

THREAD MILLING

PRODUCT CATALOG



ALLIED MACHINE
& ENGINEERING

www.alliedmachine.com

It's so much easier when you make **BETTER CHIPS**

Allied Machine specializes in developing innovative solutions designed to **pulverize** material. Our tools achieve the chip formation and chip evacuation you need to increase your production.



Allied Machine &
Engineering is registered
to ISO 9001:2015 by DQS



Wohlhaupter GmbH is
registered to ISO
9001:2015 by QUACERT



Allied Machine &
Engineering Co. Europe
Ltd. is registered to
ISO 9001:2015 by bsi.



Our Commitment to **YOU**



Manufacturing is the DNA of success everywhere in the world. When you're manufacturing, you're building, creating, and developing something that physically didn't exist before.

At Allied Machine, our core purpose is to provide practical and dependable solutions to improve your manufacturing processes. We know you face challenges and difficulties every day, so we're here to simplify your holmaking processes and improve your production.

However, many factors must be incorporated to truly improve production.

Some of those factors include increasing penetration rates while also improving chip formation and evacuation, reducing scrap rates by producing better parts, reducing setup times, and increasing tool life to get the most from your investment.

Not only does our tooling achieve these results, but our customer service is also an extension of our tooling advantages. Our Application Engineers and Field Sales Engineers are available to assist with any problems you encounter. Don't hesitate to put their skills and knowledge to the test. They won't disappoint.

This is our commitment to manufacturing, and it's our promise to you.



ALLIED MACHINE
& ENGINEERING



ALLIED MACHINE & ENGINEERING



SUPERION®

WOHLHAUPTER®

ThreadMills USA®

North America

Allied Machine

120 Deeds Drive
Dover, OH 44622
United States

Allied Machine

485 West 3rd Street
Dover, OH 44622
United States

ThreadMills USA®

4185 Crosstowne Ct #B
Evans, GA 30809
United States

Superion®

1285 S Patton St.
Xenia, OH 45385
United States

Europe

Allied Machine Europe

93 Vantage Point
Pensnett Estate
Kingswinford
DY6 7FR, United Kingdom

Wohlhaupter® GmbH

Maybachstrasse 4
72636 Frickenhausen
Germany

Asia

Wohlhaupter® India

B-23, 3rd Floor
B Block Community Centre
Janakpuri, New Delhi - 110058
India



LEADING HOLEMAKING SOLUTIONS WORLDWIDE

Allied Machine & Engineering is a worldwide leader in holemaking and finishing solutions. We are committed to providing practical and dependable solutions to our customers through innovative designs and superior customer and technical support.

We continue to expand our product offering in order to provide new and different solutions. With Field Sales Engineers located around the world, we position ourselves to provide technical support on site, right at your spindle.

Your safety and the safety of others is very important. This catalog contains important safety messages. Always read and follow all safety precautions.



This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury. When you see this symbol in the catalog, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalog. Safety messages follow these words:

⚠ WARNING means that failure to follow the precautions in this message could result in tool failure and serious injury.

NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

Visit www.alliedmachine.com for the most up-to-date information and procedures.

Patent Information

Allied Machine & Engineering patent information can be found at www.alliedmachine.com/patents

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Threading Overview

Thread Mill Types



THREAD MILLING DONE **RIGHT**



Solid Carbide Thread Mills		Notes
AccuThread® 856		- Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products. - Standard cutting lengths allow for multiple applications without the need for special thread mills. - Helical flute offers increased strength and rigidity when cutting forces are applied.
ThreadMills USA®		- Helical flute offers increased strength and rigidity when cutting forces are applied. - High quality for consistent, predictable production. - Coolant-through options available.  - TiAlN coating improves tool life versus uncoated tools.
AccuThread® T3		- Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products. - Standard cutting lengths allow for multiple applications without the need for special thread mills. - Helical flute offers increased strength and rigidity when cutting forces are applied.
Indexable Insert Thread Mills		Notes
AccuThread® 856 Bolt-in Style		- Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation. - Extensive range of thread forms with two thread lengths. - Can produce left- or right-handed threads.
AccuThread® 856 Pin Style		- Patented pin style locking system ensures unsurpassed repeatability. - Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation. - Extensive range of thread forms with two thread lengths.
AccuThread® 856 Indexable Inserts	  Bolt-in Style Pin Style	- Full profiles present on all inserts allow 100% thread form against 65-75% for tapping. - Allied Machine's premium carbide allows for extended tool life while providing high-quality thread forms. - Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.

Threading Overview

Insta-Code®

Insta-Code®



Find your thread mill. Create your program.

The all new software lets you choose the best thread mill product for your application and create the program code for your machine. Insta-Code is available as a PC download app (that can be used offline) and an online web app available 24/7 at www.alliedmachine.com/InstaCode.

Eliminate the wait. Get your program now.



Insta-Code also has a
Cycle Time Calculator.



Online Version



- Generates thread mill G-code programs.
- Available online 24/7.
- No login required.
- No updates needed.
- Easily share the program code.
- Supported on all web browsers

Download Version



- Creates program code for multiple machine platforms.
- Suggests a thread mill based on application details.
- Provides estimated cycle time for improved production.
- Available for use offline.

Offline Version Updates



- Update your offline Insta-Code software.
- Download the updated .zip file, then transfer to the offline computer. Click "check for update" in your Insta-Code software and navigate to the downloaded zip file.
- This allows you to keep all your saved programs.

1

Download and open
Allied_Machine_Insta-Code.zip.

2

Click on **setup.exe**
to install the program.

3

One click updates are
available for online computers.

 Supported on all Windows OS.

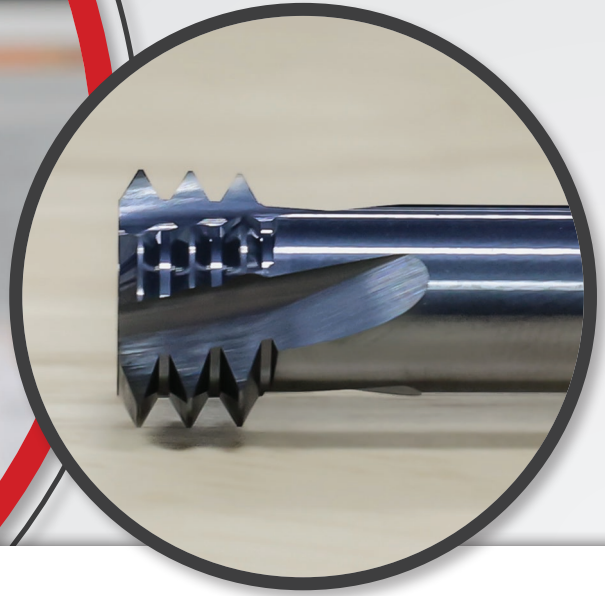
www.alliedmachine.com/InstaCode

SECTION

E10-SCT

Solid Carbide Thread Mills

Solid Carbide Thread Mills



A solid choice for thread milling

Our solid carbide thread milling product line has been specifically designed to provide customers with a wide range of options. From the low cost, general production ThreadMills USA range to the high performance, high productivity AccuThread range, our solid carbide thread mills provide a comprehensive line of high-precision tooling that offers outstanding productivity with exceptional levels of tool life and thread accuracy.

- ▶ ThreadMills USA®
- ▶ AccuThread® 856
- ▶ AccuThread T3

Applicable Industries

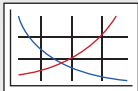
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Hydraulics
-  Marine
-  Medical
-  Oil and Gas
-  Renewable Energy/ Energy
-  Tool, Mold, and Die

Reference Icons

The following icons will appear throughout the catalog to help you navigate between products.



Setup / Assembly Information
Detailed instructions and information regarding the corresponding part(s).



Recommended Cutting Data
Speed and feed recommendations for optimum and safe drilling.



Coolant-Through Option
Indicates that the product is coolant through.

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Solid Carbide Thread Mill Overview

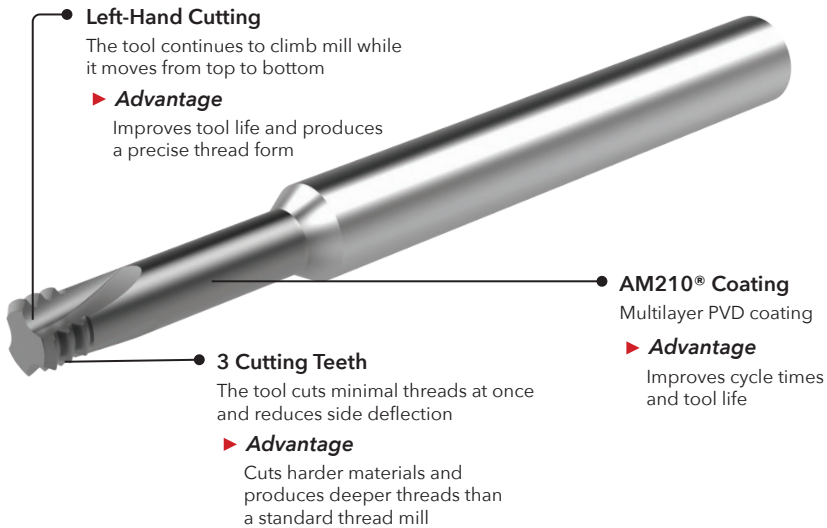
Styles and Thread Forms



E10

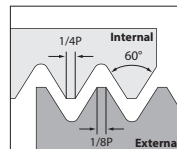
Straight BSW	Helical BSPP, NPS, NPSF, UN, ISO	Taper Helical BSPT, NPT, NPTF	Helical (3-Tooth Style) UN, ISO
 AccuThread® 856	 AccuThread® 856	 AccuThread® 856	 AccuThread® T3
 ThreadMills USA® (coolant and noncoolant)	 ThreadMills USA® (coolant and noncoolant)	 ThreadMills USA® (coolant and noncoolant)	

AccuThread® T3

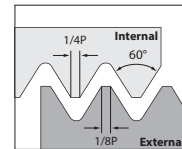


Additional Information

- Available in UN and ISO thread forms.
- Available in imperial and metric shanks.
- Available in 2xD and 3xD lengths.



UN Thread Form



ISO Thread Form



Solid Carbide Thread Mill Overview

Port and Thread Finishing Kits



WE HAVE A **KIT** FOR THAT

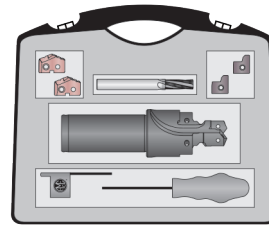
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Kits aren't for everyone, but if you work on different projects from day to day, you need to ***be prepared for the work tomorrow will bring.***

The Complete Package

Producing fully finished threaded hydraulic ports has never been easier. The Port and Thread Finishing Kit includes the AccuPort 432® port contour cutter with a dedicated AccuThread® 856 solid carbide thread mill in a single kit. You also receive the T-A® inserts and port form inserts needed to complete the assembly.

Port kits incorporate the AccuThread 856 solid carbide thread mills to increase the manufacturing flexibility by allowing hydraulic ports to be produced in just two operations. In addition, where a unique port profile is required, Allied Machine provides a dedicated special tooling solution using our extensive tool design and manufacturing experience to meet precise specifications.



NOTE: See our porting product catalog for the complete list of kits.



One Tool, **FOUR Operations**

- Spot Face
- Port Contour
- Tap Drill
- Spot Drill



NOTE: See our porting product catalog for all the AccuPort 432 product line information.

CHAMFER SOLUTIONS **MADE EASY.**

T-A PRO® DRILL AND CHAMFER HOLDERS



Provides a 1.0 mm (0.040") x 45° (minimum) chamfer for various thread specifications.



Large range of diameters with a single holder.



Preselected diameters for standard thread sizes offer easy user selection.



View the T-A Pro drill and chamfer holders along with convenient thread size charts in the T-A Pro Catalog.



Solid Carbide Thread Mill Overview

Product Nomenclature

AccuThread® 856 Solid Carbide Thread Mills

TM	U	K	0250	—	20	M
Thread Mill	Thread Class	Coating	Min Thread Diameter		Thread Pitch	Shank
TM = Standard HDTM = Heavy duty TW = Weldon flat	U = UN N = NPT, NPTF B = BSPP, BSPT, BSW M = ISO A = AccuPort® specific	K = AM210® U = Uncoated	0250 = 1/4 (Imperial) 0008 = #8 (Number Drill) 0450 = M4.5 (ISO)		20 = UN 20 TPI 075 = ISO 0.75 NPT = All pipe threads will show thread form	Blank = Imperial M = Metric

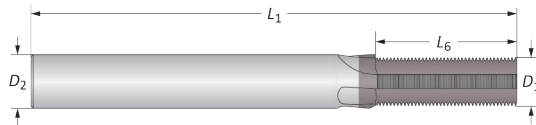
E10

ThreadMills USA® Solid Carbide Thread Mills

TM	250	20	CH	M
Thread Mill	Min Thread Diameter	Thread Pitch	Optional	Shank
TM = Standard (TiAlN) TMFT = Uncoated HDTM = Heavy duty (TiAlN) HDTMFT = Heavy duty uncoated	0250 = 1/4 (Imperial) 0008 = #8 (Number Drill) 0450 = M4.5 (ISO)	20 = UN 20 TPI 075 = ISO 0.75 NPT = All pipe threads will show thread form	CH = Coolant hole DE = Double end	Blank = Imperial M = Metric

Reference Key

Symbol	Attribute
D_1	Maximum cutter diameter
D_2	Shank diameter
L_1	Overall length
L_6	Length of cut

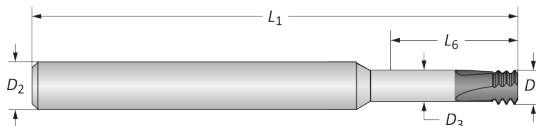


AccuThread® T3 Solid Carbide Thread Mills

TM	073	64	M	—	3T	2X
	Min Thread Diameter	Thread Pitch	Shank			Shank
	250 = 1/4 (Imperial) 45 = M4.5 (ISO)	20 = UN 20 TPI 075 = ISO 0.75	Blank = Imperial M = Metric			2X = 2xD 3X = 3xD

Reference Key

Symbol	Attribute
D_1	Maximum cutter diameter
D_2	Shank diameter
D_3	Undercut diameter
L_1	Overall length
L_6	Length of cut



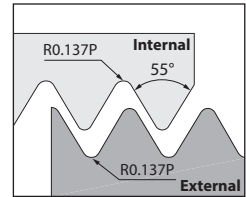
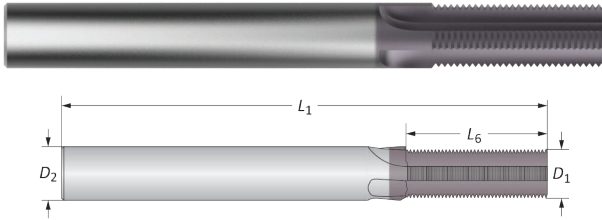


Solid Carbide Thread Mills

BSW



E10



Noncoolant

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
m	20	1/4	3	4.50	6.00	10.16	58.00	TM20BSWM	TMBK0250-20M
	18	5/16	3	5.00	6.00	11.29	58.00	TM18BSWM	TMBK0312-18M
	16	3/8	5	7.00	8.00	14.29	64.00	TM16BSWM	TMBK0375-16M
	14	7/16	5	7.90	8.00	18.15	64.00	TM14BSWM	TMBK0437-14M
	12	1/2	5	9.00	10.00	19.10	73.00	TM12BSWM	TMBK0500-12M
	11	5/8	5	11.90	12.00	23.10	84.00	TM11BSWM	TMBK0625-11M
	10	3/4	5	11.90	12.00	27.94	84.00	TM10BSWM	TMBK0750-10M
	9	7/8	6	15.90	16.00	28.23	93.00	TM9BSWM	TMBK0875-9M
	8	1	6	15.90	16.00	34.94	93.00	TM8BSWM	TMBK1000-8M

Imperial (in)

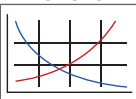
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
i	20	1/4	3	0.177	0.250	0.400	2.500	TM20BSW	—
	18	5/16	3	0.197	0.250	0.445	2.500	TM18BSW	—
	16	3/8	5	0.276	0.312	0.563	3.000	TM16BSW	—
	14	7/16	5	0.311	0.312	0.715	3.000	TM14BSW	—
	12	1/2	5	0.354	0.375	0.750	3.500	TM12BSW	—
	11	5/8	5	0.468	0.500	0.910	3.500	TM11BSW	—
	10	3/4	5	0.468	0.500	1.100	3.500	TM10BSW	—
	9	7/8	6	0.620	0.625	1.112	4.000	TM9BSW	—
	8	1	6	0.620	0.625	1.375	4.000	TM8BSW	—

E10: 3

E10: 29 - 34

Weldon Flat

Key on E10: 2



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)

Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

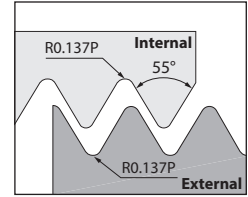
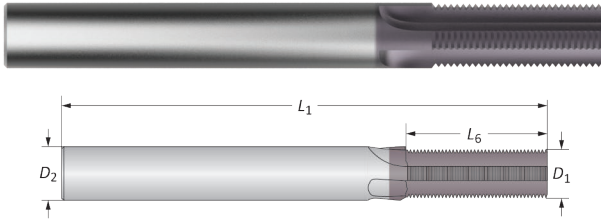
m = Metric (mm)

i = Imperial (in)



Solid Carbide Thread Mills

BSW



E10

Coolant Through

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
	20	1/4	3	4.50	6.00	10.16	58.00	TM20BSWCHM
	18	5/16	3	5.00	6.00	11.29	58.00	TM18BSWCHM
	16	3/8	5	7.00	8.00	14.29	64.00	TM16BSWCHM
	14	7/16	5	7.90	8.00	18.15	64.00	TM14BSWCHM
	12	1/2	5	9.00	10.00	19.10	84.00	TM12BSWCHM
	11	5/8	5	11.90	12.00	23.10	84.00	TM11BSWCHM
	10	3/4	5	11.90	12.00	27.94	84.00	TM10BSWCHM
	9	7/8	6	15.90	16.00	28.23	93.00	TM9BSWCHM
	8	1	6	15.90	16.00	34.94	93.00	TM8BSWCHM

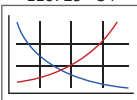
Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
	20	1/4	3	0.177	0.250	0.400	2.375	TM20BSWCH
	18	5/16	3	0.197	0.250	0.445	2.375	TM18BSWCH
	16	3/8	5	0.276	0.312	0.563	3.000	TM16BSWCH
	14	7/16	5	0.311	0.312	0.715	3.000	TM14BSWCH
	12	1/2	5	0.354	0.375	0.750	3.000	TM12BSWCH
	11	5/8	5	0.468	0.500	0.910	3.500	TM11BSWCH
	10	3/4	5	0.468	0.500	1.100	3.500	TM10BSWCH
	9	7/8	6	0.620	0.625	1.112	4.000	TM9BSWCH
	8	1	6	0.620	0.625	1.375	4.000	TM8BSWCH

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E10: 29 - 34

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= Imperial (in)

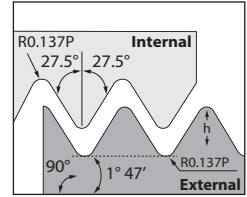
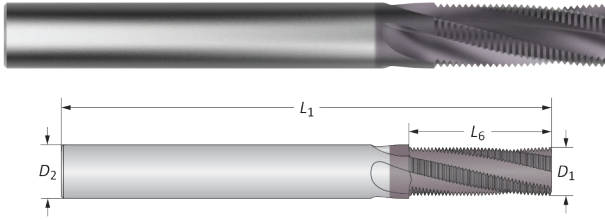


Solid Carbide Thread Mills

BSPT



E10



Noncoolant

Metric (mm)

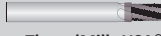
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1		
	28	1/16 and 1/8	3	5.97	6.00	9.98	58.00	TM28BSPTM	TMBK0063-BSPTM
	19	1/4 and 3/8	4	9.91	10.00	14.73	73.00	TM19BSPTM	TMBK0250-BSPTM
	14	1/2 and 3/4	4	11.94	12.00	20.00	84.00	TM14BSPTM	TMBK0500-BSPTM
	11	1	4	15.75	16.00	32.31	93.00	TM11BSPTM	TMBK1000-BSPTM

Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1		
	28	1/16 and 1/8	3	0.240	0.250	0.393	2.500	TM28BSPT	—
	19	1/4 and 3/8	4	0.310	0.312	0.580	3.000	TM19BSPT	—
	14	1/2 and 3/4	4	0.470	0.500	0.787	3.500	TM14BSPT	—
	11	1	4	0.620	0.625	1.546	4.000	TM11BSPT	—

