



Master Product

CATALOGUE



Drilling



Boring



Reaming



Burnishing



Threading



Specials

In partnership with:



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

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



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



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



Wohlhaupter GmbH is registered to ISO 9001:2015 by QA TECHNIC



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 (AE) and Field Sales Engineers (FSE) 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

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

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

Wohlhaupter® GmbH

Maybachstrasse 4
Postfach 1264
72636 Frickenhausen
Germany

Asia

Wohlhaupter® India

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



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.



ALLIED MACHINE
& ENGINEERING

www.alliedmachine.com

The background features a complex, abstract design. It consists of several overlapping, semi-transparent geometric elements: a large circular arc on the left side, several straight lines of varying orientations, and a grid of small dots that forms a faint, stylized world map. The overall color palette is light and monochromatic, with the text providing the primary contrast.

Master Product

CATALOGUE

The Foundation

Since 1941, Allied Machine & Engineering has provided dependable and practical holemaking solutions to the world. What was once a small job shop in Ohio is now a worldwide leader in cutting tool technology. With three manufacturing facilities in Ohio, one in Georgia, another in Germany, and headquarters in both the United States and Europe, Allied Machine is positioned to bring innovative solutions and technical expertise directly to the customers' hands.



The Beginning

Harold E. Stokey founded Allied Machine & Engineering to aid the war effort, manufacturing taper bearing lock nuts for the production of M1 tanks. Years later, after a sales meeting gone wrong, Stokey possessed a warehouse stocked with spade drill inserts. He set forth into the industry that would become Allied Machine's thriving identity: holemaking.



The T-A®

When Harold's son, William H. Stokey, became the president and CEO, he developed the Throw Away, or T-A, spade drill insert system. The T-A revolutionised the holemaking industry, launching Allied Machine ahead of the competition. Since then, numerous innovations and advancements have been created from the T-A's inspiration.



The Innovation

Since the development of the T-A, Allied Machine has expanded its product offering to support a vast range of customer applications, including large diameter and deep hole drilling, boring, reaming, burnishing, porting, and threading.

The People

Allied Machine understands that high-quality products are only one facet of success. Our customer support is crucial to what we do, and that's why we make sure the best engineers and customer service associates are in place to assist our customers around the world.

The Future

With over 75 years of experience, Allied Machine has encountered the challenges of growth and success. By investing in cutting edge technology and the brightest and sharpest minds, our knowledge and capabilities continue to expand and grow every day.



Steve Stokey
Executive Vice President
Allied Machine & Engineering Corp.

Frank-M. Wohlhaupter
Managing Director
Wohlhaupter GmbH

Paul Crawford
Managing Director
AMEC Europe

Mike Stokey
Executive Vice President
Allied Machine & Engineering Corp.



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

WOHLHAUPTER



SUPERION

CRITERION










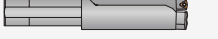





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Visit www.alliedmachine.com/Literature to access the complete Wohlhaupter® product catalogue.

For a Guaranteed Test / Demo Application, see the last pages of this catalogue.

Product Selection Guide | Drilling

Product	Diameter Range (mm / inch)												
	0 - 12.7 0 - 0.5	12.7 - 25.4 0.5 - 1	25.4 - 38.1 1 - 1.5	38.1 - 50.8 1.5 - 2	50.8 - 63.5 2 - 2.5	63.5 - 76.2 2.5 - 3	76.2 - 88.9 3 - 3.5	88.9 - 101.6 3.5 - 4	101.6 - 114.3 4 - 4.5	114.3 - 127 4.5 - 5	127 - 139.7 5 - 5.5	139.7 - 152.4 + 5.5 - 6 +	
GEN3SYS® XT Pro 	11.00 - 35.00 (0.4331 - 1.3780)												
GEN3SYS® XT 	11.00 - 35.00 (0.4331 - 1.3780)												
T-A Pro® 	9.50 - 47.80 (0.3739 - 1.8820)												
GEN2 T-A® 	9.50 - 114.30 (0.3739 - 4.5000)												
T-A® 	9.50 - 160.00 (0.3739 - 6.3000)												
High Performance* 		24.60 - 127.00 (0.9688 - 5.0000)											
Universal* 		24.60 - 215.90 (0.9688 - 8.5000)											
APX™ Drill 			33.00 - 101.60 (1.2992 - 4.0000)										
4TEX® Drill 	12.00 - 47.00 (0.4720 - 1.8500)												
Revolution Drill® 			47.60 - 101.60 (1.8750 - 4.0000)										
Opening Drill® 			50.80 - 142.80 (2.0000 - 5.6200)										
Structural Steel: GEN3SYS® XT Pro* 	11.00 - 35.00 (0.4331 - 1.3780)												
Structural Steel: T-A®* 	12.98 - 47.80 (0.5110 - 1.8820)												
AccuPort 432® 	9.80 - 61.50 (0.3860 - 2.4210)												
BT-A Drill 	12.95 - 47.80 (0.5100 - 1.8820)												

▶ Any product line with a black arrow indicates that larger non-standard diameters can be ordered by contacting Application Engineering:

+44 (0) 1384 400900 engineering.eu@alliedmachine.com



Online Product Selector

Have an application in your sights? You can utilise our Product Selector online to find the right tool for the job. Product Selector will provide run time parameters along with detailed information about the item(s) you need.

Visit www.alliedmachine.com/ProductSelector to get started.

* Not included in this catalogue. Detailed information available on www.alliedmachine.com

Length-to-Diameter Ratio	Machining Application					Material						Section
	General Purpose	High Penetration	Deep Hole	Large Diameter	Industry Specific	P	S	M	H	K	N	
3xD, 5xD, 7xD, 10xD	●	●	●			●		●		●	●	A20
STUB, 3xD, 5xD, 7xD	●	●				●	○	●	○	●	●	A20
STUB, 3xD, 5xD, 7xD, 10xD, 12xD, 15xD	○	●	●	○		●	●	●		●	●	A25
1xD to 28xD	●	○	●	●		●	○	○		○	○	A30
1xD to 28xD	●	○	●	●		●	○	○	○	○	○	A30
	●		○	●		●	○	○		○	○	-
	●		○	●		○	○	○		○	○	-
3xD, 5xD, 8xD, 10xD	○		●	●		●	○	○		●	○	A50
2xD, 3xD, 4xD	●	○				●	○	○	○	●	○	A55
1xD, 2.2xD, 2.5xD, 3.5xD, 4.5xD,	○	○		●		●		○	○	●	○	A60
	○	○		●		●		○	○	●	○	A70
1.5xD, 3xD, 5xD, 7xD		○	○		●	●						-
2xD, 4xD, 5xD, 6xD	○				●	●						-
					●	●	○			●	○	A92
		○	●		●	●	○	○		●	○	A93

● Best ○ Better ○ Good

A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS

Product Offering Overview

A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS



DRILLING

The highest performance cutting tools to cover the largest range of drilling applications.

- Replaceable Insert Drills:
 - T-A Pro® | T-A* | GEN2 T-A*
 - GEN3SYS® XT Pro | GEN3SYS® XT
 - High Performance | Universal*
- Indexable Insert Drills:
 - 4TEX® Drill
 - Revolution Drill®
 - Opening Drill®
 - APX™ Drill
- Solid Carbide Drills:
 - Superior®
- Hydraulic Port Contour Cutters:
 - AccuPort 432®
- BTA (STS) Machining Solutions:
 - BT-A Drill
- Structural Steel Solutions*:
 - T-A* | GEN2 T-A*
 - GEN3SYS® XT Pro



* Not included in this catalogue. Detailed information available on www.alliedmachine.com



BORING



All your hole finishing applications can be conquered with the Wohlhaupter® product lines.

- Products:
 - Versatile Fine Boring
 - Fine Boring
 - Rough & Finish Boring
 - Rough Machining
 - Intermediate Modules
 - MVS Master Shanks
 - Large Diameter Boring Tools
 - Universal Facing & Boring Tools

WOHLHAUPTER®



THREADING

Achieve precise thread forms with a large variety of thread mills through the ThreadMills USA™ and AccuThread® product lines.

- Products:
 - ThreadMills USA™ solid carbide
 - AccuThread® 856 solid carbide
 - AccuThread® T3
 - AccuThread® 856: Bolt-in Style
 - AccuThread® 856: Pin Style



SPECIALS



If your application can't be satisfied with standard tooling, Allied can special engineer any product for your solution.

- Products:
 - Superior® solid carbide and PCD tools
 - Allied Machine and Wohlhaupter® engineered specials

Navigating the Catalogue

A DRILLING
B BORING
C REAMING
D BURISHING
E THREADING
X SPECIALS

Category Identifier

This indicates the specific category within the section. For example, T-A® products are broken into series from Y to 8, so the category identifier will indicate which series you are viewing.

Application Identifier

The tabs along the side will help guide you to products designed for different application processes.

Imperial / Metric Identifier

These symbols will appear in the tables when it is necessary to distinguish between imperial items and metric items (most commonly noted on holders).

Safety Warnings

The safety warnings/indicators (in the table below) will appear throughout the catalogue to help protect you from operations that can potentially be harmful if not performed correctly.

For items that classify as deep hole applicable, a warning is displayed to inform the user of the potential risk and direct them to the deep hole drilling guidelines for that item.

Navigation Icons

These icons will direct you to other relevant parts of the section/catalogue. The icon reference list for each section is located on the contents page of each section.

Section Identifier and Page Number

The letter (or letter/number combination) before the page number indicates which section you are in.

NOTE: Page numbers begin at 1 in each section.

1 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

1 Series | Straight Shank | ER Collet

Series	Length	Body						Shank			Part No.
		D ₂	L ₂	L ₄	L ₃	L ₁	L ₄	D ₂	L ₂	P ₁	
1	Short	45/64 - 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8	220105-075L	
	Short	45/64 - 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8	220105-100L	
	Intermediate	45/64 - 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8	230105-100L	
	Standard	45/64 - 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8	240105-075L	
	Standard	45/64 - 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8	240105-100L	
1.5	Extended	45/64 - 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8	250105-100L	
	XL	45/64 - 15/16	19	19-1/4	19-25/64	22-1/4	1	3	1/8	270105-100L	
	3XL	45/64 - 15/16	22-1/4	23-1/2	23-41/64	26-1/2	1	3	1/8	290105-100L	
	Short	55/64 - 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8*	220155-075L	
	Short	55/64 - 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8*	220155-100L	
1.5	Intermediate	55/64 - 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8*	230155-100L	
	Standard	55/64 - 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8*	240155-075L	
	Standard	55/64 - 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8*	240155-100L	
Extended	55/64 - 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8*	250155-100L		

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	73 5-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (30 N-cm)
1.5	73 8-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (30 N-cm)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 44 - 51 A30: 57 & 111

ⓘ = Imperial (in)
Ⓜ = Metric (mm)
Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 150 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/deepholeguidelines.aspx for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A30: 56

Safety Information

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



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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

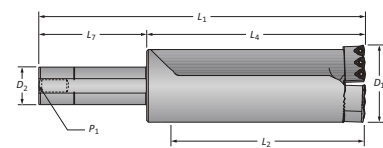
Allied Machine & Engineering patent information can be found at www.alliedmachine.com/patents



48 DRILLING | Revolution Drill® Large Diameter Replaceable IC Insert Drilling System

A DRILLING
B BORING
C REAMING
D BURNISHING
E THREADING
X SPECIALS

Revolution Drill Holders
48 Series | Diameter Range: 3.000" - 3.200" (76.2mm - 81.3mm)



Straight Shank

Style	Length	D ₁ Range	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₃	P ₁		
Standard	1.0xD	3.000 - 3.200	3-5/32	4-33/64	9-1/64	2	4-1/2	1/4	R48X10-200L	C48...
Standard	2.5xD	3.000 - 3.200	7-29/32	9-17/64	13-49/64	2	4-1/2	1/4	R48X25-200L	C48...
Stacked Plate	1.0xD	3.000 - 3.200	3-15/64	4-19/32	9-3/32	2	4-1/2	1/4	SP48X10-200L	C48SP...
Stacked Plate	2.5xD	3.000 - 3.200	7-63/64	9-11/32	13-27/32	2	4-1/2	1/4	SP48X25-200L	C48SP...

CV50 Shank

Style	Length	D ₁ Range	Holder			Shank	Part No.	Cartridges		
			L ₂	L ₄	L ₁					
Standard	1.0xD	76.2 - 81.3	80.2	114.5	194.5	50	80	-	R48X10-CV50M	C48...
Standard	2.5xD	76.2 - 81.3	200.9	235.2	315.2	50	80	-	R48X25-CV50M	C48...
Stacked Plate	1.0xD	76.2 - 81.3	82.2	116.5	196.5	50	80	-	SP48X10-CV50M	C48SP...
Stacked Plate	2.5xD	76.2 - 81.3	202.9	237.2	317.2	50	80	-	SP48X25-CV50M	C48SP...

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Adjusting Screw	Carbide Grade	Geometry	AM300®	AM200®	TIN	Insert Screws
R48...	C48-FIX	3	MS-21M-1	AS-18T9-1	CS (P35)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1
R48...	C48-ADJ	2	MS-21M-1	AS-18T9-1	C1 (K35)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1
SP48...	C48SP-FIX	3	MS-21M-1	AS-18T9-1	C2 (K25)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1
SP48...	C48SP-ADJ	3	MS-21M-1	AS-18T9-1	CS (P35)	High Rate	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓘ = Imperial (in) | Ⓜ = Metric (mm)

A60: 22 - 23 | A60: 2 - 4

A60: 16

Keeping Like Things Together

The sections in this catalogue have been organised to keep related items together. For example, Revolution Drill® holders, cartridges, inserts, assembly screws, and accessories are all listed together by series. Therefore, you won't need to flip back and forth between pages to find all the parts needed to build a complete tool.

However, there are some instances where like items are separated. For example, T-A® inserts are grouped together by series, immediately followed by the holders and accessories for the same series. In this situation, you will need to flip between inserts and holders, but all items will still be grouped together by series.

This is when the navigation icons come in handy.

48 Series Holders

48 Series Cartridges and Screws

Inserts and Screws

You Can Find Your Item in the Index

If you have an item number and you're looking for that item in the catalogue, you can use the index located in the back of the catalogue.

Index entries will reference the first part of the item number, which will direct you to the page where your item is listed.

Example: Your item number is R48X10-CV50. In the index, you will find "R48X10..." listed on page A60: 16, which is where items beginning with R48X10 can be found.

R44X35...	A60: 14
R46X22...	A60: 15
R46X35...	A60: 15
R48X10...	A60: 16
R48X25...	A60: 16
R52X10...	A60: 17
R52X25...	A60: 17

SECTION

A20

GEN3SYS® XT Pro & XT

GEN3SYS® XT Pro and XT

High Penetration Replaceable Insert Drilling System | GEN3SYS XT Pro | GEN3SYS XT

► **Diameter Range:** 11.00 mm - 35.00 mm (0.4331" - 1.3780")



The Next Generation of Drilling

The GEN3SYS XT and XT Pro high penetration replaceable insert drilling system has been designed to provide high-speed production machining beyond the capabilities of the T-A® drilling system. The product offering consists of various grades, geometries, and coatings available to suit the most demanding applications.

Conceived from the outset as the ultimate high performance drilling solution, the GEN3SYS XT drill range is incredibly versatile. Incorporating both straight and helical fluted tool holder options across the range, as well as through coolant for maximum material removal, GEN3SYS XT not only gives outstanding performance from day one, but it can also be reground for extended life and economy.

Excellent chip control	Improves hole quality and surface finish	Provides maximum durability and stability
------------------------	--	---

Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General Machining



Oil & Gas



Renewable Energy

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

GEN3SYS® XT Pro and XT Drilling System Contents

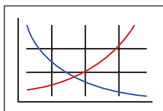
Reference Icons

The following icons will appear throughout the catalogue 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 boring



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
11	11.00 - 11.99	0.4331 - 0.4723
12	12.00 - 12.99	0.4724 - 0.5117
13	13.00 - 13.99	0.5118 - 0.5511
14	14.00 - 14.99	0.5512 - 0.5905
15	15.00 - 15.99	0.5906 - 0.6298
16	16.00 - 16.99	0.6299 - 0.6692
17	17.00 - 17.99	0.6693 - 0.7086
18	18.00 - 19.99	0.7087 - 0.7873
20	20.00 - 21.99	0.7874 - 0.8660
22	22.00 - 23.99	0.8661 - 0.9448
24	24.00 - 25.99	0.9449 - 1.0235
26	26.00 - 28.99	1.0236 - 1.1416
29	29.00 - 31.99	1.1417 - 1.2597
32	32.00 - 35.00	1.2598 - 1.3780

Introduction Information

Why You Should go with the Pro	2 - 3
Test Results and Case Study	4 - 5
GEN3SYS XT Pro Drilling System Information	6
GEN3SYS XT Drilling System Information	7
Insert Comparison and Assembly Information	8
Holder Comparison and Overview	9
Product Nomenclature	10 - 11

Drill Series

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14 Series	24 - 27
15 Series	28 - 31
16 Series	32 - 35
17 Series	36 - 39
18 Series	40 - 43
20 Series	44 - 47
22 Series	48 - 51
24 Series	52 - 55
26 Series	56 - 59
29 Series	60 - 63
32 Series	64 - 67

Recommended Cutting Data

Metric (mm)	GEN3SYS XT Pro	68 - 71
	GEN3SYS XT	72 - 75
Imperial (inch)	GEN3SYS XT Pro	76 - 79
	GEN3SYS XT	80 - 83

Tap Drill Information and Formulas	84 - 85
Deep Hole Drilling Guidelines	86
Troubleshooting Guide	87



WHY SHOULD YOU

GO WITH THE PRO?

GEN3SYS® XT Pro



- ✓ Increase your penetration rates
- ✓ ISO-specific geometries
- ✓ Improved chip evacuation
- ✓ Increased coolant flow to the cutting zone
- ✓ AM420 coating increases heat resistance
- ✓ AM440 coating increases abrasion resistance

**THAT'S WHY YOU SHOULD
GO WITH THE PRO.**



A

DRILLING

Project Profile: Forged 8640
Tooling Solution: GEN3SYS XT Pro: P (Steel) Geometry

The Problem:
 Previously, the customer was using a competitor drill running at the following parameters:

- 127 M/min (415 SFM)
- 0.23 mm/rev (0.009 IPR)
- The tool drilled a 17.25 mm diameter hole to a 20 mm depth
- Tool life = **1,000 holes**

The Solution:
 Allied Machine recommended the GEN3SYS XT Pro with P (Steel) geometry.

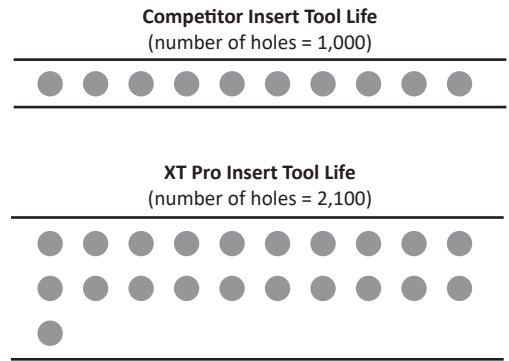
- **Insert** = XTP17-17.25

The tool ran at the following parameters:

- 127 M/min (415 SFM)
- 0.23 mm/rev (0.009 IPR)
- The tool drilled a 17.25 mm diameter hole to a 20 mm depth
- Tool life = **2,100 holes**

The Advantage:
 The GEN3SYS XT Pro increased the tool life from 1,000 holes to 2,100 holes.
In conclusion: *Doubled the tool life*

The PROOF is in the NUMBERS



2x INCREASE in tool life



B

BORING

HOLDER DESIGN



Drill deeper holes

The XT Pro holders are available up to 12xD.
 ► **This lets you take advantage of the XT Pro insert benefits in deep hole applications.**

Increase your tool life

The coolant configuration increases coolant flow and directs additional coolant to the cutting zone.
 ► **This increases tool life with all XT Pro inserts.**

F

THREADING

X

SPECIALS



Competitive Test Results

A

TEST RESULTS

DRILLING

Project Profile: Competitive Testing in 4150 Steel
Tooling Solution: GEN3SYS XT Pro: P (steel) geometry with XT Pro Holder

The Parameters:

- Hole Diameter = 19 mm (0.748")
- Depth of Cut = 38.1 mm (1-1/2")
- Coolant = 20.68 BAR (300 PSI)
- Speed = 1583 RPM
- Feed = 563 mm/min (22.16 inch/min)

B

The Results:

When run at the listed parameters, here is how the three different tooling solutions performed:

- Competitor 1** = 62.94 total linear meters
- Competitor 2** = 84.25 total linear meters
- GEN3SYS XT Pro** = **107.28** total linear meters

BORING



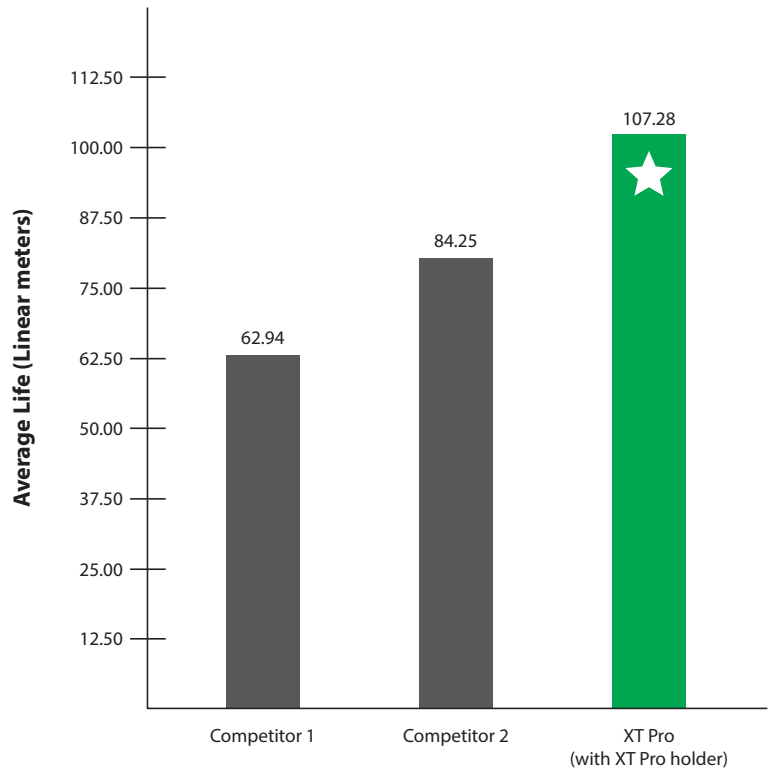
F

THREADING

X

SPECIALS

Average Tool Life
 Test Results Drilling in 4150 Steel



Drilling Tool





Case Study Example

CASE STUDY

Project Profile: Ductile/Nodular Iron
Tooling Solution: GEN3SYS XT Pro: K (cast iron) Geometry

The Problem:
 Previously, the customer was using a competitor drill:

- Solid carbide drill
- Tool life = **65 holes**

The Solution:
 Allied Machine recommended the GEN3SYS XT Pro with K (cast iron) geometry. The tool ran at the following parameters:

- Hole Diameter = 14.28 mm (9/16")
- Coolant = None
- Speed = 117 M/min (390 SFM)
- Feed = 0.20 mm/rev (0.008 IPR)
- Tool life = **390 holes**

The Advantage:
 The GEN3SYS XT Pro increased the tool life from 65 holes to 390 holes.
In conclusion: 6x the tool life

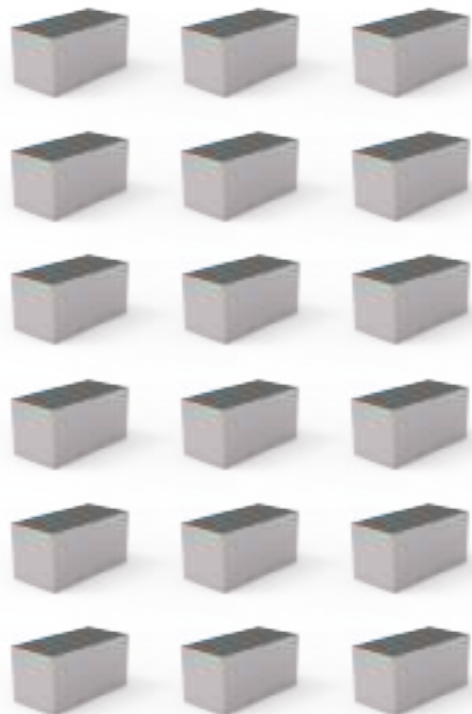


The PROOF is in the NUMBERS

Competitor Tool Life
 (number of holes = 65)



XT Pro Tool Life
 (number of holes = 390)



There's More to the Advantage than Tool Life

The XT Pro replaceable tip system provides other benefits in addition to the increase in tool life over the solid carbide drill:

- Because only the insert needs changing when it reaches the end of its life, the XT Pro eliminates the need to re-establish tool lengths, which reduces setup times.
- Further benefit in setup is also seen as the tool only needs changing one time for every six of the customer's current method.
- Without the need for regrinds, the customer's stock of tooling is reduced by eliminating the need for float inventory to cover regrind lead time.

INCREASE in
6x tool life

A

DRILLING

B

BORING

E

THREADING

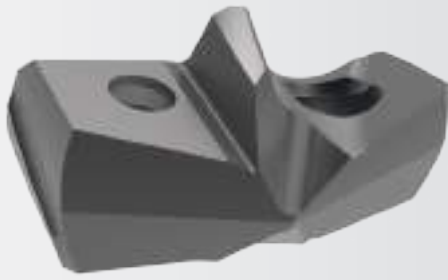
X

SPECIALS



GEN3SYS XT Pro Drilling System Information

GEN3SYS XT Pro Drill Inserts



Advanced Design Capabilities

The advanced XT Pro insert combines a coating and geometry specifically designed to achieve optimal results in ISO material drilling applications. With quick connectivity to existing GEN3SYS drill insert holders, the XT Pro insert can be interchanged with previous XT inserts with ease, resulting in minimal setup times so you can immediately increase your productivity.

XT Pro Inserts Connect with:



XT Pro holders



GEN3SYS holders

P - Steels

- Designed to provide increased penetration rates and tool life in steel applications
- Superior geometry and edge provides excellent chip control
- Allied's multilayer AM420 coating increases heat resistance and improves tool life



N - Nonferrous Materials

- Designed for applications in aluminium, brass, and copper
- The geometry yields excellent chip control in these softer materials
- TiN coating gives the versatility to run in a variety of materials while reducing buildup



K - Cast Irons

- Uniquely designed for cast/nodular iron applications
- Geometry includes a corner radius for improved hole finish and heat dispersion
- Allied's multilayer AM440 coating provides increased abrasion resistance and tool life

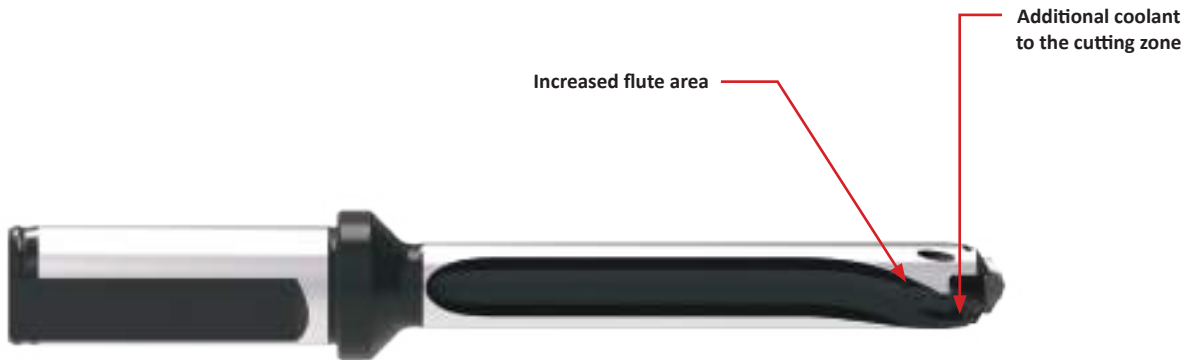


M - Stainless Steels*

- Designed for all 300 series, 400 series, Super Duplex Stainless steels, and other hard-to-machine materials in the ISO M group.
- Geometry optimized for improved chip formation while drilling at high penetration rates.
- Substrate chosen to provide balance of toughness and wear resistance in difficult applications.
- Allied's AM460 coating provides industry-leading tool life in stainless steels.



*Available in 12 - 32 series only.



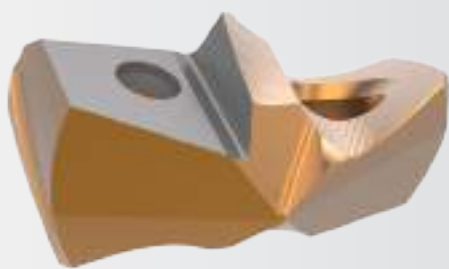
XT Pro Drill Holders

			3xD, 5xD, 7xD, 10xD, 12xD
Straight flutes	Enhanced coolant inlets improve the coolant flow	Provides increased insert life	Available in 3xD, 5xD, 7xD, 10xD, and 12xD



GEN3SYS XT Drilling System Information

GEN3SYS XT Drill Inserts



High Penetration Drilling Solutions

The unique geometry of the XT inserts provides excellent chip control. They are designed to increase hole quality, surface finish, and true position when compared to other competitive products. The helical margin design provides maximum durability and stability.

XT Inserts Connect with:



XT Pro holders

GEN3SYS holders

Standard Geometry

- Designed with corner and cutting edge enhancements to deliver more reliability, durability and productivity
- Increases penetration rates and tool life
- Available in C1 or C2 carbide



LR - Low Rake Geometry

- The toughest XT geometry available
- Designed for harder steels and less than ideal machining applications
- Available in C1 or C2 carbide



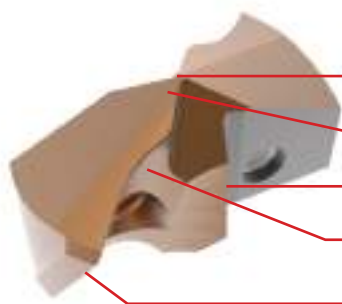
CI - Cast Iron Geometry

- Increases durability and tool life in ductile, nodular and grey cast irons
- Available in C2 carbide



AS - Stainless Steel Geometry

- Designed with a specific geometry to provide unmatched chip control and tool life in austenitic and PH stainless steels, as well as high-temperature alloys such as Inconel, Hastelloy and titanium alloys
- Available in C2 carbide

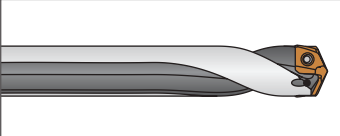
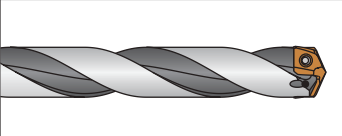
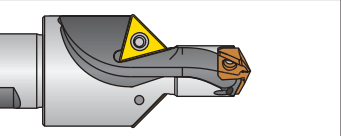


- Self-centering point
- Cam ground primary clearance
- Ground locating pads
- Positive radial rake
- Helical margin

Coating	Features / Benefits
AM300®	<ul style="list-style-type: none"> • Increased heat resistance over AM200® coating • Up to 20% increased tool life over AM200 coating • Provides superior tool life at high penetration rates



GEN3SYS Holders

			Stub, 3xD, 5xD, 7xD Available in Stub, 3xD, 5xD, and 7xD
Straight flutes	Helical flutes	Drill / chamfer style	



Insert Comparison and Assembly Information

A

DRILLING

B





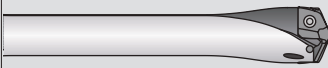

BORING

F

THREADING

X

SPECIALS

		 XT Pro Inserts	 XT Inserts
Recommended for increased productivity		<input checked="" type="checkbox"/>	
ISO-specific geometry/coating combination		<input checked="" type="checkbox"/>	
Connects with XT Pro holders		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Connects with GEN3SYS holders		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Step 1:
Align the flats on the GEN3SYS XT insert with the flats on the ears of the holder.



Step 2:
Slide the insert into the precision ground locating pocket on the holder. The insert should not be turned, rotated, or twisted for locking purposes. The holder pocket and locating pads on the insert assure optimum fit and repeatability.




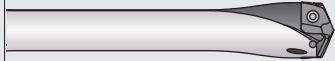

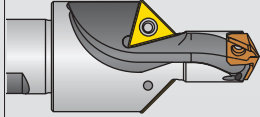
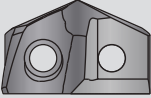
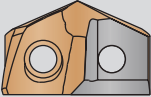


Step 3:
Apply a generous amount of E-Z Break® (provided in the packaging) onto the supplied TORX® Plus screws.

Tighten the TORX Plus screws to the recommended torque value specified in the catalogue by series. A preset TORX driver is available to assure that the proper torque is applied.



Holder Comparison and Overview

		 XT Pro Holders	 GEN3SYS Holders
Recommended for increased productivity		<input checked="" type="checkbox"/>	
Straight flute		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Helical flute			<input checked="" type="checkbox"/>
Drill/chamfer option			<input checked="" type="checkbox"/>
Available in 12xD length	12xD	<input checked="" type="checkbox"/>	
Connects with XT Pro inserts		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Connects with XT inserts		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

XT Pro Holders

GEN3SYS Holders



Straight Flute



Straight Flute



Helical Flute



Drill/Chamfer

A

DRILLING

B

BORING

F

THREADING

X

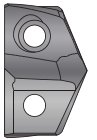
SPECIALS



Product Nomenclature

GEN3SYS XT Pro Drill Inserts

XT	P	11	–	11.00
1	2	3		4

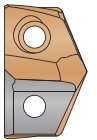


1. XT Pro Drill Insert	2. ISO Material / Geometry	3. Series	4. Diameter (mm)
XT = XT Pro insert	<p>P = Steel</p> <p>K = Cast iron</p> <p>N = Nonferrous</p> <p>M = Stainless steel*</p>	<p>11 = 11 series 18 = 18 series</p> <p>12 = 12 series 20 = 20 series</p> <p>13 = 13 series 22 = 22 series</p> <p>14 = 14 series 24 = 24 series</p> <p>15 = 15 series 26 = 26 series</p> <p>16 = 16 series 29 = 29 series</p> <p>17 = 17 series 32 = 32 series</p>	For complete list of diameter ranges by series, see contents page.

*Available in 12-32 series only.

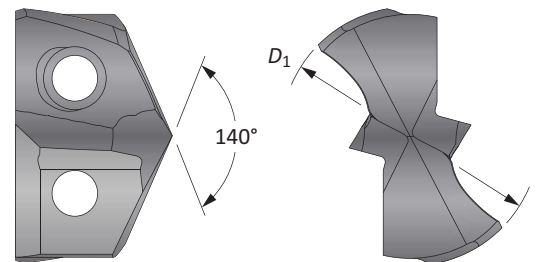
GEN3SYS XT Drill Inserts

7	C2	12	P	–	12.5	CI
1	2	3	4		5	6



1. XT Drill Insert	2. Insert Material	3. Series	4. Coating
7 = XT insert	<p>C1 = K35 (C1) carbide</p> <p>C2 = K20 (C2) carbide</p>	<p>11 = 11 series 18 = 18 series</p> <p>12 = 12 series 20 = 20 series</p> <p>13 = 13 series 22 = 22 series</p> <p>14 = 14 series 24 = 24 series</p> <p>15 = 15 series 26 = 26 series</p> <p>16 = 16 series 29 = 29 series</p> <p>17 = 17 series 32 = 32 series</p>	P = AM300®

5. Diameter	6. Geometry
<p>13 = Metric</p> <p>.515 = Decimal</p> <p>0017 = Inch</p>	<p>CI = Cast iron</p> <p>LR = Low rake</p> <p>AS = Stainless steel</p>



Regrinding and Recoating

The GEN3SYS XT Pro and XT drilling system is so cost efficient that it eliminates the need for regrinding and recoating. However, if you choose to have your drill inserts reground, it is critical that it be done by Allied Machine. Any slight deviation in performance due to an improperly reground drill insert will more than offset any benefit from regrinding. Using our service ensures that the best tool performance is maintained in your production process. When returning tools for regrinding, please package tools carefully to avoid damage during shipment. Returning drill inserts for regrinding in their original packaging will help avoid damage during shipment. Drill inserts reground by Allied Machine are repackaged and clearly identified as "Allied Regrind" to avoid any confusion with new tools.

Reference Key

Symbol	Attribute
D₁	Insert diameter

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Product Nomenclature

GEN3SYS and XT Pro Drill Holders

HXT	03	12	S	-	20	FM
1	2	3	4		5	6



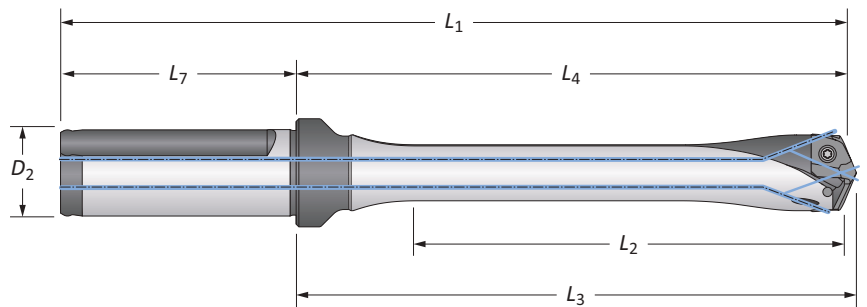
1. Holder	2. Length	3. Series	4. Flute														
<p>6 = GEN3SYS holder</p> <p>HXT = XT Pro holder</p>	<p>01 = Stub Length (GEN3SYS only)</p> <p>03 = 3x Diameter</p> <p>05 = 5x Diameter</p> <p>07 = 7x Diameter</p> <p>10 = 10x Diameter (XT Pro only)</p> <p>12 = 12x Diameter (11-26 series - XT Pro only)</p>	<table border="0"> <tr> <td>11 = 11 series</td> <td>18 = 18 series</td> </tr> <tr> <td>12 = 12 series</td> <td>20 = 20 series</td> </tr> <tr> <td>13 = 13 series</td> <td>22 = 22 series</td> </tr> <tr> <td>14 = 14 series</td> <td>24 = 24 series</td> </tr> <tr> <td>15 = 15 series</td> <td>26 = 26 series</td> </tr> <tr> <td>16 = 16 series</td> <td>29 = 29 series</td> </tr> <tr> <td>17 = 17 series</td> <td>32 = 32 series</td> </tr> </table>	11 = 11 series	18 = 18 series	12 = 12 series	20 = 20 series	13 = 13 series	22 = 22 series	14 = 14 series	24 = 24 series	15 = 15 series	26 = 26 series	16 = 16 series	29 = 29 series	17 = 17 series	32 = 32 series	<p>S = Straight</p> <p>H = Helical</p> <p>C45 = Drill/Chamfer (both helical and drill/chamfer options available for GEN3SYS only)</p>
11 = 11 series	18 = 18 series																
12 = 12 series	20 = 20 series																
13 = 13 series	22 = 22 series																
14 = 14 series	24 = 24 series																
15 = 15 series	26 = 26 series																
16 = 16 series	29 = 29 series																
17 = 17 series	32 = 32 series																
5. Shank Diameter	6. Shank Style																
<table border="0"> <thead> <tr> <th>Metric (mm)</th> <th>Imperial (inch)</th> </tr> </thead> <tbody> <tr> <td>16 = 16 mm</td> <td>063 = 5/8"</td> </tr> <tr> <td>20 = 20 mm</td> <td>075 = 3/4"</td> </tr> <tr> <td>25 = 25 mm</td> <td>100 = 1"</td> </tr> <tr> <td>32 = 32 mm</td> <td>125 = 1-1/4"</td> </tr> <tr> <td>40 = 40 mm</td> <td>150 = 1-1/2"</td> </tr> </tbody> </table>	Metric (mm)	Imperial (inch)	16 = 16 mm	063 = 5/8"	20 = 20 mm	075 = 3/4"	25 = 25 mm	100 = 1"	32 = 32 mm	125 = 1-1/4"	40 = 40 mm	150 = 1-1/2"	<p>F = Flanged with flat</p> <p>FM = Flanged metric with flat</p> <p>C = Cylindrical (no flat)</p> <p>CM = Cylindrical metric (no flat)</p>				
Metric (mm)	Imperial (inch)																
16 = 16 mm	063 = 5/8"																
20 = 20 mm	075 = 3/4"																
25 = 25 mm	100 = 1"																
32 = 32 mm	125 = 1-1/4"																
40 = 40 mm	150 = 1-1/2"																

Holder Ordering Information

The series designator (11 series, 12 series, etc.) in the top corner of each page is for your reference when ordering. Please refer to these series designators when placing an order. For example, a 12 series drill insert only fits into a 12 series holder.

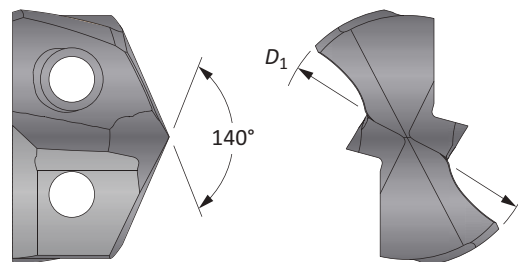
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


Symbol	Attribute
D_2	Shank diameter
D_5	Step diameter (drill/chamfer)
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_4	Holder body length
L_5	Step length (drill/chamfer)
L_7	Shank length
P_1	Rear pipe tap



GEN3SYS XT Pro Drill Inserts

11 Series | Diameter Range: 11.00 mm - 11.99 mm (0.4331" - 0.4723")

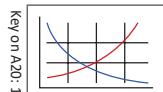


Insert					
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N
11.00	0.4331		XTP11-11.00	XTK11-11.00	XTN11-11.00
11.11	0.4374	7/16	XTP11-11.11	XTK11-11.11	XTN11-11.11
11.20	0.4409	-	XTP11-11.20	XTK11-11.20	XTN11-11.20
11.30	0.4449	-	XTP11-11.30	XTK11-11.30	XTN11-11.30
11.40	0.4488	-	XTP11-11.40	XTK11-11.40	XTN11-11.40
11.50	0.4528	-	XTP11-11.50	XTK11-11.50	XTN11-11.50
11.51	0.4531	29/64	XTP11-11.51	XTK11-11.51	XTN11-11.51
11.60	0.4567	-	XTP11-11.60	XTK11-11.60	XTN11-11.60
11.70	0.4606	-	XTP11-11.70	XTK11-11.70	XTN11-11.70
11.80	0.4646	-	XTP11-11.80	XTK11-11.80	XTN11-11.80
11.91	0.4689	15/32	XTP11-11.91	XTK11-11.91	XTN11-11.91

Inserts sold in multiples of 1.

Non- stocked sizes available on request with a min 2pc quantity.

A20: 68 - 83



A20: 6 - 9



Key on A20: 1

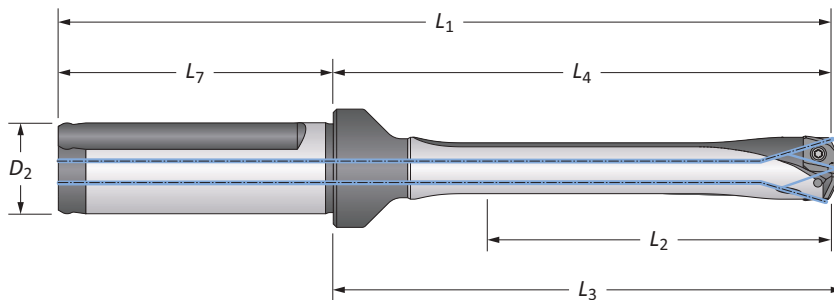
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

11 Series | Diameter Range: 11.00 mm - 11.99 mm (0.4331" - 0.4723")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
m Straight 	3xD	36.0	62.6	64.4	110.6	48.0	16.0	YES	HXT0311S-16FM
	3xD	36.0	62.6	64.4	110.6	48.0	16.0	NO	HXT0311S-16CM
	5xD	60.0	86.6	88.4	134.6	48.0	16.0	YES	HXT0511S-16FM
	5xD	60.0	86.6	88.4	134.6	48.0	16.0	NO	HXT0511S-16CM
	7xD	83.7	110.6	112.4	158.6	48.0	16.0	YES	HXT0711S-16FM
	7xD	83.7	110.6	112.4	158.6	48.0	16.0	NO	HXT0711S-16CM
	10xD	119.9	146.6	148.4	194.6	48.0	16.0	YES	HXT1011S-16FM
	10xD	119.9	146.6	148.4	194.6	48.0	16.0	NO	HXT1011S-16CM
	12xD	119.9	146.6	148.4	194.6	48.0	16.0	YES	HXT1211S-16FM
12xD	119.9	146.6	148.4	194.6	48.0	16.0	NO	HXT1211S-16CM	
i Straight 	3xD	1-27/64	2-29/64	2-17/32	4-21/64	1-7/8	5/8	YES	HXT0311S-063F
	3xD	1-27/64	2-29/64	2-17/32	4-21/64	1-7/8	5/8	NO	HXT0311S-063C
	5xD	2-23/64	3-13/32	3-31/64	5-9/32	1-7/8	5/8	YES	HXT0511S-063F
	5xD	2-23/64	3-13/32	3-31/64	5-9/32	1-7/8	5/8	NO	HXT0511S-063C
	7xD	3-19/64	4-11/32	4-27/64	6-7/32	1-7/8	5/8	YES	HXT0711S-063F
	7xD	3-19/64	4-11/32	4-27/64	6-7/32	1-7/8	5/8	NO	HXT0711S-063C
	10xD	4-23/32	5-49/64	5-27/32	7-41/64	1-7/8	5/8	YES	HXT1011S-063F
	10xD	4-23/32	5-49/64	5-27/32	7-41/64	1-7/8	5/8	NO	HXT1011S-063C
	12xD	5-43/64	6-45/64	6-25/32	8-37/64	1-7/8	5/8	YES	HXT1211S-063F
12xD	5-43/64	6-45/65	6-25/32	8-37/64	1-7/8	5/8	NO	HXT1211S-063C	

Connection Accessories

				Admissible Tightening Torque*
71843-IP6-1	8IP-6	8IP-6TL	8IP-6B	
				50 N-cm (4.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

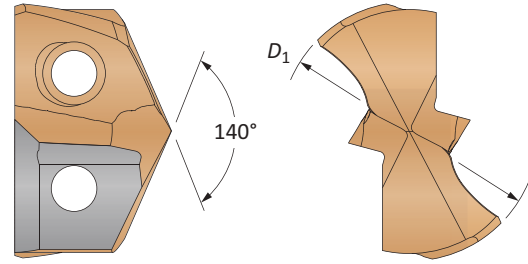
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

GEN3SYS XT Drill Inserts

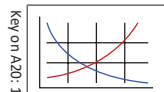
11 Series | Diameter Range: 11.00 mm - 11.99 mm (0.4331" - 0.4723")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	11.00	0.4331	–	7C111P-11	7C111P-11LR	–	–
	11.11	0.4375	7/16	7C111P-0014	7C111P-0014LR	–	–
	11.50	0.4528	–	7C111P-11.5	7C111P-11.5LR	–	–
	11.51	0.4531	29/64	7C111P-.453	7C111P-.453LR	–	–
	11.91	0.4688	15/32	7C111P-0015	7C111P-0015LR	–	–
C2 (K20)	11.00	0.4331	–	7C211P-11	7C211P-11LR	7C211P-11CI	7C211P-11AS
	11.11	0.4375	7/16	7C211P-0014	7C211P-0014LR	7C211P-0014CI	7C211P-0014AS
	11.50	0.4528	–	7C211P-11.5	7C211P-11.5LR	7C211P-11.5CI	7C211P-11.5AS
	11.51	0.4531	29/64	7C211P-.453	7C211P-.453LR	7C211P-.453CI	7C211P-.453AS
	11.91	0.4688	15/32	7C211P-0015	7C211P-0015LR	7C211P-0015CI	7C211P-0015AS

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9

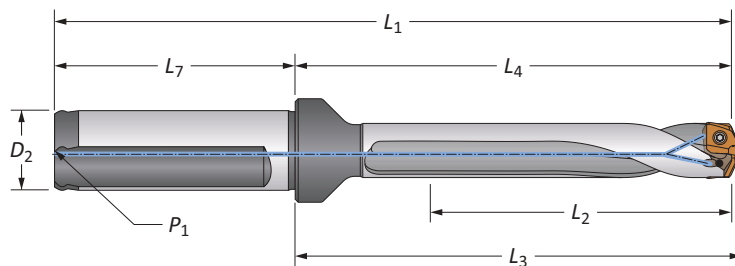


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

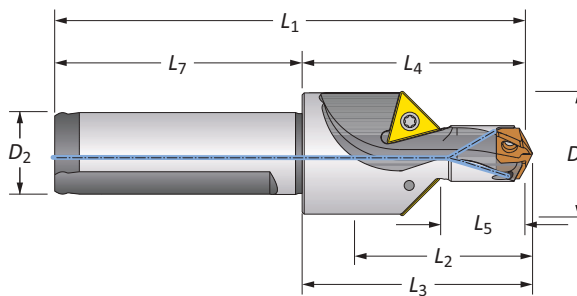
11 Series | Diameter Range: 11.00 mm - 11.99 mm (0.4331" - 0.4723")



Straight and Helical

Flute	Length	Body				Shank				Flat	Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁			
Straight	3xD	36.0	62.6	64.4	110.6	48.0	16.0	1/16*	YES	60311S-16FM	
	5xD	60.0	86.6	88.4	134.6	48.0	16.0	1/16*	YES	60511S-16FM	
	7xD	83.7	110.6	112.4	158.6	48.0	16.0	1/16*	YES	60711S-16FM	
Helical	Stub	16.0	42.6	44.7	90.6	48.0	16.0	1/16*	YES	60111H-16FM	
	3xD	36.0	62.6	64.4	110.6	48.0	16.0	1/16*	YES	60311H-16FM	
	3xD	36.0	62.6	64.4	110.6	48.0	16.0	1/16*	NO	60311H-16CM	
	5xD	60.0	86.6	88.4	134.6	48.0	16.0	1/16*	YES	60511H-16FM	
	5xD	60.0	86.6	88.4	134.6	48.0	16.0	1/16*	NO	60511H-16CM	
	7xD	83.7	110.6	112.4	158.6	48.0	16.0	1/16*	YES	60711H-16FM	
	7xD	83.7	110.6	112.4	158.6	48.0	16.0	1/16*	NO	60711H-16CM	
Straight	3xD	1-27/64	2-29/64	2-17/32	4-21/64	1-7/8	5/8	1/16	YES	60311S-063F	
	5xD	2-23/64	3-13/32	3-31/64	5-9/32	1-7/8	5/8	1/16	YES	60511S-063F	
	7xD	3-19/64	4-11/32	4-27/64	6-7/32	1-7/8	5/8	1/16	YES	60711S-063F	
	Stub	5/8	1-43/64	1-3/4	3-35/64	1-7/8	5/8	1/16	YES	60111H-063F	
	3xD	1-27/64	2-29/64	2-17/32	4-21/64	1-7/8	5/8	1/16	YES	60311H-063F	
	3xD	1-27/64	2-29/64	2-17/32	4-21/64	1-7/8	5/8	1/16	NO	60311H-063C	
	5xD	2-23/64	3-13/32	3-31/64	5-9/32	1-7/8	5/8	1/16	YES	60511H-063F	
	5xD	2-23/64	3-13/32	3-31/64	5-9/32	1-7/8	5/8	1/16	NO	60511H-063C	
	7xD	3-19/64	4-11/32	4-27/64	6-7/32	1-7/8	5/8	1/16	YES	60711H-063F	
	7xD	3-19/64	4-11/32	4-27/64	6-7/32	1-7/8	5/8	1/16	NO	60711H-063C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	24.1	16.5	23.8	42.2	44.3	90.2	48.0	16.0	60111C45-16FM	TCMT-110204
i	61/64	21/32	15/16	1-43/64	1-3/4	3-35/64	1-7/8	5/8	60111C45-063F	TCMT-110204

Connection Accessories

				Admissible Tightening Torque*
Insert Screws 71843-IP6-1	Insert Driver 8IP-6	Preset Torque Hand Driver 8IP-6TL	Replacement Tips 8IP-6B	
				50 N-cm (4.4 in-lbs)

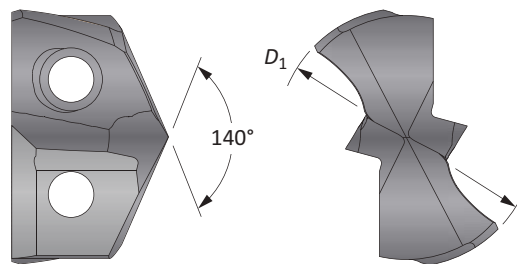
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

GEN3SYS XT Pro Drill Inserts

12 Series | Diameter Range: 12.00 mm - 12.99 mm (0.4724" - 0.5117")

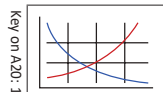


Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
12.00	0.4724	–	XTP12-12.00	XTK12-12.00	XTN12-12.00	XTM12-12.00
12.10	0.4764	–	XTP12-12.10	XTK12-12.10	XTN12-12.10	XTM12-12.10
12.20	0.4803	–	XTP12-12.20	XTK12-12.20	XTN12-12.20	XTM12-12.20
12.30	0.4843	31/64	XTP12-12.30	XTK12-12.30	XTN12-12.30	XTM12-12.30
12.40	0.4882	–	XTP12-12.40	XTK12-12.40	XTN12-12.40	XTM12-12.40
12.50	0.4921	–	XTP12-12.50	XTK12-12.50	XTN12-12.50	XTM12-12.50
12.60	0.4961	–	XTP12-12.60	XTK12-12.60	XTN12-12.60	XTM12-12.60
12.70	0.5000	1/2	XTP12-12.70	XTK12-12.70	XTN12-12.70	XTM12-12.70
12.80	0.5039	–	XTP12-12.80	XTK12-12.80	XTN12-12.80	XTM12-12.80
12.90	0.5079	–	XTP12-12.90	XTK12-12.90	XTN12-12.90	XTM12-12.90

Inserts sold in multiples of 1.

A20: 68 - 83

A20: 6 - 9

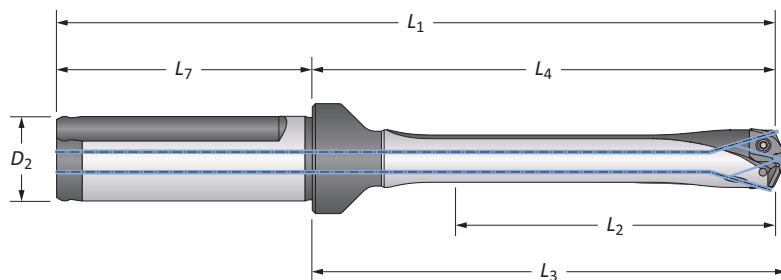


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

12 Series | Diameter Range: 12.00 mm - 12.99 mm (0.4724" - 0.5117")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
III Straight 	3xD	39.0	66.6	68.7	116.6	50.0	20.0	YES	HXT0312S-20FM	
	3xD	39.0	66.6	68.7	116.6	50.0	20.0	NO	HXT0312S-20CM	
	5xD	65.0	92.5	94.7	142.5	50.0	20.0	YES	HXT0512S-20FM	
	5xD	65.0	92.5	94.7	142.5	50.0	20.0	NO	HXT0512S-20CM	
	7xD	90.9	118.3	120.7	168.3	50.0	20.0	YES	HXT0712S-20FM	
	7xD	90.9	118.3	120.7	168.3	50.0	20.0	NO	HXT0712S-20CM	
	10xD	129.9	157.5	159.7	207.5	50.0	20.0	YES	⚠ HXT1012S-20FM	
	10xD	129.9	157.5	159.7	207.5	50.0	20.0	NO	⚠ HXT1012S-20CM	
I Straight 	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	YES	HXT0312S-075F	
	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	NO	HXT0312S-075C	
	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	YES	HXT0512S-075F	
	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	NO	HXT0512S-075C	
	7xD	3-37/64	4-21/32	4-3/4	6-11/16	2-1/32	3/4	YES	HXT0712S-075F	
	7xD	3-37/64	4-21/32	4-3/4	6-11/16	2-1/32	3/4	NO	HXT0712S-075C	
	10xD	5-7/64	6-13/64	6-9/32	8-15/64	2-1/32	3/4	YES	⚠ HXT1012S-075F	
	10xD	5-7/64	6-13/64	6-9/32	8-15/64	2-1/32	3/4	NO	⚠ HXT1012S-075C	
I Straight 	12xD	6-9/64	7-7/32	7-5/16	9-1/4	2-1/32	3/4	YES	⚠ HXT1212S-075F	
	12xD	6-9/64	7-7/32	7-5/16	9-1/4	2-1/32	3/4	NO	⚠ HXT1212S-075C	

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

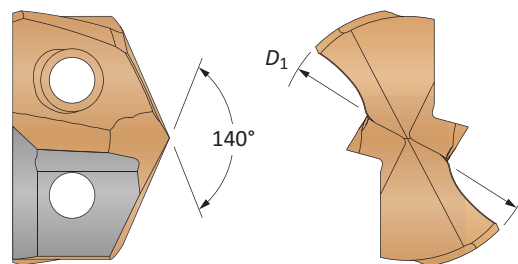
III = Metric (mm)
 I = Imperial (in)





Screws sold in multiples of 10



GEN3SYS XT Drill Inserts

12 Series | Diameter Range: 12.00 mm - 12.99 mm (0.4724" - 0.5117")



Carbide Substrate	Insert			 Standard Part No.	 Low Rake Part No.	 Cast Iron Part No.	 Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	12.00	0.4724	–	7C112P-12	7C112P-12LR	–	–
	12.30	0.4844	31/64	7C112P-.484	7C112P-.484LR	–	–
	12.50	0.4921	–	7C112P-12.5	7C112P-12.5LR	–	–
	12.70	0.5000	1/2	7C112P-0016	7C112P-0016LR	–	–
C2 (K20)	12.00	0.4724	–	7C212P-12	7C212P-12LR	7C212P-12CI	7C212P-12AS
	12.30	0.4844	31/64	7C212P-.484	7C212P-.484LR	7C212P-.484CI	7C212P-.484AS
	12.50	0.4921	–	7C212P-12.5	7C212P-12.5LR	7C212P-12.5CI	7C212P-12.5AS
	12.70	0.5000	1/2	7C212P-0016	7C212P-0016LR	7C212P-0016CI	7C212P-0016AS

Inserts sold in multiples of 1

A

DRILLING

B

BORING

F

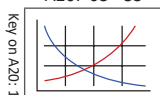
THREADING

X

SPECIALS

A20: 68 - 83

A20: 6 - 9



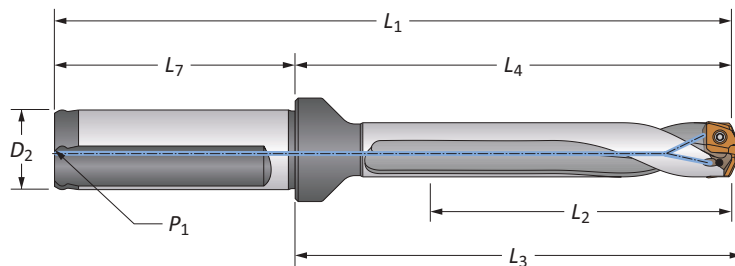
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

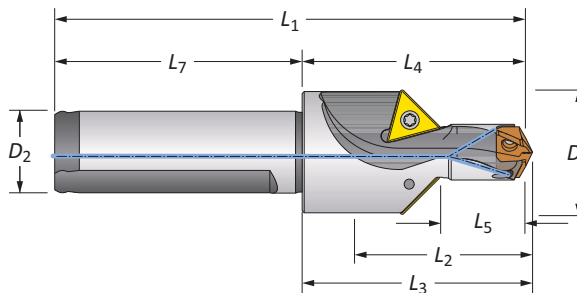
12 Series | Diameter Range: 12.00 mm - 12.99 mm (0.4724" - 0.5117")



Straight and Helical

Flute	Body					Shank				Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁			
Straight	3xD	39.0	66.6	68.7	116.6	50.0	20.0	1/8*	YES	60312S-20FM	
	5xD	65.0	92.5	94.7	142.5	50.0	20.0	1/8*	YES	60512S-20FM	
	7xD	90.9	118.3	120.7	168.3	50.0	20.0	1/8*	YES	60712S-20FM	
Helical	Stub	16.0	43.2	45.4	93.2	50.0	20.0	1/8*	YES	60112H-20FM	
	3xD	39.0	66.6	68.7	116.6	50.0	20.0	1/8*	YES	60312H-20FM	
	3xD	39.0	66.6	68.7	116.6	50.0	20.0	1/8*	NO	60312H-20CM	
	5xD	65.0	92.5	94.7	142.5	50.0	20.0	1/8*	YES	60512H-20FM	
	5xD	65.0	92.5	94.7	142.5	50.0	20.0	1/8*	NO	60512H-20CM	
	7xD	90.9	118.3	120.7	168.3	50.0	20.0	1/8*	YES	60712H-20FM	
	7xD	90.9	118.3	120.7	168.3	50.0	20.0	1/8*	NO	60712H-20CM	
Straight	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	1/8	YES	60312S-075F	
	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	1/8	YES	60512S-075F	
	7xD	3-37/64	4-21/32	4-3/4	6-11/16	2-1/32	3/4	1/8	YES	60712S-075F	
	Stub	5/8	1-45/64	1-25/32	3-47/64	2-1/32	3/4	1/8	YES	60112H-075F	
	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	1/8	YES	60312H-075F	
	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	1/8	NO	60312H-075C	
	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	1/8	YES	60512H-075F	
	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	1/8	NO	60512H-075C	
	7xD	3-37/64	4-21/32	4-3/4	6-11/16	2-1/32	3/4	1/8	YES	60712H-075F	
	7xD	3-37/64	4-21/32	4-3/4	6-11/16	2-1/32	3/4	1/8	NO	60712H-075C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	24.8	18.0	35.2	43.2	45.4	93.2	50.0	20.0	60112C45-20FM	TCMT-110204
i	31/32	45/64	63/64	1-45/64	1-25/32	3-47/64	2-1/32	3/4	60112C45-075F	TCMT-110204

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	
					84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

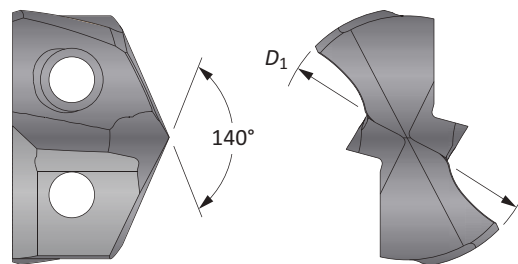
m = Metric (mm)





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

i = Imperial (in)

GEN3SYS XT Pro Drill Inserts

13 Series | Diameter Range: 13.00 mm - 13.99 mm (0.5118" - 0.5511")

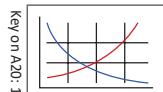


Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
13.00	0.5118	-	XTP13-13.00	XTK13-13.00	XTN13-13.00	XTM13-13.00
13.10	0.5157	33/64	XTP13-13.10	XTK13-13.10	XTN13-13.10	XTM13-13.10
13.20	0.5197	-	XTP13-13.20	XTK13-13.20	XTN13-13.20	XTM13-13.20
13.30	0.5236	-	XTP13-13.30	XTK13-13.30	XTN13-13.30	XTM13-13.30
13.40	0.5276	-	XTP13-13.40	XTK13-13.40	XTN13-13.40	XTM13-13.40
13.49	0.5311	17/32	XTP13-13.49	XTK13-13.49	XTN13-13.49	XTM13-13.49
13.50	0.5315	-	XTP13-13.50	XTK13-13.50	XTN13-13.50	XTM13-13.50
13.60	0.5354	-	XTP13-13.60	XTK13-13.60	XTN13-13.60	XTM13-13.60
13.70	0.5394	-	XTP13-13.70	XTK13-13.70	XTN13-13.70	XTM13-13.70
13.80	0.5433	-	XTP13-13.80	XTK13-13.80	XTN13-13.80	XTM13-13.80
13.89	0.5469	35/64	XTP13-13.89	XTK13-13.89	XTN13-13.89	XTM13-13.89

Inserts sold in multiples of 1.

