032-S27UB			39	32	31.6	29	250	20.96	60	27UI	M5X12	T-20	

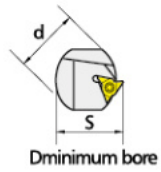
CNR/L-U

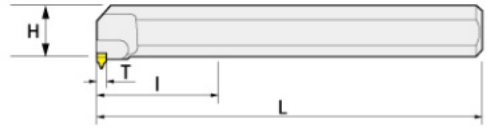
Designation	Stock		Dimensions(mm)							Application Insert	Spare parts					Flg.
	R	L	dmin	d	d1	H	L	s	l		Shim	Clamp	Screw	shim screw	Wrench	
CNR/L 0032-S22U			39	32	32.0	29	250	25.5	60	22UI	STM22UL STM22UR	CH6R3	CHX0621	CTS-6	HW30L	2
0040-T22U			47	40	40.0	36	300	29.5	60							
0040-T27U			48	40	40.0	36	300	29.4	60	27UI	STM27UL STM27UR	CH8R3	CHX0822	CTS-8	HW40L	
0050-U27U			58	50	50.0	45	350	34.4	75							
0060-V27U			69	60	60.0	54	400	39.3	75							

Vertical Type Holder

CNR/L-V(CVNR/L)







Designation	Stock		Dimensions(mm)							Application Insert	Spare parts			
	R	L	dmin	d	H	lmax	L	s	T		Clamp	Clamp Screw	screw	Wrench
CNR/L 0025-R22-6V	●	○	35	25	23	100	200	17.5	6.35	22VIR/VIL	JTY16	JTS06	M5.0x12	HW40L T-20
0032-S22-6V	●	○	41	32	29	128	250	22.5	6.35					
0032-S27-6V	●	○	41	32	29	128	250	22.5	6.35	27VIR/VIL			M6.0x18	
0032-S27-8V	●	○	41	32	29	128	250	22.5	8.70					
0032-S27-10V	●	○	41	32	29	128	250	22.5	6.35					
0040-T27-6V	●	○	50	40	36	160	300	28.4	8.70					
0040-T27-8V	●	○	50	40	36	160	300	28.4	10.20					
0040-T27-10V	●	○	50	40	36	160	300	28.4	10.20					
0050-U27-6V	●	○	60	50	48	200	350	33.4	6.35					
0050-U27-8V			60	50	48	200	350	33.4	8.70					
0050-U27-10V			60	50	48	200	350	33.4	10.20					
0040-U35-12V	●		50	40	36	160	350	28.4	12.00	35VIR/VIL	JTY16	JTS06	M6.0x18	HW40L T-20
0040-U35-15V	●		50	40	36	160	350	28.4	15.00					
0050-U35-12V	●		60	50	48	200	350	33.4	12.00					
0050-U35-15V	●		60	50	48	200	350	33.4	15.00					

TOOTOOL®

www.ttooltec.com

Mill-Thread Technical Section

Thread Milling Holders Code System

S	R	0025	-	K	21	C	-	2
1	2	3		4	5	6		7
Clamping Method	Hand	Cutting Dia.		Length of Holder	Cutting edge Length	Shank Type		Number of Inserts

1 Clamping Method
S R 0025 - K 21 C - 2

S: Screw only

2 Hand
S R 0025 - K 21 C - 2

R: right hand
L: left hand

3 Cutting Diameter
S R 0025 - K 21 C - 2

0025=25mm

4 Length of Holder
S R 0025 - K 21 C - 2

F H J K M S R

5 Cutting edge Length
S R 0025 - K 21 C - 2

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

6 Shank Type
S R 0025 - K 21 C - 2

Non: steel shank
C: carbide shank

7 Number of Insert
S R 0025 - K 21 C - 2

Non: 1 insert
2: 2 inserts

Thread Milling Cutters Code System

S	R	0063	C	21	-	5	-	22
1	2	3	4	5		6		7
Clamping Method	Hand	Cutting Dia.	Tool Length	Cutting edge Length		Number of Inserts		Bore Dia

1 Clamping Method
S R 0063 C 21-5-22

S: Screw only

2 Hand
S R 0063 C 21-5-22

R: right hand
L: left hand

3 Cutting Diameter
S R 0063 C 21-5-22

0063=63mm

4 Tool Length
S R 0063 C 21-5-22

C D E

5 Cutting edge Length
S R 0063 C 21-5-22

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

6 Number of Insert
S R 0063 C 21-5-22

3: 3 Inserts 4: 4 Inserts
5: 5 Inserts

7 Bore Diameter
S R 0063 C 21-5-22

22=22.0mm 27=27.0mm
32=32.0mm

Thread Milling Inserts Code System

30	E	1.50	ISO	TTIM45
1	2	3	4	5
Clamping Method	Hand	Cutting Dia.	Length of Holder	Cutting edge Length

1 Cutting edge Length
30 E 1.50 ISO TTIM45

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

2 Type of Insert
30 E 1.50 ISO TTIM45

E: External N: Internal
EI: External & Interna

3 Pitch
30 E 1.50 ISO TTIM45

mm: 0.5-6.0 TPI 48-6

4 Standard
30 E 1.50 ISO TTIM45

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

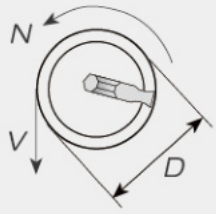
5 Carbide Grades
30 E 1.50 ISO TTIM45

TTIM45B

Conversion of Cutting Speed to Rotational Speed

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

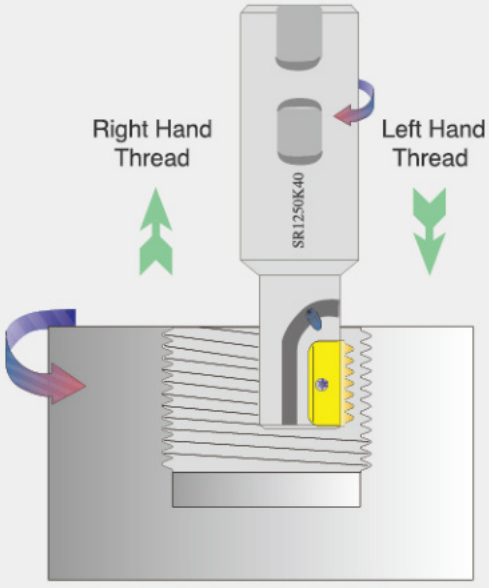
$$N = \frac{V \times 1000}{\pi \times D} = \frac{120 \times 1000}{3.14 \times 30} = 1274 RPM$$



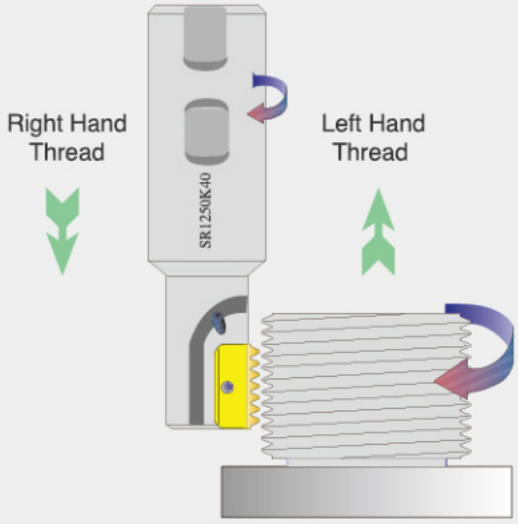
Example: *V=120 m/min*
D=30 mm

D=Cutting diameter

Internal Thread



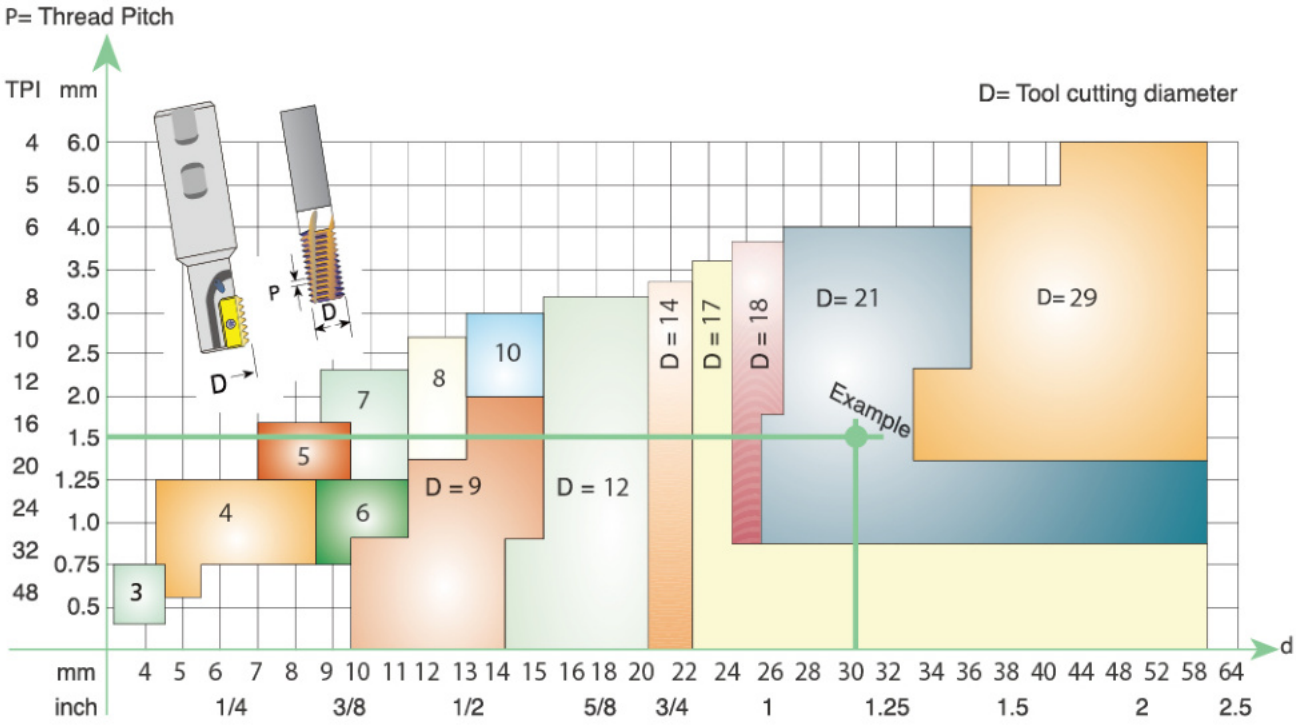
External Thread



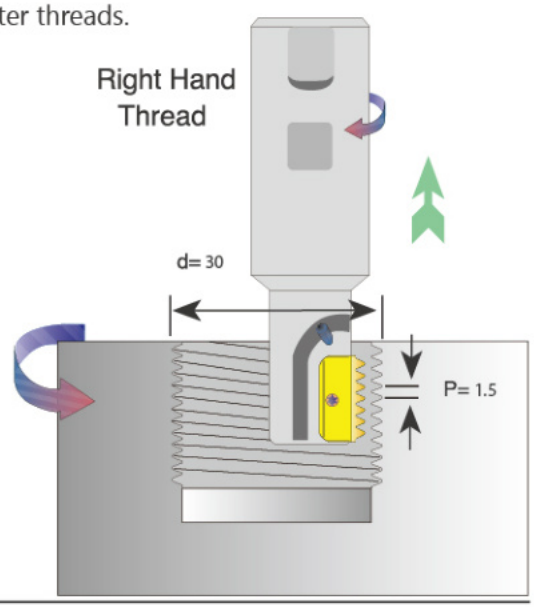
Tool Selection

For indexable and solid carbide Mill Threads

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



Any tool with a small cutting diameter can produce larger diameter threads.
Example: Internal thread M30 x 1.5:
Find a Milling Tool to produce d=30 Internal right hand ISO thread with a thread pitch P=1.5 mm.
As can be seen from the chart above, the two red lines intersect at a selected tool with a cutting diameter of D=21 mm



Chosen toolholder: SR0021 H21
Insert: 21 N 1.5 ISO

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

Recommended Select for Thread Milling

TTIM45B

Sub-Micron Grade with Titanium Aluminum Nitride multi-layer coating (ISO P20-P30, K10 - K20). This is a general purpose grade, which can be used with all materials; it should be run at medium to high cutting speeds.

Mill-Thread Insert Speed and Feed Selection

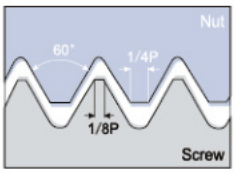
Material		Hardness	Vc (m/min)	Feed Rate (mm)
P Steel	Low alloy steel (alloying elements ≤5%)	≤HB180	80-160	0.05-0.15
	High alloy steel (alloying elements > 5%),cast steel, and tool steel	HB180-280	60-100	
M Stainless steel	Stainless steel & Cast steel	≤HB200	130-190	
K Cast iron	Cast iron Nodular (GGG)	HB160-260	80-100	
	Grey cast iron (GG)	Tensile Strength ≤ 350Mpa	80-100	
	Malleable cast iron	HB130-230	100-120	
N Non-ferrous alloy	Aluminum alloy	≤HB100	180-340	
	Copper and cooper alloy	≤HB100	100-200	
	Non metallic	-	115-460	
S Heat resistant material	High Temperature. Alloys, Super Alloys	-	20-40	
	Titanium Alloy	-	25-90	
H Hardened material	Hardened steel	HRC45-55	20-45	

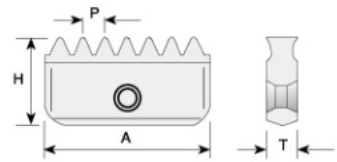
Long Mill-Thread Insert Speed and Feed Selection

Material		Hardness	Vc (m/min)	Feed Rate (mm)
P Steel	Low alloy steel (alloying elements ≤5%)	≤HB180	100-200	0.10-0.30
	High alloy steel (alloying elements > 5%), cast steel, and tool steel	HB180-280	70-170	0.10-0.30
M Stainless steel	Stainless steel & Cast steel	≤HB200	90-140	0.10-0.30
K Cast iron	Cast iron Nodular (GGG)	HB160-260	100-120	0.05-0.30
	Grey cast iron (GG)	Tensile Strength ≤ 350Mpa	80-100	0.05-0.30
	Malleable cast iron	HB130-230	80-100	0.05-0.30
N Non-ferrous alloy	Aluminum alloy	≤HB100	80-400	0.10-0.40
	Copper and cooper alloy	≤HB100	100-200	0.10-0.40
	Non metallic	-	100-250	0.10-0.40
S Heat resistant material	High Temperature. Alloys, Super Alloys	-	10-30	0.04-0.10
	Titanium Alloy	-	20-90	0.04-0.10
H Hardened material	Hardened steel	HRC45-55	15-40	0.06-0.12

Mill-Thread Insert

ISO Metric

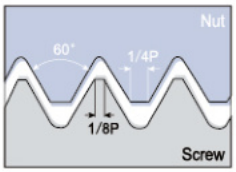


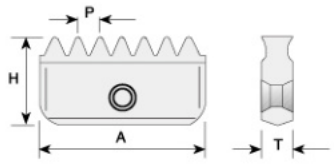


Pitch (mm)		Insert size = A				
		12	14	21	30	40
0.5	Ext.					
0.5	Int.	* 12N 0.50 ISO	14N 0.50 ISO			
0.75	Ext.		14E 0.75 ISO			
0.75	Int.	* 12N 0.75 ISO	14N 0.75 ISO			
1.0	Ext.		14E 1.00 ISO	21E 1.00 ISO		
1.0	Int.	* 12N 1.00 ISO	14N 1.00 ISO	21N 1.00 ISO		
1.25	Ext.		14E 1.25 ISO			
1.25	Int.	* 12N 1.25 ISO	14N 1.25 ISO	21N 1.25 ISO		
1.5	Ext.		14N 1.50 ISO	21E 1.50 ISO	30E 1.50 ISO	40E 1.50 ISO
1.5	Int.	* 12N 1.50ISO	14N 1.50 ISO	21N 1.50 ISO	30N 1.50 ISO	40N 1.50 ISO
1.75	Ext.		14E 1.75 ISO			
1.75	Int.		14N 1.75 ISO	21N 1.75 ISO		
2.0	Ext.		14E 2.00ISO	21E 2.00 ISO	30E 2.00 ISO	40E 2.00 ISO
2.0	Int.		14N 2.00ISO	21N 2.00 ISO	30N 2.00 ISO	40N 2.00 ISO
2.5	Ext.		14N 2.50 ISO	21E 2.50 ISO		
2.5	Int.		14N 2.50 ISO	21N 2.50 ISO		
3.0	Ext.			21E 3.00 ISO	30E 3.00 ISO	40E 3.00 ISO
3.0	Int.			21N 3.00 ISO	30N 3.00 ISO	40N 3.00 ISO
3.5	Ext.				30E 3.50 ISO	
3.5	Int.			21N 3.50 ISO	30N 3.50 ISO	40N 3.50 ISO
4.0	Ext.				30E 4.00 ISO	40E 4.00 ISO
4.0	Int.				30N 4.00 ISO	40N 4.00 ISO
4.5	Ext.					
4.5	Int.				30N 4.50 ISO	40N 4.50 ISO
5.0	Ext.					40E 5.00 ISO
5.0	Int.				30N 5.00 ISO	40N 5.00 ISO
5.5	Ext.					
5.5	Int.				30N 5.50 ISO	40N 5.50 ISO
6.0	Ext.					40E 6.00 ISO
6.0	Int.					40N 6.00 ISO
H		6.3	7.5	12.0	16.0	20.0
T		2.9	3.1	4.7	5.5	6.3

※ One cutting edge

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



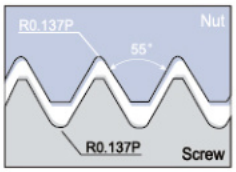


Pitch (mm)		Insert size = A				
		12	14	21	30	40
32	Ext.		14E 32 UN			
32	Int.	* 12N 32 UN	14N 32 UN			
28	Ext.		14E 28 UN			
28	Int.	* 12N 28 UN	14N 28 UN			
27	Ext.					
27	Int.		14N 27 UN			
24	Ext.		14E 24 UN	21E 24 UN		
24	Int.	* 12N 24 UN	14N 24 UN	21N 24 UN		
20	Ext.		14E 20 UN	21E 20 UN	30E 20 UN	
20	Int.	* 12N 20 UN	14N 20 UN	21N 20 UN	30E 20 UN	
18	Ext.		14E 18 UN	21E 18 UN	30E 18 UN	
18	Int.	* 12N 18 UN	14N 18 UN	21N 18 UN	30N 18 UN	
16	Ext.		14E 16 UN	21E 16 UN	30E 16 UN	40E 16 UN
16	Int.	* 12N 16 UN	14N 16 UN	21N 16 UN	30N 16 UN	40N 16 UN
14	Ext.		14E 14 UN	21E 14 UN	30E 14 UN	40E 14 UN
14	Int.		14N 14 UN	21N 14 UN	30N 14 UN	40N 14 UN
13	Ext.		14E 13 UN			
13	Int.					
12	Ext.		14E 12 UN	21E 12 UN	30E 12 UN	40E 12 UN
12	Int.		14N 12 UN	21N 12 UN	30N 12 UN	40N 12 UN
11	Ext.		14E 11 UN	21E 11 UN		
11	Int.		14N 11 UN			
10	Ext.		* 14E 10 UN	21E 10 UN	30E 10 UN	40E 10 UN
10	Int.		14N 10 UN	21N 10 UN	30N 10 UN	40N 10 UN
9	Ext.					
9	Int.		** 14N 9 UN			
8	Ext.				30E 8 UN	40E 8 UN
8	Int.			21N 8 UN	30N 8 UN	40N 8 UN
7	Ext.					
7	Int.			21N 7 UN		
6	Ext.				30E 6 UN	40E 6 UN
6	Int.				30N 6 UN	40N 6 UN
5	Ext.					
5	Int.				30N 5 UN	
4.5	Ext.					
4.5	Int.					40N 4.5 UN
4	Ext.					
4	Int.					40N 4 UN
H		6.3	7.5	12.0	16.0	20.0
T		2.9	3.1	4.7	5.5	6.3

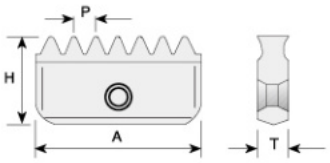
※ One cutting edge ※ Cannot be used with carbide shank Toolholders.

Mill-Thread Insert

Whitworth (BSW, BSF, BSP, BSB)



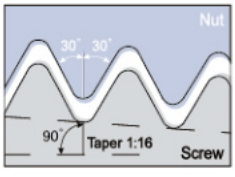
Same Insert for External and Internal thread.



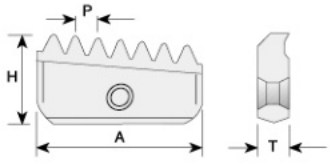
Pitch (TPI)	Insert size = A				
	12	14	21	30	40
24		14EI 24W			
20		14EI 20W	21EI 20W		
19	* 12EI 19 W	14EI 19W	21EI 19W		
18		14EI 18W			
16		14EI 16W	21EI 16W	30EI 16W	
14		14EI 14W	21EI 14W	30EI 14W	
12		14EI 12W			
11		* 14EI 11W	21EI 11W	30EI 11W	40EI 11W
10			21EI 10W		
8					40EI 8W
H	6.3	7.5	12.0	16.0	20.0
T	2.9	3.1	4.7	5.5	6.3

※ One cutting edge

British Standard Pipe Thread (BSPT)

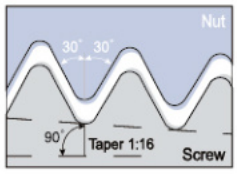


Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.

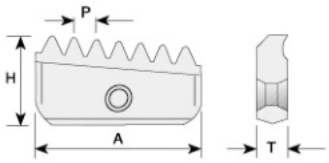


Pitch (TPI)	Insert size = A				
	12	14	21	30	40
19	12EI 19 BSPT	14EI 19 BSPT			
14		14EI 14 BSPT	21EI 14 BPST		
11			21EI 11 BSPT	30EI 11 BSPT	40EI 11 BSPT
H	6.3	7.5	12.0	16.0	20.0
T	2.9	3.1	4.7	5.5	6.3

National Pipe Thread (NPT)

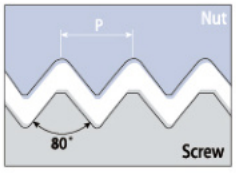


Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.