Coolant Through

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	
	28	1/16 and 1/8	3	5.97	6.00	9.98	58.00	TM28BSPTCHM
	19	1/4 and 3/8	4	9.91	10.00	14.73	84.00	TM19BSPTCHM
	14	1/2 and 3/4	4	11.94	12.00	20.00	84.00	TM14BSPTCHM
	11	1	4	15.75	16.00	32.31	93.00	TM11BSPTCHM

Imperial (in)

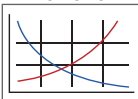
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	
	28	1/16 and 1/8	3	0.240	0.250	0.393	2.375	TM28BSPTCH
	19	1/4 and 3/8	4	0.310	0.312	0.580	3.000	TM19BSPTCH
	14	1/2 and 3/4	4	0.470	0.500	0.787	3.500	TM14BSPTCH
	11	1	4	0.620	0.625	1.546	4.000	TM11BSPTCH

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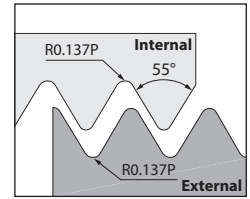
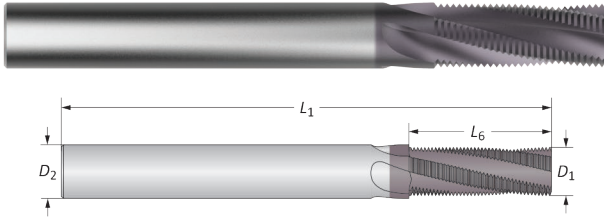
 = Metric (mm)

 = Imperial (in)



Solid Carbide Thread Mills

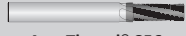
BSPP



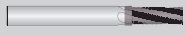
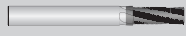
E10

Noncoolant

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1		
m	28	1/16 and 1/8	3	5.97	6.00	14.53	58.00	TM28BSPPM	TMBK0063-BSPPM
	19	1/4 and 3/8	4	9.91	10.00	18.72	73.00	TM19BSPPM	TMBK0250-BSPPM
		3/8	4	11.94	12.00	28.41	84.00	HDTM19BSPPM	—
	14	1/2 and 3/4	4	11.94	12.00	29.03	84.00	TM14BSPPM	TMBK0500-BSPPM
		3/4	5	15.75	16.00	34.47	93.00	HDTM14BSPPM	—
	11	1	4	15.75	16.00	34.67	93.00	TM11BSPPM	TMBK1000-BSPPM

Imperial (in)

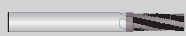
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1		
i	28	1/16 and 1/8	3	0.240	0.250	0.572	2.500	TM28BSPP	—
	19	1/4 and 3/8	4	0.310	0.312	0.737	3.000	TM19BSPP	—
	14	1/2 and 3/4	4	0.470	0.500	1.143	3.500	TM14BSPP	—
	11	1	4	0.620	0.625	1.365	4.000	TM11BSPP	—

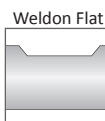
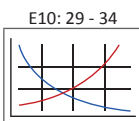
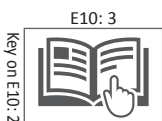
Coolant Through

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	
m	28	1/16 and 1/8	3	5.97	6.00	14.53	58.00	TM28BSPPCHM
	19	1/4 and 3/8	4	9.91	10.00	18.72	84.00	TM19BSPPCHM
	14	1/2 and 3/4	4	11.94	12.00	29.03	84.00	TM14BSPPCHM
	11	1	4	15.75	16.00	34.67	93.00	TM11BSPPCHM

Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	
i	28	1/16 and 1/8	3	0.240	0.250	0.572	2.375	TM28BSPPCH
	19	1/4 and 3/8	4	0.310	0.312	0.737	3.000	TM19BSPPCH
	14	1/2 and 3/4	4	0.470	0.500	1.143	3.500	TM14BSPPCH
	11	1	4	0.620	0.625	1.365	4.000	TM11BSPPCH



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)

Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

m = Metric (mm)
i = Imperial (in)

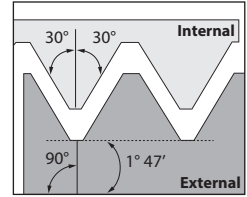
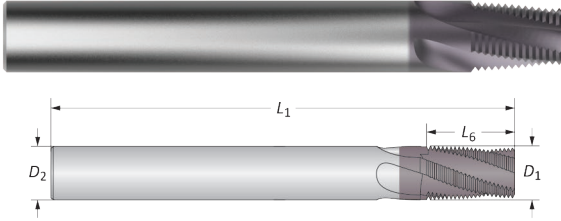


Solid Carbide Thread Mills

NPT

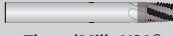
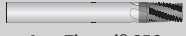


E10

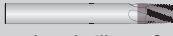
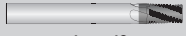


Noncoolant

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA®	 AccuThread® 856
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTM	TMNK0063-NPTM
		1/8	4	7.62	8.00	12.25	64.00	HDTM27NPTM	-
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTM	TMNK0250-NPTM
				9.22	10.00	17.25	84.00	HDTM18NPTM	-
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTM	TMNK0500-NPTM
		3/4	4	15.75	16.00	25.40	93.00	HDTM14NPTM	-
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTM	TMNK1000-NPTM
			5	18.92	20.00	30.95	105.00	HDTM11NPTM	-
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTM	TMNK2500-NPTM

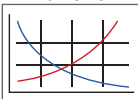
Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA®	 AccuThread® 856
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPT	TMNK0063-NPT
		1/8	4	0.300	0.312	0.482	3.000	HDTM27NPT	HDTMKN0125-NPT
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPT	TMNK0250-NPT
				0.363	0.375	0.680	3.500	HDTM18NPT	HDTMKN0250-NPT
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPT	TMNK0500-NPT
		3/4	4	0.620	0.625	1.000	4.000	HDTM14NPT	HDTMKN0750-NPT
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPT	TMNK1000-NPT
			5	0.745	0.750	1.219	4.000	HDTM11NPT	HDTMKN1000-NPT
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPT	TMNK2500-NPT

E10: 3



E10: 29 - 34



Weldon Flat



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)

Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

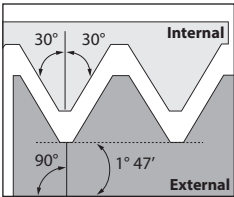
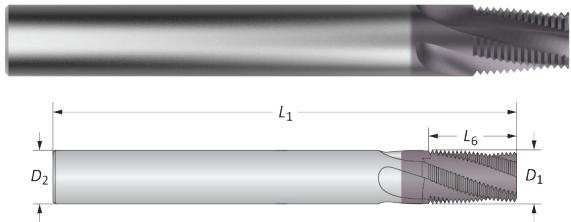
m = Metric (mm)

i = Imperial (in)

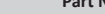


Solid Carbide Thread Mills

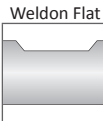
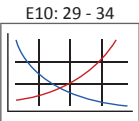
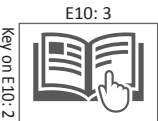
NPT



Coolant Through

Metric (mm)			Thread Mill					Part No.
TPI (Pitch)	Min Thread Ø	Flutes	D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTCHM
		1/8	4	7.62	8.00	12.25	64.00	HDTM27NPTCHM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTCHM
				9.22	10.00	17.25	84.00	HDTM18NPTCHM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTCHM
				15.75	16.00	25.40	93.00	HDTM14NPTCHM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTCHM
				18.92	20.00	30.95	105.00	HDTM11NPTCHM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTCHM

Imperial (in)								Part No.
i	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				 ThreadMills USA®
				D ₁	D ₂	L ₆	L ₁	
	27	1/16 and 1/8	3	0.245	0.250	0.437	2.375	TM27NPTCH
		1/8	4	0.300	0.312	0.482	3.000	HDTM27NPTCH
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTCH
				0.363	0.375	0.680	3.000	HDTM18NPTCH
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTCH
			4	0.620	0.625	1.000	4.000	HDTM14NPTCH
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTCH
			5	0.745	0.750	1.219	4.000	HDTM11NPTCH
8	2-1/2	5	0.745	0.750	1.500	5.000	TM8NPTCH	



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)
Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

m = Metric (mm)
i = Imperial (in)

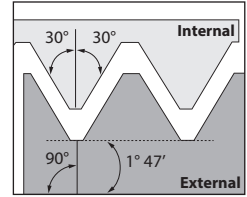
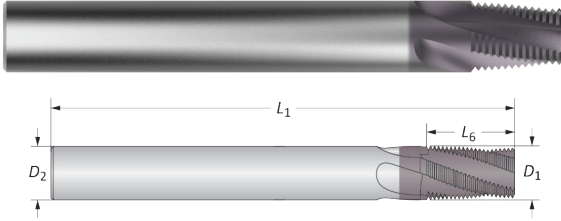


Solid Carbide Thread Mills

NPTF

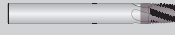
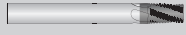


E10

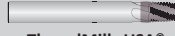


Noncoolant

Metric (mm)

TPI (Pitch)		Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA®	 AccuThread® 856
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTFM	TMNK0063-NPTFM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTFM	TMNK0250-NPTFM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTFM	TMNK0500-NPTFM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTFM	TMNK1000-NPTFM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTFM	TMNK2500-NPTFM

Imperial (in)

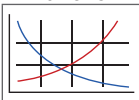
TPI (Pitch)		Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA®	 AccuThread® 856
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPTF	TMNK0063-NPTF
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTF	TMNK0250-NPTF
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTF	TMNK0500-NPTF
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTF	TMNK1000-NPTF
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTF	TMNK2500-NPTF

E10: 3

E10: 29 - 34

Weldon Flat

Key on E10: 2



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)

Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

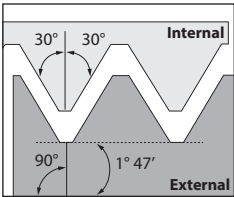
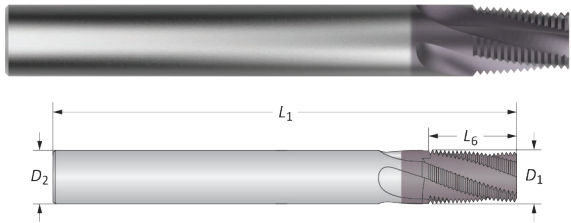
m = Metric (mm)

i = Imperial (in)



Solid Carbide Thread Mills

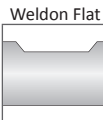
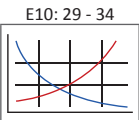
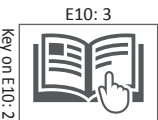
NPTF



Coolant Through

Metric (mm)								Part No.
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					
			D ₁	D ₂	L ₆	L ₁		ThreadMills USA®
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTFCHM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTFCHM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTFCHM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTFCHM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTFCHM

Imperial (in)								Part No.
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					
			D ₁	D ₂	L ₆	L ₁		ThreadMills USA®
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.375	TM27NPTFCH
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTFCH
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTFCH
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTFCH
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTFCH



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)
Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

m = Metric (mm)
i = Imperial (in)

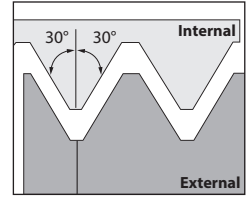
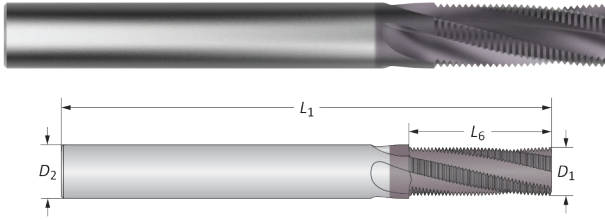


Solid Carbide Thread Mills

NPS



E10



Noncoolant

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
m	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSM

Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
i	27	1/8	3	0.245	0.250	0.630	2.500	TM27NPS
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.500	TM18NPS
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPS
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPS



Coolant Through

Metric (mm)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
m	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSCHM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSCHM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSCHM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSCHM

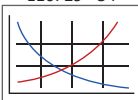
Imperial (in)

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA®
i	27	1/8	3	0.245	0.250	0.630	2.375	TM27NPSC
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	TM18NPSC
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSC
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSC

E10: 3

E10: 29 - 34

Weldon Flat



Replace the leading TM designer with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)

Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

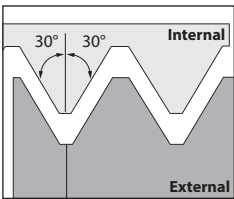
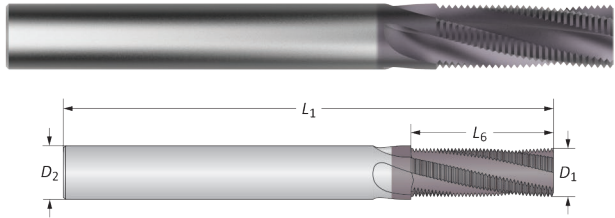
m = Metric (mm)

i = Imperial (in)

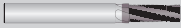


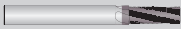
Solid Carbide Thread Mills

NPSF

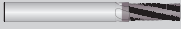


Noncoolant

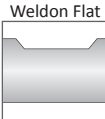
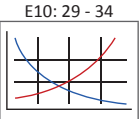
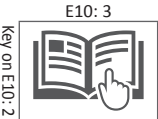
Metric (mm)								Part No.
m	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				 ThreadMills USA®
				D ₁	D ₂	L ₆	L ₁	
	27	1/8	3	5.95	6.00	16.00	58.00	
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	
	11.5	1	4	15.75	16.00	35.35	93.00	

Imperial (in)								Part No.
i	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				 ThreadMills USA®
				D ₁	D ₂	L ₆	L ₁	
	27	1/8	3	0.245	0.250	0.630	2.500	
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.500	
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	
	11.5	1	4	0.620	0.625	1.392	4.000	

Coolant Through

Metric (mm)								Part No.
m	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				 ThreadMills USA®
				D ₁	D ₂	L ₆	L ₁	
	27	1/8	3	5.95	6.00	16.00	58.00	
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	
	11.5	1	4	15.75	16.00	35.35	93.00	

Imperial (in)								Part No.
i	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				 ThreadMills USA®
				D ₁	D ₂	L ₆	L ₁	
	27	1/8	3	0.245	0.250	0.630	2.375	
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	
	11.5	1	4	0.620	0.625	1.392	4.000	



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)
Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

m = Metric (mm)
i = Imperial (in)

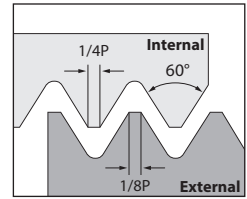
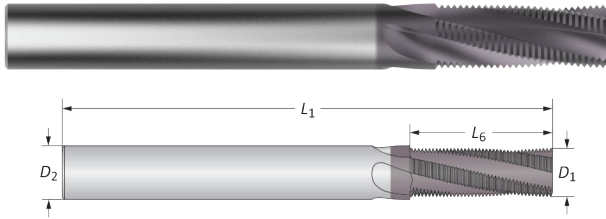


Solid Carbide Thread Mills

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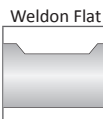
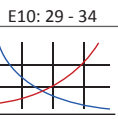
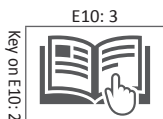


Noncoolant

Metric (mm)

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
64	#2	3*	1.65	3.00	3.20	39.00	TM08664M	TMUK0002-64M
56	#2	3*	1.65	3.00	3.20	39.00	TM08656M	TMUK0002-56M
48	#3	3*	1.80	3.00	3.75	39.00	TM09948M	TMUK0003-48M
44	#5	3	2.40	3.00	4.65	39.00	TM12544M	TMUK0005-44M
40	#4	3*	2.20	3.00	4.45	39.00	TM12540M	TMUK0004-40M
36	#8	3	3.00	4.00	6.35	51.00	TM16436M	TMUK0008-36M
32	#6	3	2.50	3.00	5.55	39.00	TM13832M	TMUK0006-32M
	#8	3	3.20	4.00	6.35	51.00	TM16432M	TMUK0008-32M
	#10	3	3.80	4.00	7.95	51.00	TM19032M	TMUK0010-32M
			3.80	4.00	7.95	51.00	HDTM19032M	—
	1/2	6	9.40	10.00	25.40	84.00	TM50032M	—
28	#10	3	3.80	4.00	8.20	51.00	TM19028M	TMUK0010-28M
	1/4	3	4.75	6.00	12.70	58.00	TM25028M	TMUK0250-28M
	7/16	4	7.90	8.00	19.95	64.00	TM43828M	TMUK0438-28M
	1/2	6	9.40	10.00	25.40	84.00	TM50028M	—
24	#10	3	3.70	4.00	8.50	51.00	TM19024M	TMUK0010-24M
		3	3.70	4.00	8.50	51.00	HDTM19024M	—
	5/16	3	5.95	6.00	16.00	58.00	TM31224M	TMUK0313-24M
	3/8	4	7.25	8.00	19.00	64.00	TM37524M	TMUK0375-24M
	1/2	6	9.40	10.00	25.40	84.00	TM50024M	—
20	1/4	3	4.75	6.00	12.70	58.00	TM25020M	TMUK0250-20M
	7/16	4	4.95	6.00	12.70	58.00	HDTM25020M	—
		4	8.75	10.00	22.85	73.00	TM43720M	TMUK0438-20M
	1/2	6	9.40	10.00	25.40	84.00	TM50020M	—
18	5/16	3	5.95	6.00	17.00	58.00	TM31218M	TMUK0313-18M
		3	6.22	8.00	15.87	64.00	HDTM31218M	—
	9/16	4	9.90	10.00	22.65	73.00	TM56218M	TMUK0563-18M
16	3/8	4	7.25	8.00	19.05	64.00	TM37516M	TMUK0375-16M
		4	7.62	10.00	19.05	84.00	HDTM37516M	—
	3/4	4	11.95	12.00	31.75	84.00	TM75016M	TMUK0750-16M
14	7/16	4	7.75	8.00	20.00	64.00	TM43714M	TMUK0438-14M
	7/8	4	11.95	12.00	32.70	84.00	TM87514M	TMUK0875-14M
13	1/2	4	9.40	10.00	23.50	73.00	TM50013M	TMUK0500-13M
			10.16	12.00	23.50	84.00	HDTM50013M	—
12	9/16	4	9.90	10.00	23.35	73.00	TM56212M	TMUK0563-12M
	3/4	4	11.95	12.00	31.75	84.00	TM75012M	TMUK0750-12M
	1	6	18.92	20.00	38.10	105.00	TM10012M	—
11	5/8	4	11.95	12.00	32.40	84.00	TM62511M	TMUK0625-11M
			11.95	12.00	37.00	100.00	TM62511M-XL	TMUK0625-11XLM
10	3/4	4	11.95	12.00	33.00	84.00	TM75010M	TMUK0750-10M
			11.95	12.00	40.70	100.00	TM75010M-XL	TMUK0750-10XLM
9	7/8	4	15.75	16.00	36.75	93.00	TM87509M	TMUK0875-9M
			15.75	16.00	45.20	100.00	TM87509M-XL	TMUK0875-9XLM
8	1	4	15.75	16.00	35.00	93.00	TM10008M	TMUK1000-8M
		6	19.90	20.00	50.80	115.00	TM10008M-XL	TMUK1000-8XLM
7	1-1/8	5	19.90	20.00	36.30	105.00	TM12507M	TMUK1125-7M
6	1-3/8	5	19.90	20.00	38.10	105.00	TM13706M	TMUK1375-6M

*Straight fluted.