A20: 68 - 83

A20: 6 - 9

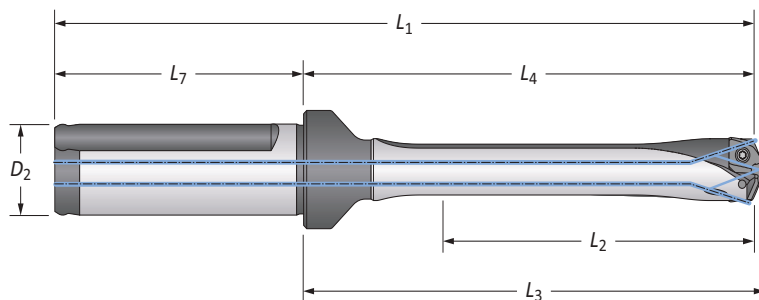


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

13 Series | Diameter Range: 13.00 mm - 13.99 mm (0.5118" - 0.5111")



Flute	Length	Body				Shank			Flat	Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
	3xD	42.0	69.0	71.4	119.0	50.0	20.0	YES	HXT0313S-20FM	
	3xD	42.0	69.0	71.4	119.0	50.0	20.0	NO	HXT0313S-20CM	
	5xD	69.9	96.8	99.2	146.8	50.0	20.0	YES	HXT0513S-20FM	
	5xD	69.9	96.8	99.2	146.8	50.0	20.0	NO	HXT0513S-20CM	
	7xD	98.0	125.0	127.4	175.0	50.0	20.0	YES	HXT0713S-20FM	
	7xD	98.0	125.0	127.4	175.0	50.0	20.0	NO	HXT0713S-20CM	
	10xD	140.0	167.0	169.4	217.0	50.0	20.0	YES	HXT1013S-20FM	
	10xD	140.0	167.0	169.4	217.0	50.0	20.0	NO	HXT1013S-20CM	
	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	YES	HXT0313S-075F	
	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	NO	HXT0313S-075C	
	5xD	2-3/4	3-13/16	3-29/32	5-27/32	2-1/32	3/4	YES	HXT0513S-075F	
	5xD	2-3/4	3-13/16	3-29/32	5-27/32	2-1/32	3/4	NO	HXT0513S-075C	
	7xD	3-55/64	4-59/64	5-1/64	6-61/64	2-1/32	3/4	YES	HXT0713S-075F	
	7xD	3-55/64	4-59/64	5-1/64	6-61/64	2-1/32	3/4	NO	HXT0713S-075C	
	10xD	5-33/64	6-37/64	6-43/64	8-39/64	2-1/32	3/4	YES	HXT1013S-075F	
	10xD	5-33/64	6-37/64	6-43/64	8-39/64	2-1/32	3/4	NO	HXT1013S-075C	
	12xD	6-39/64	7-11/16	7-25/32	9-23/32	2-1/32	3/4	YES	HXT1213S-075F	
	12xD	6-39/64	7-11/17	7-25/32	9-23/32	2-1/32	3/4	NO	HXT1213S-075C	

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

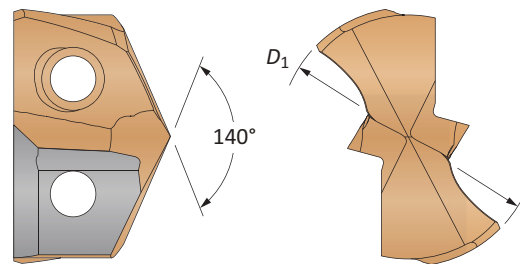
= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

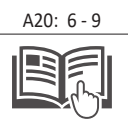
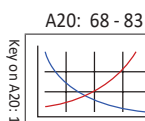
GEN3SYS XT Drill Inserts

13 Series | Diameter Range: 13.00 mm - 13.99 mm (0.5118" - 0.5111")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	13.00	0.5118	–	7C113P-13	7C113P-13LR	–	–
	13.08	0.5156	33/64	7C113P-.515	7C113P-.515LR	–	–
	13.49	0.5313	17/32	7C113P-0017	7C113P-0017LR	–	–
	13.50	0.5315	–	7C113P-13.5	7C113P-13.5LR	–	–
	13.89	0.5469	35/64	7C113P-.546	7C113P-.546LR	–	–
C2 (K20)	13.00	0.5118	–	7C213P-13	7C213P-13LR	7C213P-13CI	7C213P-13AS
	13.08	0.5156	33/64	7C213P-.515	7C213P-.515LR	7C213P-.515CI	7C213P-.515AS
	13.49	0.5312	17/32	7C213P-0017	7C213P-0017LR	7C213P-0017CI	7C213P-0017AS
	13.50	0.5315	–	7C213P-13.5	7C213P-13.5LR	7C213P-13.5CI	7C213P-13.5AS
	13.89	0.5469	35/64	7C213P-.546	7C213P-.546LR	7C213P-.546CI	7C213P-.546AS

Inserts sold in multiples of 1



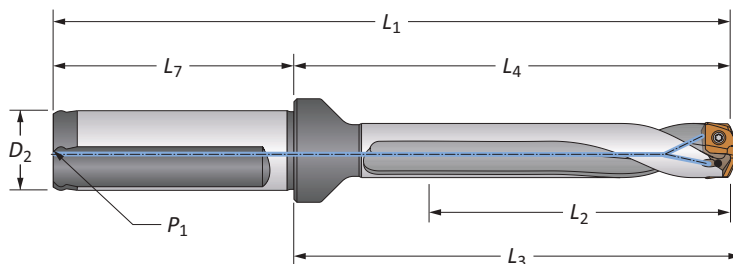
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

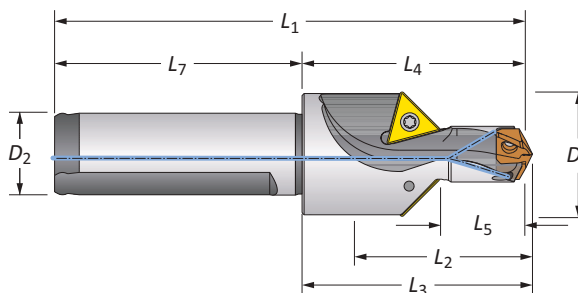
13 Series | Diameter Range: 13.00 mm - 13.99 mm (0.5118" - 0.5111")



Straight and Helical

Flute	Body					Shank				Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat	
Straight	3xD	42.0	69.0	71.4	119.0	50.0	20.0	1/8*	YES	60313S-20FM
	5xD	69.9	96.8	99.2	146.8	50.0	20.0	1/8*	YES	60513S-20FM
	7xD	98.0	125.0	127.4	175.0	50.0	20.0	1/8*	YES	60713S-20FM
Helical	Stub	16.0	43.0	45.2	93.0	50.0	20.0	1/8*	YES	60113H-20FM
	3xD	42.0	69.0	71.4	119.0	50.0	20.0	1/8*	YES	60313H-20FM
	3xD	42.0	69.0	71.4	119.0	50.0	20.0	1/8*	NO	60313H-20CM
	5xD	69.9	96.8	99.2	146.8	50.0	20.0	1/8*	YES	60513H-20FM
	5xD	69.9	96.8	99.2	146.8	50.0	20.0	1/8*	NO	60513H-20CM
	7xD	98.0	125.0	127.4	175.0	50.0	20.0	1/8*	YES	60713H-20FM
	7xD	98.0	125.0	127.4	175.0	50.0	20.0	1/8*	NO	60713H-20CM
Straight	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	1/8	YES	60313S-075F
	5xD	2-3/4	3-13/16	3-29/32	5-27/32	2-1/32	3/4	1/8	YES	60513S-075F
	7xD	3-55/64	4-59/64	5-1/64	6-61/64	2-1/32	3/4	1/8	YES	60713S-075F
	Stub	5/8	1-11/16	1-25/32	3-23/32	2-1/32	3/4	1/8	YES	60113H-075F
	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	1/8	YES	60313H-075F
	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	1/8	NO	60313H-075C
	5xD	2-3/4	3-13/16	3-29/32	5-27/32	2-1/32	3/4	1/8	YES	60513H-075F
	5xD	2-3/4	3-13/16	3-29/32	5-27/32	2-1/32	3/4	1/8	NO	60513H-075C
	7xD	3-55/64	4-59/64	5-1/64	6-61/64	2-1/32	3/4	1/8	YES	60713H-075F
	7xD	3-55/64	4-59/64	5-1/64	6-61/64	2-1/32	3/4	1/8	NO	60713H-075C

*Thread to BSP and ISO 7-1



Drill / Chamfer

Step	Body					Shank		Part No.	Chamfer Insert	
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇			D ₂
m	25.8	19.5	25.4	43.0	45.2	93.0	50.0	20.0	60113C45-20FM	TCMT-110204
i	1-1/64	49/64	1	1-11/16	1-25/32	3-23/32	2-1/32	3/4	60113C45-075F	TCMT-110204

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	
					84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

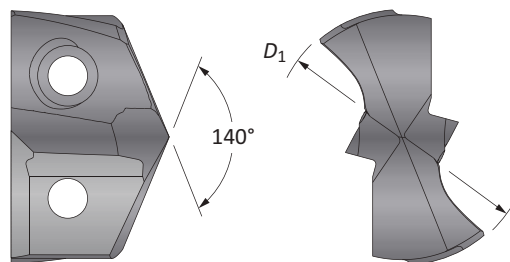
m = Metric (mm)





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

i = Imperial (in)

GEN3SYS XT Pro Drill Inserts

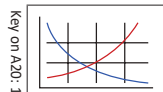
14 Series | Diameter Range: 14.00 mm - 14.99 mm (0.5512" - 0.5905")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
14.00	0.5512	-	XTP14-14.00	XTK14-14.00	XTN14-14.00	XTM14-14.00
14.10	0.5551	-	XTP14-14.10	XTK14-14.10	XTN14-14.10	XTM14-14.10
14.20	0.5591	-	XTP14-14.20	XTK14-14.20	XTN14-14.20	XTM14-14.20
14.29	0.5626	9/16	XTP14-14.29	XTK14-14.29	XTN14-14.29	XTM14-14.29
14.40	0.5669	-	XTP14-14.40	XTK14-14.40	XTN14-14.40	XTM14-14.40
14.50	0.5709	-	XTP14-14.50	XTK14-14.50	XTN14-14.50	XTM14-14.50
14.60	0.5748	-	XTP14-14.60	XTK14-14.60	XTN14-14.60	XTM14-14.60
14.68	0.5780	37/64	XTP14-14.68	XTK14-14.68	XTN14-14.68	XTM14-14.68
14.80	0.5827	-	XTP14-14.80	XTK14-14.80	XTN14-14.80	XTM14-14.80
14.90	0.5866	-	XTP14-14.90	XTK14-14.90	XTN14-14.90	XTM14-14.90

Inserts sold in multiples of 1.

A20: 68 - 83



A20: 6 - 9



Key on A20: 1

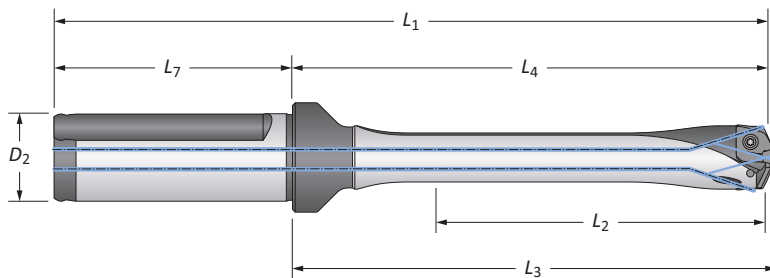
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

14 Series | Diameter Range: 14.00 mm - 14.99 mm (0.5512" - 0.5905")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
 Straight	3xD	44.8	72.2	74.9	122.2	50.0	20.0	YES	HXT0314S-20FM
	3xD	44.8	72.2	74.9	122.2	50.0	20.0	NO	HXT0314S-20CM
	5xD	75.0	102.4	104.9	152.4	50.0	20.0	YES	HXT0514S-20FM
	5xD	75.0	102.4	104.9	152.4	50.0	20.0	NO	HXT0514S-20CM
	7xD	104.8	132.2	134.8	182.2	50.0	20.0	YES	HXT0714S-20FM
	7xD	104.8	132.2	134.8	182.2	50.0	20.0	NO	HXT0714S-20CM
	10xD	149.9	177.4	179.8	227.4	50.0	20.0	YES	HXT1014S-20FM
	10xD	149.9	177.4	179.8	227.4	50.0	20.0	NO	HXT1014S-20CM
	12xD	180.0	207.2	209.8	257.2	50.0	20.0	YES	HXT1214S-20FM
	12xD	180.0	207.2	209.8	257.2	50.0	20.0	NO	HXT1214S-20CM
 Straight	3xD	1-49/64	2-27/32	2-61/64	4-7/8	2-1/32	3/4	YES	HXT0314S-075F
	3xD	1-49/64	2-27/32	2-61/64	4-7/8	2-1/32	3/4	NO	HXT0314S-075C
	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	YES	HXT0514S-075F
	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	NO	HXT0514S-075C
	7xD	4-1/8	5-13/64	5-5/16	7-15/64	2-1/32	3/4	YES	HXT0714S-075F
	7xD	4-1/8	5-13/64	5-5/16	7-15/64	2-1/32	3/4	NO	HXT0714S-075C
	10xD	5-29/32	6-63/64	7-5/64	9-1/64	2-1/32	3/4	YES	HXT1014S-075F
	10xD	5-29/32	6-63/64	7-5/64	9-1/64	2-1/32	3/4	NO	HXT1014S-075C
	12xD	7-3/32	8-5/32	8-1/4	10-3/16	2-1/32	3/4	YES	HXT1214S-075F
	12xD	7-3/32	8-5/32	8-1/4	10-3/16	2-1/32	3/4	NO	HXT1214S-075C

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

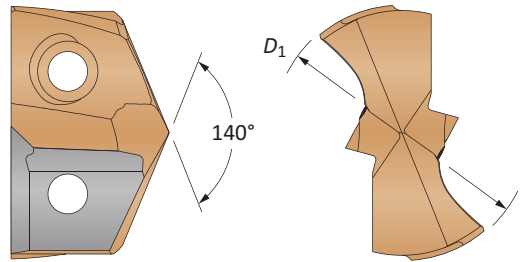
WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10

GEN3SYS XT Drill Inserts

14 Series | Diameter Range: 14.00 mm - 14.99 mm (0.5512" - 0.5905")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	14.00	0.5512	–	7C114P-14	7C114P-14LR	–	–
	14.29	0.5625	9/16	7C114P-0018	7C114P-0018LR	–	–
	14.50	0.5709	–	7C114P-14.5	7C114P-14.5LR	–	–
	14.68	0.5781	37/64	7C114P-.578	7C114P-.578LR	–	–
	14.80	0.5827	–	7C114P-14.8	7C114P-14.8LR	–	–
C2 (K20)	14.00	0.5512	–	7C214P-14	7C214P-14LR	7C214P-14CI	7C214P-14AS
	14.29	0.5625	9/16	7C214P-0018	7C214P-0018LR	7C214P-0018CI	7C214P-0018AS
	14.50	0.5709	–	7C214P-14.5	7C214P-14.5LR	7C214P-14.5CI	7C214P-14.5AS
	14.68	0.5781	37/64	7C214P-.578	7C214P-.578LR	7C214P-.578CI	7C214P-.578AS
	14.80	0.5827	–	7C214P-14.8	7C214P-14.8LR	7C214P-14.8CI	7C214P-14.8AS

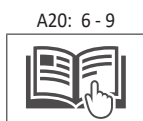
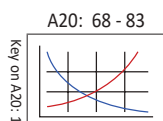
Inserts sold in multiples of 1

A DRILLING

B BORING

F THREADING

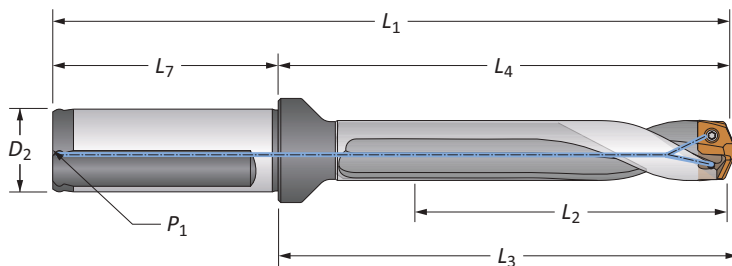
X SPECIALS



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

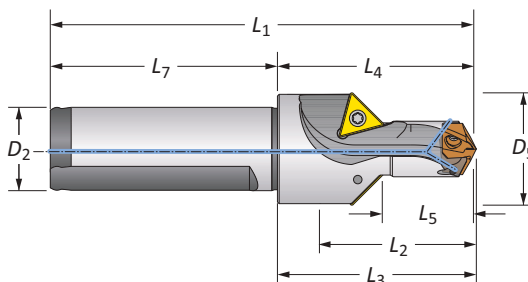
14 Series | Diameter Range: 14.00 mm - 14.99 mm (0.5512" - 0.5905")



Straight and Helical

Flute	Length	Body					Shank				Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat		
	3xD	44.8	72.2	74.9	122.2	50.0	20.0	1/8*	YES	60314S-20FM	
	5xD	75.0	102.4	104.9	152.4	50.0	20.0	1/8*	YES	60514S-20FM	
	7xD	104.8	132.2	134.8	182.2	50.0	20.0	1/8*	YES	60714S-20FM	
	Stub	17.5	44.5	47.2	94.5	50.0	20.0	1/8*	YES	60114H-20FM	
	3xD	44.8	72.2	74.9	122.2	50.0	20.0	1/8*	YES	60314H-20FM	
	3xD	44.8	72.2	74.9	122.2	50.0	20.0	1/8*	NO	60314H-20CM	
	5xD	75.0	102.4	104.9	152.4	50.0	20.0	1/8*	YES	60514H-20FM	
	5xD	75.0	102.4	104.9	152.4	50.0	20.0	1/8*	NO	60514H-20CM	
	7xD	104.8	132.2	134.8	182.2	50.0	20.0	1/8*	YES	60714H-20FM	
	7xD	104.8	132.2	134.8	182.2	50.0	20.0	1/8*	NO	60714H-20CM	
	3xD	1-49/64	2-27/32	2-61/64	4-7/8	2-1/32	3/4	1/8	YES	60314S-075F	
	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	1/8	YES	60514S-075F	
	7xD	4-1/8	5-13/64	5-5/16	7-15/64	2-1/32	3/4	1/8	YES	60714S-075F	
	Stub	11/16	1-3/4	1-55/64	3-25/32	2-1/32	3/4	1/8	YES	60114H-075F	
	3xD	1-49/64	2-27/32	2-61/64	4-7/8	2-1/32	3/4	1/8	YES	60314H-075F	
	3xD	1-49/64	2-27/32	2-61/64	4-7/8	2-1/32	3/4	1/8	NO	60314H-075C	
	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	1/8	YES	60514H-075F	
	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	1/8	NO	60514H-075C	
	7xD	4-1/8	5-13/64	5-5/16	7-15/64	2-1/32	3/4	1/8	YES	60714H-075F	
	7xD	4-1/8	5-13/64	5-5/16	7-15/64	2-1/32	3/4	1/8	NO	60714H-075C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
	26.7	21.0	26.8	44.6	47.2	94.6	50.0	20.0	60114C45-20FM	TCMT-110204
	1-3/64	53/64	1-3/64	1-3/4	1-55/64	3-25/32	2-1/32	3/4	60114C45-075F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

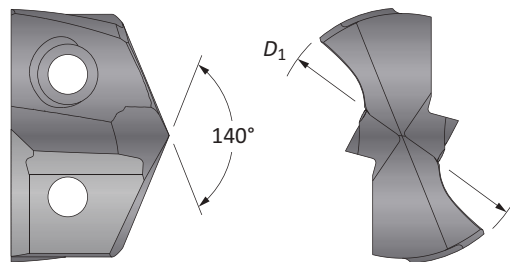
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

GEN3SYS XT Pro Drill Inserts

15 Series | Diameter Range: 15.00 mm - 15.99 mm (0.5906" - 0.6298")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
15.00	0.5906	-	XTP15-15.00	XTK15-15.00	XTN15-15.00	XTM15-15.00
15.08	0.5937	19/32	XTP15-15.08	XTK15-15.08	XTN15-15.08	XTM15-15.08
15.20	0.5984	-	XTP15-15.20	XTK15-15.20	XTN15-15.20	XTM15-15.20
15.30	0.6024	-	XTP15-15.30	XTK15-15.30	XTN15-15.30	XTM15-15.30
15.40	0.6063	-	XTP15-15.40	XTK15-15.40	XTN15-15.40	XTM15-15.40
15.48	0.6094	39/64	XTP15-15.48	XTK15-15.48	XTN15-15.48	XTM15-15.48
15.50	0.6102	-	XTP15-15.50	XTK15-15.50	XTN15-15.50	XTM15-15.50
15.60	0.6142	-	XTP15-15.60	XTK15-15.60	XTN15-15.60	XTM15-15.60
15.70	0.6181	-	XTP15-15.70	XTK15-15.70	XTN15-15.70	XTM15-15.70
15.80	0.6220	-	XTP15-15.80	XTK15-15.80	XTN15-15.80	XTM15-15.80
15.88	0.6252	5/8	XTP15-15.88	XTK15-15.88	XTN15-15.88	XTM15-15.88

Inserts sold in multiples of 1.

A
DRILLING

B
BORING

F
THREADING

X
SPECIALS

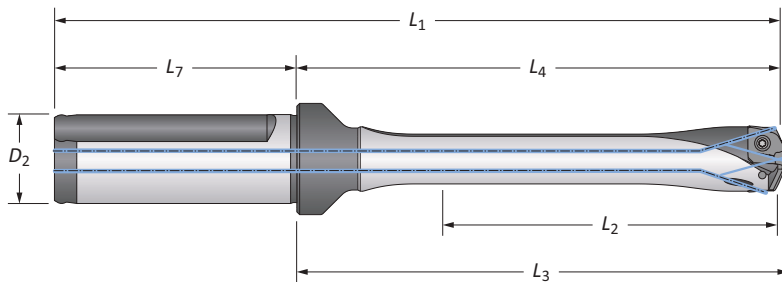
A20: 68 - 83

A20: 6 - 9

Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

15 Series | Diameter Range: 15.00 mm - 15.99 mm (0.5906" - 0.6298")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
m Straight 	3xD	48.0	75.0	77.5	125.0	50.0	20.0	YES	HXT0315S-20FM
	3xD	48.0	75.0	77.5	125.0	50.0	20.0	NO	HXT0315S-20CM
	5xD	79.8	106.8	109.5	156.8	50.0	20.0	YES	HXT0515S-20FM
	5xD	79.8	106.8	109.5	156.8	50.0	20.0	NO	HXT0515S-20CM
	7xD	111.9	138.9	141.5	188.9	50.0	20.0	YES	HXT0715S-20FM
	7xD	111.9	138.9	141.5	188.9	50.0	20.0	NO	HXT0715S-20CM
	10xD	159.9	186.9	189.5	236.9	50.0	20.0	YES	HXT1015S-20FM
	10xD	159.9	186.9	189.5	236.9	50.0	20.0	NO	HXT1015S-20CM
i Straight 	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	YES	HXT0315S-075F
	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	NO	HXT0315S-075C
	5xD	3-9/64	4-13/64	4-5/16	6-15/64	2-1/32	3/4	YES	HXT0515S-075F
	5xD	3-9/64	4-13/64	4-5/16	6-15/64	2-1/32	3/4	NO	HXT0515S-075C
	7xD	4-13/32	5-15/32	5-37/64	7-1/2	2-1/32	3/4	YES	HXT0715S-075F
	7xD	4-13/32	5-15/32	5-37/64	7-1/2	2-1/32	3/4	NO	HXT0715S-075C
	10xD	6-19/64	7-23/64	7-29/64	9-25/64	2-1/32	3/4	YES	HXT1015S-075F
	10xD	6-19/64	7-23/64	7-29/64	9-25/64	2-1/32	3/4	NO	HXT1015S-075C
12xD	7-9/16	8-39/64	8-23/32	10-41/64	2-1/32	3/4	YES	HXT1215S-075F	
12xD	7-9/16	8-39/64	8-21/32	10-41/64	2-1/32	3/4	NO	HXT1215S-075C	

Connection Accessories

					Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

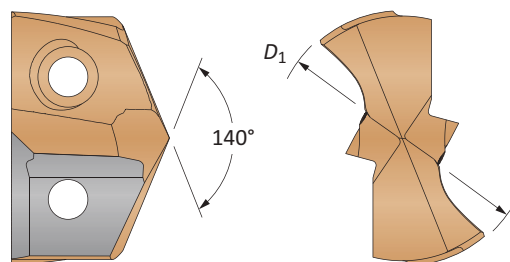
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

GEN3SYS XT Drill Inserts

15 Series | Diameter Range: 15.00 mm - 15.99 mm (0.5906" - 0.6298")

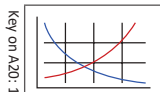


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	15.00	0.5906	–	7C115P-15	7C115P-15LR	–	–
	15.08	0.5938	19/32	7C115P-0019	7C115P-0019LR	–	–
	15.25	0.6004	–	7C115P-15.25	7C115P-15.25LR	–	–
	15.48	0.6094	39/64	7C115P-.609	7C115P-.609LR	–	–
	15.50	0.6103	–	7C115P-15.5	7C115P-15.5LR	–	–
	15.70	0.6181	–	7C115P-.618	7C115P-.618LR	–	–
C2 (K20)	15.88	0.6250	5/8	7C115P-0020	7C115P-0020LR	–	–
	15.00	0.5906	–	7C215P-15	7C215P-15LR	7C215P-15CI	7C215P-15AS
	15.08	0.5938	19/32	7C215P-0019	7C215P-0019LR	7C215P-0019CI	7C215P-0019AS
	15.25	0.6004	–	7C215P-15.25	7C215P-15.25LR	7C215P-15.25CI	7C215P-15.25AS
	15.48	0.6094	39/64	7C215P-.609	7C215P-.609LR	7C215P-.609CI	7C215P-.609AS
	15.50	0.6103	–	7C215P-15.5	7C215P-15.5LR	7C215P-15.5CI	7C215P-15.5AS
	15.70	0.6181	–	7C215P-.618	7C215P-.618LR	7C215P-.618CI	7C215P-.618AS
	15.88	0.6250	5/8	7C215P-0020	7C215P-0020LR	7C215P-0020CI	7C215P-0020AS

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



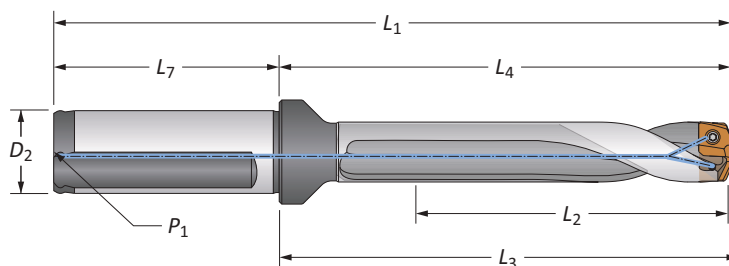
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

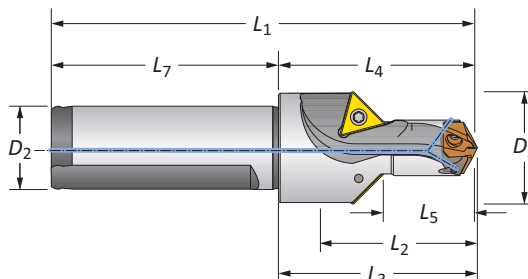
15 Series | Diameter Range: 15.00 mm - 15.99 mm (0.5906" - 0.6298")



Straight and Helical

Flute	Length	Body				Shank				Flat	Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁			
	3xD	48.0	75.0	77.5	125.0	50.0	20.0	1/8*	YES	60315S-20FM	
	5xD	79.8	106.8	109.5	156.8	50.0	20.0	1/8*	YES	60515S-20FM	
	7xD	111.9	138.9	141.5	188.9	50.0	20.0	1/8*	YES	60715S-20FM	
	Stub	17.5	44.5	46.8	94.5	50.0	20.0	1/8*	YES	60115H-20FM	
	3xD	48.0	75.0	77.5	125.0	50.0	20.0	1/8*	YES	60315H-20FM	
	3xD	48.0	75.0	77.5	125.0	50.0	20.0	1/8*	NO	60315H-20CM	
	5xD	79.8	106.8	109.5	156.8	50.0	20.0	1/8*	YES	60515H-20FM	
	5xD	79.8	106.8	109.5	156.8	50.0	20.0	1/8*	NO	60515H-20CM	
	7xD	111.9	138.9	141.5	188.9	50.0	20.0	1/8*	YES	60715H-20FM	
	7xD	111.9	138.9	141.5	188.9	50.0	20.0	1/8*	NO	60715H-20CM	
	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	1/8	YES	60315S-075F	
	5xD	3-9/64	4-13/64	4-5/16	6-15/64	2-1/32	3/4	1/8	YES	60515S-075F	
	7xD	4-13/32	5-15/32	5-37/64	7-1/2	2-1/32	3/4	1/8	YES	60715S-075F	
	Stub	11/16	1-3/4	1-27/32	3-25/32	2-1/32	3/4	1/8	YES	60115H-075F	
	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	1/8	YES	60315H-075F	
	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	1/8	NO	60315H-075C	
	5xD	3-9/64	4-13/64	4-5/16	6-15/64	2-1/32	3/4	1/8	YES	60515H-075F	
	5xD	3-9/64	4-13/64	4-5/16	6-15/64	2-1/32	3/4	1/8	NO	60515H-075C	
	7xD	4-13/32	5-15/32	5-37/64	7-1/2	2-1/32	3/4	1/8	YES	60715H-075F	
7xD	4-13/32	5-15/32	5-37/64	7-1/2	2-1/32	3/4	1/8	NO	60715H-075C		

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
	27.0	22.5	26.9	44.3	46.8	94.3	50.0	20.0	60115C45-20FM	TCMT-110204
	1-1/16	57/64	1-1/16	1-47/64	1-27/32	3-49/64	2-1/32	3/4	60115C45-075F	TCMT-110204

Connection Accessories

					Admissible Tightening Torque* 84 N-cm (7.4 in-lbs)
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

GEN3SYS XT Pro Drill Inserts

16 Series | Diameter Range: 16.00 mm - 16.99 mm (0.6299" - 0.6692")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
16.00	0.6299	-	XTP16-16.00	XTK16-16.00	XTN16-16.00	XTM16-16.00
16.08	0.6331	-	XTP16-16.08	XTK16-16.08	XTN16-16.08	XTM16-16.08
16.20	0.6378	-	XTP16-16.20	XTK16-16.20	XTN16-16.20	XTM16-16.20
16.27	0.6406	41/64	XTP16-16.27	XTK16-16.27	XTN16-16.27	XTM16-16.27
16.40	0.6457	-	XTP16-16.40	XTK16-16.40	XTN16-16.40	XTM16-16.40
16.50	0.6496	-	XTP16-16.50	XTK16-16.50	XTN16-16.50	XTM16-16.50
16.60	0.6535	-	XTP16-16.60	XTK16-16.60	XTN16-16.60	XTM16-16.60
16.67	0.6563	21/32	XTP16-16.67	XTK16-16.67	XTN16-16.67	XTM16-16.67
16.80	0.6614	-	XTP16-16.80	XTK16-16.80	XTN16-16.80	XTM16-16.80
16.90	0.6654	-	XTP16-16.90	XTK16-16.90	XTN16-16.90	XTM16-16.90

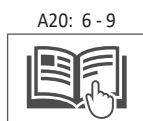
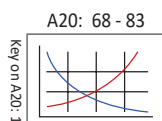
Inserts sold in multiples of 1.

A
DRILLING

B
BORING

F
THREADING

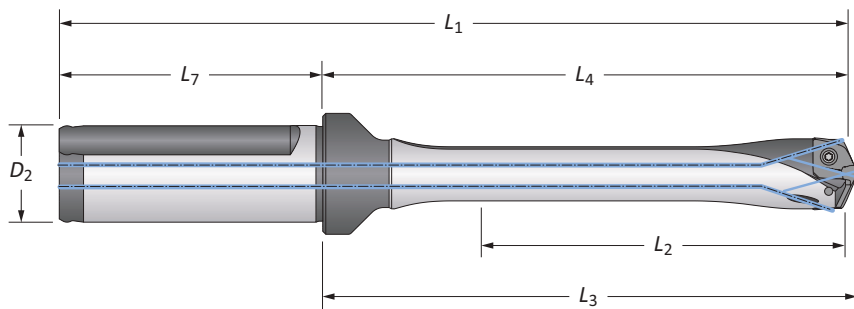
X
SPECIALS



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

16 Series | Diameter Range: 16.00 mm - 16.99 mm (0.6299" - 0.6692")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
	3xD	50.8	81.3	84.2	131.3	50.0	20.0	YES	HXT0316S-20FM	
	3xD	50.8	81.3	84.2	131.3	50.0	20.0	NO	HXT0316S-20CM	
	5xD	85.0	115.1	118.2	165.1	50.0	20.0	YES	HXT0516S-20FM	
	5xD	85.0	115.1	118.2	165.1	50.0	20.0	NO	HXT0516S-20CM	
	7xD	119.0	149.2	152.0	199.2	50.0	20.0	YES	HXT0716S-20FM	
	7xD	119.0	149.2	152.0	199.2	50.0	20.0	NO	HXT0716S-20CM	
	10xD	169.9	200.0	203.2	250.0	50.0	20.0	YES	HXT1016S-20FM	
	10xD	169.9	200.0	203.2	250.0	50.0	20.0	NO	HXT1016S-20CM	
	12xD	204.0	234.3	237.2	284.3	50.0	20.0	YES	HXT1216S-20FM	
12xD	204.0	234.3	237.2	284.3	50.0	20.0	NO	HXT1216S-20CM		
	3xD	2	3-13/64	3-5/16	5-15/64	2-1/32	3/4	YES	HXT0316S-075F	
	3xD	2	3-13/64	3-5/16	5-15/64	2-1/32	3/4	NO	HXT0316S-075C	
	5xD	3-11/32	4-17/32	4-21/32	6-9/16	2-1/32	3/4	YES	HXT0516S-075F	
	5xD	3-11/32	4-17/32	4-21/32	6-9/16	2-1/32	3/4	NO	HXT0516S-075C	
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	YES	HXT0716S-075F	
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	NO	HXT0716S-075C	
	10xD	6-11/16	7-7/8	8	9-29/32	2-1/32	3/4	YES	HXT1016S-075F	
	10xD	6-11/16	7-7/8	8	9-29/32	2-1/32	3/4	NO	HXT1016S-075C	
	12xD	8-1/32	9-7/32	9-21/64	11-1/4	2-1/32	3/4	YES	HXT1216S-075F	
12xD	8-1/32	9-7/32	9-21/64	11-1/4	2-1/32	3/4	NO	HXT1216S-075C		

Connection Accessories

					Admissible Tightening Torque*
72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	
					175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

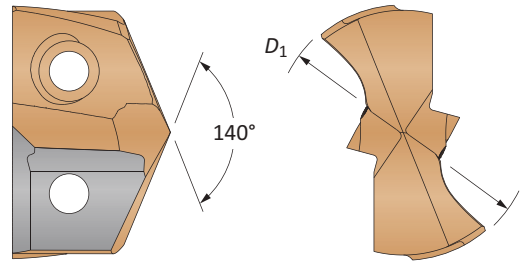
= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

GEN3SYS XT Drill Inserts

16 Series | Diameter Range: 16.00 mm - 16.99 mm (0.6299" - 0.6692")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	16.00	0.6299	–	7C116P-16	7C116P-16LR	–	–
	16.08	0.6331	–	7C116P-16.08	7C116P-16.08LR	–	–
	16.27	0.6406	41/64	7C116P-.640	7C116P-.640LR	–	–
	16.50	0.6496	–	7C116P-16.5	7C116P-16.5LR	–	–
	16.67	0.6563	21/32	7C116P-0021	7C116P-0021LR	–	–
C2 (K20)	16.00	0.6299	–	7C216P-16	7C216P-16LR	7C216P-16CI	7C216P-16AS
	16.08	0.6331	–	7C216P-16.08	7C216P-16.08LR	7C216P-16.08CI	7C216P-16.08AS
	16.27	0.6406	41/64	7C216P-.640	7C216P-.640LR	7C216P-.640CI	7C216P-.640AS
	16.50	0.6496	–	7C216P-16.5	7C216P-16.5LR	7C216P-16.5CI	7C216P-16.5AS
	16.67	0.6563	21/32	7C216P-0021	7C216P-0021LR	7C216P-0021CI	7C216P-0021AS

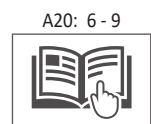
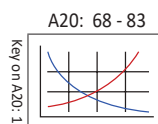
Inserts sold in multiples of 1

A
DRILLING

B
BORING

F
THREADING

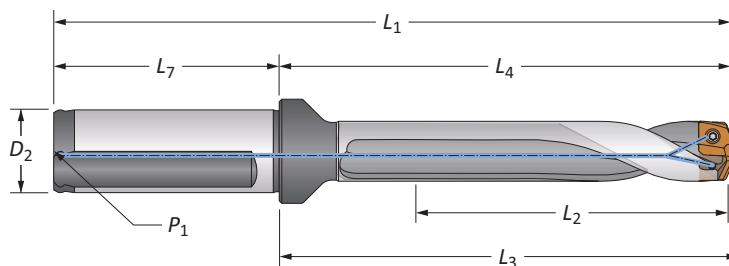
X
SPECIALS



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

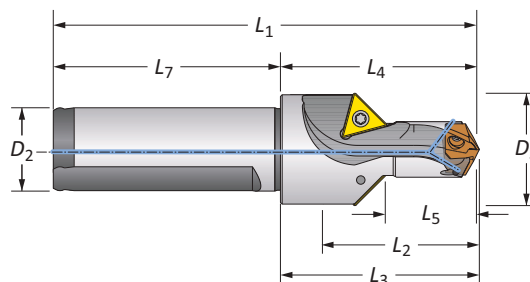
16 Series | Diameter Range: 16.00 mm - 16.99 mm (0.6299" - 0.6692")



Straight and Helical

Flute	Length	Body					Shank				Flat	Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁				
Straight	3xD	50.8	81.3	84.2	131.3	50.0	20.0	1/8*	YES	60316S-20FM		
	5xD	85.0	115.1	118.2	165.1	50.0	20.0	1/8*	YES	60516S-20FM		
	7xD	119.0	149.2	152.0	199.2	50.0	20.0	1/8*	YES	60716S-20FM		
Helical	Stub	21.0	50.8	53.7	100.8	50.0	20.0	1/8*	YES	60116H-20FM		
	3xD	50.8	81.3	84.2	131.3	50.0	20.0	1/8*	YES	60316H-20FM		
	3xD	50.8	81.3	84.2	131.3	50.0	20.0	1/8*	NO	60316H-20CM		
	5xD	85.0	115.1	118.2	165.1	50.0	20.0	1/8*	YES	60516H-20FM		
	5xD	85.0	115.1	118.2	165.1	50.0	20.0	1/8*	NO	60516H-20CM		
	7xD	119.0	149.2	152.0	199.2	50.0	20.0	1/8*	YES	60716H-20FM		
	7xD	119.0	149.2	152.0	199.2	50.0	20.0	1/8*	NO	60716H-20CM		
Straight	3xD	2	3-13/64	3-5/16	5-15/64	2-1/32	3/4	1/8	YES	60316S-075F		
	5xD	3-11/32	4-17/32	4-21/32	6-9/16	2-1/32	3/4	1/8	YES	60516S-075F		
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	1/8	YES	60716S-075F		
	Stub	13/16	2	2-7/64	4-1/32	2-1/32	3/4	1/8	YES	60116H-075F		
	3xD	2	3-13/64	3-5/16	5-15/64	2-1/32	3/4	1/8	YES	60316H-075F		
	3xD	2	3-13/64	3-5/16	5-15/64	2-1/32	3/4	1/8	NO	60316H-075C		
	5xD	3-11/32	4-17/32	4-21/32	6-9/16	2-1/32	3/4	1/8	YES	60516H-075F		
	5xD	3-11/32	4-17/32	4-21/32	6-9/16	2-1/32	3/4	1/8	NO	60516H-075C		
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	1/8	YES	60716H-075F		
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	1/8	NO	60716H-075C		

*Thread to BSP and ISO 7-1



Drill / Chamfer

Step	Body					Shank			Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
27.0	24.0	33.1	50.8	53.7	100.8	50.0	20.0	60116C45-20FM	TCMT-110204	
1-1/16	61/64	1-19/64	2	2-7/64	4-1/32	2-1/32	3/4	60116C45-075F	TCMT-110204	

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

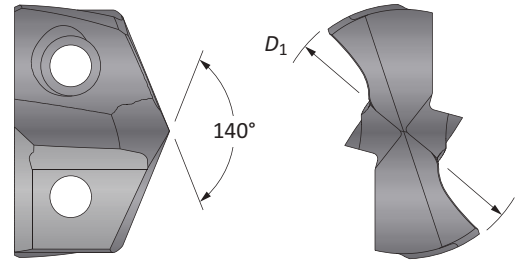
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

GEN3SYS XT Pro Drill Inserts

17 Series | Diameter Range: 17.00 mm - 17.99 mm (0.6693" - 0.7086")

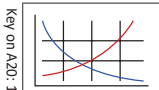


Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
17.00	0.6693	–	XTP17-17.00	XTK17-17.00	XTN17-17.00	XTM17-17.00
17.07	0.6720	43/64	XTP17-17.07	XTK17-17.07	XTN17-17.07	XTM17-17.07
17.10	0.6732	–	XTP17-17.10	XTK17-17.10	XTN17-17.10	XTM17-17.10
17.20	0.6772	–	XTP17-17.20	XTK17-17.20	XTN17-17.20	XTM17-17.20
17.30	0.6811	–	XTP17-17.30	XTK17-17.30	XTN17-17.30	XTM17-17.30
17.40	0.6850	–	XTP17-17.40	XTK17-17.40	XTN17-17.40	XTM17-17.40
17.46	0.6874	11/16	XTP17-17.46	XTK17-17.46	XTN17-17.46	XTM17-17.46
17.50	0.6890	–	XTP17-17.50	XTK17-17.50	XTN17-17.50	XTM17-17.50
17.60	0.6929	–	XTP17-17.60	XTK17-17.60	XTN17-17.60	XTM17-17.60
17.70	0.6969	–	XTP17-17.70	XTK17-17.70	XTN17-17.70	XTM17-17.70
17.80	0.7008	–	XTP17-17.80	XTK17-17.80	XTN17-17.80	XTM17-17.80
17.86	0.7031	45/64	XTP17-17.86	XTK17-17.86	XTN17-17.86	XTM17-17.86
17.90	0.7047	–	XTP17-17.90	XTK17-17.90	XTN17-17.90	XTM17-17.90

Inserts sold in multiples of 1.

A20: 68 - 83

A20: 6 - 9



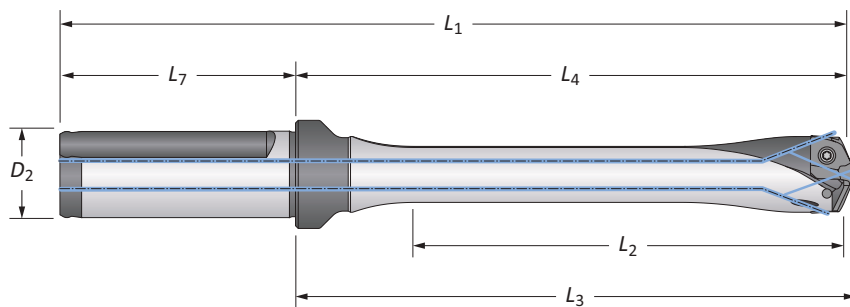
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

17 Series | Diameter Range: 17.00 mm - 17.99 mm (0.6693" - 0.7086")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
	3xD	54.0	83.8	86.9	133.8	50.0	20.0	YES	HXT0317S-20FM	
	3xD	54.0	83.8	86.9	133.8	50.0	20.0	NO	HXT0317S-20CM	
	5xD	90.0	119.8	122.9	169.8	50.0	20.0	YES	HXT0517S-20FM	
	5xD	90.0	119.8	122.9	169.8	50.0	20.0	NO	HXT0517S-20CM	
	7xD	125.8	156.0	158.9	206.0	50.0	20.0	YES	HXT0717S-20FM	
	7xD	125.8	156.0	158.9	206.0	50.0	20.0	NO	HXT0717S-20CM	
	10xD	179.8	209.9	212.8	259.9	50.0	20.0	YES	HXT1017S-20FM	
	10xD	179.8	209.9	212.8	259.9	50.0	20.0	NO	HXT1017S-20CM	
	3xD	2-1/8	3-19/64	3-27/64	5-21/64	2-1/32	3/4	YES	HXT0317S-075F	
	3xD	2-1/8	3-19/64	3-27/64	5-21/64	2-1/32	3/4	NO	HXT0317S-075C	
	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	YES	HXT0517S-075F	
	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	NO	HXT0517S-075C	
	7xD	4-61/64	6-9/64	6-1/4	8-11/64	2-1/32	3/4	YES	HXT0717S-075F	
	7xD	4-61/64	6-9/64	6-1/4	8-11/64	2-1/32	3/4	NO	HXT0717S-075C	
	10xD	7-5/64	8-17/64	8-3/8	10-19/64	2-1/32	3/4	YES	HXT1017S-075F	
	10xD	7-5/64	8-17/64	8-3/8	10-19/64	2-1/32	3/4	NO	HXT1017S-075C	
12xD	8-1/2	9-11/16	9-13/16	11-23/32	2-1/32	3/4	YES	HXT1217S-075F		
12xD	8-1/2	9-11/16	9-13/16	11-23/32	2-1/32	3/4	NO	HXT1217S-075C		

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

= Metric (mm)
 = Imperial (in)

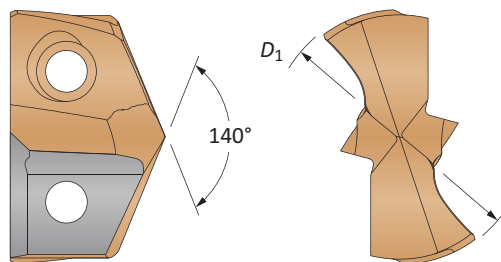
Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



GEN3SYS XT Drill Inserts

17 Series | Diameter Range: 17.00 mm - 17.99 mm (0.6693" - 0.7086")

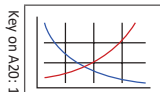


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	17.00	0.6693	–	7C117P-17	7C117P-17LR	–	–
	17.07	0.6719	43/64	7C117P-.671	7C117P-.671LR	–	–
	17.10	0.6732	–	7C117P-17.1	7C117P-17.1LR	–	–
	17.20	0.6772	–	7C117P-17.2	7C117P-17.2LR	–	–
	17.46	0.6875	11/16	7C117P-0022	7C117P-0022LR	–	–
	17.50	0.6890	–	7C117P-17.5	7C117P-17.5LR	–	–
C2 (K20)	17.00	0.6693	–	7C217P-17	7C217P-17LR	7C217P-17CI	7C217P-17AS
	17.07	0.6719	43/64	7C217P-.671	7C217P-.671LR	7C217P-.671CI	7C217P-.671AS
	17.10	0.6732	–	7C217P-17.1	7C217P-17.1LR	7C217P-17.1CI	7C217P-17.1AS
	17.20	0.6772	–	7C217P-17.2	7C217P-17.2LR	7C217P-17.2CI	7C217P-17.2AS
	17.46	0.6875	11/16	7C217P-0022	7C217P-0022LR	7C217P-0022CI	7C217P-0022AS
	17.50	0.6890	–	7C217P-17.5	7C217P-17.5LR	7C217P-17.5CI	7C217P-17.5AS
	17.86	0.7031	45/64	7C217P-.703	7C217P-.703LR	7C217P-.703CI	7C217P-.703AS

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



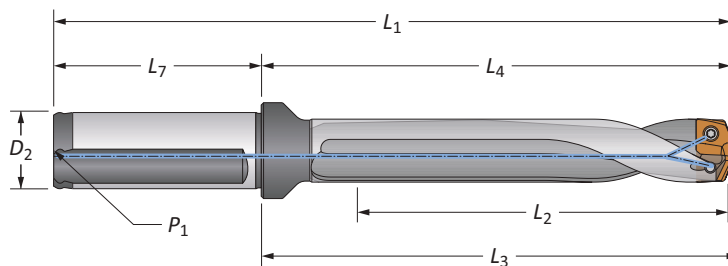
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

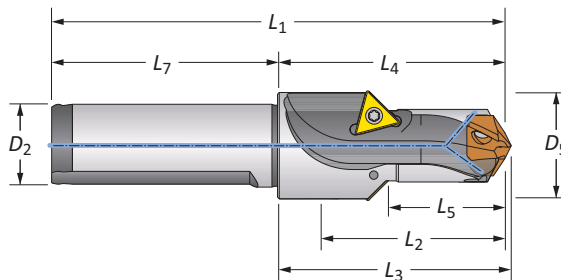
17 Series | Diameter Range: 17.00 mm - 17.99 mm (0.6693" - 0.7086")



Straight and Helical

Flute	Length	Body					Shank				Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat		
Straight	3xD	54.0	83.8	86.9	133.8	50.0	20.0	1/8*	YES	60317S-20FM	
	5xD	90.0	119.8	122.9	169.8	50.0	20.0	1/8*	YES	60517S-20FM	
	7xD	125.8	156.0	158.9	206.0	50.0	20.0	1/8*	YES	60717S-20FM	
Helical	Stub	20.6	50.5	53.5	100.5	50.0	20.0	1/8*	YES	60117H-20FM	
	3xD	54.0	83.8	86.9	133.8	50.0	20.0	1/8*	YES	60317H-20FM	
	3xD	54.0	83.8	86.9	133.8	50.0	20.0	1/8*	NO	60317H-20CM	
	5xD	90.0	119.8	122.9	169.8	50.0	20.0	1/8*	YES	60517H-20FM	
	5xD	90.0	119.8	122.9	169.8	50.0	20.0	1/8*	NO	60517H-20CM	
	7xD	125.8	156.0	158.9	206.0	50.0	20.0	1/8*	YES	60717H-20FM	
	7xD	125.8	156.0	158.9	206.0	50.0	20.0	1/8*	NO	60717H-20CM	
Straight	3xD	2-1/8	3-19/64	3-27/64	5-21/64	2-1/32	3/4	1/8	YES	60317S-075F	
	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	1/8	YES	60517S-075F	
	7xD	4-61/64	6-9/64	6-1/4	8-11/64	2-1/32	3/4	1/8	YES	60717S-075F	
	Stub	13/16	1-63/64	2-7/64	4-1/64	2-1/32	3/4	1/8	YES	60117H-075F	
	3xD	2-1/8	3-19/64	3-27/64	5-21/64	2-1/32	3/4	1/8	YES	60317H-075F	
	3xD	2-1/8	3-19/64	3-27/64	5-21/64	2-1/32	3/4	1/8	NO	60317H-075C	
	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	1/8	YES	60517H-075F	
	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	1/8	NO	60517H-075C	
	7xD	4-61/64	6-9/64	6-1/4	8-11/64	2-1/32	3/4	1/8	YES	60717H-075F	
	7xD	4-61/64	6-9/64	6-1/4	8-11/64	2-1/32	3/4	1/8	NO	60717H-075C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	25.4	25.5	33.3	50.5	53.4	100.5	50.0	20.0	60117C45-20FM	TCMT-110204
i	1	1	1-5/16	1-63/64	2-7/64	4-1/64	2-1/32	3/4	60117C45-075F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

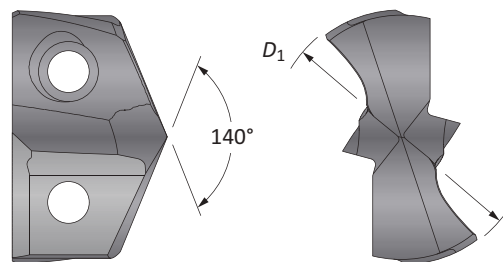
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

GEN3SYS XT Pro Drill Inserts

18 Series | Diameter Range: 18.00 mm - 19.99 mm (0.7087" - 0.7873")

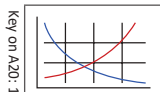


Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
18.00	0.7087	-	XTP18-18.00	XTK18-18.00	XTN18-18.00	XTM18-18.00
18.10	0.7126	-	XTP18-18.10	XTK18-18.10	XTN18-18.10	XTM18-18.10
18.20	0.7165	-	XTP18-18.20	XTK18-18.20	XTN18-18.20	XTM18-18.20
18.26	0.7189	23/32	XTP18-18.26	XTK18-18.26	XTN18-18.26	XTM18-18.26
18.30	0.7205	-	XTP18-18.30	XTK18-18.30	XTN18-18.30	XTM18-18.30
18.40	0.7244	-	XTP18-18.40	XTK18-18.40	XTN18-18.40	XTM18-18.40
18.50	0.7283	-	XTP18-18.50	XTK18-18.50	XTN18-18.50	XTM18-18.50
18.60	0.7323	-	XTP18-18.60	XTK18-18.60	XTN18-18.60	XTM18-18.60
18.65	0.7343	47/64	XTP18-18.65	XTK18-18.65	XTN18-18.65	XTM18-18.65
18.70	0.7362	-	XTP18-18.70	XTK18-18.70	XTN18-18.70	XTM18-18.70
18.80	0.7402	-	XTP18-18.80	XTK18-18.80	XTN18-18.80	XTM18-18.80
18.90	0.7441	-	XTP18-18.90	XTK18-18.90	XTN18-18.90	XTM18-18.90
19.00	0.7480	-	XTP18-19.00	XTK18-19.00	XTN18-19.00	XTM18-19.00
19.05	0.7500	3/4	XTP18-19.05	XTK18-19.05	XTN18-19.05	XTM18-19.05
19.10	0.7520	-	XTP18-19.10	XTK18-19.10	XTN18-19.10	XTM18-19.10
19.20	0.7559	-	XTP18-19.20	XTK18-19.20	XTN18-19.20	XTM18-19.20
19.25	0.7579	-	XTP18-19.25	XTK18-19.25	XTN18-19.25	XTM18-19.25
19.30	0.7598	-	XTP18-19.30	XTK18-19.30	XTN18-19.30	XTM18-19.30
19.40	0.7638	-	XTP18-19.40	XTK18-19.40	XTN18-19.40	XTM18-19.40
19.45	0.7657	49/64	XTP18-19.45	XTK18-19.45	XTN18-19.45	XTM18-19.45
19.50	0.7677	-	XTP18-19.50	XTK18-19.50	XTN18-19.50	XTM18-19.50
19.60	0.7717	-	XTP18-19.60	XTK18-19.60	XTN18-19.60	XTM18-19.60
19.70	0.7756	-	XTP18-19.70	XTK18-19.70	XTN18-19.70	XTM18-19.70
19.80	0.7795	-	XTP18-19.80	XTK18-19.80	XTN18-19.80	XTM18-19.80
19.84	0.7811	25/32	XTP18-19.84	XTK18-19.84	XTN18-19.84	XTM18-19.84
19.90	0.7835	-	XTP18-19.90	XTK18-19.90	XTN18-19.90	XTM18-19.90

Inserts sold in multiples of 1.

A20: 68 - 83

A20: 6 - 9



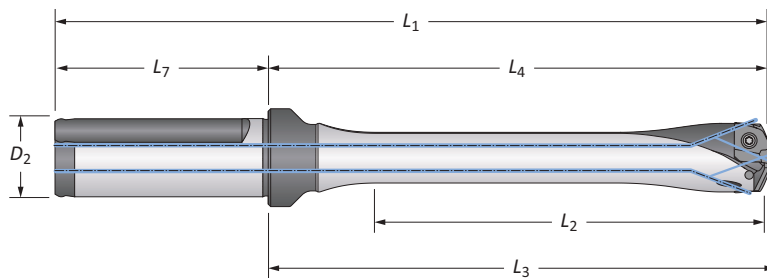
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

18 Series | Diameter Range: 18.00 mm - 19.99 mm (0.7087" - 0.7873")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
 Straight	3xD	60.0	94.0	96.8	150.0	56.0	25.0	YES	HXT0318S-25FM
	3xD	60.0	94.0	96.8	150.0	56.0	25.0	NO	HXT0318S-25CM
	5xD	100.0	133.7	136.8	189.7	56.0	25.0	YES	HXT0518S-25FM
	5xD	100.0	133.7	136.8	189.7	56.0	25.0	NO	HXT0518S-25CM
	7xD	140.0	173.4	176.8	229.4	56.0	25.0	YES	HXT0718S-25FM
	7xD	140.0	173.4	176.8	229.4	56.0	25.0	NO	HXT0718S-25CM
	10xD	199.9	234.1	236.7	290.1	56.0	25.0	YES	HXT1018S-25FM
	10xD	199.9	234.1	236.7	290.1	56.0	25.0	NO	HXT1018S-25CM
	12xD	240.0	273.9	276.7	329.9	56.0	25.0	YES	HXT1218S-25FM
12xD	240.0	273.9	276.7	329.9	56.0	25.0	NO	HXT1218S-25CM	
 Straight	3xD	2-23/64	3-45/64	3-13/16	5-63/64	2-9/32	1	YES	HXT0318S-100F
	3xD	2-23/64	3-45/64	3-13/16	5-63/64	2-9/32	1	NO	HXT0318S-100C
	5xD	3-15/16	5-17/64	5-25/64	7-35/64	2-9/32	1	YES	HXT0518S-100F
	5xD	3-15/16	5-17/64	5-25/64	7-35/64	2-9/32	1	NO	HXT0518S-100C
	7xD	5-33/64	6-27/32	6-61/64	9-1/8	2-9/32	1	YES	HXT0718S-100F
	7xD	5-33/64	6-27/32	6-61/64	9-1/8	2-9/32	1	NO	HXT0718S-100C
	10xD	7-7/8	9-7/32	9-5/16	11-31/64	2-9/32	1	YES	HXT1018S-100F
	10xD	7-7/8	9-7/32	9-5/16	11-31/64	2-9/32	1	NO	HXT1018S-100C
	12xD	9-7/16	10-25/32	10-57/64	13-1/16	2-9/32	1	YES	HXT1218S-100F
12xD	9-7/16	10-25/32	10-57/64	13-1/16	2-9/32	1	NO	HXT1218S-100C	

Connection Accessories

					Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

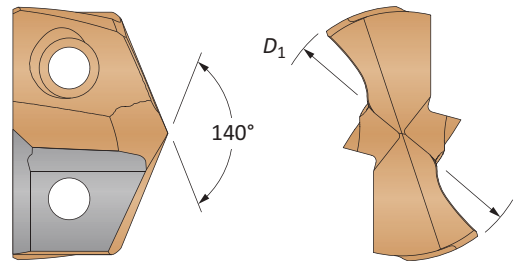
= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

GEN3SYS XT Drill Inserts

18 Series | Diameter Range: 18.00 mm - 19.99 mm (0.7087" - 0.7873")

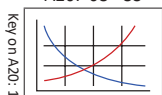


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	18.00	0.7087	–	7C118P-18	7C118P-18LR	–	–
	18.26	0.7188	23/32	7C118P-0023	7C118P-0023LR	–	–
	18.50	0.7283	–	7C118P-18.5	7C118P-18.5LR	–	–
	18.65	0.7344	47/64	7C118P-.734	7C118P-.734LR	–	–
	19.00	0.7480	–	7C118P-19	7C118P-19LR	–	–
	19.05	0.7500	3/4	7C118P-0024	7C118P-0024LR	–	–
	19.25	0.7580	–	7C118P-.758	7C118P-.758LR	–	–
	19.45	0.7656	49/64	7C118P-.765	7C118P-.765LR	–	–
	19.50	0.7677	–	7C118P-19.5	7C118P-19.5LR	–	–
	19.80	0.7795	–	7C118P-19.8	7C118P-19.8LR	–	–
19.85	0.7813	25/32	7C118P-0025	7C118P-0025LR	–	–	
C2 (K20)	18.00	0.7087	–	7C218P-18	7C218P-18LR	7C218P-18CI	7C218P-18AS
	18.26	0.7188	23/32	7C218P-0023	7C218P-0023LR	7C218P-0023CI	7C218P-0023AS
	18.50	0.7283	–	7C218P-18.5	7C218P-18.5LR	7C218P-18.5CI	7C218P-18.5AS
	18.65	0.7344	47/64	7C218P-.734	7C218P-.734LR	7C218P-.734CI	7C218P-.734AS
	19.00	0.7480	–	7C218P-19	7C218P-19LR	7C218P-19CI	7C218P-19AS
	19.05	0.7500	3/4	7C218P-0024	7C218P-0024LR	7C218P-0024CI	7C218P-0024AS
	19.25	0.7580	–	7C218P-.758	7C218P-.758LR	7C218P-.758CI	7C218P-.758AS
	19.45	0.7656	49/64	7C218P-.765	7C218P-.765LR	7C218P-.765CI	7C218P-.765AS
	19.50	0.7677	–	7C218P-19.5	7C218P-19.5LR	7C218P-19.5CI	7C218P-19.5AS
	19.80	0.7795	–	7C218P-19.8	7C218P-19.8LR	7C218P-19.8CI	7C218P-19.8AS
19.85	0.7813	25/32	7C218P-0025	7C218P-0025LR	7C218P-0025CI	7C218P-0025AS	

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



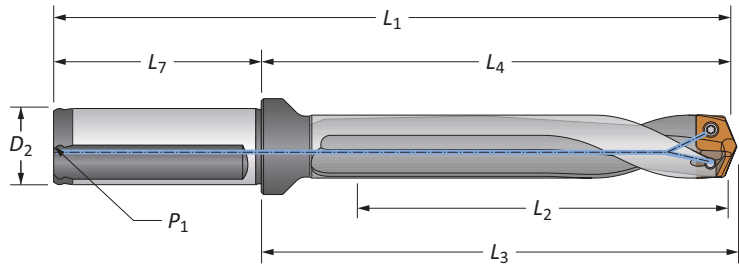
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

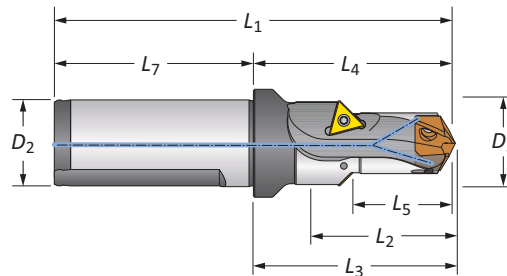
18 Series | Diameter Range: 18.00 mm - 19.99 mm (0.7087" - 0.7873")



Straight and Helical

Flute	Body						Shank				Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat		
Straight	3xD	60.0	94.0	96.8	150.0	56.0	25.0	1/8*	YES	60318S-25FM	
	5xD	100.0	133.7	136.8	189.7	56.0	25.0	1/8*	YES	60518S-25FM	
	7xD	140.0	173.4	176.8	229.4	56.0	25.0	1/8*	YES	60718S-25FM	
Helical	Stub	22.0	56.0	58.8	112.0	56.0	25.0	1/8*	YES	60118H-25FM	
	3xD	60.0	94.0	96.8	150.0	56.0	25.0	1/8*	YES	60318H-25FM	
	3xD	60.0	94.0	96.8	150.0	56.0	25.0	1/8*	NO	60318H-25CM	
	5xD	100.0	133.7	136.8	189.7	56.0	25.0	1/8*	YES	60518H-25FM	
	5xD	100.0	133.7	136.8	189.7	56.0	25.0	1/8*	NO	60518H-25CM	
	7xD	140.0	173.4	176.8	229.4	56.0	25.0	1/8*	YES	60718H-25FM	
	7xD	140.0	173.4	176.8	229.4	56.0	25.0	1/8*	NO	60718H-25CM	
Straight	3xD	2-23/64	3-45/64	3-13/16	5-63/64	2-9/32	1	1/8	YES	60318S-100F	
	5xD	3-15/16	5-17/64	5-25/64	7-35/64	2-9/32	1	1/8	YES	60518S-100F	
	7xD	5-33/64	6-27/32	6-61/64	9-1/8	2-9/32	1	1/8	YES	60718S-100F	
	Stub	7/8	2-13/64	2-5/16	4-31/64	2-9/32	1	1/8	YES	60118H-100F	
	3xD	2-23/64	3-45/64	3-13/16	5-63/64	2-9/32	1	1/8	YES	60318H-100F	
	3xD	2-23/64	3-45/64	3-13/16	5-63/64	2-9/32	1	1/8	NO	60318H-100C	
	5xD	3-15/16	5-17/64	5-25/64	7-35/64	2-9/32	1	1/8	YES	60518H-100F	
	5xD	3-15/16	5-17/64	5-25/64	7-35/64	2-9/32	1	1/8	NO	60518H-100C	
	7xD	5-33/64	6-27/32	6-61/64	9-1/8	2-9/32	1	1/8	YES	60718H-100F	
7xD	5-33/64	6-27/32	6-61/64	9-1/8	2-9/32	1	1/8	NO	60718H-100C		

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	25.1	27	35.2	56.0	58.8	112.0	56.0	25.0	60118C45-25FM	TCMT-110204
i	63/64	1-1/16	1-25/64	2-13/64	2-5/16	4-31/64	2-9/32	1	60118C45-100F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

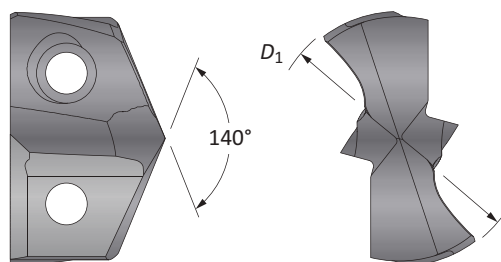
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

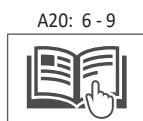
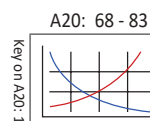
GEN3SYS XT Pro Drill Inserts

20 Series | Diameter Range: 20.00 mm - 21.99 mm (0.7874" - 0.8660")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
20.00	0.7874	-	XTP20-20.00	XTK20-20.00	XTN20-20.00	XTM20-20.00
20.10	0.7913	-	XTP20-20.10	XTK20-20.10	XTN20-20.10	XTM20-20.10
20.20	0.7953	-	XTP20-20.20	XTK20-20.20	XTN20-20.20	XTM20-20.20
20.24	0.7969	51/64	XTP20-20.24	XTK20-20.24	XTN20-20.24	XTM20-20.24
20.30	0.7992	-	XTP20-20.30	XTK20-20.30	XTN20-20.30	XTM20-20.30
20.40	0.8031	-	XTP20-20.40	XTK20-20.40	XTN20-20.40	XTM20-20.40
20.50	0.8071	-	XTP20-20.50	XTK20-20.50	XTN20-20.50	XTM20-20.50
20.60	0.8110	-	XTP20-20.60	XTK20-20.60	XTN20-20.60	XTM20-20.60
20.64	0.8126	13/16	XTP20-20.64	XTK20-20.64	XTN20-20.64	XTM20-20.64
20.70	0.8150	-	XTP20-20.70	XTK20-20.70	XTN20-20.70	XTM20-20.70
20.80	0.8189	-	XTP20-20.80	XTK20-20.80	XTN20-20.80	XTM20-20.80
20.90	0.8228	-	XTP20-20.90	XTK20-20.90	XTN20-20.90	XTM20-20.90
21.00	0.8268	-	XTP20-21.00	XTK20-21.00	XTN20-21.00	XTM20-21.00
21.10	0.8307	-	XTP20-21.10	XTK20-21.10	XTN20-21.10	XTM20-21.10
21.20	0.8346	-	XTP20-21.20	XTK20-21.20	XTN20-21.20	XTM20-21.20
21.30	0.8386	-	XTP20-21.30	XTK20-21.30	XTN20-21.30	XTM20-21.30
21.40	0.8425	-	XTP20-21.40	XTK20-21.40	XTN20-21.40	XTM20-21.40
21.43	0.8437	27/32	XTP20-21.43	XTK20-21.43	XTN20-21.43	XTM20-21.43
21.50	0.8465	-	XTP20-21.50	XTK20-21.50	XTN20-21.50	XTM20-21.50
21.60	0.8504	-	XTP20-21.60	XTK20-21.60	XTN20-21.60	XTM20-21.60
21.70	0.8543	-	XTP20-21.70	XTK20-21.70	XTN20-21.70	XTM20-21.70
21.80	0.8583	-	XTP20-21.80	XTK20-21.80	XTN20-21.80	XTM20-21.80
21.83	0.8594	55/64	XTP20-21.83	XTK20-21.83	XTN20-21.83	XTM20-21.83
21.90	0.8622	-	XTP20-21.90	XTK20-21.90	XTN20-21.90	XTM20-21.90

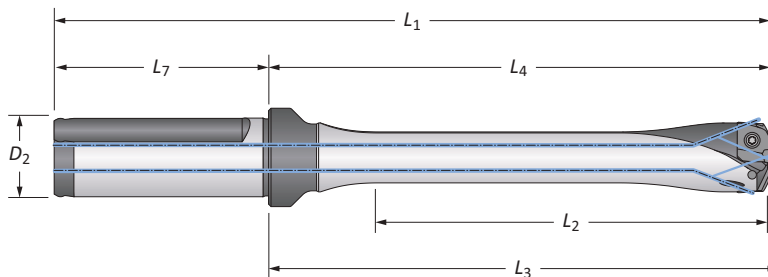
Inserts sold in multiples of 1.