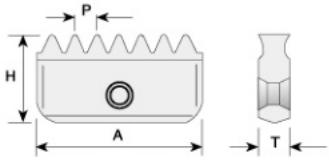


Pitch (TPI)	Insert size = A				
	12	14	21	30	40
18	12EI 18 NPT	14EI 18 NPT			
14		14EI 14 NPT	21EI 14 NPT		
11.5			21EI 11.5 NPT	30EI 11.5 NPT	40EI 11.5 NPT
8				30EI 8 NPT	40EI 8 NPT
H	6.3	7.5	12.0	16.0	20.0
T	2.9	3.1	4.7	5.5	6.3

PG - DIN 40430



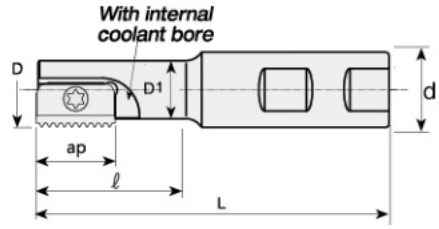
Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.



Pitch (TPI)	Insert size = A				
	12	14	21	30	40
18		14EI 18 PG (PG9, 11, 13.5, 16)	21EI 18 PG(PG16)		
16			21EI 16 PG (PG21, 29, 36, 42, 48)	30EI 16 PG(PG36, 42, 48)	
H	6.3	7.5	12.0	16.0	20.0
T	2.9	3.1	4.7	5.5	6.3

Mill-Thread Holder

Single Insert Toolholder

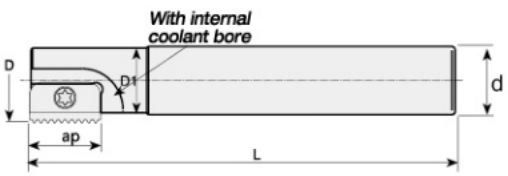


Designation	Stock		Dimensions(mm)						Application Insert	Spare parts	
	R	L	D	d	D1	L	ℓ	ap		screw	Wrench
SR 0009-H12(1)	●		9.5	20	7.5	85	14	12	12E/N	SX2TM	K2T
0010-H12	●		9.9	20	7.6	85	16	12			
0012-F14	●		12.0	20	8.9	75	20	14	14E/N	SX3TM	K3T
0012-H14	●		12.0	20	8.9	100	30	14			
0014-H14	●		14.5	20	11.2	85	25	14			
0017-H14	●		17.0	20	13.4	85	30	14			
0017-K14	●		17.0	20	13.4	120	40	14			
0018-H21(2)	●		18.0	20	14.4	85	30	21	21E/N	SX5TM	K5T
0018-K21(2)	●		18.0	20	14.4	120	45	21			
0021-H21	●		21.0	20	16.5	94	40	21			
0029-J30	●		29.0	25	23.0	110	50	30	30E/N	SX7TM	K7T
0048-M40	●		48.0	40	35.0	153	78	40	40E/N	SX7TM	K7T

※ (1) Not for conical inserts: 12-18 NPT, 12-18 NPTF, 12-19 BSPT

※ (2) Cannot be used with the following inserts: 21 I 3.5 ISO, 21 I 8 UN, 21 I 7 UN, 21-11 BSPT, 21-11.5 NPT, 21-11.5 NPTF

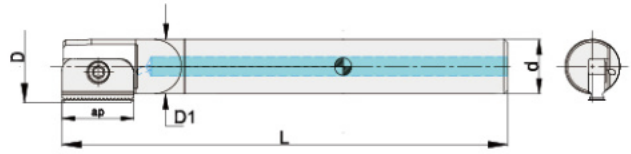
Single Insert Toolholder



Designation	Stock		Dimensions(mm)						Application Insert	Spare parts	
	R	L	D	d	D1	L	ℓ	ap		screw	Wrench
SR 0025-K21	●		25	20	20.7	125	-	21	21E/N	SX5TM	K5T
0031-M30	●		31	25	24.5	150	-	30	30E/N	SX7TM	K7T
0031-Q30	●		31	25	24.5	180	-	30			
0038-M30	●		38	32	31.5	150	-	30			
0038-Q40	●		38	32	31.5	180	-	40	40E/N	SX7TM	K7T
0048-R40	●		48	40	36	210		40			

※ For holders with long overhang reduce the cutting speed and feed rate between 20% to 40% (depends on workpiece material, pitch and overhang)

Long Carbide Shank Toolholder

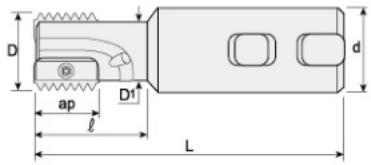


Designation	Stock		Dimensions(mm)						Application Insert	Spare parts	
	R	L	D	d	D1	L	ℓ	ap		screw	Wrench
SR 0010-K12C	●		9.9	8	8.0	125	-	12	12E/N	SX2TM	K2T
0013-H14C	●		13.2	10	10.0	110	-	14	14E/N	SX3TM	K3T
0013-J14C	●		13.2	10	10.0	155	-	14			
0015-K14C	●		15.2	12	12.0	175	-	14			
0021-K21C	●		21.0	16	16.0	130	-	21	21E/N	SX5TM	K5T
0021-M21C	●		21.0	16	16.0	200	-	21			
0027-S30C	●		27.0	20	20.0	250	-	30	30E/N	SX7TM	K7T

※ For holders with long overhang reduce the cutting speed and feed rate between 20% to 40% (depends on workpiece material, pitch and overhang)

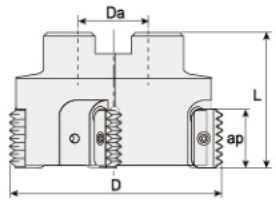
Mill-Thread Holder

Twin Insert Toolholder



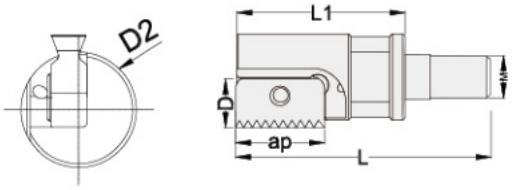
Designation	Stock		No. of Inserts	Dimensions(mm)						Application Insert	Spare parts	
	R	L		D	d	D1	L	ℓ	ap		screw	Wrench
SR 0020G14-2			2	20	20	16.0	93	37	14	14E/N	SX3TM	K3T
0020J14-2			2	20	20	16.0	113	57	14			
0030J21-2			2	30	25	24.0	113	52	21	21E/N	SX5TM	K5T
0030L21-2			2	30	25	24.0	140	80	21			
0040L30-2			2	40	32	30.0	135	70	30	30E/N	SX7TM	K7T
0040P30-2			2	40	32	30.0	170	103	30			
0050M40-2			2	50	40	38.0	153	80	40	40E/N	SX7TM	K7T

Multi Inserts Thread Milling Cutter



Designation	Stock		No. of Inserts	Dimensions(mm)				Arbor	Application Insert	Spare parts	
	R	L		D	d	H	ap			screw	Wrench
SR 0050C21-4-22	●		4	50	22	50	21	A	21E/N	SX5TM	K5T
0063C21-5-22	●		5	63	22	50	21	A			
0063C30-4-22	●		4	63	22	50	30	A	30E/N	SX7TM	K7T
0080D30-4-27	●		4	80	27	55	30	A			
0100D30-4-32	●		4	100	32	60	30	B			
0100D30-8-32	●		8	100	32	60	30	B			
0080D40-4-27	●		4	80	27	65	40	A	40E/N	SX7TM	K7T
0100E40-4-32	●		4	100	32	70	40	B			
0100E40-6-32	●		6	100	32	70	40	B			

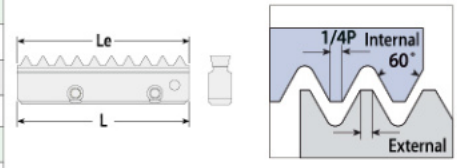
Thread Milling Modular



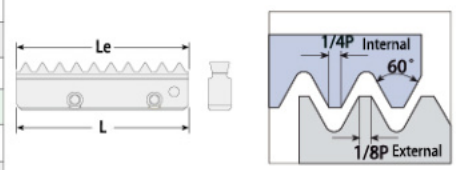
Designation	Stock		No. of Inserts	Dimensions(mm)						Application Insert	Spare parts	
	R	L		D	D2	L1	L	ap	M		screw	Wrench
SR 0013D14-M06-1T			1	13.7	9.6	17	23.3	14	M6	14E/N	SX3TM	K3T
0015D14-M08-1T			1	15.8	11.7	17	24.5	14	M8			
0020D14-M10-2T			2	20.0	15.3	18	29.3	14	M10			
0020D14-M10-3T			3	20.0	15.3	24	35.3	14	M10			
0021D21-M10-1T			1	21.0	15.3	25	36.3	21	M10	21E/N	SX5TM	K5T
0025D21-M10-1T			1	25.0	19.7	40	60.0	21	M10			
0030D21-M16-2T			2	30.4	23.9	25	42.0	21	M16			
0030D21-M16-3T			3	30.4	23.9	34	51.0	21	M16			
0027D30-M12-1T			1	27.0	18.3	38.2	52.0	30	M12	30E/N	SX7TM	K7T

Super Fast Mill-Thread Insert

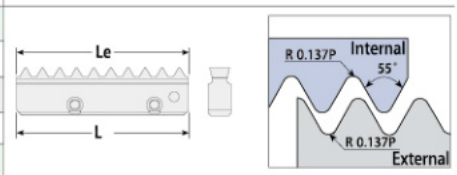
ISO Metric

Designation(External)	Designation(Internal)	Pitch(mm)	Dimensions(mm)		Teeth	Picture
			L	Le	Zt	
H25E 1.00ISO SM	**H25N** 1.00ISO SM	1.0	25	24.00	24	
1.25ISO SM	1.25ISO SM	1.25	25	23.75	19	
1.50ISO SM	1.50ISO SM	1.5	25	24.00	16	
2.00ISO SM	2.00ISO SM	2.0	25	24.00	12	
2.50ISO SM	2.50ISO SM	2.5	25	25.00	10	
3.00ISO SM	3.00ISO SM	3.0	25	24.00	8	

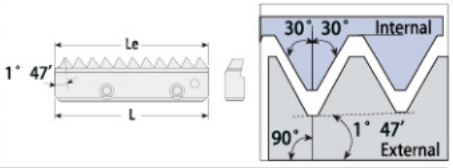
American UN (UN, UN, UNF, UNEF, UNS)

Designation(External)	Designation(Internal)	Pitch(TPI)	Dimensions(mm)		Teeth	Picture
			L	Le	Zt	
H25E 20UN SM	**H25N** 20UN SM	20	25	24.13	19	
18UN SM	18UN SM	18	25	23.99	17	
16UN SM	16UN SM	16	25	23.81	15	
14UN SM	14UN SM	14	25	23.58	13	
12UN SM	12UN SM	12	25	23.28	11	
10UN SM	10UN SM	10	25	22.86	9	
9 UN SM	9 UN SM	9	25	22.58	8	
8 UN SM	8 UN SM	8	25	22.22	7	

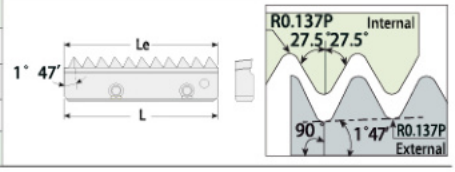
Whitworth (BSW, BSF, BSP, BSB)

Designation(External+Internal)	Pitch(TPI)	Dimensions(mm)		Teeth	Picture
		L	Le	Zt	
H25EI 16W SM	16	25	23.81	15	
14W SM	14	25	23.58	13	
12W SM	12	25	23.28	11	
11W SM	11	25	23.09	10	

National Pipe Thread (NPT)

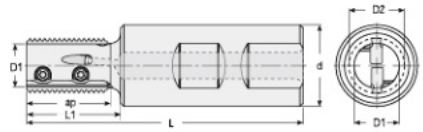
Designation(External+Internal)	Pitch(TPI)	Dimensions(mm)		Teeth	Picture
		L	Le	Zt	
H25EI 14 NPT SM	14	25	23.58	13	
11.5NPT SM	11.5	25	24.30	11	
8 NPT SM	8	25	22.22	7	

British Standard Pipe Thread (BSPT)

Designation(External+Internal)	Pitch(TPI)	Dimensions(mm)		Teeth	Picture
		L	Le	Zt	
H25EI 14BSPT SM	14	25	24.06	13	
11BSPT SM	11	25	23.09	10	

Super Fast Mill-Thread Holder

SM Standard Toolholder

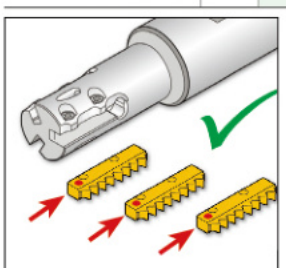


Designation		Stock R	Stock L	No. of Inserts	Dimensions(mm) D1	D2	d	L1	L	ap	Spare parts screw	Spare parts Wrench
HSMC25	17-A25-26T2(1)			2	14.0	17.0	25	26	85	25	SSTM4-3.6P	TT-08P
	17-A25-36T2(1)			2	14.0	17.0	25	36	95	25		
	19-A25-32T2			2	15.0	19.0	25	32	92	25		
	19-A25-44T2			2	15.0	19.0	25	44	104	25		
	21-A25-37T3			3	16.5	20.5	25	37	96	25		
	21-A25-44T3			3	16.5	20.5	25	44	103	25		
	22-A25-43T3			3	18.0	22.0	25	43	102	25		
	22-A25-55T3			3	18.0	22.0	25	55	114	25		
	30-A25-55T5			5	26.0	30.0	25	55	115	25		
	30-A25-80T4			4	26.0	30.0	25	80	140	25		

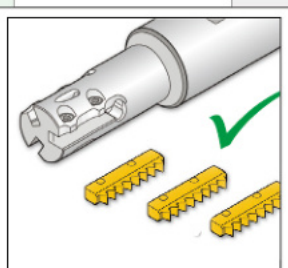
※ Inserts with a thread pitch of ≥ 3 mm or ≥ 8TPI are not moutable

Standard Thread Application by Toolholder

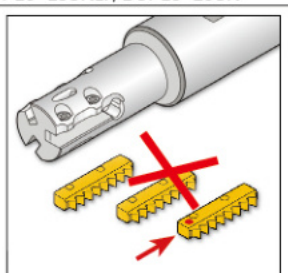
Tooholder		D2 (mm)	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSF	BSP(G)
			Min.Thread Dia.					
HSMC25	17-A25-26T2	17.0	M20x2.5	"M19x1; M19x1.5; M20x2"	-	7/8 -10UNS; 13/16 -12UN; 7/8 -14UNF; 3/4 -16UNF; 3/4 -18UNS; 3/4 -20UNEF	"7/8 -11; 7/8 -12; 7/8 -14; 7/8 -16"	1/2 -14
	17-A25-36T2							
	19-A25-32T2	19.0	M22x2.5 M24x3	"M21x1; M21x1.5; M22x2"	"7/8 -9; 1-8"	"7/8 -20UNEF; 7/8 -18UNS; 7/8 -16UN; 7/8 -14UNF; 7/8 -12UN; 7/8 -10UNS"	"7/8 -16; 7/8 -14; 15/16 -12; 15/16 -11"	5/8 -14
	19-A25-44T2							
	21-A25-37T3	20.5	M24x3	"M22x1; M23x1.5; M23x2; M23.5x2.5"	1-8	"15/16 -9UN; 1-10UNS; 15/16 -12UN; 1-14UNS; 15/16 -16UN; 7/8 -18UNS; 7/8 -20UNEF"	"1-11; 1-12; 1-14; 1-16"	5/8 -14
	21-A25-44T3							
	22-A25-43T3	22.0	M27x3	"M24x1; M24x1.5; M25x2; M25x2.5"	-	"1 11/16 -8UN; 1-9UN; 1-10UNS; 1-12UNF; 1-14UNS; 1-16UN; 1-18UN; 15/16 -20UNEF"	"1-11; 1-12; 1-14; 1-16"	3/4 -14
	22-A25-55T3							
	30-A25-55T5	30.0	-	"M32x1; M32x1.5; M33x2; M33x2.5; M34x3"	-	1 3/8 -8UN; 1 3/8 -9UN; 1 3/8 -10UN; 1 5/16 -12UN;1 3/8 -14UNS; 1 5/16 -16UN; 1 5/16 -18UNEF; 1 5/16 -20UN	"1 3/8 -11; 1 3/8 -12; 1 3/8 -14; 1 3/8 -16"	1-11
	30-A25-80T4							



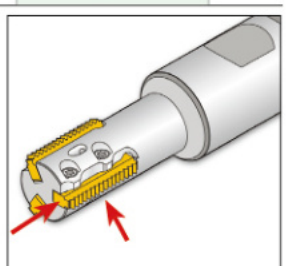
Side with identification marks



Side without identification marks.

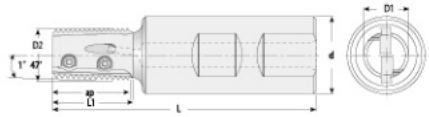


Always mount all inserts with identification marks on the same side.



To mount insert correctly, push the insert toward the pocket walls.

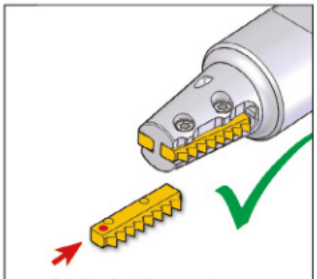
SM Conical Toolholder



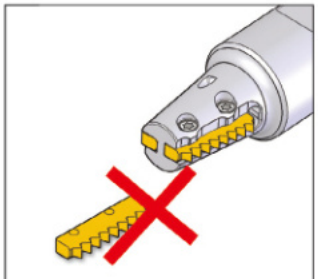
Designation		Stock R	Stock L	No. of Inserts	Dimensions(mm) D1	D2	d	L1	L	ap	Spare parts screw	Spare parts Wrench
HSMC25	17-A25-26T2-PT			2	14.0	17.2	25	26	85	25	SSTM4-3.6P	TT-08P
	22-A25-43T3-PT			3	18.0	22.2	25	43	102	25		
	28-A25-43T4-PT			3	25.0	28.4	25	43	103	25		

Conical Thread Application by Toolholder

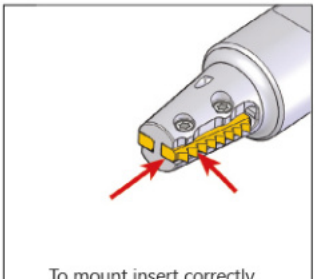
Tooholder		D2 (mm)	Min.Thread Dia. NPT	NPTF	BSPT
HSMC25	17-A25-26T2-PT	17.2	1/2 -14; 3/4 -14; 1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	1/2 -14; 3/4 -14; 1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	1/2 -14; 3/4 -14
	22-A25-43T3-PT	22.2	3/4 -14; 1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	3/4 -14; 1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	3/4 -14; 1-11; 1 1/4 -11; 1 1/2 -11; 2-11; 2 1/2 -11; 3-11; 4-11; 5-11; 6-11
	28-A25-43T4-PT	28.4	1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	1-11.5; 1 1/4 -11.5; 1 1/2 -11.5; 2-11.5	1-11; 1 1/4 -11; 1 1/2 -11; 2-11; 2 1/2 -11; 3-11; 4-11; 5-11; 6-11



On Conical inserts, the identification mark must face up.



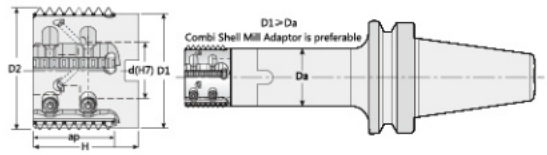
Side without identification marks.



To mount insert correctly, push the insert toward the pocket walls.

Super Fast Mill-Thread Cutter

SM Conical Toolholder



Coolant-Thru is recommended, especially when D2>0.7 x nominal thread diameter

Designation		Stock		No. of Inserts	Dimensions(mm)						Spare parts	
		R	L		D1	D2	d	Da	H	ap	screw	Wrench
HSMC25	036-16-05T			5	32	36.0	16	38	33.5	25	SSTM4-3.6P	TT-08P
	044-22-06T			6	40	44.0	22	48	38.0	25		
	052-27-08T			8	48	52.0	27	60	40.0	25		
	036-16-05T-PT			5	32	35.9*	16	38	33.5	25		

※ For inserts 8NPT and 8NPTF use for CNC program 36.4mm.

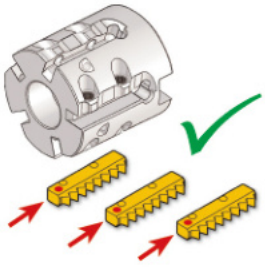
Standard Thread Application by Toolholder

Tooholder		Min.Thread Dia.				
		D2 (mm)	ISO(fine)	UN/UNF/UNEF/UNS	BSF	BSP(G)
HSMC25	036-16-05T	36.0	M38x1; M39x1.5; M39x2; M40x3	1 9/16 -12UN; 1 5/8 -14UNS; 1 9/16 -16UN; 1 1/2 -18UNEF; 1 1/2 -20UN	"1 3/4 -16 1 3/4 -12"	1 1/4 -11
	044-22-06T	44.0	M48x1; M48x1.5; M48x2; M48x3	1 7/8 -12UN; 1 13/16 -16UN; 1 13/16 -20UN; 1 15/16 -8UN; 1 7/8 -10UNS; 1 7/8 -14UNS	"2-16 2-12"	1 1/2 -11
	052-27-08T	19.0	M55x1; M55x1.5; M55x2; M56x3	2 1/4 -8UN; 2 1/4 -10UN; 2 1/4 -12UN;2 1/4 -14UN; 2 1/4 -16UN;2 1/4 -18UN; 2 1/4 -20UN;7/8 -14UNF; 7/8 -12UN; 7/8 -10UNS	"2 1/4 -16 2 1/4 -12"	2-11

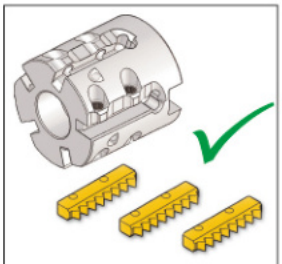
Conical Thread Application by Toolholder

Tooholder		Min.Thread Dia.		
	D2 (mm)	NPT	NPTF	BSPT
HSMC25 0036-16-05T-PT	35.9*	1 1/4 -11.5; 1 1/2 -11.5; 2-11.5; 2 1/2 -8 (and up)	1 1/4 -11.5; 1 1/2 -11.5; 2-11.5; 2 1/2 -8; 3-8	1 1/2 -6x11

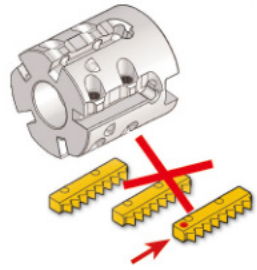
※ For inserts 8NPT and 8NPTF use for CNC program 36.4mm.