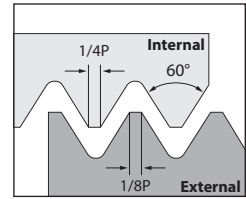
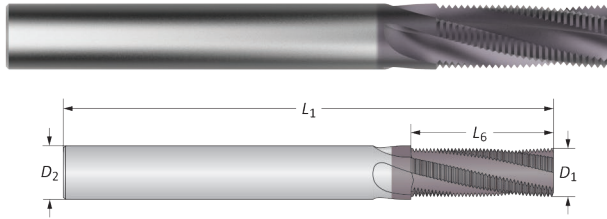
Replace the leading TM designator with TW.
(For shanks 6 mm (Ⓜ) or 3/8" (Ⓢ) and above.)Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Solid Carbide Thread Mills

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 Coolant Through

Metric (mm)

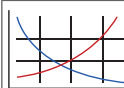
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No. 
			D_1	D_2	L_6	L_1	
64	#2	3*	1.65	3.00	3.20	39.00	TM08664CHM
56	#2	3*	1.65	3.00	3.20	39.00	TM08656CHM
48	#3	3*	1.80	3.00	3.75	39.00	TM09948CHM
44	#5	3	2.40	3.00	4.65	39.00	TM12544CHM
40	#4	3*	2.20	3.00	4.45	39.00	TM12540CHM
36	#8	3	3.00	4.00	6.35	51.00	TM16436CHM
	#6	3	2.50	3.00	5.55	39.00	TM13832CHM
	#8	3	3.20	4.00	6.35	51.00	TM16432CHM
32	#10	3	3.80	4.00	7.95	51.00	TM19032CHM
			3.80	4.00	7.95	51.00	HDTM19032CHM
			9.40	10.00	25.40	84.00	TM50032CHM
	1/2	6	3.80	4.00	8.20	51.00	TM19028CHM
28	1/4	3	4.75	6.00	12.70	58.00	TM25028CHM
			9.40	10.00	25.40	84.00	TM50028CHM
			9.40	10.00	25.40	84.00	TM50028CHM
24	#10	3	3.68	4.00	8.50	51.00	TM19024CHM
			3.70	4.00	8.50	51.00	HDTM19024CHM
			5.95	6.00	16.00	58.00	TM31224CHM
	5/16	3	7.25	8.00	19.00	64.00	TM37524CHM
	3/8	4	9.40	10.00	25.40	84.00	TM50024CHM
	1/2	6	4.75	6.00	12.70	58.00	TM25020CHM
20	7/16	4	4.95	6.00	12.70	58.00	HDTM25020CHM
			8.75	10.00	22.85	84.00	TM43720CHM
			9.40	10.00	25.40	84.00	TM50020CHM
	1/2	6	5.95	6.00	17.00	58.00	TM31218CHM
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218CHM
			9.90	10.00	22.65	84.00	TM56218CHM
			7.25	8.00	19.05	64.00	TM37516CHM
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516CHM
			11.95	12.00	31.75	84.00	TM75016CHM
			7.75	8.00	20.00	64.00	TM43714CHM
14	7/8	4	11.95	12.00	32.70	84.00	TM87514CHM
			9.40	10.00	23.50	84.00	TM50013CHM
13	1/2	4	10.16	12.00	23.50	84.00	HDTM50013CHM
			9.90	10.00	23.35	84.00	TM56212CHM
12	3/4	4	11.95	12.00	31.75	84.00	TM75012CHM
			18.92	20.00	38.10	105.00	TM10012CHM
			11.95	12.00	32.40	84.00	TM62511CHM
11	5/8	4	11.95	12.00	37.00	100.00	TM62511CHM-XL
			11.95	12.00	33.00	84.00	TM75010CHM
10	3/4	4	11.95	12.00	40.70	100.00	TM75010CHM-XL
			15.75	16.00	36.75	93.00	TM87509CHM
			15.75	16.00	45.20	100.00	TM87509CHM-XL
9	7/8	4	15.75	16.00	35.00	93.00	TM10008CHM
			19.90	20.00	50.80	115.00	TM10008CHM-XL
7	1-1/8	5	19.90	20.00	36.10	105.00	TM12507CHM
6	1-3/8	5	19.90	20.00	38.10	105.00	TM13706CHM

*Straight fluted.

E10: 3



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Weld on Flat



Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)
Ex: Cylindrical = **TM**NK0500-NPT | Weld on = **TW**NK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

 = Metric (mm)
 = Imperial (in)

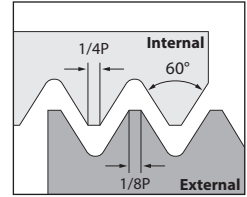
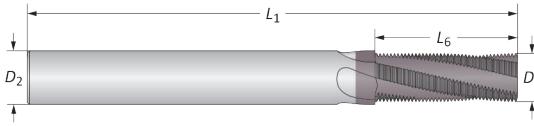


Solid Carbide Thread Mills

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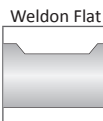
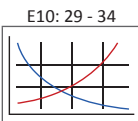
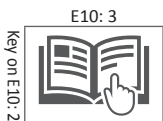


Noncoolant

Imperial (in)

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
64	#2	3*	0.065	0.125	0.125	2.000	TM08664	—
56	#2	3*	0.065	0.125	0.125	2.000	TM08656	TMUK0002-56
48	#3	3*	0.075	0.125	0.167	2.000	TM09948	—
44	#5	3	0.095	0.125	0.228	2.000	TM12544	—
40	#4	3*	0.085	0.125	0.175	2.000	TM12540	TMUK0004-40
36	#8	3	0.115	0.125	0.250	2.000	TM16436	—
32	#6	3	0.100	0.125	0.218	2.000	TM13832	TMUK0006-32
	#8	3	0.115	0.125	0.250	2.000	TM16432	TMUK0008-32
	#10	3	0.120	0.125	0.312	2.000	TM19032	TMUK0010-32
	1/2	6	0.150	0.187	0.312	2.500	HDTM19032	—
			0.370	0.375	1.000	3.500	TM50032	—
28	#10	3	0.120	0.125	0.312	2.000	TM19028	TMUK0010-28
	1/4	3	0.180	0.187	0.500	2.500	TM25028	TMUK0250-28
	7/16	4	0.310	0.312	0.790	3.000	TM43828	TMUK0438-28
	1/2	6	0.370	0.375	1.000	3.500	TM50028	—
24	#10	3	0.120	0.125	0.312	2.000	TM19024	TMUK0010-24
		3	0.145	0.187	0.312	2.500	HDTM19024	—
	5/16	3	0.235	0.250	0.625	2.500	TM31224	TMUK0313-24
	3/8	4	0.285	0.312	0.750	3.000	TM37524	TMUK0375-24
	1/2	6	0.370	0.375	1.000	3.500	TM50024	—
20	1/4	3	0.180	0.187	0.500	2.500	TM25020	TMUK0250-20
	7/16	4	0.195	0.250	0.500	2.500	HDTM25020	—
			0.335	0.375	0.875	3.500	TM43720	TMUK0438-20
	1/2	6	0.370	0.375	1.000	3.500	TM50020	—
18	5/16	3	0.235	0.250	0.625	2.500	TM31218	TMUK0313-18
			0.245	0.312	0.625	3.000	HDTM31218	—
	9/16	4	0.370	0.375	0.875	3.500	TM56218	TMUK0563-18
16	3/8	4	0.285	0.312	0.750	3.000	TM37516	TMUK0375-16
	3/4	4	0.300	0.375	0.750	3.500	HDTM37516	—
			0.490	0.500	1.250	3.500	TM75016	TMUK0750-16
14	7/16	4	0.305	0.312	0.750	3.000	TM43714	TMUK0438-14
	7/8	4	0.490	0.500	1.250	3.500	TM87514	TMUK0875-14
13	1/2	4	0.350	0.375	0.875	3.500	TM50013	TMUK0500-13
			0.400	0.500	0.875	3.500	HDTM50013	—
12	9/16	4	0.370	0.375	0.875	3.500	TM56212	TMUK0563-12
	3/4	4	0.495	0.500	1.250	3.500	TM75012	TMUK0750-12
	1	6	0.745	0.750	1.500	4.000	TM10012	—
11	5/8	4	0.470	0.500	1.250	3.500	TM62511	TMUK0625-11
			0.470	0.500	1.455	3.500	TM62511-XL	TMUK0625-11XL
10	3/4	4	0.495	0.500	1.250	3.500	TM75010	TMUK0750-10
			0.495	0.500	1.600	4.000	TM75010-XL	TMUK0750-10XL
9	7/8	4	0.620	0.625	1.375	4.000	TM87509	TMUK0875-9
			0.620	0.625	1.778	4.000	TM87509-XL	TMUK0875-9XL
8	1	4	0.620	0.625	1.375	4.000	TM10008	TMUK1000-8
7	1-1/8	6	0.745	0.750	2.000	4.500	TM10008-XL	TMUK1000-8XL
		5	0.745	0.750	1.572	4.500	TM12507	—
6	1-3/8	5	0.745	0.750	1.500	4.500	TM13706	—

*Straight fluted.

Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)

Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

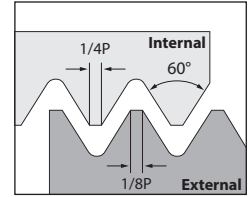
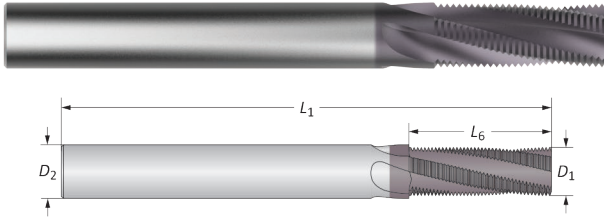
M = Metric (mm)

I = Imperial (in)



Solid Carbide Thread Mills

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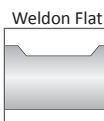
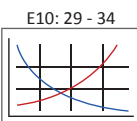
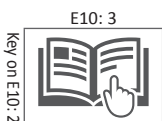
E10

Coolant Through

Imperial (in)

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
			D_1	D_2	L_6	L_1	
							ThreadMills USA®
64	#2	3*	0.065	0.125	0.125	1.500	TM08664CH
56	#2	3*	0.065	0.125	0.125	1.500	TM08656CH
48	#3	3*	0.075	0.125	0.167	1.500	TM09948CH
44	#5	3	0.095	0.125	0.228	1.500	TM12544CH
40	#4	3*	0.085	0.125	0.175	1.500	TM12540CH
36	#8	3	0.115	0.125	0.250	1.500	TM16436CH
	#6	3	0.100	0.125	0.218	1.500	TM13832CH
	#8	3	0.115	0.125	0.250	1.500	TM16432CH
32	#10	3	0.150	0.187	0.312	2.375	TM19032CH
			0.150	0.187	0.312	2.375	HDTM19032CH
	1/2	6	0.370	0.375	1.000	3.500	TM50032CH
28	#10	3	0.120	0.125	0.312	1.500	TM19028CH
	1/4	3	0.180	0.187	0.500	2.375	TM25028CH
	1/2	6	0.370	0.375	1.000	3.500	TM50028CH
24	#10	3	0.145	0.187	0.312	2.375	TM19024CH
			0.145	0.187	0.312	2.375	HDTM19024CH
	5/16	3	0.235	0.250	0.625	2.375	TM31224CH
	3/8	4	0.285	0.312	0.750	3.000	TM37524CH
	1/2	6	0.370	0.375	1.000	3.500	TM50024CH
20	1/4	3	0.180	0.187	0.500	2.375	TM25020CH
			0.195	0.250	0.500	2.375	HDTM25020CH
	7/16	4	0.335	0.375	0.875	3.000	TM43720CH
	1/2	6	0.370	0.375	1.000	3.500	TM50020CH
18	5/16	3	0.235	0.250	0.625	2.375	TM31218CH
			0.245	0.312	0.625	3.000	HDTM31218CH
	9/16	4	0.370	0.375	0.875	3.000	TM56218CH
16	3/8	4	0.285	0.312	0.750	3.000	TM37516CH
			0.300	0.375	0.750	3.000	HDTM37516CH
	3/4	4	0.490	0.500	1.250	3.500	TM75016CH
14	7/16	4	0.305	0.312	0.750	3.000	TM43714CH
	7/8	4	0.490	0.500	1.250	3.500	TM87514CH
13	1/2	4	0.350	0.375	0.875	3.000	TM50013CH
			0.400	0.500	0.875	3.500	HDTM50013CH
12	9/16	4	0.370	0.375	0.875	3.500	TM56212CH
	3/4	4	0.495	0.500	1.250	3.500	TM75012CH
	1	6	0.745	0.750	1.500	4.000	TM10012CH
11	5/8	4	0.470	0.500	1.250	3.500	TM62511CH
			0.470	0.500	1.455	3.500	TM62511CH-XL
10	3/4	4	0.495	0.500	1.250	3.500	TM75010CH
			0.495	0.500	1.600	4.000	TM75010CH-XL
			0.620	0.625	1.375	4.000	TM87509CH
9	7/8	4	0.620	0.625	1.778	4.000	TM87509CH-XL
8	1	4	0.620	0.625	1.375	4.000	TM10008CH
		6	0.745	0.750	2.000	4.500	TM10008CH-XL
7	1-1/8	5	0.745	0.750	1.572	4.500	TM12507CH
6	1-3/8	5	0.745	0.750	1.500	4.500	TM13706CH

*Straight fluted.



Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)

Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

M = Metric (mm)

I = Imperial (in)

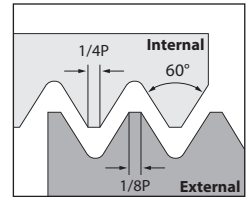
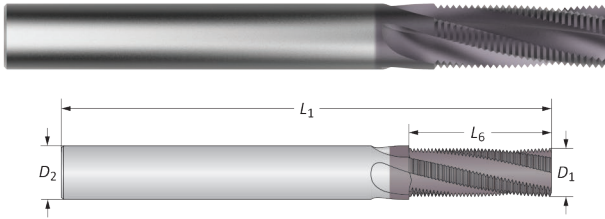


Solid Carbide Thread Mills

ISO



E10



Noncoolant

Metric (mm)

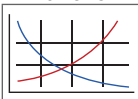
Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
0.40	M2	3*	1.50	3.00	3.20	39.00	TM20040M	TMMK0200-040M
	M2.5	3*	1.50	3.00	3.60	39.00	TM25045M	TMMK0250-045M
	M3	3*	2.15	3.00	4.50	39.00	TM30050M	TMMK0300-050M
0.50	M6	3	4.60	6.00	12.00	58.00	TM60050M	TMMK0600-050M
	M10	4	7.95	8.00	15.00	64.00	TM10050M	TMMK1000-050M
0.70	M4	3	2.90	3.00	8.00	39.00	TM40070M	TMMK0400-070M
0.75	M4.5	3	3.00	4.00	6.75	51.00	TM45075M	TMMK0450-075M
	M6	3	4.60	6.00	12.00	58.00	TM60075M	TMMK0600-075M
	M10	4	7.95	8.00	15.00	64.00	TM10075M	TMMK1000-075M
0.80	M5	3	3.60	4.00	8.00	51.00	TM50080M	TMMK0500-080M
1.00	M6	3	4.60	6.00	12.00	58.00	TM60100M	TMMK0600-100M
	M12	4	9.40	10.00	20.00	73.00	TM12100M	TMMK1200-100M
1.25	M8	3	5.90	6.00	16.25	58.00	TM80125M	TMMK0800-125M
1.50	M10	4	7.40	8.00	19.50	64.00	TM10150M	TMMK1000-150M
	M14	4	10.90	12.00	27.00	84.00	TM14150M	TMMK1400-150M
	M18	4	11.90	12.00	31.50	84.00	TM18150M	TMMK1800-150M
	M20	5	15.75	16.00	36.00	93.00	TM20150M	—
1.75	M12	4	9.40	10.00	22.71	73.00	TM12175M	TMMK1200-175M
2.00	M14	4	10.90	12.00	28.00	84.00	TM14200M	TMMK1400-200M
	M16	4	11.95	12.00	30.00	84.00	TM16200M	—
2.50	M20	4	11.90	12.00	30.00	84.00	TM20250M	TMMK2000-250M
3.00	M24	4	15.90	16.00	36.00	93.00	TM24300M	TMMK2400-300M
3.50	M30	4	15.75	16.00	38.50	100.00	TM30350M	TMMK3000-350M
4.00	M36	5	19.90	20.00	40.00	105.00	TM36400M	TMMK3600-400M

*Straight fluted.

E10: 3

E10: 29 - 34

Weldon Flat



Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)

Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT

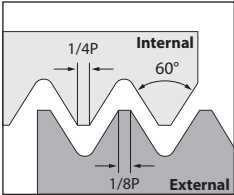
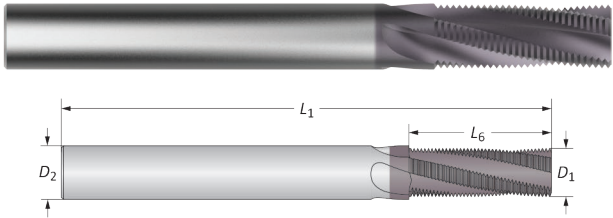
NOTE: Minimum order quantity is 2 pieces.

M = Metric (mm)
I = Imperial (in)



Solid Carbide Thread Mills

ISO

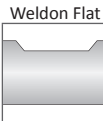
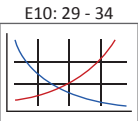
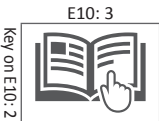


Coolant Through

Metric (mm)

	Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	
m	0.40	M2	3*	1.50	3.00	3.20	39.00	TM20040CHM
	0.45	M2.5	3*	1.50	3.00	3.60	39.00	TM25045CHM
	0.50	M3	3*	2.15	3.00	4.50	39.00	TM30050CHM
		M6	3	4.60	6.00	12.00	58.00	TM60050CHM
	0.70	M10	4	7.95	8.00	15.00	64.00	TM10050CHM
		M4	3	2.90	3.00	8.00	39.00	TM40070CHM
	0.75	M4.5	3	3.00	4.00	6.75	51.00	TM45075CHM
		M6	3	4.60	6.00	12.00	58.00	TM60075CHM
	0.80	M10	4	7.95	8.00	15.00	64.00	TM10075CHM
		M5	3	3.60	4.00	8.00	51.00	TM50080CHM
	1.00	M6	3	4.60	6.00	12.00	58.00	TM60100CHM
		M12	4	9.40	10.00	20.00	84.00	TM12100CHM
	1.25	M8	3	5.90	6.00	16.25	58.00	TM80125CHM
		M10	4	7.40	8.00	19.50	64.00	TM10150CHM
	1.50	M14	4	10.90	12.00	27.00	84.00	TM14150CHM
		M18	4	11.90	12.00	31.50	84.00	TM18150CHM
	1.75	M20	5	15.75	16.00	36.00	93.00	TM20150CHM
		M12	4	9.40	10.00	22.71	84.00	TM12175CHM
	2.00	M14	4	10.90	12.00	28.00	84.00	TM14200CHM
		M16	4	11.95	12.00	30.00	84.00	TM16200CHM
	2.50	M20	4	11.90	12.00	30.00	84.00	TM20250CHM
	3.00	M24	4	15.90	16.00	36.00	93.00	TM24300CHM
	3.50	M30	4	15.75	16.00	38.50	100.00	TM30350CHM
	4.00	M36	5	19.90	20.00	40.00	105.00	TM36400CHM

*Straight fluted.



Replace the leading TM designator with TW.
(For shanks 6 mm (m) or 3/8" (i) and above.)
Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

m = Metric (mm)
i = Imperial (in)

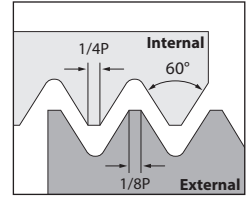
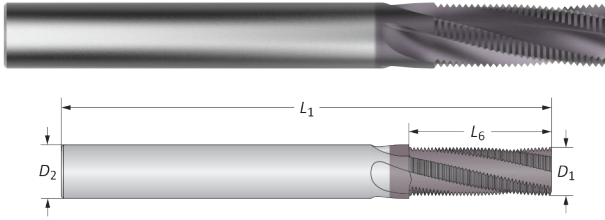


Solid Carbide Thread Mills

ISO



E10

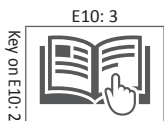


Noncoolant

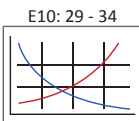
Imperial (in)

Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D ₁	D ₂	L ₆	L ₁	 ThreadMills USA®	 AccuThread® 856
0.40	M2	3*	0.059	0.125	0.126	2.000	TM20040	—
	M2.5	3*	0.059	0.125	0.142	2.000	TM25045	—
0.50	M3	3*	0.085	0.125	0.178	2.000	TM30050	—
	M6	3	0.181	0.187	0.473	2.500	TM60050	—
0.70	M10	4	0.310	0.312	0.591	3.000	TM10050	—
	M4	3	0.115	0.125	0.276	2.000	TM40070	—
0.75	M4.5	3	0.120	0.125	0.266	2.000	TM45075	TMMK0450-075
	M8	3	0.235	0.250	0.625	2.500	TM80075	TMMK0800-075
0.80	M10	4	0.310	0.312	0.591	3.000	TM10075	—
	M5	3	0.120	0.125	0.312	2.000	TM50080	TMMK0500-080
1.00	M6	3	0.170	0.187	0.500	2.500	TM60100	TMMK0600-100
	M12	4	0.360	0.375	0.875	3.500	TM12100	TMMK1200-100
1.25	M8	3	0.235	0.250	0.625	2.500	TM80125	TMMK0800-125
	M10	4	0.300	0.312	0.750	3.000	TM10150	TMMK1000-150
1.50	M14	4	0.370	0.375	0.875	3.500	TM14150	TMMK1400-150
	M18	4	0.490	0.500	1.250	3.500	TM18150	TMMK1800-150
1.75	M20	5	0.620	0.625	1.418	4.000	TM20150	—
	M12	4	0.360	0.375	0.875	3.500	TM12175	TMMK1200-175
2.00	M14	4	0.429	0.500	1.103	3.500	TM14200	—
	M16	4	0.470	0.500	1.250	3.500	TM16200	TMMK1600-200
2.50	M20	4	0.495	0.500	1.250	3.500	TM20250	TMMK2000-250
3.00	M24	4	0.620	0.625	1.375	4.000	TM24300	TMMK2400-300
3.50	M30	4	0.620	0.625	1.516	4.000	TM30350	—
4.00	M36	5	0.745	0.750	1.575	4.500	TM36400	—

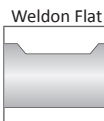
*Straight fluted.