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

20 Series | Diameter Range: 20.00 mm - 21.99 mm (0.7874" - 0.8660")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
m Straight 	3xD	66.0	100.0	102.9	156.0	56.0	25.0	YES	HXT0320S-25FM
	3xD	66.0	100.0	102.9	156.0	56.0	25.0	NO	HXT0320S-25CM
	5xD	110.0	144.0	146.9	200.0	56.0	25.0	YES	HXT0520S-25FM
	5xD	110.0	144.0	146.9	200.0	56.0	25.0	NO	HXT0520S-25CM
	7xD	153.9	187.0	190.9	243.0	56.0	25.0	YES	HXT0720S-25FM
	7xD	153.9	187.0	190.9	243.0	56.0	25.0	NO	HXT0720S-25CM
	10xD	219.9	254.0	256.8	310.0	56.0	25.0	YES	⚠ HXT1020S-25FM
	10xD	219.9	254.0	256.8	310.0	56.0	25.0	NO	⚠ HXT1020S-25CM
	12xD	264.0	298.0	300.8	354.0	56.0	25.0	YES	⚠ HXT1220S-25FM
12xD	264.0	298.0	300.8	354.0	56.0	25.0	NO	⚠ HXT1220S-25CM	
i Straight 	3xD	2-19/32	3-15/16	4-3/64	6-7/32	2-9/32	1	YES	HXT0320S-100F
	3xD	2-19/32	3-15/16	4-3/64	6-7/32	2-9/32	1	NO	HXT0320S-100C
	5xD	4-21/64	5-43/64	5-25/32	7-61/64	2-9/32	1	YES	HXT0520S-100F
	5xD	4-21/64	5-43/64	5-25/32	7-61/64	2-9/32	1	NO	HXT0520S-100C
	7xD	6-1/16	7-13/32	7-33/64	9-11/16	2-9/32	1	YES	HXT0720S-100F
	7xD	6-1/16	7-13/32	7-33/64	9-11/16	2-9/32	1	NO	HXT0720S-100C
	10xD	8-21/32	10	10-7/64	12-9/32	2-9/32	1	YES	⚠ HXT1020S-100F
	10xD	8-21/32	10	10-7/64	12-9/32	2-9/32	1	NO	⚠ HXT1020S-100C
	12xD	10-25/64	11-47/64	11-27/32	14-1/64	2-9/32	1	YES	⚠ HXT1220S-100F
12xD	10-25/64	11-47/64	11-27/32	14-1/64	2-9/32	1	NO	⚠ HXT1220S-100C	

Connection Accessories

					Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

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

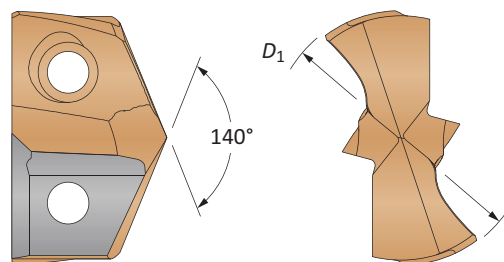
Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



GEN3SYS XT Drill Inserts

20 Series | Diameter Range: 20.00 mm - 21.99 mm (0.7874" - 0.8660")

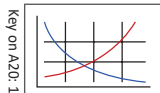


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	20.00	0.7874	–	7C120P-20	7C120P-20LR	–	–
	20.24	0.7969	51/64	7C120P-.796	7C120P-.796LR	–	–
	20.50	0.8071	–	7C120P-20.5	7C120P-20.5LR	–	–
	20.64	0.8125	13/16	7C120P-0026	7C120P-0026LR	–	–
	21.00	0.8268	–	7C120P-21	7C120P-21LR	–	–
	21.43	0.8438	27/32	7C120P-0027	7C120P-0027LR	–	–
	21.50	0.8465	–	7C120P-21.5	7C120P-21.5LR	–	–
C2 (K20)	21.83	0.8594	55/64	7C120P-.859	7C120P-.859LR	–	–
	20.00	0.7874	–	7C220P-20	7C220P-20LR	7C220P-20CI	7C220P-20AS
	20.24	0.7969	51/64	7C220P-.796	7C220P-.796LR	7C220P-.796CI	7C220P-.796AS
	20.50	0.8071	–	7C220P-20.5	7C220P-20.5LR	7C220P-20.5CI	7C220P-20.5AS
	20.64	0.8125	13/16	7C220P-0026	7C220P-0026LR	7C220P-0026CI	7C220P-0026AS
	21.00	0.8268	–	7C220P-21	7C220P-21LR	7C220P-21CI	7C220P-21AS
	21.43	0.8438	27/32	7C220P-0027	7C220P-0027LR	7C220P-0027CI	7C220P-0027AS
21.50	0.8465	–	7C220P-21.5	7C220P-21.5LR	7C220P-21.5CI	7C220P-21.5AS	
21.83	0.8594	55/64	7C220P-.859	7C220P-.859LR	7C220P-.859CI	7C220P-.859AS	

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



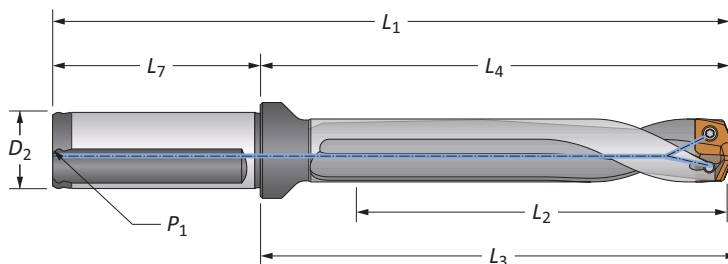
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

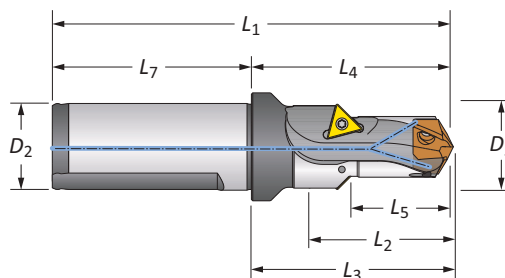
20 Series | Diameter Range: 20.00 mm - 21.99 mm (0.7874" - 0.8660")



Straight and Helical

Flute	Body					Shank				Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat	
Straight	3xD	66.0	100.0	102.9	156.0	56.0	25.0	1/8*	YES	60320S-25FM
	5xD	110.0	144.0	146.9	200.0	56.0	25.0	1/8*	YES	60520S-25FM
	7xD	153.9	187.0	190.9	243.0	56.0	25.0	1/8*	YES	60720S-25FM
Helical	Stub	24.0	57.6	60.4	113.6	56.0	25.0	1/8*	YES	60120H-25FM
	3xD	66.0	100.0	102.9	156.0	56.0	25.0	1/8*	YES	60320H-25FM
	3xD	66.0	100.0	102.9	156.0	56.0	25.0	1/8*	NO	60320H-25CM
	5xD	110.0	144.0	146.9	200.0	56.0	25.0	1/8*	YES	60520H-25FM
	5xD	110.0	144.0	146.9	200.0	56.0	25.0	1/8*	NO	60520H-25CM
	7xD	153.9	187.0	190.9	243.0	56.0	25.0	1/8*	YES	60720H-25FM
	7xD	153.9	187.0	190.9	243.0	56.0	25.0	1/8*	NO	60720H-25CM
Straight	3xD	2-19/32	3-15/16	4-3/64	6-7/32	2-9/32	1	1/8	YES	60320S-100F
	5xD	4-21/64	5-43/64	5-25/32	7-61/64	2-9/32	1	1/8	YES	60520S-100F
	7xD	6-1/16	7-13/32	7-33/64	9-11/16	2-9/32	1	1/8	YES	60720S-100F
	Stub	15/16	2-17/64	2-3/8	4-35/64	2-9/32	1	1/8	YES	60120H-100F
	3xD	2-19/32	3-15/16	4-3/64	6-7/32	2-9/32	1	1/8	YES	60320H-100F
	3xD	2-19/32	3-15/16	4-3/64	6-7/32	2-9/32	1	1/8	NO	60320H-100C
	5xD	4-21/64	5-43/64	5-25/32	7-61/64	2-9/32	1	1/8	YES	60520H-100F
	5xD	4-21/64	5-43/64	5-25/32	7-61/64	2-9/32	1	1/8	NO	60520H-100C
	7xD	6-1/16	7-13/32	7-33/64	9-11/16	2-9/32	1	1/8	YES	60720H-100F
	7xD	6-1/16	7-13/32	7-33/64	9-11/16	2-9/32	1	1/8	NO	60720H-100C

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	27.2	30.0	37.1	57.6	60.4	113.6	56.0	25.0	60120C45-25FM	TCMT-110204
i	1-5/64	1-3/16	1-29/64	2-17/64	2-3/8	4-35/64	2-9/32	1	60120C45-100F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

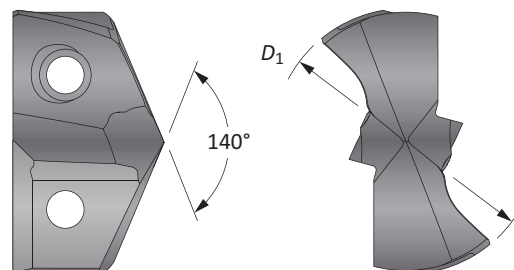
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

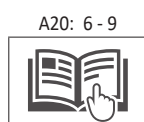
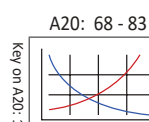
GEN3SYS XT Pro Drill Inserts

22 Series | Diameter Range: 22.00 mm - 23.99 mm (0.8661" - 0.9448")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
22.00	0.8661	-	XTP22-22.00	XTK22-22.00	XTN22-22.00	XTM22-22.00
22.10	0.8701	-	XTP22-22.10	XTK22-22.10	XTN22-22.10	XTM22-22.10
22.20	0.8740	-	XTP22-22.20	XTK22-22.20	XTN22-22.20	XTM22-22.20
22.23	0.8752	7/8	XTP22-22.23	XTK22-22.23	XTN22-22.23	XTM22-22.23
22.30	0.8780	-	XTP22-22.30	XTK22-22.30	XTN22-22.30	XTM22-22.30
22.40	0.8819	-	XTP22-22.40	XTK22-22.40	XTN22-22.40	XTM22-22.40
22.50	0.8858	-	XTP22-22.50	XTK22-22.50	XTN22-22.50	XTM22-22.50
22.62	0.8906	57/64	XTP22-22.62	XTK22-22.62	XTN22-22.62	XTM22-22.62
22.70	0.8937	-	XTP22-22.70	XTK22-22.70	XTN22-22.70	XTM22-22.70
22.80	0.8976	-	XTP22-22.80	XTK22-22.80	XTN22-22.80	XTM22-22.80
22.90	0.9016	-	XTP22-22.90	XTK22-22.90	XTN22-22.90	XTM22-22.90
23.00	0.9055	-	XTP22-23.00	XTK22-23.00	XTN22-23.00	XTM22-23.00
23.02	0.9063	29/32	XTP22-23.02	XTK22-23.02	XTN22-23.02	XTM22-23.02
23.10	0.9094	-	XTP22-23.10	XTK22-23.10	XTN22-23.10	XTM22-23.10
23.20	0.9134	-	XTP22-23.20	XTK22-23.20	XTN22-23.20	XTM22-23.20
23.30	0.9173	-	XTP22-23.30	XTK22-23.30	XTN22-23.30	XTM22-23.30
23.42	0.9220	59/64	XTP22-23.42	XTK22-23.42	XTN22-23.42	XTM22-23.42
23.50	0.9252	-	XTP22-23.50	XTK22-23.50	XTN22-23.50	XTM22-23.50
23.60	0.9291	-	XTP22-23.60	XTK22-23.60	XTN22-23.60	XTM22-23.60
23.70	0.9331	-	XTP22-23.70	XTK22-23.70	XTN22-23.70	XTM22-23.70
23.81	0.9374	15/16	XTP22-23.81	XTK22-23.81	XTN22-23.81	XTM22-23.81
23.90	0.9409	-	XTP22-23.90	XTK22-23.90	XTN22-23.90	XTM22-23.90

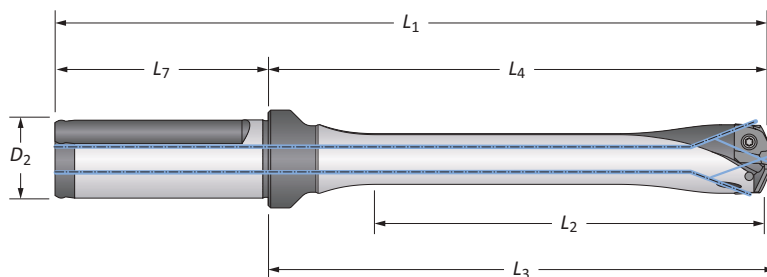
Inserts sold in multiples of 1.



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

22 Series | Diameter Range: 22.00 mm - 23.99 mm (0.8661" - 0.9448")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
m Straight 	3xD	72.0	105.1	108.3	161.1	56.0	25.0	YES	HXT0322S-25FM	
	3xD	72.0	105.1	108.3	161.1	56.0	25.0	NO	HXT0322S-25CM	
	5xD	120.0	153.2	156.2	209.2	56.0	25.0	YES	HXT0522S-25FM	
	5xD	120.0	153.2	156.2	209.2	56.0	25.0	NO	HXT0522S-25CM	
	7xD	167.9	201.2	204.2	257.2	56.0	25.0	YES	HXT0722S-25FM	
	7xD	167.9	201.2	204.2	257.2	56.0	25.0	NO	HXT0722S-25CM	
	10xD	239.9	273.0	276.2	329.0	56.0	25.0	YES	HXT1022S-25FM	
	10xD	239.9	273.0	276.2	329.0	56.0	25.0	NO	HXT1022S-25CM	
	12xD	288.0	321.2	324.2	377.2	56.0	25.0	YES	HXT1222S-25FM	
	12xD	288.0	321.2	324.2	377.2	56.0	25.0	NO	HXT1222S-25CM	
i Straight 	3xD	2-53/64	4-9/64	4-17/64	6-27/64	2-9/32	1	YES	HXT0322S-100F	
	3xD	2-53/64	4-9/64	4-17/64	6-27/64	2-9/32	1	NO	HXT0322S-100C	
	5xD	4-23/32	6-1/32	6-5/32	8-5/16	2-9/32	1	YES	HXT0522S-100F	
	5xD	4-23/32	6-1/32	6-5/32	8-5/16	2-9/32	1	NO	HXT0522S-100C	
	7xD	6-39/64	7-59/64	8-3/64	10-13/64	2-9/32	1	YES	HXT0722S-100F	
	7xD	6-39/64	7-59/64	8-3/64	10-13/64	2-9/32	1	NO	HXT0722S-100C	
	10xD	9-7/16	10-3/4	10-7/8	13-1/32	2-9/32	1	YES	HXT1022S-100F	
	10xD	9-7/16	10-3/4	10-7/8	13-1/32	2-9/32	1	NO	HXT1022S-100C	
	12xD	11-11/32	12-41/64	12-3/4	14-59/64	2-9/32	1	YES	HXT1222S-100F	
	12xD	11-11/32	12-41/64	12-3/4	14-59/64	2-9/32	1	NO	HXT1222S-100C	

Connection Accessories

					Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

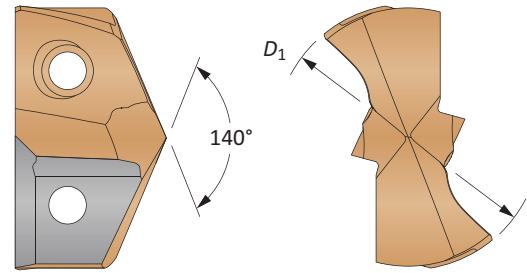
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

Ⓜ = Metric (mm)
 Ⓢ = Imperial (in)

Screws sold in multiples of 10

GEN3SYS XT Drill Inserts

22 Series | Diameter Range: 22.00 mm - 23.99 mm (0.8661" - 0.9448")

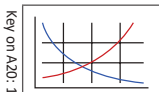


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	22.00	0.8661	–	7C122P-22	7C122P-22LR	–	–
	22.23	0.8750	7/8	7C122P-0028	7C122P-0028LR	–	–
	22.61	0.8906	57/64	7C122P-.890	7C122P-.890LR	–	–
	23.00	0.9055	–	7C122P-23	7C122P-23LR	–	–
	23.02	0.9063	29/32	7C122P-0029	7C122P-0029LR	–	–
	23.42	0.9219	59/64	7C122P-.921	7C122P-.921LR	–	–
C2 (K20)	23.81	0.9375	15/16	7C122P-0030	7C122P-0030LR	–	–
	22.00	0.8661	–	7C222P-22	7C222P-22LR	7C222P-22CI	7C222P-22AS
	22.23	0.8750	7/8	7C222P-0028	7C222P-0028LR	7C222P-0028CI	7C222P-0028AS
	22.61	0.8906	57/64	7C222P-.890	7C222P-.890LR	7C222P-.890CI	7C222P-.890AS
	23.00	0.9055	–	7C222P-23	7C222P-23LR	7C222P-23CI	7C222P-23AS
	23.02	0.9063	29/32	7C222P-0029	7C222P-0029LR	7C222P-0029CI	7C222P-0029AS
23.42	0.9219	59/64	7C222P-.921	7C222P-.921LR	7C222P-.921CI	7C222P-.921AS	
23.81	0.9375	15/16	7C222P-0030	7C222P-0030LR	7C222P-0030CI	7C222P-0030AS	

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



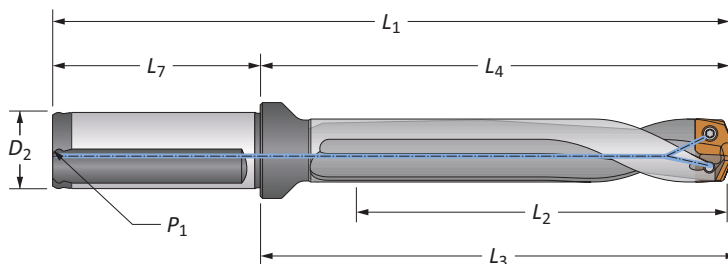
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

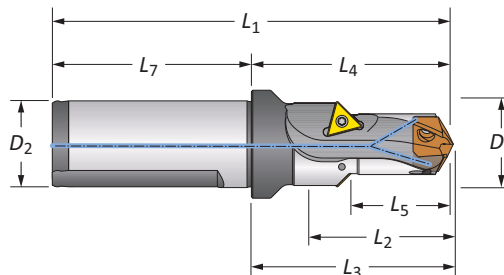
22 Series | Diameter Range: 22.00 mm - 23.99 mm (0.8661" - 0.9448")



Straight and Helical

Flute	Body					Shank				Part No.	
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat		
Straight	3xD	72.0	105.1	108.3	161.1	56.0	25.0	1/8*	YES	60322S-25FM	
	5xD	120.0	153.2	156.2	209.2	56.0	25.0	1/8*	YES	60522S-25FM	
	7xD	167.9	201.2	204.2	257.2	56.0	25.0	1/8*	YES	60722S-25FM	
Helical	Stub	27.0	60.1	63.0	116.1	56.0	25.0	1/8*	YES	60122H-25FM	
	3xD	72.0	105.1	108.3	116.1	56.0	25.0	1/8*	YES	60322H-25FM	
	3xD	72.0	105.1	108.3	116.1	56.0	25.0	1/8*	NO	60322H-25CM	
	5xD	120.0	153.2	156.2	209.2	56.0	25.0	1/8*	YES	60522H-25FM	
	5xD	120.0	153.2	156.2	209.2	56.0	25.0	1/8*	NO	60522H-25CM	
	7xD	167.9	201.2	204.2	257.2	56.0	25.0	1/8*	YES	60722H-25FM	
	7xD	167.9	201.2	204.2	257.2	56.0	25.0	1/8*	NO	60722H-25CM	
Straight	3xD	2-53/64	4-9/64	4-17/64	6-27/64	2-9/32	1	1/8	YES	60322S-100F	
	5xD	4-23/32	6-1/32	6-5/32	8-5/16	2-9/32	1	1/8	YES	60522S-100F	
	7xD	6-39/64	7-59/64	8-3/64	10-13/64	2-9/32	1	1/8	YES	60722S-100F	
	Stub	1-1/16	2-23/64	2-31/64	4-41/64	2-9/32	1	1/8	YES	60122H-100F	
	Helical	3xD	2-53/64	4-9/64	4-17/64	6-27/64	2-9/32	1	1/8	YES	60322H-100F
		3xD	2-53/64	4-9/64	4-17/64	6-27/64	2-9/32	1	1/8	NO	60322H-100C
		5xD	4-23/32	6-1/32	6-5/32	8-5/16	2-9/32	1	1/8	YES	60522H-100F
		5xD	4-23/32	6-1/32	6-5/32	8-5/16	2-9/32	1	1/8	NO	60522H-100C
		7xD	6-39/64	7-59/64	8-3/64	10-13/64	2-9/32	1	1/8	YES	60722H-100F
		7xD	6-39/64	7-59/64	8-3/64	10-13/64	2-9/32	1	1/8	NO	60722H-100C

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	29.0	33.0	40.5	60.0	63.0	116.0	56.0	25.0	60122C45-25FM	TCMT-110204
i	1-9/64	1-19/64	1-19/32	2-23/64	2-31/64	4-41/64	2-9/32	1	60122C45-100F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

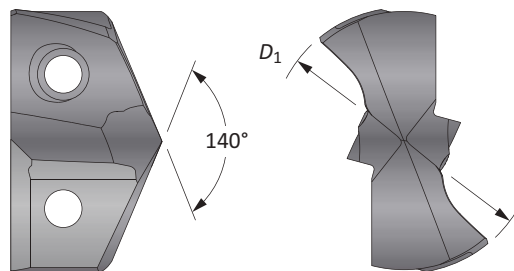
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10





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



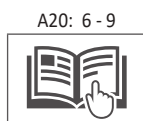
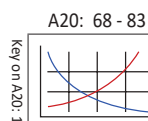
GEN3SYS XT Pro Drill Inserts

24 Series | Diameter Range: 24.00 mm - 25.99 mm (0.9449" - 1.0235")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
24.00	0.9449	-	XTP24-24.00	XTK24-24.00	XTN24-24.00	XTM24-24.00
24.10	0.9488	-	XTP24-24.10	XTK24-24.10	XTN24-24.10	XTM24-24.10
24.20	0.9528	-	XTP24-24.20	XTK24-24.20	XTN24-24.20	XTM24-24.20
24.30	0.9567	-	XTP24-24.30	XTK24-24.30	XTN24-24.30	XTM24-24.30
24.40	0.9606	-	XTP24-24.40	XTK24-24.40	XTN24-24.40	XTM24-24.40
24.50	0.9646	-	XTP24-24.50	XTK24-24.50	XTN24-24.50	XTM24-24.50
24.61	0.9689	31/32	XTP24-24.61	XTK24-24.61	XTN24-24.61	XTM24-24.61
24.70	0.9724	-	XTP24-24.70	XTK24-24.70	XTN24-24.70	XTM24-24.70
24.80	0.9764	-	XTP24-24.80	XTK24-24.80	XTN24-24.80	XTM24-24.80
24.90	0.9803	-	XTP24-24.90	XTK24-24.90	XTN24-24.90	XTM24-24.90
25.00	0.9843	63/64	XTP24-25.00	XTK24-25.00	XTN24-25.00	XTM24-25.00
25.10	0.9882	-	XTP24-25.10	XTK24-25.10	XTN24-25.10	XTM24-25.10
25.20	0.9921	-	XTP24-25.20	XTK24-25.20	XTN24-25.20	XTM24-25.20
25.30	0.9961	-	XTP24-25.30	XTK24-25.30	XTN24-25.30	XTM24-25.30
25.40	1.0000	1	XTP24-25.40	XTK24-25.40	XTN24-25.40	XTM24-25.40
25.50	1.0039	-	XTP24-25.50	XTK24-25.50	XTN24-25.50	XTM24-25.50
25.60	1.0079	-	XTP24-25.60	XTK24-25.60	XTN24-25.60	XTM24-25.60
25.70	1.0118	-	XTP24-25.70	XTK24-25.70	XTN24-25.70	XTM24-25.70
25.78	1.0150	1-1/64	XTP24-25.78	XTK24-25.78	XTN24-25.78	XTM24-25.78
25.90	1.0197	-	XTP24-25.90	XTK24-25.90	XTN24-25.90	XTM24-25.90

Inserts sold in multiples of 1.



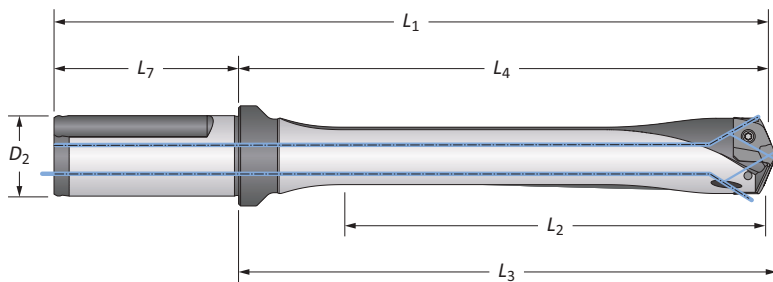
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

24 Series | Diameter Range: 24.00 mm - 25.99 mm (0.9449" - 1.0235")



Flute	Body					Shank			Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	Flat	
 Straight	3xD	78.0	113.9	116.8	169.9	56.0	25.0	YES	HXT0324S-25FM
	3xD	78.0	113.9	116.8	169.9	56.0	25.0	NO	HXT0324S-25CM
	5xD	130.0	165.9	168.7	221.9	56.0	25.0	YES	HXT0524S-25FM
	5xD	130.0	165.9	168.7	221.9	56.0	25.0	NO	HXT0524S-25CM
	7xD	181.9	217.9	220.7	273.9	56.0	25.0	YES	HXT0724S-25FM
	7xD	181.9	217.9	220.7	273.9	56.0	25.0	NO	HXT0724S-25CM
	10xD	259.9	295.7	298.7	351.7	56.0	25.0	YES	HXT1024S-25FM
	10xD	259.9	295.7	298.7	351.7	56.0	25.0	NO	HXT1024S-25CM
	12xD	312.0	347.7	350.7	403.7	56.0	25.0	YES	HXT1224S-25FM
12xD	312.0	347.7	350.7	403.7	56.0	25.0	NO	HXT1224S-25CM	
 Straight	3xD	3-1/16	4-31/64	4-19/32	6-49/64	2-9/32	1	YES	HXT0324S-100F
	3xD	3-1/16	4-31/64	4-19/32	6-49/64	2-9/32	1	NO	HXT0324S-100C
	5xD	5-7/64	6-17/32	6-41/64	8-13/16	2-9/32	1	YES	HXT0524S-100F
	5xD	5-7/64	6-17/32	6-41/64	8-13/16	2-9/32	1	NO	HXT0524S-100C
	7xD	7-5/32	8-37/64	8-11/16	10-55/64	2-9/32	1	YES	HXT0724S-100F
	7xD	7-5/32	8-37/64	8-11/16	10-55/64	2-9/32	1	NO	HXT0724S-100C
	10xD	10-15/64	11-41/64	11-49/64	13-59/64	2-9/32	1	YES	HXT1024S-100F
	10xD	10-15/64	11-41/64	11-49/64	13-59/64	2-9/32	1	NO	HXT1024S-100C
	12xD	12-9/32	13-11/16	13-51/64	15-31/32	2-9/32	1	YES	HXT1224S-100F
12xD	12-9/32	13-11/16	13-15/64	15-31/32	2-9/32	1	NO	HXT1224S-100C	

Connection Accessories

					Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

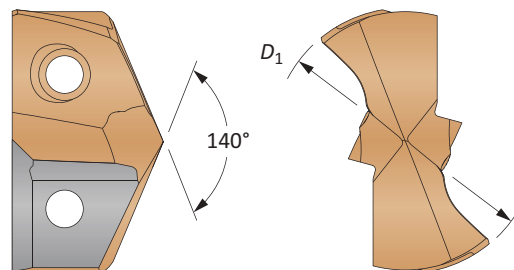
= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

GEN3SYS XT Drill Inserts

24 Series | Diameter Range: 24.00 mm - 25.99 mm (0.9449" - 1.0235")

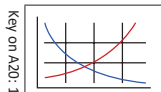


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	24.00	0.9449	–	7C124P-24	7C124P-24LR	–	–
	24.61	0.9688	31/32	7C124P-0031	7C124P-0031LR	–	–
	25.00	0.9843	63/64	7C124P-25	7C124P-25LR	–	–
	25.40	1.0000	1	7C124P-0100	7C124P-0100LR	–	–
	25.60	1.0080	–	7C124P-1.008	7C124P-1.008LR	–	–
	25.78	1.0156	1-1/64	7C124P-1.015	7C124P-1.015LR	–	–
C2 (K20)	24.00	0.9449	–	7C224P-24	7C224P-24LR	7C224P-24CI	7C224P-24AS
	24.61	0.9688	31/32	7C224P-0031	7C224P-0031LR	7C224P-0031CI	7C224P-0031AS
	25.00	0.9843	63/64	7C224P-25	7C224P-25LR	7C224P-25CI	7C224P-25AS
	25.40	1.0000	1	7C224P-0100	7C224P-0100LR	7C224P-0100CI	7C224P-0100AS
	25.60	1.0080	–	7C224P-1.008	7C224P-1.008LR	7C224P-1.008CI	7C224P-1.008AS
	25.78	1.0156	1-1/64	7C224P-1.015	7C224P-1.015LR	7C224P-1.015CI	7C224P-1.015AS

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



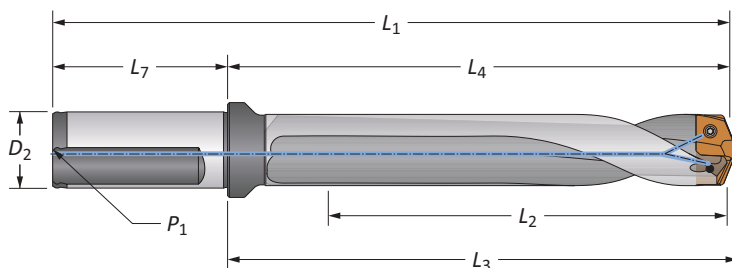
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

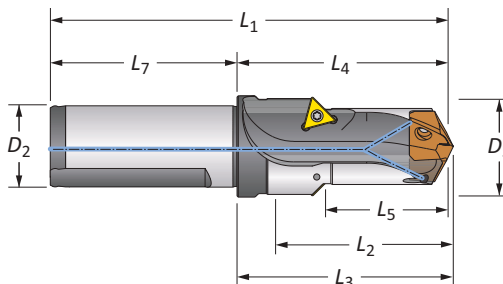
24 Series | Diameter Range: 24.00 mm - 25.99 mm (0.9449" - 1.0235")



Straight and Helical

Flute	Body					Shank				Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat	
Straight	3xD	78.0	113.9	116.8	169.9	56.0	25.0	1/8*	YES	60324S-25FM
	5xD	130.0	165.9	168.7	221.9	56.0	25.0	1/8*	YES	60524S-25FM
	7xD	181.9	217.9	220.7	273.9	56.0	25.0	1/8*	YES	60724S-25FM
Helical	Stub	28.5	64.2	67.1	120.1	56.0	25.0	1/8*	YES	60124H-25FM
	3xD	78.0	113.9	116.8	169.9	56.0	25.0	1/8*	YES	60324H-25FM
	3xD	78.0	113.9	116.8	169.9	56.0	25.0	1/8*	NO	60324H-25CM
	5xD	130.0	165.9	168.7	221.9	56.0	25.0	1/8*	YES	60524H-25FM
	5xD	130.0	165.9	168.7	221.9	56.0	25.0	1/8*	NO	60524H-25CM
	7xD	181.9	217.9	220.7	273.9	56.0	25.0	1/8*	YES	60724H-25FM
	7xD	181.9	217.9	220.7	273.9	56.0	25.0	1/8*	NO	60724H-25CM
Straight	3xD	3-1/16	4-31/64	4-19/32	6-49/64	2-9/32	1	1/8	YES	60324S-100F
	5xD	5-7/64	6-17/32	6-41/64	8-13/16	2-9/32	1	1/8	YES	60524S-100F
	7xD	7-5/32	8-37/64	8-11/16	10-55/64	2-9/32	1	1/8	YES	60724S-100F
	Stub	1-1/8	2-17/32	2-41/64	4-13/16	2-9/32	1	1/8	YES	60124H-100F
	3xD	3-1/16	4-31/64	4-19/32	6-49/64	2-9/32	1	1/8	YES	60324H-100F
	3xD	3-1/16	4-31/64	4-19/32	6-49/64	2-9/32	1	1/8	NO	60324H-100C
	5xD	5-7/64	6-17/32	6-41/64	8-13/16	2-9/32	1	1/8	YES	60524H-100F
	5xD	5-7/64	6-17/32	6-41/64	8-13/16	2-9/32	1	1/8	NO	60524H-100C
	7xD	7-5/32	8-37/64	8-11/16	10-55/64	2-9/32	1	1/8	YES	60724H-100F
	7xD	7-5/32	8-37/64	8-11/16	10-55/64	2-9/32	1	1/8	NO	60724H-100C

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	31.0	36.0	45.5	64.2	67.1	120.2	56.0	25.0	60124C45-25FM	TCMT-110204
i	1-7/32	1-27/64	1-51/64	2-17/32	2-41/64	4-13/16	2-9/32	1	60124C45-100F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

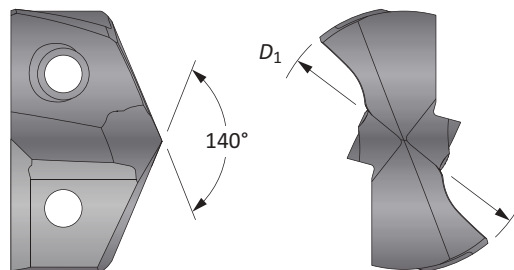
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

GEN3SYS XT Pro Drill Inserts

26 Series | Diameter Range: 26.00 mm - 28.99 mm (1.0236" - 1.1416")

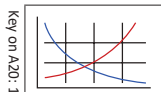


Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
26.00	1.0236	-	XTP26-26.00	XTK26-26.00	XTN26-26.00	XTM26-26.00
26.10	1.0276	-	XTP26-26.10	XTK26-26.10	XTN26-26.10	XTM26-26.10
26.20	1.0315	1-1/32	XTP26-26.20	XTK26-26.20	XTN26-26.20	XTM26-26.20
26.30	1.0354	-	XTP26-26.30	XTK26-26.30	XTN26-26.30	XTM26-26.30
26.40	1.0394	-	XTP26-26.40	XTK26-26.40	XTN26-26.40	XTM26-26.40
26.50	1.0433	-	XTP26-26.50	XTK26-26.50	XTN26-26.50	XTM26-26.50
26.59	1.0469	1-3/64	XTP26-26.59	XTK26-26.59	XTN26-26.59	XTM26-26.59
26.60	1.0472	-	XTP26-26.60	XTK26-26.60	XTN26-26.60	XTM26-26.60
26.70	1.0512	-	XTP26-26.70	XTK26-26.70	XTN26-26.70	XTM26-26.70
26.80	1.0551	-	XTP26-26.80	XTK26-26.80	XTN26-26.80	XTM26-26.80
26.90	1.0591	-	XTP26-26.90	XTK26-26.90	XTN26-26.90	XTM26-26.90
26.99	1.0626	1-1/16	XTP26-26.99	XTK26-26.99	XTN26-26.99	XTM26-26.99
27.00	1.0630	-	XTP26-27.00	XTK26-27.00	XTN26-27.00	XTM26-27.00
27.10	1.0669	-	XTP26-27.10	XTK26-27.10	XTN26-27.10	XTM26-27.10
27.20	1.0709	-	XTP26-27.20	XTK26-27.20	XTN26-27.20	XTM26-27.20
27.30	1.0748	-	XTP26-27.30	XTK26-27.30	XTN26-27.30	XTM26-27.30
27.40	1.0787	-	XTP26-27.40	XTK26-27.40	XTN26-27.40	XTM26-27.40
27.50	1.0827	-	XTP26-27.50	XTK26-27.50	XTN26-27.50	XTM26-27.50
27.60	1.0866	-	XTP26-27.60	XTK26-27.60	XTN26-27.60	XTM26-27.60
27.70	1.0906	-	XTP26-27.70	XTK26-27.70	XTN26-27.70	XTM26-27.70
27.78	1.0937	1-3/32	XTP26-27.78	XTK26-27.78	XTN26-27.78	XTM26-27.78
27.90	1.0984	-	XTP26-27.90	XTK26-27.90	XTN26-27.90	XTM26-27.90
28.00	1.1024	-	XTP26-28.00	XTK26-28.00	XTN26-28.00	XTM26-28.00
28.10	1.1063	-	XTP26-28.10	XTK26-28.10	XTN26-28.10	XTM26-28.10
28.17	1.1091	1-7/64	XTP26-28.17	XTK26-28.17	XTN26-28.17	XTM26-28.17
28.20	1.1102	-	XTP26-28.20	XTK26-28.20	XTN26-28.20	XTM26-28.20
28.30	1.1142	-	XTP26-28.30	XTK26-28.30	XTN26-28.30	XTM26-28.30
28.40	1.1181	-	XTP26-28.40	XTK26-28.40	XTN26-28.40	XTM26-28.40
28.50	1.1220	-	XTP26-28.50	XTK26-28.50	XTN26-28.50	XTM26-28.50
28.58	1.1252	1-1/8	XTP26-28.58	XTK26-28.58	XTN26-28.58	XTM26-28.58
28.70	1.1299	-	XTP26-28.70	XTK26-28.70	XTN26-28.70	XTM26-28.70
28.80	1.1339	-	XTP26-28.80	XTK26-28.80	XTN26-28.80	XTM26-28.80
28.90	1.1378	-	XTP26-28.90	XTK26-28.90	XTN26-28.90	XTM26-28.90

Inserts sold in multiples of 1.

A20: 68 - 83

A20: 6 - 9

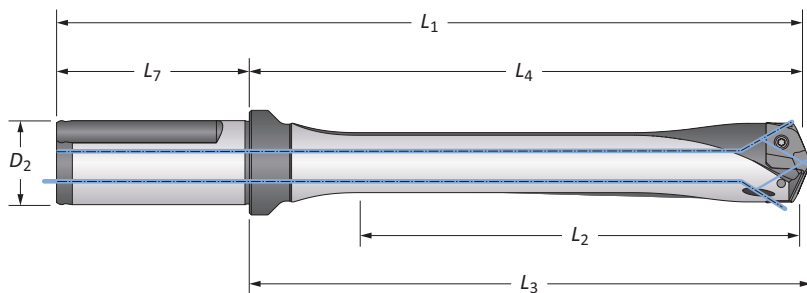


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

26 Series | Diameter Range: 26.00 mm - 28.99 mm (1.0236" - 1.1416")



Flute	Length	Body				Shank			Flat	Part No.
		L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
 Straight	3xD	87.0	128.6	131.4	188.6	60.0	32.0	YES	HXT0326S-32FM	
	3xD	87.0	128.6	131.4	188.6	60.0	32.0	NO	HXT0326S-32CM	
	5xD	145.0	186.5	189.4	246.5	60.0	32.0	YES	HXT0526S-32FM	
	5xD	145.0	186.5	189.4	246.5	60.0	32.0	NO	HXT0526S-32CM	
	7xD	202.9	244.5	247.4	304.5	60.0	32.0	YES	HXT0726S-32FM	
	7xD	202.9	244.5	247.4	304.5	60.0	32.0	NO	HXT0726S-32CM	
	10xD	289.9	331.4	334.4	391.4	60.0	32.0	YES	HXT1026S-32FM	
	10xD	289.9	331.4	334.4	391.4	60.0	32.0	NO	HXT1026S-32CM	
	12xD	348.0	389.0	391.8	449.0	60.0	32.0	YES	HXT1226S-32FM	
	12xD	348.0	389.0	391.8	449.0	60.0	32.0	NO	HXT1226S-32CM	
 Straight	3xD	3-27/64	5-1/16	5-11/64	7-11/32	2-9/32	1-1/4	YES	HXT0326S-125F	
	3xD	3-27/64	5-1/16	5-11/64	7-11/32	2-9/32	1-1/4	NO	HXT0326S-125C	
	5xD	5-45/64	7-11/32	7-29/64	9-5/8	2-9/32	1-1/4	YES	HXT0526S-125F	
	5xD	5-45/64	7-11/32	7-29/64	9-5/8	2-9/32	1-1/4	NO	HXT0526S-125C	
	7xD	7-63/64	9-5/8	9-47/64	11-29/32	2-9/32	1-1/4	YES	HXT0726S-125F	
	7xD	7-63/64	9-5/8	9-47/64	11-29/32	2-9/32	1-1/4	NO	HXT0726S-125C	
	10xD	11-13/32	13-3/64	13-11/64	15-21/64	2-9/32	1-1/4	YES	HXT1026S-125F	
	10xD	11-13/32	13-3/64	13-11/64	15-21/64	2-9/32	1-1/4	NO	HXT1026S-125C	
	12xD	13-45/64	15-11/32	15-29/64	17-5/8	2-9/32	1-1/4	YES	HXT1226S-125F	
	12xD	13-45/64	15-11/32	15-29/64	17-5/8	2-9/32	1-1/4	NO	HXT1226S-125C	

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

= Metric (mm)
 = Imperial (in)

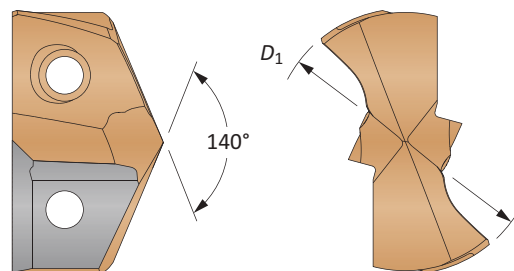
Screws sold in multiples of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



GEN3SYS XT Drill Inserts

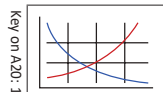
26 Series | Diameter Range: 26.00 mm - 28.99 mm (1.0236" - 1.1416")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	26.00	1.0236	–	7C126P-26	7C126P-26LR	–	–
	26.20	1.0313	1-1/32	7C126P-0101	7C126P-0101LR	–	–
	26.59	1.0469	1-3/64	7C126P-1.046	7C126P-1.046LR	–	–
	26.99	1.0625	1-1/16	7C126P-0102	7C126P-0102LR	–	–
	27.00	1.0630	–	7C126P-27	7C126P-27LR	–	–
	27.78	1.0938	1-3/32	7C126P-0103	7C126P-0103LR	–	–
	28.00	1.1024	–	7C126P-28	7C126P-28LR	–	–
	28.17	1.1094	1-7/64	7C126P-1.109	7C126P-1.109LR	–	–
	28.58	1.1250	1-1/8	7C126P-0104	7C126P-0104LR	–	–
C2 (K20)	26.00	1.0236	–	7C226P-26	7C226P-26LR	7C226P-26CI	7C226P-26AS
	26.20	1.0313	1-1/32	7C226P-0101	7C226P-0101LR	7C226P-0101CI	7C226P-0101AS
	26.59	1.0469	1-3/64	7C226P-1.046	7C226P-1.046LR	7C226P-1.046CI	7C226P-1.046AS
	26.99	1.0625	1-1/16	7C226P-0102	7C226P-0102LR	7C226P-0102CI	7C226P-0102AS
	27.00	1.0630	–	7C226P-27	7C226P-27LR	7C226P-27CI	7C226P-27AS
	27.78	1.0938	1-3/32	7C226P-0103	7C226P-0103LR	7C226P-0103CI	7C226P-0103AS
	28.00	1.1024	–	7C226P-28	7C226P-28LR	7C226P-28CI	7C226P-28AS
	28.17	1.1094	1-7/64	7C226P-1.109	7C226P-1.109LR	7C226P-1.109CI	7C226P-1.109AS
	28.58	1.1250	1-1/8	7C226P-0104	7C226P-0104LR	7C226P-0104CI	7C226P-0104AS

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



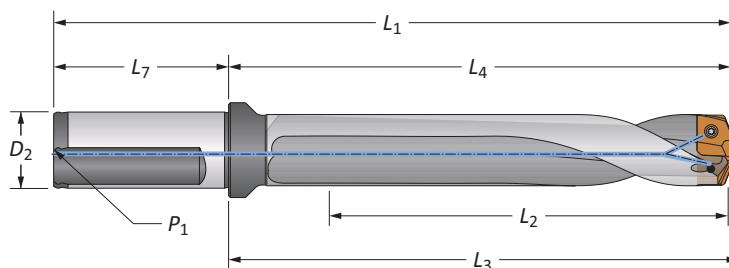
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

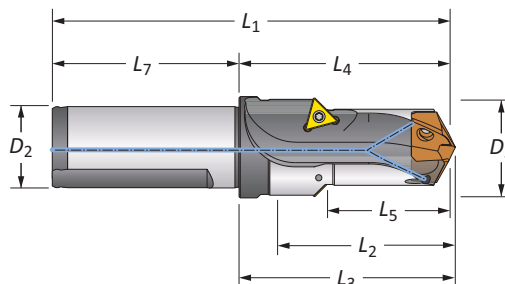
26 Series | Diameter Range: 26.00 mm - 28.99 mm (1.0236" - 1.1416")



Straight and Helical

Flute	Body					Shank				Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁			
Straight	3xD	87.0	128.6	131.4	188.6	60.0	32.0	1/8*	YES	60326S-32FM	
	5xD	145.0	186.5	189.4	246.5	60.0	32.0	1/8*	YES	60526S-32FM	
	7xD	202.9	244.5	247.4	304.5	60.0	32.0	1/8*	YES	60726S-32FM	
Helical	Stub	32.0	72.9	75.7	132.9	60.0	32.0	1/8*	YES	60126H-32FM	
	3xD	87.0	128.6	131.4	188.6	60.0	32.0	1/8*	YES	60326H-32FM	
	3xD	87.0	128.6	131.4	188.6	60.0	32.0	1/8*	NO	60326H-32CM	
	5xD	145.0	186.5	189.4	246.5	60.0	32.0	1/8*	YES	60526H-32FM	
	5xD	145.0	186.5	189.4	246.5	60.0	32.0	1/8*	NO	60526H-32CM	
	7xD	202.9	244.5	247.4	304.5	60.0	32.0	1/8*	YES	60726H-32FM	
	7xD	202.9	244.5	247.4	304.5	60.0	32.0	1/8*	NO	60726H-32CM	
Straight	3xD	3-27/64	5-1/16	5-11/64	7-11/32	2-9/32	1-1/4	1/8	YES	60326S-125F	
	5xD	5-45/64	7-11/32	7-29/64	9-5/8	2-9/32	1-1/4	1/8	YES	60526S-125F	
	7xD	7-63/64	9-5/8	9-47/64	11-29/32	2-9/32	1-1/4	1/8	YES	60726S-125F	
	Stub	1-1/4	2-7/8	2-63/64	5-5/32	2-9/32	1-1/4	1/8	YES	60126H-125F	
	3xD	3-27/64	5-1/16	5-11/64	7-11/32	2-9/32	1-1/4	1/8	YES	60326H-125F	
	3xD	3-27/64	5-1/16	5-11/64	7-11/32	2-9/32	1-1/4	1/8	NO	60326H-125C	
	5xD	5-45/64	7-11/32	7-29/64	9-5/8	2-9/32	1-1/4	1/8	YES	60526H-125F	
	5xD	5-45/64	7-11/32	7-29/64	9-5/8	2-9/32	1-1/4	1/8	NO	60526H-125C	
	7xD	7-63/64	9-5/8	9-47/64	11-29/32	2-9/32	1-1/4	1/8	YES	60726H-125F	
	7xD	7-63/64	9-5/8	9-47/64	11-29/32	2-9/32	1-1/4	1/8	NO	60726H-125C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	34.0	39.0	52.1	72.9	75.7	132.9	60.0	32.0	60126C45-32FM	TCMT-110204
i	1-11/32	1-17/32	2-3/64	2-7/8	2-63/64	5-5/32	2-9/32	1-1/4	60126C45-125F	TCMT-110204

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

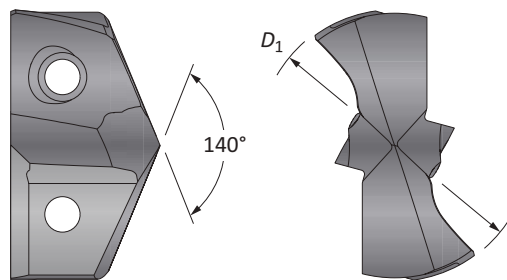
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength





Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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

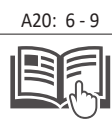
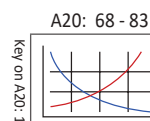
GEN3SYS XT Pro Drill Inserts

29 Series | Diameter Range: 29.00 mm - 31.99 mm (1.1417" - 1.2597")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
29.00	1.1417	-	XTP29-29.00	XTK29-29.00	XTN29-29.00	XTM29-29.00
29.10	1.1457	-	XTP29-29.10	XTK29-29.10	XTN29-29.10	XTM29-29.10
29.20	1.1496	-	XTP29-29.20	XTK29-29.20	XTN29-29.20	XTM29-29.20
29.30	1.1535	-	XTP29-29.30	XTK29-29.30	XTN29-29.30	XTM29-29.30
29.37	1.1563	1-5/32	XTP29-29.37	XTK29-29.37	XTN29-29.37	XTM29-29.37
29.40	1.1575	-	XTP29-29.40	XTK29-29.40	XTN29-29.40	XTM29-29.40
29.50	1.1614	-	XTP29-29.50	XTK29-29.50	XTN29-29.50	XTM29-29.50
29.60	1.1654	-	XTP29-29.60	XTK29-29.60	XTN29-29.60	XTM29-29.60
29.70	1.1693	-	XTP29-29.70	XTK29-29.70	XTN29-29.70	XTM29-29.70
29.80	1.1732	-	XTP29-29.80	XTK29-29.80	XTN29-29.80	XTM29-29.80
29.90	1.1772	-	XTP29-29.90	XTK29-29.90	XTN29-29.90	XTM29-29.90
30.00	1.1811	-	XTP29-30.00	XTK29-30.00	XTN29-30.00	XTM29-30.00
30.10	1.1850	-	XTP29-30.10	XTK29-30.10	XTN29-30.10	XTM29-30.10
30.16	1.1874	1-3/16	XTP29-30.16	XTK29-30.16	XTN29-30.16	XTM29-30.16
30.20	1.1890	-	XTP29-30.20	XTK29-30.20	XTN29-30.20	XTM29-30.20
30.30	1.1929	-	XTP29-30.30	XTK29-30.30	XTN29-30.30	XTM29-30.30
30.40	1.1969	-	XTP29-30.40	XTK29-30.40	XTN29-30.40	XTM29-30.40
30.50	1.2008	-	XTP29-30.50	XTK29-30.50	XTN29-30.50	XTM29-30.50
30.60	1.2047	-	XTP29-30.60	XTK29-30.60	XTN29-30.60	XTM29-30.60
30.70	1.2087	-	XTP29-30.70	XTK29-30.70	XTN29-30.70	XTM29-30.70
30.80	1.2126	-	XTP29-30.80	XTK29-30.80	XTN29-30.80	XTM29-30.80
30.90	1.2165	-	XTP29-30.90	XTK29-30.90	XTN29-30.90	XTM29-30.90
30.96	1.2189	1-7/32	XTP29-30.96	XTK29-30.96	XTN29-30.96	XTM29-30.96
31.00	1.2205	-	XTP29-31.00	XTK29-31.00	XTN29-31.00	XTM29-31.00
31.10	1.2244	-	XTP29-31.10	XTK29-31.10	XTN29-31.10	XTM29-31.10
31.20	1.2283	-	XTP29-31.20	XTK29-31.20	XTN29-31.20	XTM29-31.20
31.30	1.2323	-	XTP29-31.30	XTK29-31.30	XTN29-31.30	XTM29-31.30
31.40	1.2362	-	XTP29-31.40	XTK29-31.40	XTN29-31.40	XTM29-31.40
31.50	1.2402	-	XTP29-31.50	XTK29-31.50	XTN29-31.50	XTM29-31.50
31.60	1.2441	-	XTP29-31.60	XTK29-31.60	XTN29-31.60	XTM29-31.60
31.70	1.2480	-	XTP29-31.70	XTK29-31.70	XTN29-31.70	XTM29-31.70
31.75	1.2500	1-1/4	XTP29-31.75	XTK29-31.75	XTN29-31.75	XTM29-31.75
31.80	1.2520	-	XTP29-31.80	XTK29-31.80	XTN29-31.80	XTM29-31.80
31.90	1.2559	-	XTP29-31.90	XTK29-31.90	XTN29-31.90	XTM29-31.90

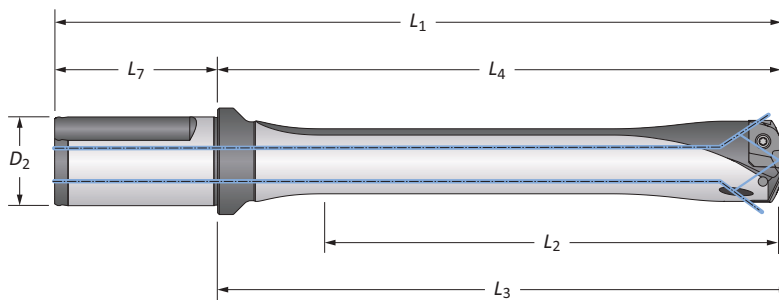
Inserts sold in multiples of 1.



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

29 Series | Diameter Range: 29.00 mm - 31.99 mm (1.1417" - 1.2597")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
Ⓜ Straight 	3xD	96.0	136.5	139.7	196.5	60.0	32.0	YES	HXT0329S-32FM	
	3xD	96.0	136.5	139.7	196.5	60.0	32.0	NO	HXT0329S-32CM	
	5xD	160.0	200.8	203.7	260.8	60.0	32.0	YES	HXT0529S-32FM	
	5xD	160.0	200.8	203.7	260.8	60.0	32.0	NO	HXT0529S-32CM	
	7xD	223.9	264.7	267.6	324.7	60.0	32.0	YES	HXT0729S-32FM	
	7xD	223.9	264.7	267.6	324.7	60.0	32.0	NO	HXT0729S-32CM	
	10xD	319.9	360.4	363.6	420.4	60.0	32.0	YES	⚠ HXT1029S-32FM	
	10xD	319.9	360.4	363.6	420.4	60.0	32.0	NO	⚠ HXT1029S-32CM	
ⓘ Straight 	3xD	3-25/32	5-3/8	5-1/2	7-21/32	2-9/32	1-1/4	YES	HXT0329S-125F	
	3xD	3-25/32	5-3/8	5-1/2	7-21/32	2-9/32	1-1/4	NO	HXT0329S-125C	
	5xD	6-19/64	7-29/32	8-1/64	10-3/16	2-9/32	1-1/4	YES	HXT0529S-125F	
	5xD	6-19/64	7-29/32	8-1/64	10-3/16	2-9/32	1-1/4	NO	HXT0529S-125C	
	7xD	8-13/16	10-27/64	10-17/64	12-45/64	2-9/32	1-1/4	YES	HXT0729S-125F	
	7xD	8-13/16	10-27/64	10-17/64	12-45/64	2-9/32	1-1/4	NO	HXT0729S-125C	
	10xD	12-19/32	14-3/16	14-5/16	16-15/32	2-9/32	1-1/4	YES	⚠ HXT1029S-125F	
	10xD	12-19/32	14-3/16	14-5/16	16-15/32	2-9/32	1-1/4	NO	⚠ HXT1029S-125C	

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

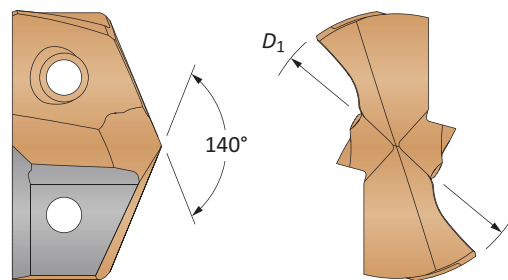
Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Screws sold in multiples of 10

A DRILLING B BORING C THREADING D SPECIALS E X

GEN3SYS XT Drill Inserts

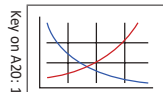
29 Series | Diameter Range: 29.00 mm - 31.99 mm (1.1417" - 1.2597")



Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D_1 mm	D_1 inch	Fractional Equivalent				
C1 (K35)	29.00	1.1417	–	7C129P-29	7C129P-29LR	–	–
	29.37	1.1563	1-5/32	7C129P-0105	7C129P-0105LR	–	–
	30.00	1.1811	–	7C129P-30	7C129P-30LR	–	–
	30.16	1.1875	1-3/16	7C129P-0106	7C129P-0106LR	–	–
	30.50	1.2008	–	7C129P-30.5	7C129P-30.5LR	–	–
	30.96	1.2188	1-7/32	7C129P-0107	7C129P-0107LR	–	–
	31.00	1.2205	–	7C129P-31	7C129P-31LR	–	–
C2 (K20)	31.75	1.2500	1-1/4	7C129P-0108	7C129P-0108LR	–	–
	29.00	1.1417	–	7C229P-29	7C229P-29LR	7C229P-29CI	7C229P-29AS
	29.37	1.1563	1-5/32	7C229P-0105	7C229P-0105LR	7C229P-0105CI	7C229P-0105AS
	30.00	1.1811	–	7C229P-30	7C229P-30LR	7C229P-30CI	7C229P-30AS
	30.16	1.1875	1-3/16	7C229P-0106	7C229P-0106LR	7C229P-0106CI	7C229P-0106AS
	30.50	1.2008	–	7C229P-30.5	7C229P-30.5LR	7C229P-30.5CI	7C229P-30.5AS
	30.96	1.2188	1-7/32	7C229P-0107	7C229P-0107LR	7C229P-0107CI	7C229P-0107AS
31.00	1.2205	–	7C229P-31	7C229P-31LR	7C229P-31CI	7C229P-31AS	
	31.75	1.2500	1-1/4	7C229P-0108	7C229P-0108LR	7C229P-0108CI	7C229P-0108AS

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



Key on A20: 1

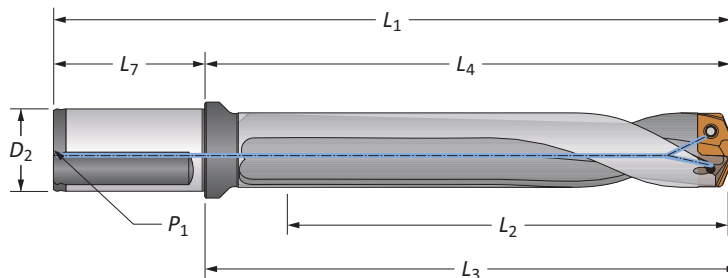
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

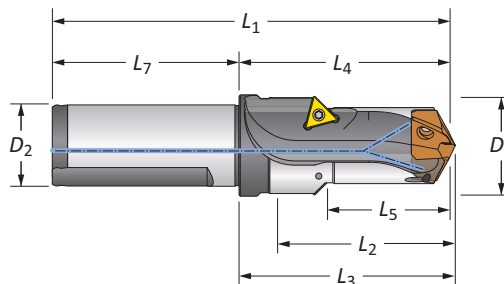
29 Series | Diameter Range: 29.00 mm - 31.99 mm (1.1417" - 1.2597")



Straight and Helical

Flute	Body					Shank				Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁			
Straight	3xD	96.0	136.5	139.7	196.5	60.0	32.0	1/4*	YES	60329S-32FM	
	5xD	160.0	200.8	203.7	260.8	60.0	32.0	1/4*	YES	60529S-32FM	
	7xD	223.9	264.7	267.6	324.7	60.0	32.0	1/4*	YES	60729S-32FM	
Helical	Stub	35.0	75.2	78.2	135.2	60.0	32.0	1/4*	YES	60129H-32FM	
	3xD	96.0	136.5	139.7	196.5	60.0	32.0	1/4*	YES	60329H-32FM	
	3xD	96.0	136.5	139.7	196.5	60.0	32.0	1/4*	NO	60329H-32CM	
	5xD	160.0	200.8	203.7	260.8	60.0	32.0	1/4*	YES	60529H-32FM	
	5xD	160.0	200.8	203.7	260.8	60.0	32.0	1/4*	NO	60529H-32CM	
	7xD	223.9	264.7	267.6	324.7	60.0	32.0	1/4*	YES	60729H-32FM	
	7xD	223.9	264.7	267.6	324.7	60.0	32.0	1/4*	NO	60729H-32CM	
Straight	3xD	3-25/32	5-3/8	5-1/2	7-21/32	2-9/32	1-1/4	1/4	YES	60329S-125F	
	5xD	6-19/64	7-29/32	8-1/64	10-3/16	2-9/32	1-1/4	1/4	YES	60529S-125F	
	7xD	8-13/16	10-27/64	10-17/64	12-45/64	2-9/32	1-1/4	1/4	YES	60729S-125F	
	Stub	1-3/8	2-31/32	3-5/64	5-1/4	2-9/32	1-1/4	1/4	YES	60129H-125F	
	3xD	3-25/32	5-3/8	5-1/2	7-21/32	2-9/32	1-1/4	1/4	YES	60329H-125F	
	3xD	3-25/32	5-3/8	5-1/2	7-21/32	2-9/32	1-1/4	1/4	NO	60329H-125C	
	5xD	6-19/64	7-29/32	8-1/64	10-3/16	2-9/32	1-1/4	1/4	YES	60529H-125F	
	5xD	6-19/64	7-29/32	8-1/64	10-3/16	2-9/32	1-1/4	1/4	NO	60529H-125C	
	7xD	8-13/16	10-27/64	10-17/64	12-45/64	2-9/32	1-1/4	1/4	YES	60729H-125F	
	7xD	8-13/16	10-27/64	10-17/64	12-45/64	2-9/32	1-1/4	1/4	NO	60729H-125C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

Step	Body					Shank		Part No.	Chamfer Insert	
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇			D ₂
	37.1	43.5	55.9	75.2	78.2	135.2	60.0	32.0	60129C45-32FM	TCMT-16T304
	1-29/64	1-23/32	2-13/64	2-31/32	3-5/64	5-1/4	2-9/32	1-1/4	60129C45-125F	TCMT-16T304

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

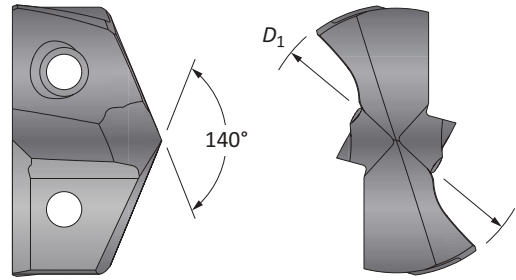
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

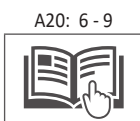
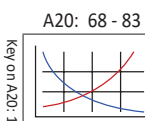
GEN3SYS XT Pro Drill Inserts

32 Series | Diameter Range: 32.00 mm - 35.00 mm (1.2598" - 1.3780")



Insert						
D_1 mm	D_1 inch	Fractional Equivalent	Part No. P	Part No. K	Part No. N	Part No. M
32.00	1.2598	-	XTP32-32.00	XTK32-32.00	XTN32-32.00	XTM32-32.00
32.10	1.2638	-	XTP32-32.10	XTK32-32.10	XTN32-32.10	XTM32-32.10
32.15	1.2657	1-17/64	XTP32-32.15	XTK32-32.15	XTN32-32.15	XTM32-32.15
32.20	1.2677	-	XTP32-32.20	XTK32-32.20	XTN32-32.20	XTM32-32.20
32.30	1.2717	-	XTP32-32.30	XTK32-32.30	XTN32-32.30	XTM32-32.30
32.40	1.2756	-	XTP32-32.40	XTK32-32.40	XTN32-32.40	XTM32-32.40
32.50	1.2795	-	XTP32-32.50	XTK32-32.50	XTN32-32.50	XTM32-32.50
32.55	1.2815	1-9/32	XTP32-32.55	XTK32-32.55	XTN32-32.55	XTM32-32.55
32.60	1.2835	-	XTP32-32.60	XTK32-32.60	XTN32-32.60	XTM32-32.60
32.70	1.2874	-	XTP32-32.70	XTK32-32.70	XTN32-32.70	XTM32-32.70
32.80	1.2913	-	XTP32-32.80	XTK32-32.80	XTN32-32.80	XTM32-32.80
32.90	1.2953	-	XTP32-32.90	XTK32-32.90	XTN32-32.90	XTM32-32.90
33.00	1.2992	-	XTP32-33.00	XTK32-33.00	XTN32-33.00	XTM32-33.00
33.10	1.3031	-	XTP32-33.10	XTK32-33.10	XTN32-33.10	XTM32-33.10
33.20	1.3071	-	XTP32-33.20	XTK32-33.20	XTN32-33.20	XTM32-33.20
33.30	1.3110	-	XTP32-33.30	XTK32-33.30	XTN32-33.30	XTM32-33.30
33.34	1.3126	1-5/16	XTP32-33.34	XTK32-33.34	XTN32-33.34	XTM32-33.34
33.40	1.3150	-	XTP32-33.40	XTK32-33.40	XTN32-33.40	XTM32-33.40
33.50	1.3189	-	XTP32-33.50	XTK32-33.50	XTN32-33.50	XTM32-33.50
33.60	1.3228	-	XTP32-33.60	XTK32-33.60	XTN32-33.60	XTM32-33.60
33.70	1.3268	-	XTP32-33.70	XTK32-33.70	XTN32-33.70	XTM32-33.70
33.80	1.3307	-	XTP32-33.80	XTK32-33.80	XTN32-33.80	XTM32-33.80
33.90	1.3346	-	XTP32-33.90	XTK32-33.90	XTN32-33.90	XTM32-33.90
34.00	1.3386	-	XTP32-34.00	XTK32-34.00	XTN32-34.00	XTM32-34.00
34.10	1.3425	-	XTP32-34.10	XTK32-34.10	XTN32-34.10	XTM32-34.10
34.13	1.3437	1-11/32	XTP32-34.13	XTK32-34.13	XTN32-34.13	XTM32-34.13
34.20	1.3465	-	XTP32-34.20	XTK32-34.20	XTN32-34.20	XTM32-34.20
34.30	1.3504	-	XTP32-34.30	XTK32-34.30	XTN32-34.30	XTM32-34.30
34.40	1.3543	-	XTP32-34.40	XTK32-34.40	XTN32-34.40	XTM32-34.40
34.50	1.3583	-	XTP32-34.50	XTK32-34.50	XTN32-34.50	XTM32-34.50
34.60	1.3622	-	XTP32-34.60	XTK32-34.60	XTN32-34.60	XTM32-34.60
34.70	1.3661	-	XTP32-34.70	XTK32-34.70	XTN32-34.70	XTM32-34.70
34.80	1.3701	-	XTP32-34.80	XTK32-34.80	XTN32-34.80	XTM32-34.80
34.90	1.3740	-	XTP32-34.90	XTK32-34.90	XTN32-34.90	XTM32-34.90
34.93	1.3752	1-3/8	XTP32-34.93	XTK32-34.93	XTN32-34.93	XTM32-34.93
35.00	1.3780	-	XTP32-35.00	XTK32-35.00	XTN32-35.00	XTM32-35.00

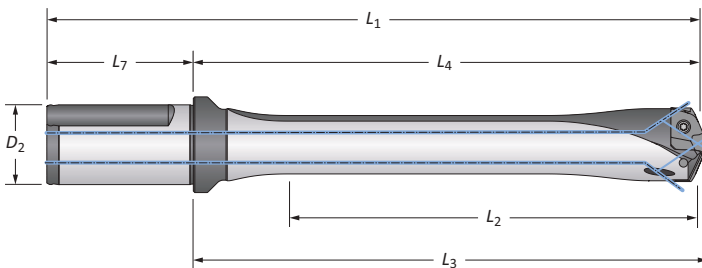
Inserts sold in multiples of 1.



Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16 mm, Steel, 13 series = use Part No. XTP13-13.16
Imperial:	0.5180", Steel, 13 series = use Part No. XTP13-13.16

GEN3SYS XT Pro Drill Insert Holders

32 Series | Diameter Range: 32.00 mm - 35.00 mm (1.2598" - 1.3780")



Flute	Body					Shank			Flat	Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂			
Ⓜ Straight 	3xD	105.0	157.9	161.5	217.9	60.0	32.0	YES	HXT0332S-32FM	
	3xD	105.0	157.9	161.5	217.9	60.0	32.0	NO	HXT0332S-32CM	
	5xD	175.0	227.8	231.3	287.8	60.0	32.0	YES	HXT0532S-32FM	
	5xD	175.0	227.8	231.3	287.8	60.0	32.0	NO	HXT0532S-32CM	
	7xD	245.0	297.6	301.2	357.6	60.0	32.0	YES	HXT0732S-32FM	
	7xD	245.0	297.6	301.2	357.6	60.0	32.0	NO	HXT0732S-32CM	
	10xD	350.0	402.8	406.4	459.3	60.0	32.0	YES	⚠ HXT1032S-32FM	
	10xD	350.0	402.8	406.4	459.3	60.0	32.0	NO	⚠ HXT1032S-32CM	
ⓘ Straight 	3xD	4-9/64	6-7/32	6-23/64	8-29/32	2-11/16	1-1/2	YES	HXT0332S-150F	
	3xD	4-9/64	6-7/32	6-23/64	8-29/32	2-11/16	1-1/2	NO	HXT0332S-150C	
	5xD	6-57/64	8-31/32	9-7/64	11-21/32	2-11/16	1-1/2	YES	HXT0532S-150F	
	5xD	6-57/64	8-31/32	9-7/64	11-21/32	2-11/16	1-1/2	NO	HXT0532S-150C	
	7xD	9-41/64	11-23/32	11-55/64	14-13/32	2-11/16	1-1/2	YES	HXT0732S-150F	
	7xD	9-41/64	11-23/32	11-55/64	14-13/32	2-11/16	1-1/2	NO	HXT0732S-150C	
	10xD	13-25/32	15-55/64	16	18-35/64	2-11/16	1-1/2	YES	⚠ HXT1032S-150F	
	10xD	13-25/32	15-55/64	16	18-35/64	2-11/16	1-1/2	NO	⚠ HXT1032S-150C	

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

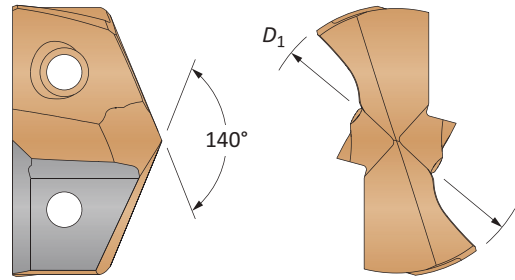
Screws sold in multiples of 10

A
 DRILLING
 B
 BORING
 E
 THREADING
 X
 SPECIALS



GEN3SYS XT Drill Inserts

32 Series | Diameter Range: 32.00 mm - 35.00 mm (1.2598" - 1.3780")

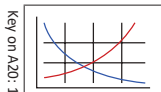


Carbide Substrate	Insert			Standard Part No.	Low Rake Part No.	Cast Iron Part No.	Stainless Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent				
C1 (K35)	32.00	1.2598	–	7C132P-32	7C132P-32LR	–	–
	32.15	1.2658	1-17/64	7C132P-32.15	7C132P-32.15LR	–	–
	32.50	1.2795	–	7C132P-32.5	7C132P-32.5LR	–	–
	32.55	1.2813	1-9/32	7C132P-0109	7C132P-0109LR	–	–
	33.00	1.2992	–	7C132P-33	7C132P-33LR	–	–
	33.34	1.3125	1-5/16	7C132P-0110	7C132P-0110LR	–	–
	33.50	1.3189	–	7C132P-33.5	7C132P-33.5LR	–	–
	34.00	1.3386	–	7C132P-34	7C132P-34LR	–	–
	34.13	1.3438	1-11/32	7C132P-0111	7C132P-0111LR	–	–
	34.50	1.3583	–	7C132P-34.5	7C132P-34.5LR	–	–
	34.93	1.3750	1-3/8	7C132P-0112	7C132P-0112LR	–	–
	35.00	1.3780	–	7C132P-35	7C132P-35LR	–	–
C2 (K20)	32.00	1.2598	–	7C232P-32	7C232P-32LR	7C232P-32CI	7C232P-32AS
	32.15	1.2658	1-17/64	7C232P-32.15	7C232P-32.15LR	7C232P-32.15CI	7C232P-32.15AS
	32.50	1.2795	–	7C232P-32.5	7C232P-32.5LR	7C232P-32.5CI	7C232P-32.5AS
	32.55	1.2813	1-9/32	7C232P-0109	7C232P-0109LR	7C232P-0109CI	7C232P-0109AS
	33.00	1.2992	–	7C232P-33	7C232P-33LR	7C232P-33CI	7C232P-33AS
	33.34	1.3125	1-5/16	7C232P-0110	7C232P-0110LR	7C232P-0110CI	7C232P-0110AS
	33.50	1.3189	–	7C232P-33.5	7C232P-33.5LR	7C232P-33.5CI	7C232P-33.5AS
	34.00	1.3386	–	7C232P-34	7C232P-34LR	7C232P-34CI	7C232P-34AS
	34.13	1.3438	1-11/32	7C232P-0111	7C232P-0111LR	7C232P-0111CI	7C232P-0111AS
	34.50	1.3583	–	7C232P-34.5	7C232P-34.5LR	7C232P-34.5CI	7C232P-34.5AS
	34.93	1.3750	1-3/8	7C232P-0112	7C232P-0112LR	7C232P-0112CI	7C232P-0112AS
	35.00	1.3780	–	7C232P-35	7C232P-35LR	7C232P-35CI	7C232P-35AS

Inserts sold in multiples of 1

A20: 68 - 83

A20: 6 - 9



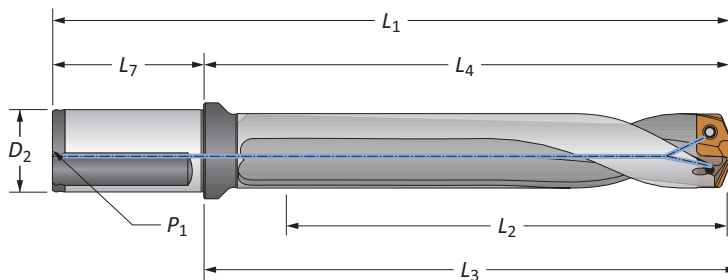
Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.20 mm, 13 series, C2 = use Part No. 7C213P-13.20
Imperial:	0.5200", 13 series, C2 = use Part No. 7C213P-.5200

GEN3SYS Drill Insert Holders

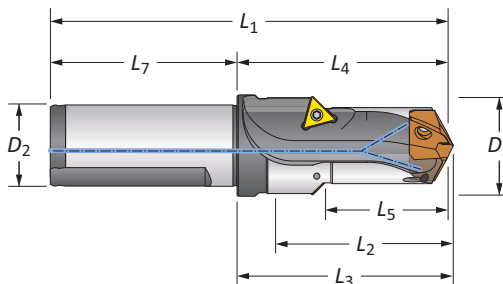
32 Series | Diameter Range: 32.00 mm - 35.00 mm (1.2598" - 1.3780")



Straight and Helical

Flute	Body						Shank				Part No.
	Length	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂	P ₁	Flat		
Straight	3xD	105.0	150.7	154.3	220.7	70.0	40.0	1/4*	YES	60332S-40FM	
	5xD	175.0	220.7	224.3	290.7	70.0	40.0	1/4*	YES	60532S-40FM	
	7xD	245.0	290.7	294.3	360.7	70.0	40.0	1/4*	YES	60732S-40FM	
Helical	Stub	38.0	90.7	94.2	160.7	70.0	40.0	1/4*	YES	60132H-40FM	
	3xD	105.0	150.7	154.3	220.7	70.0	40.0	1/4*	YES	60332H-40FM	
	3xD	105.0	150.7	154.3	220.7	70.0	40.0	1/4*	NO	60332H-40CM	
	5xD	175.0	220.7	224.3	290.7	70.0	40.0	1/4*	YES	60532H-40FM	
	5xD	175.0	220.7	224.3	290.7	70.0	40.0	1/4*	NO	60532H-40CM	
	7xD	245.0	290.7	294.3	360.7	70.0	40.0	1/4*	YES	60732H-40FM	
	7xD	245.0	290.7	294.3	360.7	70.0	40.0	1/4*	NO	60732H-40CM	
Straight	3xD	4-9/64	6-7/32	6-23/64	8-29/32	2-11/16	1-1/2	1/4	YES	60332S-150F	
	5xD	6-57/64	8-31/32	9-7/64	11-21/32	2-11/16	1-1/2	1/4	YES	60532S-150F	
	7xD	9-41/64	11-23/32	11-55/64	14-13/32	2-11/16	1-1/2	1/4	YES	60732S-150F	
	Stub	1-1/2	3-37/64	3-45/64	6-1/4	2-11/16	1-1/2	1/4	YES	60132H-150F	
	3xD	4-9/64	6-7/32	6-23/64	8-29/32	2-11/16	1-1/2	1/4	YES	60332H-150F	
	3xD	4-9/64	6-7/32	6-23/64	8-29/32	2-11/16	1-1/2	1/4	NO	60332H-150C	
	5xD	6-57/64	8-31/32	9-7/64	11-21/32	2-11/16	1-1/2	1/4	YES	60532H-150F	
	5xD	6-57/64	8-31/32	9-7/64	11-21/32	2-11/16	1-1/2	1/4	NO	60532H-150C	
	7xD	9-41/64	11-23/32	11-55/64	14-13/32	2-11/16	1-1/2	1/4	YES	60732H-150F	
	7xD	9-41/64	11-23/32	11-55/64	14-13/32	2-11/16	1-1/2	1/4	NO	60732H-150C	

*Thread to BSP and ISO 7-1



Drill / Chamfer

	Step		Body				Shank		Part No.	Chamfer Insert
	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		
m	40.1	48.0	62.4	90.7	94.2	160.7	70.0	40.0	60132C45-40FM	TCMT-16T304
i	1-37/64	1-57/64	2-29/64	3-37/64	3-23/32	6-1/4	2-11/16	1-1/2	60132C45-150F	TCMT-16T304

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



Recommended Drilling Data | Metric (mm)

GEN3SYS XT Pro

ISO	Material	Hardness (BHN)	Speed (m/min)	Feed Rate (mm/rev) by Diameter			
				11 series 11.00 mm - 11.99 mm	12 series 12.00 mm - 12.99 mm	13 series 13.00 mm - 13.99 mm	14 series 14.00 mm - 14.99 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	168	0.28	0.30	0.33	0.36
		150 - 200	145	0.25	0.28	0.30	0.33
		200 - 250	130	0.20	0.23	0.25	0.28
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	158	0.28	0.3	0.33	0.36
		125 - 175	137	0.25	0.28	0.30	0.33
		175 - 225	125	0.23	0.25	0.28	0.30
		225 - 275	107	0.18	0.20	0.23	0.25
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	137	0.25	0.28	0.30	0.33
		175 - 225	125	0.23	0.25	0.28	0.30
		225 - 275	107	0.20	0.23	0.25	0.28
		275 - 325	91	0.18	0.20	0.23	0.25
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	126	0.25	0.28	0.30	0.33
175 - 225		116	0.23	0.25	0.28	0.30	
225 - 275		104	0.20	0.23	0.25	0.28	
275 - 325		94	0.15	0.18	0.20	0.23	
325 - 375		85	0.15	0.15	0.18	0.20	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	76	0.20	0.23	0.25	0.28	
	300 - 350	69	0.15	0.18	0.20	0.23	
	350 - 400	61	0.13	0.18	0.18	0.20	
Structural Steel A36, A285, A516, etc.	100 - 150	125	0.25	0.28	0.30	0.33	
	150 - 250	101	0.20	0.23	0.25	0.28	
	250 - 350	93	0.18	0.20	0.23	0.25	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	81	0.15	0.18	0.18	0.20	
	200 - 250	62	0.13	0.15	0.15	0.18	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	40	0.15	0.18	0.18	0.20
		220 - 310	30	0.13	0.15	0.15	0.18
	Titanium Alloy	140 - 220	43	0.13	0.15	0.18	0.20
		220 - 310	34	0.10	0.13	0.15	0.18
	Aerospace Alloy S82	185 - 275	50	0.10	0.10	0.12	0.14
275 - 350	41	0.09	0.09	0.10	0.12		
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	73	0.15	0.18	0.18	0.20
		275 - 350	56	0.13	0.15	0.15	0.18
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	64	0.10	0.13	0.13	0.15
		185 - 275	47	0.08	0.10	0.10	0.13
	Super Duplex Stainless Steel	135 - 185	38	0.08	0.08	0.08	0.10
		185 - 275	30	0.05	0.05	0.08	0.08

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
61 M/min • 0.80	= 48.8 M/min
0.20 mm/rev • 0.80	= 0.16 mm/rev

10xD and 12xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD/12xD)
61 M/min • 0.70	= 42.7 M/min
0.20 mm/rev • 0.70	= 0.14 mm/rev

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, and 12xD holder lengths, see adjustment examples above.

Feed Rate (mm/rev) by Diameter									
15 series 15.00 mm - 15.99 mm	16 series 16.00 mm - 16.99 mm	17 series 17.00 mm - 17.99 mm	18 series 18.00 mm - 19.99 mm	20 series 20.00 mm - 21.99 mm	22 series 22.00 mm - 23.99 mm	24 series 24.00 mm - 25.99 mm	26 series 26.00 mm - 28.99 mm	29 series 29.00 mm - 31.99 mm	32 series 32.00 mm - 35.00 mm
0.38	0.41	0.43	0.48	0.53	0.56	0.58	0.61	0.64	0.66
0.36	0.38	0.41	0.43	0.48	0.51	0.53	0.56	0.58	0.61
0.30	0.33	0.36	0.41	0.46	0.48	0.51	0.53	0.56	0.58
0.38	0.41	0.43	0.48	0.53	0.56	0.58	0.61	0.64	0.66
0.36	0.38	0.41	0.46	0.48	0.51	0.53	0.56	0.58	0.61
0.33	0.36	0.38	0.42	0.46	0.48	0.51	0.53	0.56	0.58
0.28	0.30	0.33	0.38	0.41	0.42	0.46	0.48	0.51	0.53
0.36	0.38	0.41	0.46	0.51	0.53	0.56	0.58	0.61	0.64
0.33	0.36	0.38	0.43	0.48	0.51	0.53	0.56	0.58	0.61
0.30	0.33	0.36	0.41	0.46	0.48	0.51	0.53	0.56	0.58
0.28	0.30	0.33	0.38	0.41	0.43	0.46	0.48	0.51	0.53
0.36	0.38	0.41	0.46	0.51	0.53	0.56	0.58	0.61	0.64
0.33	0.36	0.38	0.43	0.48	0.51	0.53	0.56	0.58	0.61
0.30	0.33	0.36	0.41	0.46	0.48	0.51	0.53	0.56	0.58
0.25	0.28	0.30	0.36	0.38	0.41	0.43	0.46	0.48	0.51
0.23	0.25	0.28	0.33	0.36	0.38	0.41	0.43	0.46	0.48
0.28	0.30	0.33	0.36	0.38	0.41	0.43	0.46	0.48	0.51
0.25	0.28	0.28	0.30	0.33	0.36	0.38	0.41	0.43	0.46
0.23	0.25	0.25	0.28	0.30	0.33	0.36	0.38	0.41	0.43
0.33	0.38	0.38	0.43	0.48	0.53	0.56	0.58	0.61	0.64
0.30	0.33	0.36	0.38	0.43	0.48	0.51	0.53	0.56	0.58
0.28	0.30	0.33	0.36	0.38	0.43	0.48	0.51	0.53	0.56
0.20	0.23	0.23	0.25	0.28	0.30	0.33	0.36	0.38	0.41
0.18	0.20	0.20	0.23	0.25	0.28	0.30	0.33	0.36	0.38
0.20	0.23	0.23	0.25	0.28	0.28	0.30	0.30	0.33	0.36
0.18	0.20	0.20	0.23	0.25	0.25	0.28	0.28	0.30	0.33
0.20	0.23	0.23	0.25	0.28	0.28	0.30	0.30	0.33	0.33
0.18	0.20	0.20	0.23	0.25	0.25	0.28	0.28	0.30	0.30
0.15	0.16	0.18	0.18	0.20	0.22	0.24	0.26	0.28	0.31
0.14	0.15	0.16	0.16	0.18	0.20	0.22	0.24	0.26	0.29
0.20	0.23	0.25	0.28	0.30	0.33	0.36	0.38	0.41	0.43
0.18	0.20	0.23	0.25	0.28	0.30	0.33	0.36	0.38	0.41
0.15	0.18	0.18	0.20	0.20	0.23	0.23	0.25	0.25	0.28
0.13	0.15	0.15	0.18	0.18	0.20	0.20	0.23	0.23	0.25
0.10	0.13	0.13	0.15	0.15	0.18	0.20	0.20	0.20	0.25
0.10	0.10	0.13	0.13	0.15	0.15	0.18	0.18	0.20	0.20

Coolant Recommendations

Series	3xD, 5xD		7xD		10xD, 12xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
11	31	19	41	30	55	38
12	31	19	41	30	55	38
13	28	23	34	36	52	45
14	28	26	34	36	52	45
15	26	26	33	42	48	53
16	26	30	33	45	48	57
17	24	30	31	47	45	62
18	24	34	31	47	45	62
20	21	38	28	49	41	68
22	21	42	28	53	41	68
24	21	42	28	53	41	68
26	21	45	28	61	41	76
29	21	45	28	61	41	76
32	21	45	28	61	41	76

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS



Recommended Drilling Data | Metric (mm)

GEN3SYS XT Pro

ISO	Material	Hardness (BHN)	Speed (M/min)	Feed Rate (mm/rev) by Diameter			
				11 series 11.00 mm - 11.99 mm	12 series 12.00 mm - 12.99 mm	13 series 13.00 mm - 13.99 mm	14 series 14.00 mm - 14.99 mm
H	Wear Plate Hardox®, AR400, T-1, etc.	400	50	0.13	0.13	0.15	0.17
		500	40	0.11	0.11	0.13	0.15
		600	27	0.10	0.10	0.11	0.13
	Hardened Steel	300 - 400	51	0.13	0.13	0.15	0.17
		400 - 500	40	0.11	0.11	0.13	0.15
K	SG / Nodular Cast Iron	120 - 150	168	0.27	0.30	0.33	0.36
		150 - 200	159	0.25	0.28	0.30	0.33
		200 - 220	141	0.22	0.25	0.28	0.30
		220 - 260	124	0.20	0.23	0.25	0.28
		260 - 320	112	0.20	0.21	0.23	0.25
	Grey / White Iron	120 - 150	175	0.30	0.33	0.36	0.38
		150 - 200	168	0.28	0.30	0.33	0.36
		200 - 220	151	0.25	0.28	0.30	0.33
		220 - 260	130	0.23	0.25	0.28	0.30
		260 - 320	116	0.23	0.25	0.28	0.30
N	Cast Aluminium	30	351	0.30	0.33	0.36	0.38
		180	262	0.28	0.30	0.33	0.36
	Wrought Aluminium	30	488	0.33	0.38	0.41	0.43
		180	351	0.30	0.36	0.38	0.41
	Aluminium Bronze	100 - 200	126	0.26	0.28	0.30	0.32
		200 - 250	103	0.22	0.24	0.26	0.28
	Brass	100	230	0.29	0.30	0.33	0.36
Copper	60	149	0.07	0.08	0.09	0.11	

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
61 M/min • 0.80	= 48.8 M/min
0.20 mm/rev • 0.80	= 0.16 mm/rev

10xD and 12xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD/12xD)
61 M/min • 0.70	= 42.7 M/min
0.20 mm/rev • 0.70	= 0.14 mm/rev

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, and 12xD holder lengths, see adjustment examples above.

Feed Rate (mm/rev) by Diameter									
15 series 15.00 mm - 15.99 mm	16 series 16.00 mm - 16.99 mm	17 series 17.00 mm - 17.99 mm	18 series 18.00 mm - 19.99 mm	20 series 20.00 mm - 21.99 mm	22 series 22.00 mm - 23.99 mm	24 series 24.00 mm - 25.99 mm	26 series 26.00 mm - 28.99 mm	29 series 29.00 mm - 31.99 mm	32 series 32.00 mm - 35.00 mm
0.19	0.21	0.23	0.25	0.27	0.27	0.29	0.29	0.31	0.31
0.17	0.19	0.21	0.23	0.25	0.25	0.27	0.27	0.29	0.29
0.15	0.17	0.19	0.21	0.23	0.23	0.25	0.25	0.25	0.27
0.19	0.21	0.22	0.23	0.25	0.25	0.27	0.27	0.29	0.29
0.17	0.19	0.20	0.21	0.23	0.23	0.25	0.25	0.27	0.27
0.38	0.41	0.46	0.51	0.53	0.56	0.58	0.61	0.64	0.66
0.36	0.38	0.43	0.48	0.51	0.53	0.56	0.58	0.61	0.63
0.33	0.36	0.41	0.46	0.48	0.51	0.53	0.56	0.58	0.60
0.30	0.33	0.38	0.43	0.46	0.48	0.51	0.53	0.56	0.58
0.28	0.30	0.36	0.38	0.43	0.46	0.48	0.51	0.53	0.55
0.41	0.43	0.48	0.53	0.56	0.58	0.61	0.64	0.66	0.69
0.38	0.41	0.46	0.51	0.53	0.56	0.58	0.61	0.64	0.66
0.36	0.38	0.43	0.51	0.51	0.53	0.56	0.58	0.61	0.64
0.33	0.36	0.41	0.46	0.48	0.51	0.53	0.56	0.58	0.61
0.33	0.36	0.38	0.43	0.46	0.48	0.51	0.53	0.56	0.58
0.41	0.43	0.46	0.48	0.51	0.53	0.56	0.58	0.61	0.64
0.38	0.41	0.43	0.46	0.48	0.51	0.53	0.56	0.58	0.58
0.46	0.48	0.51	0.53	0.56	0.61	0.66	0.69	0.74	0.76
0.43	0.46	0.48	0.53	0.56	0.58	0.64	0.66	0.71	0.74
0.34	0.36	0.38	0.40	0.42	0.44	0.46	0.48	0.48	0.50
0.30	0.32	0.34	0.36	0.38	0.42	0.46	0.46	0.46	0.48
0.38	0.41	0.43	0.48	0.53	0.56	0.60	0.63	0.66	0.66
0.13	0.15	0.16	0.18	0.20	0.20	0.22	0.25	0.25	0.28

Coolant Recommendations

Series	3xD, 5xD		7xD		10xD, 12xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
11	31	19	41	30	55	38
12	31	19	41	30	55	38
13	28	23	34	36	52	45
14	28	26	34	36	52	45
15	26	26	33	42	48	53
16	26	30	33	45	48	57
17	24	30	31	47	45	62
18	24	34	31	47	45	62
20	21	38	28	49	41	68
22	21	42	28	53	41	68
24	21	42	28	53	41	68
26	21	45	28	61	41	76
29	21	45	28	61	41	76
32	21	45	28	61	41	76

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Recommended Drilling Data | Metric (mm)

GEN3SYS XT

ISO	Material	Hardness (BHN)	Speed (m/mm)	Feed Rate (mm/rev) by Diameter			
				11 series 11.00 mm - 11.99 mm	12 series 12.00 mm - 12.99 mm	13 series 13.00 mm - 13.99 mm	14 series 14.00 mm - 14.99 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	146	0.23	0.28	0.30	0.33
		150 - 200	126	0.23	0.26	0.28	0.30
		200 - 250	119	0.19	0.21	0.23	0.26
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	137	0.26	0.28	0.30	0.33
		125 - 175	119	0.23	0.26	0.28	0.30
		175 - 225	108	0.21	0.23	0.26	0.28
		225 - 275	95	0.16	0.19	0.21	0.23
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	119	0.23	0.26	0.28	0.30
		175 - 225	108	0.21	0.23	0.26	0.28
		225 - 275	95	0.19	0.21	0.23	0.26
		275 - 325	81	0.16	0.19	0.21	0.23
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	114	0.23	0.26	0.28	0.30
		175 - 225	105	0.21	0.23	0.26	0.28
		225 - 275	95	0.19	0.21	0.23	0.26
		275 - 325	87	0.14	0.16	0.19	0.21
		325 - 375	78	0.14	0.14	0.16	0.19
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	70	0.19	0.21	0.23	0.26
		300 - 350	63	0.14	0.16	0.19	0.21
350 - 400		56	0.12	0.14	0.16	0.19	
Structural Steel A36, A285, A516, etc.	100 - 150	108	0.23	0.26	0.28	0.30	
	150 - 250	87	0.19	0.21	0.23	0.26	
	250 - 350	81	0.16	0.19	0.21	0.23	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	78	0.14	0.16	0.16	0.19	
	200 - 250	59	0.12	0.14	0.14	0.16	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	37	0.14	0.16	0.16	0.19
		220 - 310	29	0.12	0.14	0.14	0.16
	Titanium Alloy	140 - 220	42	0.12	0.14	0.16	0.19
		220 - 310	33	0.09	0.12	0.14	0.16
	Aerospace Alloy S82	185 - 275	45	0.09	0.09	0.12	0.12
		275 - 350	37	0.07	0.07	0.09	0.12
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	73	0.15	0.18	0.18	0.20
		275 - 350	56	0.13	0.15	0.15	0.18
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	64	0.10	0.13	0.13	0.15
		185 - 275	47	0.08	0.10	0.10	0.13
	Super Duplex Stainless Steel	135 - 185	38	0.08	0.08	0.08	0.10
		185 - 275	30	0.05	0.05	0.08	0.08

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
61 M/min • 0.80	= 48.8 M/min
0.20 mm/rev • 0.80	= 0.16 mm/rev

! WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, and 12xD holder lengths, see adjustment examples above.

Feed Rate (mm/rev) by Diameter									
15 series 15.00 mm - 15.99 mm	16 series 16.00 mm - 16.99 mm	17 series 17.00 mm - 17.99 mm	18 series 18.00 mm - 19.99 mm	20 series 20.00 mm - 21.99 mm	22 series 22.00 mm - 23.99 mm	24 series 24.00 mm - 25.99 mm	26 series 26.00 mm - 28.99 mm	29 series 29.00 mm - 31.99 mm	32 series 32.00 mm - 35.00 mm
0.35	0.37	0.40	0.44	0.49	0.51	0.54	0.56	0.58	0.61
0.33	0.35	0.37	0.40	0.44	0.47	0.49	0.51	0.54	0.56
0.28	0.30	0.33	0.37	0.42	0.44	0.47	0.49	0.51	0.54
0.35	0.37	0.40	0.44	0.49	0.51	0.54	0.56	0.58	0.61
0.33	0.35	0.37	0.41	0.44	0.47	0.49	0.51	0.54	0.56
0.30	0.33	0.35	0.38	0.41	0.44	0.47	0.49	0.51	0.54
0.26	0.28	0.30	0.35	0.37	0.40	0.42	0.44	0.47	0.49
0.33	0.35	0.37	0.42	0.47	0.49	0.51	0.54	0.56	0.58
0.30	0.33	0.35	0.40	0.44	0.47	0.49	0.51	0.54	0.56
0.28	0.30	0.33	0.37	0.41	0.44	0.47	0.49	0.51	0.54
0.26	0.28	0.30	0.35	0.37	0.40	0.42	0.44	0.47	0.49
0.33	0.35	0.37	0.42	0.47	0.49	0.51	0.54	0.56	0.58
0.30	0.33	0.35	0.40	0.44	0.47	0.49	0.51	0.54	0.56
0.28	0.30	0.33	0.37	0.38	0.44	0.47	0.49	0.51	0.54
0.23	0.26	0.28	0.33	0.35	0.37	0.40	0.42	0.46	0.47
0.21	0.23	0.26	0.30	0.33	0.35	0.37	0.40	0.42	0.44
0.26	0.28	0.30	0.33	0.35	0.37	0.40	0.42	0.44	0.47
0.23	0.26	0.26	0.28	0.30	0.33	0.35	0.37	0.40	0.42
0.21	0.23	0.23	0.26	0.28	0.30	0.33	0.35	0.37	0.40
0.30	0.35	0.35	0.40	0.44	0.49	0.51	0.54	0.56	0.58
0.28	0.30	0.33	0.35	0.40	0.44	0.47	0.49	0.51	0.54
0.26	0.28	0.30	0.33	0.35	0.40	0.44	0.47	0.49	0.51
0.19	0.21	0.21	0.23	0.26	0.28	0.30	0.33	0.35	0.37
0.16	0.19	0.19	0.21	0.23	0.26	0.28	0.30	0.33	0.35
0.19	0.21	0.21	0.23	0.26	0.26	0.28	0.28	0.30	0.33
0.16	0.19	0.19	0.21	0.23	0.23	0.26	0.26	0.28	0.30
0.19	0.21	0.21	0.23	0.26	0.26	0.28	0.28	0.30	0.33
0.16	0.19	0.19	0.21	0.23	0.23	0.26	0.26	0.28	0.28
0.14	0.14	0.16	0.16	0.19	0.19	0.21	0.23	0.26	0.28
0.12	0.14	0.14	0.14	0.16	0.19	0.19	0.21	0.23	0.26
0.20	0.23	0.25	0.28	0.30	0.33	0.36	0.38	0.41	0.43
0.18	0.20	0.23	0.25	0.28	0.30	0.33	0.36	0.38	0.41
0.15	0.18	0.18	0.20	0.20	0.23	0.23	0.25	0.25	0.28
0.13	0.15	0.15	0.18	0.18	0.20	0.20	0.23	0.23	0.25
0.10	0.13	0.13	0.15	0.15	0.18	0.20	0.20	0.20	0.25
0.10	0.10	0.13	0.13	0.15	0.15	0.18	0.18	0.20	0.20

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
11	31	19	41	30
12	31	19	41	30
13	28	23	34	36
14	28	26	34	36
15	26	26	33	42
16	26	30	33	45
17	24	30	31	47
18	24	34	31	47
20	21	38	28	49
22	21	42	28	53
24	21	42	28	53
26	21	45	28	61
29	21	45	28	61
32	21	45	28	61

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS



Recommended Drilling Data | Metric (mm)

GEN3SYS XT

ISO	Material	Hardness (BHN)	Speed (M/min)	Feed Rate (mm/rev) by Diameter			
				11 series 11.00 mm - 11.99 mm	12 series 12.00 mm - 12.99 mm	13 series 13.00 mm - 13.99 mm	14 series 14.00 mm - 14.99 mm
H	Wear Plate Hardox®, AR400, T-1, etc.	400	45	0.12	0.12	0.14	0.14
		500	37	0.09	0.09	0.12	0.14
		600	25	0.09	0.09	0.09	0.12
	Hardened Steel	300 - 400	47	0.12	0.12	0.14	0.14
400 - 500		37	0.09	0.09	0.12	0.14	
K	SG / Nodular Cast Iron	120 - 150	146	0.23	0.28	0.30	0.33
		150 - 200	138	0.23	0.26	0.28	0.30
		200 - 220	123	0.19	0.23	0.26	0.28
		220 - 260	108	0.19	0.21	0.23	0.26
	Grey / White Iron	260 - 320	97	0.19	0.19	0.21	0.23
		120 - 150	152	0.28	0.30	0.33	0.35
		150 - 200	146	0.26	0.28	0.30	0.33
		200 - 220	131	0.23	0.26	0.28	0.30
		220 - 260	113	0.21	0.23	0.26	0.28
		260 - 320	102	0.21	0.23	0.26	0.28
N	Cast Aluminium	30	300	0.28	0.30	0.33	0.35
		180	225	0.26	0.28	0.30	0.33
	Wrought Aluminium	30	425	0.30	0.35	0.37	0.40
		180	300	0.28	0.33	0.35	0.37
	Aluminium Bronze	100 - 200	110	0.23	0.26	0.28	0.28
		200 - 250	90	0.19	0.21	0.23	0.26
	Brass	100	200	0.23	0.28	0.30	0.33
Copper	60	130	0.07	0.07	0.07	0.09	

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
61 M/min • 0.80	= 48.8 M/min
0.20 mm/rev • 0.80	= 0.16 mm/rev

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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Feed Rate (mm/rev) by Diameter									
15 series 15.00 mm - 15.99 mm	16 series 16.00 mm - 16.99 mm	17 series 17.00 mm - 17.99 mm	18 series 18.00 mm - 19.99 mm	20 series 20.00 mm - 21.99 mm	22 series 22.00 mm - 23.99 mm	24 series 24.00 mm - 25.99 mm	26 series 26.00 mm - 28.99 mm	29 series 29.00 mm - 31.99 mm	32 series 32.00 mm - 35.00 mm
0.16	0.19	0.21	0.23	0.23	0.23	0.26	0.26	0.28	0.28
0.14	0.16	0.19	0.21	0.23	0.23	0.23	0.23	0.26	0.26
0.14	0.14	0.16	0.19	0.21	0.21	0.23	0.23	0.23	0.23
0.16	0.19	0.19	0.21	0.23	0.23	0.23	0.23	0.26	0.26
0.14	0.16	0.19	0.19	0.21	0.21	0.23	0.23	0.23	0.23
0.35	0.37	0.42	0.47	0.47	0.51	0.51	0.56	0.58	0.61
0.33	0.35	0.40	0.44	0.47	0.47	0.51	0.51	0.56	0.56
0.30	0.33	0.37	0.41	0.44	0.47	0.47	0.51	0.51	0.54
0.28	0.30	0.35	0.38	0.41	0.44	0.47	0.47	0.51	0.51
0.26	0.28	0.33	0.35	0.38	0.41	0.44	0.47	0.47	0.49
0.37	0.40	0.46	0.49	0.51	0.54	0.56	0.58	0.61	0.63
0.35	0.37	0.42	0.47	0.49	0.51	0.54	0.56	0.58	0.61
0.33	0.35	0.40	0.47	0.47	0.49	0.51	0.54	0.56	0.58
0.30	0.33	0.37	0.42	0.44	0.47	0.49	0.51	0.54	0.56
0.30	0.33	0.35	0.40	0.41	0.44	0.47	0.49	0.51	0.54
0.37	0.40	0.42	0.44	0.47	0.49	0.51	0.54	0.56	0.58
0.35	0.37	0.40	0.41	0.44	0.47	0.49	0.51	0.54	0.54
0.42	0.44	0.47	0.51	0.54	0.56	0.61	0.63	0.68	0.70
0.40	0.41	0.44	0.49	0.51	0.54	0.58	0.61	0.65	0.68
0.30	0.33	0.35	0.35	0.37	0.40	0.42	0.44	0.44	0.44
0.28	0.28	0.30	0.33	0.35	0.37	0.40	0.41	0.41	0.41
0.35	0.37	0.40	0.44	0.47	0.51	0.54	0.56	0.61	0.61
0.12	0.14	0.14	0.16	0.19	0.19	0.19	0.23	0.23	0.26

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
11	31	19	41	30
12	31	19	41	30
13	28	23	34	36
14	28	26	34	36
15	26	26	33	42
16	26	30	33	45
17	24	30	31	47
18	24	34	31	47
20	21	38	28	49
22	21	42	28	53
24	21	42	28	53
26	21	45	28	61
29	21	45	28	61
32	21	45	28	61

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Recommended Drilling Data | Imperial (inch)

GEN3SYS XT Pro

ISO	Material	Hardness (BHN)	Speed (SFM)	Feed Rate (IPR) by Diameter			
				11 series 0.4331" - 0.4723"	12 series 0.4724" - 0.5117"	13 series 0.5118" - 0.5511"	14 series 0.5512" - 0.5905"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	550	0.011	0.012	0.013	0.014
		150 - 200	475	0.010	0.011	0.012	0.013
		200 - 250	425	0.008	0.009	0.010	0.011
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	520	0.011	0.012	0.013	0.014
		125 - 175	450	0.010	0.011	0.012	0.013
		175 - 225	410	0.009	0.010	0.011	0.012
		225 - 275	350	0.007	0.008	0.009	0.010
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	450	0.010	0.011	0.012	0.013
		175 - 225	410	0.009	0.010	0.011	0.012
		225 - 275	350	0.008	0.009	0.010	0.011
		275 - 325	300	0.007	0.008	0.009	0.010
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	415	0.010	0.011	0.012	0.013
175 - 225		380	0.009	0.010	0.011	0.012	
225 - 275		340	0.008	0.009	0.010	0.011	
275 - 325		310	0.006	0.007	0.008	0.009	
325 - 375		280	0.006	0.006	0.007	0.008	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	250	0.008	0.009	0.010	0.011	
	300 - 350	225	0.006	0.007	0.008	0.009	
	350 - 400	200	0.005	0.006	0.007	0.008	
Structural Steel A36, A285, A516, etc.	100 - 150	410	0.010	0.011	0.012	0.013	
	150 - 250	330	0.008	0.009	0.010	0.011	
	250 - 350	305	0.007	0.008	0.009	0.010	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	265	0.006	0.007	0.007	0.008	
	200 - 250	205	0.005	0.006	0.006	0.007	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	130	0.006	0.007	0.007	0.008
		220 - 310	100	0.005	0.006	0.006	0.007
	Titanium Alloy	140 - 220	140	0.005	0.006	0.007	0.008
		220 - 310	110	0.004	0.005	0.006	0.007
	Aerospace Alloy S82	185 - 275	165	0.004	0.004	0.005	0.005
		275 - 350	135	0.003	0.003	0.004	0.005
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	240	0.006	0.007	0.007	0.008
		275 - 350	180	0.005	0.006	0.006	0.007
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	220	0.004	0.005	0.005	0.006
		185 - 275	160	0.003	0.004	0.004	0.005
	Super Duplex Stainless Steel	135 - 185	125	0.003	0.003	0.003	0.004
		185 - 275	100	0.002	0.002	0.003	0.003

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

10xD and 12xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD/12xD)
200 SFM • 0.70	= 140 SFM
0.008 IPR • 0.70	= 0.0056 IPR

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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, and 12xD holder lengths, see adjustment examples above.

Feed Rate (IPR) by Diameter									
15 series 0.5906" - 0.6298"	16 series 0.6299" - 0.6692"	17 series 0.6693" - 0.7086"	18 series 0.7087" - 0.7873"	20 series 0.7874" - 0.8660"	22 series 0.8661" - 0.9448"	24 series 0.9449" - 1.0235"	26 series 1.0236" - 1.1416"	29 series 1.1417" - 1.2597"	32 series 1.2598" - 1.3780"
0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026
0.014	0.015	0.016	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026
0.014	0.015	0.016	0.018	0.019	0.020	0.021	0.022	0.023	0.024
0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.020
0.009	0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018	0.019
0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020
0.010	0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018
0.009	0.010	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
0.013	0.015	0.015	0.017	0.019	0.021	0.022	0.023	0.024	0.025
0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023
0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022
0.008	0.009	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015
0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013	0.014
0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.013
0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013	0.014
0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.012
0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012
0.005	0.006	0.006	0.006	0.007	0.008	0.008	0.009	0.010	0.011
0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.011
0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010
0.004	0.005	0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010
0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008

Coolant Recommendations

Series	3xD, 5xD		7xD		10xD, 12xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
11	450	5	600	8	800	10
12	450	5	600	8	800	10
13	400	6	500	9.5	750	12
14	400	7	500	9.5	750	12
15	380	7	475	11	700	14
16	380	8	475	12	700	15
17	350	8	450	12.5	650	16.5
18	350	9	450	12.5	650	16.5
20	300	10	400	13	600	18
22	300	11	400	14	600	18
24	300	11	400	14	600	18
26	300	12	400	16	600	20
29	300	12	400	16	600	20
32	300	12	400	16	600	20

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS



Recommended Drilling Data | Imperial (inch)

GEN3SYS XT Pro

ISO	Material	Hardness (BHN)	Speed (SFM)	Feed Rate (IPR) by Diameter			
				11 series 0.4331" - 0.4723"	12 series 0.4724" - 0.5117"	13 series 0.5118" - 0.5511"	14 series 0.5512" - 0.5905"
H	Wear Plate Hardox®, AR400, T-1, etc.	400	160	0.005	0.005	0.006	0.006
		500	130	0.004	0.004	0.005	0.006
		600	90	0.004	0.004	0.004	0.005
	Hardened Steel	300 - 400	170	0.005	0.005	0.006	0.006
400 - 500		130	0.004	0.004	0.005	0.006	
K	SG / Nodular Cast Iron	120 - 150	550	0.010	0.012	0.013	0.014
		150 - 200	520	0.010	0.011	0.012	0.013
		200 - 220	465	0.008	0.010	0.011	0.012
		220 - 260	405	0.008	0.009	0.010	0.011
	Grey / White Iron	260 - 320	365	0.008	0.008	0.009	0.010
		120 - 150	575	0.012	0.013	0.014	0.015
		150 - 200	550	0.011	0.012	0.013	0.014
		200 - 220	495	0.010	0.011	0.012	0.013
		220 - 260	425	0.009	0.010	0.011	0.012
		260 - 320	380	0.009	0.010	0.011	0.012
N	Cast Aluminium	30	1150	0.012	0.013	0.014	0.015
		180	860	0.011	0.012	0.013	0.014
	Wrought Aluminium	30	1600	0.013	0.015	0.016	0.017
		180	1150	0.012	0.014	0.015	0.016
	Aluminium Bronze	100 - 200	415	0.010	0.011	0.012	0.012
		200 - 250	335	0.008	0.009	0.010	0.011
	Brass	100	755	0.010	0.012	0.013	0.014
Copper	60	490	0.003	0.003	0.003	0.004	

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

10xD and 12xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD/12xD)
200 SFM • 0.70	= 140 SFM
0.008 IPR • 0.70	= 0.0056 IPR

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. *email: ufficiotecnico@febametal.com*

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, and 12xD holder lengths, see adjustment examples above.

Feed Rate (IPR) by Diameter									
15 series 0.5906" - 0.6298"	16 series 0.6299" - 0.6692"	17 series 0.6693" - 0.7086"	18 series 0.7087" - 0.7873"	20 series 0.7874" - 0.8660"	22 series 0.8661" - 0.9448"	24 series 0.9449" - 1.0235"	26 series 1.0236" - 1.1416"	29 series 1.1417" - 1.2597"	32 series 1.2598" - 1.3780"
0.007	0.008	0.009	0.010	0.010	0.010	0.011	0.011	0.012	0.012
0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.010	0.011	0.011
0.006	0.006	0.007	0.008	0.009	0.009	0.010	0.010	0.010	0.010
0.007	0.008	0.008	0.009	0.010	0.010	0.010	0.010	0.011	0.011
0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.010	0.010
0.015	0.016	0.018	0.020	0.020	0.022	0.022	0.024	0.025	0.026
0.014	0.015	0.017	0.019	0.020	0.020	0.022	0.022	0.024	0.024
0.013	0.014	0.016	0.018	0.019	0.020	0.020	0.022	0.022	0.023
0.012	0.013	0.015	0.017	0.018	0.019	0.020	0.020	0.022	0.022
0.011	0.012	0.014	0.015	0.017	0.018	0.019	0.020	0.020	0.021
0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026	0.027
0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025	0.026
0.014	0.015	0.017	0.020	0.020	0.021	0.022	0.023	0.024	0.025
0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023	0.024
0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025
0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.023
0.018	0.019	0.020	0.022	0.023	0.024	0.026	0.027	0.029	0.030
0.017	0.018	0.019	0.021	0.022	0.023	0.025	0.026	0.028	0.029
0.013	0.014	0.015	0.015	0.016	0.017	0.018	0.019	0.019	0.019
0.012	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.018	0.019
0.015	0.016	0.017	0.019	0.020	0.022	0.023	0.024	0.026	0.026
0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010	0.010	0.011

Coolant Recommendations

Series	3xD, 5xD		7xD		10xD, 12xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
11	450	5	600	8	800	10
12	450	5	600	8	800	10
13	400	6	500	9.5	750	12
14	400	7	500	9.5	750	12
15	380	7	475	11	700	14
16	380	8	475	12	700	15
17	350	8	450	12.5	650	16.5
18	350	9	450	12.5	650	16.5
20	300	10	400	13	600	18
22	300	11	400	14	600	18
24	300	11	400	14	600	18
26	300	12	400	16	600	20
29	300	12	400	16	600	20
32	300	12	400	16	600	20

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Recommended Drilling Data | Imperial (inch)

GEN3SYS XT

ISO	Material	Hardness (BHN)	Speed (SFM)	Feed Rate (IPR) by Diameter			
				11 series 0.4331" - 0.4723"	12 series 0.4724" - 0.5117"	13 series 0.5118" - 0.5511"	14 series 0.5512" - 0.5905"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	480	0.009	0.011	0.012	0.013
		150 - 200	415	0.009	0.010	0.011	0.012
		200 - 250	390	0.007	0.008	0.009	0.010
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	450	0.010	0.011	0.012	0.013
		125 - 175	390	0.009	0.010	0.011	0.012
		175 - 225	355	0.008	0.009	0.010	0.011
		225 - 275	310	0.006	0.007	0.008	0.009
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	390	0.009	0.010	0.011	0.012
		175 - 225	355	0.008	0.009	0.010	0.011
		225 - 275	310	0.007	0.008	0.009	0.010
		275 - 325	265	0.006	0.007	0.008	0.009
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	375	0.009	0.010	0.011	0.012
		175 - 225	345	0.008	0.009	0.010	0.011
		225 - 275	310	0.007	0.008	0.009	0.010
		275 - 325	285	0.006	0.006	0.007	0.008
		325 - 375	255	0.006	0.006	0.006	0.007
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	230	0.007	0.008	0.009	0.010
		300 - 350	205	0.006	0.006	0.007	0.008
350 - 400		185	0.005	0.006	0.006	0.007	
Structural Steel A36, A285, A516, etc.	100 - 150	355	0.009	0.010	0.011	0.012	
	150 - 250	285	0.007	0.008	0.009	0.010	
	250 - 350	265	0.006	0.007	0.008	0.009	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	255	0.006	0.006	0.006	0.007	
	200 - 250	195	0.005	0.006	0.006	0.006	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	120	0.006	0.006	0.006	0.007
		220 - 310	95	0.005	0.006	0.006	0.006
	Titanium Alloy	140 - 220	140	0.005	0.006	0.006	0.007
		220 - 310	110	0.004	0.005	0.006	0.006
	Aerospace Alloy S82	185 - 275	145	0.004	0.004	0.005	0.005
		275 - 350	120	0.003	0.003	0.004	0.005
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	240	0.006	0.007	0.007	0.008
		275 - 350	185	0.005	0.006	0.006	0.007
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	220	0.004	0.005	0.005	0.006
		185 - 275	160	0.003	0.004	0.004	0.005
	Super Duplex Stainless Steel	135 - 185	125	0.003	0.003	0.003	0.004
		185 - 275	100	0.002	0.002	0.003	0.003

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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Feed Rate (IPR) by Diameter									
15 series 0.5906" - 0.6298"	16 series 0.6299" - 0.6692"	17 series 0.6693" - 0.7086"	18 series 0.7087" - 0.7873"	20 series 0.7874" - 0.8660"	22 series 0.8661" - 0.9448"	24 series 0.9449" - 1.0235"	26 series 1.0236" - 1.1416"	29 series 1.1417" - 1.2597"	32 series 1.2598" - 1.3780"
0.014	0.015	0.016	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022
0.011	0.012	0.013	0.015	0.017	0.017	0.018	0.019	0.020	0.021
0.014	0.015	0.016	0.017	0.019	0.020	0.021	0.022	0.023	0.024
0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022
0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.017	0.018	0.019
0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.012	0.013	0.014	0.016	0.017	0.018	0.019	0.020	0.021	0.022
0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.017	0.018	0.019
0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.012	0.013	0.014	0.016	0.017	0.018	0.019	0.020	0.021	0.022
0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.017	0.018	0.019
0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.012	0.013	0.014	0.016	0.017	0.018	0.019	0.020	0.021	0.022
0.011	0.012	0.013	0.015	0.015	0.017	0.018	0.019	0.020	0.021
0.009	0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018	0.018
0.008	0.009	0.010	0.012	0.013	0.014	0.015	0.016	0.017	0.017
0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.017	0.018
0.009	0.010	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
0.008	0.009	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
0.012	0.014	0.014	0.016	0.017	0.019	0.020	0.021	0.022	0.023
0.011	0.012	0.013	0.014	0.016	0.017	0.018	0.019	0.020	0.021
0.010	0.011	0.012	0.013	0.014	0.016	0.017	0.018	0.019	0.020
0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015
0.006	0.007	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014
0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.013
0.006	0.007	0.007	0.008	0.009	0.009	0.010	0.010	0.011	0.012
0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.013
0.006	0.007	0.007	0.008	0.009	0.009	0.010	0.010	0.011	0.011
0.006	0.006	0.006	0.006	0.007	0.007	0.008	0.009	0.010	0.011
0.005	0.006	0.006	0.006	0.006	0.007	0.007	0.008	0.009	0.010
0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.011
0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010
0.004	0.005	0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010
0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
11	450	5	600	8
12	450	5	600	8
13	400	6	500	9.5
14	400	7	500	9.5
15	380	7	475	11
16	380	8	475	12
17	350	8	450	12.5
18	350	9	450	12.5
20	300	10	400	13
22	300	11	400	14
24	300	11	400	14
26	300	12	400	16
29	300	12	400	16
32	300	12	400	16

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS



Recommended Drilling Data | Imperial (inch)

GEN3SYS XT

ISO	Material	Hardness (BHN)	Speed (SFM)	Feed Rate (IPR) by Diameter			
				11 series 0.4331" - 0.4723"	12 series 0.4724" - 0.5117"	13 series 0.5118" - 0.5511"	14 series 0.5512" - 0.5905"
H	Wear Plate Hardox®, AR400, T-1, etc.	400	145	0.005	0.005	0.006	0.006
		500	110	0.004	0.004	0.005	0.006
		600	80	0.004	0.004	0.004	0.005
	Hardened Steel	300 - 400	155	0.005	0.005	0.006	0.006
		400 - 500	120	0.004	0.004	0.005	0.006
K	SG / Nodular Cast Iron	120 - 150	480	0.009	0.011	0.012	0.013
		150 - 200	450	0.009	0.010	0.011	0.012
		200 - 220	400	0.007	0.009	0.010	0.011
		220 - 260	350	0.007	0.008	0.009	0.010
		260 - 320	320	0.007	0.007	0.008	0.009
	Grey / White Iron	120 - 150	500	0.011	0.012	0.013	0.014
		150 - 200	480	0.010	0.011	0.012	0.013
		200 - 220	430	0.009	0.010	0.011	0.012
		220 - 260	370	0.008	0.009	0.010	0.011
		260 - 320	335	0.008	0.009	0.010	0.011
N	Cast Aluminium	30	1000	0.011	0.012	0.013	0.014
		180	750	0.010	0.011	0.012	0.013
	Wrought Aluminium	30	1400	0.012	0.014	0.015	0.016
		180	1000	0.011	0.013	0.014	0.015
	Aluminium Bronze	100 - 200	360	0.009	0.010	0.011	0.011
		200 - 250	295	0.007	0.008	0.009	0.010
	Brass	100	660	0.009	0.011	0.012	0.013
Copper	60	425	0.003	0.003	0.003	0.004	

7xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

⚠ WARNING Tool failure can cause serious injury. To prevent:

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Feed Rate (IPR) by Diameter									
15 series 0.5906" - 0.6298"	16 series 0.6299" - 0.6692"	17 series 0.6693" - 0.7086"	18 series 0.7087" - 0.7873"	20 series 0.7874" - 0.8660"	22 series 0.8661" - 0.9448"	24 series 0.9449" - 1.0235"	26 series 1.0236" - 1.1416"	29 series 1.1417" - 1.2597"	32 series 1.2598" - 1.3780"
0.006	0.007	0.008	0.009	0.009	0.009	0.010	0.010	0.011	0.011
0.006	0.006	0.007	0.008	0.009	0.009	0.009	0.009	0.010	0.010
0.006	0.006	0.006	0.007	0.008	0.008	0.009	0.009	0.009	0.009
0.006	0.007	0.007	0.008	0.009	0.009	0.009	0.009	0.010	0.010
0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.009	0.009
0.014	0.015	0.017	0.018	0.018	0.020	0.020	0.022	0.023	0.024
0.013	0.014	0.016	0.017	0.018	0.018	0.020	0.020	0.022	0.022
0.012	0.013	0.015	0.016	0.017	0.018	0.018	0.020	0.020	0.021
0.011	0.012	0.014	0.015	0.016	0.017	0.018	0.018	0.020	0.020
0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018	0.018	0.019
0.015	0.016	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025
0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024
0.013	0.014	0.016	0.018	0.018	0.019	0.020	0.021	0.022	0.023
0.012	0.013	0.015	0.017	0.017	0.018	0.019	0.020	0.021	0.022
0.012	0.013	0.014	0.016	0.016	0.017	0.018	0.019	0.020	0.021
0.015	0.016	0.017	0.017	0.018	0.019	0.020	0.021	0.022	0.023
0.014	0.015	0.016	0.016	0.017	0.018	0.019	0.020	0.021	0.021
0.017	0.017	0.018	0.020	0.021	0.022	0.024	0.025	0.027	0.028
0.016	0.016	0.017	0.019	0.020	0.021	0.023	0.024	0.026	0.027
0.012	0.013	0.014	0.014	0.015	0.016	0.017	0.017	0.017	0.017
0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.016	0.016	0.016
0.014	0.015	0.016	0.017	0.018	0.020	0.021	0.022	0.024	0.024
0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.009	0.009	0.010

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
11	450	5	600	8
12	450	5	600	8
13	400	6	500	9.5
14	400	7	500	9.5
15	380	7	475	11
16	380	8	475	12
17	350	8	450	12.5
18	350	9	450	12.5
20	300	10	400	13
22	300	11	400	14
24	300	11	400	14
26	300	12	400	16
29	300	12	400	16
32	300	12	400	16

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Tap Drill Information and Formulas | Metric (mm)

Tap Size	Tap Drill Size	Decimal Equivalent (inch)	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
12 X 1.25	27/64	0.4219	79%	0.075 mm	10.79 mm	74%
	10.8 mm	0.4252	74%	0.075 mm	10.88 mm	69%
14 X 2.0	15/32	0.4688	81%	0.075 mm	11.98 mm	78%
	12.0 mm	0.4724	77%	0.075 mm	12.08 mm	74%
14 X 1.5	12.5 mm	0.4921	77%	0.075 mm	12.58 mm	73%
16 X 2.0	14.0 mm	0.5512	77%	0.075 mm	14.08 mm	74%
16 X 1.5	14.5 mm	0.5709	77%	0.075 mm	14.58 mm	73%
	37/64	0.5781	68%	0.075 mm	14.76 mm	64%
18 X 2.5	15.5 mm	0.6102	77%	0.075 mm	15.58 mm	75%
18 X 1.5	16.5 mm	0.6496	77%	0.075 mm	16.58 mm	73%
	21/32	0.6563	68%	0.075 mm	16.75 mm	64%
20 X 2.5	11/16	0.6875	78%	0.075 mm	17.54 mm	76%
	17.5 mm	0.6890	77%	0.075 mm	17.58 mm	74%
20 X 1.5	18.5 mm	0.7283	77%	0.075 mm	18.58 mm	73%
	47/64	0.7344	69%	0.075 mm	18.66 mm	65%
22 X 2.5	49/64	0.7656	79%	0.075 mm	19.52 mm	76%
	19.5 mm	0.7677	77%	0.075 mm	19.58 mm	75%
22 X 1.5	20.5 mm	0.8071	77%	0.075 mm	20.58 mm	73%
	13/16	0.8125	70%	0.075 mm	20.71 mm	66%
24 X 3	13/16	0.8125	86%	0.075 mm	20.71 mm	84%
	21.0 mm	0.8268	76%	0.075 mm	21.08 mm	75%
24 X 2	22.0 mm	0.8661	77%	0.075 mm	22.08 mm	74%
	7/8	0.8750	68%	0.075 mm	22.30 mm	65%
27 X 3	24.0 mm	0.9449	77%	0.075 mm	24.08 mm	75%

Formulas

1.	RPM	= (318.47 • m/min) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
	where:	
	mm/min	= millimeter per minute (mm/min)
	RPM	= revolutions per minute (rev/min)
	mm/rev	= feed rate (mm/rev)
3.	M/min	= RPM • 0.003 • DIA
	where:	
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)
4.	Thrust	= 154 • (mm/rev) • DIA • K _m
	where:	
	Thrust	= axial thrust (N)
	mm/rev	= feed rate (mm/rev)
	DIA	= diameter of drill (mm)
	K _m	= specific cutting energy (kPa)
5.	Tool Power	= ((mm/rev) • RPM • K _m • DIA ²) / 218604.8
	where:	
	Tool Power	= tool power (HP)
	mm/rev	= feed rate (mm/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (kPa)
	DIA	= diameter of drill (mm)

BSP and ISO 7-1

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/4-19	7/16"	0.4375"	-	0.075 mm	11.19 mm	-
3/8-19	37/64"	0.5781"	-	0.075 mm	14.76 mm	-
1/2-14	23/32"	0.7188"	-	0.075 mm	18.33 mm	-
3/4-14	15/16"	0.9375"	-	0.075 mm	23.89 mm	-

* Based on nominal tap drill diameter

** Based on 0.075 mm probable mean oversize

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

$$\% \text{ Thread} = \frac{76.93}{\text{Pitch (mm)}} \cdot (\text{Basic major diameter} - \text{Drill hole size})$$

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirement.
- The 0.075 mm probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Material Constants

Type of Material	Hardness	K _m (kPa)
Plain Carbon and Alloy Steel	85 - 200 BHN	5.45
	200 - 275 BHN	6.48
	275 - 375 BHN	6.89
	375 - 425 BHN	7.93
High-Temperature Alloys	-	9.93
Titanium Alloy	-	4.96
Stainless Steels	135 - 275 BHN	6.48
	30 - 45 RC	7.45
Cast Iron	100 - 200 BHN	3.45
	200 - 300 BHN	7.45
Copper Alloy	20 - 80 RB	2.96
	80 - 100 RB	4.96
Aluminium Alloy	-	1.52
Magnesium Alloy	-	1.10



Tap Drill Information and Formulas | Imperial (inch)

American - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/2 - 20	29/64	0.4531	72%	0.003	0.4561	68%
9/16 - 12	12.0 mm	0.4724	72%	0.003	0.4754	69%
	31/64	0.4844	83%	0.003	0.4874	80%
9/16 - 18	1/2	0.5000	87%	0.003	0.5030	82%
	13.0 mm	0.5118	70%	0.003	0.5148	66%
	31/64	0.5156	65%	0.003	0.5186	61%
5/8 - 11	17/32	0.5313	79%	0.003	0.5343	77%
5/8 - 12	35/64	0.5469	72%	0.003	0.5499	69%
5/8 - 18	9/16	0.5625	87%	0.003	0.5655	82%
	14.5 mm	0.5709	75%	0.003	0.5739	71%
	37/64	0.5781	65%	0.003	0.5811	61%
11/16 - 12	39/64	0.6094	72%	0.003	0.6124	69%
3/4 - 10	41/64	0.6406	84%	0.003	0.6436	82%
	16.5 mm	0.6496	77%	0.003	0.6526	75%
	21/32	0.6563	72%	0.003	0.6593	70%
3/4 - 12	43/64	0.6719	72%	0.003	0.6749	69%
3/4 - 16	11/16	0.6875	77%	0.003	0.6905	73%
	17.5 mm	0.6890	75%	0.003	0.6920	71%
7/8 - 9	49/64	0.7656	76%	0.003	0.7686	74%
	25/32	0.7813	65%	0.003	0.7843	63%
7/8 - 14	51/64	0.7969	84%	0.003	0.7999	81%
	13/16	0.8125	67%	0.003	0.8155	64%
15/16 - 12	55/64	0.8594	72%	0.003	0.8624	69%
15/16 - 20	57/64	0.8906	72%	0.003	0.8936	68%
1 - 8	22.0 mm	0.8661	82%	0.003	0.8691	81%
	7/8	0.8750	77%	0.003	0.8780	75%
	57/64	0.8906	67%	0.003	0.8936	65%
1 - 12	29/32	0.9063	87%	0.003	0.9093	84%
	59/64	0.9219	72%	0.003	0.9249	69%
1 - 14	15/16	0.9375	67%	0.003	0.9405	64%
1-1/8 - 12	1-1/32	1.0313	87%	0.003	1.0343	84%
	1-3/64	1.0469	72%	0.003	1.0499	69%
1-1/4 - 7	1-7/64	1.1094	76%	0.003	1.1124	74%

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/4 - 18	7/16	0.4375	-	0.003	0.4405	-
3/8 - 18	9/16	0.5625	-	0.003	0.5655	-
1/2 - 14	45/64	0.7031	-	0.003	0.7061	-
3/4 - 14	29/32	0.9063	-	0.003	0.9093	-

* Based on nominal tap drill diameter

** Based on 0.003" probable mean oversize

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

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

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user-specific percentage of thread requirement.
- The 0.003" probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Formulas

1.	RPM	= (3.82 • SFM) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	SFM	= speed (ft/min)
	DIA	= diameter of drill (inch)
2.	IPM	= RPM • IPR
	where:	
	IPM	= inches per minute (in/min)
	RPM	= revolutions per minute (rev/min)
	IPR	= feed rate (in/rev)
3.	SFM	= RPM • 0.262 • DIA
	where:	
	SFM	= speed (ft/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (inch)
4.	Thrust	= 153,700 • IPR • DIA • K _m
	where:	
	Thrust	= axial thrust (lbs)
	IPR	= feed rate (in/rev)
	DIA	= diameter of drill (inch)
	K _m	= specific cutting energy (lbs/in ²)
5.	Tool Power	= 0.6991 • IPR • RPM • K _m • DIA ²
	where:	
	Tool Power	= tool power (HP)
	IPR	= feed rate (in/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (lbs/in ²)
	DIA	= diameter of drill (inch)

Material Constants

Type of Material	Hardness	K _m (lbs/in ²)
Plain Carbon and Alloy Steel	85 - 200 BHN	0.79
	200 - 275 BHN	0.94
	275 - 375 BHN	1.00
	375 - 425 BHN	1.15
High-Temperature Alloys	-	1.44
Titanium Alloy	-	0.72
Stainless Steels	135 - 275 BHN	0.94
	30 - 45 RC	1.08
Cast Iron	100 - 200 BHN	0.50
	200 - 300 BHN	1.08
Copper Alloy	20 - 80 RB	0.43
	80 - 100 RB	0.72
Aluminium Alloy	-	0.22
Magnesium Alloy	-	0.16



Deep Hole Drilling Guidelines

GEN3SYS XT Pro | 10xD and 12xD Holders

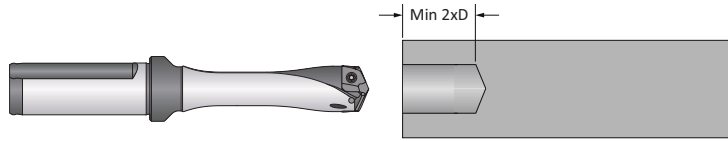
A

DRILLING

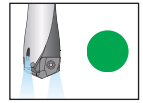
1. Pilot Hole

100 % RPM
100% mm/rev (IPR)

Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum. Utilise a pilot drill with the same or larger included point angle.



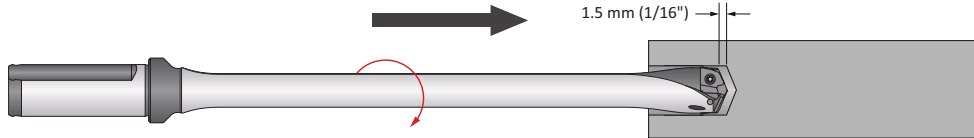
Coolant ON



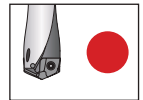
2. Feed-in

50 RPM max
300 mm/min (12 IPM)

Feed the longer drill within 1.5 mm (1/16") short of the established pilot hole bottom at a **maximum of 50 RPM** and 300 mm/min (12 IPM) feed rate.



Coolant OFF



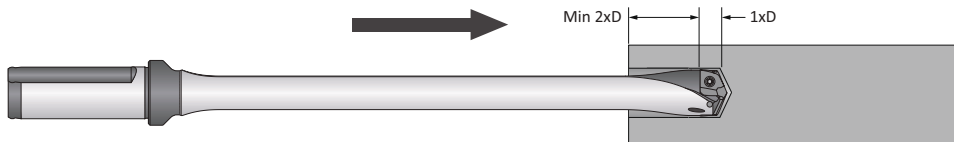
B

BORING

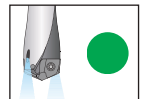
3. Deep Hole Transition Drilling

50 % RPM
75% mm/rev (IPR)

Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of 1 second dwell is required to meet full speed before feeding.



Coolant ON



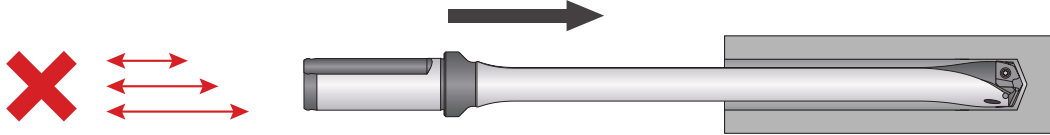
F

THREADING

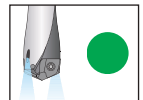
4. Deep Hole Drilling - Blind

100% RPM
100% mm/rev (IPR)

Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts. **No peck cycle recommended.**



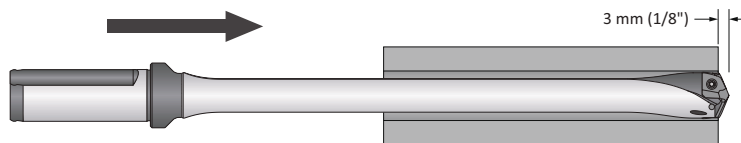
Coolant ON



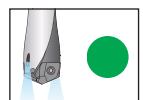
5. Deep Hole Drilling - at Breakout

50% RPM
75% mm/rev (IPR)

For through holes only:
Reduce speed by 50% and feed by 25% prior to breakout. Do not break out more than 3 mm (1/8") past the full diameter of the drill.



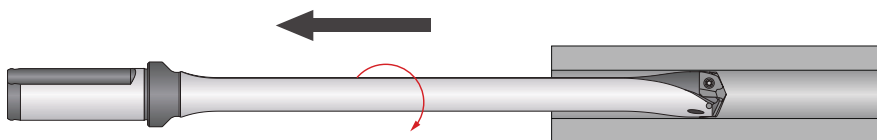
Coolant ON



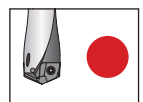
6. Drill Retract

50 RPM max

Reduce speed to a **maximum of 50 RPM** before retracting from the hole.