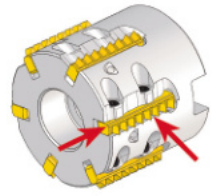
Side with identification marks.



Side without identification marks.



Always mount all inserts on the same side!



To mount insert correctly, push the insert toward the pocket walls.

Thread Milling for Deep Holes

D-Tread Code System

S	R	0015	–	11	U	0	A16	–	95
1	2	3		4	5		6		7

1 S R 0015 - 11 U - A16 95

S: Screw on system

2 S R 0015 - 11 U - A16 95

R: Interanl right hand

3 S R 0015 - 11 U - A16 95

Cutting diameter

0015 = 15mm

4 S R 0015 - 11 U - A16 95

Insert size

11 = 6.35 16 = 9.525
22 = 12.7 27 = 15.875

5 S R 0015 - 11 U - A16 95

Insert style

U:  A: 

6 S R 0015 - 11 U - A16 95

16 = Shank diameter 16mm

A: Weldon shank C: Cylindrical Shank E: Carbide Shank

7 S R 0015 - 11 U - A16 95

Length of holder

11	U	I	1.50	ISO	D	TTIM45
1	2	3	4	5	6	7

1 11 U 1.50 ISO TTIM45

Insert size

11 = 6.35	16 = 9.525
22 = 12.7	27 = 15.875

2 11 U I 1.50 ISO D TTIM45

Insert style

U: 

A: 

3 11 U I 1.50 ISO D TTIM45

Insert style

I: Internal

EI: External+Internal

4 11 U I 1.50 ISO D TTIM45

Pitch

Full profile		Partial profile	
mm	TPI	mm	TPI
1.0-8.0	18-2.5	2.5-4.0	10-6
		1.5-2.5	18-10
		1.5-4.0	16-6
		2.5-6.0	10-4
		4.0-6.0	6-4
		6.0-8.0	4-3

5 11 U I 1.50 ISO D TTIM45

Standard

60 - Partial Profile 60°	ISO - ISO Metric
55 - Partial Profile 55°	UN - American UN
TR - Trapez DIN 103	NPT - NPT

6 11 U I 1.50 ISO D TTIM45

Deep hole thread

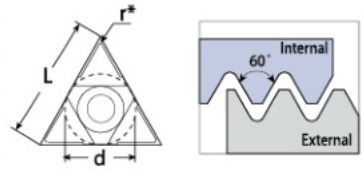
7 11 U I 1.50 ISO D TTIM45

Carbide grade

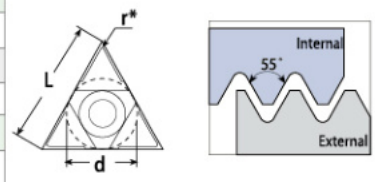
TTIM45 TTIS30 TTIG30

D-Thread Insert

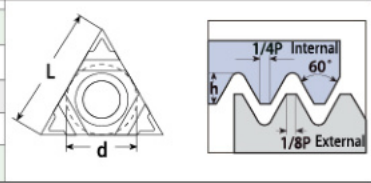
Partial Profile 60°

Designation		Pitch		Dimensions			Picture
		mm	TPI	d	L	r*	
UI	11-60D	1.5-4.0	16-6	6.35U	11	0.10	
	11-60D 48-16	0.5-1.5	48-16	6.35U	11	0.05	
	11-60D 18-10	1.5-2.5	18-10	6.35U	11	0.08	
	11-60D 16-12	1.5-2.0	16-12	6.35U	11	0.06	
	11-60D 9-12	2.0-2.5	9-12	6.35U	11	0.11	
	11-60D 10-6	2.5-4.0	10-6	6.35U	11	0.14	
	16-60D	2.5-6.0	10-4	9.525U	16	0.16	
	16-60D 16-12	1.5-2.0	16-12	9.525U	16	0.06	
	16-60D 10-7	2.5-3.5	10-7	9.525U	16	0.14	
	16-60D 6-4	4.0-6.0	6-4	9.525U	16	0.25	
	22-60D	6.0-8.0	4-3	12.7U	22	0.30	

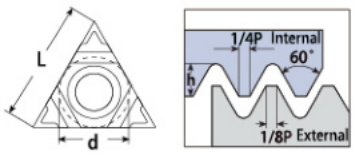
Partial Profile 55°

Designation		Pitch	Dimensions			Picture
		TPI	d	L	r*	
UI	11-55D	11-7	6.35U	11	0.24	
	11-55D 48-16	48-16	6.35U	11	0.11	
	11-55D 16-12	16-12	6.35U	11	0.08	
	16-55D	11-7	9.525U	16	0.24	
	16-55D 16-12	16-12	9.525U	16	0.08	
	16-55D 6-4	6-4	9.525U	16	0.27	
	22-55D	4-3	12.7U	22	0.50	

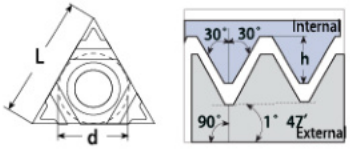
ISO Metric

Designation		Pitch	Dimensions		Toolholder Cutting Diameter D2(mm)	Picture
		TPI	d	L	* D2 Adjustment	
UI	11-1.50ISOD	1.5	6.35U	11	For 1.5ISO change D2 to D2-1.0	
	11-2.00ISOD	2.0	6.35U	11	For 2.0ISO change D2 to D2-1.15	

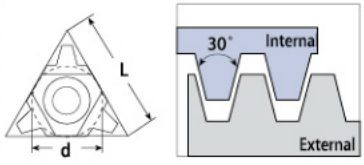
American UN - UNC; UNF; UNEF; UNS

Desighnation		Pitch	Dimensions		Toolholder Cutting Diameter D2(mm)	Picture
		TPI	d	L	* D2 Adjustment	
UI	11-14UND	14	6.35U	11	For 14UN change D2 to D2-1.06	
	11-12UND	12	6.35U	11	For 12UN change D2 to D2-1.15	

National Pipe Thread (NPT)

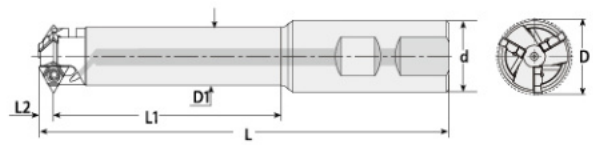
Desighnation		Pitch	Dimensions		Picture
		TPI	d	L	
UI	11-14 NPTD	14	6.35U	11	
	11-11.5NPTD	11.5	6.35U	11	
	16-11.5NPTD	11.5	9.525U	16	
	16-8 NPTD	8	9.525U	16	
	22-8 NPTD	8	12.7U	22	

Trapez

Desighnation		Pitch	Dimensions		Application	Picture
		TPI	d	L		
UI	11-3.0TRD	3.0	6.35U	11	(TR22-TR30)x3	
	11-4.0TRD	4.0	6.35U	11	(TR20-TR28)x4	
	11-5.0TRD	5.0	6.35U	11	TR22x5; TR28x5	

D-Thread Holder

Standard Toolholders - Weldon Shank (U Style)



Designation	Stock		No. of Inserts	Dimensions(mm)						Insert Size		Spare parts	
	R	L		D	D1	d	L1	L2	L	L	d	screw	Wrench
SR 0015-11U-A16-95	●		1	14.75	11.0	16	40	5.4	95	11U	6.35U	Y55-SSTX2.5-3.6P	TPF-08
0021-11U-A25-125	●		2	20.65	16.0	25	60	5.4	125				
0023-11U-A25-135	●		3	23.00	17.7	25	70	5.4	135				
0026-11U-A25-150	●		3	26.00	20.4	25	80	5.4	150				
0031-11U-A32-170	●		4	31.00	25.7	32	95	5.4	170				
0036-16U-A32-170	●		3	36.50	29.0	32	95	8.0	170	16U	9.525U	Y60-SSTX3.5-5.3P	TPF-15
0036-16U-A32-225	●		3	36.50	28.0	32	145	8.0	225				
0042-16U-A40-200	●		4	42.00	34.2	40	120	8.0	200				
0050-22U-A40-300			4	50.00	39.0	40	190	11.0	300	22U	12.7U	Y55-SSTX4.5-6.8P	TPF-20

Weldon Shank (U Style) Applications

Thread Applications for Partial Profile Inserts

Tool holder		Min. Thread Dia.						
Designation	D	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°	Trapez
SR0015-11U-A16-95	14.75	M18x2.5 M24x3.0	M16x0.5, M16x0.75, 16x1.0, M17x1.25, M17x1.5, 17x2.0	$^{3}/_{4}$-10	$^{5}/_{8}$-32UN, $^{5}/_{8}$-28UN, $^{5}/_{8}$-27UNS, $^{11}/_{16}$-24UN, $^{11}/_{16}$-20UN, $^{11}/_{16}$-16UN, $^{3}/_{4}$-14UNS, $^{3}/_{4}$-12UN	$^{3}/_{8}$-19, $^{1}/_{2}$-14, 1-11	$^{11}/_{16}$-14; $^{3}/_{4}$-12, $^{7}/_{8}$-11; $^{3}/_{4}$-10, $^{7}/_{8}$-9; 1-8, 1 $^{1}/_{8}$-7	TR22x3, TR24x3
SR0021-11U-A25-125	20.65	M24x3.0 M30x3.5	M22x0.5, M22x0.75, 22x1.0, M23x1.25, M23x1.5, 23x2.0	1-8, 1 $^{1}/_{8}$-7, 1 $^{3}/_{8}$-6	$^{7}/_{8}$-32UN$^{7}/_{8}$-28UN, $^{7}/_{8}$-27UNS, $^{7}/_{8}$-24UNS, $^{7}/_{8}$-20UNEF, 1-18UNS, $^{15}/_{16}$-16UN, 1-14UNS, $^{15}/_{16}$-12UN, 1-10UNS	$^{3}/_{4}$-14, 1-11	1-26, 1-20, 1-16, 1-12, 1-10, 1 $^{1}/_{8}$-9, 1-8, 1 $^{1}/_{8}$-7	TR26- TR60x3
SR0023-11U-A25-135	23.00	M27x3.0 M30x3.5 M36x4.0	M24x0.5, M24x0.75, M25x1.0, M25x1.25, M26x1.5, 26x2.0, M27x2.5	1 $^{1}/_{8}$-7	1-32UN, 1-28UN, 1-27UNS, 1-24UNS,1-20UNEF, 1-18UNS, 1-16UN, 1-14UNS, 1-12UNF, 1 $^{1}/_{8}$-10UNS, 1 $^{1}/_{8}$-8UN	$^{3}/_{4}$-14, 1-11	1-26, 1-20, 1-16, 1 $^{1}/_{16}$ -12, 1 $^{1}/_{8}$-9, 1 $^{1}/_{8}$-7	-
SR0026-11U-A25-150	26.00	M30x3.5 M36x4.0	M27x0.5, 27x0.75, M28x1.0, M28x1.25, M28x1.5, 29x2.0, M30x2.5, M30x3.0	1 $^{1}/_{4}$-7, 1 $^{3}/_{8}$-6	1 $^{1}/_{8}$-28UN, 1 $^{1}/_{8}$-24UNS, 1 $^{1}/_{8}$-20UN,1 $^{1}/_{8}$-18UNEF, 1 $^{1}/_{8}$-16UN, 1 $^{1}/_{8}$-14UNS, 1 $^{1}/_{8}$-12UNF, 1 $^{1}/_{4}$-10UNS, 1 $^{3}/_{16}$-8UN	$^{7}/_{8}$ -14, 1-11	1 $^{1}/_{8}$-26, 1 $^{1}/_{8}$-20, 1 $^{3}/_{8}$-16, 1 $^{3}/_{8}$-12, 1 $^{3}/_{16}$-8, 1 $^{1}/_{4}$-7	-
SR0031-11U-A32-170	31.00	M36X4.0	M32x0.5, M32x0.75, 33x1.0, M33x1.25, 33x1.5,M34x2.0, M34x2.5, M35x3.0, M36x3.5	1 $^{1}/_{2}$ -6	1$^{5}/_{16}$-28UN, 1$^{3}/_{8}$-24UNS, 1 $^{5}/_{16}$-20UN,1 $^{5}/_{16}$-18UNEF, 1 $^{5}/_{16}$-16UN, 1$^{3}/_{8}$-14UNS, 1 $^{3}/_{8}$-12UNF, 1 $^{3}/_{8}$-10UNS, 1 $^{3}/_{8}$-8UN	1 $^{1}/_{8}$-11	1 $^{3}/_{8}$-26, 1 $^{3}/_{8}$-20, 1 $^{3}/_{8}$-16, 1 $^{3}/_{8}$-12, 1 $^{7}/_{16}$-8	-
SR0036-16U-A32-170 SR0036-16U-A32-225	36.50	M42x4.5 M48x5.0 M56x5.5 M64x6.0	M39x1.5, M39x2.0, M40x2.5, M41x3.0, M42x3.5,M42x4.0	1 $^{3}/_{4}$-5, 2-4.5, 2 $^{1}/_{2}$-4	1 $^{9}/_{16}$-16UN, 1 $^{5}/_{8}$-14UNS, 1 $^{9}/_{16}$-12UN,1 $^{5}/_{8}$-10UNS, 1 $^{5}/_{8}$-8UN, 1 $^{5}/_{8}$-6UN	1 $^{1}/_{4}$ -11	1 $^{5}/_{8}$-16, 1 $^{5}/_{8}$-12, 1 $^{5}/_{8}$-8, 1 $^{7}/_{8}$-6, 1 $^{3}/_{4}$-5	-
SR0042-16U-A40-200	42.00	M48x5.0 M56x5.5 M64x6.0	M45x1.5, M45x2.0, M46x2.5, M48x3.0, M48x3.5, M48x4.0	2-4.5, 2 $^{1}/_{2}$-4	1 $^{3}/_{4}$-16UN, 1 $^{3}/_{4}$-14UNS, 1 $^{13}/_{16}$-12UN,1 $^{13}/_{16}$-8UN, 1 $^{15}/_{16}$-6UN	1 $^{1}/_{2}$-11	1 $^{7}/_{8}$-16, 1 $^{7}/_{8}$-12, 1 $^{7}/_{8}$-8, 2 $^{1}/_{4}$-6, 2-4.5	-

D-Thread Technical Section

Thread Applications for Full Profile Inserts (ISO & UN)

Tool holder	Pitch		Toolholder cutting diameter D (mm)	Min. Thread Dia	
Designation	mm	TPI	D Adjustment	ISO Fine	UN/UNF/UNEF/UNS
SR0021-11U-A25-125	1.5	-	22.00	M26x1.5	--
	2.0	-	21.85	M26x2.0	--
	-	14	21.94	--	1-14UNS
	-	12	21.85	--	1-12UNF
SR0023-11U-A25-135	1.5	-	25.00	M28x1.5	--
	2.0	-	24.85	M29x2.0	--
	-	14	24.94	--	1 1/8-14UNS
	-	12	24.85	--	1 1/8-12UNF
SR0026-11U-A25-150	1.5	-	30.00	M33x1.5	--
	2.0	-	29.85	M34x2.0	--
	-	14	29.94	-	1 3/8-14UNS
	-	12	29.85	-	1 3/8-12UNF

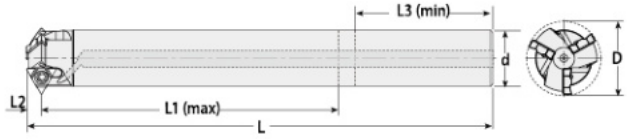
Thread Applications for Full Profile Inserts (NPT)

Tool holder	Pitch	Toolholder cutting diameter D2 (mm)	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
Designation	TPI	D Adjustment	NPT Threading by 1 Radial Pass	NPT Threading by 2 Radial Passes (50% / 50%)
SR0015-11U-A16-95	14	14.59	$^1/_2$-14NPT; $^3/_4$-14NPT	-
SR0021-11U-A25-125	14	20.49	$^3/_4$-14NPT	-
SR0023-11U-A25-135	11.5	22.63	1-11.5NPT; 1 $^1/_4$-11.5NPT; 1 $^1/_2$-11.5NPT; 2-11.5NPT	-
SR0026-11U-A25-150	11.5	25.63	1-11.5NPT; 1 $^1/_4$-11.5NPT; 1 $^1/_2$-11.5NPT; 2-11.5NPT	-
SR0031-11U-A32-170	11.5	30.63	1 $^1/_4$-11.5NPT; 1 $^1/_2$-11.5NPT; 2-11.5NPT	-
SR0036-16U-A32-170 SR0036-16U-A32-225	11.5	35.65	1 $^1/_4$-11.5NPT; 1 $^1/_2$-11.5NPT; 2-11.5NPT	-
SR0036-16U-A32-170 SR0036-16U-A32-225	8	35.65	-	2 1/2...10-8NPT
SR0042-16U-A40-200	11.5	41.15	1 $^1/_2$-11.5NPT; 2-11.5NPT	-
SR0042-16U-A40-200	8	41.15	-	2 1/2...10-8NPT

※ Correct the toolholder cutting diameter D according to adjustment, as indicated in the above table.

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

Standard Toolholders - Steel Cylindrical Shank (U Style)



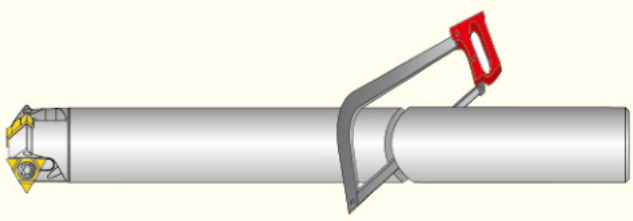
Coolant-Thru is recommended, especially when D>0.7 x nominal thread diameter

Designation	Stock		No. of Inserts	Dimensions(mm)						Insert Size		Spare parts	
	R	L		D	d	L1 (max)	L2	L3 (min)	L	L	d	screw	Wrench
SR 0023-11U-C18-170			2	23.30	18	90	5.4	40	170	11U	6.35U	Y55-SSTX2.5-3.6P	TPF-08
0026-11U-C20-180			3	26.00	20	100	5.4	40	180				
0031-11U-C25-200			4	31.00	25	120	5.4	46	200				
0036-16U-C25-200			3	36.50	25	130	8.0	46	200	16U	9.525U	Y60-SSTX3.5-5.3P	TPF-15
0036-16U-C28-225			3	36.50	28	150	8.0	60	225				

Steel Cylindrical Shank (U Style) Applications

Thread Applications for Partial Profile Inserts

Tool holder		Min. Thread Dia.					
Designation	D	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°
SR0023-11U-C18-170	23.30	M27x3.0 M30x3.5 M36x4.0	M24x0.5; M25x0.75; M25x1.0;M25x1.25; M26x1.5; M26x2.0; M27x2.5	$1\frac{1}{8}$-7	1-32UN; 1-28UN; 1-27UN; 1-24UNS; 1-20UNEF;1-18UNS; 1-16UN; 1-14UNS; $1\frac{1}{16}$-12UN;$1\frac{1}{8}$-10UNS; $1\frac{1}{8}$-8UN	$\frac{3}{4}$-14 1-11	1-26; 1-20; $1\frac{1}{8}$-16; $1\frac{1}{8}$-12; $1\frac{1}{8}$-9; $1\frac{1}{8}$-7
SR0026-11U-C20-180	26.00	M30x3.5 M36x4.0	M27x0.5; M27x0.75; M28x1.0;M28x1.25; M28x1.5; M29x2.0; M30x2.5; M30x3.0	$1\frac{1}{4}$-7, $1\frac{3}{8}$-6	$1\frac{1}{8}$-28UN; $1\frac{1}{8}$-24UNS; $1\frac{1}{8}$-20UN;$1\frac{1}{8}$-18UNEF; $1\frac{1}{8}$-16UN; $1\frac{1}{8}$-14UNS; $1\frac{1}{8}$-12UNF; $1\frac{3}{8}$-10UNS; $1\frac{7}{16}$-8UN	$\frac{7}{8}$-14 1-11	$1\frac{1}{8}$-26; $1\frac{1}{8}$-20; $1\frac{3}{16}$-16; $1\frac{3}{16}$-12; $1\frac{3}{16}$-8; $1\frac{1}{4}$-7
SR0031-11U-C25-200	31.00	M36x4.0	M32x0.5; M32x0.75; M33x1.0;M33x1.25; M33x1.5; M34x2.0; M34x2.5; M35x3.0; M36x3.5	$1\frac{1}{2}$-6	$1\frac{5}{16}$-28UN; $1\frac{1}{2}$-24UNS; $1\frac{1}{2}$-20UN;$1\frac{1}{2}$-18UNEF; $1\frac{3}{8}$-16UN; $1\frac{3}{8}$-14UNS; $1\frac{3}{8}$-12UNF; $1\frac{3}{8}$-10UNS; $1\frac{7}{8}$-8UN	$1\frac{1}{8}$-11	$1\frac{5}{16}$-26; $1\frac{5}{16}$-20; $1\frac{3}{8}$-16; $1\frac{3}{8}$-12; $1\frac{7}{16}$-8
SR0036-16U-C25-200 SR0036-16U-C28-225	36.50	M42.5x4.5 M48x5.0 M56x5.5 M64x6.0	M39x1.5; M40x2.5; M41x3.0;M42x3.5; M42x4.0	$1\frac{3}{4}$-5 2-4.5 $2\frac{1}{2}$-4	$1\frac{9}{16}$-16UN; $1\frac{5}{8}$-14UNS; $1\frac{9}{16}$-12UN; $1\frac{5}{8}$-10UNS; $1\frac{5}{8}$-8UN; $1\frac{5}{8}$-6UN	$1\frac{1}{4}$-11	$1\frac{5}{8}$-16; $1\frac{5}{8}$-12; $1\frac{5}{8}$-8; $1\frac{7}{8}$-6; $1\frac{3}{4}$-5



The length of cylindrical shank toolholders can be modified to reduce chatter (vibration).
Note: The length of the shank inside the clamping device should be L3 at minimum.