E10: 3



E10: 29 - 34



Weldon Flat

Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)

Ex: Cylindrical = TMNK0500-NPT | Weldon = TWNK0500-NPT

NOTE: Minimum order quantity is 2 pieces.

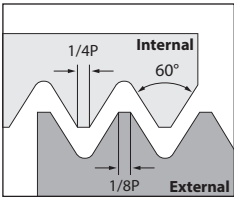
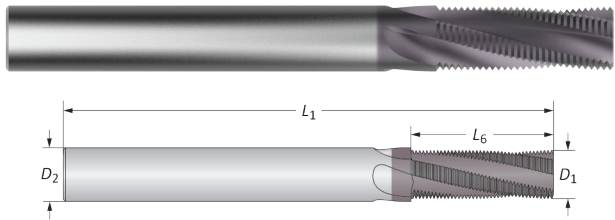
M = Metric (mm)

I = Imperial (in)



Solid Carbide Thread Mills

ISO

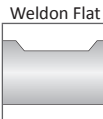
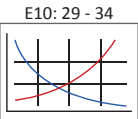
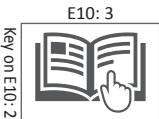


Coolant Through

Imperial (in)

Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.
			D ₁	D ₂	L ₆	L ₁	
0.40	M2	3*	0.059	0.125	0.126	1.500	TM20040CH
0.45	M2.5	3*	0.059	0.125	0.142	1.500	TM25045CH
0.50	M3	3*	0.085	0.125	0.178	1.500	TM30050CH
	M6	3	0.181	0.187	0.473	2.375	TM60050CH
0.70	M10	4	0.310	0.312	0.591	3.000	TM10050CH
	M4	3	0.115	0.125	0.276	1.500	TM40070CH
0.75	M4.5	3	0.120	0.125	0.266	1.500	TM45075CH
	M8	3	0.235	0.250	0.625	2.375	TM80075CH
0.80	M10	4	0.310	0.312	0.591	3.000	TM10075CH
	M5	3	0.120	0.125	0.312	1.500	TM50080CH
1.00	M6	3	0.170	0.187	0.500	2.375	TM60100CH
	M12	4	0.360	0.375	0.875	3.000	TM12100CH
1.25	M8	3	0.235	0.250	0.625	2.375	TM80125CH
1.50	M10	4	0.300	0.312	0.750	3.000	TM10150CH
	M14	4	0.370	0.375	0.875	3.000	TM14150CH
	M18	4	0.490	0.500	1.250	3.500	TM18150CH
	M20	5	0.620	0.625	1.418	4.000	TM20150CH
1.75	M12	4	0.360	0.375	0.875	3.000	TM12175CH
2.00	M14	4	0.429	0.500	1.103	3.500	TM14200CH
	M16	4	0.470	0.500	1.250	3.500	TM16200CH
2.50	M20	4	0.495	0.500	1.250	3.500	TM20250CH
3.00	M24	4	0.620	0.625	1.375	4.000	TM24300CH
3.50	M30	4	0.620	0.625	1.516	4.000	TM30350CH
4.00	M36	5	0.745	0.750	1.575	4.500	TM36400CH

*Straight fluted.



Replace the leading TM designator with TW.
(For shanks 6 mm (M) or 3/8" (I) and above.)
Ex: Cylindrical = **TM**NK0500-NPT | Weldon = **TW**NK0500-NPT
NOTE: Minimum order quantity is 2 pieces.

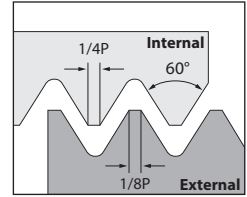
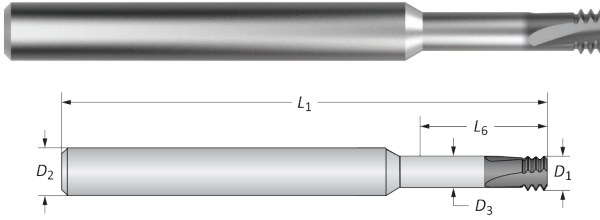
M = Metric (mm)
I = Imperial (in)



3-Tooth Solid Carbide Thread Mills

UN

E10



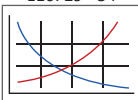
Noncoolant

Metric (mm)

Depth	TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill					Part No. 
				D_1	D_3	D_2	L_6	L_1	
2xD	64	#1	3	1.40	0.89	6.00	3.81	63.00	TM07364M-3T2X
	56	#2	3	1.65	1.08	6.00	4.32	63.00	TM08656M-3T2X
	48	#3	3	1.91	1.24	6.00	5.08	63.00	TM09948M-3T2X
	40	#4	3	2.16	1.36	6.00	6.35	63.00	TM11240M-3T2X
	36	#8	3	3.30	2.42	6.00	8.89	63.00	TM16436M-3T2X
	32	#6	3	2.54	1.55	6.00	7.11	63.00	TM13832M-3T2X
		#8	3	3.20	2.21	6.00	9.40	63.00	TM16432M-3T2X
		#10	3	3.68	2.70	6.00	10.41	63.00	TM19032M-3T2X
	28	1/4	3	5.00	3.88	6.00	14.48	63.00	TM25028M-3T2X
	24	#10	3	3.51	2.20	6.00	10.67	63.00	TM19024M-3T2X
		5/16	3	6.60	5.30	8.00	17.02	64.00	TM31224M-3T2X
	20	1/4	3	4.75	3.18	6.00	13.97	63.00	TM25020M-3T2X
		7/16	4	7.92	6.36	8.00	24.89	64.00	TM43720M-3T2X
	18	5/16	3	5.94	4.26	6.00	17.02	63.00	TM31218M-3T2X
		3/8	3	6.71	4.76	8.00	22.10	64.00	TM37516M-3T2X
	16	3/4	4	11.94	9.88	12.00	38.10	88.90	TM75016M-3T2X
		7/16	4	7.62	5.39	8.00	24.89	64.00	TM43714M-3T2X
	14	7/8	4	15.75	13.42	16.00	44.45	100.00	TM87514M-3T2X
		1/2	4	9.14	6.76	10.00	27.43	88.90	TM50013M-3T2X
	12	9/16	4	10.41	7.82	12.00	31.50	88.90	TM56212M-3T2X
		3/4	4	11.94	9.24	12.00	38.10	88.90	TM75012M-3T2X
	11	5/8	4	11.94	9.01	12.00	31.75	88.90	TM62511M-3T2X
	10	3/4	4	11.94	8.73	12.00	38.10	88.90	TM75010M-3T2X
	9	7/8	4	15.75	12.20	16.00	44.45	100.00	TM87509M-3T2X
	8	1	4	15.75	11.77	16.00	50.80	100.00	TM10008M-3T2X
3xD	40	#4	3	2.16	1.36	6.00	7.87	63.00	TM11240M-3T3X
	32	#6	3	2.54	1.55	6.00	10.41	63.00	TM13832M-3T3X
		#8	3	3.20	2.21	6.00	12.45	63.00	TM16432M-3T3X
		#10	3	3.68	2.70	6.00	14.99	63.00	TM19032M-3T3X
	28	1/4	3	5.00	3.88	6.00	19.05	63.00	TM25028M-3T3X
	24	#10	3	3.51	2.20	6.00	14.99	63.00	TM19024M-3T3X
		5/16	3	6.60	5.30	8.00	23.88	64.00	TM31224M-3T3X
	20	1/4	3	4.75	3.18	6.00	19.05	63.00	TM25020M-3T3X
		7/16	4	7.92	6.36	8.00	33.53	76.00	TM43720M-3T3X
	18	5/16	3	5.94	4.21	6.00	23.11	63.00	TM31218M-3T3X
	16	3/8	3	6.71	4.76	8.00	29.21	76.00	TM37516M-3T3X
		3/4	4	11.94	9.88	12.00	57.15	88.90	TM75016M-3T3X
	14	7/16	4	7.62	5.39	8.00	33.52	76.00	TM43714M-3T3X
		7/8	4	15.75	13.42	16.00	66.68	100.00	TM87514M-3T3X
	13	1/2	4	9.14	6.76	10.00	40.64	88.90	TM50013M-3T3X
	12	9/16	4	10.41	7.82	12.00	43.18	100.00	TM56212M-3T3X
		3/4	4	11.94	9.24	12.00	57.15	88.90	TM75012M-3T3X
	11	5/8	4	11.94	9.01	12.00	47.63	88.90	TM62511M-3T3X
	10	3/4	4	11.94	8.73	12.00	57.15	88.90	TM75010M-3T3X
	9	7/8	4	15.75	12.20	16.00	66.68	100.00	TM87509M-3T3X
	8	1	4	15.75	11.77	16.00	76.20	114.30	TM10008M-3T3X

E10: 3

E10: 29 - 34

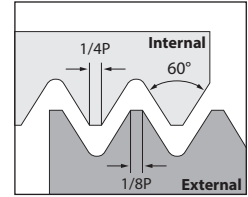
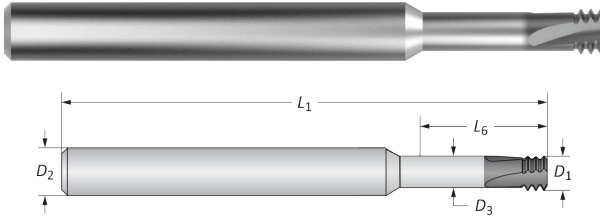


 = Metric (mm)
 = Imperial (in)



3-Tooth Solid Carbide Thread Mills

UN



E10

Noncoolant

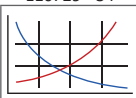
Imperial (in)

Depth	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No. 
				D_1	D_3	D_2	L_6	L_1	
2xD	64	#1	3	0.055	0.035	0.250	0.150	2.500	TM07364-3T2X
	56	#2	3	0.065	0.042	0.250	0.170	2.500	TM08656-3T2X
	48	#3	3	0.075	0.049	0.250	0.200	2.500	TM09948-3T2X
	40	#4	3	0.085	0.054	0.250	0.250	2.500	TM11240-3T2X
	36	#8	3	0.130	0.095	0.250	0.350	2.500	TM16436-3T2X
	32	#6	3	0.100	0.061	0.250	0.280	2.500	TM13832-3T2X
		#8	3	0.126	0.087	0.250	0.370	2.500	TM16432-3T2X
		#10	3	0.145	0.106	0.250	0.410	2.500	TM19032-3T2X
	28	1/4	3	0.197	0.153	0.250	0.570	2.500	TM25028-3T2X
	24	#10	3	0.138	0.086	0.250	0.420	2.500	TM19024-3T2X
		5/16	3	0.260	0.208	0.312	0.670	2.500	TM31224-3T2X
	20	1/4	3	0.187	0.125	0.250	0.550	2.500	TM25020-3T2X
		7/16	4	0.312	0.250	0.312	0.980	2.500	TM43720-3T2X
	18	5/16	3	0.236	0.168	0.250	0.670	2.500	TM31218-3T2X
	16	3/8	3	0.264	0.187	0.312	0.870	2.500	TM37516-3T2X
		3/4	4	0.495	0.414	0.500	1.500	3.500	TM75016-3T2X
	14	7/16	4	0.300	0.212	0.312	0.980	2.500	TM43714-3T2X
		7/8	4	0.620	0.528	0.625	1.750	4.000	TM87514-3T2X
	13	1/2	4	0.360	0.266	0.375	1.080	3.000	TM50013-3T2X
	12	9/16	4	0.410	0.308	0.500	1.240	3.500	TM56212-3T2X
		3/4	4	0.495	0.389	0.500	1.500	3.500	TM75012-3T2X
	11	5/8	4	0.470	0.355	0.500	1.250	3.500	TM62511-3T2X
	10	3/4	4	0.495	0.369	0.500	1.500	3.500	TM75010-3T2X
	9	7/8	4	0.620	0.480	0.625	1.750	4.000	TM87509-3T2X
	8	1	4	0.620	0.463	0.625	2.000	4.000	TM10008-3T2X
3xD	40	#4	3	0.085	0.054	0.250	0.310	2.500	TM11240-3T3X
	32	#6	3	0.100	0.061	0.250	0.410	2.500	TM13832-3T3X
		#8	3	0.126	0.087	0.250	0.490	2.500	TM16432-3T3X
		#10	3	0.145	0.106	0.250	0.590	2.500	TM19032-3T3X
	28	1/4	3	0.197	0.153	0.250	0.750	2.500	TM25028-3T3X
	24	#10	3	0.138	0.086	0.250	0.590	2.500	TM19024-3T3X
		5/16	3	0.260	0.208	0.312	0.940	2.500	TM31224-3T3X
	20	1/4	3	0.187	0.125	0.250	0.750	2.500	TM25020-3T3X
		7/16	4	0.312	0.250	0.312	1.320	3.000	TM43720-3T3X
	18	5/16	3	0.236	0.168	0.250	0.910	2.500	TM31218-3T3X
	16	3/8	3	0.264	0.187	0.312	1.150	3.000	TM37516-3T3X
		3/4	4	0.495	0.414	0.500	2.250	4.000	TM75016-3T3X
	14	7/16	4	0.300	0.212	0.312	1.320	3.000	TM43714-3T3X
		7/8	4	0.620	0.528	0.625	2.625	4.000	TM87514-3T3X
	13	1/2	4	0.360	0.266	0.375	1.600	3.500	TM50013-3T3X
	12	9/16	4	0.410	0.308	0.500	1.700	4.000	TM56212-3T3X
		3/4	4	0.495	0.389	0.500	2.250	4.000	TM75012-3T3X
	11	5/8	4	0.470	0.355	0.500	1.875	4.000	TM62511-3T3X
	10	3/4	4	0.495	0.369	0.500	2.250	4.000	TM75010-3T3X
	9	7/8	4	0.620	0.480	0.625	2.625	4.000	TM87509-3T3X
	8	1	4	0.620	0.463	0.625	3.000	4.500	TM10008-3T3X

i

E10: 3

E10: 29 - 34



 = Metric (mm)

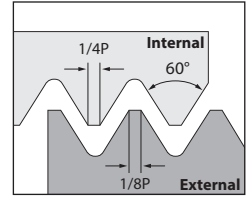
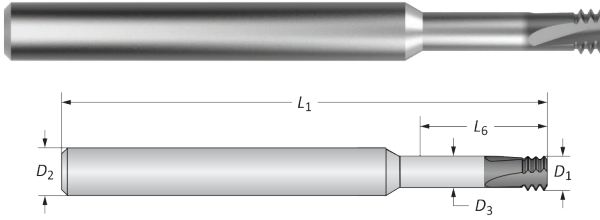
 = Imperial (in)



3-Tooth Solid Carbide Thread Mills

ISO

E10



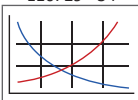
Noncoolant

Metric (mm)

Depth	Pitch	Min Thread ϕ	Flutes	Thread Mill					Part No.
				D_1	D_3	D_2	L_6	L_1	
2xD	0.35	M1.8	3	1.35	0.84	6.00	4.32	63.00	TM18035M-3T2X
	0.40	M2	3	1.55	1.04	6.00	4.60	63.00	TM20040M-3T2X
	0.45	M2.5	3	1.96	1.38	6.00	5.60	63.00	TM25045M-3T2X
	0.50	M3	3	2.36	1.73	6.00	6.60	63.00	TM30050M-3T2X
	0.60	M3.5	3	2.74	1.99	6.00	7.60	63.00	TM35060M-3T2X
	0.70	M4	3	3.10	2.22	6.00	8.90	63.00	TM40070M-3T2X
	0.75	M4.5	3	3.38	2.41	6.00	10.92	63.00	TM45075M-3T2X
	0.80	M5	3	3.81	2.81	6.00	12.40	63.00	TM50080M-3T2X
	1.00	M6	3	4.65	3.41	6.00	14.00	63.00	TM60100M-3T2X
	1.25	M8	3	5.94	4.40	6.00	18.00	63.00	TM80125M-3T2X
	1.50	M10	4	7.80	5.95	8.00	23.10	64.00	TM10150M-3T2X
		M14	4	9.40	7.45	10.00	27.94	88.90	TM14150M-3T2X
		M18	4	11.94	9.98	12.00	36.07	88.90	TM18150M-3T2X
	1.75	M12	4	7.92	5.78	8.00	24.00	64.00	TM12175M-3T2X
	2.00	M16	4	11.94	9.40	12.00	32.00	88.90	TM16200M-3T2X
	2.50	M20	4	14.99	11.83	16.00	39.88	100.00	TM20250M-3T2X
	3.00	M24	4	15.75	11.98	16.00	48.01	100.00	TM24300M-3T2X
3xD	0.45	M2.5	3	1.96	1.38	6.00	7.60	63.00	TM25045M-3T3X
	0.50	M3	3	2.36	1.73	6.00	9.40	63.00	TM30050M-3T3X
	0.60	M3.5	3	2.74	1.99	6.00	11.40	63.00	TM35060M-3T3X
	0.70	M4	3	3.10	2.22	6.00	12.40	63.00	TM40070M-3T3X
	0.75	M4.5	3	3.38	2.41	6.00	13.97	63.00	TM45075M-3T3X
	0.80	M5	3	3.81	2.81	6.00	16.00	63.00	TM50080M-3T3X
	1.00	M6	3	4.65	3.41	6.00	20.10	63.00	TM60100M-3T3X
	1.25	M8	3	5.94	4.40	6.00	23.90	63.00	TM80125M-3T3X
	1.50	M10	4	7.80	5.95	8.00	28.40	64.00	TM10150M-3T3X
		M14	4	9.40	7.45	10.00	41.91	88.90	TM14150M-3T3X
		M18	4	11.94	9.98	12.00	53.85	88.90	TM18150M-3T3X
	1.75	M12	4	7.92	5.78	8.00	36.00	64.00	TM12175M-3T3X
	2.00	M16	4	11.94	9.40	12.00	49.53	88.90	TM16200M-3T3X
	2.50	M20	4	14.99	11.83	16.00	59.94	100.00	TM20250M-3T3X
	3.00	M24	4	15.75	11.98	16.00	71.88	100.00	TM24300M-3T3X

E10: 3

E10: 29 - 34

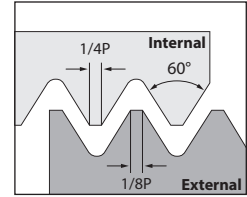
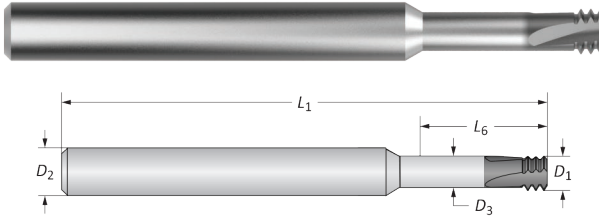


= Metric (mm)
 = Imperial (in)



3-Tooth Solid Carbide Thread Mills

ISO

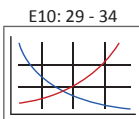
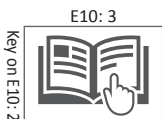


E10

Noncoolant

Imperial (in)

Depth	Pitch	Min Thread ϕ	Flutes	Thread Mill					Part No.
				D_1	D_3	D_2	L_6	L_1	
2xD	0.35	M1.8	3	0.053	0.033	0.250	0.170	2.500	TM18035-3T2X
	0.40	M2	3	0.061	0.041	0.250	0.180	2.500	TM20040-3T2X
	0.45	M2.5	3	0.077	0.055	0.250	0.220	2.500	TM25045-3T2X
	0.50	M3	3	0.093	0.068	0.250	0.260	2.500	TM30050-3T2X
	0.60	M3.5	3	0.108	0.078	0.250	0.300	2.500	TM35060-3T2X
	0.70	M4	3	0.122	0.088	0.250	0.350	2.500	TM40070-3T2X
	0.75	M4.5	3	0.133	0.095	0.250	0.430	2.500	TM45075-3T2X
	0.80	M5	3	0.150	0.111	0.250	0.490	2.500	TM50080-3T2X
	1.00	M6	3	0.183	0.134	0.250	0.550	2.500	TM60100-3T2X
	1.25	M8	3	0.234	0.173	0.250	0.710	2.500	TM80125-3T2X
	1.50	M10	4	0.307	0.234	0.312	0.910	2.500	TM10150-3T2X
		M14	4	0.370	0.293	0.375	1.100	3.500	TM14150-3T2X
		M18	4	0.495	0.418	0.500	1.420	3.500	TM18150-3T2X
	1.75	M12	4	0.310	0.225	0.312	0.945	2.500	TM12175-3T2X
	2.00	M16	4	0.470	0.370	0.500	1.260	3.500	TM16200-3T2X
	2.50	M20	4	0.590	0.466	0.625	1.570	4.000	TM20250-3T2X
	3.00	M24	4	0.620	0.472	0.625	1.890	4.000	TM24300-3T2X
3xD	0.45	M2.5	3	0.077	0.055	0.250	0.300	2.500	TM25045-3T3X
	0.50	M3	3	0.093	0.068	0.250	0.370	2.500	TM30050-3T3X
	0.60	M3.5	3	0.108	0.078	0.250	0.450	2.500	TM35060-3T3X
	0.70	M4	3	0.122	0.088	0.250	0.490	2.500	TM40070-3T3X
	0.75	M4.5	3	0.133	0.095	0.250	0.550	2.500	TM45075-3T3X
	0.80	M5	3	0.150	0.111	0.250	0.630	2.500	TM50080-3T3X
	1.00	M6	3	0.183	0.134	0.250	0.790	2.500	TM60100-3T3X
	1.25	M8	3	0.234	0.173	0.250	0.940	2.500	TM80125-3T3X
	1.50	M10	4	0.307	0.234	0.312	1.120	2.500	TM10150-3T3X
		M14	4	0.370	0.293	0.375	1.650	3.500	TM14150-3T3X
		M18	4	0.495	0.418	0.500	2.120	4.000	TM18150-3T3X
	1.75	M12	4	0.310	0.225	0.312	1.418	2.500	TM12175-3T3X
	2.00	M16	4	0.470	0.370	0.500	1.950	4.000	TM16200-3T3X
	2.50	M20	4	0.590	0.466	0.625	2.360	4.000	TM20250-3T3X
	3.00	M24	4	0.620	0.472	0.625	2.830	4.000	TM24300-3T3X