Coolant OFF



X

SPECIALS

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com



Troubleshooting Guide

Setup Condition	Potential Problem																			Possible Solutions
	Accelerated corner wear	Barber pole	Bell-mouth hole	Insert chipping	Blue chips	Built-up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of position	Hole out of round	Over-size hole	Poor hole finish	Poor tool life	Power spikes - Load meter	
Worn or misaligned spindle (lathe, screw machine, chucker)	1	2	3				7	9	10	11		13				16	17			<ul style="list-style-type: none"> Align spindle and turret or tailstock. Repair spindle.
Use of low rigidity machine tools		2	3	4			7	9	10				13	14						<ul style="list-style-type: none"> Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation).
Poor work piece support		2		4			7		10	11					15		17			<ul style="list-style-type: none"> Provide additional support for the work piece. Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation).
Flood coolant, low coolant pressure, or low coolant volume	1				5	6		8	10		12					16	17	18	19	<ul style="list-style-type: none"> Run coolant through tool holder when drilling greater than 1xD. Increase coolant pressure and volume through the tool holder. Reduce penetration rate to fall within the coolant limitations (NOTICE: Do not reduce feed below threshold of good chip formation). Add a peck cycle to help clear chips.
Interrupted cuts. Entry or exit surfaces that are not perpendicular to the spindle (draft angles, parting lines, curved or stepped surfaces, cross holes, and cast or forged surfaces)				4			7	9	10	11			13	14	15	16	17	18		<ul style="list-style-type: none"> Premill (spot face) entry or exit surface to remove interruption. Decrease feed as much as 50% through entry or exit interruption. Use short holders in low impact entry cuts.
Material harder than expected or running tools beyond recommended speed	1				5	6			10		12							18		<ul style="list-style-type: none"> Reduce speed. Increase coolant pressure and volume. Improve coolant condition by use of quality products and regular maintenance.
Poor material micro-structure or foreign particles (forgings and castings that have not been normalised or annealed, poorly prepared steel, flame cut parts, and sand casting)				4	6				10		12	13						18		<ul style="list-style-type: none"> Compare performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalise parts to improve micro-structure for machining. Reduce feeds (NOTICE: Do not reduce feed below threshold of good chip formation).
Poor chip control								8	10	11		13				16	17	18	19	<ul style="list-style-type: none"> Increase feed to recommended levels. Contact Allied's Application Engineering group for technical recommendations. Increase coolant pressure and volume. Improve coolant condition by use of quality products and regular maintenance.
Spot drilled holes with included angle less than that matching GEN3SYS XT or cored holes	1		4				7						13					18		<ul style="list-style-type: none"> Spot hole with short tool of same or greater included angle as GEN3SYS XT drill insert. Reduce feed (NOTICE: Do not reduce feed below threshold of good chip formation). If possible, drill from solid.

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS



SECTION

A25

T-A Pro® Drilling System

T-A Pro[®]

High Penetration Replaceable Insert Drilling System

► **Diameter Range:** 9.50 mm - 47.80 mm (0.3739" - 1.8820")



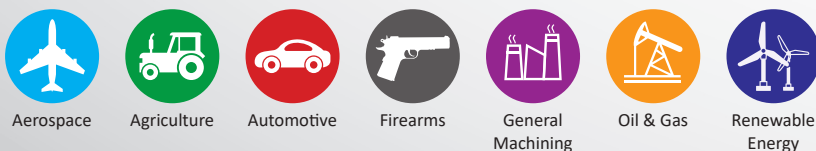
The best just got *better*.

After 35 years of spade drilling success with our iconic T-A[®] (Throw Away) insert, the best just got better. Our team of engineers developed technology that takes The "go-to" solution for general purpose holemaking to a performance level previously unachievable by a spade insert.

The T-A Pro combines material-specific insert geometries, a redesigned drill body, and a proprietary through coolant system to allow penetration rates, which run at speeds faster than other high performance drills.

Excellent chip control	Improves hole quality and surface finish	Provides maximum durability and stability
------------------------	--	---

Applicable Industries



Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

⚠ WARNING

WARNING (shown above) 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.

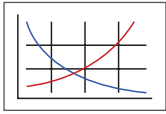
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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

T-A Pro® Drilling System Contents

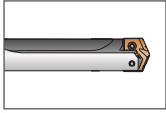
Reference Icons

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



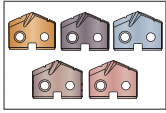
Recommended Cutting Data

Speed and feed recommendations for optimum and safe boring



T-A Pro Holders

Refers to the range of holders that connect with the corresponding inserts



T-A Pro Carbide Inserts

Refers to ISO-material special coated carbide inserts and HSS inserts that connect with the corresponding holders



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
Y	9.50 mm - 11.09 mm	0.3739" - 0.4368"
Z	11.10 mm - 12.69 mm	0.4369" - 0.4998"
0	12.70 mm - 17.64 mm	0.4999" - 0.6946"
1	17.65 mm - 24.37 mm	0.6947" - 0.9596"
2	24.38 mm - 35.04 mm	0.9597" - 1.3797"
3	35.05 mm - 47.80 mm	1.3798" - 1.8820"

Introduction Information

Competitive Test Results	3
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T-A Pro Drilling System Information	7
Product Nomenclature	8 - 9

Y Series

Inserts	10 - 11
Drill Holders	12 - 13

Z Series

Inserts	14 - 15
Drill Holders	16 - 17

0 Series

Inserts	18 - 19
Drill Holders	20 - 23

1 Series

Inserts	24 - 27
Drill Holders	28 - 31

2 Series

Inserts	32 - 35
Drill Holders	36 - 39

3 Series

Inserts	40 - 43
Drill Holders	44 - 47

Recommended Cutting Data

Metric (mm)	[Carbide	48 - 49
		High-Speed Steel	50 - 51
Imperial (inch)	[Carbide	52 - 53
		High-Speed Steel	54 - 55

Tap Drill Information and Formulas

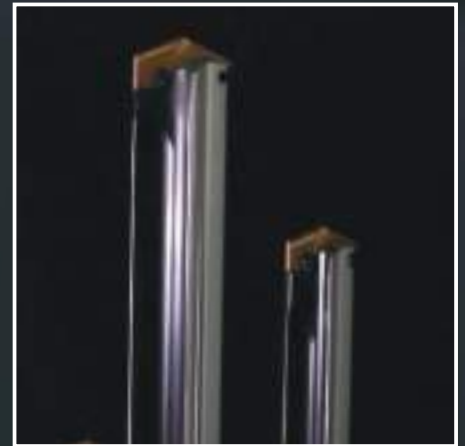
Metric (mm)	56
Imperial (inch)	57

Deep Hole Drilling Guidelines 58

Troubleshooting Guide 59



T-A Pro®



NEW HOLDER DESIGN

Optimised flute design for **increased** chip evacuation



NEW INSERT DESIGN

ISO-specific geometries with a new point design to **simplify** your insert choices



NEW COOLANT DESIGN

Proprietary coolant outlet configuration provides **superior** performance even in low coolant applications 15 BAR (200PSI)

Competitive Test Results

T-A Pro®

TEST RESULTS



Project Profile: Competitive Testing in 4340 Steel
Tooling Solution: T-A Pro: Steel (P) Geometry with T-A Pro Holder

The Parameters:

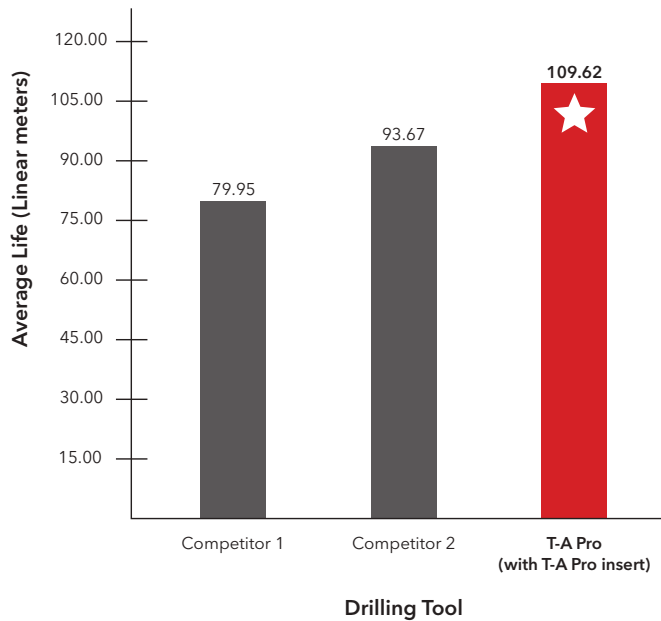
- Hole Diameter = 14.30 mm (0.5625")
- Depth of Cut = 50.80 mm (2")
- Coolant = 20 BAR (300 PSI)
- Speed = 2546 RPM
- Feed = 420 mm/min (16.55 IPR)

The Results:

When run at the listed parameters, here is how the three different tooling solutions performed:

Competitor 1 = 79.95 total linear meters
Competitor 2 = 93.67 total linear meters
T-A Pro = **109.62** total linear meters

Average Tool Life
 Test Results Drilling in 4340 Steel



Case Study

A
DRILLING

The Gift that Keeps Giving.

Not everything in life has to be a give and take. Our customer who machines fluid end frac blocks was previously having to reduce cutting parameters to achieve good chip formation and produce a successful part.



Needing better chip formation with a reduced cycle time, the customer tested Allied's **T-A Pro drill**. Using the "M" ISO-specific stainless steel insert geometry – developed for improved chip formation while minimising exit burr – they were able to increase their speed and feed while maintaining ideal chip formation.

On top of the reduced cycle time, the T-A Pro had an increased tool life, lowering the cost per hole by 58.82%. The success of the T-A Pro in this application is just another example of why it is more than just a good drill.

If you are looking for a solution that just keeps giving, **give us a call and we will help you find the right solution.**

B

Product:	T-A Pro drill	Measure	Competitor Drill	T-A Pro Drill
Objective:	Reduce cycle time	RPM	480	545
Industry:	Oil & Gas / Petrochemical	Speed Rate	67.06 m/min (220 SFM)	76.20 m/min (250 SFM)
Part:	Fluid end frac block	Feed Rate	0.13 mm/rev (0.005 IPR)	0.20 mm/rev (0.008 IPR)
Material:	15-5 PH stainless steel	Penetration Rate	60.96 mm/min (2.4 IPM)	111.76 mm/min (4.4 IPM)
Hole Ø:	44.45 mm (1.75")	Total Part Cycle Time	500 sec	272 sec
Hole Depth:	508.00 mm (20.00")	Tool Life	30 holes	60 holes
Tolerance:	+/- 0.127 mm (0.005")	T-A Pro offered 58.82% cost per hole savings over the competitor tooling.		
Required Surface Finish:	3.2 µm (125 Ra µin)			

BORING

F

- ▶ T-A Pro holder
Item No. **HTA3D15-40FM**
- ▶ T-A Pro insert
M geometry (stainless steel)
Item No. **TAM3-44.45**

45.60%
cycle time decrease



The ISO-specific AM460 coated T-A Pro insert provided:

- ✓ Increased tool life.
- ✓ Decreased cycle time.
- ✓ Decreased cost per hole.
- ✓ Increased penetration rate.

THREADING

X

SPECIALS

Case Study

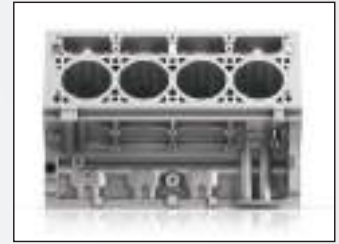
Need a solution with better tool life?

Our customer was machining engine block parts from ductile cast iron in a production cell. The replaceable tip drill they were using wasn't providing the results they needed, so they began searching for a tooling solution that would decrease machine downtime and increase productivity.

The customer tested the **T-A Pro® high penetration replaceable insert drill** using the "K" (cast iron) geometry insert with Allied's multilayer TiAlN coating that provides increased abrasion resistance and tool life. The T-A Pro performed better than the customer had hoped.

Using the T-A Pro not only provided substantial tool life improvements, but it also increased the penetration rate by 30%. The previous tooling had a tool life of 1700 holes, but the T-A Pro increased that life to 3400 holes. This allowed the customer to increase their productivity.

In conclusion: Our customer was able to achieve £50k in tool savings per year with massive improvements in throughput. The advantage of the T-A Pro allowed our customer to achieve their tooling goals.



	Measure	Competitor Replaceable Insert Drill	T-A Pro Drill
Product: T-A Pro	RPM	1819 RPM	2092 RPM
Objectives: (1) Decrease machine downtime (2) Increase productivity	Speed	91 m/min (300 SFM)	105 m/min (345 SFM)
Industry: Automotive	Feed Rate	0.20 mm/rev (0.008 IPR)	0.23 mm/rev (0.0092 IPR)
Part: Engine block	Penetration Rate	369.57 mm/min (14.55 IPM)	488.95 mm/min (19.25 IPM)
Material: Ductile cast iron	Cycle Time	39 seconds	29 seconds
Hole Ø: 16.00 mm (0.6299")	Tool Life	1700 holes	3400 holes
Hole Depth: 241.00 mm (9.50")			

- ▶ T-A Pro Drill holder
15xD length
Item No. HTA0C15-20FM
- ▶ T-A Pro Drill inserts
K geometry
(cast iron)
Item No. TAK0-16.00







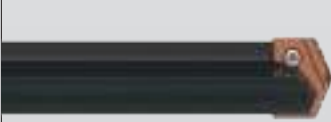
increased
tool life by
100%

The cast iron TiAlN coated T-A Pro insert provided:

- ✓ Doubled tool life.
- ✓ Decreased machine downtime.
- ✓ Increased productivity.
- ✓ 30% increased penetration rate.
- ✓ Increased tool savings per year.



Insert Comparison and Assembly Information

				
		T-A Pro® Inserts	GEN2 T-A® Inserts	T-A® Inserts
A	Recommended for increased productivity		<input checked="" type="checkbox"/>	
	ISO-specific geometry/coating combination		<input checked="" type="checkbox"/>	
B	Connects with T-A Pro holders		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Connects with T-A holders		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Step 1:
Align the flats on the T-A Pro insert with the flats on the ears of the holder.



Step 2:
Slide the insert into the precision ground locating pocket on the holder. The insert should not be turned, rotated, or twisted for locking purposes. The holder pocket and locating pads on the insert assure optimum fit and repeatability.



Step 3:
Apply a generous amount of E-Z Break® (provided in the packaging) onto the supplied TORX® Plus screws.

Tighten the TORX Plus screws to the recommended torque value specified in the catalogue by series. A preset TORX driver is available to assure that the proper torque is applied.

T-A Pro Drilling System Information

T-A Pro Drill Inserts



Carbide Geometries

P - Steels

- Designed to provide increased penetration rates and tool life in steel applications
- Superior geometry and edge provides excellent chip control
- Allied's multilayer AM300® coating increases heat resistance and improves tool life



K - Cast Irons

- Uniquely designed for cast/nodular iron applications
- Geometry developed for maximum tool life, reduced exit burr and improved hole finish
- The multilayer TiAlN coating provides increased abrasion resistance and tool life



N - Nonferrous Materials

- Designed for applications in aluminium, brass and copper
- The geometry yields excellent chip control in these softer materials
- TiCN coating gives the versatility to run in a variety of materials while reducing buildup



M - Stainless Steel*

- Designed for all stainless steels and heat-resistant superalloys
- Geometry optimised for improved chip formation while minimising exit burr
- Allied's new AM460 coating provides industry-leading tool life in stainless and HRSA materials



*Available in Z -3 series only.

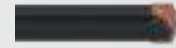
Advanced Design Capabilities

The advanced T-A Pro insert combines a coating and geometry specifically designed to achieve optimal results in ISO material drilling applications. With quick connectivity to existing T-A drill insert holders, the T-A Pro insert can be interchanged with previous T-A inserts with ease, resulting in minimal setup times so you can immediately increase your productivity.

T-A Pro inserts connect with:



T-A Pro holders

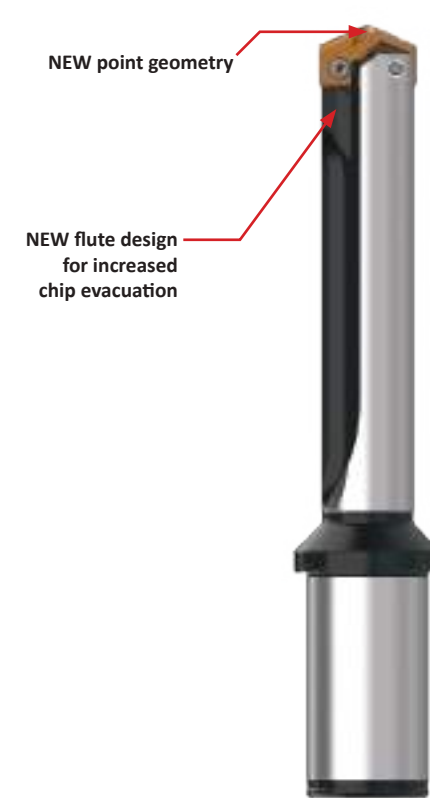


T-A holders

High-Speed Steel Geometries

X - High-Speed Steel Materials

- Improved chip geometry for excellent chip control in all materials
- Long tool life and high-process security for the most challenging applications
- Allied's multilayer AM200® coating combines excellent heat resistance and high lubricity for wide application use



T-A Pro Drill Holders



Straight flutes.



Proprietary coolant outlets improve coolant flow.



Provides increased insert life.

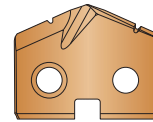
Stub, 3xD, 5xD, 7xD,
10xD, 12xD, 15xD

Available in Stub, 3xD, 5xD, 7xD,
10xD, 12xD and 15xD.

Product Nomenclature

A
DRILLING

T-A Pro Drill Inserts

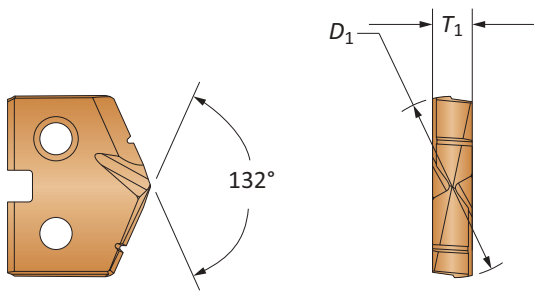


TA	P	0	–	15.00
1	2	3		4

1. T-A Pro Drill Insert	2. ISO Material / Geometry	3. Series	4. Diameter (mm)
TA = T-A Pro insert	P = Steel K = Cast iron N = Nonferrous M = Stainless Steel* X = HSS	Y = Y series Z = Z series 0 = 0 series 1 = 1 series 2 = 2 series 3 = 3 series	For complete list of diameter ranges by series, see contents page.

*Available in Z-3 series only.

B
BORING



Reference Key

Symbol	Attribute
D_1	Insert diameter
T_1	Insert thickness

F
THREADING

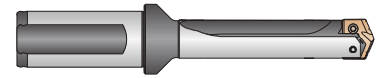
X
SPECIALS



Product Nomenclature

T-A Pro Drill Holders

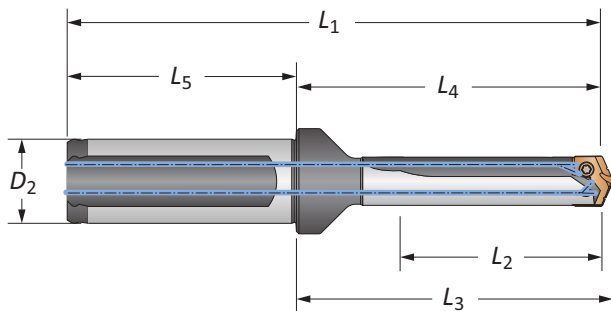
HTA	0	B	05	-	20	FM
1	2	3	4		5	6



<p>1. Holder</p> <p>HTA = T-A Pro holder</p>	<p>2. Series</p> <p>Y = Y Series</p> <p>Z = Z Series</p> <p>0 = 0 Series</p> <p>1 = 1 Series</p> <p>2 = 2 Series</p> <p>3 = 3 Series</p>	<p>3. Body Diameter</p> <p>A = A body diameter</p> <p>B = B body diameter</p> <p>C = C body diameter</p> <p>D = D body diameter</p>	<p>4. Length</p> <p>01 = Stub Length</p> <p>03 = 3x Diameter</p> <p>05 = 5x Diameter</p> <p>07 = 7x Diameter</p> <p>10 = 10x Diameter</p> <p>12 = 12x Diameter</p> <p>15 = 15x Diameter</p>										
<p>5. Shank Diameter</p> <table border="1"> <thead> <tr> <th>Metric (mm)</th> <th>Imperial (inch)</th> </tr> </thead> <tbody> <tr> <td>20 = 20 mm</td> <td>075 = 3/4"</td> </tr> <tr> <td>25 = 25 mm</td> <td>100 = 1"</td> </tr> <tr> <td>32 = 32 mm</td> <td>125 = 1-1/4"</td> </tr> <tr> <td>40 = 40 mm</td> <td>150 = 1-1/2"</td> </tr> </tbody> </table>		Metric (mm)	Imperial (inch)	20 = 20 mm	075 = 3/4"	25 = 25 mm	100 = 1"	32 = 32 mm	125 = 1-1/4"	40 = 40 mm	150 = 1-1/2"	<p>6. Shank Style</p> <p>F = Flanged with flat</p> <p>FM = Flanged metric with flat</p> <p>C = Cylindrical (no flat)</p> <p>CM = Cylindrical metric (no flat)</p>	
Metric (mm)	Imperial (inch)												
20 = 20 mm	075 = 3/4"												
25 = 25 mm	100 = 1"												
32 = 32 mm	125 = 1-1/4"												
40 = 40 mm	150 = 1-1/2"												

Holder Ordering Information

The series designator (Z series, 0 series, etc.) in the top corner of each page is for your reference when ordering. Please refer to these series designators when placing an order. For example, a Z series drill insert only fits into a Z series holder.



Reference Key

Symbol	Attribute
D ₂	Shank diameter
L ₁	Overall length
L ₂	Drill depth
L ₃	Holder reference length
L ₄	Holder body length
L ₅	Shank length

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

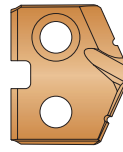
THREADING

X

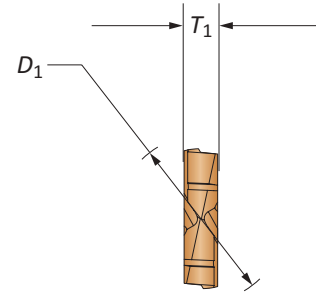
SPECIALS

T-A Pro Drill Inserts

Y Series | Diameter Range: 9.50 mm - 11.09 mm (0.3739" - 0.4368")



132°



Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	Carbide			HSS
					Part No.	Part No.	Part No.	Part No.
					P	K	N	X
Y-A	9.50	0.3740		3/32	TAPY-9.50	TAKY-9.50	TANY-9.50	TAXY-9.50
Y-A	9.53	0.3752	3/8	3/32	TAPY-9.53	TAKY-9.53	TANY-9.53	TAXY-9.53
Y-A	9.60	0.3780		3/32	TAPY-9.60	TAKY-9.60	TANY-9.60	TAXY-9.60
Y-A	9.70	0.3819		3/32	TAPY-9.70	TAKY-9.70	TANY-9.70	TAXY-9.70
Y-A	9.80	0.3858		3/32	TAPY-9.80	TAKY-9.80	TANY-9.80	TAXY-9.80
Y-A	9.90	0.3898		3/32	TAPY-9.90	TAKY-9.90	TANY-9.90	TAXY-9.90
Y-A	9.92	0.3906	25/64	3/32	TAPY-9.92	TAKY-9.92	TANY-9.92	TAXY-9.92
Y-A	10.00	0.3937		3/32	TAPY-10.00	TAKY-10.00	TANY-10.00	TAXY-10.00
Y-A	10.10	0.3976		3/32	TAPY-10.10	TAKY-10.10	TANY-10.10	TAXY-10.10
Y-A	10.20	0.4016		3/32	TAPY-10.20	TAKY-10.20	TANY-10.20	TAXY-10.20
Y-A	10.30	0.4055		3/32	TAPY-10.30	TAKY-10.30	TANY-10.30	TAXY-10.30

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



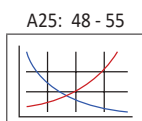
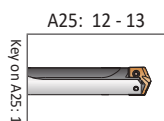
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Key on A25: 1

Sizes not shown are available upon request.

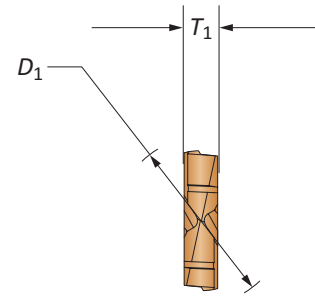
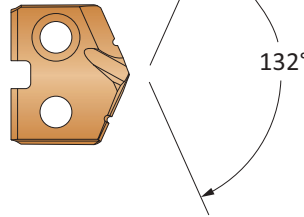
When ordering, please follow the example below:





Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



T-A Pro Drill Inserts

Y Series | Diameter Range: 9.50 mm - 11.09 mm (0.3739" - 0.4368")



Series	Insert				Carbide			HSS
	D_1 mm	D_1 inch	Fractional Equivalent	T_1				
					Part No.	Part No.	Part No.	Part No.
Y-B	10.32	0.4063	13/32	3/32	P	K	N	X
Y-B	10.40	0.4094		3/32	TAPY-10.32	TAKY-10.32	TANY-10.32	TAXY-10.32
Y-B	10.50	0.4134		3/32	TAPY-10.40	TAKY-10.40	TANY-10.40	TAXY-10.40
Y-B	10.60	0.4173		3/32	TAPY-10.50	TAKY-10.50	TANY-10.50	TAXY-10.50
Y-B	10.70	0.4213		3/32	TAPY-10.60	TAKY-10.60	TANY-10.60	TAXY-10.60
Y-B	10.72	0.4220	27/64	3/32	TAPY-10.70	TAKY-10.70	TANY-10.70	TAXY-10.70
Y-B	10.72	0.4220		3/32	TAPY-10.72	TAKY-10.72	TANY-10.72	TAXY-10.72
Y-B	10.80	0.4252		3/32	TAPY-10.80	TAKY-10.80	TANY-10.80	TAXY-10.80
Y-B	10.90	0.4291		3/32	TAPY-10.90	TAKY-10.90	TANY-10.90	TAXY-10.90
Y-B	11.00	0.4331		3/32	TAPY-11.00	TAKY-11.00	TANY-11.00	TAXY-11.00

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



C Series Insert +
A Series Holder



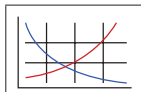
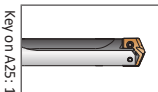
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 12 - 13

A25: 48 - 55



Key on A25: 1

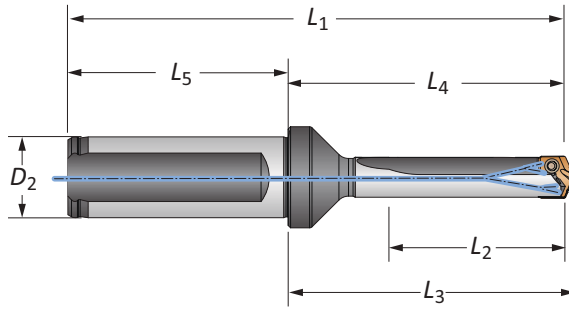
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

Y
A DRILLING
B BORING
C REAMING
D BURNISHING
E THREADING
X SPECIALS

T-A Pro Drill Holders

Y Series Metric | Diameter Range: 9.50 mm - 11.09 mm



		Body				Shank				
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No	
Stub	A	11.1	39.5	41.5	89.5	50.0	20	Yes	HTAYA01-20FM	
Stub	A	11.1	39.5	41.5	89.5	50.0	20	No	HTAYA01-20CM	
Stub	B	11.1	39.5	41.5	89.5	50.0	20	Yes	HTAYB01-20FM	
Stub	B	11.1	39.5	41.5	89.5	50.0	20	No	HTAYB01-20CM	
3xD	A	33.2	64.9	66.9	114.9	50.0	20	Yes	HTAYA03-20FM	
3xD	A	33.2	64.9	66.9	114.9	50.0	20	No	HTAYA03-20CM	
3xD	B	33.2	64.9	66.9	114.9	50.0	20	Yes	HTAYB03-20FM	
3xD	B	33.2	64.9	66.9	114.9	50.0	20	No	HTAYB03-20CM	
5xD	A	55.4	87.0	89.1	137.1	50.0	20	Yes	HTAYA05-20FM	
5xD	A	55.4	87.0	89.1	137.1	50.0	20	No	HTAYA05-20CM	
5xD	B	55.4	87.0	89.1	137.1	50.0	20	Yes	HTAYB05-20FM	
5xD	B	55.4	87.0	89.1	137.1	50.0	20	No	HTAYB05-20CM	
7xD	A	77.5	109.2	111.2	159.2	50.0	20	Yes	HTAYA07-20FM	
7xD	A	77.5	109.2	111.2	159.2	50.0	20	No	HTAYA07-20CM	
7xD	B	77.5	109.2	111.2	159.2	50.0	20	Yes	HTAYB07-20FM	
7xD	B	77.5	109.2	111.2	159.2	50.0	20	No	HTAYB07-20CM	
10xD	A	110.7	142.4	144.4	192.4	50.0	20	Yes	HTAYA10-20FM	
10xD	A	110.7	142.4	144.4	192.4	50.0	20	No	HTAYA10-20CM	
10xD	B	110.7	142.4	144.4	192.4	50.0	20	Yes	HTAYB10-20FM	
10xD	B	110.7	142.4	144.4	192.4	50.0	20	No	HTAYB10-20CM	
12xD	A	132.9	164.6	166.6	214.6	50.0	20	Yes	HTAYA12-20FM	
12xD	A	132.9	164.6	166.6	214.6	50.0	20	No	HTAYA12-20CM	
12xD	B	132.9	164.6	166.6	214.6	50.0	20	Yes	HTAYB12-20FM	
12xD	B	132.9	164.6	166.6	214.6	50.0	20	No	HTAYB12-20CM	
15xD	A	166.1	197.8	199.8	247.8	50.0	20	Yes	HTAYA15-20FM	
15xD	A	166.1	197.8	199.8	247.8	50.0	20	No	HTAYA15-20CM	
15xD	B	166.1	197.8	199.8	247.8	50.0	20	Yes	HTAYB15-20FM	
15xD	B	166.1	197.8	199.8	247.8	50.0	20	No	HTAYB15-20CM	

mm

Connection Accessories

Sub Series	Y Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
YA	9.50 mm - 11.09 mm	0.3739" - 0.4368"
YB	10.32 mm - 11.09 mm	0.4062" - 0.4368"

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 10 - 11 A25: 48 - 55

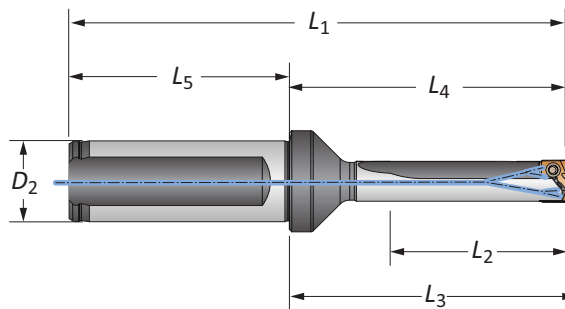
mm = Metric (mm)
in = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

Y Series Imperial | Diameter Range: 0.3739" - 0.4368"



Length	Sub Series	Body				Shank			Flat	Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
Stub	A	0.436	1.554	1.634	3.584	2.030	3/4	Yes	HTAYA01-075F	
Stub	A	0.436	1.554	1.634	3.584	2.030	3/4	No	HTAYA01-075C	
Stub	B	0.436	1.554	1.634	3.584	2.030	3/4	Yes	HTAYB01-075F	
Stub	B	0.436	1.554	1.634	3.584	2.030	3/4	No	HTAYB01-075C	
3xD	A	1.308	2.555	2.635	4.585	2.030	3/4	Yes	HTAYA03-075F	
3xD	A	1.308	2.555	2.635	4.585	2.030	3/4	No	HTAYA03-075C	
3xD	B	1.308	2.555	2.635	4.585	2.030	3/4	Yes	HTAYB03-075F	
3xD	B	1.308	2.555	2.635	4.585	2.030	3/4	No	HTAYB03-075C	
5xD	A	2.180	3.427	3.507	5.457	2.030	3/4	Yes	HTAYA05-075F	
5xD	A	2.180	3.427	3.507	5.457	2.030	3/4	No	HTAYA05-075C	
5xD	B	2.180	3.427	3.507	5.457	2.030	3/4	Yes	HTAYB05-075F	
5xD	B	2.180	3.427	3.507	5.457	2.030	3/4	No	HTAYB05-075C	
7xD	A	3.052	4.299	4.379	6.329	2.030	3/4	Yes	HTAYA07-075F	
7xD	A	3.052	4.299	4.379	6.329	2.030	3/4	No	HTAYA07-075C	
7xD	B	3.052	4.299	4.379	6.329	2.030	3/4	Yes	HTAYB07-075F	
7xD	B	3.052	4.299	4.379	6.329	2.030	3/4	No	HTAYB07-075C	
10xD	A	4.360	5.607	5.687	7.637	2.030	3/4	Yes	⚠ HTAYA10-075F	
10xD	A	4.360	5.607	5.687	7.637	2.030	3/4	No	⚠ HTAYA10-075C	
10xD	B	4.360	5.607	5.687	7.637	2.030	3/4	Yes	⚠ HTAYB10-075F	
10xD	B	4.360	5.607	5.687	7.637	2.030	3/4	No	⚠ HTAYB10-075C	
12xD	A	5.232	6.479	6.559	8.509	2.030	3/4	Yes	⚠ HTAYA12-075F	
12xD	A	5.232	6.479	6.559	8.509	2.030	3/4	No	⚠ HTAYA12-075C	
12xD	B	5.232	6.479	6.559	8.509	2.030	3/4	Yes	⚠ HTAYB12-075F	
12xD	B	5.232	6.479	6.559	8.509	2.030	3/4	No	⚠ HTAYB12-075C	
15xD	A	6.540	7.787	7.867	9.817	2.030	3/4	Yes	⚠ HTAYA15-075F	
15xD	A	6.540	7.787	7.867	9.817	2.030	3/4	No	⚠ HTAYA15-075C	
15xD	B	6.540	7.787	7.867	9.817	2.030	3/4	Yes	⚠ HTAYB15-075F	
15xD	B	6.540	7.787	7.867	9.817	2.030	3/4	No	⚠ HTAYB15-075C	

1

Connection Accessories

Sub Series	Y Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
YA	9.50 mm - 11.09 mm	0.3739" - 0.4368"
YB	10.32 mm - 11.09 mm	0.4062" - 0.4368"

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 58** for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 10 - 11 A25: 48 - 55

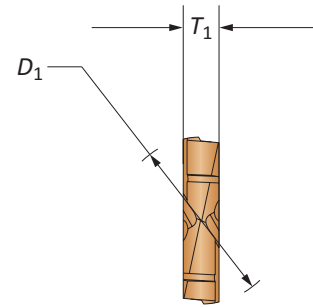
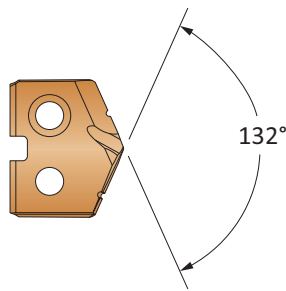
Ⓜ = Metric (mm)
Ⓜ = Imperial (in)






Screws sold in multiples of 10.

A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS

T-A Pro Drill Inserts

Z Series | Diameter Range: 11.10 mm - 12.69 mm (0.4369" - 0.4998")



Insert					Carbide				HSS
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1					
					Part No.	Part No.	Part No.	Part No.	Part No.
Z-A	11.11	0.4374	7/16	3/32	P	K	N	M	X
Z-A	11.20	0.4409		3/32	TAPZ-11.20	TAKZ-11.20	TANZ-11.20	TAMZ-11.20	TAXZ-11.20
Z-A	11.30	0.4449		3/32	TAPZ-11.30	TAKZ-11.30	TANZ-11.30	TAMZ-11.30	TAXZ-11.30
Z-A	11.40	0.4488		3/32	TAPZ-11.40	TAKZ-11.40	TANZ-11.40	TAMZ-11.40	TAXZ-11.40
Z-A	11.50	0.4528		3/32	TAPZ-11.50	TAKZ-11.50	TANZ-11.50	TAMZ-11.50	TAXZ-11.50
Z-A	11.51	0.4531	29/64	3/32	TAPZ-11.51	TAKZ-11.51	TANZ-11.51	TAMZ-11.51	TAXZ-11.51
Z-A	11.60	0.4567		3/32	TAPZ-11.60	TAKZ-11.60	TANZ-11.60	TAMZ-11.60	TAXZ-11.60
Z-A	11.70	0.4606		3/32	TAPZ-11.70	TAKZ-11.70	TANZ-11.70	TAMZ-11.70	TAXZ-11.70
Z-A	11.80	0.4646		3/32	TAPZ-11.80	TAKZ-11.80	TANZ-11.80	TAMZ-11.80	TAXZ-11.80
Z-A	11.91	0.4689	15/32	3/32	TAPZ-11.91	TAKZ-11.91	TANZ-11.91	TAMZ-11.91	TAXZ-11.91
Z-A	12.00	0.4724		3/32	TAPZ-12.00	TAKZ-12.00	TANZ-12.00	TAMZ-12.00	TAXZ-12.00
Z-A	12.10	0.4764		3/32	TAPZ-12.10	TAKZ-12.10	TANZ-12.10	TAMZ-12.10	TAXZ-12.10

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



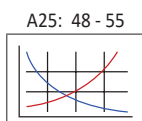
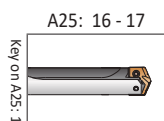
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Key on A25: 1

Sizes not shown are available upon request.

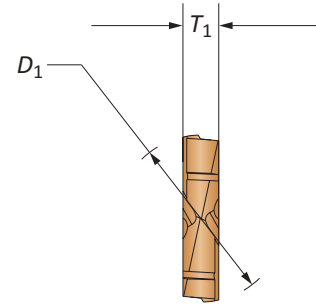
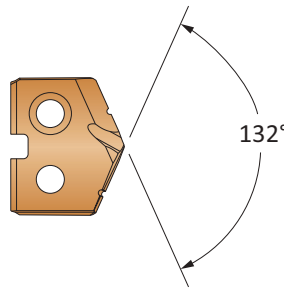
When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



T-A Pro Drill Inserts

Z Series | Diameter Range: 11.10 mm - 12.69 mm (0.4369" - 0.4998")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
Z-B	12.20	0.4803		3/32	TAPZ-12.20	TAKZ-12.20	TANZ-12.20	TAMZ-12.20	TAXZ-12.20
Z-B	12.30	0.4843	31/64	3/32	TAPZ-12.30	TAKZ-12.30	TANZ-12.30	TAMZ-12.30	TAXZ-12.30
Z-B	12.40	0.4882		3/32	TAPZ-12.40	TAKZ-12.40	TANZ-12.40	TAMZ-12.40	TAXZ-12.40
Z-B	12.50	0.4921		3/32	TAPZ-12.50	TAKZ-12.50	TANZ-12.50	TAMZ-12.50	TAXZ-12.50
Z-B	12.60	0.4961		3/32	TAPZ-12.60	TAKZ-12.60	TANZ-12.60	TAMZ-12.60	TAXZ-12.60

Inserts sold in multiples of 2.

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



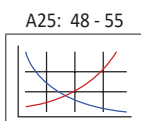
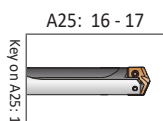
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

Z
A
B
BORING
E
THREADING
X
SPECIALS

AMEC DRILLING | T-A Pro® High Penetration Replaceable Insert Drilling System

T-A Pro Drill Holders

Z Series Metric | Diameter Range: 11.10 mm - 12.69 mm

		Body				Shank				Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
Stub	A	12.0	40.6	42.7	90.7	50.0	20	Yes	HTAZA01-20FM	
Stub	A	12.0	40.6	42.7	90.7	50.0	20	No	HTAZA01-20CM	
Stub	B	12.0	40.6	42.7	90.7	50.0	20	Yes	HTAZB01-20FM	
Stub	B	12.0	40.6	42.7	90.7	50.0	20	No	HTAZB01-20CM	
3xD	A	36.1	68.4	70.4	118.4	50.0	20	Yes	HTAZA03-20FM	
3xD	A	36.1	68.4	70.4	118.4	50.0	20	No	HTAZA03-20CM	
3xD	B	36.1	68.4	70.4	118.4	50.0	20	Yes	HTAZB03-20FM	
3xD	B	36.1	68.4	70.4	118.4	50.0	20	No	HTAZB03-20CM	
5xD	A	60.2	92.5	94.5	142.5	50.0	20	Yes	HTAZA05-20FM	
5xD	A	60.2	92.5	94.5	142.5	50.0	20	No	HTAZA05-20CM	
5xD	B	60.2	92.5	94.5	142.5	50.0	20	Yes	HTAZB05-20FM	
5xD	B	60.2	92.5	94.5	142.5	50.0	20	No	HTAZB05-20CM	
7xD	A	84.3	116.6	118.6	166.6	50.0	20	Yes	HTAZA07-20FM	
7xD	A	84.3	116.6	118.6	166.6	50.0	20	No	HTAZA07-20CM	
7xD	B	84.3	116.6	118.6	166.6	50.0	20	Yes	HTAZB07-20FM	
7xD	B	84.3	116.6	118.6	166.6	50.0	20	No	HTAZB07-20CM	
10xD	A	120.4	152.7	154.7	202.7	50.0	20	Yes	HTAZA10-20FM	
10xD	A	120.4	152.7	154.7	202.7	50.0	20	No	HTAZA10-20CM	
10xD	B	120.4	152.7	154.7	202.7	50.0	20	Yes	HTAZB10-20FM	
10xD	B	120.4	152.7	154.7	202.7	50.0	20	No	HTAZB10-20CM	
12xD	A	144.5	176.8	178.8	226.8	50.0	20	Yes	HTAZA12-20FM	
12xD	A	144.5	176.8	178.8	226.8	50.0	20	No	HTAZA12-20CM	
12xD	B	144.5	176.8	178.8	226.8	50.0	20	Yes	HTAZB12-20FM	
12xD	B	144.5	176.8	178.8	226.8	50.0	20	No	HTAZB12-20CM	
15xD	A	180.6	212.9	214.9	262.9	50.0	20	Yes	HTAZA15-20FM	
15xD	A	180.6	212.9	214.9	262.9	50.0	20	No	HTAZA15-20CM	
15xD	B	180.6	212.9	214.9	262.9	50.0	20	Yes	HTAZB15-20FM	
15xD	B	180.6	212.9	214.9	262.9	50.0	20	No	HTAZB15-20CM	

Sub Series	Z Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
ZA	11.10 mm - 12.69 mm	0.4369" - 0.4998"
ZB	12.20 mm - 12.69 mm	0.4802" - 0.4998"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 58** for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 14 - 15 A25: 48 - 55

Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.

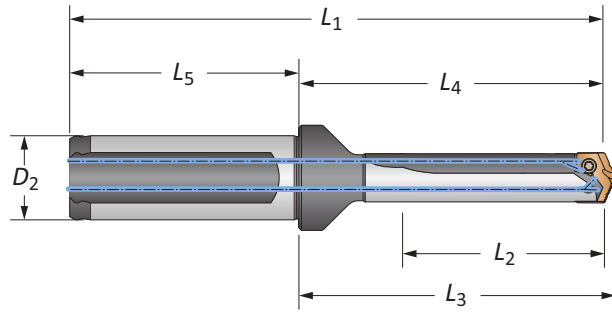
A25: 16

www.febametal.com/amec | Tel. 011.770.14.12



T-A Pro Drill Holders

Z Series Imperial | Diameter Range: 0.4369" - 0.4998"



		Body				Shank				
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No	
Stub	A	0.474	1.600	1.680	3.630	2.030	3/4	Yes	HTAZA01-075F	
Stub	A	0.474	1.600	1.680	3.630	2.030	3/4	No	HTAZA01-075C	
Stub	B	0.474	1.600	1.680	3.630	2.030	3/4	Yes	HTAZB01-075F	
Stub	B	0.474	1.600	1.680	3.630	2.030	3/4	No	HTAZB01-075C	
3xD	A	1.422	2.693	2.773	4.723	2.030	3/4	Yes	HTAZA03-075F	
3xD	A	1.422	2.693	2.773	4.723	2.030	3/4	No	HTAZA03-075C	
3xD	B	1.422	2.693	2.773	4.723	2.030	3/4	Yes	HTAZB03-075F	
3xD	B	1.422	2.693	2.773	4.723	2.030	3/4	No	HTAZB03-075C	
5xD	A	2.370	3.641	3.721	5.671	2.030	3/4	Yes	HTAZA05-075F	
5xD	A	2.370	3.641	3.721	5.671	2.030	3/4	No	HTAZA05-075C	
5xD	B	2.370	3.641	3.721	5.671	2.030	3/4	Yes	HTAZB05-075F	
5xD	B	2.370	3.641	3.721	5.671	2.030	3/4	No	HTAZB05-075C	
7xD	A	3.318	4.589	4.669	6.619	2.030	3/4	Yes	HTAZA07-075F	
7xD	A	3.318	4.589	4.669	6.619	2.030	3/4	No	HTAZA07-075C	
7xD	B	3.318	4.589	4.669	6.619	2.030	3/4	Yes	HTAZB07-075F	
7xD	B	3.318	4.589	4.669	6.619	2.030	3/4	No	HTAZB07-075C	
10xD	A	4.740	6.011	6.091	8.041	2.030	3/4	Yes	HTAZA10-075F	
10xD	A	4.740	6.011	6.091	8.041	2.030	3/4	No	HTAZA10-075C	
10xD	B	4.740	6.011	6.091	8.041	2.030	3/4	Yes	HTAZB10-075F	
10xD	B	4.740	6.011	6.091	8.041	2.030	3/4	No	HTAZB10-075C	
12xD	A	5.688	6.959	7.039	8.989	2.030	3/4	Yes	HTAZA12-075F	
12xD	A	5.688	6.959	7.039	8.989	2.030	3/4	No	HTAZA12-075C	
12xD	B	5.688	6.959	7.039	8.989	2.030	3/4	Yes	HTAZB12-075F	
12xD	B	5.688	6.959	7.039	8.989	2.030	3/4	No	HTAZB12-075C	
15xD	A	7.110	8.381	8.461	10.411	2.030	3/4	Yes	HTAZA15-075F	
15xD	A	7.110	8.381	8.461	10.411	2.030	3/4	No	HTAZA15-075C	
15xD	B	7.110	8.381	8.461	10.411	2.030	3/4	Yes	HTAZB15-075F	
15xD	B	7.110	8.381	8.461	10.411	2.030	3/4	No	HTAZB15-075C	

1

Sub Series	Z Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
ZA	11.10 mm - 12.69 mm	0.4369" - 0.4998"
ZB	12.20 mm - 12.69 mm	0.4802" - 0.4998"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. email: ufficiotecnico@febametal.com

A25: 14 - 15

A25: 48 - 55

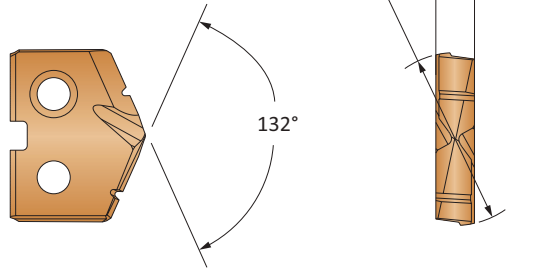
Key on A25: 1

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 Screws sold in multiples of 10.

A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS

T-A Pro Drill Inserts

0 Series | Diameter Range: 12.70 mm - 17.64 mm (0.4999" - 0.6946")



A
DRILLING

B
BORING

F
THREADING

X
SPECIALS

Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
0-A	12.70	0.5000	1/2	1/8	TAP0-12.70	TAK0-12.70	TAN0-12.70	TAM0-12.70	TAX0-12.70
0-A	12.80	0.5039		1/8	TAP0-12.80	TAK0-12.80	TAN0-12.80	TAM0-12.80	TAX0-12.80
0-A	12.90	0.5079		1/8	TAP0-12.90	TAK0-12.90	TAN0-12.90	TAM0-12.90	TAX0-12.90
0-A	13.00	0.5118		1/8	TAP0-13.00	TAK0-13.00	TAN0-13.00	TAM0-13.00	TAX0-13.00
0-A	13.10	0.5157	33/64	1/8	TAP0-13.10	TAK0-13.10	TAN0-13.10	TAM0-13.10	TAX0-13.10
0-A	13.20	0.5197		1/8	TAP0-13.20	TAK0-13.20	TAN0-13.20	TAM0-13.20	TAX0-13.20
0-A	13.30	0.5236		1/8	TAP0-13.30	TAK0-13.30	TAN0-13.30	TAM0-13.30	TAX0-13.30
0-A	13.40	0.5276		1/8	TAP0-13.40	TAK0-13.40	TAN0-13.40	TAM0-13.40	TAX0-13.40
0-A	13.49	0.5311	17/32	1/8	TAP0-13.49	TAK0-13.49	TAN0-13.49	TAM0-13.49	TAX0-13.49
0-A	13.50	0.5315		1/8	TAP0-13.50	TAK0-13.50	TAN0-13.50	TAM0-13.50	TAX0-13.50
0-A	13.60	0.5354		1/8	TAP0-13.60	TAK0-13.60	TAN0-13.60	TAM0-13.60	TAX0-13.60
0-A	13.70	0.5394		1/8	TAP0-13.70	TAK0-13.70	TAN0-13.70	TAM0-13.70	TAX0-13.70
0-A	13.80	0.5433		1/8	TAP0-13.80	TAK0-13.80	TAN0-13.80	TAM0-13.80	TAX0-13.80
0-A	13.89	0.5469	35/64	1/8	TAP0-13.89	TAK0-13.89	TAN0-13.89	TAM0-13.89	TAX0-13.89
0-B	14.00	0.5512		1/8	TAP0-14.00	TAK0-14.00	TAN0-14.00	TAM0-14.00	TAX0-14.00
0-B	14.10	0.5551		1/8	TAP0-14.10	TAK0-14.10	TAN0-14.10	TAM0-14.10	TAX0-14.10
0-B	14.20	0.5591		1/8	TAP0-14.20	TAK0-14.20	TAN0-14.20	TAM0-14.20	TAX0-14.20
0-B	14.29	0.5626	9/16	1/8	TAP0-14.29	TAK0-14.29	TAN0-14.29	TAM0-14.29	TAX0-14.29
0-B	14.40	0.5669		1/8	TAP0-14.40	TAK0-14.40	TAN0-14.40	TAM0-14.40	TAX0-14.40
0-B	14.50	0.5709		1/8	TAP0-14.50	TAK0-14.50	TAN0-14.50	TAM0-14.50	TAX0-14.50
0-B	14.60	0.5748		1/8	TAP0-14.60	TAK0-14.60	TAN0-14.60	TAM0-14.60	TAX0-14.60
0-B	14.68	0.5780	37/64	1/8	TAP0-14.68	TAK0-14.68	TAN0-14.68	TAM0-14.68	TAX0-14.68
0-B	14.80	0.5827		1/8	TAP0-14.80	TAK0-14.80	TAN0-14.80	TAM0-14.80	TAX0-14.80
0-B	14.90	0.5866		1/8	TAP0-14.90	TAK0-14.90	TAN0-14.90	TAM0-14.90	TAX0-14.90
0-B	15.00	0.5906		1/8	TAP0-15.00	TAK0-15.00	TAN0-15.00	TAM0-15.00	TAX0-15.00

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



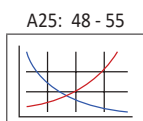
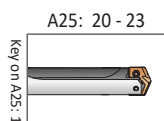
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



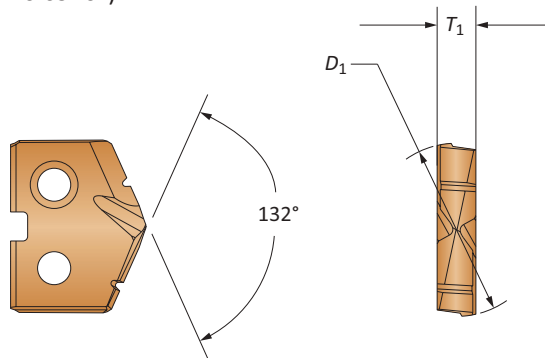
Key on A25: 1

Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



T-A Pro Drill Inserts

0 Series | Diameter Range: 12.70 mm - 17.64 mm (0.4999" - 0.6946")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
0-C	15.08	0.5937	19/32	1/8	TAP0-15.08	TAK0-15.08	TANO-15.08	TAM0-15.08	TAX0-15.08
0-C	15.20	0.5984		1/8	TAP0-15.20	TAK0-15.20	TANO-15.20	TAM0-15.20	TAX0-15.20
0-C	15.25	0.6004		1/8	TAP0-15.25	TAK0-15.25	TANO-15.25	TAM0-15.25	TAX0-15.25
0-C	15.30	0.6024		1/8	TAP0-15.30	TAK0-15.30	TANO-15.30	TAM0-15.30	TAX0-15.30
0-C	15.40	0.6063		1/8	TAP0-15.40	TAK0-15.40	TANO-15.40	TAM0-15.40	TAX0-15.40
0-C	15.48	0.6094	39/64	1/8	TAP0-15.48	TAK0-15.48	TANO-15.48	TAM0-15.48	TAX0-15.48
0-C	15.50	0.6102		1/8	TAP0-15.50	TAK0-15.50	TANO-15.50	TAM0-15.50	TAX0-15.50
0-C	15.60	0.6142		1/8	TAP0-15.60	TAK0-15.60	TANO-15.60	TAM0-15.60	TAX0-15.60
0-C	15.70	0.6181		1/8	TAP0-15.70	TAK0-15.70	TANO-15.70	TAM0-15.70	TAX0-15.70
0-C	15.80	0.6220		1/8	TAP0-15.80	TAK0-15.80	TANO-15.80	TAM0-15.80	TAX0-15.80
0-C	15.88	0.6252	5/8	1/8	TAP0-15.88	TAK0-15.88	TANO-15.88	TAM0-15.88	TAX0-15.88
0-C	16.00	0.6299		1/8	TAP0-16.00	TAK0-16.00	TANO-16.00	TAM0-16.00	TAX0-16.00
0-C	16.08	0.6331		1/8	TAP0-16.08	TAK0-16.08	TANO-16.08	TAM0-16.08	TAX0-16.08
0-C	16.20	0.6378		1/8	TAP0-16.20	TAK0-16.20	TANO-16.20	TAM0-16.20	TAX0-16.20
0-C	16.27	0.6406	41/64	1/8	TAP0-16.27	TAK0-16.27	TANO-16.27	TAM0-16.27	TAX0-16.27
0-C	16.40	0.6457		1/8	TAP0-16.40	TAK0-16.40	TANO-16.40	TAM0-16.40	TAX0-16.40
0-D	16.50	0.6496		1/8	TAP0-16.50	TAK0-16.50	TANO-16.50	TAM0-16.50	TAX0-16.50
0-D	16.60	0.6535		1/8	TAP0-16.60	TAK0-16.60	TANO-16.60	TAM0-16.60	TAX0-16.60
0-D	16.67	0.6563	21/32	1/8	TAP0-16.67	TAK0-16.67	TANO-16.67	TAM0-16.67	TAX0-16.67
0-D	16.80	0.6614		1/8	TAP0-16.80	TAK0-16.80	TANO-16.80	TAM0-16.80	TAX0-16.80
0-D	16.90	0.6654		1/8	TAP0-16.90	TAK0-16.90	TANO-16.90	TAM0-16.90	TAX0-16.90
0-D	17.00	0.6693		1/8	TAP0-17.00	TAK0-17.00	TANO-17.00	TAM0-17.00	TAX0-17.00
0-D	17.07	0.6720	43/64	1/8	TAP0-17.07	TAK0-17.07	TANO-17.07	TAM0-17.07	TAX0-17.07
0-D	17.10	0.6732		1/8	TAP0-17.10	TAK0-17.10	TANO-17.10	TAM0-17.10	TAX0-17.10
0-D	17.20	0.6772		1/8	TAP0-17.20	TAK0-17.20	TANO-17.20	TAM0-17.20	TAX0-17.20
0-D	17.30	0.6811		1/8	TAP0-17.30	TAK0-17.30	TANO-17.30	TAM0-17.30	TAX0-17.30
0-D	17.40	0.6850		1/8	TAP0-17.40	TAK0-17.40	TANO-17.40	TAM0-17.40	TAX0-17.40
0-D	17.46	0.6874	11/16	1/8	TAP0-17.46	TAK0-17.46	TANO-17.46	TAM0-17.46	TAX0-17.46
0-D	17.50	0.6890		1/8	TAP0-17.50	TAK0-17.50	TANO-17.50	TAM0-17.50	TAX0-17.50
0-D	17.60	0.6929		1/8	TAP0-17.60	TAK0-17.60	TANO-17.60	TAM0-17.60	TAX0-17.60

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



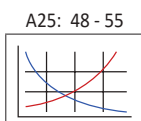
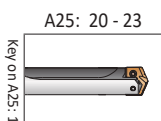
C Series Insert + A Series Holder



C Series Insert + C Series Holder



A Series Insert + C Series Holder

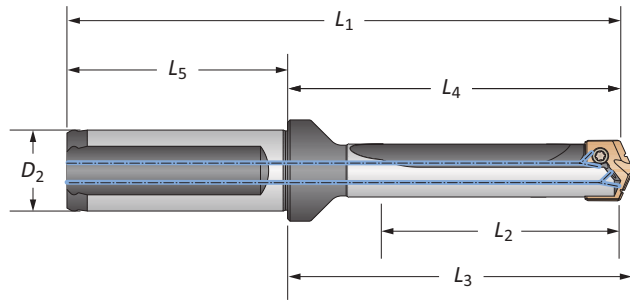


Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS

T-A Pro Drill Holders

0 Series Metric | Diameter Range: 12.70 mm - 17.64 mm



Body		Shank							
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No
Stub	A	15.3	44.0	46.7	94.0	50.0	20	Yes	HTA0A01-20FM
Stub	A	15.3	44.0	46.7	94.0	50.0	20	No	HTA0A01-20CM
Stub	B	15.3	44.0	46.7	94.0	50.0	20	Yes	HTA0B01-20FM
Stub	B	15.3	44.0	46.7	94.0	50.0	20	No	HTA0B01-20CM
Stub	C	15.3	44.0	46.7	94.0	50.0	20	Yes	HTA0C01-20FM
Stub	C	15.3	44.0	46.7	94.0	50.0	20	No	HTA0C01-20CM
Stub	D	15.3	44.0	46.7	94.0	50.0	20	Yes	HTA0D01-20FM
Stub	D	15.3	44.0	46.7	94.0	50.0	20	No	HTA0D01-20CM
3xD	A	45.9	77.8	80.5	127.8	50.0	20	Yes	HTA0A03-20FM
3xD	A	45.9	77.8	80.5	127.8	50.0	20	No	HTA0A03-20CM
3xD	B	45.9	77.8	80.5	127.8	50.0	20	Yes	HTA0B03-20FM
3xD	B	45.9	77.8	80.5	127.8	50.0	20	No	HTA0B03-20CM
3xD	C	45.9	77.8	80.5	127.8	50.0	20	Yes	HTA0C03-20FM
3xD	C	45.9	77.8	80.5	127.8	50.0	20	No	HTA0C03-20CM
3xD	D	45.9	77.8	80.5	127.8	50.0	20	Yes	HTA0D03-20FM
3xD	D	45.9	77.8	80.5	127.8	50.0	20	No	HTA0D03-20CM
5xD	A	76.6	108.5	111.2	158.5	50.0	20	Yes	HTA0A05-20FM
5xD	A	76.6	108.5	111.2	158.5	50.0	20	No	HTA0A05-20CM
5xD	B	76.6	108.5	111.2	158.5	50.0	20	Yes	HTA0B05-20FM
5xD	B	76.6	108.5	111.2	158.5	50.0	20	No	HTA0B05-20CM
5xD	C	76.6	108.5	111.2	158.5	50.0	20	Yes	HTA0C05-20FM
5xD	C	76.6	108.5	111.2	158.5	50.0	20	No	HTA0C05-20CM
5xD	D	76.6	108.5	111.2	158.5	50.0	20	Yes	HTA0D05-20FM
5xD	D	76.6	108.5	111.2	158.5	50.0	20	No	HTA0D05-20CM
7xD	A	107.2	139.1	141.8	189.1	50.0	20	Yes	HTA0A07-20FM
7xD	A	107.2	139.1	141.8	189.1	50.0	20	No	HTA0A07-20CM
7xD	B	107.2	139.1	141.8	189.1	50.0	20	Yes	HTA0B07-20FM
7xD	B	107.2	139.1	141.8	189.1	50.0	20	No	HTA0B07-20CM
7xD	C	107.2	139.1	141.8	189.1	50.0	20	Yes	HTA0C07-20FM
7xD	C	107.2	139.1	141.8	189.1	50.0	20	No	HTA0C07-20CM
7xD	D	107.2	139.1	141.8	189.1	50.0	20	Yes	HTA0D07-20FM
7xD	D	107.2	139.1	141.8	189.1	50.0	20	No	HTA0D07-20CM

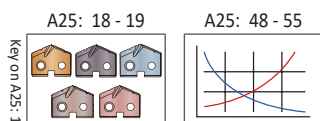
Connection Accessories

Sub Series	0 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
0A	12.70 mm - 17.64 mm	0.4999" - 0.6946"
0B	14.00 mm - 17.64 mm	0.5510" - 0.6946"
0C	15.08 mm - 17.64 mm	0.5936" - 0.6946"
0D	16.50 mm - 17.64 mm	0.6495" - 0.6946"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com



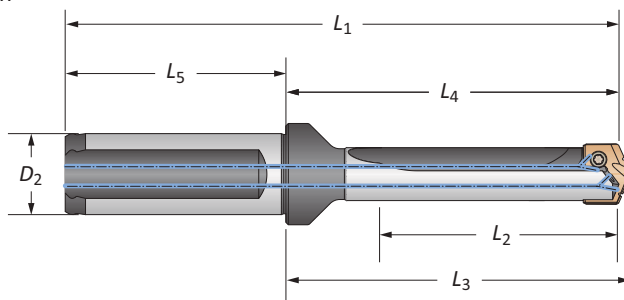
Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

0 Series Metric | Diameter Range: 12.70 mm - 17.64 mm



Length	Sub Series	Body				Shank			Flat	Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
10xD	A	153.2	185.0	187.8	235.1	50.0	20	Yes	HTA0A10-20FM	
10xD	A	153.2	185.0	187.8	235.1	50.0	20	No	HTA0A10-20CM	
10xD	B	153.2	185.0	187.8	235.1	50.0	20	Yes	HTA0B10-20FM	
10xD	B	153.2	185.0	187.8	235.1	50.0	20	No	HTA0B10-20CM	
10xD	C	153.2	185.0	187.8	235.1	50.0	20	Yes	HTA0C10-20FM	
10xD	C	153.2	185.0	187.8	235.1	50.0	20	No	HTA0C10-20CM	
10xD	D	153.2	185.0	187.8	235.1	50.0	20	Yes	HTA0D10-20FM	
10xD	D	153.2	185.0	187.8	235.1	50.0	20	No	HTA0D10-20CM	
12xD	A	183.8	215.7	218.4	265.7	50.0	20	Yes	HTA0A12-20FM	
12xD	A	183.8	215.7	218.4	265.7	50.0	20	No	HTA0A12-20CM	
12xD	B	183.8	215.7	218.4	265.7	50.0	20	Yes	HTA0B12-20FM	
12xD	B	183.8	215.7	218.4	265.7	50.0	20	No	HTA0B12-20CM	
12xD	C	183.8	215.7	218.4	265.7	50.0	20	Yes	HTA0C12-20FM	
12xD	C	183.8	215.7	218.4	265.7	50.0	20	No	HTA0C12-20CM	
12xD	D	183.8	215.7	218.4	265.7	50.0	20	Yes	HTA0D12-20FM	
12xD	D	183.8	215.7	218.4	265.7	50.0	20	No	HTA0D12-20CM	
15xD	A	229.7	261.6	264.3	311.6	50.0	20	Yes	HTA0A15-20FM	
15xD	A	229.7	261.6	264.3	311.6	50.0	20	No	HTA0A15-20CM	
15xD	B	229.7	261.6	264.3	311.6	50.0	20	Yes	HTA0B15-20FM	
15xD	B	229.7	261.6	264.3	311.6	50.0	20	No	HTA0B15-20CM	
15xD	C	229.7	261.6	264.3	311.6	50.0	20	Yes	HTA0C15-20FM	
15xD	C	229.7	261.6	264.3	311.6	50.0	20	No	HTA0C15-20CM	
15xD	D	229.7	261.6	264.3	311.6	50.0	20	Yes	HTA0D15-20FM	
15xD	D	229.7	261.6	264.3	311.6	50.0	20	No	HTA0D15-20CM	

Ⓜ

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Connection Accessories

Sub Series	0 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
0A	12.70 mm - 17.64 mm	0.4999" - 0.6946"
0B	14.00 mm - 17.64 mm	0.5510" - 0.6946"
0C	15.08 mm - 17.64 mm	0.5936" - 0.6946"
0D	16.50 mm - 17.64 mm	0.6495" - 0.6946"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

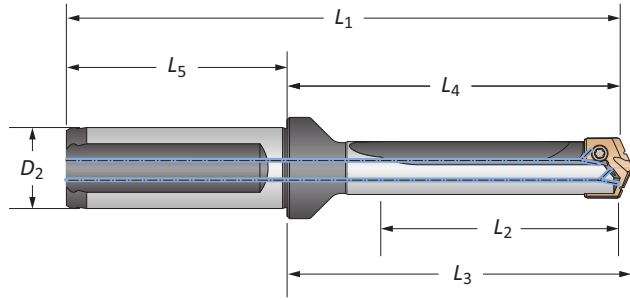
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 18 - 19 A25: 48 - 55

Ⓜ = Metric (mm)
Ⓜ = Imperial (in)
Screws sold in multiples of 10.