Thread Applications for Full Profile Inserts (ISO & UN)

Tool holder	Pitch		Toolholder cutting diameter D (mm)	Min. Thread Dia	
Designation	mm	TPI	D Adjustment	ISO Fine	UN/UNF/UNEF/UNS
SR0023-11U-C18-170	1.5	-	22.00	M26x1.5	-
	2.0	-	21.85	M26x2.0	-
	-	14	21.94	-	1-14UNS
	-	12	21.85	-	1-12UNF
SR0026-11U-C20-180	1.5	-	25.00	M28x1.5	-
	2.0	-	24.85	M29x2.0	-
	-	14	24.94	-	1 1/8-14UNS
	-	12	24.85	-	1 1/8-12UNF
SR0031-11U-C25-200	1.5	-	30.00	M33x1.5	-
	2.0	-	29.85	M34x2.0	-
	-	14	29.94	-	1 3/8-14UNS
	-	12	29.85	-	1 3/8-12UNF

Thread Applications for Full Profile Inserts (NPT)

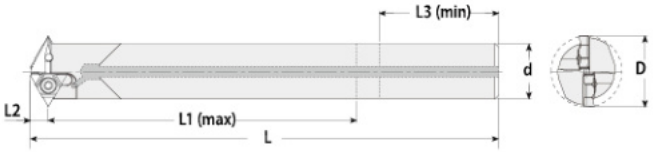
Tool holder	Pitch	Toolholder cutting diameter D2 (mm)	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
Designation	TPI	D Adjustment	NPT Threading by 1 Radial Pass	NPT Threading by 2 Radial Passes (50% / 50%)
SR0023-11U-C18-170	11.5	22.63	1-11.5NPT; $1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-
SR0026-11U-C20-180	11.5	25.63	1-11.5NPT; $1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-
SR0031-11U-C25-200	11.5	30.63	$1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-
SR0036-16U-C25-200 SR0036-16U-C28-225	11.5	35.65	$1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-
SR0036-16U-C25-200 SR0036-16U-C28-225	8	35.65	-	2 1/2...10-8NPT

※ Correct the toolholder cutting diameter D according to adjustment, as indicated in the above table.

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

D-Thread Holder

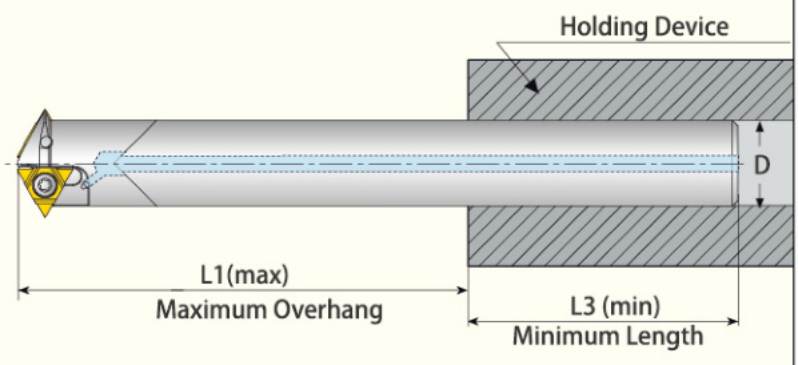
Standard Toolholders - Carbide Cylindrical Shank (U Style)



Coolant-Thru is recommended, especially when D>0.7 x nominal thread diameter

Designation	Stock		No. of Inserts	Dimensions(mm)						Insert Size		Spare parts	
	R	L		D	d	L1 (max)	L2	L3 (min)	L	L	d	screw	Wrench
SR 0021-11U-E16-135			2	20.65*	16	80	5.4	34	135	11U	6.35U	Y55-SSTX2.5-3.6P	TPF-08
0026-11U-E20-175			3	26.00	20	120	5.4	40	175				
0031-11U-E25-190			4	31.00	25	140	5.4	46	190				

※ For TR inserts use the CNC program (D+0.25mm).



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

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

Carbide Cylindrical Shank (U Style) Applications

Thread Applications for Partial Profile Inserts

Tool holder		Min. Thread Dia.						
Designation	D	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°	Trapez
SR0021-11U-E16-135	20.65	M24x3.0 M30x3.5	M22x0.5; M22x0.75 M22x1.0; M23x1.25 M23x1.5; M23x2.0	1-8 $1^1/_8$-7 $1^3/_8$-6	$^7/_8$-32UN;$^7/_8$-28UN;$^7/_8$-27UNS; $^7/_8$-24UNS;$^7/_8$-20UNEF; 1-18UNS;$^{15}/_{16}$-16UN; 1-14UNS; $^{15}/_{16}$-12UN;1-10UNS	$^3/_4$-14 1-11	1-26; 1-20; 1-16; 1-12; 1-10; $1^1/_8$-9 1-8; $1^1/_8$-7	(TR26-TR60)x3
SR0026-11U-E20-175	26.00	M30x3.5 M36x4.0	M27x0.5; M27x0.75 M28x1.0; M28x1.25 M28x1.5; M29x2.0 M30x2.5; M30x3.0	$1^1/_4$-7 $1^3/_8$-6	$1^1/_8$-28UN; $1^1/_8$-24UNS; $1^1/_8$-20UN;$1^1/_8$-18UNEF; $1^1/_8$-16UN; $1^1/_8$-14UNS; $1^1/_8$-12UNF; $1^3/_8$-10UNS; $1^7/_{16}$-8UN	$^7/_8$-14 1-11	$1^1/_8$-26; $1^1/_8$-20; $1^3/_{16}$-16; $1^3/_{16}$-12; $1^3/_{16}$-8; $1^1/_4$-7	(TR40-TR60)x3 (TR65-TR110)x4
SR0031-11U-E25-190	31.00	M36x4.0	M32x0.5; M32x0.75 M33x1.0; M33x1.25 M33x1.5; M34x2.0 M34x2.5; M35x3.0 M36x3.5	$1^1/_2$-6	$1^5/_{16}$-28UN; $1^1/_2$-24UNS; $1^1/_2$-20UN;$1^1/_2$-18UNEF; $1^3/_8$-16UN; $1^3/_8$-14UNS; $1^3/_8$-12UNF; $1^3/_8$-10UNS; $1^7/_{16}$-8UN	$1^1/_8$-11	$1^5/_{16}$-26; $1^5/_{16}$-20; $1^3/_8$-16; $1^3/_8$-12; $1^7/_{16}$-8	(TR50-TR60)x3 (TR65-TR110)x4

※ For TR inserts use the CNC program (D+0.25mm).

Thread Applications for Full Profile Inserts (ISO & UN)

Tool holder	Pitch		Toolholder cutting diameter D (mm)	Min. Thread Dia	
Designation	mm	TPI	D Adjustment	ISO Fine	UN/UNF/UNEF/UNS
SR0026-11U-E20-175	1.5	-	25.00	M28x1.5	--
	2.0	-	24.85	M29x2.0	--
	-	14	24.94	--	1 1/8-14UNS
	-	12	24.85	--	1 1/8-12UNF
SR0031-11U-E25-190	1.5	-	30.00	M33x1.5	--
	2.0	-	29.85	M34x2.0	--
	-	14	29.94	--	1 3/8-14UNS
	-	12	29.85	--	1 3/8-12UNF

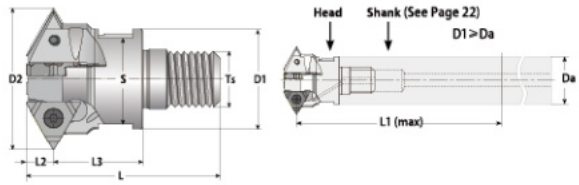
Thread Applications for Full Profile Inserts (NPT)

Tool holder	Pitch	Toolholder cutting diameter D2 (mm)	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
Designation	TPI	D Adjustment	NPT Threading by 1 Radial Pass	NPT Threading by 2 Radial Passes (50% / 50%)
SR0021-11U-E16-135	14	20.49	$^3/_4$-14NPT	-
SR0026-11U-E20-175	11.5	25.63	1-11.5NPT; $1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-
SR0031-11U-E25-190	11.5	30.63	$1^1/_4$-11.5NPT; $1^1/_2$-11.5NPT; 2-11.5NPT	-

※ Correct the toolholder cutting diameter D according to adjustment, as indicated in the above table.

D-Thread Holder

Standard Toolholders – Modular (U Style)



Coolant-Thru is recommended, especially when D>0.7 x nominal thread diameter

Designation	Stock		No. of Inserts	Dimensions(mm)								Insert Size		Spare parts	
	R	L		D	D2	L1	L2	L3	L	M	S	L	d	screw	Wrench
SR 0015-11U-M06			1	14.75	10.6	57.5	5.4	15	33	M6	9	11U	6.35	Y55-SSTX2.5-3.6P	TPF-08
0017-11U-M08			1	16.75	13.0	72.0	5.4	17	37	M8	11				
0021-11U-M08			2	20.65	14.1	86.0	5.4	14	34	M8	12				
0023-11U-M10			2	22.65	18.0	103.0	5.4	14	38	M10	16				
0027-11U-M12			3	26.60	21.0	125.0	5.4	20	48	M12	18	16U	9.525	Y60-SSTX3.5-5.3P	TPF-15
0031-11U-M12			4	31.00	25.0	138.0	5.4	23	51	M12	22				
0036-16U-M16			3	36.50	29.0	150.0	8.0	25	55	M16	25				
0042-16U-M16			4	42.00	29.0	172.0	8.0	26	55	M16	25				

SR Modular Head (U Style) Applications

Thread Applications for Partial Profile Inserts

Tool holder		Min. Thread Dia.						
Designation	D	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°	Trapez
SR0015-11U-M06	14.75	M18x2.5; M24x3.0	M16x0.5; M16x0.75; M16x1.0; M17x1.25; M17x1.5; M17x2.0	¾-10; ⅞ -9; 1-8	⅝-32UN; ⅝-28UN; ⅝-27UNS; 11/16 -24UN; 11/16-20UN; 11/16-16UN; ¾-14UNS; ¾-12UN	⅜-19; ½-14; 1-11	11/16-14; ¾-12; ⅞-11; ¾-10; ⅞-9; 1-8; 1⅛-7	TR22x3; TR24x3
SR0017-11U-M08	16.75	M20x2.5	M18x0.5; M18x0.75; M18x1.0; M19x1.25; M19x1.5; M19x2.0	-	¾-32UN; ¾ -28UN; ⅞ -27UN;¾-24UN; ¾-20UN; ¾-16UNF; ¾-14UNS; 13/16 -12UN; ⅞-10UN	½-14; 1-11	13/16-12;⅞-11; 1-10; ⅞-9	-
SR0021-11U-M08	20.65	M24x3.0; M30x3.5; M36x4.0	M22x0.5; M22x0.75; M22x1.0; M23x1.25; M23x1.5; M23x2.0	1-8; 1⅛ -7; 1⅜-6	⅞ -32UN; ⅞ -28UN; ⅞ -27UNS;⅞ -24UNS; ⅞ -20UNEF; 1-18UNS; 15/16-16UN; 1-14UNS; 15/16-12UN; 1-10UNS	¾-14; 1-11	1-26; 1-20; 1-16; 1-12; 1-10; 1⅛-9; 1-8; 1⅛-7	(TR26-TR60)x3;TR28x4; (TR60-TR110)x4;TR28x5
SR0023-11U-M10	22.65	M27x3.0; M30x3.5; M36x4.0	M24x0.5; M24x0.75; M25x1.0; M25x1.25; M26x1.5; M26x2.0; M27x2.5	1⅛ -7	1-32UN; 1-28UN; 1-27UNS; 1-24UNS; 1-20UNEF; 1-18UNS;1-16UN; 1-14UNS; 1-12UNF;1⅛-10UNS; 1⅛-8UN	¾-14; 1-11	1-26; 1-20; 1-16; 1 1/16-12; 1⅛-9; 1⅛-7	-
SR0027-11U-M12	26.60	M33x3.5; M36x4.0	M28x0.5; M28x0.75; M28x1.0; M28x1.25; M29x1.5; M29x2.0; M30x2.5; M33x3.0	1¼ -7; 1 ⅜-6	1⅛-28UN; 1⅛-24UNS; 1⅛-20UN; 1⅛-18UNEF; 1⅛-16UN; 1¼ -14UNS; 13/16-12UN; 1¼-10UNS; 13/16-8UN	⅞-14; 1-11	1⅛-26; 1⅛-20; 1⅜-16; 1⅜-12; 1⅜-8; 1¼-7	-
SR0031-11U-M12	31.00	M36X4.0	M32x0.5; M32x0.75; M33x1.0; M33x1.25; M33x1.5; M34x2.0; M34x2.5; M35x3.0; M36x3.5	1½ -6	15/16-28UN; 1⅜-24UNS; 15/16-20UN; 15/16-18UNEF; 15/16-16UN; 1⅜-14UNS; 1⅜-12UNF; 1⅜-10UNS; 1⅜-8UN	1⅛-11	1⅜-26; 1⅜-20; 1⅜-16; 1⅜-12; 17/16-8	-
SR0036-16U-M16	36.50	M42x4.5; M48x5.0; M56x5.5	M39x1.5; M39x2.0; M40x2.5; M41x3.0; M42x3.5; M42x4.0	1¾ -5 2-4.5	19/16-16UN; 1⅝-14UNS; 19/16-12UN; 1⅝-10UNS; 1⅝-8UN; 1⅝-6UN	1¼-11	1⅝-16; 1⅝-12; 1⅝-8; 1⅞-6	-
SR0042-16U-M16	42.00	M48x5.0; M56x5.5; M64x6.0	M45x1.5; M45x2.0; M46x2.5; M48x3.0; M48x3.5; M48x4.0	2-4.5; 2½ -4	1¾-16UN; 1¾-14UNS; 13/16-12UN; 115/16-8UN; 115/16-6UN	1½-11	1⅞-16; 1⅞-12; 1⅞-8; 2¼-6; 2-4.5	-

D-Thread Holder

SR Modular Head (U Style) Applications

Thread Application for Full Profile Inserts (ISO, UN, NPT & API Round)

Tool holder	Toolholder Cutting Diameter D2(mm)	Pitch		Min.Thread Dia.		Cylindrical or Conical Pre-Drilled hole	Cylindrical Pre-Drilled hole	PI Round, Cylindrical or Conical Pre-Drilled Hole (for cylidrical 2 radial passes 50%/50%; for conical one radial pass	API Round, Conical Pre-Drilled Hole only (one pass)
Adjusted	D2	mm	TPI	ISO Coarse	UN/UNF/ UNEF/UNS	NPT Threading by 1 Radius Pass	NPT Threading by 2 Radial Passes (50%/50%)	Thread Dia.	
SR0015-11U-M06	13.80	1.5		M16x1.5	-	-	-	-	-
	13.60	2.0		M16x2.0	-	-	-	-	-
	13.70	-	14	-	5/8-14UNS	-	-	-	-
	13.60	-	12	-	11/16-12UN	-	-	-	-
	14.59	-	14	-	-	1/2-14NPT; 3/4-14NPT	-	-	-
SR0017-11U-M08	15.79	1.5		M18x1.5	-	-	-	-	-
	15.60	2.0		M18x2.0	-	-	-	-	-
	15.69	-	14	-	3/4-14UNS	-	-	-	-
	15.60	-	12	-	3/4-12UN	-	-	-	-
	15.60	-	14	-	-	3/4-14NPT	-	-	-
SR0021-11U-M08	19.69	1.5		M22x1.5	-	-	-	-	-
	19.50	2.0		M22x2.0	-	-	-	-	-
	19.60	-	14	-	7/8-14UNF	-	-	-	-
	19.50	-	12	-	7/8-12UN	-	-	-	-
	20.50	-	14	-	-	3/4-14NPT	-	-	-
	20.28	-	11.5	-	-	1-11.5NPT; 1 1/4-11.5NPT; 1 1/2-11.5NPT; 2-11NPT	-	-	-
SR0023-11U-M10	21.65	1.5		M24x1.5	-	-	-	-	-
	21.50	2.0		M24x2.0	-	-	-	-	-
	21.49	-	14	-	1-14UNS	-	-	-	-
	21.50	-	12	-	1-12UNF	-	-	-	-
	22.63	-	11.5	-	-	1-11.5NPT; 1 1/4-11.5NPT; 1 1/2-11.5NPT; 2-11NPT	-	-	-
	21.44	-	10	-	-	-	-	1.05x10APIRD (for UPTBG; UP TBG Long);1.315...2.375x 10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
SR0027-11U-M12	25.64	1.5		M28x1.5	-	-	-	-	-
	25.45	2.0		M30x2.0	-	-	-	-	-
	25.54	-	14	-	1 1/8-14UNS	-	-	-	-
	25.45	-	12	-	1 1/8-12UNF	-	-	-	-
	26.23	-	11.5	-	-	1-11.5NPT; 1 1/4-11.5NPT; 1 1/2-11.5NPT; 2-11NPT	-	-	-
	24.94	-	10	-	-	-	-	1.315...2.375x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-

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

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

SR Modular Head (U Style) Applications

Thread Application for Full Profile Inserts (ISO, UN, NPT & API Round)

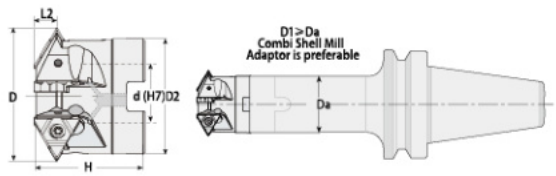
Tool holder	Toolholder Cutting Diameter D2(mm)	Pitch		Min.Thread Dia.		Cylindrical or Conical Pre-Drilled hole	Cylindrical Pre-Drilled hole	PI Round, Cylindrical or Conical Pre-Drilled Hole (for cylidrical 2 radial passes 50%/50%; for conical one radial pass	API Round, Conical Pre-Drilled Hole only (one pass)
Adjusted	D2	mm	TPI	ISO Coarse	UN/UNF/ UNEF/UNS	NPT Threading by 1 Radius Pass	NPT Threading by 2 Radial Passes (50%/50%)	Thread Dia.	
SR0031-11U-M12	30.00	1.5		M33x1.5	-	-	-	-	-
	29.85	2.0		M34x2.0	-	-	-	-	-
	29.94	-	14	-	$1\frac{3}{8}$-14UNS	-	-	-	-
	29.85	-	12	-	$1\frac{5}{16}$-12UN	-	-	-	-
	30.63	-	11.5	-	-	$1\frac{1}{4}$-11.5NPT; $1\frac{1}{2}$-11.5NPT; 2-11NPT	-	-	-
	29.44	-	10	-	-	-	-	1.66...3.5x10APIRD (for TBG; UP TBG; UP TBG Long; Integral-Joint TBG)	-
SR0031-11U-M12	35.65	-	11.5	-	-	$1\frac{1}{4}$-11.5NPT; $1\frac{1}{2}$-11.5NPT; 2-11.5NPT	-	-	-
	35.65	-	8	-	-	-	$2\frac{1}{2}$..10-8NPT	-	-
	34.70	-	8	-	-	-	-	2.375...13.375x8APIRD (for CSG; TBG; UP TBG; UP TBG Long); 4.5...5.5x8APIRD (for LCSG)	8.625...20x8APIRD (for LCSG)
SR0031-11U-M12	41.15	-	11.5	-	-	$1\frac{1}{2}$-11.5NPT;	-	-	-
	41.15	-	8	-	-	2-11.5NPT	$2\frac{1}{2}$..10-8NPT	-	-
	40.20	-	8	-	-	-	-	2.875...20x8APIRD (for CSG; TGB; UP TBG; UP TBG Long); 4.5...7.625x8APIRD (for LCSG)	8.625x8APIRD (for LCSG)

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

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

D-Thread Holder

Standard Toolholders – Shell Mill (U Style)



Coolant-Thru is recommended, especially when D>0.7 x nominal thread diameter

Designation	Stock		No. of Inserts	Dimensions(mm)						Insert Size		Spare parts	
	R	L		D	D2	d	L2	H	Da	L	d	screw	Wrench
SR 0042B16U-16-04T			4	42.00	34	16	8	40	38	16U	9.525U	Y60-SSTX3.5-5.3P	TPF-15
0048B16U-22-05T			5	48.00	40	22	8	40	48				
0056B16U-22-06T			6	56.00	48	22	8	40	48				
0088B22U-27-06T			6	88.00	76	27	10.8	50	60	22U	12.7U	Y55-SSTX4.5-6.8P	TPF-20
0098B22U-32-07T			7	98.00	85	32	10.8	55	78				