Key on E10: 2

= Metric (mm)
 = Imperial (in)



Recommended Drilling Data | Metric (mm)

ACCUThread® 856

E10

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 to 3.18	3.19 to 4.76	4.77 to 6.35	6.36 to 7.94	7.95 to 9.53	9.54 to 12.70	12.71 to 15.88	15.89 to 19.05
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	213	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 250	Easy	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	274	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	213	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		175 - 225	Average	183	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	175	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		175 - 225	Average	152	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	Average	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		125 - 175	Average	175	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		175 - 225	Average	152	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		275 - 325	Difficult	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	Difficult	114	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		225 - 300	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		300 - 350	Difficult	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	Structural Steel A36, A285, A516, etc.	350 - 400	Difficult	107	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		100 - 150	Average	183	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 250	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		250 - 350	Difficult	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
M	Stainless Steel 303, 416, 420, etc.	135 - 185	Difficult	160	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		185 - 275	Difficult	152	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	91	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		275 - 325	Difficult	46	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	175	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 250	Difficult	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	206	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	191	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 220	Easy	175	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		220 - 260	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		260 - 320	Average	145	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
N	Wrought Aluminum 6061 T6	30	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		180	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Cast Aluminum** up to 10% silicon	120	Easy	191	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
S	Brass	30 - 125	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		140 - 220	Difficult	37	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	220 - 310	Difficult	27	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on page xiv when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Imperial (in)

ACCUThread® 856

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" to 0.125"	0.126" to 0.188"	0.189" to 0.250"	0.251" to 0.312"	0.313" to 0.375"	0.376" to 0.500"	0.501" to 0.625"	0.626" to 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	900	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	700	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 250	Easy	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	900	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	700	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		175 - 225	Average	600	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	Average	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	575	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	500	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Average	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		325 - 375	Difficult	375	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		300 - 350	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		350 - 400	Difficult	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Structural Steel A36, A285, A516, etc.	100 - 150	Average	600	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 250	Average	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		250 - 350	Difficult	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
M	Stainless Steel 303, 416, 420, etc.	135 - 185	Difficult	525	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		185 - 275	Difficult	500	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		275 - 325	Difficult	150	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	575	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
200 - 250		Difficult	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	675	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	625	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 220	Easy	575	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		220 - 260	Average	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		260 - 320	Average	475	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
N	Wrought Aluminum 6061 T6	30	Easy	1100	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
		180	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Cast Aluminum** up to 10% silicon	120	Easy	625	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Brass	30 - 125	Easy	1100	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	120	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
		220 - 310	Difficult	90	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Metric (mm)

THREADMILLS USA®

E10

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 to 3.18	3.19 to 4.76	4.77 to 6.35	6.36 to 7.94	7.95 to 9.53	9.54 to 12.70	12.71 to 15.88	15.89 to 19.05
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	221	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 250	Easy	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	221	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		175 - 225	Average	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	137	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		175 - 225	Average	122	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		225 - 275	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	Average	91	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		125 - 175	Average	137	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		175 - 225	Average	122	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		225 - 275	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	High-Strength Alloy 4340, 4330V, 300M, etc.	275 - 325	Difficult	91	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		325 - 375	Difficult	76	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		225 - 300	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		300 - 350	Difficult	91	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	Structural Steel A36, A285, A516, etc.	350 - 400	Difficult	76	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		100 - 150	Average	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 250	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		250 - 350	Difficult	91	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
M		Stainless Steel 303, 416, 420, etc.	100 - 150	Average	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051
	135 - 185		Difficult	130	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	76	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		275 - 325	Difficult	38	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	99	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
200 - 250		Difficult	69	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 220	Easy	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		220 - 260	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		260 - 320	Average	114	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
N	Wrought Aluminum 6061 T6	30	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		180	Easy	274	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Cast Aluminum** up to 10% silicon	120	Easy	152	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Brass	30 - 125	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	30	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
		220 - 310	Difficult	23	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on page xiv when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Imperial (in)

THREADMILLS USA®												
ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" to 0.125"	0.126" to 0.188"	0.189" to 0.250"	0.251" to 0.312"	0.313" to 0.375"	0.376" to 0.500"	0.501" to 0.625"	0.626" to 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	725	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 250	Easy	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	725	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		175 - 225	Average	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Average	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		125 - 175	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M, etc.	175 - 225	Average	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Average	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Structural Steel A36, A285, A516, etc.	325 - 375	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
M	Stainless Steel 303, 416, 420, etc.	225 - 300	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		300 - 350	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Stainless Steel PH 17-4, etc.	350 - 400	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		135 - 185	Difficult	425	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Tool Steel H-13, H21, A-4, etc.	185 - 275	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		275 - 325	Difficult	125	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
K	Cast Iron Grey, Ductile, Nodular	150 - 200	Difficult	325	0.0004	0.0005	0.0007	0.0008	0.0010	0.0015	0.0020	0.0025
		200 - 250	Difficult	225	0.0004	0.0005	0.0007	0.0008	0.0010	0.0015	0.0020	0.0025
		120 - 150	Easy	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 220	Easy	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
N	Wrought Aluminum 6061 T6	220 - 260	Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		260 - 320	Average	375	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Cast Aluminum** up to 10% silicon	30	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
		180	Easy	900	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
S	Brass	120	Easy	500	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
		30 - 125	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	100	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
		220 - 310	Difficult	75	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.

E10



Recommended Drilling Data | Metric (mm)

ACCUThread® T3

E10

ISO	Material	Hardness (BHN)	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter						
				1.40 to 3.17	3.18 to 4.77	4.78 to 6.35	6.36 to 7.92	7.93 to 9.52	9.53 to 12.70	12.71 to 19.05
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	115	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		150 - 200	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		200 - 250	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	115	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		125 - 175	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		175 - 225	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		125 - 175	70	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		175 - 225	60	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		275 - 325	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		125 - 175	70	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	High-Strength Alloy 4340, 4330V, 300M, etc.	175 - 225	60	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		225 - 275	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		275 - 325	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	Structural Steel A36, A285, A516, etc.	325 - 375	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		225 - 300	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		300 - 350	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
M	Stainless Steel 416, 420, etc.	350 - 400	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		185 - 275	23	0.020	0.025	0.030	0.040	0.045	0.050	0.065
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	38	0.020	0.025	0.030	0.040	0.045	0.050	0.065
		185 - 275	23	0.020	0.025	0.030	0.040	0.045	0.050	0.065
K	Cast Iron Grey, Ductile, Nodular	Super Duplex Stainless Steel	135 - 185	38	0.015	0.020	0.030	0.040	0.045	0.050
			185 - 275	23	0.015	0.020	0.030	0.040	0.045	0.050
		120 - 150	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		150 - 200	75	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		200 - 220	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
N	Wrought Aluminum 6061 T6	220 - 260	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		260 - 320	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
	Cast Aluminum*	30 - 180	75	0.025	0.030	0.045	0.050	0.075	0.100	0.120
		Brass	30 - 100	150	0.025	0.030	0.045	0.050	0.075	0.100
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		220 - 310	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
	Titanium Alloy	140 - 220	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		220 - 310	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
	Aerospace Alloy S82	185 - 275	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065
H	Hardened Steels	275 - 350	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		450 - 500	50	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		500 - 550	38	0.015	0.020	0.030	0.040	0.045	0.050	0.065

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Imperial (in)

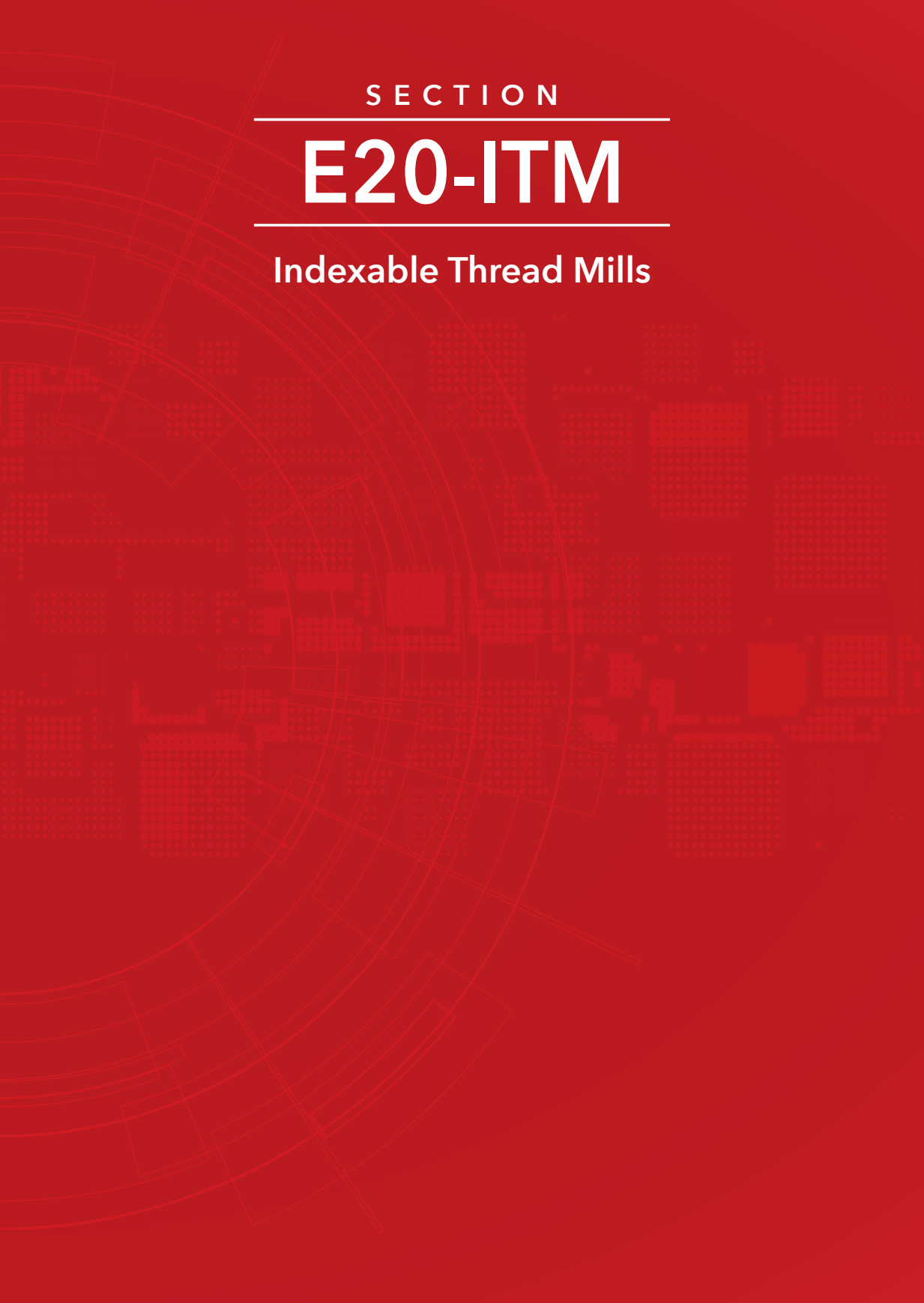
ACCUTHREAD® T3

ISO	Material	Hardness (BHN)	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter						
				0.060" to 0.125"	0.126" to 0.188"	0.189" to 0.250"	0.251" to 0.312"	0.313" to 0.375"	0.376" to 0.500"	0.501" to 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	375	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 200	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		200 - 250	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	375	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		125 - 175	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		175 - 225	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		125 - 175	225	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		175 - 225	200	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		275 - 325	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		125 - 175	225	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	High-Strength Alloy 4340, 4330V, 300M, etc.	175 - 225	200	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		225 - 275	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		275 - 325	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	Structural Steel A36, A285, A516, etc.	325 - 375	125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		225 - 300	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		300 - 350	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	Tool Steel H-13, H21, A-4, etc.	350 - 400	125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		100 - 150	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 250	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	M	Stainless Steel 416, 420, etc.	250 - 350	150	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030
200 - 250			125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
Stainless Steel 300 Series 304, 316, 17-4PH, etc.		185 - 275	75	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
		135 - 185	125	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
K	Cast Iron Grey, Ductile, Nodular	185 - 275	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		120 - 150	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 200	250	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		200 - 220	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
N	Wrought Aluminum 6061 T6	220 - 260	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		260 - 320	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	Cast Aluminum**	30 - 180	250	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
		Brass	30 - 100	500	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		220 - 310	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
	Titanium Alloy	140 - 220	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		220 - 310	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
	Aerospace Alloy S82	185 - 275	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
H	Hardened Steels	275 - 350	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		450 - 500	175	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		500 - 550	125	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Uncoated thread mills are recommended for cast aluminum applications.

E10



SECTION

E20-ITM

Indexable Thread Mills

Indexable Thread Mills



Designed to change | Built to perform

With holders manufactured from stainless steel and engineered to dampen vibration, our indexable thread milling product line provides customers with a versatile and cost-effective range of solutions for demanding applications. Combining the flexibility of replaceable inserts with high-precision performance, these indexable thread mills deliver reduced tooling costs and consistent thread quality across an extensive range of thread forms.

- ▶ Bolt-in Style
- ▶ Pin Style

Applicable Industries

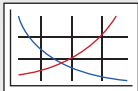
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Hydraulics
-  Marine
-  Medical
-  Oil and Gas
-  Renewable Energy/ Energy
-  Tool, Mold, and Die

Reference Icons

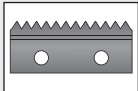
The following icons will appear throughout the catalog to help you navigate between products.



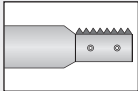
Setup / Assembly Information
Detailed instructions and information regarding the corresponding part(s).



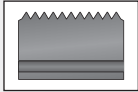
Recommended Cutting Data
Speed and feed recommendations for optimum and safe drilling.



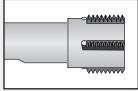
Bolt-in Style Inserts
Refers to the available bolt-in style thread mill insert options.



Bolt-in Style Insert Holders
Refers to the range of holder options available for bolt-in style inserts.



Pin Style Inserts
Refers to the available pin style thread mill insert options.



Pin Style Insert Holders
Refers to the range of holder options available for pin style inserts.



Coolant-Through Option
Indicates that the product is coolant through.

Your safety and the safety of others is very important. This catalog contains important safety messages. Always read and follow all safety precautions.



This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury. When you see this symbol in the catalog, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalog. Safety messages follow these words:

 WARNING	means that failure to follow the precautions in this message could result in tool failure and serious injury.
NOTICE	means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.
NOTE and IMPORTANT	are also used. These are important that you read and follow but are not safety-related.
Visit www.alliedmachine.com for the most up-to-date information and procedures.	

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Indexable Thread Mill Overview

Styles and Thread Forms

E20



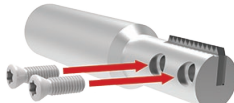
Bolt-in Style

- Replaceable inserts allow for quick setups and tool changes to keep the production process moving smoothly.
- Inserts are available with AM210® coating, which increases tool life.
- Available with 1 flute only.
- Multiple thread form styles are available.
- Tapered thread forms: NPT, NPTF, BSPT.
- Straight thread forms: BSPP, UN, UNJ, ISO.

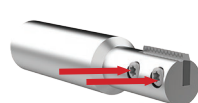
Bolt-in Style Indexable Thread Mill Assembly



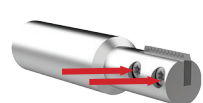
Step 1:
Slide the thread mill insert into the insert holder slot.



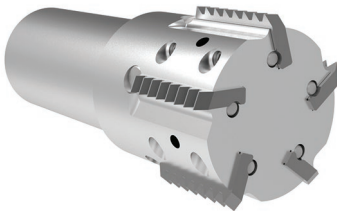
Step 2:
Hand tighten insert screws to hold insert in place.



Step 3:
Tighten each screw to 1.5 N-m (1.1 ft-lbs).



Step 4:
Tighten each screw to 3.5 N-m (2.6 ft-lbs).



Pin Style

- Replaceable inserts allow for quick setups and tool changes to keep the production process moving smoothly.
- Inserts are available with AM210® coating, which increases tool life.
- Holders available in 2 styles: Weldon shank and shell mill.
- Weldon shank holders available with 1, 2, 3, and 5 flutes.
- Shell mill holders available with 6, 7, and 8 flutes.
- Thread forms available: NPT, NPTF, BSPT, BSPP, API-ROUND, ACME, UN, UNJ, ISO.

Pin Style Indexable Thread Mill Assembly



Step 1:
Slide the thread mill insert into the insert holder slot.



Step 2:
Slide the pin into the pin holder slot to hold the insert in place.



Step 3:
Hand tighten insert screws to hold insert in place. If there are three insert screws, start tightening the middle screw, then the two outer screws. Repeat for each insert.



Step 4:
Following the order from step three, tighten each screw to 1.5 N-m (1.1 ft-lbs).



Step 5:
Following the order from step three, tighten each screw to 3.5 N-m (2.6 ft-lbs).