T-A Pro Drill Holders

0 Series Imperial | Diameter Range: 0.4999" - 0.6946"



Body					Shank				Flat	Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
Stub	A	0.603	1.731	1.838	3.761	2.030	3/4	Yes	HTA0A01-075F	
Stub	A	0.603	1.731	1.838	3.761	2.030	3/4	No	HTA0A01-075C	
Stub	B	0.603	1.731	1.838	3.761	2.030	3/4	Yes	HTA0B01-075F	
Stub	B	0.603	1.731	1.838	3.761	2.030	3/4	No	HTA0B01-075C	
Stub	C	0.603	1.731	1.838	3.761	2.030	3/4	Yes	HTA0C01-075F	
Stub	C	0.603	1.731	1.838	3.761	2.030	3/4	No	HTA0C01-075C	
Stub	D	0.603	1.731	1.838	3.761	2.030	3/4	Yes	HTA0D01-075F	
Stub	D	0.603	1.731	1.838	3.761	2.030	3/4	No	HTA0D01-075C	
3xD	A	1.809	3.064	3.171	5.094	2.030	3/4	Yes	HTA0A03-075F	
3xD	A	1.809	3.064	3.171	5.094	2.030	3/4	No	HTA0A03-075C	
3xD	B	1.809	3.064	3.171	5.094	2.030	3/4	Yes	HTA0B03-075F	
3xD	B	1.809	3.064	3.171	5.094	2.030	3/4	No	HTA0B03-075C	
3xD	C	1.809	3.064	3.171	5.094	2.030	3/4	Yes	HTA0C03-075F	
3xD	C	1.809	3.064	3.171	5.094	2.030	3/4	No	HTA0C03-075C	
3xD	D	1.809	3.064	3.171	5.094	2.030	3/4	Yes	HTA0D03-075F	
3xD	D	1.809	3.064	3.171	5.094	2.030	3/4	No	HTA0D03-075C	
5xD	A	3.015	4.270	4.377	6.300	2.030	3/4	Yes	HTA0A05-075F	
5xD	A	3.015	4.270	4.377	6.300	2.030	3/4	No	HTA0A05-075C	
5xD	B	3.015	4.270	4.377	6.300	2.030	3/4	Yes	HTA0B05-075F	
5xD	B	3.015	4.270	4.377	6.300	2.030	3/4	No	HTA0B05-075C	
5xD	C	3.015	4.270	4.377	6.300	2.030	3/4	Yes	HTA0C05-075F	
5xD	C	3.015	4.270	4.377	6.300	2.030	3/4	No	HTA0C05-075C	
5xD	D	3.015	4.270	4.377	6.300	2.030	3/4	Yes	HTA0D05-075F	
5xD	D	3.015	4.270	4.377	6.300	2.030	3/4	No	HTA0D05-075C	
7xD	A	4.221	5.476	5.583	7.506	2.030	3/4	Yes	HTA0A07-075F	
7xD	A	4.221	5.476	5.583	7.506	2.030	3/4	No	HTA0A07-075C	
7xD	B	4.221	5.476	5.583	7.506	2.030	3/4	Yes	HTA0B07-075F	
7xD	B	4.221	5.476	5.583	7.506	2.030	3/4	No	HTA0B07-075C	
7xD	C	4.221	5.476	5.583	7.506	2.030	3/4	Yes	HTA0C07-075F	
7xD	C	4.221	5.476	5.583	7.506	2.030	3/4	No	HTA0C07-075C	
7xD	D	4.221	5.476	5.583	7.506	2.030	3/4	Yes	HTA0D07-075F	
7xD	D	4.221	5.476	5.583	7.506	2.030	3/4	No	HTA0D07-075C	

Connection Accessories

Sub Series	0 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
0A	12.70 mm - 17.64 mm	0.4999" - 0.6946"
0B	14.00 mm - 17.64 mm	0.5510" - 0.6946"
0C	15.08 mm - 17.64 mm	0.5936" - 0.6946"
0D	16.50 mm - 17.64 mm	0.6495" - 0.6946"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 18 - 19 A25: 48 - 55

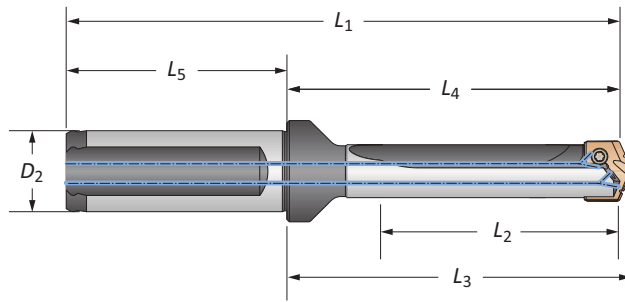
mm = Metric (mm)
 in = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

0 Series Imperial | Diameter Range: 0.4999" - 0.6946"



Body						Shank				Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
10xD	A	6.030	7.285	7.392	9.315	2.030	3/4	Yes	⚠ HTA0A10-075F	
10xD	A	6.030	7.285	7.392	9.315	2.030	3/4	No	⚠ HTA0A10-075C	
10xD	B	6.030	7.285	7.392	9.315	2.030	3/4	Yes	⚠ HTA0B10-075F	
10xD	B	6.030	7.285	7.392	9.315	2.030	3/4	No	⚠ HTA0B10-075C	
10xD	C	6.030	7.285	7.392	9.315	2.030	3/4	Yes	⚠ HTA0C10-075F	
10xD	C	6.030	7.285	7.392	9.315	2.030	3/4	No	⚠ HTA0C10-075C	
10xD	D	6.030	7.285	7.392	9.315	2.030	3/4	Yes	⚠ HTA0D10-075F	
10xD	D	6.030	7.285	7.392	9.315	2.030	3/4	No	⚠ HTA0D10-075C	
12xD	A	7.236	8.491	8.598	10.521	2.030	3/4	Yes	⚠ HTA0A12-075F	
12xD	A	7.236	8.491	8.598	10.521	2.030	3/4	No	⚠ HTA0A12-075C	
12xD	B	7.236	8.491	8.598	10.521	2.030	3/4	Yes	⚠ HTA0B12-075F	
12xD	B	7.236	8.491	8.598	10.521	2.030	3/4	No	⚠ HTA0B12-075C	
12xD	C	7.236	8.491	8.598	10.521	2.030	3/4	Yes	⚠ HTA0C12-075F	
12xD	C	7.236	8.491	8.598	10.521	2.030	3/4	No	⚠ HTA0C12-075C	
12xD	D	7.236	8.491	8.598	10.521	2.030	3/4	Yes	⚠ HTA0D12-075F	
12xD	D	7.236	8.491	8.598	10.521	2.030	3/4	No	⚠ HTA0D12-075C	
15xD	A	9.045	10.300	10.407	12.330	2.030	3/4	Yes	⚠ HTA0A15-075F	
15xD	A	9.045	10.300	10.407	12.330	2.030	3/4	No	⚠ HTA0A15-075C	
15xD	B	9.045	10.300	10.407	12.330	2.030	3/4	Yes	⚠ HTA0B15-075F	
15xD	B	9.045	10.300	10.407	12.330	2.030	3/4	No	⚠ HTA0B15-075C	
15xD	C	9.045	10.300	10.407	12.330	2.030	3/4	Yes	⚠ HTA0C15-075F	
15xD	C	9.045	10.300	10.407	12.330	2.030	3/4	No	⚠ HTA0C15-075C	
15xD	D	9.045	10.300	10.407	12.330	2.030	3/4	Yes	⚠ HTA0D15-075F	
15xD	D	9.045	10.300	10.407	12.330	2.030	3/4	No	⚠ HTA0D15-075C	

i

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Connection Accessories

Sub Series	0 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
0A	12.70 mm - 17.64 mm	0.4999" - 0.6946"
0B	14.00 mm - 17.64 mm	0.5510" - 0.6946"
0C	15.08 mm - 17.64 mm	0.5936" - 0.6946"
0D	16.50 mm - 17.64 mm	0.6495" - 0.6946"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
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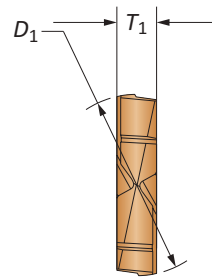
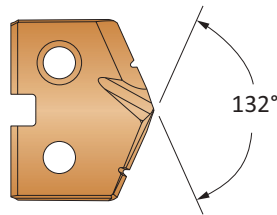
A25: 18 - 19






A25: 48 - 55

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)
Screws sold in multiples of 10.

T-A Pro Drill Inserts

1 Series | Diameter Range: 17.65 mm - 24.37 mm (0.6947" - 0.9596")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
1-A	17.70	0.6969		5/32	TAP1-17.70	TAK1-17.70	TAN1-17.70	TAM1-17.70	TAX1-17.70
1-A	17.80	0.7008		5/32	TAP1-17.80	TAK1-17.80	TAN1-17.80	TAM1-17.80	TAX1-17.80
1-A	17.86	0.7031	45/64	5/32	TAP1-17.86	TAK1-17.86	TAN1-17.86	TAM1-17.86	TAX1-17.86
1-A	17.90	0.7047		5/32	TAP1-17.90	TAK1-17.90	TAN1-17.90	TAM1-17.90	TAX1-17.90
1-A	18.00	0.7087		5/32	TAP1-18.00	TAK1-18.00	TAN1-18.00	TAM1-18.00	TAX1-18.00
1-A	18.10	0.7126		5/32	TAP1-18.10	TAK1-18.10	TAN1-18.10	TAM1-18.10	TAX1-18.10
1-A	18.20	0.7165		5/32	TAP1-18.20	TAK1-18.20	TAN1-18.20	TAM1-18.20	TAX1-18.20
1-A	18.26	0.7189	23/32	5/32	TAP1-18.26	TAK1-18.26	TAN1-18.26	TAM1-18.26	TAX1-18.26
1-A	18.30	0.7205		5/32	TAP1-18.30	TAK1-18.30	TAN1-18.30	TAM1-18.30	TAX1-18.30
1-A	18.40	0.7244		5/32	TAP1-18.40	TAK1-18.40	TAN1-18.40	TAM1-18.40	TAX1-18.40
1-A	18.50	0.7283		5/32	TAP1-18.50	TAK1-18.50	TAN1-18.50	TAM1-18.50	TAX1-18.50
1-A	18.60	0.7323		5/32	TAP1-18.60	TAK1-18.60	TAN1-18.60	TAM1-18.60	TAX1-18.60
1-A	18.65	0.7343	47/64	5/32	TAP1-18.65	TAK1-18.65	TAN1-18.65	TAM1-18.65	TAX1-18.65
1-A	18.70	0.7362		5/32	TAP1-18.70	TAK1-18.70	TAN1-18.70	TAM1-18.70	TAX1-18.70
1-A	18.80	0.7402		5/32	TAP1-18.80	TAK1-18.80	TAN1-18.80	TAM1-18.80	TAX1-18.80
1-A	18.90	0.7441		5/32	TAP1-18.90	TAK1-18.90	TAN1-18.90	TAM1-18.90	TAX1-18.90
1-A	19.00	0.7480		5/32	TAP1-19.00	TAK1-19.00	TAN1-19.00	TAM1-19.00	TAX1-19.00

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



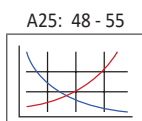
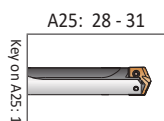
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Key on A25: 1

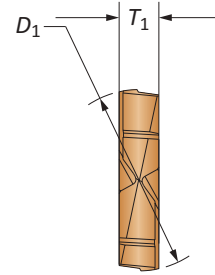
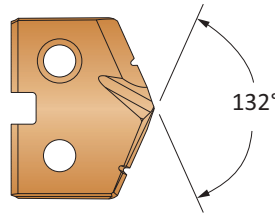
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



T-A Pro Drill Inserts

1 Series | Diameter Range: 17.65 mm - 24.37 mm (0.6947" - 0.9596")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
1-B	19.05	0.7500	3/4	5/32	TAP1-19.05	TAK1-19.05	TAN1-19.05	TAM1-19.05	TAX1-19.05
1-B	19.10	0.7520		5/32	TAP1-19.10	TAK1-19.10	TAN1-19.10	TAM1-19.10	TAX1-19.10
1-B	19.20	0.7559		5/32	TAP1-19.20	TAK1-19.20	TAN1-19.20	TAM1-19.20	TAX1-19.20
1-B	19.25	0.7579		5/32	TAP1-19.25	TAK1-19.25	TAN1-19.25	TAM1-19.25	TAX1-19.25
1-B	19.30	0.7598		5/32	TAP1-19.30	TAK1-19.30	TAN1-19.30	TAM1-19.30	TAX1-19.30
1-B	19.40	0.7638		5/32	TAP1-19.40	TAK1-19.40	TAN1-19.40	TAM1-19.40	TAX1-19.40
1-B	19.45	0.7657	49/64	5/32	TAP1-19.45	TAK1-19.45	TAN1-19.45	TAM1-19.45	TAX1-19.45
1-B	19.50	0.7677		5/32	TAP1-19.50	TAK1-19.50	TAN1-19.50	TAM1-19.50	TAX1-19.50
1-B	19.60	0.7717		5/32	TAP1-19.60	TAK1-19.60	TAN1-19.60	TAM1-19.60	TAX1-19.60
1-B	19.70	0.7756		5/32	TAP1-19.70	TAK1-19.70	TAN1-19.70	TAM1-19.70	TAX1-19.70
1-B	19.80	0.7795		5/32	TAP1-19.80	TAK1-19.80	TAN1-19.80	TAM1-19.80	TAX1-19.80
1-B	19.84	0.7811	25/32	5/32	TAP1-19.84	TAK1-19.84	TAN1-19.84	TAM1-19.84	TAX1-19.84
1-B	19.90	0.7835		5/32	TAP1-19.90	TAK1-19.90	TAN1-19.90	TAM1-19.90	TAX1-19.90
1-B	20.00	0.7874		5/32	TAP1-20.00	TAK1-20.00	TAN1-20.00	TAM1-20.00	TAX1-20.00
1-B	20.10	0.7913		5/32	TAP1-20.10	TAK1-20.10	TAN1-20.10	TAM1-20.10	TAX1-20.10
1-B	20.20	0.7953		5/32	TAP1-20.20	TAK1-20.20	TAN1-20.20	TAM1-20.20	TAX1-20.20
1-B	20.24	0.7969	51/64	5/32	TAP1-20.24	TAK1-20.24	TAN1-20.24	TAM1-20.24	TAX1-20.24
1-B	20.30	0.7992		5/32	TAP1-20.30	TAK1-20.30	TAN1-20.30	TAM1-20.30	TAX1-20.30
1-B	20.40	0.8031		5/32	TAP1-20.40	TAK1-20.40	TAN1-20.40	TAM1-20.40	TAX1-20.40
1-B	20.50	0.8071		5/32	TAP1-20.50	TAK1-20.50	TAN1-20.50	TAM1-20.50	TAX1-20.50

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



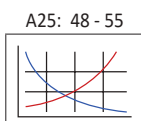
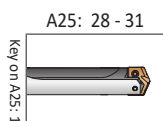
C Series Insert + A Series Holder



C Series Insert + C Series Holder



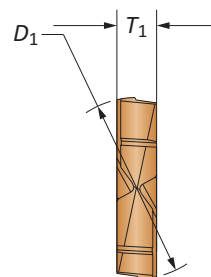
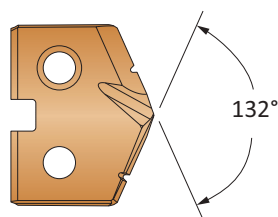
A Series Insert + C Series Holder








Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Inserts

1 Series | Diameter Range: 17.65 mm - 24.37 mm (0.6947" - 0.9596")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
1-C	20.60	0.8110		5/32	TAP1-20.60	TAK1-20.60	TAN1-20.60	TAM1-20.60	TAX1-20.60
1-C	20.64	0.8126	13/16	5/32	TAP1-20.64	TAK1-20.64	TAN1-20.64	TAM1-20.64	TAX1-20.64
1-C	20.70	0.8150		5/32	TAP1-20.70	TAK1-20.70	TAN1-20.70	TAM1-20.70	TAX1-20.70
1-C	20.80	0.8189		5/32	TAP1-20.80	TAK1-20.80	TAN1-20.80	TAM1-20.80	TAX1-20.80
1-C	20.90	0.8228		5/32	TAP1-20.90	TAK1-20.90	TAN1-20.90	TAM1-20.90	TAX1-20.90
1-C	21.00	0.8268		5/32	TAP1-21.00	TAK1-21.00	TAN1-21.00	TAM1-21.00	TAX1-21.00
1-C	21.10	0.8307		5/32	TAP1-21.10	TAK1-21.10	TAN1-21.10	TAM1-21.10	TAX1-21.10
1-C	21.20	0.8346		5/32	TAP1-21.20	TAK1-21.20	TAN1-21.20	TAM1-21.20	TAX1-21.20
1-C	21.30	0.8386		5/32	TAP1-21.30	TAK1-21.30	TAN1-21.30	TAM1-21.30	TAX1-21.30
1-C	21.40	0.8425		5/32	TAP1-21.40	TAK1-21.40	TAN1-21.40	TAM1-21.40	TAX1-21.40
1-C	21.43	0.8437	27/32	5/32	TAP1-21.43	TAK1-21.43	TAN1-21.43	TAM1-21.43	TAX1-21.43
1-C	21.50	0.8465		5/32	TAP1-21.50	TAK1-21.50	TAN1-21.50	TAM1-21.50	TAX1-21.50
1-C	21.60	0.8504		5/32	TAP1-21.60	TAK1-21.60	TAN1-21.60	TAM1-21.60	TAX1-21.60
1-C	21.70	0.8543		5/32	TAP1-21.70	TAK1-21.70	TAN1-21.70	TAM1-21.70	TAX1-21.70
1-C	21.80	0.8583		5/32	TAP1-21.80	TAK1-21.80	TAN1-21.80	TAM1-21.80	TAX1-21.80
1-C	21.83	0.8594	55/64	5/32	TAP1-21.83	TAK1-21.83	TAN1-21.83	TAM1-21.83	TAX1-21.83
1-C	21.90	0.8622		5/32	TAP1-21.90	TAK1-21.90	TAN1-21.90	TAM1-21.90	TAX1-21.90
1-C	22.00	0.8661		5/32	TAP1-22.00	TAK1-22.00	TAN1-22.00	TAM1-22.00	TAX1-22.00
1-C	22.10	0.8701		5/32	TAP1-22.10	TAK1-22.10	TAN1-22.10	TAM1-22.10	TAX1-22.10
1-C	22.20	0.8740		5/32	TAP1-22.20	TAK1-22.20	TAN1-22.20	TAM1-22.20	TAX1-22.20
1-C	22.23	0.8752	7/8	5/32	TAP1-22.23	TAK1-22.23	TAN1-22.23	TAM1-22.23	TAX1-22.23
1-C	22.30	0.8780		5/32	TAP1-22.30	TAK1-22.30	TAN1-22.30	TAM1-22.30	TAX1-22.30
1-C	22.40	0.8819		5/32	TAP1-22.40	TAK1-22.40	TAN1-22.40	TAM1-22.40	TAX1-22.40
1-C	22.50	0.8858		5/32	TAP1-22.50	TAK1-22.50	TAN1-22.50	TAM1-22.50	TAX1-22.50
1-C	22.62	0.8906	57/64	5/32	TAP1-22.62	TAK1-22.62	TAN1-22.62	TAM1-22.62	TAX1-22.62
1-C	22.70	0.8937		5/32	TAP1-22.70	TAK1-22.70	TAN1-22.70	TAM1-22.70	TAX1-22.70
1-C	22.80	0.8976		5/32	TAP1-22.80	TAK1-22.80	TAN1-22.80	TAM1-22.80	TAX1-22.80

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



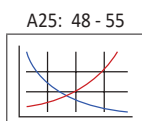
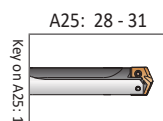
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Key on A25: 1

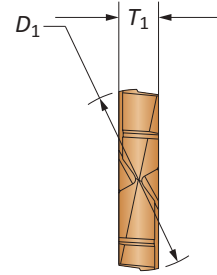
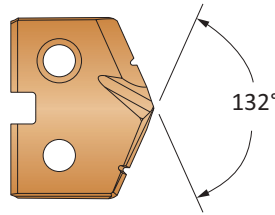
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T-A Pro Drill Inserts

1 Series | Diameter Range: 17.65 mm - 24.37 mm (0.6947" - 0.9596")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
1-D	22.90	0.9016		5/32	TAP1-22.90	TAK1-22.90	TAN1-22.90	TAM1-22.90	TAX1-22.90
1-D	23.00	0.9055		5/32	TAP1-23.00	TAK1-23.00	TAN1-23.00	TAM1-23.00	TAX1-23.00
1-D	23.02	0.9063	29/32	5/32	TAP1-23.02	TAK1-23.02	TAN1-23.02	TAM1-23.02	TAX1-23.02
1-D	23.10	0.9094		5/32	TAP1-23.10	TAK1-23.10	TAN1-23.10	TAM1-23.10	TAX1-23.10
1-D	23.20	0.9134		5/32	TAP1-23.20	TAK1-23.20	TAN1-23.20	TAM1-23.20	TAX1-23.20
1-D	23.30	0.9173		5/32	TAP1-23.30	TAK1-23.30	TAN1-23.30	TAM1-23.30	TAX1-23.30
1-D	23.42	0.9220	59/64	5/32	TAP1-23.42	TAK1-23.42	TAN1-23.42	TAM1-23.42	TAX1-23.42
1-D	23.50	0.9252		5/32	TAP1-23.50	TAK1-23.50	TAN1-23.50	TAM1-23.50	TAX1-23.50
1-D	23.60	0.9291		5/32	TAP1-23.60	TAK1-23.60	TAN1-23.60	TAM1-23.60	TAX1-23.60
1-D	23.70	0.9331		5/32	TAP1-23.70	TAK1-23.70	TAN1-23.70	TAM1-23.70	TAX1-23.70
1-D	23.81	0.9374	15/16	5/32	TAP1-23.81	TAK1-23.81	TAN1-23.81	TAM1-23.81	TAX1-23.81
1-D	23.90	0.9409		5/32	TAP1-23.90	TAK1-23.90	TAN1-23.90	TAM1-23.90	TAX1-23.90
1-D	24.00	0.9449		5/32	TAP1-24.00	TAK1-24.00	TAN1-24.00	TAM1-24.00	TAX1-24.00
1-D	24.10	0.9488		5/32	TAP1-24.10	TAK1-24.10	TAN1-24.10	TAM1-24.10	TAX1-24.10
1-D	24.20	0.9528		5/32	TAP1-24.20	TAK1-24.20	TAN1-24.20	TAM1-24.20	TAX1-24.20
1-D	24.30	0.9567		5/32	TAP1-24.30	TAK1-24.30	TAN1-24.30	TAM1-24.30	TAX1-24.30

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



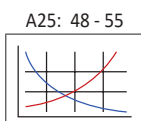
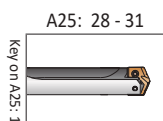
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

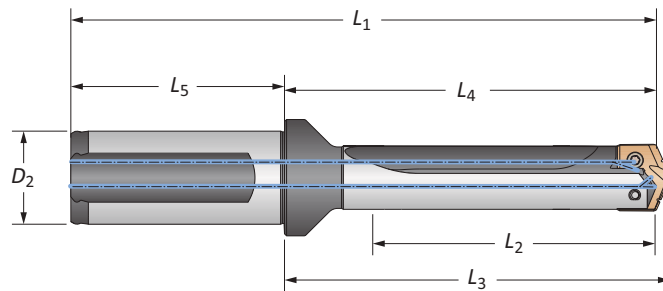


Key on A25: 1

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T-A Pro Drill Holders

1 Series Metric | Diameter Range: 17.65 mm - 24.37 mm



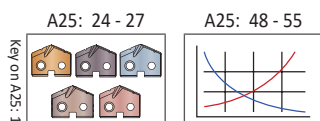
		Body				Shank				
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No	
Stub	A	21.0	56.5	60.0	112.5	56.0	25	Yes	HTA1A01-25FM	
Stub	A	21.0	56.5	60.0	112.5	56.0	25	No	HTA1A01-25CM	
Stub	B	21.0	56.5	60.0	112.5	56.0	25	Yes	HTA1B01-25FM	
Stub	B	21.0	56.5	60.0	112.5	56.0	25	No	HTA1B01-25CM	
Stub	C	21.0	56.5	60.0	112.5	56.0	25	Yes	HTA1C01-25FM	
Stub	C	21.0	56.5	60.0	112.5	56.0	25	No	HTA1C01-25CM	
Stub	D	21.0	56.5	60.0	112.5	56.0	25	Yes	HTA1D01-25FM	
Stub	D	21.0	56.5	60.0	112.5	56.0	25	No	HTA1D01-25CM	
3xD	A	62.9	100.9	104.5	156.9	56.0	25	Yes	HTA1A03-25FM	
3xD	A	62.9	100.9	104.5	156.9	56.0	25	No	HTA1A03-25CM	
3xD	B	62.9	100.9	104.5	156.9	56.0	25	Yes	HTA1B03-25FM	
3xD	B	62.9	100.9	104.5	156.9	56.0	25	No	HTA1B03-25CM	
3xD	C	62.9	100.9	104.5	156.9	56.0	25	Yes	HTA1C03-25FM	
3xD	C	62.9	100.9	104.5	156.9	56.0	25	No	HTA1C03-25CM	
3xD	D	62.9	100.9	104.5	156.9	56.0	25	Yes	HTA1D03-25FM	
3xD	D	62.9	100.9	104.5	156.9	56.0	25	No	HTA1D03-25CM	
5xD	A	104.8	142.8	146.4	198.8	56.0	25	Yes	HTA1A05-25FM	
5xD	A	104.8	142.8	146.4	198.8	56.0	25	No	HTA1A05-25CM	
5xD	B	104.8	142.8	146.4	198.8	56.0	25	Yes	HTA1B05-25FM	
5xD	B	104.8	142.8	146.4	198.8	56.0	25	No	HTA1B05-25CM	
5xD	C	104.8	142.8	146.4	198.8	56.0	25	Yes	HTA1C05-25FM	
5xD	C	104.8	142.8	146.4	198.8	56.0	25	No	HTA1C05-25CM	
5xD	D	104.8	142.8	146.4	198.8	56.0	25	Yes	HTA1D05-25FM	
5xD	D	104.8	142.8	146.4	198.8	56.0	25	No	HTA1D05-25CM	
7xD	A	146.7	184.7	188.3	240.7	56.0	25	Yes	HTA1A07-25FM	
7xD	A	146.7	184.7	188.3	240.7	56.0	25	No	HTA1A07-25CM	
7xD	B	146.7	184.7	188.3	240.7	56.0	25	Yes	HTA1B07-25FM	
7xD	B	146.7	184.7	188.3	240.7	56.0	25	No	HTA1B07-25CM	
7xD	C	146.7	184.7	188.3	240.7	56.0	25	Yes	HTA1C07-25FM	
7xD	C	146.7	184.7	188.3	240.7	56.0	25	No	HTA1C07-25CM	
7xD	D	146.7	184.7	188.3	240.7	56.0	25	Yes	HTA1D07-25FM	
7xD	D	146.7	184.7	188.3	240.7	56.0	25	No	HTA1D07-25CM	

Connection Accessories

Sub Series	1 Series Holder Diameter Range		Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
	Metric (mm)	Imperial (inch)						
1A	17.65 mm - 24.37 mm	0.6947" - 0.9596"	A/B	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1B	19.05 mm - 24.37 mm	0.7499" - 0.9596"	C/D	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1C	20.60 mm - 24.37 mm	0.8109" - 0.9596"						
1D	22.90 mm - 24.37 mm	0.9014" - 0.9596"						

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com



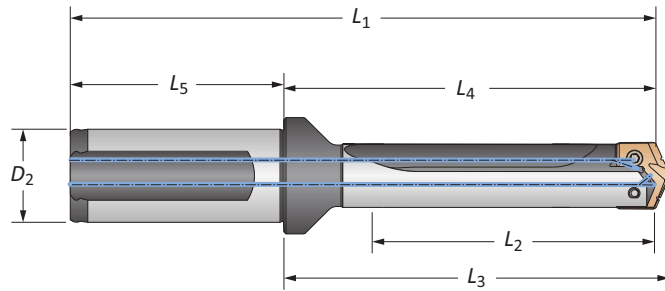
Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

1 Series Metric | Diameter Range: 17.65 mm - 24.37 mm



Length	Sub Series	Body				Shank				Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
10xD	A	209.6	247.6	251.2	303.6	56.0	25	Yes	HTA1A10-25FM	
10xD	A	209.6	247.6	251.2	303.6	56.0	25	No	HTA1A10-25CM	
10xD	B	209.6	247.6	251.2	303.6	56.0	25	Yes	HTA1B10-25FM	
10xD	B	209.6	247.6	251.2	303.6	56.0	25	No	HTA1B10-25CM	
10xD	C	209.6	247.6	251.2	303.6	56.0	25	Yes	HTA1C10-25FM	
10xD	C	209.6	247.6	251.2	303.6	56.0	25	No	HTA1C10-25CM	
10xD	D	209.6	247.6	251.2	303.6	56.0	25	Yes	HTA1D10-25FM	
10xD	D	209.6	247.6	251.2	303.6	56.0	25	No	HTA1D10-25CM	
12xD	A	251.5	289.5	293.1	345.5	56.0	25	Yes	HTA1A12-25FM	
12xD	A	251.5	289.5	293.1	345.5	56.0	25	No	HTA1A12-25CM	
12xD	B	251.5	289.5	293.1	345.5	56.0	25	Yes	HTA1B12-25FM	
12xD	B	251.5	289.5	293.1	345.5	56.0	25	No	HTA1B12-25CM	
12xD	C	251.5	289.5	293.1	345.5	56.0	25	Yes	HTA1C12-25FM	
12xD	C	251.5	289.5	293.1	345.5	56.0	25	No	HTA1C12-25CM	
12xD	D	251.5	289.5	293.1	345.5	56.0	25	Yes	HTA1D12-25FM	
12xD	D	251.5	289.5	293.1	345.5	56.0	25	No	HTA1D12-25CM	
15xD	A	314.3	352.4	355.9	408.4	56.0	25	Yes	HTA1A15-25FM	
15xD	A	314.3	352.4	355.9	408.4	56.0	25	No	HTA1A15-25CM	
15xD	B	314.3	352.4	355.9	408.4	56.0	25	Yes	HTA1B15-25FM	
15xD	B	314.3	352.4	355.9	408.4	56.0	25	No	HTA1B15-25CM	
15xD	C	314.3	352.4	355.9	408.4	56.0	25	Yes	HTA1C15-25FM	
15xD	C	314.3	352.4	355.9	408.4	56.0	25	No	HTA1C15-25CM	
15xD	D	314.3	352.4	355.9	408.4	56.0	25	Yes	HTA1D15-25FM	
15xD	D	314.3	352.4	355.9	408.4	56.0	25	No	HTA1D15-25CM	

Ⓜ

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

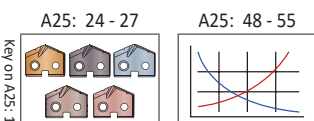
Connection Accessories

Sub Series	1 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
1A	17.65 mm - 24.37 mm	0.6947" - 0.9596"
1B	19.05 mm - 24.37 mm	0.7499" - 0.9596"
1C	20.60 mm - 24.37 mm	0.8109" - 0.9596"
1D	22.90 mm - 24.37 mm	0.9014" - 0.9596"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
C/D	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

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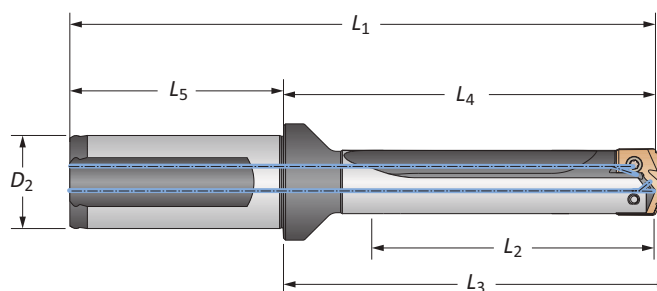


Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.

T-A Pro Drill Holders






1 Series Imperial | Diameter Range: 0.6947" - 0.9596"



		Body				Shank				
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No	
Stub	A	0.825	2.224	2.364	4.504	2.280	1	Yes	HTA1A01-100F	
Stub	A	0.825	2.224	2.364	4.504	2.280	1	No	HTA1A01-100C	
Stub	B	0.825	2.224	2.364	4.504	2.280	1	Yes	HTA1B01-100F	
Stub	B	0.825	2.224	2.364	4.504	2.280	1	No	HTA1B01-100C	
Stub	C	0.825	2.224	2.364	4.504	2.280	1	Yes	HTA1C01-100F	
Stub	C	0.825	2.224	2.364	4.504	2.280	1	No	HTA1C01-100C	
Stub	D	0.825	2.224	2.364	4.504	2.280	1	Yes	HTA1D01-100F	
Stub	D	0.825	2.224	2.364	4.504	2.280	1	No	HTA1D01-100C	
3xD	A	2.475	3.973	4.113	6.253	2.280	1	Yes	HTA1A03-100F	
3xD	A	2.475	3.973	4.113	6.253	2.280	1	No	HTA1A03-100C	
3xD	B	2.475	3.973	4.113	6.253	2.280	1	Yes	HTA1B03-100F	
3xD	B	2.475	3.973	4.113	6.253	2.280	1	No	HTA1B03-100C	
3xD	C	2.475	3.973	4.113	6.253	2.280	1	Yes	HTA1C03-100F	
3xD	C	2.475	3.973	4.113	6.253	2.280	1	No	HTA1C03-100C	
3xD	D	2.475	3.973	4.113	6.253	2.280	1	Yes	HTA1D03-100F	
3xD	D	2.475	3.973	4.113	6.253	2.280	1	No	HTA1D03-100C	
5xD	A	4.125	5.623	5.763	7.903	2.280	1	Yes	HTA1A05-100F	
5xD	A	4.125	5.623	5.763	7.903	2.280	1	No	HTA1A05-100C	
5xD	B	4.125	5.623	5.763	7.903	2.280	1	Yes	HTA1B05-100F	
5xD	B	4.125	5.623	5.763	7.903	2.280	1	No	HTA1B05-100C	
5xD	C	4.125	5.623	5.763	7.903	2.280	1	Yes	HTA1C05-100F	
5xD	C	4.125	5.623	5.763	7.903	2.280	1	No	HTA1C05-100C	
5xD	D	4.125	5.623	5.763	7.903	2.280	1	Yes	HTA1D05-100F	
5xD	D	4.125	5.623	5.763	7.903	2.280	1	No	HTA1D05-100C	
7xD	A	5.775	7.273	7.413	9.553	2.280	1	Yes	HTA1A07-100F	
7xD	A	5.775	7.273	7.413	9.553	2.280	1	No	HTA1A07-100C	
7xD	B	5.775	7.273	7.413	9.553	2.280	1	Yes	HTA1B07-100F	
7xD	B	5.775	7.273	7.413	9.553	2.280	1	No	HTA1B07-100C	
7xD	C	5.775	7.273	7.413	9.553	2.280	1	Yes	HTA1C07-100F	
7xD	C	5.775	7.273	7.413	9.553	2.280	1	No	HTA1C07-100C	
7xD	D	5.775	7.273	7.413	9.553	2.280	1	Yes	HTA1D07-100F	
7xD	D	5.775	7.273	7.413	9.553	2.280	1	No	HTA1D07-100C	

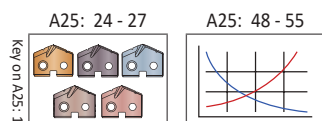
Connection Accessories

Sub Series	1 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
1A	17.65 mm - 24.37 mm	0.6947" - 0.9596"
1B	19.05 mm - 24.37 mm	0.7499" - 0.9596"
1C	20.60 mm - 24.37 mm	0.8109" - 0.9596"
1D	22.90 mm - 24.37 mm	0.9014" - 0.9596"

	 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
A/B	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
C/D	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com



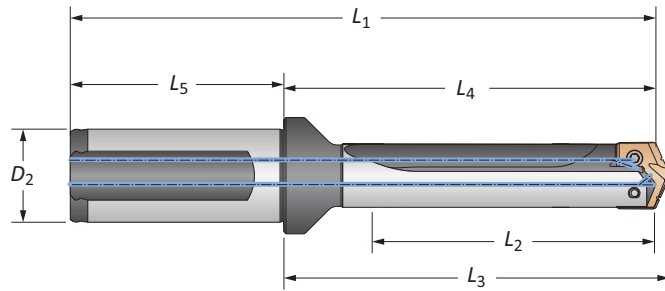
 = Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

1 Series Imperial | Diameter Range: 0.6947" - 0.9596"



Length	Sub Series	Body				Shank			Flat	Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
10xD	A	8.250	9.748	9.888	12.028	2.280	1	Yes	⚠ HTA1A10-100F	
10xD	A	8.250	9.748	9.888	12.028	2.280	1	No	⚠ HTA1A10-100C	
10xD	B	8.250	9.748	9.888	12.028	2.280	1	Yes	⚠ HTA1B10-100F	
10xD	B	8.250	9.748	9.888	12.028	2.280	1	No	⚠ HTA1B10-100C	
10xD	C	8.250	9.748	9.888	12.028	2.280	1	Yes	⚠ HTA1C10-100F	
10xD	C	8.250	9.748	9.888	12.028	2.280	1	No	⚠ HTA1C10-100C	
10xD	D	8.250	9.748	9.888	12.028	2.280	1	Yes	⚠ HTA1D10-100F	
10xD	D	8.250	9.748	9.888	12.028	2.280	1	No	⚠ HTA1D10-100C	
12xD	A	9.900	11.398	11.538	13.678	2.280	1	Yes	⚠ HTA1A12-100F	
12xD	A	9.900	11.398	11.538	13.678	2.280	1	No	⚠ HTA1A12-100C	
12xD	B	9.900	11.398	11.538	13.678	2.280	1	Yes	⚠ HTA1B12-100F	
12xD	B	9.900	11.398	11.538	13.678	2.280	1	No	⚠ HTA1B12-100C	
12xD	C	9.900	11.398	11.538	13.678	2.280	1	Yes	⚠ HTA1C12-100F	
12xD	C	9.900	11.398	11.538	13.678	2.280	1	No	⚠ HTA1C12-100C	
12xD	D	9.900	11.398	11.538	13.678	2.280	1	Yes	⚠ HTA1D12-100F	
12xD	D	9.900	11.398	11.538	13.678	2.280	1	No	⚠ HTA1D12-100C	
15xD	A	12.375	13.873	14.013	16.153	2.280	1	Yes	⚠ HTA1A15-100F	
15xD	A	12.375	13.873	14.013	16.153	2.280	1	No	⚠ HTA1A15-100C	
15xD	B	12.375	13.873	14.013	16.153	2.280	1	Yes	⚠ HTA1B15-100F	
15xD	B	12.375	13.873	14.013	16.153	2.280	1	No	⚠ HTA1B15-100C	
15xD	C	12.375	13.873	14.013	16.153	2.280	1	Yes	⚠ HTA1C15-100F	
15xD	C	12.375	13.873	14.013	16.153	2.280	1	No	⚠ HTA1C15-100C	
15xD	D	12.375	13.873	14.013	16.153	2.280	1	Yes	⚠ HTA1D15-100F	
15xD	D	12.375	13.873	14.013	16.153	2.280	1	No	⚠ HTA1D15-100C	

1

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Connection Accessories

Sub Series	1 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
1A	17.65 mm - 24.37 mm	0.6947" - 0.9596"
1B	19.05 mm - 24.37 mm	0.7499" - 0.9596"
1C	20.60 mm - 24.37 mm	0.8109" - 0.9596"
1D	22.90 mm - 24.37 mm	0.9014" - 0.9596"

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
C/D	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

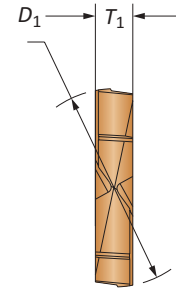
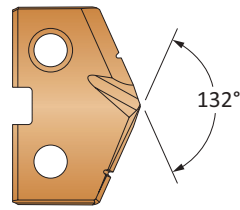
1 WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com






A25: 24 - 27 A25: 48 - 55

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)
Screws sold in multiples of 10.

T-A Pro Drill Inserts

2 Series | Diameter Range: 24.38 mm - 35.04 mm (0.9597" - 1.3797")



Insert					Carbide				HSS
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1					
					Part No.	Part No.	Part No.	Part No.	Part No.
2-A	24.40	0.9606		3/16	TAP2-24.40	TAK2-24.40	TAN2-24.40	TAM2-24.40	TAX2-24.40
2-A	24.50	0.9646		3/16	TAP2-24.50	TAK2-24.50	TAN2-24.50	TAM2-24.50	TAX2-24.50
2-A	24.61	0.9689	31/32	3/16	TAP2-24.61	TAK2-24.61	TAN2-24.61	TAM2-24.61	TAX2-24.61
2-A	24.70	0.9724		3/16	TAP2-24.70	TAK2-24.70	TAN2-24.70	TAM2-24.70	TAX2-24.70
2-A	24.80	0.9764		3/16	TAP2-24.80	TAK2-24.80	TAN2-24.80	TAM2-24.80	TAX2-24.80
2-A	24.90	0.9803		3/16	TAP2-24.90	TAK2-24.90	TAN2-24.90	TAM2-24.90	TAX2-24.90
2-A	25.00	0.9843	63/64	3/16	TAP2-25.00	TAK2-25.00	TAN2-25.00	TAM2-25.00	TAX2-25.00
2-A	25.10	0.9882		3/16	TAP2-25.10	TAK2-25.10	TAN2-25.10	TAM2-25.10	TAX2-25.10
2-A	25.20	0.9921		3/16	TAP2-25.20	TAK2-25.20	TAN2-25.20	TAM2-25.20	TAX2-25.20
2-A	25.30	0.9961		3/16	TAP2-25.30	TAK2-25.30	TAN2-25.30	TAM2-25.30	TAX2-25.30

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



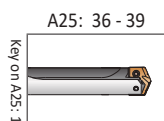
C Series Insert +
A Series Holder



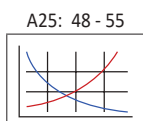
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



A25: 36 - 39



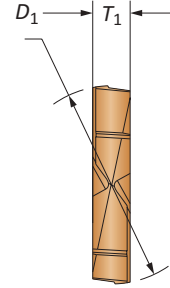
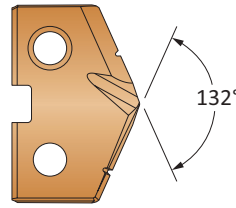
A25: 48 - 55

Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Inserts

2 Series | Diameter Range: 24.38 mm - 35.04 mm (0.9597" - 1.3797")



Insert					Carbide				HSS
Series	Fractional Equivalent	D ₁ inch	D ₁ mm	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
2-B	1	1.0000	25.40	3/16	TAP2-25.40	TAK2-25.40	TAN2-25.40	TAM2-25.40	TAX2-25.40
2-B		1.0039	25.50	3/16	TAP2-25.50	TAK2-25.50	TAN2-25.50	TAM2-25.50	TAX2-25.50
2-B		1.0079	25.60	3/16	TAP2-25.60	TAK2-25.60	TAN2-25.60	TAM2-25.60	TAX2-25.60
2-B		1.0118	25.70	3/16	TAP2-25.70	TAK2-25.70	TAN2-25.70	TAM2-25.70	TAX2-25.70
2-B		1.0150	25.78	3/16	TAP2-25.78	TAK2-25.78	TAN2-25.78	TAM2-25.78	TAX2-25.78
2-B		1.0197	25.90	3/16	TAP2-25.90	TAK2-25.90	TAN2-25.90	TAM2-25.90	TAX2-25.90
2-B		1.0236	26.00	3/16	TAP2-26.00	TAK2-26.00	TAN2-26.00	TAM2-26.00	TAX2-26.00
2-B		1.0276	26.10	3/16	TAP2-26.10	TAK2-26.10	TAN2-26.10	TAM2-26.10	TAX2-26.10
2-B	1-1/32	1.0315	26.20	3/16	TAP2-26.20	TAK2-26.20	TAN2-26.20	TAM2-26.20	TAX2-26.20
2-B		1.0354	26.30	3/16	TAP2-26.30	TAK2-26.30	TAN2-26.30	TAM2-26.30	TAX2-26.30
2-B		1.0394	26.40	3/16	TAP2-26.40	TAK2-26.40	TAN2-26.40	TAM2-26.40	TAX2-26.40
2-B		1.0433	26.50	3/16	TAP2-26.50	TAK2-26.50	TAN2-26.50	TAM2-26.50	TAX2-26.50
2-B		1.0461	26.57	3/16	TAP2-26.57	TAK2-26.57	TAN2-26.57	TAM2-26.57	TAX2-26.57
2-B	1-3/64	1.0469	26.59	3/16	TAP2-26.59	TAK2-26.59	TAN2-26.59	TAM2-26.59	TAX2-26.59
2-B		1.0472	26.60	3/16	TAP2-26.60	TAK2-26.60	TAN2-26.60	TAM2-26.60	TAX2-26.60
2-B		1.0512	26.70	3/16	TAP2-26.70	TAK2-26.70	TAN2-26.70	TAM2-26.70	TAX2-26.70
2-B		1.0551	26.80	3/16	TAP2-26.80	TAK2-26.80	TAN2-26.80	TAM2-26.80	TAX2-26.80
2-B		1.0591	26.90	3/16	TAP2-26.90	TAK2-26.90	TAN2-26.90	TAM2-26.90	TAX2-26.90
2-B	1-1/16	1.0626	26.99	3/16	TAP2-26.99	TAK2-26.99	TAN2-26.99	TAM2-26.99	TAX2-26.99
2-B		1.0630	27.00	3/16	TAP2-27.00	TAK2-27.00	TAN2-27.00	TAM2-27.00	TAX2-27.00
2-B		1.0669	27.10	3/16	TAP2-27.10	TAK2-27.10	TAN2-27.10	TAM2-27.10	TAX2-27.10
2-B		1.0709	27.20	3/16	TAP2-27.20	TAK2-27.20	TAN2-27.20	TAM2-27.20	TAX2-27.20
2-B		1.0748	27.30	3/16	TAP2-27.30	TAK2-27.30	TAN2-27.30	TAM2-27.30	TAX2-27.30
2-B		1.0787	27.40	3/16	TAP2-27.40	TAK2-27.40	TAN2-27.40	TAM2-27.40	TAX2-27.40
2-B		1.0827	27.50	3/16	TAP2-27.50	TAK2-27.50	TAN2-27.50	TAM2-27.50	TAX2-27.50
2-B		1.0866	27.60	3/16	TAP2-27.60	TAK2-27.60	TAN2-27.60	TAM2-27.60	TAX2-27.60
2-B		1.0906	27.70	3/16	TAP2-27.70	TAK2-27.70	TAN2-27.70	TAM2-27.70	TAX2-27.70
2-B	1-3/32	1.0937	27.78	3/16	TAP2-27.78	TAK2-27.78	TAN2-27.78	TAM2-27.78	TAX2-27.78
2-B		1.0984	27.90	3/16	TAP2-27.90	TAK2-27.90	TAN2-27.90	TAM2-27.90	TAX2-27.90
2-B		1.1024	28.00	3/16	TAP2-28.00	TAK2-28.00	TAN2-28.00	TAM2-28.00	TAX2-28.00
2-B		1.1063	28.10	3/16	TAP2-28.10	TAK2-28.10	TAN2-28.10	TAM2-28.10	TAX2-28.10
2-B	1-7/64	1.1091	28.17	3/16	TAP2-28.17	TAK2-28.17	TAN2-28.17	TAM2-28.17	TAX2-28.17
2-B		1.1102	28.20	3/16	TAP2-28.20	TAK2-28.20	TAN2-28.20	TAM2-28.20	TAX2-28.20
2-B		1.1142	28.30	3/16	TAP2-28.30	TAK2-28.30	TAN2-28.30	TAM2-28.30	TAX2-28.30
2-B		1.1181	28.40	3/16	TAP2-28.40	TAK2-28.40	TAN2-28.40	TAM2-28.40	TAX2-28.40

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)
 Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.

A Series Insert +
A Series Holder

C Series Insert +
A Series Holder

C Series Insert +
C Series Holder

A Series Insert +
C Series Holder

A25: 36 - 39 A25: 48 - 55

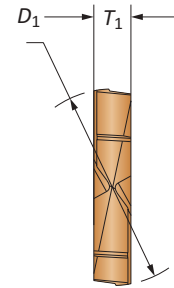
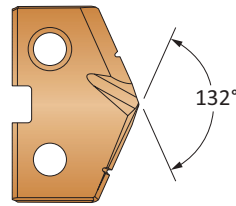
Sizes not shown are available upon request.
 When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

A DRILLING
B BORING
C REAMING
D BURISHING
E THREADING
X SPECIALS

T-A Pro Drill Inserts

2 Series | Diameter Range: 24.38 mm - 35.04 mm (0.9597" - 1.3797")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No. P	Part No. K	Part No. N	Part No. M	Part No. X
2-C	28.50	1.1220		3/16	TAP2-28.50	TAK2-28.50	TAN2-28.50	TAM2-28.50	TAX2-28.50
2-C	28.58	1.1252	1-1/8	3/16	TAP2-28.58	TAK2-28.58	TAN2-28.58	TAM2-28.58	TAX2-28.58
2-C	28.70	1.1299		3/16	TAP2-28.70	TAK2-28.70	TAN2-28.70	TAM2-28.70	TAX2-28.70
2-C	28.80	1.1339		3/16	TAP2-28.80	TAK2-28.80	TAN2-28.80	TAM2-28.80	TAX2-28.80
2-C	28.90	1.1378		3/16	TAP2-28.90	TAK2-28.90	TAN2-28.90	TAM2-28.90	TAX2-28.90
2-C	29.00	1.1417		3/16	TAP2-29.00	TAK2-29.00	TAN2-29.00	TAM2-29.00	TAX2-29.00
2-C	29.10	1.1457		3/16	TAP2-29.10	TAK2-29.10	TAN2-29.10	TAM2-29.10	TAX2-29.10
2-C	29.20	1.1496		3/16	TAP2-29.20	TAK2-29.20	TAN2-29.20	TAM2-29.20	TAX2-29.20
2-C	29.30	1.1535		3/16	TAP2-29.30	TAK2-29.30	TAN2-29.30	TAM2-29.30	TAX2-29.30
2-C	29.37	1.1563	1-5/32	3/16	TAP2-29.37	TAK2-29.37	TAN2-29.37	TAM2-29.37	TAX2-29.37
2-C	29.40	1.1575		3/16	TAP2-29.40	TAK2-29.40	TAN2-29.40	TAM2-29.40	TAX2-29.40
2-C	29.50	1.1614		3/16	TAP2-29.50	TAK2-29.50	TAN2-29.50	TAM2-29.50	TAX2-29.50
2-C	29.60	1.1654		3/16	TAP2-29.60	TAK2-29.60	TAN2-29.60	TAM2-29.60	TAX2-29.60
2-C	29.70	1.1693		3/16	TAP2-29.70	TAK2-29.70	TAN2-29.70	TAM2-29.70	TAX2-29.70
2-C	29.80	1.1732		3/16	TAP2-29.80	TAK2-29.80	TAN2-29.80	TAM2-29.80	TAX2-29.80
2-C	29.90	1.1772		3/16	TAP2-29.90	TAK2-29.90	TAN2-29.90	TAM2-29.90	TAX2-29.90
2-C	30.00	1.1811		3/16	TAP2-30.00	TAK2-30.00	TAN2-30.00	TAM2-30.00	TAX2-30.00
2-C	30.10	1.1850		3/16	TAP2-30.10	TAK2-30.10	TAN2-30.10	TAM2-30.10	TAX2-30.10
2-C	30.16	1.1874	1-3/16	3/16	TAP2-30.16	TAK2-30.16	TAN2-30.16	TAM2-30.16	TAX2-30.16
2-C	30.20	1.1890		3/16	TAP2-30.20	TAK2-30.20	TAN2-30.20	TAM2-30.20	TAX2-30.20
2-C	30.30	1.1929		3/16	TAP2-30.30	TAK2-30.30	TAN2-30.30	TAM2-30.30	TAX2-30.30
2-C	30.40	1.1969		3/16	TAP2-30.40	TAK2-30.40	TAN2-30.40	TAM2-30.40	TAX2-30.40
2-C	30.50	1.2008		3/16	TAP2-30.50	TAK2-30.50	TAN2-30.50	TAM2-30.50	TAX2-30.50
2-C	30.60	1.2047		3/16	TAP2-30.60	TAK2-30.60	TAN2-30.60	TAM2-30.60	TAX2-30.60
2-C	30.70	1.2087		3/16	TAP2-30.70	TAK2-30.70	TAN2-30.70	TAM2-30.70	TAX2-30.70
2-C	30.80	1.2126		3/16	TAP2-30.80	TAK2-30.80	TAN2-30.80	TAM2-30.80	TAX2-30.80
2-C	30.90	1.2165		3/16	TAP2-30.90	TAK2-30.90	TAN2-30.90	TAM2-30.90	TAX2-30.90
2-C	30.96	1.2189	1-7/32	3/16	TAP2-30.96	TAK2-30.96	TAN2-30.96	TAM2-30.96	TAX2-30.96
2-C	31.00	1.2205		3/16	TAP2-31.00	TAK2-31.00	TAN2-31.00	TAM2-31.00	TAX2-31.00
2-C	31.10	1.2244		3/16	TAP2-31.10	TAK2-31.10	TAN2-31.10	TAM2-31.10	TAX2-31.10
2-C	31.20	1.2283		3/16	TAP2-31.20	TAK2-31.20	TAN2-31.20	TAM2-31.20	TAX2-31.20
2-C	31.30	1.2323		3/16	TAP2-31.30	TAK2-31.30	TAN2-31.30	TAM2-31.30	TAX2-31.30
2-C	31.40	1.2362		3/16	TAP2-31.40	TAK2-31.40	TAN2-31.40	TAM2-31.40	TAX2-31.40
2-C	31.50	1.2402		3/16	TAP2-31.50	TAK2-31.50	TAN2-31.50	TAM2-31.50	TAX2-31.50
2-C	31.60	1.2441		3/16	TAP2-31.60	TAK2-31.60	TAN2-31.60	TAM2-31.60	TAX2-31.60

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



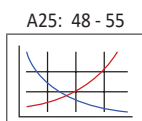
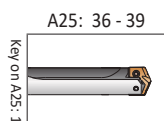
C Series Insert + A Series Holder



C Series Insert + C Series Holder



A Series Insert + C Series Holder



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

A DRILLING

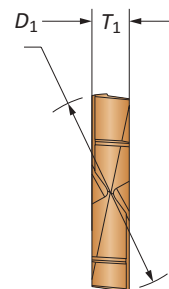
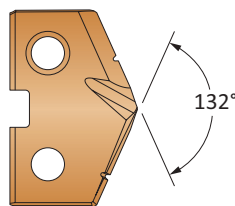
B BORING

E THREADING

X SPECIALS

T-A Pro Drill Inserts

2 Series | Diameter Range: 24.38 mm - 35.04 mm (0.9597" - 1.3797")



Series	Insert				Carbide				HSS
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
2-D	31.70	1.2480		3/16	TAP2-31.70	TAK2-31.70	TAN2-31.70	TAM2-31.70	TAX2-31.70
2-D	31.75	1.2500	1-1/4	3/16	TAP2-31.75	TAK2-31.75	TAN2-31.75	TAM2-31.75	TAX2-31.75
2-D	31.80	1.2520		3/16	TAP2-31.80	TAK2-31.80	TAN2-31.80	TAM2-31.80	TAX2-31.80
2-D	31.90	1.2559		3/16	TAP2-31.90	TAK2-31.90	TAN2-31.90	TAM2-31.90	TAX2-31.90
2-D	32.00	1.2598		3/16	TAP2-32.00	TAK2-32.00	TAN2-32.00	TAM2-32.00	TAX2-32.00
2-D	32.10	1.2638		3/16	TAP2-32.10	TAK2-32.10	TAN2-32.10	TAM2-32.10	TAX2-32.10
2-D	32.15	1.2657	1-17/64	3/16	TAP2-32.15	TAK2-32.15	TAN2-32.15	TAM2-32.15	TAX2-32.15
2-D	32.20	1.2677		3/16	TAP2-32.20	TAK2-32.20	TAN2-32.20	TAM2-32.20	TAX2-32.20
2-D	32.30	1.2717		3/16	TAP2-32.30	TAK2-32.30	TAN2-32.30	TAM2-32.30	TAX2-32.30
2-D	32.40	1.2756		3/16	TAP2-32.40	TAK2-32.40	TAN2-32.40	TAM2-32.40	TAX2-32.40
2-D	32.50	1.2795		3/16	TAP2-32.50	TAK2-32.50	TAN2-32.50	TAM2-32.50	TAX2-32.50
2-D	32.55	1.2815	1-9/32	3/16	TAP2-32.55	TAK2-32.55	TAN2-32.55	TAM2-32.55	TAX2-32.55
2-D	32.60	1.2835		3/16	TAP2-32.60	TAK2-32.60	TAN2-32.60	TAM2-32.60	TAX2-32.60
2-D	32.70	1.2874		3/16	TAP2-32.70	TAK2-32.70	TAN2-32.70	TAM2-32.70	TAX2-32.70
2-D	32.80	1.2913		3/16	TAP2-32.80	TAK2-32.80	TAN2-32.80	TAM2-32.80	TAX2-32.80
2-D	32.90	1.2953		3/16	TAP2-32.90	TAK2-32.90	TAN2-32.90	TAM2-32.90	TAX2-32.90
2-D	33.00	1.2992		3/16	TAP2-33.00	TAK2-33.00	TAN2-33.00	TAM2-33.00	TAX2-33.00
2-D	33.10	1.3031		3/16	TAP2-33.10	TAK2-33.10	TAN2-33.10	TAM2-33.10	TAX2-33.10
2-D	33.20	1.3071		3/16	TAP2-33.20	TAK2-33.20	TAN2-33.20	TAM2-33.20	TAX2-33.20
2-D	33.30	1.3110		3/16	TAP2-33.30	TAK2-33.30	TAN2-33.30	TAM2-33.30	TAX2-33.30
2-D	33.34	1.3126	1-5/16	3/16	TAP2-33.34	TAK2-33.34	TAN2-33.34	TAM2-33.34	TAX2-33.34
2-D	33.40	1.3150		3/16	TAP2-33.40	TAK2-33.40	TAN2-33.40	TAM2-33.40	TAX2-33.40
2-D	33.50	1.3189		3/16	TAP2-33.50	TAK2-33.50	TAN2-33.50	TAM2-33.50	TAX2-33.50
2-D	33.60	1.3228		3/16	TAP2-33.60	TAK2-33.60	TAN2-33.60	TAM2-33.60	TAX2-33.60
2-D	33.70	1.3268		3/16	TAP2-33.70	TAK2-33.70	TAN2-33.70	TAM2-33.70	TAX2-33.70
2-D	33.80	1.3307		3/16	TAP2-33.80	TAK2-33.80	TAN2-33.80	TAM2-33.80	TAX2-33.80
2-D	33.90	1.3346		3/16	TAP2-33.90	TAK2-33.90	TAN2-33.90	TAM2-33.90	TAX2-33.90
2-D	34.00	1.3386		3/16	TAP2-34.00	TAK2-34.00	TAN2-34.00	TAM2-34.00	TAX2-34.00
2-D	34.10	1.3425		3/16	TAP2-34.10	TAK2-34.10	TAN2-34.10	TAM2-34.10	TAX2-34.10
2-D	34.13	1.3437	1-11/32	3/16	TAP2-34.13	TAK2-34.13	TAN2-34.13	TAM2-34.13	TAX2-34.13
2-D	34.20	1.3465		3/16	TAP2-34.20	TAK2-34.20	TAN2-34.20	TAM2-34.20	TAX2-34.20
2-D	34.30	1.3504		3/16	TAP2-34.30	TAK2-34.30	TAN2-34.30	TAM2-34.30	TAX2-34.30
2-D	34.40	1.3543		3/16	TAP2-34.40	TAK2-34.40	TAN2-34.40	TAM2-34.40	TAX2-34.40
2-D	34.50	1.3583		3/16	TAP2-34.50	TAK2-34.50	TAN2-34.50	TAM2-34.50	TAX2-34.50
2-D	34.60	1.3622		3/16	TAP2-34.60	TAK2-34.60	TAN2-34.60	TAM2-34.60	TAX2-34.60
2-D	34.70	1.3661		3/16	TAP2-34.70	TAK2-34.70	TAN2-34.70	TAM2-34.70	TAX2-34.70
2-D	34.80	1.3701		3/16	TAP2-34.80	TAK2-34.80	TAN2-34.80	TAM2-34.80	TAX2-34.80
2-D	34.90	1.3740		3/16	TAP2-34.90	TAK2-34.90	TAN2-34.90	TAM2-34.90	TAX2-34.90
2-D	34.93	1.3752	1-3/8	3/16	TAP2-34.93	TAK2-34.93	TAN2-34.93	TAM2-34.93	TAX2-34.93
2-D	35.00	1.3780		3/16	TAP2-35.00	TAK2-35.00	TAN2-35.00	TAM2-35.00	TAX2-35.00

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



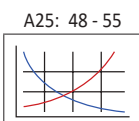
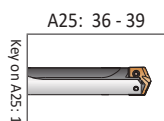
C Series Insert + A Series Holder



C Series Insert + C Series Holder



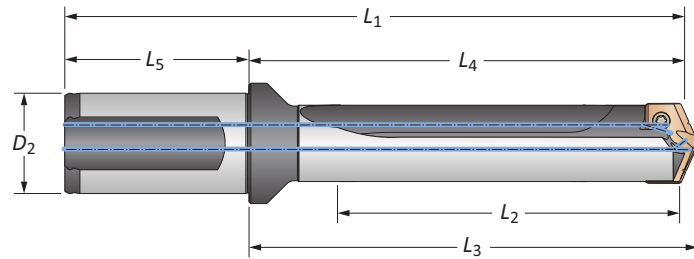
A Series Insert + C Series Holder



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Holders

2 Series Metric | Diameter Range: 24.38 mm - 35.04 mm



Body						Shank				Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
Stub	A	29.7	75.0	78.6	135.0	60.0	32	Yes	HTA2A01-32FM	
Stub	A	29.7	75.0	78.6	135.0	60.0	32	No	HTA2A01-32CM	
Stub	B	29.7	75.0	78.6	135.0	60.0	32	Yes	HTA2B01-32FM	
Stub	B	29.7	75.0	78.6	135.0	60.0	32	No	HTA2B01-32CM	
Stub	C	29.7	75.0	78.6	135.0	60.0	32	Yes	HTA2C01-32FM	
Stub	C	29.7	75.0	78.6	135.0	60.0	32	No	HTA2C01-32CM	
Stub	D	29.7	75.0	78.6	135.0	60.0	32	Yes	HTA2D01-32FM	
Stub	D	29.7	75.0	78.6	135.0	60.0	32	No	HTA2D01-32CM	
3xD	A	89.2	137.4	141.0	197.4	60.0	32	Yes	HTA2A03-32FM	
3xD	A	89.2	137.4	141.0	197.4	60.0	32	No	HTA2A03-32CM	
3xD	B	89.2	137.4	141.0	197.4	60.0	32	Yes	HTA2B03-32FM	
3xD	B	89.2	137.4	141.0	197.4	60.0	32	No	HTA2B03-32CM	
3xD	C	89.2	137.4	141.0	197.4	60.0	32	Yes	HTA2C03-32FM	
3xD	C	89.2	137.4	141.0	197.4	60.0	32	No	HTA2C03-32CM	
3xD	D	89.2	137.4	141.0	197.4	60.0	32	Yes	HTA2D03-32FM	
3xD	D	89.2	137.4	141.0	197.4	60.0	32	No	HTA2D03-32CM	
5xD	A	148.7	196.9	200.5	256.9	60.0	32	Yes	HTA2A05-32FM	
5xD	A	148.7	196.9	200.5	256.9	60.0	32	No	HTA2A05-32CM	
5xD	B	148.7	196.9	200.5	256.9	60.0	32	Yes	HTA2B05-32FM	
5xD	B	148.7	196.9	200.5	256.9	60.0	32	No	HTA2B05-32CM	
5xD	C	148.7	196.9	200.5	256.9	60.0	32	Yes	HTA2C05-32FM	
5xD	C	148.7	196.9	200.5	256.9	60.0	32	No	HTA2C05-32CM	
5xD	D	148.7	196.9	200.5	256.9	60.0	32	Yes	HTA2D05-32FM	
5xD	D	148.7	196.9	200.5	256.9	60.0	32	No	HTA2D05-32CM	
7xD	A	208.2	256.4	260.0	316.4	60.0	32	Yes	HTA2A07-32FM	
7xD	A	208.2	256.4	260.0	316.4	60.0	32	No	HTA2A07-32CM	
7xD	B	208.2	256.4	260.0	316.4	60.0	32	Yes	HTA2B07-32FM	
7xD	B	208.2	256.4	260.0	316.4	60.0	32	No	HTA2B07-32CM	
7xD	C	208.2	256.4	260.0	316.4	60.0	32	Yes	HTA2C07-32FM	
7xD	C	208.2	256.4	260.0	316.4	60.0	32	No	HTA2C07-32CM	
7xD	D	208.2	256.4	260.0	316.4	60.0	32	Yes	HTA2D07-32FM	
7xD	D	208.2	256.4	260.0	316.4	60.0	32	No	HTA2D07-32CM	

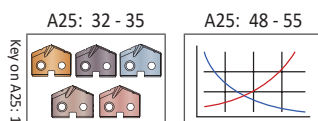
Sub Series	2 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
2A	24.38 mm - 35.04 mm	0.9597" - 1.3797"
2B	25.40 mm - 35.04 mm	0.9999" - 1.3797"
2C	28.50 mm - 35.04 mm	1.1219" - 1.3797"
2D	31.70 mm - 35.04 mm	1.2479" - 1.3797"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

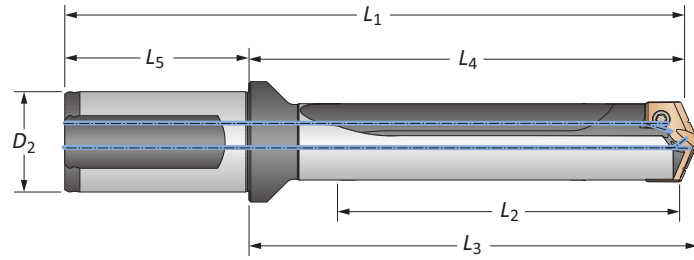


Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.

T-A Pro Drill Holders

2 Series Metric | Diameter Range: 24.38 mm - 35.04 mm



Length	Sub Series	Body				Shank				Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
10xD	A	297.4	345.6	349.2	405.6	60.0	32	Yes	⚠ HTA2A10-32FM	
10xD	A	297.4	345.6	349.2	405.6	60.0	32	No	⚠ HTA2A10-32CM	
10xD	B	297.4	345.6	349.2	405.6	60.0	32	Yes	⚠ HTA2B10-32FM	
10xD	B	297.4	345.6	349.2	405.6	60.0	32	No	⚠ HTA2B10-32CM	
10xD	C	297.4	345.6	349.2	405.6	60.0	32	Yes	⚠ HTA2C10-32FM	
10xD	C	297.4	345.6	349.2	405.6	60.0	32	No	⚠ HTA2C10-32CM	
10xD	D	297.4	345.6	349.2	405.6	60.0	32	Yes	⚠ HTA2D10-32FM	
10xD	D	297.4	345.6	349.2	405.6	60.0	32	No	⚠ HTA2D10-32CM	
12xD	A	356.9	405.1	408.7	465.1	60.0	32	Yes	⚠ HTA2A12-32FM	
12xD	A	356.9	405.1	408.7	465.1	60.0	32	No	⚠ HTA2A12-32CM	
12xD	B	356.9	405.1	408.7	465.1	60.0	32	Yes	⚠ HTA2B12-32FM	
12xD	B	356.9	405.1	408.7	465.1	60.0	32	No	⚠ HTA2B12-32CM	
12xD	C	356.9	405.1	408.7	465.1	60.0	32	Yes	⚠ HTA2C12-32FM	
12xD	C	356.9	405.1	408.7	465.1	60.0	32	No	⚠ HTA2C12-32CM	
12xD	D	356.9	405.1	408.7	465.1	60.0	32	Yes	⚠ HTA2D12-32FM	
12xD	D	356.9	405.1	408.7	465.1	60.0	32	No	⚠ HTA2D12-32CM	
15xD	A	446.2	494.4	497.9	554.4	60.0	32	Yes	⚠ HTA2A15-32FM	
15xD	A	446.2	494.4	497.9	554.4	60.0	32	No	⚠ HTA2A15-32CM	
15xD	B	446.2	494.4	497.9	554.4	60.0	32	Yes	⚠ HTA2B15-32FM	
15xD	B	446.2	494.4	497.9	554.4	60.0	32	No	⚠ HTA2B15-32CM	
15xD	C	446.2	494.4	497.9	554.4	60.0	32	Yes	⚠ HTA2C15-32FM	
15xD	C	446.2	494.4	497.9	554.4	60.0	32	No	⚠ HTA2C15-32CM	
15xD	D	446.2	494.4	497.9	554.4	60.0	32	Yes	⚠ HTA2D15-32FM	
15xD	D	446.2	494.4	497.9	554.4	60.0	32	No	⚠ HTA2D15-32CM	

Ⓜ

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Connection Accessories

Sub Series	2 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
2A	24.38 mm - 35.04 mm	0.9597" - 1.3797"
2B	25.40 mm - 35.04 mm	0.9999" - 1.3797"
2C	28.50 mm - 35.04 mm	1.1219" - 1.3797"
2D	31.70 mm - 35.04 mm	1.2479" - 1.3797"

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

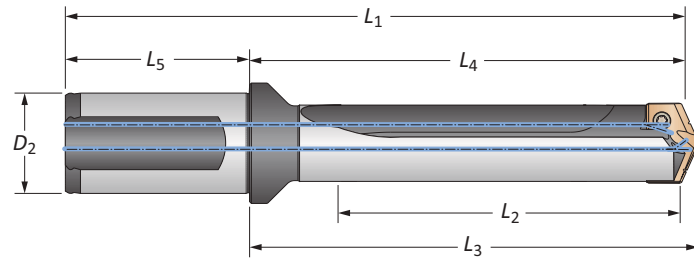
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 58** for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

A25: 32 - 35 A25: 48 - 55

Ⓜ = Metric (mm)
Ⓜ = Imperial (in)
Screws sold in multiples of 10.