Shell Mill (U Style) Applications

Thread Applications for Partial Profile Inserts

Tool holder		Min. Thread Dia.					
Designation	D	ISO Coarse	ISO Fine	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°
SR0042B16U-16-04T	42.00	M48x5.0 M56x5.5 M64x6.0	M45x1.5; M45x2.0 M46x2.5;M48x3.0 M48x3.5; M48x4.0	2-4.5; $2\frac{1}{2}$ - 4	$1\frac{3}{4}$-16UN; $1\frac{3}{4}$-14UNS $1\frac{13}{16}$-12UN;$1\frac{13}{16}$-8UN $1\frac{15}{16}$-6UN	$1\frac{1}{2}$- 11	$1\frac{7}{8}$-16; $1\frac{7}{8}$-12; $1\frac{7}{8}$-8; $1\frac{7}{8}$-6; 2-4.5
SR0048B16U-22-05T	48.00	M56x5.5 M64x6.0	M52x1.5; M52x2.0 M52x2.5;M52x3.0 M55x4.0	$2\frac{1}{4}$- 4.5; $2\frac{1}{2}$- 4	2-16UN; 2-14UN; 2-12UN; $2\frac{1}{4}$-10UNS; $2\frac{1}{8}$-8UN; $2\frac{1}{8}$-6UN	$1\frac{3}{4}$- 11	2-16; $2\frac{1}{4}$-12; $2\frac{1}{4}$-8; $2\frac{1}{4}$-6; 3-5; $3\frac{1}{2}$-4.5; $2\frac{1}{4}$-4
SR0056B16U-22-06T	56.00	M64x6.0	M60x1.5; M60x2.0 M60x2.5;M60x3.0 M64x4.0	$2\frac{1}{2}$- 4	$2\frac{3}{8}$-16UN; $2\frac{3}{8}$-14UN; $2\frac{3}{8}$-12UN;$2\frac{1}{2}$-10UNS; $2\frac{3}{8}$-8UN; $2\frac{1}{2}$-6UN	2-11	$2\frac{1}{2}$-16; $2\frac{1}{2}$-12; $2\frac{1}{2}$-8; 2 3/4 -6; 3-5; $3\frac{1}{2}$-4.5; $4\frac{1}{4}$-4
SR0088B22U-27-06T	88.00	-	M95x6.0; M125x8.0	4-4	$4\frac{1}{4}$ -4UN	-	4-3; $4\frac{1}{4}$-4
SR0098B22U-32-07T	98.00	-	M105x6.0; M125x8.0	-	$4\frac{1}{4}$ -4UN	-	$4\frac{1}{4}$-4

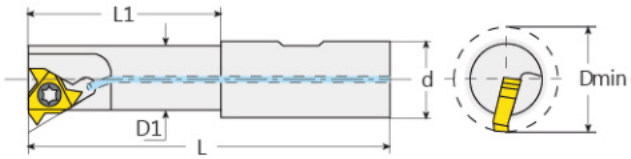
Thread Applications for Full Profile Inserts (NPT)

Tool holder	Pitch	Toolholder cutting diameter D2 (mm)	Cylindrical or Conical pre-drilled hole	Cylindrical pre-drilled hole
Designation	TPI	D Adjustment	NPT Threading by 1 Radial Pass	NPT Threading by 2 Radial Passes (50% / 50%)
SR0042B16U-16-04T	11.5	41.15	$1\frac{1}{2}$-11.5NPT; 2-11.5NPT	-
SR0042B16U-16-04T	8	41.15	-	$2\frac{1}{2}$...10-8NPT
SR0048B16U-22-05T	11.5	47.15	2-11.5NPT	-
SR0048B16U-22-05T	8	47.15	-	$2\frac{1}{2}$...10-8NPT
SR0056B16U-22-06T	8	55.15	-	$2\frac{1}{2}$...10-8NPT
SR0088B22U-27-06T	8	88.06	$3\frac{1}{2}$"...160D-8NPT	160D...240D-8NPT
SR0098B22U32-07T	8	98.06	4"...160D-8NPT	160D...240D-8NPT

※ Correct the toolholder cutting diameter D according to adjustment, as indicated in the above table.

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

Standard Toolholders - Weldon Shank (A Style)



Assemble internal thread turning inserts, can be used for milling internal threads and external threads

Designation	Stock		No. of Inserts	Dimensions(mm)				Available Insert	Spare parts	
	R	L		Dmin	d	L1	L		screw	Wrench
SR 0009-08A-A12-80	●		1	8.20	12	12	80	08IR	Y50-SSTX2.0-2.8P	TPF-06
0012-11A-A12-80	○		1	12.00	12	25	80	11IR	Y55-SSTX2.5-3.6P	TPF-08
0014-16A-A16-100	○		1	14.00	16	35	100	16IR	Y60-SSTX3.5-5.3P	TPF-15
0016-16A-A16-100	●		1	16.00	16	40	100			
0018-16A-A20-125	○		1	18.00	20	35	125			
0020-16A-A20-125	○		1	20.00	20	50	125			
0025-16A-A25-150	○		1	25.00	25	65	150			
0025-22A-A25-150	○		1	25.00	25	65	150	22IR	Y55-SSTX4.5-6.8P	TPF-20
0032-22A-A32-200	○		1	32.00	32	100	200			
0035-22A-A32-250	○		1	35.00	32	110	250			

Recommended Grades, Cutting Speeds Vc [m/min] and Feed f [mm/tooth]

Material Group		Material	Hardness Brinell HB	Vc [m/min]		Feed* f [mm/tooth] by Cutting Dia. (D2)		
P Steel	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	100-210	90-180	0.20-0.32	0.30-0.50	0.30-0.75
		Medium Carbon (C=0.25-0.55%)	150	100-180	90-170	0.20-0.32	0.30-0.50	0.30-0.75
		High Carbon (C=0.55-0.85%)	170	100-170	90-160	0.15-0.23	0.25-0.35	0.25-0.52
	Low Alloy Steel (alloying elements≤5%)	Non Hardened	180	60-90	90-155	0.17-0.28	0.28-0.45	0.28-0.67
		Hardened	275	80-150	80-160	0.15-0.28	0.25-0.45	0.25-0.67
		Hardened	350	70-140	70-150	0.15-0.25	0.25-0.40	0.25-0.60
	High Alloy Steel (alloying elements>5%)	Annealed	200	60-130	70-115	0.15-0.22	0.20-0.30	0.20-0.45
		Hardened	325	70-110	60-100	0.13-0.21	0.18-0.30	0.18-0.45
	Cast Steel	Low Alloy (alloying elements <5%)	200	100-170	100-170	0.15-0.22	0.20-0.30	0.20-0.45
		High Alloy (alloying elements >5%)	225	70-120	70-130	0.12-0.22	0.17-0.30	0.17-0.45
M Stainless steel	Stainless Steel Ferritic	Non Hardened	200	100-170	120-180	0.15-0.22	0.22-0.34	0.22-0.50
		Hardened	330	100-170	120-180	0.16-0.23	0.21-0.32	0.21-0.48
	Stainless Steel Austenitic	Austenitic	180	70-140	100-140	0.15-0.25	0.25-0.40	0.25-0.60
		Super Austenitic	200	70-140	100-140	0.12-0.20	0.17-0.26	0.17-0.39
	Stainless Steel Cast Ferritic	Non Hardened	200	70-140	100-140	0.16-0.24	0.25-0.37	0.25-0.55
		Hardened	330	70-140	100-140	0.12-0.20	0.17-0.26	0.17-0.39
	Stainless Steel Cast Austenitic	Austenitic	200	70-120	100-120	0.15-0.22	0.20-0.30	0.20-0.45
		Hardened	330	70-120	100-120	0.12-0.20	0.17-0.26	0.17-0.39
K Cast iron	Malleable Cast Iron	Ferritic (short chips)	130	60-130	100-120	0.16-0.24	0.25-0.37	0.25-0.55
		Pearlitic (long chips)	230	60-120	80-100	0.15-0.22	0.20-0.30	0.20-0.45
	Grey Cast Iron	Low Tensile Strength	180	60-130	80-100	0.15-0.22	0.22-0.34	0.22-0.50
		High Tensile Strength	260	60-100	80-100	0.15-0.22	0.20-0.30	0.20-0.45
	Nodular Sg Iron	Ferritic	160	60-125	80-100	0.10-0.20	0.15-0.25	0.15-0.37
		Pearlitic	260	50-90	60-90	0.15-0.22	0.20-0.30	0.20-0.45
M (K) Non-Ferrous material	Aluminum Alloys Wrought	Non Aging	60	100-250		0.30-0.50	0.60-1.00	0.60-1.50
		Aged	100	100-180		0.28-0.50	0.50-0.90	0.50-1.20
	Aluminum Alloys	Cast	75	150-400		0.28-0.50	0.50-0.90	0.50-1.20
		Cast & Aged	90	150-280		0.25-0.40	0.40-0.60	0.40-0.90
	Aluminum Alloys	Cast Si 13-22%	130	80-150		0.28-0.50	0.50-0.90	0.50-1.20
	Copper and Copper Alloys	Brass	90	120-210	100-200	0.30-0.50	0.60-1.00	0.60-1.50
		Bronze and Non Leaded Copper	100	120-210	100-200	0.28-0.50	0.50-0.90	0.50-1.20
S (M) Heat Resistant material	High Temperature Alloys	Annealed (iron based)	200	20-45	20-40	0.09-0.15	0.12-0.22	0.12-0.33
		Aged (iron based)	280	20-30	20-30	0.07-0.13	0.10-0.20	0.10-0.30
		Annealed (nickel or cobalt based)	250	15-20	15-20	0.08-0.15	0.08-0.20	0.08-0.30
		Aged (nickel or cobalt based)	350	10-15	10-15	0.08-0.15	0.08-0.20	0.08-0.30
	Titanium Alloys	Pure 99.5 Ti	400Rm	70-140	70-120	0.07-0.13	0.10-0.20	0.10-0.30
		α + β alloys	1050Rm	20-50	20-50	0.07-0.13	0.10-0.20	0.10-0.30

TOOTOOL®

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Thread Milling Solid Endmill Code System

E	SMT	B	06	040	C	14	1.00	ISO	TTIM45
1	2	3	4	5	6	7	8	9	10
External	End Mill Type	Shank Dia	Cutting Dia	No.of Flute	No.of Flutes	The Approximate Cutting Length	Thread Pitch	Thread Profile	Carbide Grade

1 External

E SMT B 06 040 C 14 1.00 ISO TTIM45

Non: For Internal
E: For External
D:Deep Thread

2 Type

E SMT B 06 040 C 14 1.00 ISO TTIM45

S=Solid M=Mill T=Thread

3 End Mill Type

E SMT B 06 040 C 14 1.00 ISO TTIM45

Non=Without coolant hole
B=With coolant hole
Z=With coolant hole in the flutes

4 Shank Diameter

E SMT B 06 040 C 14 1.00 ISO TTIM45

06=6mm 8=8mm 10=10mm
12=12mm 14=14mm 16=16mm
20=20mm 25=25mm

5 Cutting Diameter

E SMT B 06 040 C 14 1.00 ISO TTIM45

031=3.1mm 040= 4.0mm

6 No. of Flutes

E SMT B 06 040 C 14 1.00 ISO TTIM45

C=3 D=4 E=5 F=6

7 The Approximate Cutting Length

E SMT B 06 040 C 14 1.00 ISO TTIM45

8 Thread Pitch

E SMT B 06 040 C 14 1.00 ISO TTIM45

0.25-4.0 mm 72-7 TPI

9 Thread Profile

E SMT B 06 040 C 14 1.00 ISO TTIM45

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

10 Carbide Grade

E SMT B 06 040 C 14 1.00 ISO TTIM45

TTIM45 TTIS30

Mini Thread Milling Solid Endmill Code System

MSMT	06	031	C	12	0.7	ISO	TTIM45
1	2	3	4	5	6	7	8
Type	Shank Dia	Cutting Dia	No.of Flute	The Approximate Cutting Length	Thread Pitch	Thread Profile	Carbide Grade

1 Type

MSMT 06 031 C 12 07 ISO TTIM45

M=Mini S=Solid
M=Mill T=Thread

2 Shank Diameter

MSMT 06 031 C 12 07 ISO TTIM45

06=6mm 08=8mm
10=10mm 12=12mm
14=14mm 16=16mm

3 Cutting Diameter

MSMT 06 031 C 12 07 ISO TTIM45

031=3.1mm 040=4.0mm

4 No. of Flutes

MSMT 06 031 C 12 07 ISO TTIM45

C=3 D=4 E=5

5 The Approximate Cutting Length

MSMT 06 031 C 12 07 ISO TTIM45

6 Thread Pitch

MSMT 06 031 C 12 07 ISO TTIM45

0.25-4.0 mm 72-7 TPI

7 Thread Profile

MSMT 06 031 C 12 07 ISO TTIM45

ISO - ISO Metric
UN - American UN (UNC, UNF, UNEF, UNS)
W - Whit Worth (BSW, BSF, BSP, BSB)
NPT - National Pipe Thread
NPTF - National Pipe Thread
BSPT - British Standard Pipe Thread (BSPT)
UNJ - Unified Constant Thread
MJ - ISO 5855

8 Carbide Grade

MSMT 06 031 C 12 07 ISO TTIM45

TTIM45 TTIS30

Mill-Thread Solid Carbide Grades, Speed and Feed Section

TTIM45	Sub-Micron grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). This is a general purpose grade, which can be used with all materials; it should be run at medium to high cutting speeds.
TTIS30	Sub-Micro grade with high hardness and toughness provides an excellent solution for machining steels, stainless steels, and super alloys Ni or Ti base.With a universal PVD multi-layer coating, provides high heat and wear resistance

SMT Type

ISO	Material	Cutiing Speed m/min	Feed mm/tooth Cutting Diameter=D										
			φ2	φ3	φ4	φ6	φ8	φ10	φ12	φ14	φ16	φ20	φ25
P	Low and Medium Carbon Steels <0.55%C	90-200	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
	High Carbon Steels ≥0.55%C	100-145	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.15
	Alloy Steels, Treated Steels												
M	Stainless Steels - Free Cutting	55-130	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.11
	Stainless Steels - Austenitic	55-100	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
	Cast Steels	120-135	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
K	Cast Iron	65-120	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
N	Aluminum ≤12%Si, Copper	135-280	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
	Aluminum >12% Si	90-200	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
	Synthetics, Duroplastics, Thermoplastics	90-320	0.05	0.06	0.07	0.08	0.1	0.11	0.12	0.14	0.15	0.18	0.22
S	Nickel Alloys, Titanium Alloys												

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

SMTB, SMTZ, ESMT Type

ISO	Material	Cutiing Speed m/min	Feed mm/tooth Cutting Diameter=D										
			φ2	φ3	φ4	φ6	φ8	φ10	φ12	φ14	φ16	φ20	φ25
P	Low and Medium Carbon Steels <0.55%C	100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
	High Carbon Steels ≥0.55%C	110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.15
	Alloy Steels, Treated Steels	90-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
M	Stainless Steels - Free Cutting	60-160	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.11
	Stainless Steels - Austenitic	60-120	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
	Cast Steels	130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
K	Cast Iron	70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
N	Aluminum ≤12%Si, Copper	150-350	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18
	Aluminum >12% Si	100-250	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10
	Synthetics, Duroplastics, Thermoplastics	100-400	0.05	0.06	0.07	0.08	0.1	0.11	0.12	0.14	0.15	0.18	0.22
S	Nickel Alloys, Titanium Alloys	20-80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05

※ Note: For cutters with long cutting length reduce feed rate by 40%V

Mill-Thread Solid Carbide

Mini Mill-Thread MSMT Type

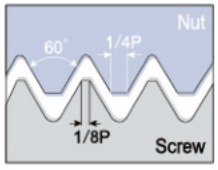
ISO	Material	Cutiing Speed m/min	Feed mm/tooth Cutting Diameter=D													
			φ1	φ1.5	φ2	φ3	φ4	φ5	φ6	φ7	φ8	φ9	φ10	φ12	φ14	φ16
P	Low and Medium Carbon Steels <0.55%C	60-120	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	High Carbon Steels ≥0.55%C	60-90	0.03	0.04	0.05	0.05	0.08	0.09	0.10	0.12	0.13	0.14	0.14	0.16	0.17	0.18
	Alloy Steels, Treated Steels	50-80	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14
M	Stainless Steels - Free Cutting	70-100	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
	Stainless Steels - Austenitic	60-90	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
	Cast Steels	70-90	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14
K	Cast Iron	40-80	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
N	Aluminum ≤12%Si, Copper	100-200	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.15	0.16	0.17	0.18	0.18
	Aluminum >12% Si	60-140	0.03	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.14
	Synthetics, Duroplastics, Thermoplastics	50-200	0.09	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.20	0.20
S	Nickel Alloys, Titanium Alloys	20-40	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08

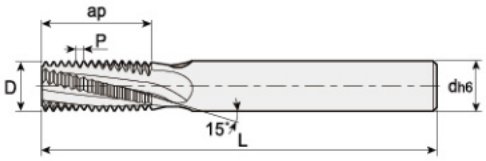
※ Note: For cutters with long cutting length reduce feed rate by 40%V

Mini Mill-Thread VS Taps

Feature	Mini Mill-Thread	Taps
Thread surface quality	High	Medium
Thread geometry	Very accurate	Medium
Thread tolerances	4H, 5H, 6H with std cutter	6H with standard tap, 4H with specific tap
Machining time	Same as tap or shorter	Short
Tool breakage	Almost not possible	Could happen often
Machining load	Very low	High
Range of thread diameters	Wide range of diameters	Specific tap for each diameter
Right/Left hand threading	Same cutter	Specific tap for each
Geometric shape	Full profile	Partial profile

ISO 60°METRIC

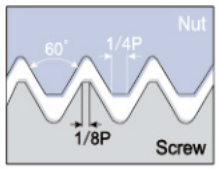


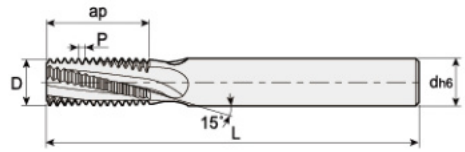


Designation (External)		Pitch	M coarse	Dimensions(mm)				No. of Inserts
				d	D	ap	L	
ESMT	04039C06 0.50ISO	0.5	M3x0.5	4	3.90	6.0	50	3
	04039C09 0.75ISO	0.75	M4.5x0.75	4	3.90	9.0	50	3
	04039C12 1.00ISO	1.0	M6x1.0	4	3.90	12.0	50	3
	10100D16 1.00ISO	1.0	M8x1.0	10	10.00	16.5	75	4
	12120E20 1.00ISO	1.0	M10x1.0	12	12.00	20.5	75	5
	06059C16 1.25ISO	1.25	M8x1.25	6	5.90	16.3	50	3
	10100D16 1.25ISO	1.25	M10x1.25	10	10.00	16.9	75	4
	08079C21 1.50ISO	1.5	M10x1.5	8	7.90	21.0	60	3
	10100D15 1.50ISO	1.5	M12x1.5	10	10.00	15.8	75	4
	12120D20 1.50ISO	1.5	M14x1.5	12	12.00	20.3	75	4
	12120D20 1.75ISO	1.75	M12x1.75	12	12.00	20.1	75	4
	10099D28 2.00ISO	2.0	M14x2.0	10	9.90	28.0	75	4
	12120D21 2.00ISO	2.0	M16x2.0	12	12.00	21.0	75	4

Mill-Thread Solid Carbide

ISO 60°METRIC





	Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)				No. of Inserts	Bore Dia.
					d	D	ap	L		
SMT	04022C06 0.50ISO	0.5	M3x0.5	M3.5-M16x0.5	4	2.20	6.0	50	3	2.5
	06022C05 0.50ISO	0.5	M3x0.5	φ≥4	6	2.20	5.3	50	3	2.5
	04030C08 0.50ISO	0.5	-	M4x0.5	4	3.00	8.0	50	3	3.5
	04039C10 0.50ISO	0.5	-	M5x0.5	4	3.90	10.0	50	3	4.5
	06038C10 0.50ISO	0.5	-	φ≥5	6	3.80	10.4	50	3	4.5
	04028C08 0.70ISO	0.7	M4x0.7	-	4	2.80	8.4	50	3	3.3
	06031C07 0.70ISO	0.7	M4x0.7	φ≥5	6	3.10	7.4	50	3	3.3
	04039C12 0.75ISO	0.8	-	M6x0.75	4	3.90	12.0	50	3	5.3
	06045C10 0.75ISO	0.8	-	φ≥6	6	4.50	10.1	50	3	5.3
	04035C10 0.80ISO	0.8	M5x0.8	-	4	3.50	10.4	50	3	4.2
	06036C09 0.80ISO	0.8	M5x0.8	φ≥6	6	3.60	9.2	50	3	4.2
	04039C12 1.00ISO	1.0	M6x1.0	M8-M40x1.0	4	3.90	12.0	50	3	5.0
	06040C10 1.00ISO	1.0	M6x1.0	φ≥7	6	4.00	10.5	50	3	5.0
	06040C14 1.00ISO	1.0	M6x1.0	φ≥7	6	4.00	14.5	50	3	5.0
	06059C16 1.00ISO	1.0		M8x1.0	6	5.90	16.0	50	3	7.0
	08079C20 1.00ISO	1.0		M10x1.0	8	7.90	20.0	60	3	9.0
	10099D24 1.00ISO	1.0		M12x1.0	10	9.90	24.0	75	4	11.0
	06058C16 1.25ISO	1.25	M8x1.25	-	6	5.80	16.3	50	3	6.8
	06050C19 1.25ISO	1.25	M8x1.25	φ≥10	6	5.00	19.4	50	3	6.8
	08077C20 1.25ISO	1.25		M10x1.25	8	7.70	20.0	60	3	8.8
	08077C21 1.50ISO	1.5	M10x1.5	M12-M48x1.5	8	7.70	21.0	60	3	8.5
	08070C24 1.50ISO	1.5	M10x1.5	φ≥12	8	7.00	24.8	75	3	8.5
	10094D24 1.50ISO	1.5	-	M12x1.5	10	9.40	24.0	75	4	10.5
	12112D28 1.50ISO	1.5	-	M14x1.5	12	11.20	28.5	75	4	12.5
	12119D33 1.50ISO	1.5	-	M16x1.5	12	11.90	33.0	75	4	14.5
	16160F33 1.50ISO	1.5	-	φ≥20	16	16.00	33.8	100	6	18.5
	08080C20 1.75ISO	1.75	M12x1.75	φ≥14	8	8.00	20.1	60	3	10.2
	08080C28 1.75ISO	1.75	M12x1.75	φ≥14	8	8.00	28.9	75	3	10.2
	10087D24 1.75ISO	1.75	M12x1.75	-	10	8.70	24.5	75	4	10.2
	10099D28 2.00ISO	2.0	M14x2.0	M17-M80x2.0	10	9.90	28.0	75	4	12.0
	10100C39 2.00ISO	2.0	M14x2.0	φ≥17	10	10.00	39.0	100	3	12.0
	12119D32 2.00ISO	2.0	M16x2.0	M17-M80x2.0	12	11.90	32.0	75	4	14.0
	20200F41 2.00ISO	2.0	-	φ≥26	20	20.00	41.0	100	5	24.0
	14140D33 2.50ISO	2.5	M20x2.5	φ≥22	14	14.00	33.8	80	4	17.5
	14140D48 2.50ISO	2.5	M20x2.5	φ≥22	14	14.00	48.8	100	4	17.5
	16139E40 2.50ISO	2.5	M18-M22x2.5	-	16	13.90	40.0	100	5	15.5
	16159D42 3.00ISO	3.0	M24x3.0	-	16	15.90	42.0	100	4	21.0
	16160C58 3.00ISO	3.0	M24x3.0	φ≥25	16	16.00	58.5	120	3	21.0
	20200D43 3.00ISO	3.0	M27x3.0	φ≥28	20	20.00	43.5	100	4	24.0