Indexable Thread Mill Overview

Product Nomenclature

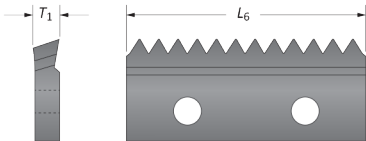
AccuThread® 856 Indexable Inserts

TP	075	K	-	UN	32	I
Insert Style	Insert Length	Coating		Thread Class	Thread Pitch	Thread Style
TP = Bolt-in TN = Pin style	075 = 0.75" 100 = 1.00" 150 = 1.50"	K = AM210® A = TiAlN U = Uncoated		UN = UN UNJ = UNJ NPT = NPT NPTF = NPTF BSPP = BSPP	BSPT = BSPT M = ISO FA = Full ACME AP = API Round	20 = UN 1.0 = ISO I = Internal E = External



Reference Key

Symbol	Attribute
T_1	Insert Thickness
L_6	Length of insert

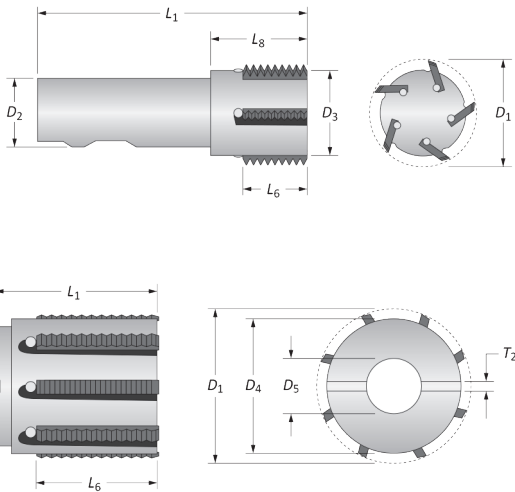


AccuThread® 856 Indexable Holders

THT	-	0400	-	1F	075	M
Holder Style		Diameter		Flute Designation	Insert Length	Shank Designation
Bolt-in Style THT = Tapered head THN = Straight head	Pin Style THP = Weldon (positive) TNR = Weldon (neutral) TSN = Shell mill (positive) TSR = Shell mill (neutral)	0400 = 0.400"		1F = 1 flute 2F = 2 flutes 3F = 3 flutes 5F = 5 flutes 6F = 6 flutes 7F = 7 flutes 8F = 8 flutes	075 = 0.75" 100 = 1.00" 150 = 1.50"	Blank = Imperial M = Metric

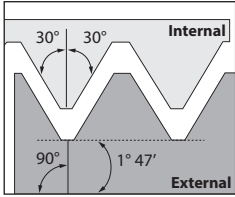
Reference Key

Symbol	Attribute
D_1	Maximum cutter diameter
D_1^*	Oversized cutter diameter
D_2	Shank diameter
D_3	Pilot diameter
D_4	Body diameter (shell mill)
D_5	Bore diameter (shell mill)
L_1	Overall length
L_6	Length of insert
L_8	Flute Length
T_2	Slot width (shell mill)

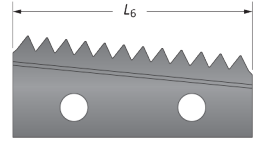
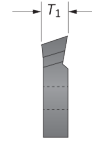


**AccuThread® 856 Bolt-in Style**

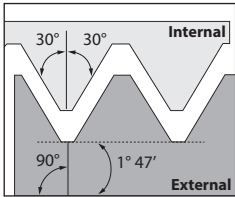
Inserts

**NPT**

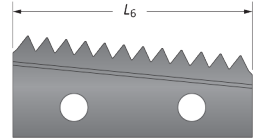
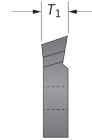
Internal/External



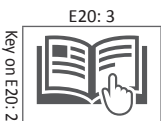
TPI (Pitch)	Metric (mm)	Insert		Metric (mm)	Imperial (in)	Part No.
		L_6	Imperial (in)	T_1	Imperial (in)	
18	19.05		0.750	2.03	0.080	TP075K-NPT18
14	25.40		1.000	3.56	0.140	TP100K-NPT14

**NPTF**

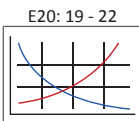
Internal/External



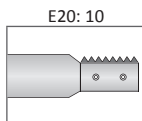
TPI (Pitch)	Metric (mm)	Insert		Metric (mm)	Imperial (in)	Part No.
		L_6	Imperial (in)	T_1	Imperial (in)	
18	19.05		0.750	2.03	0.080	TP075K-NPTF18
14	25.40		1.000	3.56	0.140	TP100K-NPTF14



E20: 3



E20: 19 - 22

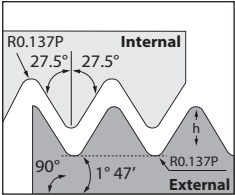


E20: 10

Key on E20: 2

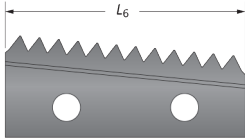
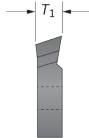
AccuThread® 856 Bolt-in Style

Inserts



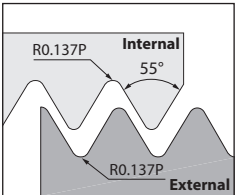
BSPT

Internal/External



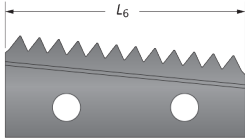
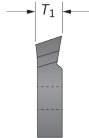
E20

TPI (Pitch)	Insert				Part No. BSPT Internal/External
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
19	19.05	0.750	2.03	0.080	TP075K-BSPT19
	25.40	1.000	3.56	0.140	TP100K-BSPT19
14	25.40	1.000	3.56	0.140	TP100K-BSPT14

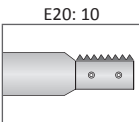
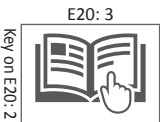


BSPP

Internal/External



TPI (Pitch)	Insert				Part No. BSPP Internal/External
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
19	19.05	0.750	2.03	0.080	TP075K-BSPP19
	25.40	1.000	3.56	0.140	TP100K-BSPP19
14	25.40	1.000	3.56	0.140	TP100K-BSPP14

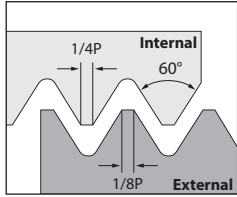


Key on E20: 2



AccuThread® 856 Bolt-in Style

Inserts



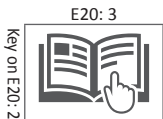
UN

Internal & External

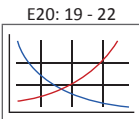
TPI (Pitch)	Insert				Part No. UN Internal
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
32	19.05	0.750	2.03	0.080	TP075K-UN32I
	25.40	1.000	3.56	0.140	TP100K-UN32I
24	19.05	0.750	2.03	0.080	TP075K-UN24I
	25.40	1.000	3.56	0.140	TP100K-UN24I
20	19.05	0.750	2.03	0.080	TP075K-UN20I
	25.40	1.000	3.56	0.140	TP100K-UN20I
18	19.05	0.750	2.03	0.080	TP075K-UN18I
	25.40	1.000	3.56	0.140	TP100K-UN18I
16	19.05	0.750	2.03	0.080	TP075K-UN16I
	25.40	1.000	3.56	0.140	TP100K-UN16I
14	25.40	1.000	3.56	0.140	TP100K-UN14I
13	25.40	1.000	3.56	0.140	TP100K-UN13I
12	25.40	1.000	3.56	0.140	TP100K-UN12I
10	25.40	1.000	3.56	0.140	TP100K-UN10I*

TPI (Pitch)	Insert				Part No. NPT External
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
32	19.05	0.750	2.03	0.080	TP075K-UN32E
	25.40	1.000	3.56	0.140	TP100K-UN32E
24	19.05	0.750	2.03	0.080	TP075K-UN24E
	25.40	1.000	3.56	0.140	TP100K-UN24E
20	19.05	0.750	2.03	0.080	TP075K-UN20E
	25.40	1.000	3.56	0.140	TP100K-UN20E
18	19.05	0.750	2.03	0.080	TP075K-UN18E
	25.40	1.000	3.56	0.140	TP100K-UN18E
16	19.05	0.750	2.03	0.080	TP075K-UN16E
	25.40	1.000	3.56	0.140	TP100K-UN16E
14	25.40	1.000	3.56	0.140	TP100K-UN14E
13	25.40	1.000	3.56	0.140	TP100K-UN13E
12	25.40	1.000	3.56	0.140	TP100K-UN12E
10	1.000	25.40	3.56	0.140	TP100K-UN10E*

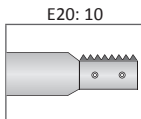
*This item is only used with THN-0611-1F100. The reduced body allows a 3/4"-10 UN/UNJ to be produced.



E20: 3



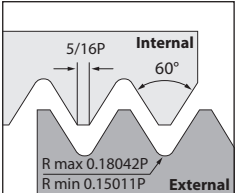
E20: 19 - 22



E20: 10

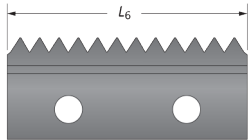
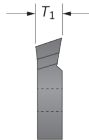
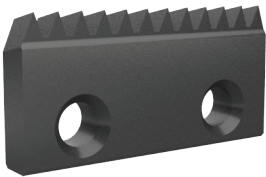
AccuThread® 856 Bolt-in Style

Inserts



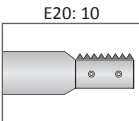
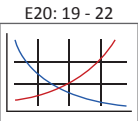
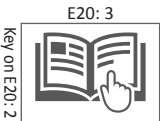
UNJ

Internal & External



TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UNJ Internal
32	19.05	0.750	2.03	0.080	TP075K-UNJ32I
	25.40	1.000	3.56	0.140	TP100K-UNJ32I
24	19.05	0.750	2.03	0.080	TP075K-UNJ24I
	25.40	1.000	3.56	0.140	TP100K-UNJ24I
20	19.05	0.750	2.03	0.080	TP075K-UNJ20I
	25.40	1.000	3.56	0.140	TP100K-UNJ20I
18	19.05	0.750	2.03	0.080	TP075K-UNJ18I
	25.40	1.000	3.56	0.140	TP100K-UNJ18I
16	19.05	0.750	2.03	0.080	TP075K-UNJ16I
	25.40	1.000	3.56	0.140	TP100K-UNJ16I
14	25.40	1.000	3.56	0.140	TP100K-UNJ14I
12	25.40	1.000	3.56	0.140	TP100K-UNJ12I

TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UNJ External
32	19.05	0.750	2.03	0.080	TP075K-UNJ32E
	25.40	1.000	3.56	0.140	TP100K-UNJ32E
24	19.05	0.750	2.03	0.080	TP075K-UNJ24E
	25.40	1.000	3.56	0.140	TP100K-UNJ24E
20	19.05	0.750	2.03	0.080	TP075K-UNJ20E
	25.40	1.000	3.56	0.140	TP100K-UNJ20E
18	19.05	0.750	2.03	0.080	TP075K-UNJ18E
	25.40	1.000	3.56	0.140	TP100K-UNJ18E
16	19.05	0.750	2.03	0.080	TP075K-UNJ16E
	25.40	1.000	3.56	0.140	TP100K-UNJ16E
12	25.40	1.000	3.56	0.140	TP100K-UNJ12E

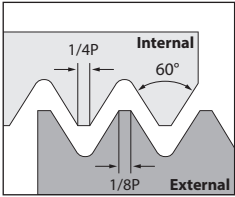


Inserts sold in quantities of 2.



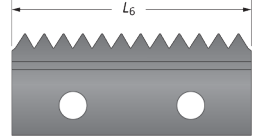
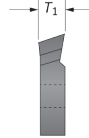
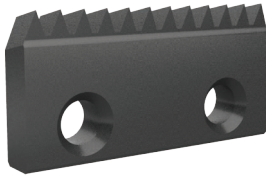
AccuThread® 856 Bolt-in Style

Inserts



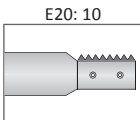
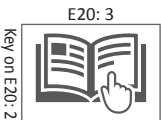
ISO

Internal & External



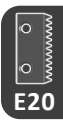
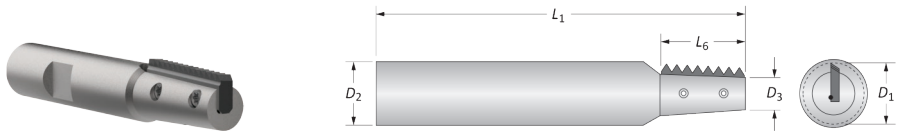
Pitch	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	ISO Internal
0.5	19.05	0.750	2.03	0.080	TP075K-M0.5I
1.0	19.05	0.750	2.03	0.080	TP075K-M1.0I
	24.40	1.000	3.56	0.140	TP100K-M1.0I
1.25	19.05	0.750	2.03	0.080	TP075K-M1.25I
1.5	19.05	0.750	2.03	0.080	TP075K-M1.5I
	25.40	1.000	3.56	0.140	TP100K-M1.5I
2.0	25.40	1.000	3.56	0.140	TP100K-M2.0I

Pitch	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	ISO External
1.0	24.40	1.000	3.56	0.140	TP100K-M1.0E
1.5	25.40	1.000	3.56	0.140	TP100K-M1.5E
2.0	25.40	1.000	3.56	0.140	TP100K-M2.0E



AccuThread® 856 Bolt-in Style

Insert Holders



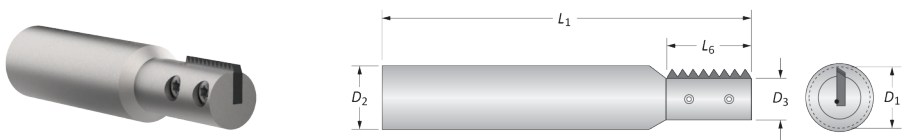
Tapered Insert Holders | NPT / NPTF / BSPT

Metric (mm)

	D_1	D_3	D_2	L_6	L_1	Flutes	Part No.	Inserts	Screw	Wrench
	10.16	5.82	13.00	19.05	76.20	1	THT-0400-1F075M	TP075K...	TMS-250	8T-8
	16.74	9.65	13.00	25.40	76.20	1	THT-0659-1F100M	TP100K...	TMS-45	8T-9

Imperial (in)

	D_1	D_3	D_2	L_6	L_1	Flutes	Part No.	Inserts	Screw	Wrench
	0.400	0.229	0.500	0.750	3.000	1	THT-0400-1F075	TP075K...	TMS-250	8T-8
	0.659	0.379	0.500	1.000	3.000	1	THT-0659-1F100	TP100K...	TMS-45	8T-9



Straight Insert Holders | BSPP / UN / UNJ / ISO

Metric (mm)

	D_1	D_3	D_2	L_6	L_1	Flutes	Part No.	Inserts	Screw	Wrench
	10.01	6.35	13.00	19.05	76.20	1	THN-0394-1F075M	TP075K...	TMS-250	8T-8
	15.88	11.58	20.00	25.40	88.90	1	THN-0625-1F100M	TP100K...	TMS-40	8T-9

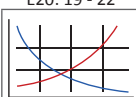
Imperial (in)

	D_1	D_3	D_2	L_6	L_1	Flutes	Part No.	Inserts	Screw	Wrench
	0.394	0.250	0.500	0.750	3.000	1	THN-0394-1F075	TP075K...	TMS-250	8T-8
	0.611	0.383	0.750	1.000	3.500	1	THN-0611-1F100	*	TMS-40	8T-9
	0.625	0.454	0.750	1.000	3.500	1	THN-0625-1F100	TP100K...	TMS-40	8T-9

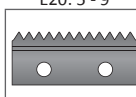
*Only UN/UNJ 10 TPI inserts can be used in this holder. Please refer to inserts on page E20: 7.



E20: 3
key on E20: 2



E20: 19 - 22



E20: 5 - 9

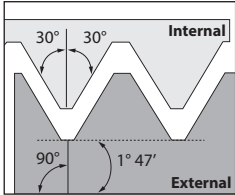
 = Metric (mm)
 = Imperial (in)



AccuThread® 856 Pin Style

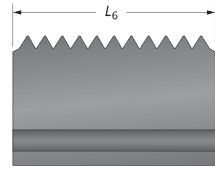
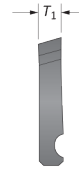
Inserts

E20

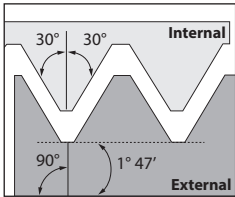


NPT

Internal/External

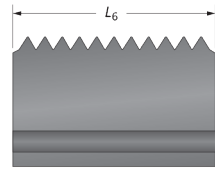
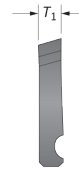


TPI (Pitch)	Metric (mm)	Insert		Metric (mm)	Imperial (in)	Part No.
		L_6	T_1			
11.5	38.10	1.500	3.56	0.140		NPT Internal/External TN150K-NPT11.5
8	38.10	1.500	3.56	0.140		TN150K-NPT8

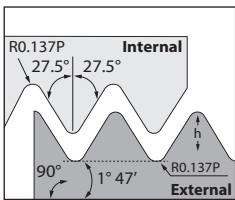


NPTF

Internal/External

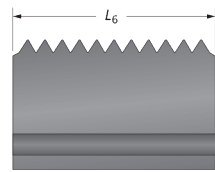
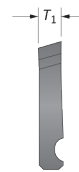


TPI (Pitch)	Metric (mm)	Insert		Metric (mm)	Imperial (in)	Part No.
		L_6	T_1			
11.5	38.10	1.500	3.56	0.140		NPTF Internal/External TN150K-NPTF11.5
8	38.10	1.500	3.56	0.140		TN150K-NPTF8

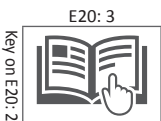


BSPT

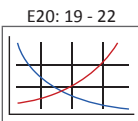
Internal/External



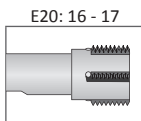
TPI (Pitch)	Metric (mm)	Insert		Metric (mm)	Imperial (in)	Part No.
		L_6	T_1			
11	38.10	1.500	3.56	0.140		BSPT Internal/External TN150K-BSPT11



E20: 3



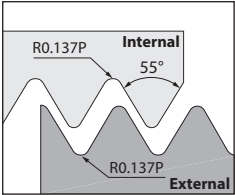
E20: 19 - 22



E20: 16 - 17

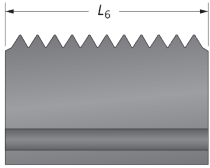
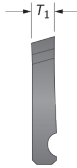
AccuThread® 856 Pin Style

Inserts

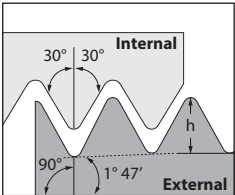


BSPP

Internal/External

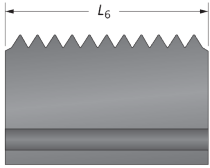
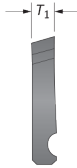


TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	BSPP Internal/External
11	38.10	1.500	3.56	0.140	TN150K-BSPP11

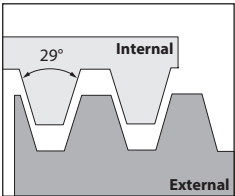


API-ROUND

Internal/External

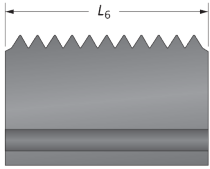
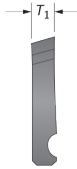


TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	API-ROUND Internal/External
10	38.10	1.500	3.56	0.140	TN150K-API10
8	38.10	1.500	3.56	0.140	TN150K-AP8

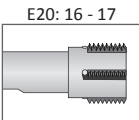
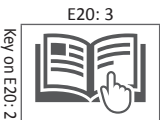


ACME

Full Profile



TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	ACME Full Profile
12	25.40	1.000	3.56	0.140	TN100K-FA12
	38.10	1.500	3.56	0.140	TN150K-FA12
10	25.40	1.000	3.56	0.140	TN100K-FA10
	38.10	1.500	3.56	0.140	TN150K-FA10
8	25.40	1.000	3.56	0.140	TN100K-FA8
	38.10	1.500	3.56	0.140	TN150K-FA8
6	38.10	1.500	3.56	0.140	TN150K-FA6
5	38.10	1.500	3.56	0.140	TN150K-FA5



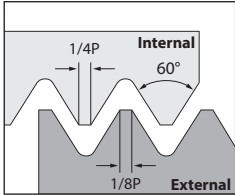
Key on E20: 2

Inserts sold in quantities of 2.