T-A Pro Drill Holders

2 Series Imperial | Diameter Range: 0.9597" - 1.3797"



Body						Shank			Flat	Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
Stub	A	1.171	2.954	3.094	5.234	2.280	1-1/4	Yes	HTA2A01-125F	
Stub	A	1.171	2.954	3.094	5.234	2.280	1-1/4	No	HTA2A01-125C	
Stub	B	1.171	2.954	3.094	5.234	2.280	1-1/4	Yes	HTA2B01-125F	
Stub	B	1.171	2.954	3.094	5.234	2.280	1-1/4	No	HTA2B01-125C	
Stub	C	1.171	2.954	3.094	5.234	2.280	1-1/4	Yes	HTA2C01-125F	
Stub	C	1.171	2.954	3.094	5.234	2.280	1-1/4	No	HTA2C01-125C	
Stub	D	1.171	2.954	3.094	5.234	2.280	1-1/4	Yes	HTA2D01-125F	
Stub	D	1.171	2.954	3.094	5.234	2.280	1-1/4	No	HTA2D01-125C	
3xD	A	3.513	5.411	5.551	7.691	2.280	1-1/4	Yes	HTA2A03-125F	
3xD	A	3.513	5.411	5.551	7.691	2.280	1-1/4	No	HTA2A03-125C	
3xD	B	3.513	5.411	5.551	7.691	2.280	1-1/4	Yes	HTA2B03-125F	
3xD	B	3.513	5.411	5.551	7.691	2.280	1-1/4	No	HTA2B03-125C	
3xD	C	3.513	5.411	5.551	7.691	2.280	1-1/4	Yes	HTA2C03-125F	
3xD	C	3.513	5.411	5.551	7.691	2.280	1-1/4	No	HTA2C03-125C	
3xD	D	3.513	5.411	5.551	7.691	2.280	1-1/4	Yes	HTA2D03-125F	
3xD	D	3.513	5.411	5.551	7.691	2.280	1-1/4	No	HTA2D03-125C	
5xD	A	5.855	7.753	7.893	10.033	2.280	1-1/4	Yes	HTA2A05-125F	
5xD	A	5.855	7.753	7.893	10.033	2.280	1-1/4	No	HTA2A05-125C	
5xD	B	5.855	7.753	7.893	10.033	2.280	1-1/4	Yes	HTA2B05-125F	
5xD	B	5.855	7.753	7.893	10.033	2.280	1-1/4	No	HTA2B05-125C	
5xD	C	5.855	7.753	7.893	10.033	2.280	1-1/4	Yes	HTA2C05-125F	
5xD	C	5.855	7.753	7.893	10.033	2.280	1-1/4	No	HTA2C05-125C	
5xD	D	5.855	7.753	7.893	10.033	2.280	1-1/4	Yes	HTA2D05-125F	
5xD	D	5.855	7.753	7.893	10.033	2.280	1-1/4	No	HTA2D05-125C	
7xD	A	8.197	10.095	10.235	12.375	2.280	1-1/4	Yes	HTA2A07-125F	
7xD	A	8.197	10.095	10.235	12.375	2.280	1-1/4	No	HTA2A07-125C	
7xD	B	8.197	10.095	10.235	12.375	2.280	1-1/4	Yes	HTA2B07-125F	
7xD	B	8.197	10.095	10.235	12.375	2.280	1-1/4	No	HTA2B07-125C	
7xD	C	8.197	10.095	10.235	12.375	2.280	1-1/4	Yes	HTA2C07-125F	
7xD	C	8.197	10.095	10.235	12.375	2.280	1-1/4	No	HTA2C07-125C	
7xD	D	8.197	10.095	10.235	12.375	2.280	1-1/4	Yes	HTA2D07-125F	
7xD	D	8.197	10.095	10.235	12.375	2.280	1-1/4	No	HTA2D07-125C	

①

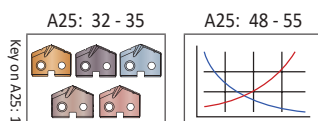
Sub Series	2 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
2A	24.38 mm - 35.04 mm	0.9597" - 1.3797"
2B	25.40 mm - 35.04 mm	0.9999" - 1.3797"
2C	28.50 mm - 35.04 mm	1.1219" - 1.3797"
2D	31.70 mm - 35.04 mm	1.2479" - 1.3797"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

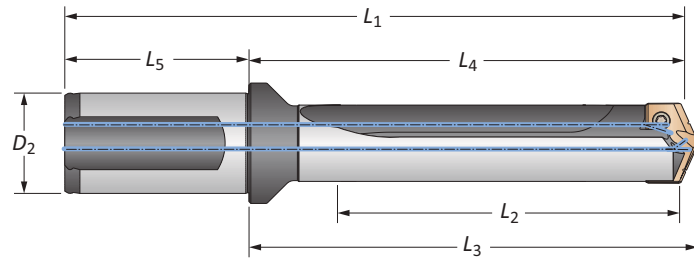


Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.

T-A Pro Drill Holders

2 Series Imperial | Diameter Range: 0.9597" - 1.3797"



Body						Shank				Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat		
10xD	A	11.710	13.608	13.748	15.888	2.280	1-1/4	Yes	HTA2A10-125F	
10xD	A	11.710	13.608	13.748	15.888	2.280	1-1/4	No	HTA2A10-125C	
10xD	B	11.710	13.608	13.748	15.888	2.280	1-1/4	Yes	HTA2B10-125F	
10xD	B	11.710	13.608	13.748	15.888	2.280	1-1/4	No	HTA2B10-125C	
10xD	C	11.710	13.608	13.748	15.888	2.280	1-1/4	Yes	HTA2C10-125F	
10xD	C	11.710	13.608	13.748	15.888	2.280	1-1/4	No	HTA2C10-125C	
10xD	D	11.710	13.608	13.748	15.888	2.280	1-1/4	Yes	HTA2D10-125F	
10xD	D	11.710	13.608	13.748	15.888	2.280	1-1/4	No	HTA2D10-125C	
12xD	A	14.052	15.950	16.090	18.230	2.280	1-1/4	Yes	HTA2A12-125F	
12xD	A	14.052	15.950	16.090	18.230	2.280	1-1/4	No	HTA2A12-125C	
12xD	B	14.052	15.950	16.090	18.230	2.280	1-1/4	Yes	HTA2B12-125F	
12xD	B	14.052	15.950	16.090	18.230	2.280	1-1/4	No	HTA2B12-125C	
12xD	C	14.052	15.950	16.090	18.230	2.280	1-1/4	Yes	HTA2C12-125F	
12xD	C	14.052	15.950	16.090	18.230	2.280	1-1/4	No	HTA2C12-125C	
12xD	D	14.052	15.950	16.090	18.230	2.280	1-1/4	Yes	HTA2D12-125F	
12xD	D	14.052	15.950	16.090	18.230	2.280	1-1/4	No	HTA2D12-125C	
15xD	A	17.565	19.463	19.603	21.743	2.280	1-1/4	Yes	HTA2A15-125F	
15xD	A	17.565	19.463	19.603	21.743	2.280	1-1/4	No	HTA2A15-125C	
15xD	B	17.565	19.463	19.603	21.743	2.280	1-1/4	Yes	HTA2B15-125F	
15xD	B	17.565	19.463	19.603	21.743	2.280	1-1/4	No	HTA2B15-125C	
15xD	C	17.565	19.463	19.603	21.743	2.280	1-1/4	Yes	HTA2C15-125F	
15xD	C	17.565	19.463	19.603	21.743	2.280	1-1/4	No	HTA2C15-125C	
15xD	D	17.565	19.463	19.603	21.743	2.280	1-1/4	Yes	HTA2D15-125F	
15xD	D	17.565	19.463	19.603	21.743	2.280	1-1/4	No	HTA2D15-125C	

1

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Sub Series	2 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
2A	24.38 mm - 35.04 mm	0.9597" - 1.3797"
2B	25.40 mm - 35.04 mm	0.9999" - 1.3797"
2C	28.50 mm - 35.04 mm	1.1219" - 1.3797"
2D	31.70 mm - 35.04 mm	1.2479" - 1.3797"

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

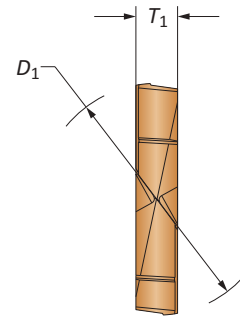
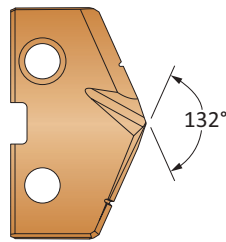
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



A25: 32 - 35 A25: 48 - 55

Ⓜ = Metric (mm)
Ⓜ = Imperial (in)
Screws sold in multiples of 10.

T-A Pro Drill Inserts

3 Series | Diameter Range: 35.05 mm - 47.80 mm (1.3798" - 1.8820")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
3-A	35.10	1.3819		1/4	TAP3-35.10	TAK3-35.10	TAN3-35.10	TAM3-35.10	TAX3-35.10
3-A	35.20	1.3858		1/4	TAP3-35.20	TAK3-35.20	TAN3-35.20	TAM3-35.20	TAX3-35.20
3-A	35.30	1.3898		1/4	TAP3-35.30	TAK3-35.30	TAN3-35.30	TAM3-35.30	TAX3-35.30
3-A	35.40	1.3937		1/4	TAP3-35.40	TAK3-35.40	TAN3-35.40	TAM3-35.40	TAX3-35.40
3-A	35.50	1.3976		1/4	TAP3-35.50	TAK3-35.50	TAN3-35.50	TAM3-35.50	TAX3-35.50
3-A	35.60	1.4016		1/4	TAP3-35.60	TAK3-35.60	TAN3-35.60	TAM3-35.60	TAX3-35.60
3-A	35.70	1.4055		1/4	TAP3-35.70	TAK3-35.70	TAN3-35.70	TAM3-35.70	TAX3-35.70
3-A	35.72	1.4063	1-13/32	1/4	TAP3-35.72	TAK3-35.72	TAN3-35.72	TAM3-35.72	TAX3-35.72
3-A	35.80	1.4094		1/4	TAP3-35.80	TAK3-35.80	TAN3-35.80	TAM3-35.80	TAX3-35.80
3-A	35.90	1.4134		1/4	TAP3-35.90	TAK3-35.90	TAN3-35.90	TAM3-35.90	TAX3-35.90
3-A	36.00	1.4173		1/4	TAP3-36.00	TAK3-36.00	TAN3-36.00	TAM3-36.00	TAX3-36.00
3-A	36.10	1.4213		1/4	TAP3-36.10	TAK3-36.10	TAN3-36.10	TAM3-36.10	TAX3-36.10
3-A	36.20	1.4252		1/4	TAP3-36.20	TAK3-36.20	TAN3-36.20	TAM3-36.20	TAX3-36.20
3-A	36.30	1.4291		1/4	TAP3-36.30	TAK3-36.30	TAN3-36.30	TAM3-36.30	TAX3-36.30
3-A	36.40	1.4331		1/4	TAP3-36.40	TAK3-36.40	TAN3-36.40	TAM3-36.40	TAX3-36.40
3-A	36.50	1.4370		1/4	TAP3-36.50	TAK3-36.50	TAN3-36.50	TAM3-36.50	TAX3-36.50
3-A	36.51	1.4374	1-7/16	1/4	TAP3-36.51	TAK3-36.51	TAN3-36.51	TAM3-36.51	TAX3-36.51
3-A	36.60	1.4409		1/4	TAP3-36.60	TAK3-36.60	TAN3-36.60	TAM3-36.60	TAX3-36.60
3-A	36.70	1.4449		1/4	TAP3-36.70	TAK3-36.70	TAN3-36.70	TAM3-36.70	TAX3-36.70
3-A	36.80	1.4488		1/4	TAP3-36.80	TAK3-36.80	TAN3-36.80	TAM3-36.80	TAX3-36.80
3-A	36.90	1.4528		1/4	TAP3-36.90	TAK3-36.90	TAN3-36.90	TAM3-36.90	TAX3-36.90
3-A	37.00	1.4567		1/4	TAP3-37.00	TAK3-37.00	TAN3-37.00	TAM3-37.00	TAX3-37.00
3-A	37.10	1.4606		1/4	TAP3-37.10	TAK3-37.10	TAN3-37.10	TAM3-37.10	TAX3-37.10
3-A	37.20	1.4646		1/4	TAP3-37.20	TAK3-37.20	TAN3-37.20	TAM3-37.20	TAX3-37.20
3-A	37.30	1.4685		1/4	TAP3-37.30	TAK3-37.30	TAN3-37.30	TAM3-37.30	TAX3-37.30
3-A	37.31	1.4689	1-15/32	1/4	TAP3-37.31	TAK3-37.31	TAN3-37.31	TAM3-37.31	TAX3-37.31
3-A	37.40	1.4724		1/4	TAP3-37.40	TAK3-37.40	TAN3-37.40	TAM3-37.40	TAX3-37.40
3-A	37.50	1.4764		1/4	TAP3-37.50	TAK3-37.50	TAN3-37.50	TAM3-37.50	TAX3-37.50
3-A	37.60	1.4803		1/4	TAP3-37.60	TAK3-37.60	TAN3-37.60	TAM3-37.60	TAX3-37.60
3-A	37.70	1.4843		1/4	TAP3-37.70	TAK3-37.70	TAN3-37.70	TAM3-37.70	TAX3-37.70

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



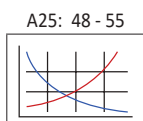
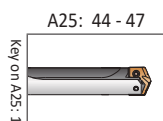
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



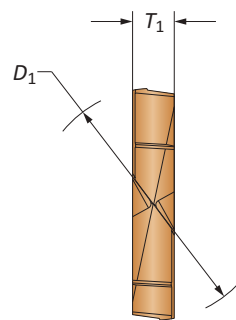
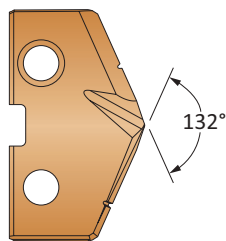
A Series Insert +
C Series Holder



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Inserts

3 Series | Diameter Range: 35.05 mm - 47.80 mm (1.3798" - 1.8820")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
3-B	37.80	1.4882		1/4	TAP3-37.80	TAK3-37.80	TAN3-37.80	TAM3-37.80	TAX3-37.80
3-B	37.90	1.4921		1/4	TAP3-37.90	TAK3-37.90	TAN3-37.90	TAM3-37.90	TAX3-37.90
3-B	38.00	1.4961		1/4	TAP3-38.00	TAK3-38.00	TAN3-38.00	TAM3-38.00	TAX3-38.00
3-B	38.10	1.5000	1-1/2	1/4	TAP3-38.10	TAK3-38.10	TAN3-38.10	TAM3-38.10	TAX3-38.10
3-B	38.20	1.5039		1/4	TAP3-38.20	TAK3-38.20	TAN3-38.20	TAM3-38.20	TAX3-38.20
3-B	38.30	1.5079		1/4	TAP3-38.30	TAK3-38.30	TAN3-38.30	TAM3-38.30	TAX3-38.30
3-B	38.40	1.5118		1/4	TAP3-38.40	TAK3-38.40	TAN3-38.40	TAM3-38.40	TAX3-38.40
3-B	38.50	1.5157		1/4	TAP3-38.50	TAK3-38.50	TAN3-38.50	TAM3-38.50	TAX3-38.50
3-B	38.60	1.5197		1/4	TAP3-38.60	TAK3-38.60	TAN3-38.60	TAM3-38.60	TAX3-38.60
3-B	38.70	1.5236		1/4	TAP3-38.70	TAK3-38.70	TAN3-38.70	TAM3-38.70	TAX3-38.70
3-B	38.80	1.5276		1/4	TAP3-38.80	TAK3-38.80	TAN3-38.80	TAM3-38.80	TAX3-38.80
3-B	38.89	1.5311	1-17/32	1/4	TAP3-38.89	TAK3-38.89	TAN3-38.89	TAM3-38.89	TAX3-38.89
3-B	38.90	1.5315		1/4	TAP3-38.90	TAK3-38.90	TAN3-38.90	TAM3-38.90	TAX3-38.90
3-B	39.00	1.5354		1/4	TAP3-39.00	TAK3-39.00	TAN3-39.00	TAM3-39.00	TAX3-39.00
3-B	39.10	1.5394		1/4	TAP3-39.10	TAK3-39.10	TAN3-39.10	TAM3-39.10	TAX3-39.10
3-B	39.20	1.5433		1/4	TAP3-39.20	TAK3-39.20	TAN3-39.20	TAM3-39.20	TAX3-39.20
3-B	39.29	1.5469		1/4	TAP3-39.29	TAK3-39.29	TAN3-39.29	TAM3-39.29	TAX3-39.29
3-B	39.30	1.5472		1/4	TAP3-39.30	TAK3-39.30	TAN3-39.30	TAM3-39.30	TAX3-39.30
3-B	39.40	1.5512		1/4	TAP3-39.40	TAK3-39.40	TAN3-39.40	TAM3-39.40	TAX3-39.40
3-B	39.50	1.5551		1/4	TAP3-39.50	TAK3-39.50	TAN3-39.50	TAM3-39.50	TAX3-39.50
3-B	39.60	1.5591		1/4	TAP3-39.60	TAK3-39.60	TAN3-39.60	TAM3-39.60	TAX3-39.60
3-B	39.69	1.5626	1-9/16	1/4	TAP3-39.69	TAK3-39.69	TAN3-39.69	TAM3-39.69	TAX3-39.69
3-B	39.70	1.5630		1/4	TAP3-39.70	TAK3-39.70	TAN3-39.70	TAM3-39.70	TAX3-39.70
3-B	39.80	1.5669		1/4	TAP3-39.80	TAK3-39.80	TAN3-39.80	TAM3-39.80	TAX3-39.80
3-B	39.90	1.5709		1/4	TAP3-39.90	TAK3-39.90	TAN3-39.90	TAM3-39.90	TAX3-39.90
3-B	40.00	1.5748		1/4	TAP3-40.00	TAK3-40.00	TAN3-40.00	TAM3-40.00	TAX3-40.00
3-B	40.10	1.5787		1/4	TAP3-40.10	TAK3-40.10	TAN3-40.10	TAM3-40.10	TAX3-40.10
3-B	40.20	1.5827		1/4	TAP3-40.20	TAK3-40.20	TAN3-40.20	TAM3-40.20	TAX3-40.20
3-B	40.30	1.5866		1/4	TAP3-40.30	TAK3-40.30	TAN3-40.30	TAM3-40.30	TAX3-40.30
3-B	40.40	1.5906		1/4	TAP3-40.40	TAK3-40.40	TAN3-40.40	TAM3-40.40	TAX3-40.40
3-B	40.48	1.5937	1-19/32	1/4	TAP3-40.48	TAK3-40.48	TAN3-40.48	TAM3-40.48	TAX3-40.48
3-B	40.50	1.5945		1/4	TAP3-40.50	TAK3-40.50	TAN3-40.50	TAM3-40.50	TAX3-40.50
3-B	40.60	1.5984		1/4	TAP3-40.60	TAK3-40.60	TAN3-40.60	TAM3-40.60	TAX3-40.60
3-B	40.70	1.6024		1/4	TAP3-40.70	TAK3-40.70	TAN3-40.70	TAM3-40.70	TAX3-40.70
3-B	40.80	1.6063		1/4	TAP3-40.80	TAK3-40.80	TAN3-40.80	TAM3-40.80	TAX3-40.80
3-B	40.90	1.6102		1/4	TAP3-40.90	TAK3-40.90	TAN3-40.90	TAM3-40.90	TAX3-40.90

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



C Series Insert +
A Series Holder



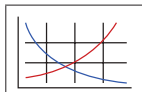
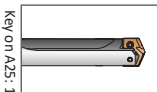
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 44 - 47

A25: 48 - 55



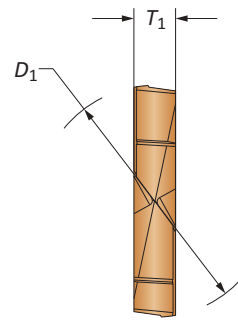
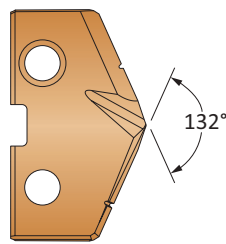
Sizes not shown are available upon request.






When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Inserts

3 Series | Diameter Range: 35.05 mm - 47.80 mm (1.3798" - 1.8820")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
					P	K	N	M	X
3-C	41.00	1.6142		1/4	TAP3-41.00	TAK3-41.00	TAN3-41.00	TAM3-41.00	TAX3-41.00
3-C	41.10	1.6181		1/4	TAP3-41.10	TAK3-41.10	TAN3-41.10	TAM3-41.10	TAX3-41.10
3-C	41.20	1.6220		1/4	TAP3-41.20	TAK3-41.20	TAN3-41.20	TAM3-41.20	TAX3-41.20
3-C	41.28	1.6252	1-5/8	1/4	TAP3-41.28	TAK3-41.28	TAN3-41.28	TAM3-41.28	TAX3-41.28
3-C	41.30	1.6260		1/4	TAP3-41.30	TAK3-41.30	TAN3-41.30	TAM3-41.30	TAX3-41.30
3-C	41.40	1.6299		1/4	TAP3-41.40	TAK3-41.40	TAN3-41.40	TAM3-41.40	TAX3-41.40
3-C	41.50	1.6339		1/4	TAP3-41.50	TAK3-41.50	TAN3-41.50	TAM3-41.50	TAX3-41.50
3-C	41.60	1.6378		1/4	TAP3-41.60	TAK3-41.60	TAN3-41.60	TAM3-41.60	TAX3-41.60
3-C	41.70	1.6417		1/4	TAP3-41.70	TAK3-41.70	TAN3-41.70	TAM3-41.70	TAX3-41.70
3-C	41.80	1.6457		1/4	TAP3-41.80	TAK3-41.80	TAN3-41.80	TAM3-41.80	TAX3-41.80
3-C	41.90	1.6496		1/4	TAP3-41.90	TAK3-41.90	TAN3-41.90	TAM3-41.90	TAX3-41.90
3-C	42.00	1.6535		1/4	TAP3-42.00	TAK3-42.00	TAN3-42.00	TAM3-42.00	TAX3-42.00
3-C	42.07	1.6563	1-21/32	1/4	TAP3-42.07	TAK3-42.07	TAN3-42.07	TAM3-42.07	TAX3-42.07
3-C	42.10	1.6575		1/4	TAP3-42.10	TAK3-42.10	TAN3-42.10	TAM3-42.10	TAX3-42.10
3-C	42.20	1.6614		1/4	TAP3-42.20	TAK3-42.20	TAN3-42.20	TAM3-42.20	TAX3-42.20
3-C	42.30	1.6654		1/4	TAP3-42.30	TAK3-42.30	TAN3-42.30	TAM3-42.30	TAX3-42.30
3-C	42.40	1.6693		1/4	TAP3-42.40	TAK3-42.40	TAN3-42.40	TAM3-42.40	TAX3-42.40
3-C	42.50	1.6732		1/4	TAP3-42.50	TAK3-42.50	TAN3-42.50	TAM3-42.50	TAX3-42.50
3-C	42.60	1.6772		1/4	TAP3-42.60	TAK3-42.60	TAN3-42.60	TAM3-42.60	TAX3-42.60
3-C	42.70	1.6811		1/4	TAP3-42.70	TAK3-42.70	TAN3-42.70	TAM3-42.70	TAX3-42.70
3-C	42.80	1.6850		1/4	TAP3-42.80	TAK3-42.80	TAN3-42.80	TAM3-42.80	TAX3-42.80
3-C	42.86	1.6874	1-11/16	1/4	TAP3-42.86	TAK3-42.86	TAN3-42.86	TAM3-42.86	TAX3-42.86
3-C	42.90	1.6890		1/4	TAP3-42.90	TAK3-42.90	TAN3-42.90	TAM3-42.90	TAX3-42.90
3-C	43.00	1.6929		1/4	TAP3-43.00	TAK3-43.00	TAN3-43.00	TAM3-43.00	TAX3-43.00
3-C	43.10	1.6969		1/4	TAP3-43.10	TAK3-43.10	TAN3-43.10	TAM3-43.10	TAX3-43.10
3-C	43.20	1.7008		1/4	TAP3-43.20	TAK3-43.20	TAN3-43.20	TAM3-43.20	TAX3-43.20
3-C	43.30	1.7047		1/4	TAP3-43.30	TAK3-43.30	TAN3-43.30	TAM3-43.30	TAX3-43.30
3-C	43.40	1.7087		1/4	TAP3-43.40	TAK3-43.40	TAN3-43.40	TAM3-43.40	TAX3-43.40
3-C	43.50	1.7126		1/4	TAP3-43.50	TAK3-43.50	TAN3-43.50	TAM3-43.50	TAX3-43.50
3-C	43.60	1.7165		1/4	TAP3-43.60	TAK3-43.60	TAN3-43.60	TAM3-43.60	TAX3-43.60
3-C	43.66	1.7189	1-23/32	1/4	TAP3-43.66	TAK3-43.66	TAN3-43.66	TAM3-43.66	TAX3-43.66
3-C	43.70	1.7205		1/4	TAP3-43.70	TAK3-43.70	TAN3-43.70	TAM3-43.70	TAX3-43.70
3-C	43.80	1.7244		1/4	TAP3-43.80	TAK3-43.80	TAN3-43.80	TAM3-43.80	TAX3-43.80
3-C	43.90	1.7283		1/4	TAP3-43.90	TAK3-43.90	TAN3-43.90	TAM3-43.90	TAX3-43.90
3-C	44.00	1.7323		1/4	TAP3-44.00	TAK3-44.00	TAN3-44.00	TAM3-44.00	TAX3-44.00
3-C	44.10	1.7362		1/4	TAP3-44.10	TAK3-44.10	TAN3-44.10	TAM3-44.10	TAX3-44.10
3-C	44.20	1.7402		1/4	TAP3-44.20	TAK3-44.20	TAN3-44.20	TAM3-44.20	TAX3-44.20
3-C	44.30	1.7441		1/4	TAP3-44.30	TAK3-44.30	TAN3-44.30	TAM3-44.30	TAX3-44.30

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



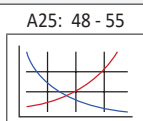
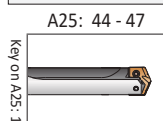
C Series Insert + A Series Holder



C Series Insert + C Series Holder



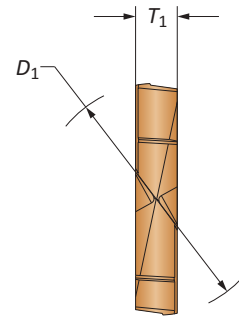
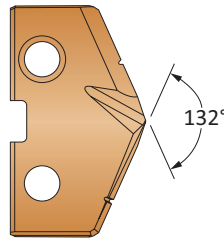
A Series Insert + C Series Holder



Sizes not shown are available upon request.	
When ordering, please follow the example below:	
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

T-A Pro Drill Inserts

3 Series | Diameter Range: 35.05 mm - 47.80 mm (1.3798" - 1.8820")



Insert					Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁					
					Part No.	Part No.	Part No.	Part No.	Part No.
3-D	44.40	1.7480	1-3/4	1/4	TAP3-44.40	TAK3-44.40	TAN3-44.40	TAM3-44.40	TAX3-44.40
3-D	44.45	1.7500		1/4	TAP3-44.45	TAK3-44.45	TAN3-44.45	TAM3-44.45	TAX3-44.45
3-D	44.50	1.7520		1/4	TAP3-44.50	TAK3-44.50	TAN3-44.50	TAM3-44.50	TAX3-44.50
3-D	44.60	1.7559		1/4	TAP3-44.60	TAK3-44.60	TAN3-44.60	TAM3-44.60	TAX3-44.60
3-D	44.70	1.7598	1-25/32	1/4	TAP3-44.70	TAK3-44.70	TAN3-44.70	TAM3-44.70	TAX3-44.70
3-D	44.80	1.7638		1/4	TAP3-44.80	TAK3-44.80	TAN3-44.80	TAM3-44.80	TAX3-44.80
3-D	44.90	1.7677		1/4	TAP3-44.90	TAK3-44.90	TAN3-44.90	TAM3-44.90	TAX3-44.90
3-D	45.00	1.7717		1/4	TAP3-45.00	TAK3-45.00	TAN3-45.00	TAM3-45.00	TAX3-45.00
3-D	45.10	1.7756		1/4	TAP3-45.10	TAK3-45.10	TAN3-45.10	TAM3-45.10	TAX3-45.10
3-D	45.20	1.7795		1/4	TAP3-45.20	TAK3-45.20	TAN3-45.20	TAM3-45.20	TAX3-45.20
3-D	45.24	1.7811		1/4	TAP3-45.24	TAK3-45.24	TAN3-45.24	TAM3-45.24	TAX3-45.24
3-D	45.30	1.7835		1/4	TAP3-45.30	TAK3-45.30	TAN3-45.30	TAM3-45.30	TAX3-45.30
3-D	45.40	1.7874		1/4	TAP3-45.40	TAK3-45.40	TAN3-45.40	TAM3-45.40	TAX3-45.40
3-D	45.50	1.7913		1/4	TAP3-45.50	TAK3-45.50	TAN3-45.50	TAM3-45.50	TAX3-45.50
3-D	45.60	1.7953		1/4	TAP3-45.60	TAK3-45.60	TAN3-45.60	TAM3-45.60	TAX3-45.60
3-D	45.64	1.7969		1/4	TAP3-45.64	TAK3-45.64	TAN3-45.64	TAM3-45.64	TAX3-45.64
3-D	45.70	1.7992	1/4	TAP3-45.70	TAK3-45.70	TAN3-45.70	TAM3-45.70	TAX3-45.70	
3-D	45.80	1.8031	1-13/16	1/4	TAP3-45.80	TAK3-45.80	TAN3-45.80	TAM3-45.80	TAX3-45.80
3-D	45.90	1.8071		1/4	TAP3-45.90	TAK3-45.90	TAN3-45.90	TAM3-45.90	TAX3-45.90
3-D	46.00	1.8110		1/4	TAP3-46.00	TAK3-46.00	TAN3-46.00	TAM3-46.00	TAX3-46.00
3-D	46.04	1.8126		1/4	TAP3-46.04	TAK3-46.04	TAN3-46.04	TAM3-46.04	TAX3-46.04
3-D	46.10	1.8150		1/4	TAP3-46.10	TAK3-46.10	TAN3-46.10	TAM3-46.10	TAX3-46.10
3-D	46.20	1.8189		1/4	TAP3-46.20	TAK3-46.20	TAN3-46.20	TAM3-46.20	TAX3-46.20
3-D	46.30	1.8228		1/4	TAP3-46.30	TAK3-46.30	TAN3-46.30	TAM3-46.30	TAX3-46.30
3-D	46.40	1.8268		1/4	TAP3-46.40	TAK3-46.40	TAN3-46.40	TAM3-46.40	TAX3-46.40
3-D	46.50	1.8307		1/4	TAP3-46.50	TAK3-46.50	TAN3-46.50	TAM3-46.50	TAX3-46.50
3-D	46.60	1.8346		1/4	TAP3-46.60	TAK3-46.60	TAN3-46.60	TAM3-46.60	TAX3-46.60
3-D	46.70	1.8386		1/4	TAP3-46.70	TAK3-46.70	TAN3-46.70	TAM3-46.70	TAX3-46.70
3-D	46.80	1.8425		1/4	TAP3-46.80	TAK3-46.80	TAN3-46.80	TAM3-46.80	TAX3-46.80
3-D	46.83	1.8437	1-27/32	1/4	TAP3-46.83	TAK3-46.83	TAN3-46.83	TAM3-46.83	TAX3-46.83
3-D	46.90	1.8465	1-7/8	1/4	TAP3-46.90	TAK3-46.90	TAN3-46.90	TAM3-46.90	TAX3-46.90
3-D	47.00	1.8504		1/4	TAP3-47.00	TAK3-47.00	TAN3-47.00	TAM3-47.00	TAX3-47.00
3-D	47.10	1.8543		1/4	TAP3-47.10	TAK3-47.10	TAN3-47.10	TAM3-47.10	TAX3-47.10
3-D	47.20	1.8583		1/4	TAP3-47.20	TAK3-47.20	TAN3-47.20	TAM3-47.20	TAX3-47.20
3-D	47.30	1.8622		1/4	TAP3-47.30	TAK3-47.30	TAN3-47.30	TAM3-47.30	TAX3-47.30
3-D	47.40	1.8661		1/4	TAP3-47.40	TAK3-47.40	TAN3-47.40	TAM3-47.40	TAX3-47.40
3-D	47.50	1.8701		1/4	TAP3-47.50	TAK3-47.50	TAN3-47.50	TAM3-47.50	TAX3-47.50
3-D	47.60	1.8740		1/4	TAP3-47.60	TAK3-47.60	TAN3-47.60	TAM3-47.60	TAX3-47.60
3-D	47.63	1.8752		1/4	TAP3-47.63	TAK3-47.63	TAN3-47.63	TAM3-47.63	TAX3-47.63

Inserts sold in multiples of 2.

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert + A Series Holder



C Series Insert + A Series Holder



C Series Insert + C Series Holder

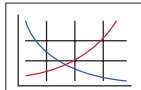


A Series Insert + C Series Holder

A25: 44 - 47

A25: 48 - 55

Key on A25: 1



Sizes not shown are available upon request.

When ordering, please follow the example below:

Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

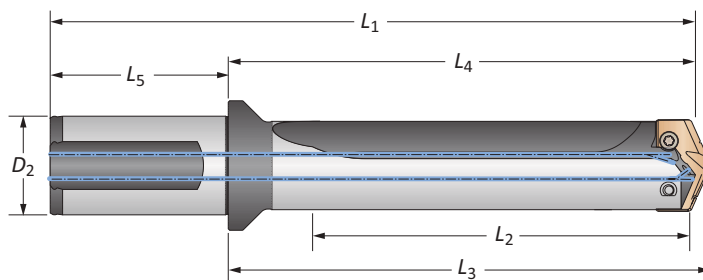
THREADING

X

SPECIALS

T-A Pro Drill Holders

3 Series Metric | Diameter Range: 35.05 mm - 47.80 mm



		Body				Shank				
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	Flat	Part No	
Stub	A	41.1	92.3	97.1	162.3	70.0	40	Yes	HTA3A01-40FM	
Stub	A	41.1	92.3	97.1	162.3	70.0	40	No	HTA3A01-40CM	
Stub	B	41.1	92.3	97.1	162.3	70.0	40	Yes	HTA3B01-40FM	
Stub	B	41.1	92.3	97.1	162.3	70.0	40	No	HTA3B01-40CM	
Stub	C	41.1	92.3	97.1	162.3	70.0	40	Yes	HTA3C01-40FM	
Stub	C	41.1	92.3	97.1	162.3	70.0	40	No	HTA3C01-40CM	
Stub	D	41.1	92.3	97.1	162.3	70.0	40	Yes	HTA3D01-40FM	
Stub	D	41.1	92.3	97.1	162.3	70.0	40	No	HTA3D01-40CM	
3xD	A	123.3	180.1	184.8	250.1	70.0	40	Yes	HTA3A03-40FM	
3xD	A	123.3	180.1	184.8	250.1	70.0	40	No	HTA3A03-40CM	
3xD	B	123.3	180.1	184.8	250.1	70.0	40	Yes	HTA3B03-40FM	
3xD	B	123.3	180.1	184.8	250.1	70.0	40	No	HTA3B03-40CM	
3xD	C	123.3	180.1	184.8	250.1	70.0	40	Yes	HTA3C03-40FM	
3xD	C	123.3	180.1	184.8	250.1	70.0	40	No	HTA3C03-40CM	
3xD	D	123.3	180.1	184.8	250.1	70.0	40	Yes	HTA3D03-40FM	
3xD	D	123.3	180.1	184.8	250.1	70.0	40	No	HTA3D03-40CM	
5xD	A	205.5	262.3	267.0	332.3	70.0	40	Yes	HTA3A05-40FM	
5xD	A	205.5	262.3	267.0	332.3	70.0	40	No	HTA3A05-40CM	
5xD	B	205.5	262.3	267.0	332.3	70.0	40	Yes	HTA3B05-40FM	
5xD	B	205.5	262.3	267.0	332.3	70.0	40	No	HTA3B05-40CM	
5xD	C	205.5	262.3	267.0	332.3	70.0	40	Yes	HTA3C05-40FM	
5xD	C	205.5	262.3	267.0	332.3	70.0	40	No	HTA3C05-40CM	
5xD	D	205.5	262.3	267.0	332.3	70.0	40	Yes	HTA3D05-40FM	
5xD	D	205.5	262.3	267.0	332.3	70.0	40	No	HTA3D05-40CM	
7xD	A	287.7	344.4	349.2	414.5	70.0	40	Yes	HTA3A07-40FM	
7xD	A	287.7	344.4	349.2	414.5	70.0	40	No	HTA3A07-40CM	
7xD	B	287.7	344.4	349.2	414.5	70.0	40	Yes	HTA3B07-40FM	
7xD	B	287.7	344.4	349.2	414.5	70.0	40	No	HTA3B07-40CM	
7xD	C	287.7	344.4	349.2	414.5	70.0	40	Yes	HTA3C07-40FM	
7xD	C	287.7	344.4	349.2	414.5	70.0	40	No	HTA3C07-40CM	
7xD	D	287.7	344.4	349.2	414.5	70.0	40	Yes	HTA3D07-40FM	
7xD	D	287.7	344.4	349.2	414.5	70.0	40	No	HTA3D07-40CM	

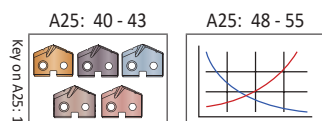
Sub Series	3 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
3A	35.05 mm - 47.80 mm	1.3798" - 1.8820"
3B	37.80 mm - 47.80 mm	1.4880" - 1.8820"
3C	41.00 mm - 47.80 mm	1.6140" - 1.8820"
3D	44.40 mm - 47.80 mm	1.7479" - 1.8820"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 58** for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

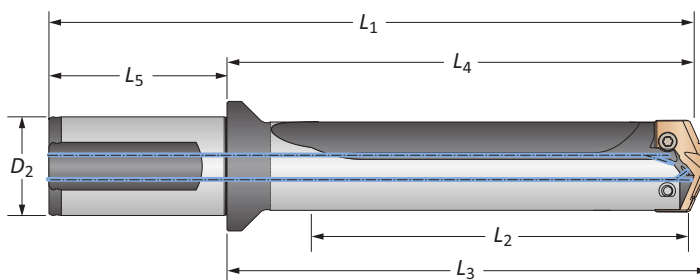


= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.

T-A Pro Drill Holders

3 Series Metric | Diameter Range: 35.05 mm - 47.80 mm



Length	Sub Series	Body				Shank			Flat	Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
10xD	A	411.0	467.7	472.5	537.7	70.0	40	Yes	HTA3A10-40FM	
10xD	A	411.0	467.7	472.5	537.7	70.0	40	No	HTA3A10-40CM	
10xD	B	411.0	467.7	472.5	537.7	70.0	40	Yes	HTA3B10-40FM	
10xD	B	411.0	467.7	472.5	537.7	70.0	40	No	HTA3B10-40CM	
10xD	C	411.0	467.7	472.5	537.7	70.0	40	Yes	HTA3C10-40FM	
10xD	C	411.0	467.7	472.5	537.7	70.0	40	No	HTA3C10-40CM	
10xD	D	411.0	467.7	472.5	537.7	70.0	40	Yes	HTA3D10-40FM	
10xD	D	411.0	467.7	472.5	537.7	70.0	40	No	HTA3D10-40CM	
12xD	A	493.2	549.9	554.7	619.9	70.0	40	Yes	HTA3A12-40FM	
12xD	A	493.2	549.9	554.7	619.9	70.0	40	No	HTA3A12-40CM	
12xD	B	493.2	549.9	554.7	619.9	70.0	40	Yes	HTA3B12-40FM	
12xD	B	493.2	549.9	554.7	619.9	70.0	40	No	HTA3B12-40CM	
12xD	C	493.2	549.9	554.7	619.9	70.0	40	Yes	HTA3C12-40FM	
12xD	C	493.2	549.9	554.7	619.9	70.0	40	No	HTA3C12-40CM	
12xD	D	493.2	549.9	554.7	619.9	70.0	40	Yes	HTA3D12-40FM	
12xD	D	493.2	549.9	554.7	619.9	70.0	40	No	HTA3D12-40CM	
15xD	A	616.5	673.2	678.0	743.2	70.0	40	Yes	HTA3A15-40FM	
15xD	A	616.5	673.2	678.0	743.2	70.0	40	No	HTA3A15-40CM	
15xD	B	616.5	673.2	678.0	743.2	70.0	40	Yes	HTA3B15-40FM	
15xD	B	616.5	673.2	678.0	743.2	70.0	40	No	HTA3B15-40CM	
15xD	C	616.5	673.2	678.0	743.2	70.0	40	Yes	HTA3C15-40FM	
15xD	C	616.5	673.2	678.0	743.2	70.0	40	No	HTA3C15-40CM	
15xD	D	616.5	673.2	678.0	743.2	70.0	40	Yes	HTA3D15-40FM	
15xD	D	616.5	673.2	678.0	743.2	70.0	40	No	HTA3D15-40CM	

Ⓜ

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

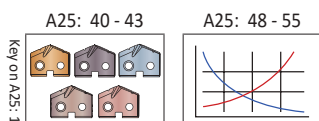
Connection Accessories

Sub Series	3 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
3A	35.05 mm - 47.80 mm	1.3798" - 1.8820"
3B	37.80 mm - 47.80 mm	1.4880" - 1.8820"
3C	41.00 mm - 47.80 mm	1.6140" - 1.8820"
3D	44.40 mm - 47.80 mm	1.7479" - 1.8820"

Insert Screws	Nylon Locking Screws	Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com

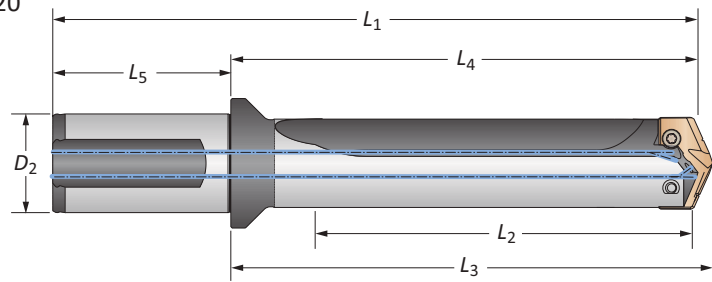


Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Screws sold in multiples of 10.

T-A Pro Drill Holders

3 Series Imperial | Diameter Range: 1.3798" - 1.8820"



Body						Shank			Flat	Part No
Length	Sub Series	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
Stub	A	1.618	3.634	3.821	6.322	2.688	1-1/2	Yes	HTA3A01-150F	
Stub	A	1.618	3.634	3.821	6.322	2.688	1-1/2	No	HTA3A01-150C	
Stub	B	1.618	3.634	3.821	6.322	2.688	1-1/2	Yes	HTA3B01-150F	
Stub	B	1.618	3.634	3.821	6.322	2.688	1-1/2	No	HTA3B01-150C	
Stub	C	1.618	3.634	3.821	6.322	2.688	1-1/2	Yes	HTA3C01-150F	
Stub	C	1.618	3.634	3.821	6.322	2.688	1-1/2	No	HTA3C01-150C	
Stub	D	1.618	3.634	3.821	6.322	2.688	1-1/2	Yes	HTA3D01-150F	
Stub	D	1.618	3.634	3.821	6.322	2.688	1-1/2	No	HTA3D01-150C	
3xD	A	4.854	7.089	7.276	9.777	2.688	1-1/2	Yes	HTA3A03-150F	
3xD	A	4.854	7.089	7.276	9.777	2.688	1-1/2	No	HTA3A03-150C	
3xD	B	4.854	7.089	7.276	9.777	2.688	1-1/2	Yes	HTA3B03-150F	
3xD	B	4.854	7.089	7.276	9.777	2.688	1-1/2	No	HTA3B03-150C	
3xD	C	4.854	7.089	7.276	9.777	2.688	1-1/2	Yes	HTA3C03-150F	
3xD	C	4.854	7.089	7.276	9.777	2.688	1-1/2	No	HTA3C03-150C	
3xD	D	4.854	7.089	7.276	9.777	2.688	1-1/2	Yes	HTA3D03-150F	
3xD	D	4.854	7.089	7.276	9.777	2.688	1-1/2	No	HTA3D03-150C	
5xD	A	8.090	10.325	10.512	13.013	2.688	1-1/2	Yes	HTA3A05-150F	
5xD	A	8.090	10.325	10.512	13.013	2.688	1-1/2	No	HTA3A05-150C	
5xD	B	8.090	10.325	10.512	13.013	2.688	1-1/2	Yes	HTA3B05-150F	
5xD	B	8.090	10.325	10.512	13.013	2.688	1-1/2	No	HTA3B05-150C	
5xD	C	8.090	10.325	10.512	13.013	2.688	1-1/2	Yes	HTA3C05-150F	
5xD	C	8.090	10.325	10.512	13.013	2.688	1-1/2	No	HTA3C05-150C	
5xD	D	8.090	10.325	10.512	13.013	2.688	1-1/2	Yes	HTA3D05-150F	
5xD	D	8.090	10.325	10.512	13.013	2.688	1-1/2	No	HTA3D05-150C	
7xD	A	11.326	13.561	13.748	16.249	2.688	1-1/2	Yes	HTA3A07-150F	
7xD	A	11.326	13.561	13.748	16.249	2.688	1-1/2	No	HTA3A07-150C	
7xD	B	11.326	13.561	13.748	16.249	2.688	1-1/2	Yes	HTA3B07-150F	
7xD	B	11.326	13.561	13.748	16.249	2.688	1-1/2	No	HTA3B07-150C	
7xD	C	11.326	13.561	13.748	16.249	2.688	1-1/2	Yes	HTA3C07-150F	
7xD	C	11.326	13.561	13.748	16.249	2.688	1-1/2	No	HTA3C07-150C	
7xD	D	11.326	13.561	13.748	16.249	2.688	1-1/2	Yes	HTA3D07-150F	
7xD	D	11.326	13.561	13.748	16.249	2.688	1-1/2	No	HTA3D07-150C	

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H

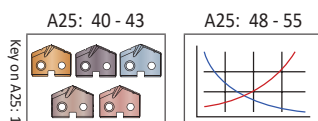
Sub Series	3 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
3A	35.05 mm - 47.80 mm	1.3798" - 1.8820"
3B	37.80 mm - 47.80 mm	1.4880" - 1.8820"
3C	41.00 mm - 47.80 mm	1.6140" - 1.8820"
3D	44.40 mm - 47.80 mm	1.7479" - 1.8820"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com



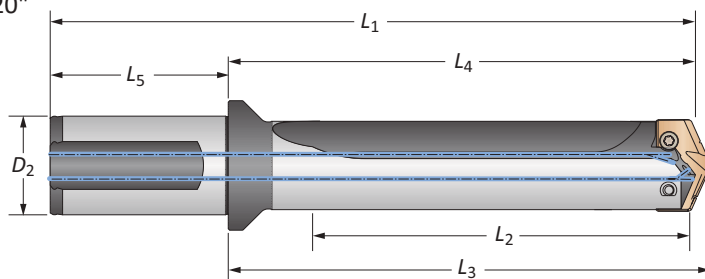
Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Screws sold in multiples of 10.



T-A Pro Drill Holders

3 Series Imperial | Diameter Range: 1.3798" - 1.8820"



Length	Sub Series	Body				Shank			Flat	Part No
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
10xD	A	16.180	18.415	18.602	21.103	2.688	1-1/2	Yes	HTA3A10-150F	
10xD	A	16.180	18.415	18.602	21.103	2.688	1-1/2	No	HTA3A10-150C	
10xD	B	16.180	18.415	18.602	21.103	2.688	1-1/2	Yes	HTA3B10-150F	
10xD	B	16.180	18.415	18.602	21.103	2.688	1-1/2	No	HTA3B10-150C	
10xD	C	16.180	18.415	18.602	21.103	2.688	1-1/2	Yes	HTA3C10-150F	
10xD	C	16.180	18.415	18.602	21.103	2.688	1-1/2	No	HTA3C10-150C	
10xD	D	16.180	18.415	18.602	21.103	2.688	1-1/2	Yes	HTA3D10-150F	
10xD	D	16.180	18.415	18.602	21.103	2.688	1-1/2	No	HTA3D10-150C	
12xD	A	19.416	21.651	21.838	24.339	2.688	1-1/2	Yes	HTA3A12-150F	
12xD	A	19.416	21.651	21.838	24.339	2.688	1-1/2	No	HTA3A12-150C	
12xD	B	19.416	21.651	21.838	24.339	2.688	1-1/2	Yes	HTA3B12-150F	
12xD	B	19.416	21.651	21.838	24.339	2.688	1-1/2	No	HTA3B12-150C	
12xD	C	19.416	21.651	21.838	24.339	2.688	1-1/2	Yes	HTA3C12-150F	
12xD	C	19.416	21.651	21.838	24.339	2.688	1-1/2	No	HTA3C12-150C	
12xD	D	19.416	21.651	21.838	24.339	2.688	1-1/2	Yes	HTA3D12-150F	
12xD	D	19.416	21.651	21.838	24.339	2.688	1-1/2	No	HTA3D12-150C	
15xD	A	24.270	26.505	26.692	29.193	2.688	1-1/2	Yes	HTA3A15-150F	
15xD	A	24.270	26.505	26.692	29.193	2.688	1-1/2	No	HTA3A15-150C	
15xD	B	24.270	26.505	26.692	29.193	2.688	1-1/2	Yes	HTA3B15-150F	
15xD	B	24.270	26.505	26.692	29.193	2.688	1-1/2	No	HTA3B15-150C	
15xD	C	24.270	26.505	26.692	29.193	2.688	1-1/2	Yes	HTA3C15-150F	
15xD	C	24.270	26.505	26.692	29.193	2.688	1-1/2	No	HTA3C15-150C	
15xD	D	24.270	26.505	26.692	29.193	2.688	1-1/2	Yes	HTA3D15-150F	
15xD	D	24.270	26.505	26.692	29.193	2.688	1-1/2	No	HTA3D15-150C	

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A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

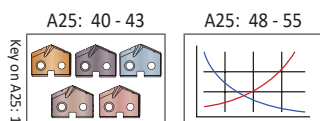
Sub Series	3 Series Holder Diameter Range	
	Metric (mm)	Imperial (inch)
3A	35.05 mm - 47.80 mm	1.3798" - 1.8820"
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3C	41.00 mm - 47.80 mm	1.6140" - 1.8820"
3D	44.40 mm - 47.80 mm	1.7479" - 1.8820"

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department.
email: ufficiotecnico@febametal.com



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

Screws sold in multiples of 10.

Carbide Recommended Drilling Data | Metric (mm)

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter					
				Y / Z Series (9.50 - 12.69)	0 Series (12.70 - 17.64)	1 Series (17.65 - 24.37)	2 Series (24.38 - 35.04)	3 Series (35.05 - 47.80)	
P Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	P	145	0.18	0.25	0.33	0.41	0.51	
	150 - 200	P	135	0.18	0.25	0.33	0.41	0.51	
	200 - 250	P	125	0.15	0.25	0.33	0.41	0.51	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	P	130	0.15❖	0.23	0.30	0.38	0.48
		125 - 175	P	125	0.15❖	0.23	0.30	0.38	0.48
		175 - 225	P	115	0.13❖	0.20	0.25	0.36	0.46
		225 - 275	P	110	0.13❖	0.20	0.25	0.36	0.46
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	P	125	0.15	0.23	0.30	0.38	0.48
		175 - 225	P	115	0.13	0.20	0.25	0.36	0.46
		225 - 275	P	110	0.13	0.20	0.25	0.36	0.46
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	P	130	0.15	0.23	0.30	0.36	0.43
		175 - 225	P	120	0.13	0.20	0.28	0.36	0.43
225 - 275		P	110	0.13	0.20	0.28	0.36	0.43	
275 - 325		P	105	0.10	0.18	0.25	0.30	0.38	
325 - 375		P	95	0.08	0.18	0.25	0.30	0.38	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	P	105	0.10	0.18	0.25	0.33	0.38	
	300 - 350	P	100	0.08	0.15	0.23	0.30	0.36	
	350 - 400	P	90	0.08	0.15	0.20	0.28	0.33	
Structural Steel A36, A285, A516, etc.	100 - 150	P	120	0.15❖	0.25	0.30	0.36	0.46	
	150 - 250	P	105	0.13❖	0.23	0.25	0.30	0.41	
	250 - 350	P	85	0.10❖	0.20	0.23	0.25	0.36	
Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	P	65	0.10	0.15	0.20	0.25	0.30	
	200 - 250	P	55	0.10	0.15	0.20	0.25	0.30	
S High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	M	35	0.05❖	0.13	0.18	0.20	0.23	
	220 - 310	M	25	0.05❖	0.08	0.13	0.15	0.18	
	Titanium Alloy	140 - 220	M	45	0.08❖	0.10	0.18	0.20	0.23
		220 - 310	M	35	0.08❖	0.08	0.13	0.15	0.18
	Aerospace Alloy S82	185 - 275	M	45	0.08❖	0.10	0.18	0.20	0.23
	275 - 350	M	35	0.08❖	0.08	0.13	0.15	0.18	

❖ Contact our Application Engineering department for assistance when machining these materials.

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 m/min • 0.80	= 80 m/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
100 m/min • 0.70	= 70 m/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
Y	31	15	34	55	45	30
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

⚠ WARNING Tool failure can cause serious injury. To prevent:
 - When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
 - Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.
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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation chart for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, 12xD and 15xD holder lengths, see adjustment example above.

Carbide Recommended Drilling Data | Metric (mm)

Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter					
				Y / Z Series (9.50 - 12.69)	0 Series (12.70 - 17.64)	1 Series (17.65 - 24.37)	2 Series (24.38 - 35.04)	3 Series (35.05 - 47.80)	
M Stainless Steel 400 Series 416, 420, etc.	185 - 275	M	85	0.13❖	0.23	0.25	0.30	0.33	
	275 - 350	M	70	0.10❖	0.20	0.23	0.28	0.30	
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	M	85	0.08❖	0.10	0.13	0.20	0.28
		185 - 275	M	75	0.05❖	0.08	0.10	0.18	0.23
	Stainless Steel 300L Series 304L, 316L, etc.	135 - 185	M	100	0.08❖	0.10	0.13	0.20	0.28
		185 - 275	M	85	0.05❖	0.08	0.10	0.18	0.23
	PH Stainless 17-4, 13-8, 15-5	275 - 350	M	85	0.08❖	0.10	0.13	0.20	0.28
		350 - 425	M	75	0.05❖	0.08	0.10	0.18	0.23
Super Duplex Stainless Steel	135 - 185	M	75	0.08❖	0.10	0.13	0.20	0.28	
	185 - 275	M	70	0.05❖	0.08	0.10	0.18	0.23	
H Wear Plate Hardox®, AR400, T-1, etc.	400	P	20	0.08	0.15	0.20	0.23	0.30	
	500	P	15	0.05	0.13	0.18	0.20	0.25	
	600	-	-	-	-	-	-	-	
	Hardened Steel	300 - 400	P	30	0.08	0.15	0.20	0.23	0.30
400 - 500		P	15	0.05	0.13	0.18	0.20	0.25	
K SG / Nodular Cast Iron	120 - 150	K	185	0.18	0.30	0.41	0.51	0.61	
	150 - 200	K	170	0.15	0.28	0.36	0.46	0.56	
	200 - 220	K	150	0.15	0.23	0.30	0.41	0.46	
	220 - 260	K	135	0.13	0.18	0.23	0.30	0.36	
	260 - 320	K	120	0.10	0.15	0.18	0.23	0.30	
N Cast Aluminium	30	N	335	0.20	0.33	0.41	0.51	0.56	
	180	N	185	0.20	0.33	0.41	0.46	0.56	
	Wrought Aluminium	30	N	335	0.23	0.33	0.43	0.51	0.61
		180	N	185	0.13	0.18	0.25	0.33	0.41
	Aluminium Bronze	100 - 200	N	150	0.15	0.28	0.36	0.46	0.56
		200 - 250	N	90	0.13	0.18	0.23	0.30	0.36
	Brass	100	N	200	0.18	0.30	0.41	0.51	0.61
Copper	60	N	130	0.05	0.08	0.15	0.20	0.25	

❖ Contact our Application Engineering department for assistance when machining these materials.

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 m/min • 0.80	= 80 m/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
100 m/min • 0.70	= 70 m/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
Y	31	15	34	55	45	30
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
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A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS

High-Speed Steel Recommended Drilling Data | Metric (mm)

Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter				
				Y / Z Series (9.50 - 12.69)	0 Series (12.70 - 17.64)	1 Series (17.65 - 24.37)	2 Series (24.38 - 35.04)	3 Series (35.05 - 47.80)
Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	X	105	0.15	0.25	0.33	0.41	0.51
	150 - 200	X	100	0.15	0.25	0.33	0.41	0.51
	200 - 250	X	90	0.13	0.25	0.33	0.41	0.51
Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	X	95	0.15❖	0.23	0.30	0.38	0.48
	125 - 175	X	90	0.13❖	0.23	0.30	0.38	0.48
	175 - 225	X	85	0.13❖	0.20	0.25	0.36	0.46
Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	X	80	0.13❖	0.20	0.25	0.36	0.46
	125 - 175	X	90	0.15	0.23	0.30	0.38	0.48
	175 - 225	X	85	0.13	0.20	0.25	0.36	0.46
Alloy Steel 4140, 5140, 8640, etc.	225 - 275	X	80	0.13	0.20	0.25	0.36	0.46
	275 - 325	X	70	0.10	0.18	0.23	0.30	0.41
	125 - 175	X	75	0.15	0.23	0.30	0.36	0.43
High-Strength Alloy 4340, 4330V, 300M, etc.	175 - 225	X	70	0.13	0.20	0.28	0.36	0.43
	225 - 275	X	65	0.13	0.20	0.28	0.36	0.43
	275 - 325	X	60	0.10	0.18	0.25	0.30	0.38
Structural Steel A36, A285, A516, etc.	325 - 375	X	60	0.08	0.18	0.25	0.30	0.38
	225 - 300	X	40	0.10	0.18	0.25	0.33	0.38
	300 - 350	X	35	0.08	0.15	0.23	0.30	0.36
Tool Steel H-13, H-21, A-4, S-3, etc.	350 - 400	X	25	0.08	0.15	0.20	0.28	0.33
	100 - 150	X	75	0.15❖	0.25	0.30	0.36	0.46
	150 - 250	X	65	0.13❖	0.23	0.25	0.30	0.41
High-Temp Alloy Hastelloy B, Inconel 600, etc.	250 - 350	X	55	0.10❖	0.20	0.23	0.25	0.36
	150 - 200	X	45	0.10	0.15	0.20	0.25	0.30
	200 - 250	X	35	0.10	0.15	0.20	0.25	0.30
Titanium Alloy	140 - 220	X	15	0.08❖	0.18	0.20	0.25	0.30
	220 - 310	X	10	0.08❖	0.15	0.18	0.20	0.25
	140 - 220	X	20	0.08	0.18	0.20	0.25	0.30
Aerospace Alloy S82	220 - 310	X	15	0.08	0.15	0.18	0.20	0.25
	185 - 275	X	40	0.13	0.20	0.23	0.25	0.36
	275 - 350	X	35	0.10	0.18	0.20	0.20	0.30

❖ Contact our Application Engineering department for assistance when machining these materials.