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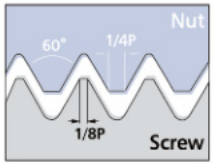

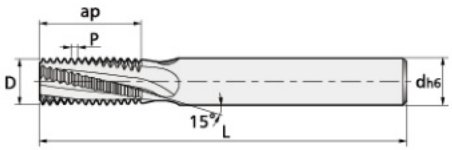

•Application: General engineering

	Designation (External)	TPI	UNC	UNF	Dimensions(mm)				No. of Inserts
					d	D	ap	L	
SMT	04039C09 32UN	32	No.8-32	-	4	3.90	8.7	50	3
	04039C12 28UN	28	-	No.12-28	4	3.90	11.8	50	3
	04039C12 24UN	24	No.12-24	-	4	3.90	11.6	50	3
	10100D16 24UN	24	-	5/16", 3/8"x24	10	10.00	16.4	75	4
	04039C13 20UN	20	1/4"x20	-	4	3.90	12.7	50	3
	12120E21 20UN	20	-	7/16", 1/2"x20	12	12.00	21.0	75	5
	06059C17 18UN	18	5/16"x18	-	6	5.90	16.9	50	3
	12120D20 18UN	18	-	9/16", 5/8"x18	12	12.00	20.5	75	4
	08079C19 16UN	16	3/8"x16	-	8	7.90	19.1	60	3
	12120D21 16UN	16	-	3/4"x16	12	12.00	21.4	75	4
	12120D20 14UN	14	7/16"x14	7/8"x14	12	12.00	20.9	75	4
	12119D30 12UN	12	9/16"x12	-	12	11.90	29.6	75	4

Mill-Thread Solid Carbide

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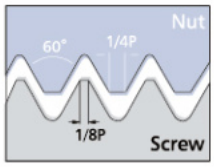
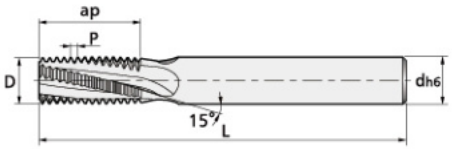
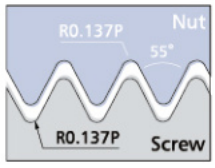


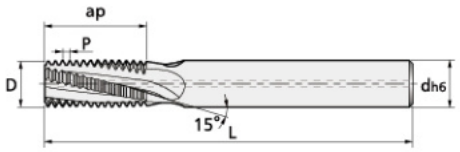


•Application: General engineering

Designation (Internal)	TPI	UNC	UNF	UNEF	Dimensions(mm)				No. of Inserts	Bore Dia.
					d	D	ap	L		
SMT 04030C09 36UN	36	-	No. 8-32	-	4	3.00	8.5	50	3	3.5
04033C11 32UN	32	No. 8-32	No. 10-32	No.12-3/8"x32	4	3.30	11.1	50	3	4.0
06032C06 32UN	32	No. 8-32	No. 10-32	No. 12-32	6	3.20	6.8	50	3	4.0
04038C12 28UN	28	-	No.12-28,1/4"x28	7/16", 1/2"x28	4	3.80	11.8	50	3	4.6
06040C11 28UN	28	-	1/4"x28	7/16", 1/2"x28	6	4.00	11.3	50	3	5.4
10092D23 28UN	28	-	-	7/16", 1/2"x28	10	9.20	22.7	75	4	10.2
04029C11 24UN	24	No. 10-24	5/16", 3/8"x24	9/16"-11/16"x24	4	2.90	10.6	50	3	3.8
04035C12 24UN	24	No. 12-24	5/16", 3/8"x24	9/16"-11/16"x24	4	3.50	11.6	50	3	4.5
06057C16 24UN	24	-	5/16", 3/8"x24	9/16"-11/16"x24	6	5.70	15.9	50	3	6.8
08074C19 24UN	24	-	3/8"x24	9/16"-11/16"x24	8	7.40	19.1	60	3	8.5
12119D29 24UN	24	-	-	9/16"-11/16"x24	12	11.90	28.6	75	4	13.2
04039C13 20UN	20	1/4"x20	7/16", 1/2"x20	3/4"-1"x20	4	3.90	12.7	50	3	5.2
06045C12 20UN	20	1/4"x20	-	-	6	4.50	12.1	50	3	5.2
08070C21 20UN	20	-	7/16", 1/2"x20	3/4"-1"x20	8	7.00	21.0	60	3	9.8
10085D23 20UN	20	-	7/16", 1/2"x20	3/4"-1"x20	10	8.50	22.9	75	4	9.8
10099D25 20UN	20	-	1/2"x20	3/4"-1"x20	10	9.90	25.4	75	4	11.5
12120E27 20UN	20	-	-	3/4"-1"x20	12	12.00	27.3	75	5	17.8
16159E38 20UN	20	-	-	3/4"-1"x20	16	15.90	38.1	100	5	17.8
06052C17 18UN	18	5/16"x18	9/16", 5/8"x18	11/16"-1 11/16"x18	6	5.20	16.9	50	3	6.5
10100D26 18UN	18	-	9/16", 5/8"x18	1 1/8" - 1 5/8" x18	10	10.00	26.1	75	4	12.8
12113D30 18UN	18	-	9/16", 5/8"x18	11/16"-1 11/16"x18	12	11.30	29.6	75	4	12.8
12119D33 18UN	18	-	5/8"x18	11/16"-1 11/16"x18	12	11.90	32.5	75	4	14.5
06060C16 16UN	16	3/8"x16	-	-	6	6.00	16.7	50	3	8.0
08067C19 16UN	16	3/8"x16	3/4"x16	-	8	6.70	19.1	60	3	8.0
12120D31 16UN	16	-	3/4"x16	-	12	12.00	30.0	75	4	17.5
16159D38 16UN	16	-	3/4"x16	-	16	15.90	38.1	100	4	17.5
08076D24 14UN	14	7/16"x14	7/8"x14	-	8	7.60	23.6	60	4	9.3
16150E37 14UN	14	-	7/8"x14	-	16	15.00	37.2	100	5	20.5
20187D44 14UN	14	-	7/8"x14	-	20	18.70	44.4	100	4	20.5
08080C22 13UN	13	1/2"x13	-	-	8	8.00	22.5	60	3	10.8
10089D25 13UN	13	1/2"x13	-	-	10	8.90	25.4	75	4	10.8
10100C26 12UN	12	9/16"x12	1"-1 1/2"x12	-	10	10.00	26.5	75	3	12.3
12103D30 12UN	12	9/16"x12	1"-1 1/2"x12	-	12	10.30	29.6	75	4	12.3
16160E41 12UN	12	-	1"-1 1/2"x12	-	16	16.00	41.3	100	5	23.5
20199E51 12UN	12	-	1"-1 1/2"x12	-	20	19.90	50.8	100	5	23.5
10100C29 11UN	11	5/8"x11	-	-	10	10.00	28.9	75	3	13.5
12110D32 11UN	11	5/8"x11	-	-	12	11.00	32.3	75	4	13.5
12120C34 10UN	10	3/4"x10	-	-	12	12.00	34.3	75	3	16.5
16135E38 10UN	10	3/4"x10	-	-	16	13.50	38.1	100	5	16.5
16152D45 9UN	9	7/8"x9	-	-	16	15.20	45.2	100	4	19.5
16150C43 8UN	8	1"x8	-	-	16	15.00	42.9	100	3	22.0
20170D51 8UN	8	1"x8	-	-	20	17.00	50.8	100	4	22.0
20200C45 7UN	7	1 1/8" - 1 1/4" x7	-	-	20	20.00	45.4	100	3	25.0

W 55°WHIT WORTH (BSW,BSF,BSP, BSB)

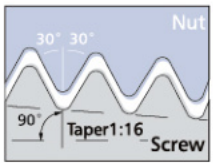


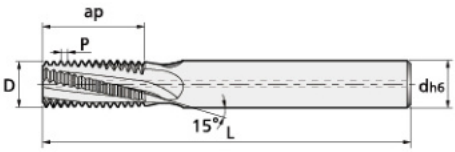


•Application: General engineering fttings and pipe couplings

Designation (External / Internal)		TPI	BSP (G)	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMT	06058C16 28W	28	1/16"x28, 1/8"x28	6	5.80	16.3	50	3	6.7
	08077C20 28W	28	1/8"x28	8	7.70	20.0	60	3	8.7
	08080C14 19W	19	1/4"x19, 3/8"x19	8	8.00	14.0	60	3	11.8
	10099D27 19W	19	1/4"x19, 3/8"x19	10	9.90	26.7	75	4	11.8
	16134D33 19W	19	3/8"x19	16	13.40	33.4	100	4	15.2
	12120D19 14W	14	1/2", 7/8"x14	12	12.00	19.0	75	4	18.6
	12120D26 14W	14	1/2", 7/8"x14	12	12.00	26.3	75	4	18.6
	16157E43 14W	14	1/2", 3/4"x14	16	15.70	43.5	100	5	19.0
	12120C24 11W	11	1", 1 1/2"x11	12	12.00	24.2	75	3	30.2
	16160D38 11W	11	1", 1 1/2", 2", 2 1/2", 3"x11	16	16.00	38.1	100	4	30.7
	20199E42 11W	11	1", 1 1/2", 2", 2 1/2"x11	20	19.90	41.6	100	5	30.7
	20200E47 11W	11	≥1" x11	20	20.00	47.3	100	5	30.7

NPT60°NATIOANL PIPE

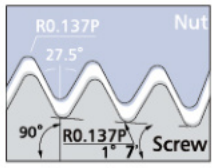


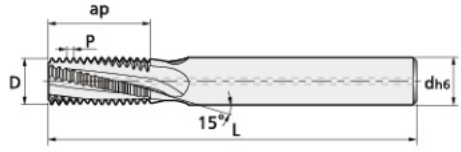


•Application: General engineering

Designation (External / Internal)		TPI	NPT	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMT	06053C09 27NPT	27	1/16"x27	6	5.30	9.4	50	3	6.3
	08075E09 27NPT	27	1/8"x27	8	7.50	9.4	60	4	8.5
	08080C14 18NPT	18	1/4"x18	8	8.00	14.8	60	3	11.1
	10094E14 18NPT	18	1/4"x18	10	9.40	14.1	75	4	11.1
	12119E14 18NPT	18	3/8"x18	12	11.90	14.1	75	4	14.5
	12120D20 14NPT	14	1/2", 3/4"x14	12	12.00	20.9	75	4	17.7
	16155E25 14NPT	14	1/2", 3/4"x14	16	15.50	25.4	100	5	17.7, 23.0
	16160D27 11.5NPT	11.5	1"-2"x11.5	16	16.00	27.6	100	4	29.0
	20199E33 11.5NPT	11.5	1"-2"x11.5	20	19.90	33.1	100	5	29.0-56.0
	20199D38 8NPT	8	2 1/2", 3"x8	20	19.90	38.1	100	4	66.5

BSPT 55°BRITISH S TANDARD PIPE

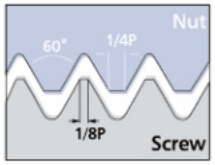


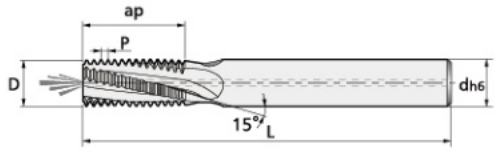


•Application: General engineering fttings and pipe couplings

Designation (External / Internal)		TPI	BSPT	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMT	06058C16 28BSPT	28	1/16"x28	6	5.80	16.3	50	3	6.7
	08077C20 28BSPT	28	1/8"x28	8	7.70	20.0	60	3	8.7
	08080C14 19BSPT	19	1/4"x19	8	8.00	14.0	60	3	10.9
	10099D27 19BSPT	19	1/4"x19	10	9.90	26.7	75	4	11.8
	16134D33 19BSPT	19	3/8"x19	16	15.70	33.4	100	4	15.2
	12120D19 14BSPT	14	1/2"-7/8" x14	12	12.00	19.1	75	4	18.0
	16157E43 14NSPT	14	1/2", 3/4"x14	16	15.70	43.5	100	5	19.0
	16160D28 11BSPT	11	1", 1 1/2", 2" x11	16	16.00	28.9	100	4	29.0
	20199E42 11BSPT	11	1", 1 1/2", 2", 2 1/2"x1	20	19.90	41.6	100	5	30.7

ISO 60°METRIC





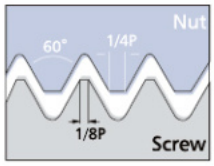
•Application: General engineering

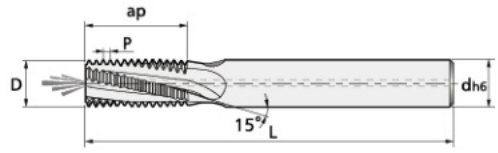
1.5 x Do (ap ≤ 1.5 x Thread Diameter)

Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMTB 04024C04 0.50ISO	0.5	M3x0.5	M3.5-M16x0.5	4	2.40	4.7	50	3	2.5
04031C06 0.70ISO	0.7	M4x0.7	-	4	3.15	6.6	50	3	3.3
04039C07 0.80ISO	0.8	M5x0.8	-	4	3.90	7.6	50	3	4.2
06048C09 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	9.5	50	3	5.0
08065C13 1.25ISO	1.25	M8x1.25	-	8	6.50	13.1	60	3	6.8
10082C15 1.50ISO	1.5	M10x1.5	M12-M48x1.5	10	8.20	15.7	75	3	8.5
10099D18 1.75ISO	1.75	M12x1.75	-	10	9.90	18.4	75	4	10.2
12116D21 2.00ISO	2.0	M14x2.0	M17-M80x2.0	12	11.60	21.0	75	4	12.0
14136D25 2.00ISO	2.0	M16x2.0	M17-M80x2.0	14	13.60	25.0	100	4	14.0

Mill-Thread Solid Carbide

ISO 60°METRIC



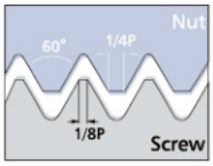


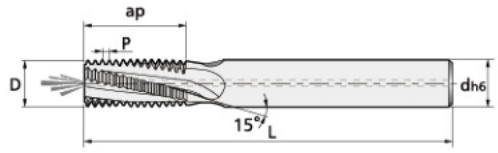
•Application: General engineering

2.0 x Do (ap ≤ 2.0 x Thread Diameter)

Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMTB 04024C06 0.50ISO	0.5	M3x0.5	M3.5-M16x0.5	4	2.40	6.2	50	3	2.5
04032C08 0.50ISO	0.5	-	M4x0.5	4	3.20	8.2	50	3	3.5
06042C10 0.50ISO	0.5	-	M5x0.5	6	4.20	10.2	50	3	4.5
04031C08 0.70ISO	0.7	M4x0.7	-	4	3.15	8.7	50	3	3.3
06050C12 0.75ISO	0.75	-	M6x0.75	6	5.00	12.4	50	3	5.3
04039C10 0.80ISO	0.8	M5x0.8	-	4	3.90	10.8	50	3	4.2
06048C12 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	12.5	50	3	5.0
08067C16 1.00ISO	1.0	-	M8x1.0	8	6.70	16.5	60	3	7.0
10087C20 1.00ISO	1.0	-	M10x1.0	10	8.70	20.5	75	3	9.0
12107D24 1.00ISO	1.0	-	M12x1.0	12	10.70	24.5	75	4	11.0
06060C14 1.25ISO	1.25	M8x1.25	-	6	6.00	14.4	50	3	6.8
08065C16 1.25ISO	1.25	M8x1.25	-	8	6.50	16.9	60	3	6.8
10085C20 1.25ISO	1.25	-	M10x1.25	10	8.50	20.6	75	3	8.8
08078C17 1.50ISO	1.50	M10x1.5	M12-M48x1.5	8	7.80	17.0	60	3	8.5
10082C20 1.50ISO	1.5	M10x1.5	M12-M48x1.5	10	8.20	20.2	75	3	8.5
10099D24 1.50ISO	1.5	-	M12x1.5	10	9.90	24.7	75	4	10.5
12119D29 1.50ISO	1.5	-	M14x1.5	12	11.90	29.2	75	4	12.5
14139D32 1.50ISO	1.5	-	M16x1.5	14	13.90	32.2	100	4	14.5
16160F33 1.50ISO	1.5	-	M20x1.5	16	16.00	33.8	100	6	18.5
10099C25 1.75ISO	1.75	M12x1.75	-	10	9.90	25.4	75	4	10.2
10100C27 2.00ISO	2.0	M14x2.0	M15-M80x2.0	10	10.00	27.0	75	3	12.0
12116D29 2.00ISO	2.0	M14x2.0	M17-M80x2.0	12	11.60	29.0	75	4	12.0
14136D33 2.00ISO	2.0	M16x2.0	M17-M80x2.0	14	13.60	33.0	100	4	14.0
20200F41 2.00ISO	2.0	-	M26-M80x2.0	20	20.00	41.0	100	6	24.0
16148D36 2.50ISO	2.5	M18x2.5	-	16	14.80	36.2	100	4	15.5
16150E33 2.50ISO	2.5	M18x2.5	-	16	15.00	33.8	100	5	15.5
18171D41 2.50ISO	2.5	M20x2.5	-	18	17.10	41.2	100	4	17.5
20199D49 3.00ISO	3.0	M24x3.0	-	20	19.90	49.5	100	4	21.0

ISO 60°METRIC



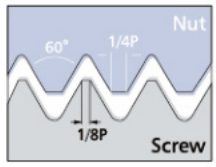


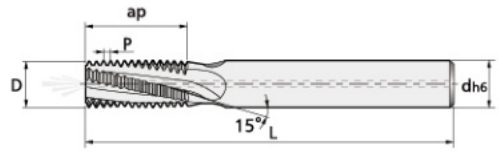
•Application: General engineering

3.0 x Do (ap ≤ 3.0 x Thread Diameter)

Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMTB 04024C09 0.50ISO	0.5	M3x0.5	M3.5-M16x0.5	4	2.40	9.25	50	3	2.5
04031C12 0.70ISO	0.7	M4x0.7	-	4	3.15	12.95	50	3	3.3
04039C15 0.80ISO	0.8	M5x0.8	-	4	3.90	15.60	50	3	4.2
06048C18 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	18.50	50	3	5.0
06060C19 1.25ISO	1.25	M8x1.25	-	6	6.00	19.40	50	3	6.8
08065C25 1.25ISO	1.25	M8x1.25	-	8	6.50	25.63	60	3	6.8
08078C24 1.50ISO	1.5	M10x1.5	M12-M48x1.5	8	7.80	24.80	60	3	8.5
10082C30 1.50ISO	1.5	M10x1.5	M12-M48x1.5	10	8.20	30.75	75	3	8.5
10099D37 1.75ISO	1.75	M12x1.75	-	10	9.90	37.63	75	4	10.2
12118D39 2.00ISO	2.0	M16x2.0	M17-M80x2.0	12	11.80	39.00	100	4	14.0
14136D49 2.00ISO	2.0	M16x2.0	M17-M80x2.0	14	13.60	49.00	100	4	14.0
16150E48 2.50ISO	2.5	M20x2.5	-	16	15.00	48.80	100	5	17.5
20180D58 3.00ISO	3.0	M24x3.0	-	20	18.00	58.50	120	4	21.0

UN 60° AMERICAN UN (UNC UNF UNEF UNS)





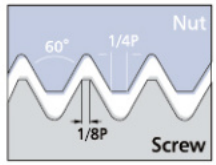
•Application: General engineering

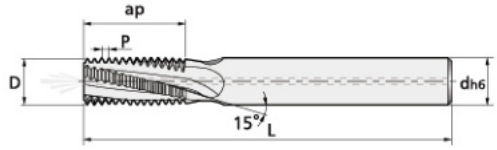
1.5 x Do (ap ≤ 1.5 x Thread Diameter)

Designation (Internal)	TPI	UNC	UNF	UNEF	Dimensions(mm)				No. of Inserts	Bore Dia.
					d	D	ap	L		
SMTB 04035C07 24UN	24	No.10-24	5/16", 3/8"x24	9/16"-11/16"x24	4	3.58	7.9	50	3	3.8
06041C09 24UN	24	No.10-24	5/16", 3/8"x24	9/16"-11/16"x24	6	4.15	9.0	50	3	4.5
06048C09 20UN	20	1/4"x20	7/16", 1/2"x20	3/4"-1"x20	6	4.88	9.5	50	3	5.2
08061C12 18UN	18	5/16"x18	9/16", 5/8"x18	11/16"-1 11/16" x18	8	6.15	12.0	60	3	6.5
08076C15 16UN	16	3/8"x16	3/4"x16	-	8	7.65	15.1	60	3	8.0
10090C17 14UN	14	7/16"x14	7/8"x14	-	10	9.00	17.2	75	3	9.3
12104D20 13UN	13	1/2"x13	-	-	12	10.35	20.5	75	4	10.8
12118D22 12UN	12	9/16"x12	1"-1 1/2"x12	-	12	11.80	22.2	75	4	12.3