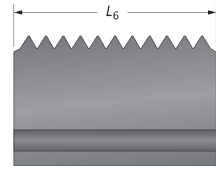
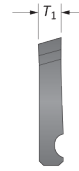
AccuThread® 856 Pin Style

Inserts



UN

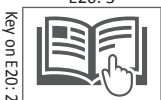
Internal & External



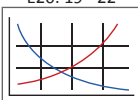
TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UN Internal
32	25.40	1.000	3.56	0.140	TN100K-UN32I
24	25.40	1.000	3.56	0.140	TN100K-UN24I
	38.10	1.500	3.56	0.140	TN150K-UN24I
20	25.40	1.000	3.56	0.140	TN100K-UN20I
	38.10	1.500	3.56	0.140	TN150K-UN20I
18	25.40	1.000	3.56	0.140	TN100K-UN18I
	38.10	1.500	3.56	0.140	TN150K-UN18I
16	25.40	1.000	3.56	0.140	TN100K-UN16I
	38.10	1.500	3.56	0.140	TN150K-UN16I
14	38.10	1.500	3.56	0.140	TN150K-UN14I
	25.40	1.000	3.56	0.140	TN100K-UN12I
12	38.10	1.500	3.56	0.140	TN150K-UN12I
	25.40	1.000	3.56	0.140	TN100K-UN10I
10	38.10	1.500	3.56	0.140	TN150K-UN10I
	25.40	1.000	3.56	0.140	TN100K-UN8I
8	38.10	1.500	3.56	0.140	TN150K-UN8I
	25.40	1.000	3.56	0.140	TN100K-UN7I
7	38.10	1.500	3.56	0.140	TN150K-UN7I
	25.40	1.000	3.56	0.140	TN100K-UN6I
6	38.10	1.500	3.56	0.140	TN150K-UN6I

TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UN External
32	25.40	1.000	3.56	0.140	TN100K-UN32E
24	25.40	1.000	3.56	0.140	TN100K-UN24E
20	25.40	1.000	3.56	0.140	TN100K-UN20E
	38.10	1.500	3.56	0.140	TN150K-UN20E
18	25.40	1.000	3.56	0.140	TN100K-UN18E
	38.10	1.500	3.56	0.140	TN150K-UN18E
16	25.40	1.000	3.56	0.140	TN100K-UN16E
	38.10	1.500	3.56	0.140	TN150K-UN16E
12	25.40	1.000	3.56	0.140	TN100K-UN12E
	38.10	1.500	3.56	0.140	TN150K-UN12E
10	25.40	1.000	3.56	0.140	TN100K-UN10E
	38.10	1.500	3.56	0.140	TN150K-UN10E
8	25.40	1.000	3.56	0.140	TN100K-UN8E
	38.10	1.500	3.56	0.140	TN150K-UN8E
6	38.10	1.500	3.56	0.140	TN150K-UN6E

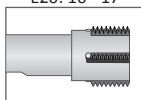
E20: 3



E20: 19 - 22



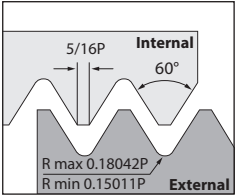
E20: 16 - 17





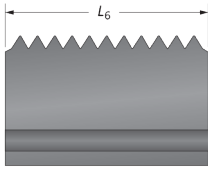
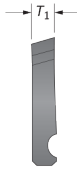
AccuThread® 856 Pin Style

Inserts



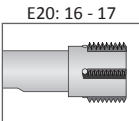
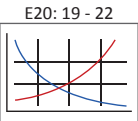
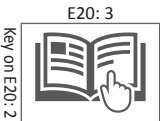
UNJ

Internal & External



TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UNJ Internal
32	25.40	1.000	3.56	0.140	TN100K-UNJ32I
24	25.40	1.000	3.56	0.140	TN100K-UNJ24I
	38.10	1.500	3.56	0.140	TN150K-UNJ24I
20	25.40	1.000	3.56	0.140	TN100K-UNJ20I
	38.10	1.500	3.56	0.140	TN150K-UNJ20I
18	25.40	1.000	3.56	0.140	TN100K-UNJ18I
	38.10	1.500	3.56	0.140	TN150K-UNJ18I
16	25.40	1.000	3.56	0.140	TN100K-UNJ16I
	38.10	1.500	3.56	0.140	TN150K-UNJ16I
12	25.40	1.000	3.56	0.140	TN100K-UNJ12I
	38.10	1.500	3.56	0.140	TN150K-UNJ12I
8	38.10	1.500	3.56	0.140	TN150K-UNJ8I

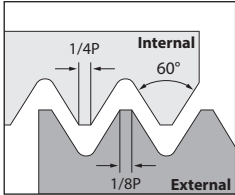
TPI (Pitch)	Insert				Part No.
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	UNJ External
32	25.40	1.000	3.56	0.140	TN100K-UNJ32E
24	25.40	1.000	3.56	0.140	TN100K-UNJ24E
	38.10	1.500	3.56	0.140	TN150K-UNJ24E
20	25.40	1.000	3.56	0.140	TN100K-UNJ20E
	38.10	1.500	3.56	0.140	TN150K-UNJ20E
18	25.40	1.000	3.56	0.140	TN100K-UNJ18E
	38.10	1.500	3.56	0.140	TN150K-UNJ18E
16	25.40	1.000	3.56	0.140	TN100K-UNJ16E
	38.10	1.500	3.56	0.140	TN150K-UNJ16E
12	25.40	1.000	3.56	0.140	TN100K-UNJ12E
	38.10	1.500	3.56	0.140	TN150K-UNJ12E
8	38.10	1.500	3.56	0.140	TN150K-UNJ8E



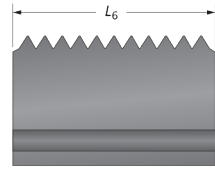
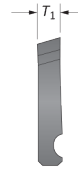
Inserts sold in quantities of 2.

**AccuThread® 856 Pin Style**

Inserts

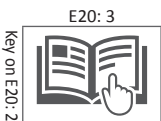
**ISO**

Internal & External

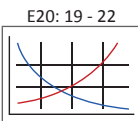


Pitch	Insert				Part No. ISO Internal
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
1.5	38.10	1.500	3.56	0.140	TN150K-M1.5I
2.0	38.10	1.500	3.56	0.140	TN150K-M2.0I
2.5	38.10	1.500	3.56	0.140	TN150K-M2.5I
3.0	38.10	1.500	3.56	0.140	TN150K-M3.0I
3.5	38.10	1.500	3.56	0.140	TN150K-M3.5I
4.0	38.10	1.500	3.56	0.140	TN150K-M4.0I
4.5	38.10	1.500	3.56	0.140	TN150K-M4.5I
5.0	38.10	1.500	3.56	0.140	TN150K-M5.0I
6.0	38.10	1.500	3.56	0.140	TN150K-M6.0I

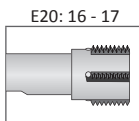
Pitch	Insert				Part No. ISO External
	Metric (mm)	Imperial (in)	Metric (mm)	Imperial (in)	
2.0	38.10	1.500	3.56	0.140	TN150K-M2.0E
4.0	38.10	1.500	3.56	0.140	TN150K-M4.0E
4.5	38.10	1.500	3.56	0.140	TN150K-M4.5E
5.0	38.10	1.500	3.56	0.140	TN150K-M5.0E
6.0	38.10	1.500	3.56	0.140	TN150K-M6.0E



E20: 3



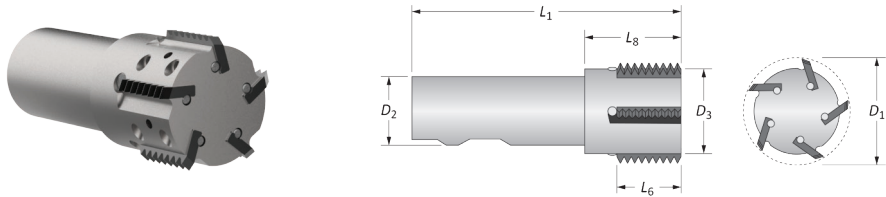
E20: 19 - 22



E20: 16 - 17

AccuThread® 856 Pin Style

Weldon Shank Holders



Positive Rake

Metric (mm)														
D_1		Holder					Coolant	Flutes				Key Size	Pin	
Standard	Override*	D_3	L_8	L_6	L_1	D_2								
m	24.61	—	19.05	35.05	25.40	114.30	25.00	N	2	THP-0969-2F100M	TN100K...	TMSS-3	3/32	TMP-1
	44.58	—	38.10	57.15	25.40	101.60	32.00	Y	5	THP-1755-5F100M	TN100K...	TMSS-2	3/32	TMP-1
	23.67	27.00	18.34	48.44	38.10	114.30	25.00	N	1	THP-0932-1F150M	TN150K...	TMSS-2	3/32	TMP-2
	24.61	27.94	19.05	50.80	38.10	114.30	25.00	N	2	THP-0969-2F150M	TN150K...	TMSS-3	3/32	TMP-2
	28.35	31.67	20.63	50.80	38.10	114.30	25.00	Y	3	THP-1116-3F150M	TN150K...	TMSS-3	3/32	TMP-2
	44.58	47.93	38.10	57.15	38.10	114.30	32.00	Y	5	THP-1755-5F150M	TN150K...	TMSS-2	3/32	TMP-2

Imperial (in)														
D_1		Holder						Coolant	Flutes				Key Size	Pin
Standard	Override*	D_3	L_8	L_6	L_1	D_2								
i	0.969	—	0.750	1.38	1.000	4.500	1.000	N	2	THP-0969-2F100	TN100K...	TMSS-3	3/32	TMP-1
	1.755	—	1.500	2.25	1.000	4.000	1.250	Y	5	THP-1755-5F100	TN100K...	TMSS-2	3/32	TMP-1
	0.932	1.063	0.722	1.90	1.500	4.500	1.000	N	1	THP-0932-1F150	TN150K...	TMSS-2	3/32	TMP-2
	0.969	1.100	0.750	2.00	1.500	4.500	1.000	N	2	THP-0969-2F150	TN150K...	TMSS-3	3/32	TMP-2
	1.116	1.247	0.812	2.00	1.500	4.500	1.000	Y	3	THP-1116-3F150	TN150K...	TMSS-3	3/32	TMP-2
	1.755	1.887	1.500	2.25	1.500	4.500	1.250	Y	5	THP-1755-5F150	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page.

Neutral Rake

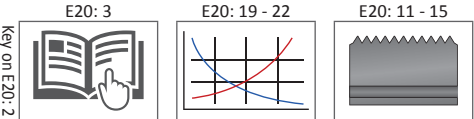
Metric (mm)														
D_1		Holder						Coolant	Flutes	Part No.			Key Size	Pin
Standard	Override*	D_3	L_8	L_6	L_1	D_2								
	28.35	31.67	20.63	50.80	38.10	114.30	25.00	Y	3	TNR-1116-3F150M	TN150K...	TMSS-3	3/32	TMP-2
	44.58	47.93	38.10	57.15	38.10	114.30	32.00	Y	5	TNR-1755-5F150M	TN150K...	TMSS-2	3/32	TMP-2

Imperial (in)														
D_1		Holder					Coolant	Flutes	Part No.			Key Size	Pin	
Standard	Override*	D_3	L_8	L_6	L_1	D_2				Inserts	Screw			
	1.116	1.247	0.812	2.00	1.500	4.500	1.000	Y	3	TNR-1116-3F150	TN150K...	TMSS-3	3/32	TMP-2
	1.755	1.887	1.500	2.25	1.500	4.531	1.250	Y	5	TNR-1755-5F150	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page.

*Oversized cutter diameter occurs when assembled with the following pin style inserts:

NPT 8 NPTF 11.5 NPTF 8	API 8	Metric 6.0 Metric 5.0 Metric 4.5	ACME 5 ACME 6
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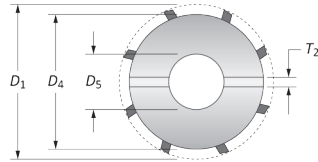
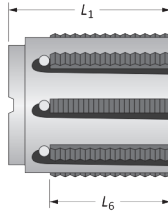
m = Metric (mm)
i = Imperial (in)



AccuThread® 856 Pin Style

Shell Mill Holders

E20



Positive Rake

Metric (mm)

	D_1		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Override*	D_4	D_5	L_6	L_1	T_2						
m	68.94	72.26	63.50	27.00	38.10	57.15	12	7	TSN-2846-7F150M	TN150K...	TMSS-2	3/32	TMP-2
	81.48	84.84	76.20	32.00	38.10	57.15	14	8	TSN-3341-8F150M	TN150K...	TMSS-2	3/32	TMP-2

Imperial (in)

	D_1		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Override*	D_4	D_5	L_6	L_1	T_2						
i	2.714	2.845	2.500	1.000	1.500	2.250	0.375	7	TSN-2846-7F150	TN150K...	TMSS-2	3/32	TMP-2
	3.208	3.340	3.000	1.250	1.500	2.250	0.500	8	TSN-3341-8F150	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page.

Neutral Rake

Metric (mm)

	D_1		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Override*	D_4	D_5	L_6	L_1	T_2						
m	56.31	59.66	50.80	22.00	38.10	57.15	10.00	6	TSR-2217-6F150M	TN150K...	TMSS-2	3/32	TMP-2

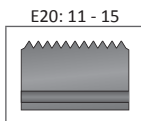
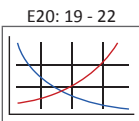
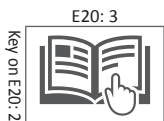
Imperial (in)

	D_1		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Override*	D_4	D_5	L_6	L_1	T_2						
i	2.217	2.349	2.000	0.750	1.500	2.250	0.312	6	TSR-2217-6F150	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page.

*Oversized cutter diameter occurs when assembled with the following pin style inserts:

NPT 8 NPTF 11.5 NPTF 8	API 8	Metric 6.0 Metric 5.0 Metric 4.5	ACME 5 ACME 6
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m = Metric (mm)
i = Imperial (in)

[illegible]



Recommended Drilling Data | Metric (mm)

POSITIVE RAKE

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1 flute		1-2 flutes	3 flutes	5 flutes	7 flutes	8 flutes	
					9.53 to 12.70	12.71 to 19.05	19.06 to 25.40	25.41 to 38.10	38.11 to 50.80	50.81 to 69.85	69.86 to 88.90	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		150 - 200	Easy	213	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		200 - 250	Easy	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	274	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		125 - 175	Average	213	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		175 - 225	Average	183	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	Average	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		125 - 175	Average	175	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		175 - 225	Average	152	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		275 - 325	Average	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		325 - 375	Difficult	114	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
	High-Strength Alloy 4340, 4330V, 300M, etc.	125 - 175	Average	175	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		175 - 225	Average	152	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		225 - 275	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
	Structural Steel A36, A285, A516, etc.	275 - 325	Difficult	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		325 - 375	Difficult	114	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
		225 - 300	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064	
	M	Stainless Steel 303, 416, 420, etc.	300 - 350	Difficult	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064
			350 - 400	Difficult	107	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		Stainless Steel PH 17-4, etc.	100 - 150	Average	183	0.020	0.025	0.030	0.038	0.051	0.064	0.076
	150 - 250		Average	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
K	Tool Steel H-13, H21, A-4, etc.	250 - 350	Difficult	137	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
		120 - 150	Easy	206	0.020	0.030	0.038	0.051	0.076	0.102	0.127	
		150 - 200	Easy	191	0.020	0.030	0.038	0.051	0.076	0.102	0.127	
		200 - 220	Easy	175	0.020	0.030	0.038	0.051	0.076	0.102	0.127	
		220 - 260	Average	152	0.020	0.030	0.038	0.051	0.076	0.102	0.127	
N	Cast Iron Grey, Ductile, Nodular	260 - 320	Average	145	0.020	0.030	0.038	0.051	0.076	0.102	0.127	
		30	Easy	335	0.038	0.051	0.064	0.076	0.102	0.127	0.152	
		180	Easy	305	0.038	0.051	0.064	0.076	0.102	0.127	0.152	
		120	Easy	191	0.038	0.051	0.064	0.076	0.102	0.127	0.152	
		Brass	30 - 125	Easy	335	0.051	0.064	0.076	0.102	0.114	0.140	0.165
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	37	0.013	0.015	0.020	0.025	0.038	0.051	0.064	
		220 - 310	Difficult	27	0.013	0.015	0.020	0.025	0.038	0.051	0.064	

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Metric (mm)

NEUTRAL RAKE							
ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter		
					3 flutes 25.41 to 38.09	5 flutes 38.10 to 50.77	6 flutes 50.78 to 69.85
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.051	0.064	0.076
		150 - 200	Easy	213	0.051	0.064	0.076
		200 - 250	Easy	152	0.051	0.064	0.076
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	274	0.051	0.064	0.076
		125 - 175	Average	213	0.051	0.064	0.076
		175 - 225	Average	183	0.051	0.064	0.076
		225 - 275	Average	152	0.051	0.064	0.076
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	Average	175	0.038	0.051	0.064
		175 - 225	Average	152	0.038	0.051	0.064
		225 - 275	Average	137	0.038	0.051	0.064
		275 - 325	Average	122	0.038	0.051	0.064
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	Average	175	0.038	0.051	0.064
		175 - 225	Average	152	0.038	0.051	0.064
		225 - 275	Average	137	0.038	0.051	0.064
		275 - 325	Difficult	122	0.038	0.051	0.064
		325 - 375	Difficult	114	0.038	0.051	0.064
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	Average	137	0.038	0.051	0.064
		300 - 350	Difficult	122	0.038	0.051	0.064
350 - 400		Difficult	107	0.038	0.051	0.064	
Structural Steel A36, A285, A516, etc.	100 - 150	Average	183	0.051	0.064	0.076	
	150 - 250	Average	152	0.051	0.064	0.076	
	250 - 350	Difficult	137	0.051	0.064	0.076	
M	Stainless Steel 303, 416, 420, etc.	135 - 185	Difficult	160	0.051	0.064	0.076
		185 - 275	Difficult	152	0.051	0.064	0.076
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	91	0.051	0.064	0.076
		275 - 325	Difficult	46	0.051	0.064	0.076
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	175	0.051	0.064	0.076
200 - 250	Difficult	152	0.051	0.064	0.076		
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	206	0.076	0.102	0.127
		150 - 200	Easy	191	0.076	0.102	0.127
		200 - 220	Easy	175	0.076	0.102	0.127
		220 - 260	Average	152	0.076	0.102	0.127
		260 - 320	Average	145	0.076	0.102	0.127
N	Wrought Aluminum 6061 T6	30	Easy	335	0.102	0.127	0.152
		180	Easy	305	0.102	0.127	0.152
	Cast Aluminum** up to 10% silicon	120	Easy	191	0.102	0.127	0.152
	Brass	30 - 125	Easy	335	0.114	0.140	0.165
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	37	0.038	0.051	0.064
		220 - 310	Difficult	27	0.038	0.051	0.064

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.





Recommended Drilling Data | Imperial (in)

POSITIVE RAKE

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					1 flute		1-2 flutes	3 flutes	5 flutes	7 flutes	8 flutes	
					0.375" to 0.500"	0.501" to 0.750"	0.751" to 1.000"	1.001" to 1.500"	1.501" to 2.000"	2.001" to 2.750"	2.751" to 3.500"	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	900	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		150 - 200	Easy	700	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		200 - 250	Easy	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	900	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		125 - 175	Average	700	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		175 - 225	Average	600	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		225 - 275	Average	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
		Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	Average	575	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
			175 - 225	Average	500	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
	225 - 275		Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
		275 - 325	Average	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
		Alloy Steel 4140, 5140, 8640, etc.	125 - 175	Average	575	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
			175 - 225	Average	500	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
	225 - 275		Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
		275 - 325	Difficult	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
		325 - 375	Difficult	375	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
High-Strength Alloy 4340, 4330V, 300M, etc.		225 - 300	Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025	
	300 - 350	Difficult	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025		
	350 - 400	Difficult	350	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025		
Structural Steel A36, A285, A516, etc.	100 - 150	Average	600	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030		
	150 - 250	Average	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030		
	250 - 350	Difficult	450	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030		
M	Stainless Steel 303, 416, 420, etc.	135 - 185	Difficult	525	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030	
		185 - 275	Difficult	500	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030	
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	300	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030	
		275 - 325	Difficult	150	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030	
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	575	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
	200 - 250	Difficult	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030		
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	675	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050	
		150 - 200	Easy	625	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050	
		200 - 220	Easy	575	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050	
		220 - 260	Average	500	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050	
		260 - 320	Average	475	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050	
N	Wrought Aluminum 6061 T6	30	Easy	1100	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060	
		180	Easy	1000	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060	
	Cast Aluminum** up to 10% silicon	120	Easy	625	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060	
	Brass	30 - 125	Easy	1100	0.0020	0.0025	0.0030	0.0040	0.0045	0.0055	0.0065	
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	120	0.0005	0.0006	0.0008	0.0010	0.0015	0.0020	0.0025	
		220 - 310	Difficult	90	0.0005	0.0006	0.0008	0.0010	0.0015	0.0020	0.0025	

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.



Recommended Drilling Data | Imperial (in)

NEUTRAL RAKE

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter		
					3 flutes 1.000" to 1.499"	5 flutes 1.500" to 1.999"	6 flutes 2.000" to 2.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.051	0.064	0.076
		150 - 200	Easy	213	0.051	0.064	0.076
		200 - 250	Easy	152	0.051	0.064	0.076
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	Average	274	0.051	0.064	0.076
		125 - 175	Average	213	0.051	0.064	0.076
		175 - 225	Average	183	0.051	0.064	0.076
		225 - 275	Average	152	0.051	0.064	0.076
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	Average	175	0.038	0.051	0.064
		175 - 225	Average	152	0.038	0.051	0.064
		225 - 275	Average	137	0.038	0.051	0.064
		275 - 325	Average	122	0.038	0.051	0.064
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	Average	175	0.038	0.051	0.064
		175 - 225	Average	152	0.038	0.051	0.064
		225 - 275	Average	137	0.038	0.051	0.064
		275 - 325	Difficult	122	0.038	0.051	0.064
		325 - 375	Difficult	114	0.038	0.051	0.064
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	Average	137	0.038	0.051	0.064
		300 - 350	Difficult	122	0.038	0.051	0.064
		350 - 400	Difficult	107	0.038	0.051	0.064
	Structural Steel A36, A285, A516, etc.	100 - 150	Average	183	0.051	0.064	0.076
		150 - 250	Average	152	0.051	0.064	0.076
		250 - 350	Difficult	137	0.051	0.064	0.076
M	Stainless Steel 303, 416, 420, etc.	135 - 185	Difficult	160	0.051	0.064	0.076
		185 - 275	Difficult	152	0.051	0.064	0.076
	Stainless Steel PH 17-4, etc.	185 - 275	Difficult	91	0.051	0.064	0.076
		275 - 325	Difficult	46	0.051	0.064	0.076
	Tool Steel H-13, H21, A-4, etc.	150 - 200	Difficult	175	0.051	0.064	0.076
		200 - 250	Difficult	152	0.051	0.064	0.076
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	206	0.076	0.102	0.127
		150 - 200	Easy	191	0.076	0.102	0.127
		200 - 220	Easy	175	0.076	0.102	0.127
		220 - 260	Average	152	0.076	0.102	0.127
		260 - 320	Average	145	0.076	0.102	0.127
N	Wrought Aluminum 6061 T6	30	Easy	335	0.102	0.127	0.152
		180	Easy	305	0.102	0.127	0.152
	Cast Aluminum** up to 10% silicon	120	Easy	191	0.102	0.127	0.152
	Brass	30 - 125	Easy	335	0.114	0.140	0.165
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	Difficult	37	0.038	0.051	0.064
		220 - 310	Difficult	27	0.038	0.051	0.064

NOTICE: Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

*Refer to recommended pass chart on **page xiv** when referencing material machinability.