UN 60° AMERICAN UN (UNC UNF UNEF UNS)

2.0 x Do (ap ≤ 2.0 x Thread Diameter)

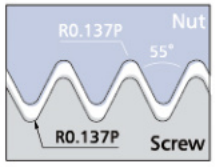


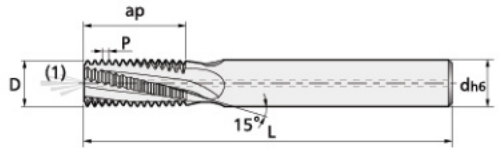


•Application: General engineering

Designation (Internal)	TPI	UNC	UNF	UNEF	Dimensions(mm)				No. of Inserts	Bore Dia.
					d	D	ap	L		
SMTB 04038C10 32UN	32	-	No.10-32	No.12-3/8"x32	4	3.80	9.9	50	3	4.0
06044C11 32UN	32	-	-	No.12-3/8"x32	6	4.40	11.5	50	3	4.7
06060C14 32UN	32	-	-	5/16"x32	6	6.00	14.7	50	3	7.1
08080D18 32UN	32	-	-	3/8"x32	8	8.00	18.7	60	4	8.7
06043C11 28UN	28	-	No.12, 1/4"x28	7/16", 1/2"x28	6	4.30	11.3	50	3	4.6
06052C13 28UN	28	-	1/4"x28	7/16", 1/2"x28	6	5.20	13.1	50	3	5.5
10099C22 28UN	28	-	-	7/16", 1/2"x28	10	9.90	22.2	75	3	10.2
04035C10 24UN	24	No.10-24	5/16", 3/8"x24	9/16"-11/16"x24	4	3.58	10.0	50	3	3.8
06041C11 24UN	24	No.10-24	5/16", 3/8"x24	9/16"-11/16"x24	6	4.15	11.1	50	3	4.5
08066C16 24UN	24	-	5/16", 3/8"x24	9/16"-11/16"x24	8	6.60	16.4	60	3	6.8
08080D21 24UN	24	-	3/8"x24	-	8	8.00	20.6	60	4	8.5
10082C20 24UN	24	-	3/8"x24	9/16"-11/16"x24	10	8.20	19.6	75	3	8.5
14129D29 24UN	24	-	-	9/16"-11/16"x24	14	12.90	29.1	100	4	13.2
06048C13 20UN	20	1/4"x20	7/16", 1/2"x20	3/4"-1"x20	6	4.88	13.3	50	3	5.2
08080C21 20UN	20	-	7/16"x20	-	8	8.00	21.0	60	3	9.8
10096C22 20UN	20	-	7/16", 1/2"x20	3/4"-1"x20	10	9.60	22.2	75	3	9.8
12111D26 20UN	20	-	1/2"x20	3/4"-1"x20	12	11.10	26.0	75	4	11.5
18174D38 20UN	20	-	-	3/4"-1"x20	18	17.40	38.7	100	4	17.8
06056C14 18UN	18	5/16"x18	-	1 1/8"-1 5/8"x18	6	5.60	14.8	50	3	6.5
08061C16 18UN	18	5/16"x18	9/16", 5/8"x18	11/16"-1 11/16"x18	8	6.15	16.2	60	3	6.5
12113D26 18UN	18	-	9/16", 5/8"x18	-	12	11.30	26.1	75	4	12.8
14125D28 18UN	18	-	9/16", 5/8"x18	11/16"-1 11/16"x18	14	12.50	28.9	100	4	12.8
16141D31 18UN	18	-	5/8"x18	11/16"-1 11/16"x18	16	14.10	31.7	100	4	14.5
08076C20 16UN	16	3/8"x16	3/4"x16	-	8	7.65	19.8	60	3	8.0
12120D31 16UN	16	-	3/4"x16	-	12	12.00	31.0	75	4	17.5
18170D38 16UN	16	-	3/4"x16	-	18	17.00	38.8	100	4	17.5
08077C20 14UN	14	7/16"x14	-	-	8	7.70	20.9	60	3	9.3
10090C22 14UN	14	7/16"x14	7/8"x14	-	10	9.00	22.7	75	3	9.3
16160E37 14UN	14	-	7/8"x14	-	16	16.00	37.2	100	5	20.5
20199D44 14UN	14	-	7/8"x14	-	20	19.90	44.4	100	4	20.5
10092C22 13UN	13	1/2"x13	-	-	10	9.20	22.5	75	3	10.8
12104D26 13UN	13	1/2"x13	-	-	12	10.35	26.4	75	4	10.8
12118D28 12UN	12	9/16"x12	1"-1 1/2"x12	-	12	11.80	28.6	75	4	12.3
16160E41 12UN	12	-	1"-1 1/2"x12	-	16	16.00	41.3	100	5	23.5
20199D51 12UN	12	-	1"-1 1/2"x12	-	20	19.90	51.9	100	4	23.5
12114C29 11UN	11	5/8"x11	-	-	12	11.40	28.9	75	3	13.5
14131D33 11UN	11	5/8"x11	-	-	14	13.10	33.5	100	4	13.5
16159D46 10UN	10	3/4"x10	-	-	16	15.90	39.4	100	4	16.5
16160C38 9UN	9	7/8"x9	-	-	16	16.00	38.1	100	3	19.5
20190D46 9UN	9	7/8"x9	-	-	20	19.00	46.6	100	4	19.5
20199D52 8UN	8	1"x8	-	-	20	19.90	52.4	100	4	22.0
20200D45 7UN	7	1 1/8"-1 1/4"x7	-	-	20	20.00	45.3	100	4	25.0

W 55°WHIT WORTH (BSW,BSF, BSP, BSB)

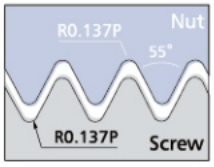


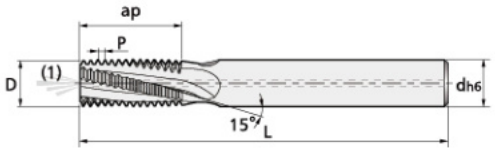


•Application: General engineering fttings and pipe couplings

Designation (External / Internal)	TPI	BSW	BSF	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMTB 06050C13 26W	26	-	1/4"x26	6	5.00	13.2	50	3	5.3
08063C16 22W	22	-	5/16"x22	8	6.35	16.7	60	3	6.7
06044C13 20W	20	1/4"x20	3/8"x20	6	4.45	13.3	50	3	5.0
08076C20 20W	20	-	3/8"x20	8	7.65	19.7	60	3	8.2
06058C16 18W	18	5/16"x18	7/16"x18	6	5.85	16.2	50	3	6.5
10092C23 18W	18	-	7/16"x18	10	9.20	23.3	75	3	9.7
08072C20 16W	16	3/8"x16	1/2", 9/16"x16	8	7.20	19.8	60	3	7.9
12105D26 16W	16	-	1/2", 9/16"x16	12	10.50	26.2	75	4	11.1
14121D29 16W	16	-	9/16"x16	14	12.15	29.4	100	4	12.6
10085C22 14W	14	7/16"x14	5/8", 11/16"x14	10	8.50	22.7	75	3	9.2
14134D31 14W	14	-	5/8", 11/16"x14	14	13.40	31.7	100	4	14.0
16150D35 14W	14	-	11/16"x14	16	15.00	35.4	100	4	15.6
10096C26 12W	12	1/2"x12	3/4"x12	10	9.65	26.5	75	3	10.5
12112D28 12W	12	9/16"x12	3/4"x12	12	11.25	28.6	75	4	12.1
18162D39 12W	12	-	3/4"x12	18	16.20	39.2	100	4	16.8
14126D33 11W	11	5/8"x11	7/8"x11	14	12.60	33.5	100	4	13.4
16142D35 11W	11	11/16"x11	-	16	14.20	35.8	100	4	15.0

W 55°WHIT WORTH (BSW,BSF, BSP, BSB)



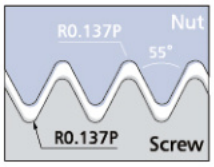


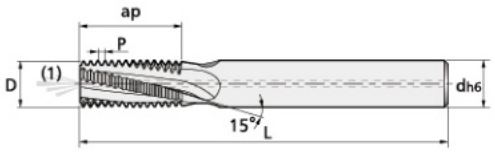
•Application: General engineering fttings and pipe couplings

1.5 x Do (ap ≤ 1.5 x Thread Diameter)

Designation (External / Internal)	TPI	BSW	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTB 08064C12 28W	28	1/16", 1/8"x28	8	6.40	12.2	60	3	6.7
10082C15 28W	28	1/8"x28	10	8.20	15.0	75	3	8.7
10100D16 19W	19	1/4", 3/8"x19	10	10.00	16.7	75	4	11.8
12110D20 19W	19	1/4", 3/8"x19	12	11.00	20.7	75	4	11.8
16145D26 19W	19	3/8"x19	16	14.50	26.1	100	4	15.2
16160E26 14W	14	1/2"-7/8"x14	16	16.00	26.3	100	5	19.0
20199D42 11W	11	1"-4"x11	20	19.90	42.7	100	4	30.7

W 55°WHIT WORTH (BSW,BSF, BSP, BSB)





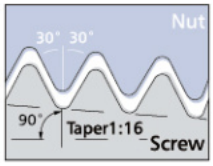
•Application: General engineering fttings and pipe couplings

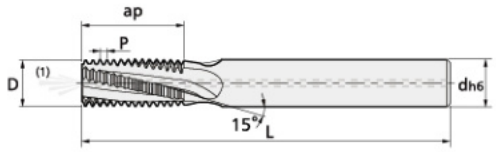
2.0 x Do (ap ≤ 2.0 x Thread Diameter)

Designation (External / Internal)	TPI	BSW	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTB 08064C15 28W	28	1/16", 1/8"x28	8	6.40	15.9	60	3	6.7
10082C20 28W	28	1/8"x28	10	8.20	19.5	75	3	8.7
12110D27 19W	19	1/4", 3/8"x19	12	11.00	27.4	75	4	11.8
16145D34 19W	19	3/8"x19	16	14.50	34.1	100	4	15.2
18179D42 14W	14	1/2"-7/8"x14	18	17.90	42.6	100	4	19.0
16160D38 11W	11	1"-4"x11	16	16.00	38.1	100	4	30.7
20199E47 11W	11	1"-4"x11	20	19.90	47.3	100	5	30.7

Mill-Thread Solid Carbide

NPT60°NATIOANL PIPE

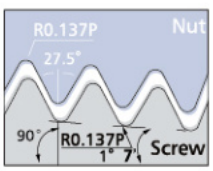


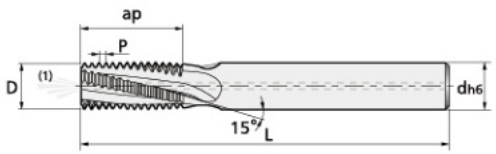


●Application: Steam, gas and water pipes

Designation (External / Internal)	TPI	NPT	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTB 06059C10 27NPT	27	1/16"x27	6	5.90	9.9	50	3	6.3
08076C10 27NPT	27	1/8"x27	8	7.65	9.9	60	3	8.5
10099C14 18NPT	18	1/4"x18	10	9.90	14.8	75	3	11.1
12111D14 18NPT	18	3/8"x18	12	11.15	14.8	75	4	14.5
16142D19 14NPT	14	1/2", 3/4"x14	16	14.25	19.0	100	4	17.0, 23.0
20196D23 11.5NPT	11.5	1", 1 1/4", 1 1/2", 2"x11.5	20	19.60	23.2	100	4	29.0, 37.7, 44.0, 56.0
20196D33 8NPT	8	2 1/2", 3"x8	20	19.60	33.3	100	4	66.5, 82.1

BSPT 55°BRITISH STANDARD PIPE

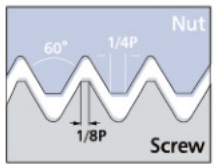


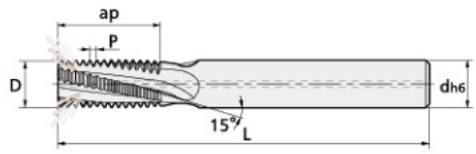


•Application: General engineering fttings and pipe couplings

Designation (External / Internal)	TPI	BSPT	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTB 06059C10 28BSPT	28	1/16"x28	6	5.90	10.2	50	3	6.7
08076C10 28BSPT	28	1/8"x28	8	7.60	10.2	60	3	8.7
10099C15 19BSPT	19	1/4"x19	10	9.90	15.4	75	3	11.8
12111D15 19BSPT	19	3/8"x19	12	11.15	15.4	75	4	15.2
16142D22 14BSPT	14	1/2", 3/4"x14	16	14.20	22.7	100	4	19.0
16160D28 11BSPT	11	1", 1 1/2", 2", 2 1/2"x11	16	16.00	28.9	100	4	30.7
20196D28 11BSPT	11	1", 1 1/2", 2", 2 1/2"x11	20	19.60	28.9	100	4	30.7

ISO 60°METRIC



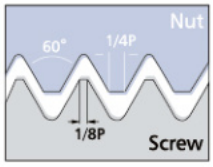


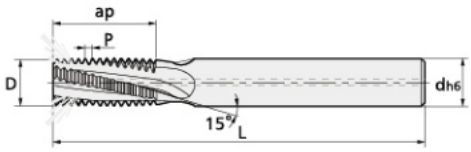
•Application: General engineering

Designation (Internal)	Pitch	Mcoarse	Mcoarse	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
SMTZ 06048C12 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	12.5	50	3	5.0
10087C23 1.00ISO	1.0	-	M10x1.0	10	8.70	20.5	75	3	9.0
12107D24 1.00ISO	1.0	-	M12x1.0	12	10.70	24.5	75	4	11.0
08065C16 1.25ISO	1.25	M8x1.25	-	8	6.50	16.9	60	3	6.8
10082C20 1.50ISO	1.5	M10x1.5	M12-M48x1.5	10	8.20	20.3	75	3	8.5
10099D24 1.50ISO	1.5	-	M12x1.5	10	9.90	24.80	75	4	10.5
12119D29 1.50ISO	1.5	-	M14x1.5	12	11.90	29.30	75	4	12.5
14139D32 1.50ISO	1.5	-	M16x1.5	14	13.90	32.30	75	4	14.5
16160E33 1.50ISO	1.5	-	M20x1.5	16	16.00	33.80	100	5	18.5
10099D25 1.75ISO	1.75	M12x1.75	-	10	9.90	25.40	75	4	10.2
10099C27 2.00ISO	2.0	M14x2.0	-	10	9.90	27.00	75	3	12.0
12118D27 2.00ISO	2.0	M16x2.0	M17-M80x2.0	12	11.80	27.00	75	4	14.0
16150E33 2.50ISO	2.5	M20x2.5	-	16	15.00	33.80	100	5	17.5

Mill-Thread Solid Carbide

UN 60° AMERICAN UN (UNC UNF UNEF UNS)

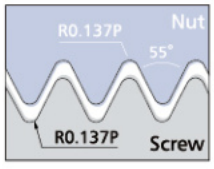


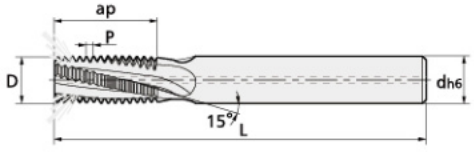


•Application: General engineering

Designation (Internal)	TPI	UNC	UNF	UNEF	Dimensions(mm)				No. of Inserts	Bore Dia.
					d	D	ap	L		
SMTZ 06050C11 28UN	28	-	1/4"x28	7/16", 1/2"x28	6	5.00	11.3	50	3	5.5
06060C14 28UN	28	-	-	7/16", 1/2"x28	6	6.00	14.1	50	3	10.2
08066C14 24UN	24	-	5/16", 3/8"x24	9/16"-11/16"x24	8	6.60	14.3	60	3	6.8
08080D21 24UN	24	-	3/8"x24	9/16"-11/16"x24	8	8.00	20.6	60	4	8.5
08080C21 20UN	20	-	7/16", 1/2"x20	3/4"-1"x20	8	8.00	21.0	60	3	9.8
10100D22 20UN	20	-	1/2"x20	3/4"-1"x20	10	10.00	22.3	75	4	11.5
12120E27 20UN	20	-	-	3/4"-1"x20	12	12.00	27.3	75	5	17.8
06056C14 18UN	18	5/16"x18	9/16", 5/8"x18	11/16"-1 11/16"x18	6	5.60	14.8	50	3	6.5
12113D26 18UN	18	-	9/16", 5/8"x18	1 1/8"-1 5/8"x18	12	11.30	26.1	75	4	12.8
08067C16 16UN	16	3/8"x16	3/4"x16	-	8	6.70	16.7	60	3	8.0
12120D31 16UN	16	-	3/4"x16	-	12	12.00	31.0	75	4	17.5
08077C20 14UN	14	7/16"x14	7/8"x14	-	8	7.70	20.9	60	3	9.3
16160E37 14UN	14	-	7/8"x14	-	16	16.00	37.2	100	5	20.5
10092C22 13UN	13	1/2"x13	-	-	10	9.20	22.5	75	3	10.8
12105C26 12UN	12	9/16"x12	1"-1 1/2"x12	-	12	10.50	26.5	75	3	12.3
12114C28 11UN	11	5/8"x11	-	-	12	11.40	28.9	75	3	13.5
16144D34 10UN	10	3/4"x10	-	-	16	14.40	34.3	100	4	16.5

W 55°WHIT WORTH (BSW,BSF, BSP, BSB)

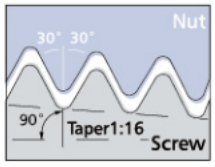


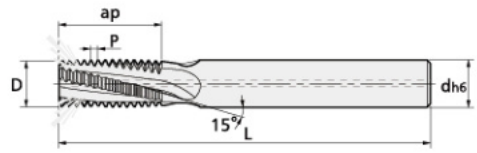


•Application: General engineering

Designation (External / Internal)	TPI	BSP (G)	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTZ 08078C14 28W	28	1/8"x28	8	7.80	14.1	60	3	8.7
10100D16 19W	19	1/4"x19, 3/8"x19	10	10.00	16.7	75	4	11.8
16160E26 14W	14	1/2", 3/4", 7/8"x14	16	16.00	26.3	100	5	19.0
16160D38 11W	11	1", 1 1/2", 2", 2 1/2"x11	16	16.00	38.1	100	4	30.7

NPT60°NATIOANL PIPE

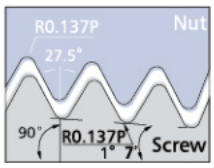


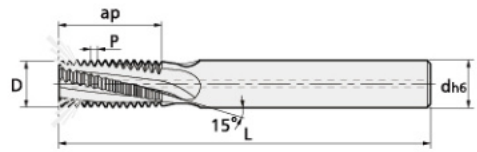


•Application: General engineering

Designation (External / Internal)	TPI	NPT	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTZ 08076C10 27NPT	27	1/8"x27	8	7.60	10.8	60	3	8.5
10100D16 18NPT	18	1/4", 3/8"x18	10	10.00	16.2	75	4	11.1, 14.5
16155D22 14NPT	14	1/2", 3/4"x14	16	15.50	22.7	100	4	17.7, 23.0

BSPT 55°BRITISH STANDARD PIPE



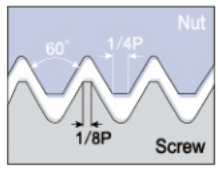


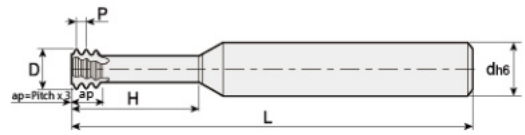
•Application: General engineering

Designation (External / Internal)	TPI	BSP (G)	Dimensions(mm)				No. of Inserts	Bore Dia.
			d	D	ap	L		
SMTZ 08078C14 28BSPT	28	1/8"x28	8	7.80	14.1	60	3	8.7
10100D16 19BSPT	19	1/4", 3/8"x19	10	10.00	16.7	75	4	11.8
16160E26 14BSPT	14	1/2", 3/4", 7/8"x14	16	16.00	26.3	100	5	19.0
16160D28 11BSPT	11	1", 1 1/2", 2", 2 1/2"x11	16	16.00	38.1	100	4	30.7

Mini Mill-Thread Solid Carbide

ISO 60°METRIC

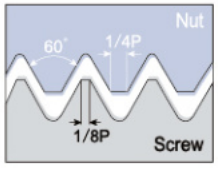


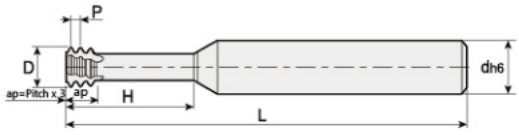


2 x Do (H ≤ 2 x Thread Diameter)

Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)					No. of Inserts	Bore Dia.
				d	D	ap	H	L		
MSMT 04006C02 0.25ISO	0.25	M1.0x0.25		4	0.65	0.75	2.2	50	3	0.75
04008C02 0.25ISO	0.25	M1.2x0.25		4	0.85	0.75	2.6	50	3	0.95
04010C03 0.30ISO	0.3	M1.4x0.3		4	1.00	0.90	3.0	50	3	1.10
04011C03 0.35ISO	0.35	M1.6x0.35		4	1.15	1.05	3.4	50	3	1.25
04014C04 0.40ISO	0.4	M2x0.4		4	1.45	1.20	4.5	50	3	1.60
04019C05 0.45ISO	0.45	M2.5x0.45		4	1.90	1.35	5.5	50	3	2.05
04023C06 0.50ISO	0.5	M3X0.5	M3.5-M16x0.5	4	2.35	1.50	6.5	50	3	2.50
04031C08 0.70ISO	0.75	M4x0.7		4	3.15	2.10	8.5	50	3	3.30
06040C10 0.80ISO	0.8	M5x0.8		6	4.00	2.40	10.5	50	3	4.20
06048C12 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	3.00	12.5	50	3	5.00
08065D16 1.25ISO	1.25	M8x1.25		8	6.50	3.75	16.5	60	4	6.75
10082D21 1.50ISO	1.5	M10x1.5		10	8.20	4.50	21.0	75	4	8.50
12120D29 1.50ISO	1.5		M14x1.5	12	12.00	4.50	29.0	75	4	12.50
14140D33 1.50ISO	1.5		M16x1.5	14	14.00	4.50	33.0	80	4	14.50
10099D25 1.75ISO	1.75	M12x1.75		10	9.90	5.25	25.0	75	4	10.20
12116D29 2.00ISO	2.0	M14x2.0		12	11.60	6.00	29.0	75	4	12.00
14136D33 2.00ISO	2.0	M16x2.0		14	13.60	6.00	33.0	80	4	14.00
16160D40 2.50ISO	2.5	M20x2.5		16	16.00	7.50	40.0	100	4	17.50

ISO 60°METRIC



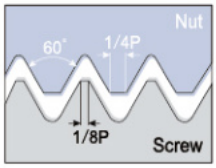


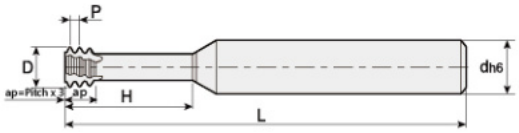
3 x Do (H ≤ 3 x Thread Diameter)

Designation (Internal)	Pitch	Mcoarse	Mfine	Dimensions(mm)					No. of Inserts	Bore Dia.
				d	D	ap	H	L		
MSMT 04008C03 0.25ISO	0.25	M1.2x0.25		4	0.85	0.75	3.6	50	3	0.95
04010C04 0.30ISO	0.3	M1.4x0.3		4	1.00	0.90	4.2	50	3	1.10
04011C04 0.35ISO	0.35	M1.6x0.35		4	1.15	1.05	4.8	50	3	1.25
04014C06 0.40ISO	0.4	M2x0.4		4	1.45	1.20	6.0	50	3	1.60
04019C07 0.45ISO	0.45	M2.5x0.45		4	1.90	1.35	7.5	50	3	2.05
04023C09 0.50ISO	0.5	M3X0.5	M3.5-M16x0.5	4	2.35	1.50	9.0	50	3	2.50
06042C15 0.50ISO	0.5		M5x0.5	6	4.20	1.50	15.0	50	3	4.50
04031C12 0.70ISO	0.7	M4x0.7		4	3.15	2.10	12.0	50	3	3.30
06050C18 0.75ISO	0.75		M6x0.75	6	5.00	2.25	18.0	50	3	5.25
06040C15 0.80ISO	0.8	M5x0.8		6	4.00	2.40	15.0	50	3	4.20
06048C18 1.00ISO	1.0	M6x1.0	M8-M40x1.0	6	4.80	3.00	18.0	50	3	5.00
08065D24 1.00ISO	1.0		M8x1.0	8	6.50	3.00	24.0	60	4	7.00
10085D30 1.00ISO	1.0		M10x1.0	10	8.50	3.00	30.0	75	4	9.00
10100D36 1.00ISO	1.0		M12x1.0	10	10.00	3.00	36.0	75	4	11.00
08065D24 1.25ISO	1.25	M8x1.25		8	6.50	3.75	24.0	60	4	6.75
10082D30 1.25ISO	1.25		M10x1.25	10	8.20	3.75	30.0	75	4	8.75
10100D36 1.25ISO	1.25		M12x1.25	10	10.00	3.75	36.0	75	4	10.75
10082D30 1.50ISO	1.5	M10x1.5		10	8.20	4.50	30.0	75	4	8.50
10100D36 1.50ISO	1.5		M12x1.5	10	10.00	4.50	36.0	75	4	10.50
12120D36 1.50ISO	1.5		M14x1.5	12	12.00	4.50	36.0	75	4	12.50
14140D40 1.50ISO	1.5		M16x1.5	14	14.00	4.50	40.0	80	4	14.50
10099D36 1.75ISO	1.75	M12x1.75		10	9.90	5.25	36.0	75	4	10.20
12116D36 2.00ISO	2.0	M14x2.0		12	11.60	6.00	36.0	75	4	12.00
14136D40 2.00ISO	2.0	M16x2.0		14	13.60	6.00	40.0	80	4	14.00
16148D54 2.50ISO	2.5	M18x2.5		16	14.80	7.50	54.0	100	4	15.50
16160D60 2.50ISO	2.5	M20x2.5		16	16.00	7.50	60.0	100	4	17.50

Mini Mill-Thread Solid Carbide

UN 60° AMERICAN UN (UNC UNF UNEF UNS)

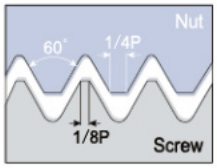


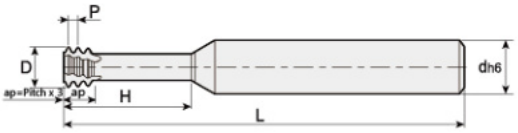


2 x Do (H ≤ 2 x Thread Diameter)

Designation (Internal)	TPI	UNC	UNF	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
MSMT 06015C03 72UN	72		No.1-72	6	1.45	3.9	50	3	1.6
06014C04 64UN	64	No.1-64	No.2-64	6	1.40	4.2	50	3	1.5
06017C05 56UN	56	No.2-56	No.3-56	6	1.65	5.0	50	3	1.8
06019C06 48UN	48	No.3-48	No.4-48	6	1.90	6.0	50	3	2.1
06021C06 40UN	40	No.4, No.5-40	No.6-40	6	2.10	6.0	50	3	2.3
06025C07 40UN	40	No.5-40	No.6-40	6	2.45	7.2	50	3	2.6
06033C08 36UN	36		No.8-36	6	3.30	8.7	50	3	3.5
06026C07 32UN	32	No.6, No.8-32	No.10-32	6	2.55	7.4	50	3	2.8
06032C10 32UN	32	No.8-32	No.10-32	6	3.20	10.0	50	3	3.5
06038C10 32UN	32		No.10-32	6	3.80	10.3	50	3	4.0
06053C13 28UN	28		1/4"x28	6	5.25	13.2	50	3	5.5
06036C10 24UN	24	No.10-24	5/16"x24	6	3.58	10.2	50	3	3.9
08067C16 24UN	24		5/16"x24	8	6.68	16.5	60	3	6.9
06049C13 20UN	20	1/4"x20	7/16"x20	6	4.88	13.4	50	3	5.2
10096C23 20UN	20		7/16"x20	10	9.55	23.0	75	3	9.9
08062C16 18UN	18	5/16"x18		8	6.15	16.9	60	3	6.6
08067C19 16UN	16	3/8"x16		8	6.70	19.1	60	3	8.0
10080C12 14UN	14	7/16"x14		10	9.00	23.3	75	3	9.4

UN 60° AMERICAN UN (UNC UNF UNEF UNS)





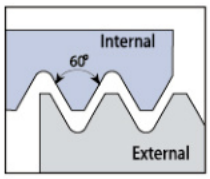
3 x Do (H ≤ 3 x Thread Diameter)

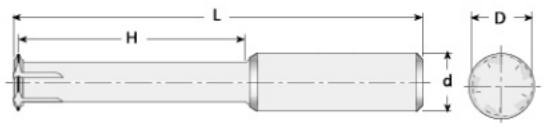
Designation (Internal)	TPI	UNC	UNF	Dimensions(mm)				No. of Inserts	Bore Dia.
				d	D	ap	L		
MSMT 06015C05 72UN	72		No.1-72	6	1.45	5.8	50	3	1.6
06017C07 56UN	56	No.2-56	No.3-56	6	1.65	7.0	50	3	1.8
06021C09 40UN	40	No.4, No.5-40	No.6-40	6	2.10	9.0	50	3	2.3
06025C10 40UN	40	No.5-40	No.6-40	6	2.45	10.0	50	3	2.6
06026C11 32UN	32	No.6, No.8-32	No.10-32	6	2.55	11.0	50	3	2.8
06032C13 32UN	32	No.8-32	No.10-32	6	3.20	13.0	50	3	3.5
06038C15 32UN	32		No.10-32	6	3.80	15.1	50	3	4.0
06044C17 28UN	28	No.12-28	1/4"x28	6	4.40	17.0	50	3	4.7
06053C19 28UN	28		1/4"x28	6	5.25	19.6	50	3	5.5
08067C24 24UN	24		5/16"x24	8	6.68	24.5	60	3	6.9
06049C19 20UN	20	1/4"x20	7/16"x20	6	4.88	19.8	50	3	5.2
08062C24 18UN	18	5/16"x18		8	6.15	24.0	60	3	6.6

※ Bore diameter applies to smallest thread dia.

Mini Mill-Thread Solid Carbide for Deep Parts

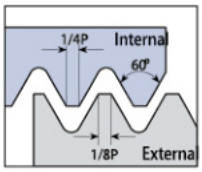
Partial Profile 60º

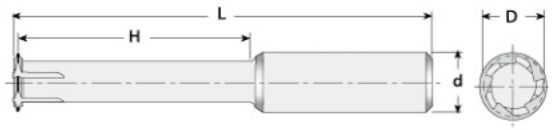




Designation (Internal)	Pitch		MCoarse	Mfine	Min. Thread	Dimensions(mm)				No. of flutes
	mm	TPI			UN, UNS, UNF, UNEF	d	D	H	L	
DSMT 04011C3.4A60	0.25-0.35	72-100	M1.6x0.35	M1.6x0.25 M1.8x0.25 M2 x0.25	No. 0-80UNF	4	1.05	3.4	50	3
04015C4.5A60	0.35-0.45	56-72	M2x0.4 M2.2x0.45	M2x0.35 M2.2x0.35	No. 1-64UNC, No. 1-72UNF, No. 2-56UNC, No. 2-64UNF	4	1.45	4.5	50	3
04019C5.5A60	0.35-0.6	40-56	M2.5x0.45	M2.5x0.35 M3x0.35	No. 3-48UNC, No. 3-56UNF	4	1.90	5.5	50	3
04023C6.5A60	0.45-0.6	40-48	M3x0.5 M3.5x0.6	M3.5x0.5	No. 4-40UNC, No. 4-48UNC, No. 5-40UNC, No. 5-44UNF	4	2.35	6.5	50	3
04032C8.5A60	0.5-0.8	32-48	M4x0.7 M4.5x0.75	M4x0.5	No. 6-32UNC, No. 6-40UNF, No. 8-32UNC, No. 8-36UNF	4	3.15	8.5	50	3
04039D16A60	0.5-0.8	32-56	M5x0.8	M5x0.5 M5x0.75	No.10-56UNS, No.10-48UNS, No.10-40UNS, No.10-36UNS, No.10-32UNF	4	3.90	16.0	50	4
06040C10A60	0.7-1.0	24-36	M5x0.8 M6x1.0	M5x0.75 M6x0.75	No.10-36UNS, No.10-40UNS, No.12-24UNC, No.12-28UNF	6	3.15	10.0	50	3
06049E20B60	0.5-1.0	24-36	M6x1.0	M6x0.5, M6X0.75	No.12-56UNS, No.12-48UNS,1/4 -40UNS, 1/4 -36UNS, 1/4 -32UNEF, 1/4 -28UNF, 1/4 -27UNS, 1/4 -24UNS	6	4.85	20.0	50	5
06048C12A60	0.8-1.25	20-32	M6x1.0 M8x1.25	M7.5x1.0	5/16 -32UNEF, 5/16 -28UN, 5/16 -27UNS, 5/16 -24UNS, 5/16 -20UN	6	4.80	12.0	50	3
06059E20B60	0.5-1.25	20-48	M8x1.25	M7x0.5 M7x0.75 M7.5x1.0	5/16 -48UNS, 5/16 -40UNS, 5/16 -36UNS, 5/16 -32UNEF, 5/16 -28UN, 5/16 -27UNS, 5/16 -24UNS, 5/16 -20UN	6	5.90	25.0	50	5
10099F35B60	0.5-1.0	16-24	–	M10.5x0.5, M11x0.75, M11x1.0	7/16 -32UN, 7/16 -28UNEF, 7/16 -27UNS, 7/16 -24UNS	10	9.90	35.0	75	6
08065F16C60	1.0-1.5	24-14	M10x1.5	M10x1.0 M10x1.25	3/8 -24UNF, 3/8 -20UN, 7/16 -18UNS, 7/16 -16UN	8	6.50	16.0	50	6
08079F32C60	1.0-1.5	16-24	M10x1.5	M10x1.0, M10X1.25	3/8 -24UNF, 3/8 -20UN, 7/16 -18UNS,7/16 -16UN	8	7.90	32.0	60	6
10082F21A60	1.25-1.75	14-24	M12x1.75	M10x1.25 M12x1.25	1/2 -24UNS, 1/2 -20UNS, 1/2 -18UNS, 1/2 -16UNS, 1/2 -14UNS	10	8.20	21.0	75	6
10099F38D60	1.0-1.75	14-24	M12x1.75	M12x1.0, M12X1.25, M12x1.5	1/2 -24UNS, 1/2 -20UNS, 1/2 -18UNS,1/2 -16UNS, 1/2 -14UNS	10	9.90	38.0	75	6
12119F45D60	1.0-1.75	14-24	–	M13.5x1.0, M14x1.25, M14x1.5	9/16 -24UNEF	12	11.90	45.0	80	6

ISO Metric





3 x Do (H ≤ 3 x Thread Diameter)

Designation (Internal)		Pitch	MCoarse	Dimensions(mm)				No. of flutes	Bore Dia.
				d	D	H	L		
DSMT	08041C19 1.00ISO	1.0	M6x1	8	4.10	19.0	60	3	5.0
	10058C26 1.25ISO	1.25	M8x1.25	10	5.80	26.0	75	3	6.8
	10077C32 1.50ISO	1.5	M10x1.5	10	7.70	32.0	75	3	8.5
	12094D38 1.50ISO	1.5	M12x1.5	12	9.40	38.0	75	4	10.5
	12087D38 1.75ISO	1.75	M12x1.75	12	8.70	38.0	75	4	10.2
	16102D44 2.00ISO	2.0	M14x2	16	10.20	44.0	100	4	12.0
	16122D50 2.00ISO	2.0	M16x2	16	12.20	50.0	100	4	14.0
	16129E57 2.50ISO	2.5	M18x2.5	16	12.90	57.0	120	5	15.5
	16148E63 2.50ISO	2.5	M20x2.5	16	14.80	63.0	120	5	17.5

TOOTOOL®

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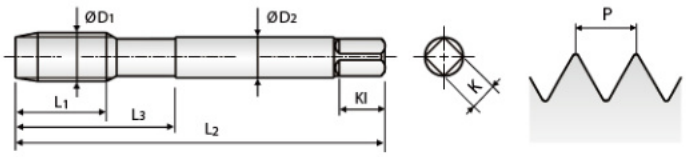
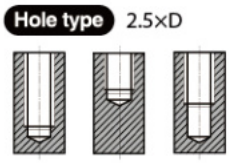
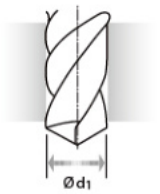
Sprial flute taps for multi-purpose







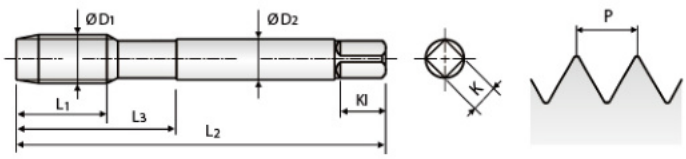
HSS-E | DIN 371/376 | 60° | 6H

Size	Pitch	Order No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No.of Flute	Tapping Drill Diameter
ØD 1	P	TiALN	TiN	L1	L2	L3	ØD 2	K	K1	Z	Ød 1
M2	0.40	TSF02004016	TSF02004026	6.0	45	18	2.8	2.10	5	3	1.60
M2.5	0.45	TSF02504516	TSF02504526	6.0	45	18	2.8	2.10	5	3	2.05
M3	0.50	TSF03005016	TSF03005026	6.0	56	18	3.5	2.70	6	3	2.50
M4	0.70	TSF04007016	TSF04007026	7.5	63	21	4.5	3.40	6	3	3.30
M5	0.80	TSF05008016	TSF05008026	8.5	70	25	6.0	4.90	8	3	4.20
M6	1.00	TSF06010016	TSF06010026	11.0	80	30	6.0	4.90	8	3	5.00
M8	1.25	TSF08012516	TSF08012526	14.0	90	35	8.0	6.20	9	3	6.80
M10	1.50	TSF10015016	TSF10015026	16.0	100	39	10.0	8.00	11	3	8.50
M12	1.75	TSF12017516	TSF12017526	18.5	110	49	9.0	7.00	10	3	10.20
M14	2.00	TSF14020016	TSF14020026	20.0	110	53	11.0	9.00	12	3	12.00
M16	2.00	TSF16020016	TSF16020026	20.0	110	54	12.0	9.00	12	3	14.00
M18	2.50	TSF18025016	TSF18025026	25.0	125	62	14.0	11.00	14	4	15.50
M20	2.50	TSF20025016	TSF20025026	25.0	140	62	16.0	12.00	15	4	17.50
M22	2.50	TSF22025016	TSF22025026	25.0	140	62	18.0	14.50	17	4	19.50
M24	3.00	TSF24030016	TSF24030026	30.0	160	73	18.0	14.50	17	4	21.00
M27	3.00	TSF27030016	TSF27030026	30.0	160	73	20.0	16.00	19	4	24.00
M30	3.50	TSF30035016	TSF30035026	35.0	180	85	22.0	18.00	21	4	26.50

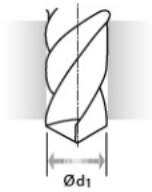
※ Note: Please specify DIN371 or DIN376 shank when ordering,if not will random delivery

Hole Machine Taps

Spiral point taps for multi-purpose



Hole type 3.0xD

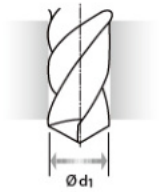


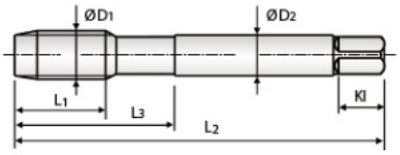
HSS-E | DIN 371/376 | 60° | 6H

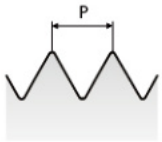
Size	Pitch	Order No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No.of Flute	Tapping Drill Diameter
ØD 1	P	TiALN	TiN	L1	L2	L3	ØD 2	K	K1	Z	Ød 1
M2	0.40	TSP02004016	TSP02004026	10.0	45	18	2.8	2.10	5	3	1.60
M2.5	0.45	TSP02504516	TSP02504526	10.0	45	18	2.8	2.10	5	3	2.05
M3	0.50	TSP03005016	TSP03005026	10.0	56	18	3.5	2.70	6	3	2.50
M4	0.70	TSP04007016	TSP04007026	12.0	63	21	4.5	3.40	6	3	3.30
M5	0.80	TSP05008016	TSP05008026	14.0	70	25	6.0	4.90	8	3	4.20
M6	1.00	TSP06010016	TSP06010026	16.0	80	30	6.0	4.90	8	3	5.00
M8	1.25	TSP08012516	TSP08012526	18.0	90	35	8.0	6.20	9	3	6.80
M10	1.50	TSP10015016	TSP10015026	20.0	100	39	10.0	8.00	11	3	8.50
M12	1.75	TSP12017516	TSP12017526	24.0	110	49	9.0	7.00	10	3	10.20
M14	2.00	TSP14020016	TSP14020026	26.0	110	53	11.0	9.00	12	3	12.00
M16	2.00	TSP16020016	TSP16020026	26.0	110	54	12.0	9.00	12	3	14.00
M18	2.50	TSP18025016	TSP18025026	30.0	125	62	14.0	11.00	14	4	15.50
M20	2.50	TSP20025016	TSP20025026	32.0	140	62	16.0	12.00	15	4	17.50
M22	2.50	TSP22025016	TSP22025026	32.0	140	62	18.0	14.50	17	4	19.50
M24	3.00	TSP24030016	TSP24030026	34.0	160	73	18.0	14.50	17	4	21.00
M27	3.00	TSP27030016	TSP27030026	36.0	160	73	20.0	16.00	19	4	24.00
M30	3.50	TSP30035016	TSP30035026	40.0	180	85	22.0	18.00	21	4	26.50

※ Note: Please specify DIN371 or DIN376 shank when ordering,if not will random delivery

Forming taps for multi-purpose







HSS-E | DIN 371/376 | 60° | 6H

Size	Pitch	Order No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No.of Flute	Tapping Drill Diameter
ØD 1	P	TiALN	TiN	L1	L2	L3	ØD 2	K	K1	Z	Ød 1
M2	0.40	TFO02004016	TFO02004026	6.0	45	18	2.8	2.10	5	3	1.83
M2.5	0.45	TFO02504516	TFO02504526	6.0	50	18	2.8	2.10	5	3	2.30
M3	0.50	TFO03005016	TFO03005026	10.0	56	18	3.5	2.70	6	3	2.80
M4	0.70	TFO04007016	TFO04007026	12.0	63	21	4.5	3.40	6	3	3.70
M5	0.80	TFO05008016	TFO05008026	14.0	70	25	6.0	4.90	8	3	4.65
M6	1.00	TFO06010016	TSP06010026	16.0	90	30	6.0	4.90	8	3	5.55
M8	1.25	TFO08012516	TFO08012526	17.0	90	35	8.0	6.20	9	3	7.40
M10	1.50	TFO10015016	TFO10015026	20.0	100	39	10.0	8.00	11	3	9.30
M12	1.75	TFO12017516	TFO12017526	18.5	110	49	9.0	7.00	10	3	11.20
M14	2.00	TFO14020016	TFO14020026	20.0	110	53	11.0	9.00	12	3	13.10
M16	2.00	TFO16020016	TFO16020026	20.0	110	54	12.0	9.00	12	3	15.10

※ Note: Please specify DIN371 or DIN376 shank when ordering,if not will random delivery