**Uncoated thread mills are recommended for cast aluminum applications.





Thread Mill Pre-Drill Information

Formula	Metric	Imperial
Velocity	$m/min = RPM \cdot 0.003 \cdot \text{Cutter Diameter}$	$SFM = RPM \cdot 0.262 \cdot \text{Cutter Diameter}$
Speed	$RPM = \frac{(m/min \cdot 318.47)}{\text{Cutter Diameter}}$	$RPM = \frac{(SFM \cdot 3.82)}{\text{Cutter Diameter}}$
Linear Feed Rate (LFR)	$mm/min = RPM \cdot (mm/tooth \cdot \text{Number of Flutes})$	$IPM = RPM \cdot (IPT \cdot \text{Number of Flutes})$
Adjusted Feed Rate (AFR) <i>See Note Below</i>	$AFR = \left(\frac{(\text{Major Diameter} - \text{Cutter Diameter})}{\text{Major Diameter}} \right) \cdot LFR$	

NOTE: The above formula on an internal thread program adjusts the linear feed rate to be applied to the outer diameter instead of the center of the cutting tool. If the feed rate is not adjusted, the excessive feed rate will cause the thread mill cutting edges to fail.

Example of an Internal Adjusted Feed Rate Calculation:

Free machining steel at 125 BHN with a M16x2 2B thread using ThreadMills USA® solid carbide thread mill (TM16200) running at 221 m/min and 0.038 mm/tooth			
STEP 1:	$RPM = \frac{(m/min \cdot 318.47)}{\text{Cutter Diameter}}$	$RPM = \frac{(221 \cdot 318.47)}{11.94}$	$RPM = 5895$
STEP 2:	$LFR = RPM \cdot (mm/tooth \cdot \text{Number of flutes})$	$LFR = 5895 \cdot (0.038 \cdot 4)$	$LFR = 896.04 \text{ mm/min}$
STEP 3:	$AFR = \left(\frac{(\text{Major Diameter} - \text{Cutter Diameter})}{\text{Major Diameter}} \right) \cdot LFR$	$AFR = \left(\frac{(16.00 - 11.94)}{16.00} \right) \cdot 896.04$	$AFR = 227.37 \text{ mm/min}$

Unit Definitions

Velocity	m/min = meters per minute SFM = surface feet per minute
Speed	RPM = revolutions per minute
Feed	mm/rev = millimeters per revolution mm/tooth = millimeters per tooth <i>also known as</i> millimeters per flute IPR = inch per revolution IPT = inch per tooth <i>also known as</i> inch per flute mm/min = millimeters per minute IPM = inches per minute

Thread Mill Calculations and Recommended Passes

Thread Mill Drill Calculation
Based on nominal tap drill diameter. Based on 0.075 mm (0.003") probable mean oversize.

To calculate the percent of full thread for a given hole diameter:

IMPERIAL:

$$\% \text{ of thread} = \# \text{ of threads per inch} \cdot \frac{\text{Basic major diameter of thread} - \text{Drill hole size}}{0.0130}$$

METRIC:

$$\% \text{ of thread} = \frac{76.96}{\text{Pitch (mm)}} \cdot [\text{Basic major diameter of thread} - \text{Drill hole size}]$$

Major Thread Diameter for # Drills	
Drill #	Thread Diameter
# 2	0.086
# 3	0.099
# 4	0.112
# 5	0.125
# 6	0.132
# 8	0.164
# 10	0.190
# 12	0.216

Recommended Passes

Pitch Size	NPT / NPTF / BSPT / API		
	Machinability		
	Easy	Average	Difficult
28	1	1	2
27	1	1	2
19	1	1	2
18	1	1	2
14	1	2	3
11.5	1	2	3
11	1	2	3
10	1	2	3
8	2	3	4

- 1 Pass
- 2 Passes
- 3 Passes
- 4 Passes

Pitch Size	ISO		
	Machinability		
	Easy	Average	Difficult
0.40	1	1	2
0.45	1	1	2
0.50	1	1	2
0.70	1	1	2
0.75	1	1	2
0.80	1	1	2
1.00	1	1	2
1.25	1	2	3
1.50	1	2	3
1.75	1	2	3
2.00	1	2	3
2.50	2	3	4
3.00	2	3	4
3.50	2	3	4
4.00	2	3	4
4.50	2	3	4
5.00	2	3	4
6.00	2	3	4

Pitch Size	UN / UNJ / BSPP / BSW / NPS / NPSF		
	Machinability		
	Easy	Average	Difficult
64	1	1	2
56	1	1	2
48	1	1	2
44	1	1	2
40	1	1	2
36	1	1	2
32	1	1	2
28	1	1	2
24	1	1	2
20	1	2	3
19	1	2	3
18	1	2	3
16	1	2	3
14	1	2	3
13	1	2	3
12	1	2	3
11	2	2	4
10	2	3	4
9	2	3	4
8	2	3	4
7	2	3	4
6	2	3	4



Thread Mill Programming Guide

What you need to know

- Thread milling can be easily accomplished with simple G code programming.
- If your machine is capable of 3 axis (helical) interpolation, you can and **should** be thread milling.
- Basic programming of a one pass thread mill can be achieved in six basic steps.

AVAILABLE ONLINE 24/7
or download **INSTA-CODE®**

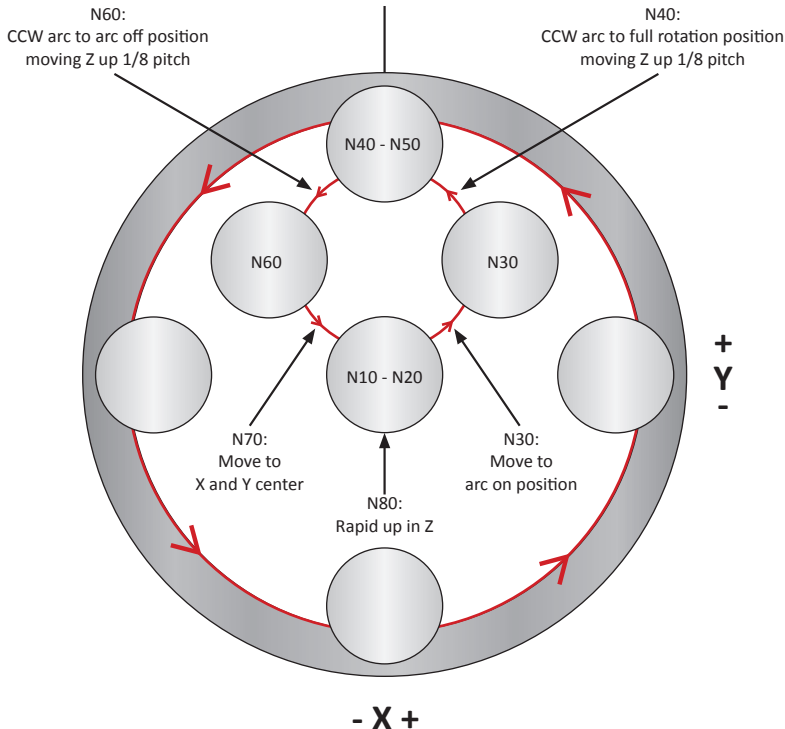
visit www.alliedmachine.com

Examples for how to calculate and program a M16x2 right-hand thread that will be 10 mm deep produced in one pass:

Major thread diameter	16 mm	Major diameter of thread
Threads per inch		(only applies to imperial threads)
Length of thread	10 mm	Desired length of cut
Velocity	221 m/min	Recommended velocity for material to be cut
Feed per flute	0.038 mm/tooth	Recommended feed rate per cutting edge
Number of flutes	4	Number of flutes on tool to be used
Cutter diameter	11.94 mm	Diameter of cutting tool
Using the information above, the values can be calculated:		
Pitch	2.0 mm	Use 1/ threads per inch for imperial
Speed	5895 RPM	$(318.47 \cdot \text{m/min}) / \text{cutter diameter or } (\text{SFM} \cdot 3.82) / \text{cutter diameter}$
Linear feed	896.04 mm/min	$\text{RPM} \cdot (\text{Feed per flute} \cdot \text{Number of flutes})$
Feed rate for thread milling	227.37 mm/min	$((\text{Major thread diameter} - \text{cutter diameter}) / \text{Major thread diameter}) \cdot \text{Linear feed}$
Z-axis travel on arc on	0.25 mm	$(\text{Pitch} / 8)$
Z-axis travel for full thread	10.25 mm	$(\text{Pitch} / 8) + \text{Length of cut}$
Arc on/off	1.015 mm	$(\text{Major thread diameter} - \text{cutter diameter}) / 4$
Full rotation value	2.030 mm	$(\text{Major thread diameter} - \text{cutter diameter}) / 2$

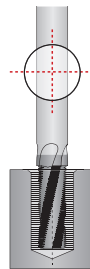
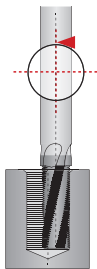
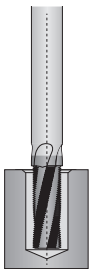
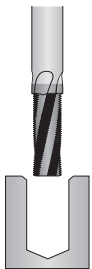
Major thread diameter	16 mm	Feed rate for thread milling	227.37 mm/min	Arc on/off value	1.015 mm
Cutter diameter	11.94 mm	Z-axis depth for full thread	10.25 mm	Full rotation value	2.030 mm
Length of thread	10.00 mm	Z-axis for arc on/off	0.25 mm	Pitch value	2.00 mm

Begin and end position of CCW full rotation
Z to move up one pitch



Thread Mill Programming Guide

		5895	M03				
	S	Turn on spindle in the clockwise direction.					
1	N10	Lower tool the depth required plus an additional 1/8 pitch for the arc on. Tool remains in the center of the hole.					
2	N20	G91	G01	Z -10.250	F 1136.25		
		Position the tool for the arc on motion and turn on the cutter compensation.					
	N30	G41	X 1.015	Y 1.015	D1	F 681.75	
3		Arc on to engage the tool to the major thread diameter while moving the tool up in the Z-axis 1/8 pitch. NOTE: X and Y is the end point. I and J is the center point of the arc.					
	N40	G03	X -1.015	Y 1.015	Z 0.250	I -1.015	J 0.000
		Full pass. Interpolate the thread mill inside the major thread diameter while moving the tool up 1 pitch in the Z-axis.					
4	N50	G03	X 0.000	Y 0.000	Z 2.000	I 0.000	J -2.030
		Arc off to disengage the tool from the major thread diameter while moving the tool up in the Z-axis 1/8 pitch.					
	N60	G03	X -1.015	Y -1.015	Z 0.250	I 0.000	J -1.015
5		Return to center. Turn off cutter compensation and move the tool back to center.					
	N70	G40	G01	X 1.015	Y -1.015	F 1136.25	
		Return to top. Rapid the tool back to the top of the threaded hole.					
	N80	G00	Z 7.750				
6		Switch back to absolute positioning and rapid to a safe point in Z above part level (assumed to be 1 pitch above part level for demonstration purposes below).					
	N90	G90					



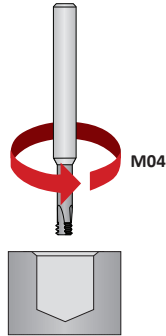
Step 1 N10	Step 2 N20	Step 3 N30 - N40	Step 4 N50	Step 5 N60 - N70	Step 6 N80 - N90
- Preparatory commands. - Positioning above hole center and at hole level in Z. - In absolute position mode.	- Change to incremental. - Feed to bottom of hole. - Z-axis depth for full thread.	- Activate left cutter comp. - Feed to arc on position. - Arc to full rotation value while moving Z up 1/8 pitch. - Z-axis move for arc on.	One complete CCW rotation at full arc rotation value while moving Z up 1 pitch value.	CCW arc from full rotation value to the arc on/off value while moving Z up 1/8 pitch (Z-axis move for arc off).	Rapid up in Z.

Technical Information

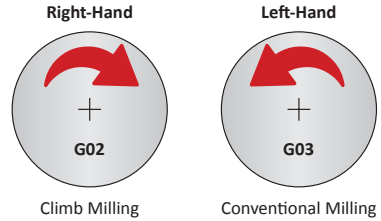
AccuThread® T3

Spindle Rotation

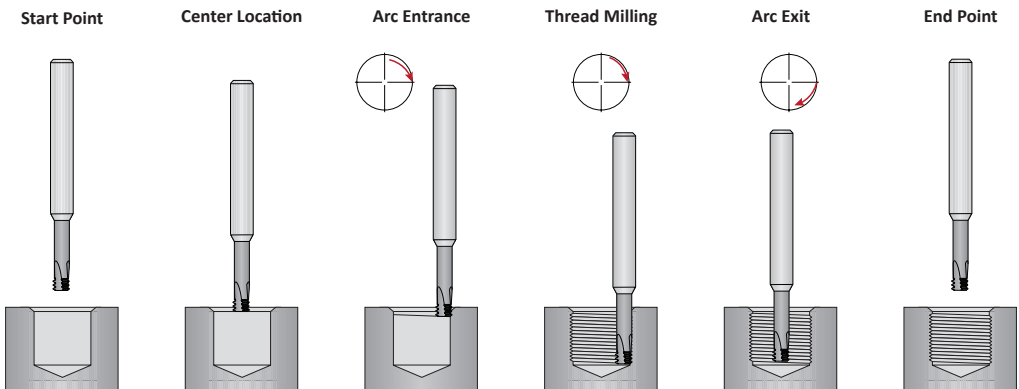
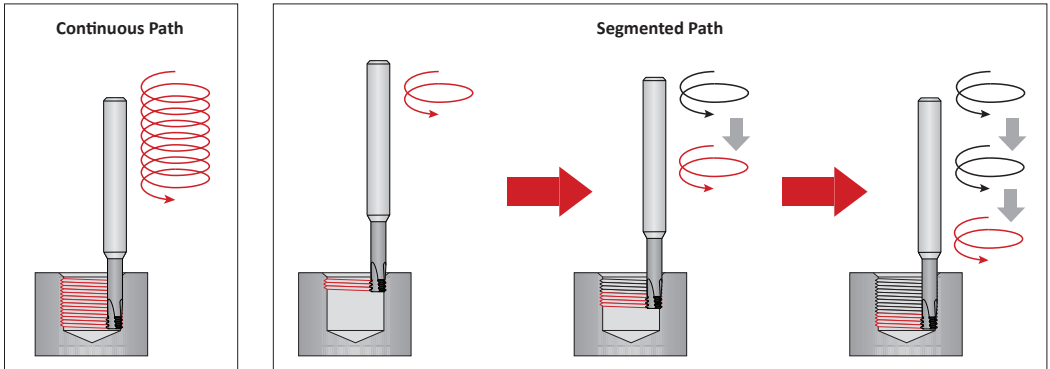
! Tools are left-hand cutting. The left-hand cut allows the tool to climb mill when creating a right-hand thread with an AccuThread T3. Climb milling reduces deflection and heat generated during the cut.



Direction of Helical Interpolation



Programming Z-Axis Cutting Path



Notes

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.



Thread Mill Troubleshooting Guide

		Causes	Problem									
			Thread mill is showing accelerated or excessive wear	Cutting edges are chipping	Thread mill is breaking in the first hole of part	Thread mill is creating excessive chatter	Out of round thread is produced	Bell-mouthed thread form (small at bottom, big at top)	Part rejection because of rough flank finish	Steps in thread profile	Gauge difference from part to part	Machine not making correct paths to create thread profile
Catalog	Incorrect tool selection			1	1							
	Incorrect speed and feed selection	2, 3	2, 3		2, 3			2, 3				
Speed and Feed	RPM too high	5										
	RPM too low				4		4	4				
	Machine tool specifications restrict RPMs			5, 19								
	Feed rate too high		7	7			7	7	7			
	Feed rate too low	6										
	Incorrect adjusted feed rate adjustment ratio			12								
	Machine tool specification restricts feed rate					7, 19						
	Ramp-in is programmed as an axial move			20					20			
Tool	Thread mill moved or slipped in its holding device	13	13	13	13			13	13			
	Tool is sticking out of the holder too far	15	15	15	15			15	15	15		
	Runout between thread mill and holder				10			10				
	Incorrect coating creating built-up edge	8, 17								8, 17		
	Helix angle too low				9			9				
	Excessive thread mill wear								11	11		
	Excessive tool pressure	7, 11, 14					7, 11, 14					
Machine	Workpiece moving in its fixturing	16	16	16	16			16		16		
	Insufficient coolant pressure or flow	17	17									
	Lack of machine rigidity	16	16		16		16	16				
Programming	Incorrect number of passes			22			22					
	Incorrect program variables			18, 26							18, 26	
	Did not account for X/Y radial moves for tapered threads										24, 26	
	Incorrect cutter compensation variables			23, 26								23, 26
	Helical interpolation option not on machine or turned off										21, 26	21, 26
	Machine tool control is not formatted to standard EIA/ASCII/ISO Code											25, 26

Thread Mill Troubleshooting Guide

Troubleshooting Solutions

1. Refer to catalog to ensure proper tool selection.
2. Verify the correct speed was selected from the catalog speed and feed chart.
3. Verify the correct feed rate was selected from the catalog speed and feed chart.
4. Increase the spindle speed (RPM).
5. Decrease the spindle speed (RPM).
6. Increase feed per tooth.
7. Decrease feed per tooth.
8. Investigate other coatings.
9. Increase the tool helix.
10. Gauge runout between thread mill and tool holder.
11. Perform tool change at quicker intervals.
12. Adjust the feed rate ratio properly to the correct actual penetration rate for internal threads. Refer to speed and feed pages for formula.
13. Use hydraulic clamping chuck.
14. Check the tool for excessive wear. Beginning threads will wear the fastest.
15. Make the amount of overhang in the holding device as short as possible.
16. Verify the workpiece is properly clamped. Retighten or increase stability if necessary.
17. Increase the coolant flow and volume.
18. Check the milling program variables, especially the positive or negative value associated with I and J values.
19. Make sure the machine has the appropriate axis and path speed capabilities.
20. Make sure the thread mill is arcing in the major diameter instead of making a radial move.
21. Make sure the machine tool has a helical interpolation option that is on.
22. Increase the number of thread mill passes.
23. Make sure the cutter compensation variables are input into the G41 program line.
24. Adjust the program for pipe tap threads to taper out on diameter in X/Y directions to create proper form.
25. Request information from the machine tool builder regarding its programming formats.
26. Scan and email a copy of your program to the Application Engineering department at appeng@alliedmachine.com.

Guaranteed Test / Demo Application Form

Distributor PO #

The following must be filled out completely before your test will be considered.

IMPORTANT: For processing, send purchase order to your Allied Field Sales Engineer (FSE).
Please clearly mark the paperwork as "Test Order."

Distributor Information

Company Name: _____
Contact: _____
Account Number: _____
Phone: _____
Email: _____

End User Information

Company Name: _____
Contact: _____
Industry: _____
Phone: _____
Email: _____

Current Process List all tooling, coatings, substrates, speeds and feeds, tool life, and any problems you are experiencing.

Test Objective List what would make this a successful test (i.e. penetration rate, finish, tool life, hole size, etc.).

Application Information

Hole Diameter: _____ in/mm	Tolerance: _____	Material: _____ (4150, A36, cast iron, etc.)
Preexisting Diameter: _____ in/mm	Depth of Cut: _____ in/mm	Hardness: _____ (BHN, Rc)
Required Finish: _____ RMS	State: _____ (Casting, hot rolled, forging)	

Machine Information

Machine Type: _____ (Lathe, screw machine, machine center, etc.)	Builder: _____ (Haas, Mori Seiki, etc.)	Model #: _____
Shank Required: _____ (CAT50, Morse taper, etc.)	Power: _____ HP/KW	
Rigidity: _____ ☐ Excellent ☐ Good ☐ Poor	Orientation: _____ ☐ Vertical ☐ Horizontal	Tool Rotating: _____ ☐ Yes ☐ No
		Thrust: _____ lbs/N

Coolant Information

Coolant Delivery: _____ (Through tool, flood)	Coolant Pressure: _____ PSI / bar
Coolant Type: _____ (Air mist, oil, synthetic, water soluble, etc.)	Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number



**ALLIED MACHINE
& ENGINEERING**

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ALLIED MACHINE & ENGINEERING

Warranty Information



Allied Machine & Engineering ("Allied Machine") warrants to original equipment manufacturers, distributors, industrial and commercial users of its products for one year from the original date of sale that each new product manufactured or supplied by Allied Machine shall be free from defects in material and workmanship.

Allied Machine's sole and exclusive obligation under this warranty is limited to, at its option, without additional charge, replacing or repairing this product or issuing a credit. For this warranty to be applied, the product must be returned freight prepaid to the plant designated by an Allied Machine representative and which, upon inspection, is determined by Allied Machine to be defective in material and workmanship.

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E00-THD | Publish Date: Sep. 01, 2026



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