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 m/min • 0.80	= 80 m/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
100 m/min • 0.70	= 70 m/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
Y	31	15	34	55	45	30
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

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High-Speed Steel Recommended Drilling Data | Metric (mm)

Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter					
				Y / Z Series (9.50 - 12.69)	0 Series (12.70 - 17.64)	1 Series (17.65 - 24.37)	2 Series (24.38 - 35.04)	3 Series (35.05 - 47.80)	
M Stainless Steel 400 Series 416, 420, etc.	185 - 275	X	40	0.13❖	0.25	0.28	0.30	0.33	
	275 - 350	X	35	0.10❖	0.23	0.25	0.28	0.30	
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	X	40	0.13❖	0.18	0.20	0.23	0.30
		185 - 275	X	35	0.10❖	0.15	0.18	0.20	0.28
	PH Stainless 17-4, 13-8, 15-5	275 - 350	X	30	0.08❖	0.10	0.15	0.20	0.25
		350 - 425	X	25	0.08❖	0.10	0.15	0.20	0.25
Super Duplex Stainless Steel	135 - 185	X	40	0.13❖	0.13	0.15	0.15	0.18	
	185 - 275	X	35	0.10❖	0.13	0.13	0.15	0.15	
H Wear Plate Hardox®, AR400, T-1, etc.	400	X	20	0.08	0.15	0.20	0.23	0.30	
	500	X	15	0.05	0.13	0.18	0.20	0.25	
	600	-	-	-	-	-	-	-	
	Hardened Steel	300 - 400	X	25	0.08	0.15	0.20	0.23	0.30
400 - 500		X	15	0.05	0.13	0.18	0.20	0.25	
K SG / Nodular Cast Iron	120 - 150	X	90	0.18	0.30	0.41	0.51	0.61	
	150 - 200	X	85	0.15	0.28	0.36	0.46	0.56	
	200 - 220	X	75	0.15	0.23	0.30	0.41	0.46	
	220 - 260	X	65	0.13	0.18	0.23	0.30	0.36	
	260 - 320	X	55	0.10	0.15	0.18	0.23	0.30	
N Cast Aluminium	30	X	185	0.20	0.33	0.41	0.51	0.56	
	180	X	90	0.20	0.33	0.41	0.46	0.56	
	Wrought Aluminium	30	X	275	0.23	0.33	0.43	0.51	0.61
		180	X	185	0.13	0.18	0.25	0.33	0.41
	Aluminium Bronze	100 - 200	X	90	0.15	0.28	0.36	0.46	0.56
		200 - 250	X	75	0.13	0.18	0.23	0.30	0.36
	Brass	100	X	150	0.18	0.30	0.41	0.51	0.61
Copper	60	X	100	0.05	0.08	0.15	0.20	0.25	

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7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 m/min • 0.80	= 80 m/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
100 m/min • 0.70	= 70 m/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
Y	31	15	34	55	45	30
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
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A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

F

THREADING

X

SPECIALS

Carbide Recommended Drilling Data | Imperial (inch)

Material	Hardness (BHN)	Insert Grade	Speed (SFM)	Feed Rate (IPR) by Diameter					
				Y / Z Series (0.3739" - 0.4998")	0 Series (0.4999" - 0.6946")	1 Series (0.6947" - 0.9596")	2 Series (0.9597" - 1.3797")	3 Series (1.3798" - 1.8820")	
P Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	P	475	0.007	0.010	0.013	0.016	0.020	
	150 - 200	P	440	0.007	0.010	0.013	0.016	0.020	
	200 - 250	P	410	0.006	0.010	0.013	0.016	0.020	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	P	425	0.006❖	0.009	0.012	0.015	0.019
		125 - 175	P	410	0.006❖	0.009	0.012	0.015	0.019
		175 - 225	P	385	0.005❖	0.008	0.010	0.014	0.018
		225 - 275	P	355	0.005❖	0.008	0.010	0.014	0.018
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	P	410	0.006	0.009	0.012	0.015	0.019
		175 - 225	P	385	0.005	0.008	0.010	0.014	0.018
		225 - 275	P	355	0.005	0.008	0.010	0.014	0.018
		275 - 325	P	330	0.004	0.007	0.009	0.012	0.016
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	P	420	0.006	0.009	0.012	0.014	0.017
		175 - 225	P	390	0.005	0.008	0.011	0.014	0.017
		225 - 275	P	360	0.005	0.008	0.011	0.014	0.017
		275 - 325	P	340	0.004	0.007	0.010	0.012	0.015
		325 - 375	P	310	0.003	0.007	0.010	0.012	0.015
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	P	350	0.004	0.007	0.010	0.013	0.015
		300 - 350	P	325	0.003	0.006	0.009	0.012	0.014
350 - 400		P	300	0.003	0.006	0.008	0.011	0.013	
Structural Steel A36, A285, A516, etc.	100 - 150	P	400	0.006❖	0.010	0.012	0.014	0.018	
	150 - 250	P	340	0.005❖	0.009	0.010	0.012	0.016	
	250 - 350	P	280	0.004❖	0.008	0.009	0.010	0.014	
Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	P	220	0.004	0.006	0.008	0.010	0.012	
	200 - 250	P	180	0.004	0.006	0.008	0.010	0.012	
S High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	M	110	0.002❖	0.005	0.007	0.008	0.009	
	220 - 310	M	85	0.002❖	0.003	0.005	0.006	0.007	
	Titanium Alloy	140 - 220	M	150	0.003❖	0.004	0.007	0.008	0.009
		220 - 310	M	120	0.003❖	0.003	0.005	0.006	0.007
	Aerospace Alloy S82	185 - 275	M	150	0.003❖	0.004	0.007	0.008	0.009
		275 - 350	M	120	0.003❖	0.003	0.005	0.006	0.007

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7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
200 SFM • 0.70	= 140 SFM
0.008 IPR • 0.70	= 0.0056 IPR

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
Y	450	4	550	6	650	8
Z	450	4	550	6	650	8
0	350	6	450	9	550	12
1	300	8	400	10	500	12
2	250	10	350	13	450	16
3	200	12	300	14	400	18

⚠ WARNING

Tool failure can cause serious injury. To prevent:

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Carbide Recommended Drilling Data | Imperial (inch)

Material	Hardness (BHN)	Insert Grade	Speed (SFM)	Feed Rate (IPR) by Diameter					
				Y / Z Series (0.3739" - 0.4998")	0 Series (0.4999" - 0.6946")	1 Series (0.6947" - 0.9596")	2 Series (0.9597" - 1.3797")	3 Series (1.3798" - 1.8820")	
M Stainless Steel 400 Series 416, 420, etc.	185 - 275	M	280	0.005❖	0.009	0.010	0.012	0.013	
	275 - 350	M	230	0.004❖	0.008	0.009	0.011	0.012	
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	M	280	0.003❖	0.004	0.005	0.008	0.011
		185 - 275	M	250	0.002❖	0.003	0.004	0.007	0.009
	Stainless Steel 300L Series 304L, 316L, etc.	135 - 185	M	325	0.003❖	0.004	0.005	0.008	0.011
		185 - 275	M	280	0.002❖	0.003	0.004	0.007	0.009
	PH Stainless 17-4, 13-8, 15-5	275 - 350	M	280	0.003❖	0.004	0.005	0.008	0.011
		350 - 425	M	250	0.002❖	0.003	0.004	0.007	0.009
Super Duplex Stainless Steel	135 - 185	M	250	0.003❖	0.004	0.005	0.008	0.011	
	185 - 275	M	230	0.002❖	0.003	0.004	0.007	0.009	
H Wear Plate Hardox®, AR400, T-1, etc.	400	P	70	0.003	0.006	0.008	0.009	0.012	
	500	P	45	0.002	0.005	0.007	0.008	0.010	
	600	-	-	-	-	-	-	-	
	Hardened Steel	300 - 400	P	95	0.003	0.006	0.008	0.009	0.012
400 - 500		P	45	0.002	0.005	0.007	0.008	0.010	
K SG / Nodular Cast Iron	120 - 150	K	600	0.007	0.012	0.016	0.020	0.024	
	150 - 200	K	550	0.006	0.011	0.014	0.018	0.022	
	200 - 220	K	500	0.006	0.009	0.012	0.016	0.018	
	220 - 260	K	450	0.005	0.007	0.009	0.012	0.014	
	260 - 320	K	400	0.004	0.006	0.007	0.009	0.012	
N Cast Aluminium	30	N	1100	0.008	0.013	0.016	0.020	0.022	
	180	N	600	0.008	0.013	0.016	0.018	0.022	
	Wrought Aluminium	30	N	1100	0.009	0.013	0.017	0.020	0.024
		180	N	600	0.005	0.007	0.010	0.013	0.016
	Aluminium Bronze	100 - 200	N	500	0.006	0.011	0.014	0.018	0.022
		200 - 250	N	300	0.005	0.007	0.009	0.012	0.014
	Brass	100	N	650	0.007	0.012	0.016	0.020	0.024
Copper	60	N	430	0.002	0.003	0.006	0.008	0.010	

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7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
200 SFM • 0.80	= 160 SFM
0.008 IPR • 0.80	= 0.0064 IPR

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (12xD)
200 SFM • 0.70	= 140 SFM
0.008 IPR • 0.70	= 0.0056 IPR

Coolant Recommendations

Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
Y	450	4	550	6	650	8
Z	450	4	550	6	650	8
0	350	6	450	9	550	12
1	300	8	400	10	500	12
2	250	10	350	13	450	16
3	200	12	300	14	400	18

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
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A
DRILLING
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THREADING
X
SPECIALS

High-Speed Steel Recommended Drilling Data | Imperial (inch)

Material	Hardness (BHN)	Insert Grade	Speed (SFM)	Feed Rate (IPR) by Diameter					
				Y / Z Series (0.3739" - 0.4998")	0 Series (0.4999" - 0.6946")	1 Series (0.6947" - 0.9596")	2 Series (0.9597" - 1.3797")	3 Series (1.3798" - 1.8820")	
P Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	X	350	0.006	0.010	0.013	0.016	0.020	
	150 - 200	X	325	0.006	0.010	0.013	0.016	0.020	
	200 - 250	X	300	0.005	0.010	0.013	0.016	0.020	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	X	315	0.006❖	0.009	0.012	0.015	0.019
		125 - 175	X	300	0.005❖	0.009	0.012	0.015	0.019
		175 - 225	X	285	0.005❖	0.008	0.010	0.014	0.018
		225 - 275	X	265	0.005❖	0.008	0.010	0.014	0.018
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	X	300	0.006	0.009	0.012	0.015	0.019
		175 - 225	X	285	0.005	0.008	0.010	0.014	0.018
		225 - 275	X	265	0.005	0.008	0.010	0.014	0.018
		275 - 325	X	235	0.004	0.007	0.009	0.012	0.016
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	X	250	0.006	0.009	0.012	0.014	0.017
175 - 225		X	235	0.005	0.008	0.011	0.014	0.017	
225 - 275		X	220	0.005	0.008	0.011	0.014	0.017	
275 - 325		X	205	0.004	0.007	0.010	0.012	0.015	
325 - 375		X	190	0.003	0.007	0.010	0.012	0.015	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	X	135	0.004	0.007	0.010	0.013	0.015	
	300 - 350	X	110	0.003	0.006	0.009	0.012	0.014	
	350 - 400	X	90	0.003	0.006	0.008	0.011	0.013	
Structural Steel A36, A285, A516, etc.	100 - 150	X	250	0.006❖	0.010	0.012	0.014	0.018	
	150 - 250	X	210	0.005❖	0.009	0.010	0.012	0.016	
	250 - 350	X	175	0.004❖	0.008	0.009	0.010	0.014	
Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	X	145	0.004	0.006	0.008	0.010	0.012	
	200 - 250	X	120	0.004	0.006	0.008	0.010	0.012	
S High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	X	45	0.003❖	0.007	0.008	0.010	0.012	
	220 - 310	X	40	0.003❖	0.006	0.007	0.008	0.010	
	Titanium Alloy	140 - 220	X	60	0.003	0.007	0.008	0.010	0.012
		220 - 310	X	50	0.003	0.006	0.007	0.008	0.010
	Aerospace Alloy S82	185 - 275	X	125	0.005	0.008	0.009	0.010	0.014
		275 - 350	X	110	0.004	0.007	0.008	0.008	0.012

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Series	Stub, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM	Pressure PSI	Flow Rate GPM
Y	450	4	550	6	650	8
Z	450	4	550	6	650	8
0	350	6	450	9	550	12
1	300	8	400	10	500	12
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M Stainless Steel 400 Series 416, 420, etc.	185 - 275	X	125	0.005❖	0.010	0.011	0.012	0.013	
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	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	X	125	0.005❖	0.007	0.008	0.009	0.012
		185 - 275	X	110	0.004❖	0.006	0.007	0.008	0.011
	PH Stainless 17-4, 13-8, 15-5	275 - 350	X	95	0.003❖	0.004	0.006	0.008	0.010
		350 - 425	X	75	0.003❖	0.004	0.006	0.008	0.010
Super Duplex Stainless Steel	135 - 185	X	125	0.005❖	0.005	0.006	0.006	0.007	
	185 - 275	X	110	0.004❖	0.005	0.005	0.006	0.006	
H Wear Plate Hardox®, AR400, T-1, etc.	400	X	60	0.003	0.006	0.008	0.009	0.012	
	500	X	45	0.002	0.005	0.007	0.008	0.010	
	600	-	-	-	-	-	-	-	
	Hardened Steel	300 - 400	X	75	0.003	0.006	0.008	0.009	0.012
400 - 500		X	45	0.002	0.005	0.007	0.008	0.010	
K SG / Nodular Cast Iron	120 - 150	X	300	0.007	0.012	0.016	0.020	0.024	
	150 - 200	X	275	0.006	0.011	0.014	0.018	0.022	
	200 - 220	X	240	0.006	0.009	0.012	0.016	0.018	
	220 - 260	X	215	0.005	0.007	0.009	0.012	0.014	
	260 - 320	X	175	0.004	0.006	0.007	0.009	0.012	
N Cast Aluminium	30	X	600	0.008	0.013	0.016	0.020	0.022	
	180	X	300	0.008	0.013	0.016	0.018	0.022	
	Wrought Aluminium	30	X	900	0.009	0.013	0.017	0.020	0.024
		180	X	600	0.005	0.007	0.010	0.013	0.016
	Aluminium Bronze	100 - 200	X	300	0.006	0.011	0.014	0.018	0.022
		200 - 250	X	250	0.005	0.007	0.009	0.012	0.014
Brass	100	X	485	0.007	0.012	0.016	0.020	0.024	
Copper	60	X	320	0.002	0.003	0.006	0.008	0.010	

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Tap Drill Information and Formulas | Metric (mm)

Tap Size	Tap Drill Size	Decimal Equivalent (inch)	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
12 X 1.25	27/64	0.4219	79%	0.075 mm	10.79 mm	74%
	10.8 mm	0.4252	74%	0.075 mm	10.88 mm	69%
14 X 2.0	15/32	0.4688	81%	0.075 mm	11.98 mm	78%
	12.0 mm	0.4724	77%	0.075 mm	12.08 mm	74%
14 X 1.5	12.5 mm	0.4921	77%	0.075 mm	12.58 mm	73%
16 X 2.0	14.0 mm	0.5512	77%	0.075 mm	14.08 mm	74%
16 X 1.5	14.5 mm	0.5709	77%	0.075 mm	14.58 mm	73%
	37/64	0.5781	68%	0.075 mm	14.76 mm	64%
18 X 2.5	15.5 mm	0.6102	77%	0.075 mm	15.58 mm	75%
18 X 1.5	16.5 mm	0.6496	77%	0.075 mm	16.58 mm	73%
	21/32	0.6563	68%	0.075 mm	16.75 mm	64%
20 X 2.5	11/16	0.6875	78%	0.075 mm	17.54 mm	76%
	17.5 mm	0.6890	77%	0.075 mm	17.58 mm	74%
20 X 1.5	18.5 mm	0.7283	77%	0.075 mm	18.58 mm	73%
	47/64	0.7344	69%	0.075 mm	18.66 mm	65%
22 X 2.5	49/64	0.7656	79%	0.075 mm	19.52 mm	76%
	19.5 mm	0.7677	77%	0.075 mm	19.58 mm	75%
22 X 1.5	20.5 mm	0.8071	77%	0.075 mm	20.58 mm	73%
	13/16	0.8125	70%	0.075 mm	20.71 mm	66%
24 X 3	13/16	0.8125	86%	0.075 mm	20.71 mm	84%
	21.0 mm	0.8268	76%	0.075 mm	21.08 mm	75%
24 X 2	22.0 mm	0.8661	77%	0.075 mm	22.08 mm	74%
	7/8	0.8750	68%	0.075 mm	22.30 mm	65%
27 X 3	24.0 mm	0.9449	77%	0.075 mm	24.08 mm	75%

Formulas

1.	RPM	= (318.47 • m/min) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
	where:	
	mm/min	= mm per minute (mm/min)
	RPM	= revolutions per minute (rev/min)
	mm/rev	= feed rate (mm/rev)
3.	m/min	= RPM • 0.003 • DIA
	where:	
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)
4.	Thrust	= 154 • (mm/rev) • DIA • K _m
	where:	
	Thrust	= axial thrust (N)
	mm/rev	= feed rate (mm/rev)
	DIA	= diameter of drill (mm)
	K _m	= specific cutting energy (kPa)
5.	Tool Power	= ((mm/rev) • RPM • K _m • DIA ²) / 218604.8
	where:	
	Tool Power	= tool power (HP)
	mm/rev	= feed rate (mm/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (kPa)
	DIA	= diameter of drill (mm)

BSP and ISO 7-1

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/4-19	7/16	0.4375	-	0.075 mm	11.19 mm	-
3/8-19	37/64	0.5781	-	0.075 mm	14.76 mm	-
1/2-14	23/32	0.7188	-	0.075 mm	18.33 mm	-
3/4-14	15/16	0.9375	-	0.075 mm	23.89 mm	-

* Based on nominal tap drill diameter

** Based on 0.075 mm probable mean oversize

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

$$\% \text{ Thread} = \frac{76.93}{\text{Pitch (mm)}} \cdot (\text{Basic major diameter} - \text{Drill hole size})$$

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirement.
- The 0.075 mm probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Material Constants

Type of Material	Hardness	K _m (kPa)
Plain Carbon and Alloy Steel	85 - 200 BHN	5.45
	200 - 275 BHN	6.48
	275 - 375 BHN	6.89
	375 - 425 BHN	7.93
High-Temperature Alloys	-	9.93
Titanium Alloy	-	4.96
Stainless Steels	135 - 275 BHN	6.48
	30 - 45 RC	7.45
Cast Iron	100 - 200 BHN	3.45
	200 - 300 BHN	7.45
Copper Alloy	20 - 80 RB	2.96
	80 - 100 RB	4.96
Aluminium Alloy	-	1.52
Magnesium Alloy	-	1.10

Tap Drill Information and Formulas | Imperial (inch)

American - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/2 - 20	29/64	0.4531	72%	0.003	0.4561	68%
9/16 - 12	12.0 mm	0.4724	72%	0.003	0.4754	69%
	31/64	0.4844	83%	0.003	0.4874	80%
9/16 - 18	1/2	0.5000	87%	0.003	0.5030	82%
	13.0 mm	0.5118	70%	0.003	0.5148	66%
	31/64	0.5156	65%	0.003	0.5186	61%
5/8 - 11	17/32	0.5313	79%	0.003	0.5343	77%
5/8 - 12	35/64	0.5469	72%	0.003	0.5499	69%
5/8 - 18	9/16	0.5625	87%	0.003	0.5655	82%
	14.5 mm	0.5709	75%	0.003	0.5739	71%
	37/64	0.5781	65%	0.003	0.5811	61%
11/16 - 12	39/64	0.6094	72%	0.003	0.6124	69%
3/4 - 10	41/64	0.6406	84%	0.003	0.6436	82%
	16.5 mm	0.6496	77%	0.003	0.6526	75%
	21/32	0.6563	72%	0.003	0.6593	70%
3/4 - 12	43/64	0.6719	72%	0.003	0.6749	69%
3/4 - 16	11/16	0.6875	77%	0.003	0.6905	73%
	17.5 mm	0.6890	75%	0.003	0.6920	71%
7/8 - 9	49/64	0.7656	76%	0.003	0.7686	74%
	25/32	0.7813	65%	0.003	0.7843	63%
7/8 - 14	51/64	0.7969	84%	0.003	0.7999	81%
	13/16	0.8125	67%	0.003	0.8155	64%
15/16 - 12	55/64	0.8594	72%	0.003	0.8624	69%
15/16 - 20	57/64	0.8906	72%	0.003	0.8936	68%
1 - 8	22.0 mm	0.8661	82%	0.003	0.8691	81%
	7/8	0.8750	77%	0.003	0.8780	75%
	57/64	0.8906	67%	0.003	0.8936	65%
1 - 12	29/32	0.9063	87%	0.003	0.9093	84%
	59/64	0.9219	72%	0.003	0.9249	69%
1 - 14	15/16	0.9375	67%	0.003	0.9405	64%
1-1/8 - 12	1-1/32	1.0313	87%	0.003	1.0343	84%
	1-3/64	1.0469	72%	0.003	1.0499	69%
1-1/4 - 7	1-7/64	1.1094	76%	0.003	1.1124	74%

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
1/4 - 18	7/16	0.4375	-	0.003	0.4405	-
3/8 - 18	9/16	0.5625	-	0.003	0.5655	-
1/2 - 14	45/64	0.7031	-	0.003	0.7061	-
3/4 - 14	29/32	0.9063	-	0.003	0.9093	-

* Based on nominal tap drill diameter

** Based on 0.003" probable mean oversize

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

% Thread =

$$\# \text{ of threads per inch} \cdot \frac{(\text{Basic major diameter of thread} - \text{Drill hole size})}{.0130}$$

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirement.
- The 0.003" probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Formulas

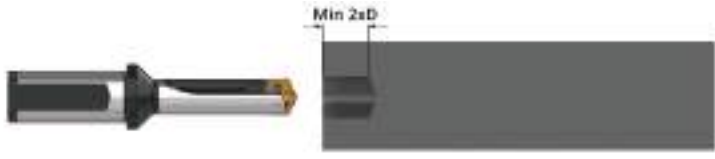
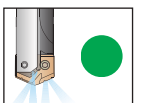

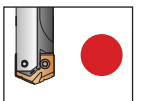

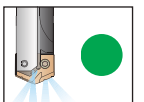

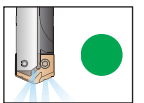

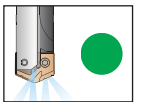

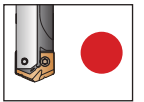
1.	RPM	= (3.82 • SFM) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	SFM	= speed (ft/min)
	DIA	= diameter of drill (inch)
2.	IPM	= RPM • IPR
	where:	
	IPM	= inches per minute (in/min)
	RPM	= revolutions per minute (rev/min)
	IPR	= feed rate (in/rev)
3.	SFM	= RPM • 0.262 • DIA
	where:	
	SFM	= speed (ft/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (inch)
4.	Thrust	= 153,700 • IPR • DIA • K _m
	where:	
	Thrust	= axial thrust (lbs)
	IPR	= feed rate (in/rev)
	DIA	= diameter of drill (inch)
	K _m	= specific cutting energy (lbs/in ²)
5.	Tool Power	= .6991 • IPR • RPM • K _m • DIA ²
	where:	
	Tool Power	= tool power (HP)
	IPR	= feed rate (in/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (lbs/in ²)
	DIA	= diameter of drill (inch)

Material Constants

Type of Material	Hardness	K _m (lbs/in ²)
Plain Carbon and Alloy Steel	85 - 200 BHN	0.79
	200 - 275 BHN	0.94
	275 - 375 BHN	1.00
	375 - 425 BHN	1.15
High-Temperature Alloys	-	1.44
Titanium Alloy	-	0.72
Stainless Steels	135 - 275 BHN	0.94
	30 - 45 RC	1.08
Cast Iron	100 - 200 BHN	0.50
	200 - 300 BHN	1.08
Copper Alloy	20 - 80 RB	0.43
	80 - 100 RB	0.72
Aluminium Alloy	-	0.22
Magnesium Alloy	-	0.16

Deep Hole Drilling Guidelines

T-A Pro | 10xD, 12xD and 15xD Holders

A DRILLING	<p>1. Pilot Hole 100 % RPM 100% mm/rev (IPR)</p>	<p>Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum. Utilise a pilot drill with the same or larger included point angle.</p> 	<p>Coolant ON</p> 
B	<p>2. Feed-in 50 RPM max 300 mm/min (12 IPM)</p>	<p>Feed the longer drill within 1.5 mm (1/16") short of the established pilot hole bottom at a maximum of 50 RPM and 300 mm/min (12 IPM) feed rate.</p> 	<p>Coolant OFF</p> 
B BORING	<p>3. Deep Hole Transition Drilling 50 % RPM 75% mm/rev (IPR)</p>	<p>Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of one second dwell is required to meet full speed before feeding.</p> 	<p>Coolant ON</p> 
E	<p>4. Deep Hole Drilling - Blind 100% RPM 100% mm/rev (IPR)</p>	<p>Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts. No peck cycle recommended.</p> 	<p>Coolant ON</p> 
E THREADING	<p>5. Deep Hole Drilling - at Breakout 50% RPM 75% mm/rev (IPR)</p>	<p>For through holes only: Reduce speed by 50% and feed by 25% prior to breakout. Do not break out more than 3 mm (1/8") past the full diameter of the drill.</p> 	<p>Coolant ON</p> 
X	<p>6. Drill Retract 50 RPM max</p>	<p>Reduce speed to a maximum of 50 RPM before retracting from the hole.</p> 	<p>Coolant OFF</p> 

1. WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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

Factory technical assistance is available for your specific applications through our Application Engineering department. email: ufficiotecnico@febametal.com

Troubleshooting Guide

	Potential Problem																			
	Accelerated corner wear	Barber pole	Bell-mouth hole	Insert chipping	Blue chips	Built-Up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of position	Hole out of round	Over-size hole	Poor hole finish	Poor tool life	Power spikes - Load meter	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Possible Solutions
Worn or misaligned spindle (lathe, screw machine, chucker)	1	2	3				7		9	10	11		13			16	17			<ul style="list-style-type: none"> Align spindle and turret or tailstock. Repair spindle.
Use of low rigidity machine tools		2	3	4			7		9	10			13	14						<ul style="list-style-type: none"> Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation).
Poor work piece support		2		4			7		10	11					15		17			<ul style="list-style-type: none"> Provide additional support for the work piece. Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation).
Flood coolant, low coolant pressure, or low coolant volume	1				5	6		8		10		12				16	17	18	19	<ul style="list-style-type: none"> Run coolant through tool holder when drilling greater than 1xD. Increase coolant pressure and volume through the tool holder. Reduce penetration rate to fall within the coolant limitations (NOTICE: Do not reduce feed below threshold of good chip formation). Add a peck cycle to help clear chips.
Interrupted cuts. Entry or exit surfaces that are not perpendicular to the spindle (draft angles, parting lines, curved or stepped surfaces, cross holes and cast or forged surfaces)				4			7		9	10	11		13	14	15	16	17	18		<ul style="list-style-type: none"> Pre-mill (spot face) entry or exit surface to remove interruption. Decrease feed as much as 50% through entry or exit interruption. Use short holders in low impact entry cuts.
Material harder than expected or running tools beyond recommended speed	1				5	6				10		12						18		<ul style="list-style-type: none"> Reduce speed. Increase coolant pressure and volume. Improve coolant condition by use of quality products and regular maintenance.
Poor material micro-structure or foreign particles (forgings and castings that have not been normalised or annealed, poorly prepared steel, flame cut parts and sand casting)				4		6				10		12	13					18		<ul style="list-style-type: none"> Compare performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalise parts to improve micro-structure for machining. Reduce feeds (NOTICE: Do not reduce feed below threshold of good chip formation).
Poor chip control								8		10	11		13			16	17	18	19	<ul style="list-style-type: none"> Increase feed to recommended levels. Contact Allied's Application Engineering group for technical recommendations. Increase coolant pressure and volume. Improve coolant condition by use of quality products and regular maintenance.
Spot drilled holes with included angle less than that matching T-A Pro or cored holes	1			4			7						13					18		<ul style="list-style-type: none"> Spot hole with short tool of same or greater included angle as T-A Pro drill insert. Reduce feed (NOTICE: Do not reduce feed below threshold of good chip formation). If possible, drill from solid.

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SECTION

A30

T-A® Drilling System

T-A[®] Drilling System

Replaceable Insert Drilling System | T-A[®] | GEN2 T-A[®]

► **Diameter Range:** 9.50 mm - 160.00 mm (0.374" - 6.299")



This is Not Yesterday's Spade Drill

The T-A drilling system is an innovation inspired by the Universal replaceable spade insert drilling system. However, with the development of the GEN2 T-A insert, along with the countless geometry options for the T-A, this drilling system provides benefits and performance that spade blade inserts of the past never could.

With constant innovations in holder designs, insert geometries and coatings, and coolant dispersion, the T-A drilling system continues to evolve and become much more productive and powerful than ever before.

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

Excellent hole size and finish	Optimizes chip evacuation	Wide range of geometry options available
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Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General Machining



Oil & Gas

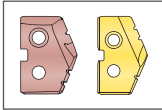


Renewable Energy

T-A® Drilling System Contents

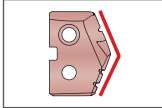
Reference Icons

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



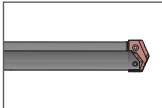
T-A Inserts

Refers to the range of inserts that connect with the corresponding holders



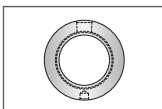
Available Insert Geometries

Details for the different geometry options available for each T-A insert style



T-A Holders

Refers to the range of holders that connect with the corresponding inserts



Rotary Coolant Adapter (RCA) Information

Detailed instructions and information regarding the corresponding part(s)



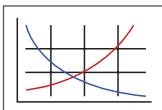
T-ACR 45 Chamfer Rings

Refers to the range of T-ACR 45 chamfer rings available for the corresponding holders



Technical Information

Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data

Speed and feed recommendations for optimum and safe drilling



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
Y	9.50 - 11.07	0.374 - 0.436
Z	11.10 - 12.95	0.437 - 0.510
0	12.98 - 17.65	0.511 - 0.695
1	17.53 - 24.38	0.690 - 0.960
2	24.41 - 35.05	0.961 - 1.380
3	34.36 - 47.80	1.353 - 1.882
4	46.99 - 65.28	1.850 - 2.570
5	62.38 - 76.20	2.456 - 3.000
6	76.22 - 89.08	3.001 - 3.507
7	89.10 - 101.60	3.508 - 4.000
8	101.63 - 160.00	4.001 - 6.299

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T-A Drill Series

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Z Series	22 - 31
0 Series	32 - 43
1 Series	44 - 57
2 Series	58 - 73
3 Series	74 - 85
4 Series	86 - 93
5 and 6 Series	94 - 101
7 and 8 Series	102 - 109

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Recommended Cutting Data

Metric
(mm)

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(inch)

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T-A Drilling System Overview | Drill Inserts

Series	Y Series	Z Series	0 Series	1 Series	2 Series	3 Series	4 Series
GEN2 T-A®							
D ₁ mm	9.50 - 11.07	11.10 - 12.95	12.98 - 17.65	17.53 - 24.38	24.41 - 35.05	34.36 - 47.80	46.99 - 65.28
D ₁ inch	0.374 - 0.436	0.437 - 0.510	0.511 - 0.695	0.690 - 0.960	0.961 - 1.380	1.353 - 1.882	1.850 - 2.570
Half Series Option*	❌	❌	✅	✅	✅	❌	❌
HSS Substrates	Super Cobalt	Super Cobalt	Super Cobalt	Super Cobalt	Super Cobalt	HSS Super Cobalt Premium Cobalt	HSS Super Cobalt
Carbide Substrates	K35 (C1) K20 (C2)	K35 (C1) K20 (C2)	K35 (C1) K20 (C2)	K35 (C1) K20 (C2)	K35 (C1) K20 (C2)	-	-
Coatings	AM200® AM300®	AM200® AM300®	AM200® AM300®	AM200® AM300®	AM200® AM300®	AM200® TiN	AM200® TiN

*See page A30: 7 for more information regarding half series options









Series	Y Series	Z Series	0 Series	1 Series	2 Series	3 Series	4 Series
T-A							
D ₁ mm	9.50 - 11.07	11.10 - 12.95	12.98 - 17.65	17.53 - 24.38	24.41 - 35.05	34.36 - 47.80	46.99 - 65.28
D ₁ inch	0.374 - 0.436	0.437 - 0.510	0.511 - 0.695	0.690 - 0.960	0.961 - 1.380	1.353 - 1.882	1.850 - 2.570
Half Series Option*	❌	❌	✅	✅	✅	❌	❌
HSS Substrates	Super Cobalt Premium Cobalt	Super Cobalt Premium Cobalt	Super Cobalt Premium Cobalt	HSS Super Cobalt Premium Cobalt	HSS Super Cobalt Premium Cobalt	Super Cobalt	Super Cobalt
Carbide Substrates	K20 (C2) K10 (C3) P40 (C5) N2	K20 (C2) K10 (C3) P40 (C5) N2	K20 (C2) K10 (C3) P40 (C5) N2	K20 (C2) K10 (C3) P40 (C5) N2	K20 (C2) K10 (C3) P40 (C5) N2	P40 (C5)	-
Coatings	TiN TiAlN TiCN	TiN TiAlN TiCN	TiN TiAlN TiCN	TiN TiAlN TiCN	TiN TiAlN TiCN	TiN	TiN

*See page A30: 7 for more information regarding half series options

Drill Insert Coatings				
				
<p>AM300®</p> <ul style="list-style-type: none"> Increased heat resistance over AM200® coating Up to 20% increased tool life over AM200 coating Provides superior tool life at high penetration rates Color: copper/orange 	<p>AM200®</p> <ul style="list-style-type: none"> First choice for increased heat resistance over TiN, TiCN, and TiAlN with improved wear capabilities Allows for improved tool life and higher penetration rates Over 20% increase in tool life compared to TiAlN coating Color: copper/bronze 	<p>TiN</p> <ul style="list-style-type: none"> General purpose coating Improved tool life over non-coated inserts Excellent choice for aluminium Color: gold/yellow 	<p>TiAlN</p> <ul style="list-style-type: none"> Excellent choice for wear resistance over high surface speeds Excellent oxidation resistance Maximum working temperature 800°C Color: violet/grey 	<p>TiCN</p> <ul style="list-style-type: none"> Excellent choice for wear resistance over low surface speeds High hardness/wear resistance Maximum working temperature 400°C Color: blue/grey

A

DRILLING

5 Series	6 Series	7 Series	8 Series
			
62.38 - 76.20	76.22 - 89.08	89.10 - 101.60	101.63 - 114.48
2.456 - 3.000	3.001 - 3.507	3.508 - 4.000	4.001 - 4.507
			
HSS Super Cobalt	HSS Super Cobalt	HSS Super Cobalt	HSS Super Cobalt
-	-	-	-
AM200® TiN	AM200® TiN	AM200® TiN	AM200® TiN

B

5 Series	6 Series	7 Series	8 Series
			
62.38 - 76.20	76.22 - 89.08	89.10 - 101.60	101.63 - 160.00
2.456 - 3.000	3.001 - 3.507	3.508 - 4.000	4.001 - 6.299
			
HSS Super Cobalt	HSS Super Cobalt	HSS Super Cobalt	HSS Super Cobalt
-	-	-	-
TiN	TiN	TiN	TiN

BORING

F

THREADING

Drill Insert Grades			
HSS (T-A / GEN2 T-A®) First choice for general purpose use. Suited for difficult machining applications with low rigidity, as well as deep hole drilling. Recommended for drilling most steels, cast irons, and aluminium alloys up to 275 BHN.	HSS Super Cobalt (T-A / GEN2 T-A) Suited for good-to-rigid machining applications, used for drilling exotic and high-alloy materials, or general use when surface speed needs to be increased. For use in material hardness up to 350 BHN.	HSS Premium Cobalt (T-A / GEN2 T-A) Suited for rigid machining applications, used for drilling exotic and high alloy materials, or general use when surface speed needs to be increased. For material hardness up to 400 BHN.	Carbide P40 (C5) (T-A only) Excellent for drilling free-machining steel, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.
Carbide K10 (C3) (T-A only) Designed for drilling grey/white cast irons. The special geometry offers substantial increase in penetration rates and provides exceptional edge strength and tool life.	Carbide K20 (C2) (T-A / GEN2 T-A) Excellent for drilling high-temperature alloys, titanium alloys, cast aluminium, SG/nodular cast iron, grey/white iron, aluminium bronze, brass, copper, and certain stainless steels.	Carbide K35 (C1) (GEN2 T-A only) Excellent for drilling free-machining steels, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.	Carbide N2 (T-A only) Allied's N2 carbide is used with CVD diamond coating. This improves the insert's hardness, durability, and performance, which extends tool life between 30 - 50x over uncoated carbide.

X

SPECIALS

Insert Geometries

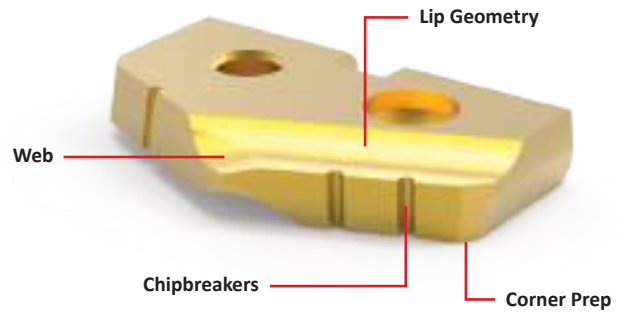
There's a Geometry for That

Allied Machine knows there isn't a universal solution when it comes to holemaking. To better accommodate the countless holes our customers drill, we have developed multiple geometry options with new geometries in development at all times.

If you're unsure which geometry would be best for your application, give our Application Engineers a call. They're standing by ready to point you in the right direction.

+44 (0) 1384 400 900

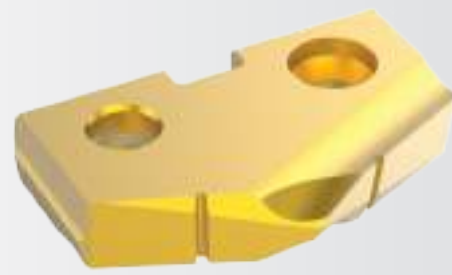
ufficiotecnico@febametal.com



GEN2 T-A® Drill Inserts



T-A Drill Inserts



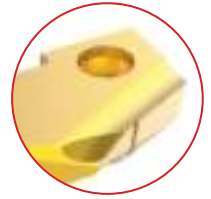
Standard

- Offers substantial increases in penetration rates and tool life
- Improves centering, drill stability, chip formation, and lowers drill forces
- Provides smoother breakout on through hole applications



Standard

- Offers excellent penetration rates and tool life
- Smooth break-out on through holes
- Increases drill stability and chip formation
- Ideally suited for low-to-high rigidity machining applications



High Efficiency (-HE)

- Excellent chip formation in materials with very high elasticity/ductility and poor chip forming conditions
- Effective in lower-powered machines
- Material example: low-carbon steel (not suitable for stainless steel)



Tiny Chip (-TC)

- Unique lip and point design for excellent chip control
- Improved capabilities in long-chipping materials such as low-carbon steels and soft alloy steels
- Enhanced performance in lower-powered machines for better chip formation at lower feed rates



Corner Radius (-CR)

- Improves exit burrs
- Excellent surface finish in most applications
- Improves heat dispersion and tool life
- Can be used in addition to other geometries (as a special)



Special Corner Preparation (-SK)

- Ideal for machining cast iron materials
- Larger than a standard corner clip
- Improves heat resistance
- Standard feature on CI, HI, and HR geometries



continued on next page

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SPECIALS

Cam Point (-CP)

- Helical cam ground point
- Improves drill stability and centering characteristics
- Reduces bell-mouthing when using longer holders
- Target materials: steels, cast/forged steels, cast iron



Notch Point® (-NP)

- Reduces bellmouth and lead-off
- Increases stability in deep hole applications
- Reduces thrust
- Can be used in addition to other geometries like cast iron, high rake, and high impact



High Impact (-HI)

- Designed for materials with hardness > 700 N/mm² (200 BHN)
- Enhances chip formation in materials with high elasticity/ductility and poor chip forming characteristics
- SK corner clip improves tool life
- Target materials: structural/cast and forged steels (not suitable for stainless steel)



High Impact Notch Point® (-IN)

- Combination of high impact and Notch Point geometries
- Increases stability in deep hole applications
- Enhances chip formation in materials with high elasticity/ductility and poor chip forming characteristics



High Rake (-HR)

- Designed for materials with hardness < 200 BHN (700 N/mm²)
- Improves chip formation in materials with very high elasticity/ductility, extremely poor chip forming characteristics, and low material hardness
- SK corner clip improves tool life
- Target materials: soft steels, steel castings and forgings (not suitable for stainless steel)



High Rake Notch Point® (-RN)

- Combination of high rake and Notch Point geometries
- Reduces bellmouth and lead-off
- Improves chip formation in materials with very high elasticity/ductility, extremely poor chip forming characteristics, and low material hardness



Cast Iron (-CI)

- Specifically designed for use in grey and white cast irons
- Exceptional edge strength
- SK2 corner preparation for improved tool life
- Standard geometry on K10 (C3) carbide inserts



Cast Iron Notch Point® (-CN)

- Combination of cast iron and Notch Point geometries
- Increases stability in deep hole applications
- Specifically designed for use in grey and white cast irons



Aluminium (-AN)

- First choice for machining aluminium
- Enhanced geometry improves chip formation and hole quality
- TiN coating improves heat resistance and extends tool life



Brass (-BR)

- Improves tool life due to the specialised geometry and edge preparation
- Reduces self-feed tendency



90° Spot and Chamfer (-SP)

- Center cutting web design improves stability and strength
- Eliminates the need for a secondary chamfering operation
- Available with chipbreakers (see -SW below)



Flat Bottom (-FB)

- Ideal for flattening or squaring the bottom of preexisting holes with high rigidity
- Includes small 10° point on the nose of the insert
- Available without chipbreakers (see -FN below)



90° Spot and Chamfer (-SW)

- Center cutting web design improves stability and strength
- Eliminates the need for a secondary chamfering operation
- With added chipbreakers



Flat Bottom (-FN)

- Ideal for flattening or squaring the bottom of preexisting holes with high rigidity
- Includes small 10° point on the nose of the insert
- Available with chipbreakers (see -FB above)



Available Standard Insert Geometries

The following table shows which geometries are available as a standard item (based on insert type and series). If you need a geometry on your insert but it is not listed as available, please call the Application Engineering department to discuss quoting your insert as a special to include the desired geometry.

Additional lead time and process fees may apply.

Available Additional Geometries		GEN2 T-A®			T-A							
		Y - 2 Series	3 - 4 Series	5 - 8 Series	HSS Inserts				Carbide Inserts			
					Y - 2 Series	3 Series	4 Series	5 - 8 Series	Y - Z Series	0 - 2 Series	3 Series	
-AN	Aluminium				●					●	●	
-BT	BT-A Specific									●	●	●
-BR	Brass		●	●	●	●	●	●		●	●	●
-CI	Cast Iron		●		●	●	●			●	●	●
-CN	Notch Point® Cast Iron				●	●				●	●	●
-CP	Cam Point				●					●	●	
-CR	Corner Radius		●	●	●	●	●	●		●	●	●
-FB	Flat Bottom				●	●	●			●	●	
-FN	Flat Bottom				●	●	●			●	●	
-HE	High Efficiency	●	●									
-HI	High Impact		●	●	●	●	●	●		●	●	●
-HR	High Rake		●	●	●	●	●	●		●	●	●
-IN	High Impact Notch Point®				●	●				●	●	●
-NC	No Chipbreaker		●	●	●	●	●	●		●	●	●
-NP	Notch Point®				●	●				●	●	●
-RN	High Rake Notch Point®				●	●				●	●	●
-SK	Special Corner Preparation		●	●	●	●	●	●		●	●	●
-SP	90° Spot and Chamfer				●	●						
-SW	90° Spot and Chamfer				●	●						
-TC	Tiny Chip				●	●	●	●		●	●	●
-WC	No Corner Clips		●	●	●	●	●	●		●	●	●

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

Drill Holders

Holder Length Options (for use with both GEN2 T-A and T-A inserts)



Stub Length | Series: Y - 3 (straight flute flanged shank only)



Short Length | Series: ALL



Intermediate Length | Series: ALL



Standard Length | Series: ALL



Standard Plus Length | Series: Y - 2 (helical flute flanged shank only)



Extended Length | Series: 0 - 3



Long Length | Series: 0 - 2



Long Plus Length | Series: 0



XL Length | Series: ALL



3XL Length | Series: ALL

Holder Shank Options



ER Collet Shank
Series: Y, Z, 0



Straight Shank
Series: ALL



Morse Taper Shank
Series: ALL



Flanged Shank
Series: ALL

Half Series Holders (0.5, 1.5, 2.5)

Half series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. **NOTE:** Only specified half series inserts should be used with half series holders.



Standard Series Insert +
Standard Series Holder



Half Series Insert +
Standard Series Holder



Half Series Insert +
Half Series Holder



Standard Series Insert +
Half Series Holder

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A

DRILLING

B

BORING

F

THREADING


X


SPECIALS

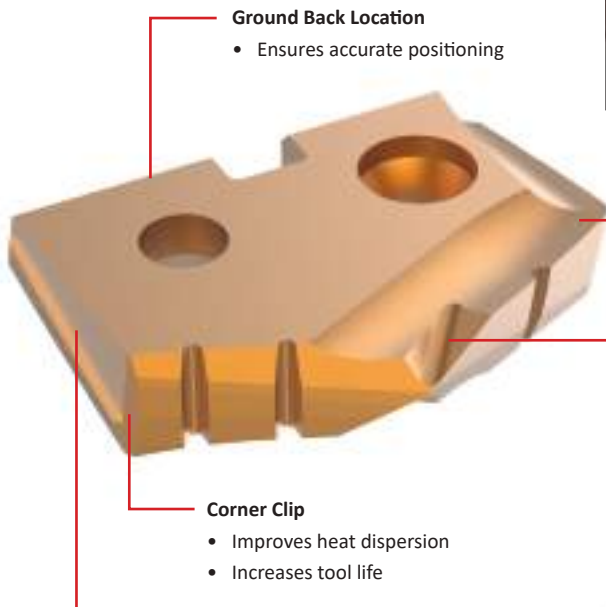
Technical Information

Next Level Solutions: GEN2 T-A®

What takes a solution to the next level? When you make innovative designs and enhancements to a product that already achieves high performance results, you push the boundaries of what is known to the next level.

	<p style="text-align: center;">AM300® Coating</p> <ul style="list-style-type: none"> • Provides superior tool life at high penetration rates • Improves heat resistance over AM200® coating • Increases tool life up to 20% over AM200 coating
---	--

	<p style="text-align: center;">AM200® Coating</p> <ul style="list-style-type: none"> • Improves heat resistance over TiN, TiCN, and TiAlN with improved wear capabilities • Increases penetration rates • Increases tool life more than 20% over TiAlN coating
---	--



Ground Back Location

- Ensures accurate positioning

Curved Cutting Edge (not all series)

- Enhances chip formation

Notch Point® Geometry

- Improves stability and hole straightness
- Reduces thrust

Corner Clip

- Improves heat dispersion
- Increases tool life

Helical Margin (not all series)

- Increases drill stability



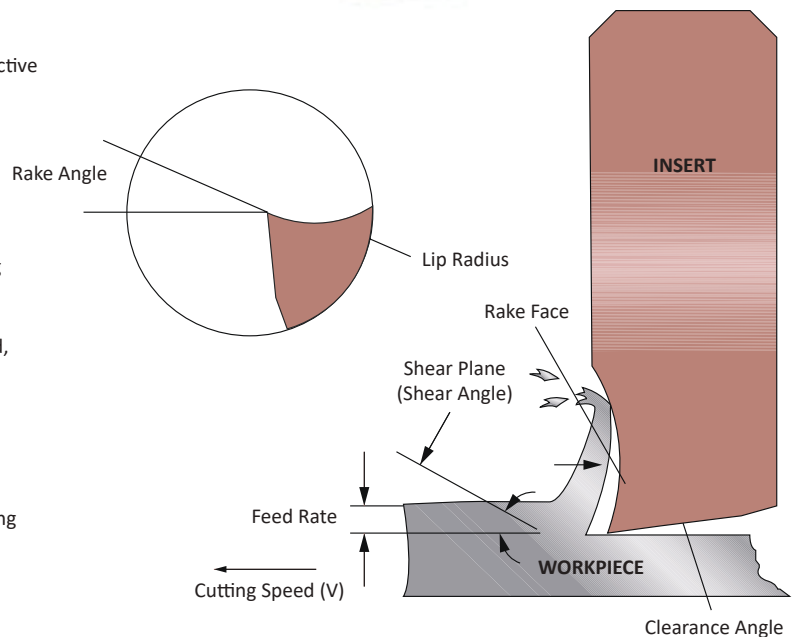
Improving Chip Formation

Achieving optimal chip formation is crucial. The quality of the chips being produced directly affects everything in the entire process: the cycle time, the tool life, the scrap rate, and the quality and condition of the final machined hole.

We know how important chip formation is. That's why we constantly improve and develop new geometries to create a better, more productive T-A product.

Setting Up New Applications

- Check coolant flows adequately through the tool before beginning
- Drill a short hole 1xD deep initially
- The chips produced should be short in length and material colored, not straw or blue
- Measure the hole produced to check that it is within the desired tolerance
- If all is correct, continue to machine the remainder of the hole
- Ensure the drilling process is quiet and smooth with no chip packing

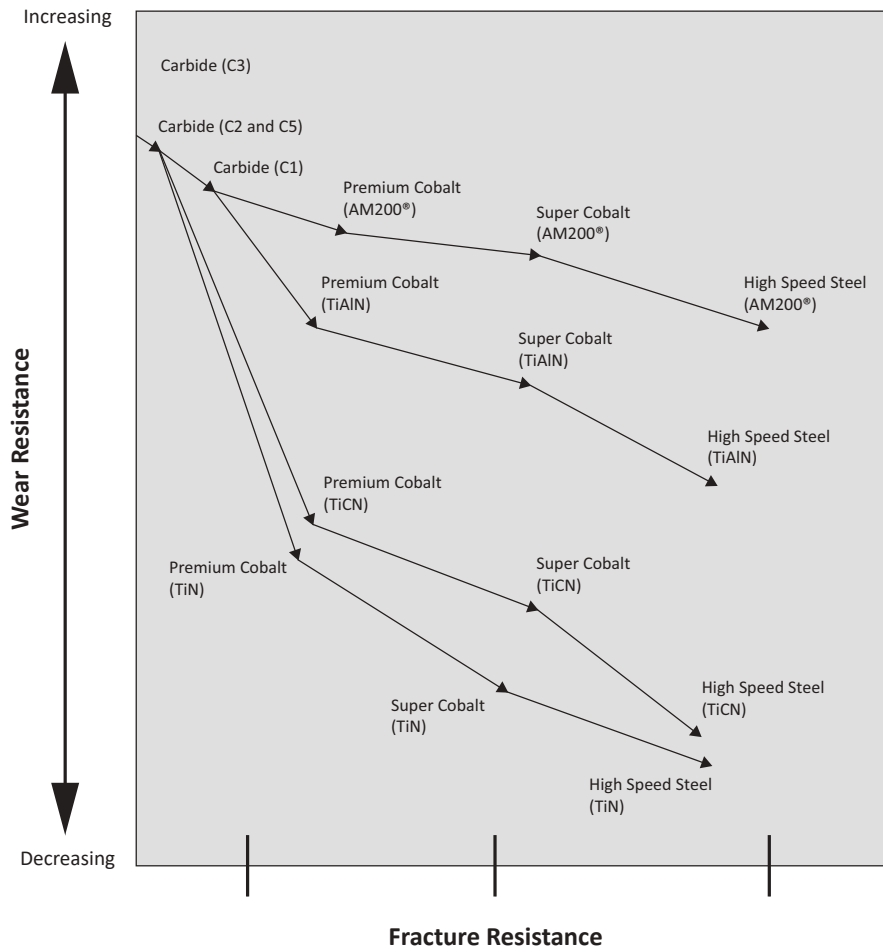
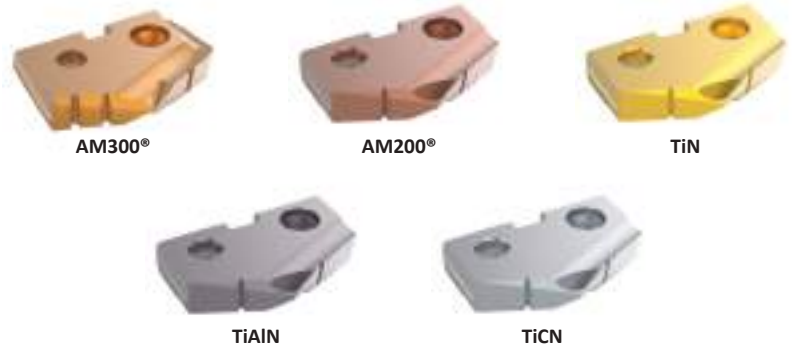


A DRILLING B BORING E THREADING X SPECIALS

Wear vs Toughness

When selecting a grade of cutting tool material for your application, both wear resistance and grade toughness should be considered. The greater the wear resistance a cutting tool material exhibits, the more likely chipping or fracture is to occur. This requires more rigid machining conditions.

On the other hand, to effectively machine some materials, cobalt or carbide grades of cutting tool material may be required. The graph will aid you in the selection of a cutting tool material with the right combination of wear resistance and toughness to make your application both efficient and cost-effective.



T-A System Guidelines for Use

- Select the shortest holder possible for the application
- Ensure the T-A® holder is held securely and is within 0.08 mm (0.003") of centre line
- The T-A insert should be installed in the slot of the holder using the TORX Plus screws provided. These should be tightened to the values listed on the T-A holder pages
- The holder slot should be clean from dirt or debris
- Check that the insert outer diameter is a minimum of 0.30 mm (0.012") larger than the holder body diameter
- Use the recommended cutting data section for guidance when selecting correct insert grades, along with speeds and feeds
- **NOTE:** These cutting parameters are starting conditions only and make no allowance for machine or component rigidity

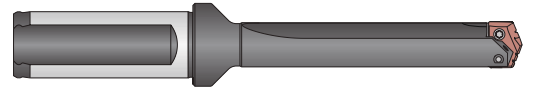


A
DRILLING
B
BORING
E
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X
SPECIALS

Product Nomenclature

T-A Drill Holders

2	30	20	S	-	32	FM
1	2	3	4		5	6

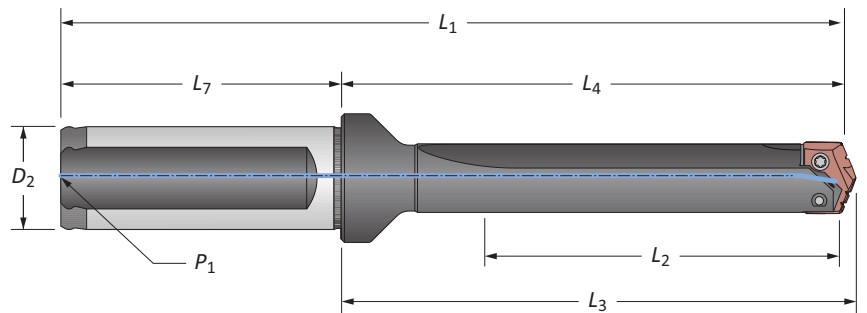


<p>1. Holder</p> <p>2 = T-A holder</p>	<p>2. Length</p> <p>10 = Stub 20 = Short 30 = Intermediate 40 = Standard 45 = Standard Plus 50 = Extended 60 = Long 65 = Long Plus 70 = XL 90 = 3XL</p>	<p>3. Series</p> <p>Y0 = Y series 20 = 2 series Z0 = Z series 25 = 2.5 series 00 = 0 series 30 = 3 series 05 = 0.5 series 40 = 4 series 10 = 1 series 50 = 5 series 15 = 1.5 series 70 = 7 series</p>	<p>4. Flute</p> <p>S = Straight H = Helical</p>
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<p>5. Shank Designator</p> <table border="1"> <thead> <tr> <th>Morse Taper</th> <th>Metric</th> <th>Imperial</th> </tr> </thead> <tbody> <tr> <td>002 = 2MT</td> <td>16 = 16 mm</td> <td>063 = 5/8"</td> </tr> <tr> <td>003 = 3MT</td> <td>20 = 20 mm</td> <td>075 = 3/4"</td> </tr> <tr> <td>004 = 4MT</td> <td>25 = 25 mm</td> <td>100 = 1"</td> </tr> <tr> <td>005 = 5MT</td> <td>32 = 32 mm</td> <td>125 = 1-1/4"</td> </tr> <tr> <td></td> <td>40 = 40 mm</td> <td>150 = 1-1/2"</td> </tr> <tr> <td></td> <td>50 = 50 mm</td> <td>175 = 1-3/4"</td> </tr> <tr> <td></td> <td></td> <td>200 = 2"</td> </tr> <tr> <td></td> <td></td> <td>300 = 3"</td> </tr> </tbody> </table>			Morse Taper	Metric	Imperial	002 = 2MT	16 = 16 mm	063 = 5/8"	003 = 3MT	20 = 20 mm	075 = 3/4"	004 = 4MT	25 = 25 mm	100 = 1"	005 = 5MT	32 = 32 mm	125 = 1-1/4"		40 = 40 mm	150 = 1-1/2"		50 = 50 mm	175 = 1-3/4"			200 = 2"			300 = 3"	<p>6. Shank Code</p> <p>M = Metric Morse taper I = Imperial Morse taper L = Lathe shank FM = Flanged metric shank F = Flanged shank ER = ER Collet</p>
Morse Taper	Metric	Imperial																												
002 = 2MT	16 = 16 mm	063 = 5/8"																												
003 = 3MT	20 = 20 mm	075 = 3/4"																												
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		200 = 2"																												
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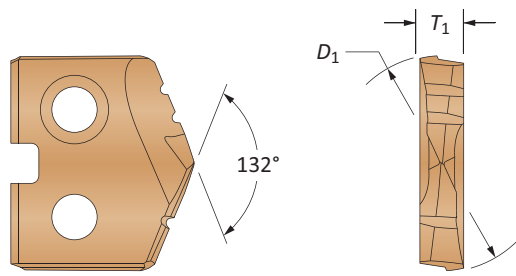
Reference Key

Symbol	Attribute
D_2	Shank diameter
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_4	Holder length
L_7	Shank length
P_1	Rear pipe tap
P_2	Side pipe tap
RCA	Corresponding RCA item number
MT	Morse taper size
ER	ER collet size






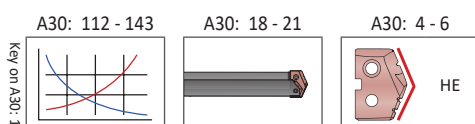
GEN2 T-A Drill Inserts

Y Series | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



HSS Inserts – Super Cobalt • Carbide Inserts – K20 (C2) | K35 (C1)

Insert				HSS Part No.	Carbide Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200® Super Cobalt	 AM300® K20 (C2)	 AM300® K35 (C1)
9.50	0.3740	–	2.38	45YH-9.5	4C2YP-9.5	4C1YP-9.5
9.53	0.3750	3/8	2.38	45YH-0012	4C2YP-0012	4C1YP-0012
9.80	0.3860	W	2.38	45YH-.386	4C2YP-.386	4C1YP-.386
9.92	0.3906	25/64	2.38	45YH-.390	4C2YP-.390	4C1YP-.390
10.00	0.3937	–	2.38	45YH-10	4C2YP-10	4C1YP-10
10.20	0.4016	–	2.38	45YH-10.2	4C2YP-10.2	4C1YP-10.2
10.32	0.4063	13/32	2.38	45YH-0013	4C2YP-0013	4C1YP-0013
10.50	0.4134	–	2.38	45YH-10.5	4C2YP-10.5	4C1YP-10.5
10.72	0.4219	27/64	2.38	45YH-.421	4C2YP-.421	4C1YP-.421
10.80	0.4252	–	2.38	45YH-10.8	4C2YP-10.8	4C1YP-10.8
11.00	0.4331	–	2.38	45YH-11	4C2YP-11	4C1YP-11



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

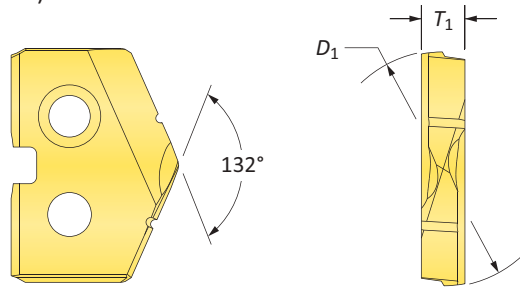
TIN = 4C2YT-XXXX	TIAIN = 4C2YA-XXXX
TICN = 4C2YN-XXXX	AM200® = 4C2YH-XXXX

Inserts sold in quantities of 2






T-A Drill Inserts

Y Series | HSS | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



HSS Inserts – Premium Cobalt

Insert				Part No.		
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
9.50	0.3740	–	2.38	18YT-9.5	18YA-9.5	18YN-9.5
9.53	0.3750	3/8	2.38	18YT-0012	18YA-0012	18YN-0012
9.80	0.3860	W	2.38	18YT-.386	18YA-.386	18YN-.386
9.92	0.3906	25/64	2.38	18YT-.390	18YA-.390	18YN-.390
10.00	0.3937	–	2.38	18YT-10	18YA-10	18YN-10
10.20	0.4016	–	2.38	18YT-10.2	18YA-10.2	18YN-10.2
10.32	0.4063	13/32	2.38	18YT-0013	18YA-0013	18YN-0013
10.50	0.4134	–	2.38	18YT-10.5	18YA-10.5	18YN-10.5
10.72	0.4219	27/64	2.38	18YT-.421	18YA-.421	18YN-.421
10.80	0.4252	–	2.38	18YT-10.8	18YA-10.8	18YN-10.8
11.00	0.4331	–	2.38	18YT-11	18YA-11	18YN-11

A30: 112 - 143
Key on A30: 1

A30: 18 - 21

A30: 4 - 6

HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

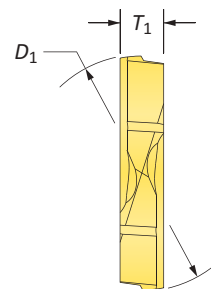
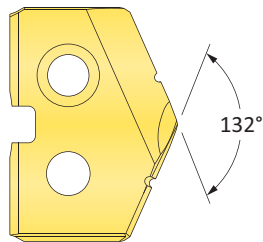
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2




TiN = 18YT-XXXX	TiAlN = 18YA-XXXX
TiCN = 18YN-XXXX	AM200® = 18YH-XXXX

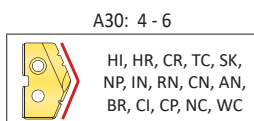
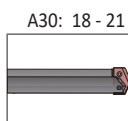
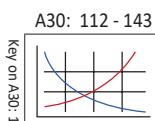
T-A Drill Inserts

Y Series | HSS | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



HSS Inserts – Super Cobalt

Insert				Part No.		
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
9.50	0.3740	–	2.38	15YT-9.5	15YA-9.5	15YN-9.5
9.53	0.3750	3/8	2.38	15YT-0012	15YA-0012	15YN-0012
9.80	0.3860	W	2.38	15YT-.386	15YA-.386	15YN-.386
9.92	0.3906	25/64	2.38	15YT-.390	15YA-.390	15YN-.390
10.00	0.3937	–	2.38	15YT-10	15YA-10	15YN-10
10.20	0.4016	–	2.38	15YT-10.2	15YA-10.2	15YN-10.2
10.32	0.4063	12.38	2.38	15YT-0013	15YA-0013	15YN-0013
10.50	0.4134	–	2.38	15YT-10.5	15YA-10.5	15YN-10.5
10.72	0.4219	27/64	2.38	15YT-.421	15YA-.421	15YN-.421
10.80	0.4252	–	2.38	15YT-10.8	15YA-10.8	15YN-10.8
11.00	0.4331	–	2.38	15YT-11	15YA-11	15YN-11



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 15YT-XXXX	TiAlN = 15YA-XXXX
TiCN = 15YN-XXXX	AM200® = 15YH-XXXX

Inserts sold in quantities of 2

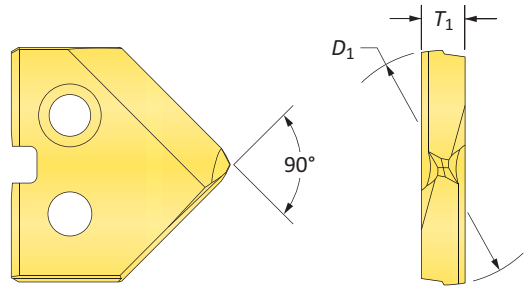


T-A Drill Inserts

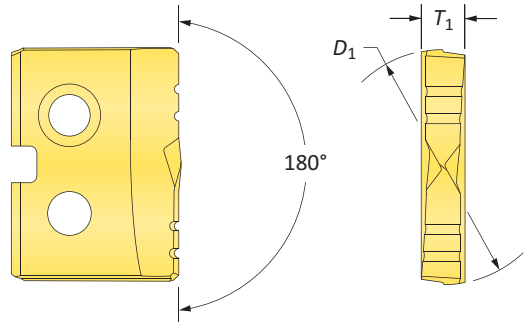
Y Series | HSS | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



90° Spot & Chamfer

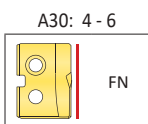
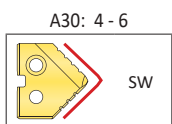
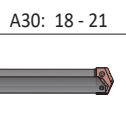
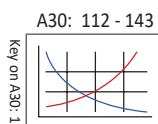


Flat Bottom



HSS Inserts – Super Cobalt

Insert				90° Spot & Chamfer Part No.			Flat Bottom Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1				
9.50	0.3740	–	2.38	15YT-9.5-SP	15YA-9.5-SP	15YN-9.5-SP	15YT-9.5-FB
9.53	0.3750	3/8	2.38	15YT-0012-SP	15YA-0012-SP	15YN-0012-SP	15YT-0012-FB
9.80	0.3860	W	2.38	15YT-.386-SP	15YA-.386-SP	15YN-.386-SP	15YT-.386-FB
9.92	0.3906	25/64	2.38	15YT-.390-SP	15YA-.390-SP	15YN-.390-SP	15YT-.390-FB
10.00	0.3937	–	2.38	15YT-10-SP	15YA-10-SP	15YN-10-SP	15YT-10-FB
10.20	0.4016	–	2.38	15YT-10.2-SP	15YA-10.2-SP	15YN-10.2-SP	15YT-10.2-FB
10.32	0.4063	12.38	2.38	15YT-0013-SP	15YA-0013-SP	15YN-0013-SP	15YT-0013-FB
10.50	0.4134	–	2.38	15YT-10.5-SP	15YA-10.5-SP	15YN-10.5-SP	15YT-10.5-FB
10.72	0.4219	27/64	2.38	15YT-.421-SP	15YA-.421-SP	15YN-.421-SP	15YT-.421-FB
10.80	0.4252	–	2.38	15YT-10.8-SP	15YA-10.8-SP	15YN-10.8-SP	15YT-10.8-FB
11.00	0.4331	–	2.38	15YT-11-SP	15YA-11-SP	15YN-11-SP	15YT-11-FB



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2

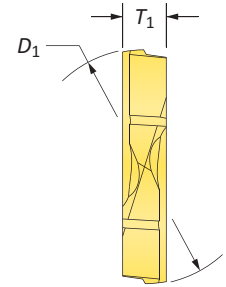
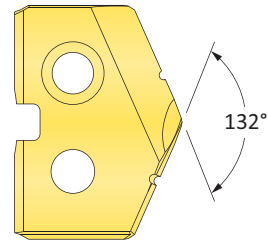
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TiCN = 15YN-XXXX	AM200® = 15YH-XXXX

T-A Drill Inserts

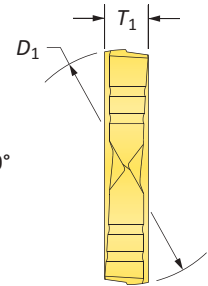
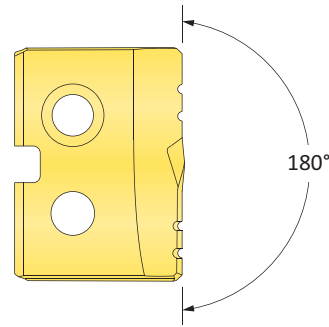
Y Series | Carbide | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")






Standard

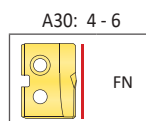
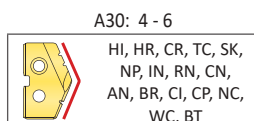
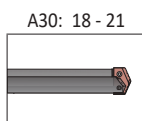
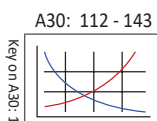


Flat Bottom



Carbide Inserts – K20 (C2)

Insert				Part No.		Flat Bottom Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiN
9.50	0.3740	–	2.38	1C2YT-9.5	1C2YA-9.5	1C2YT-9.5-FB
9.53	0.3750	3/8	2.38	1C2YT-0012	1C2YA-0012	1C2YT-0012-FB
9.80	0.3860	W	2.38	1C2YT-.386	1C2YA-.386	1C2YT-.386-FB
9.92	0.3906	25/64	2.38	1C2YT-.390	1C2YA-.390	1C2YT-.390-FB
10.00	0.3937	–	2.38	1C2YT-10	1C2YA-10	1C2YT-10-FB
10.20	0.4016	–	2.38	1C2YT-10.2	1C2YA-10.2	1C2YT-10.2-FB
10.32	0.4063	12.38	2.38	1C2YT-0013	1C2YA-0013	1C2YT-0013-FB
10.50	0.4134	–	2.38	1C2YT-10.5	1C2YA-10.5	1C2YT-10.5-FB
10.72	0.4219	27/64	2.38	1C2YT-.421	1C2YA-.421	1C2YT-.421-FB
10.80	0.4252	–	2.38	1C2YT-10.8	1C2YA-10.8	1C2YT-10.8-FB
11.00	0.4331	–	2.38	1C2YT-11	1C2YA-11	1C2YT-11-FB



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

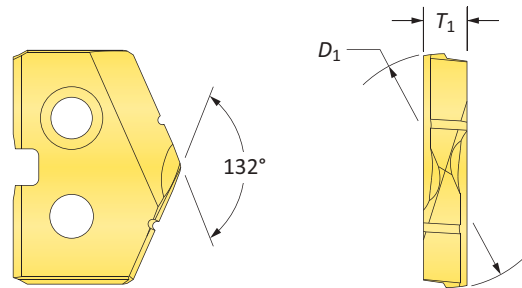
TiN = 1C2YT-XXXX	TiAlN = 1C2YA-XXXX
TiCN = 1C2YN-XXXX	AM200® = 1C2YH-XXXX

Inserts sold in quantities of 2







T-A Drill Inserts

Y Series | Carbide | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



Carbide Inserts – P40 (C5) | K10 (C3) | N2

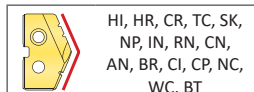
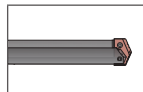
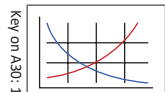
Insert				C5 Part No.		C3 Part No.	N2 Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiAlN (Cast Iron)	 Diamond Film*
9.50	0.3740	–	2.38	1C5YT-9.5	1C5YA-9.5	1C3YA-9.5-CI	1N2YD-9.5
9.53	0.3750	3/8	2.38	1C5YT-0012	1C5YA-0012	1C3YA-0012-CI	1N2YD-0012
9.80	0.3860	W	2.38	1C5YT-.386	1C5YA-.386	1C3YA-.386-CI	1N2YD-.386
9.92	0.3906	25/64	2.38	1C5YT-.390	1C5YA-.390	1C3YA-.390-CI	1N2YD-.390
10.00	0.3937	–	2.38	1C5YT-10	1C5YA-10	1C3YA-10-CI	1N2YD-10
10.20	0.4016	–	2.38	1C5YT-10.2	1C5YA-10.2	1C3YA-10.2-CI	1N2YD-10.2
10.32	0.4063	12.38	2.38	1C5YT-0013	1C5YA-0013	1C3YA-0013-CI	1N2YD-0013
10.50	0.4134	–	2.38	1C5YT-10.5	1C5YA-10.5	1C3YA-10.5-CI	1N2YD-10.5
10.72	0.4219	27/64	2.38	1C5YT-.421	1C5YA-.421	1C3YA-.421-CI	1N2YD-.421
10.80	0.4252	–	2.38	1C5YT-10.8	1C5YA-10.8	1C3YA-10.8-CI	1N2YD-10.8
11.00	0.4331	–	2.38	1C5YT-11	1C5YA-11	1C3YA-11-CI	1N2YD-11

*Diamond Film is only available in standard geometry. For additional geometries, please contact Application Engineering.

A30: 112 - 143

A30: 18 - 21

A30: 4 - 6



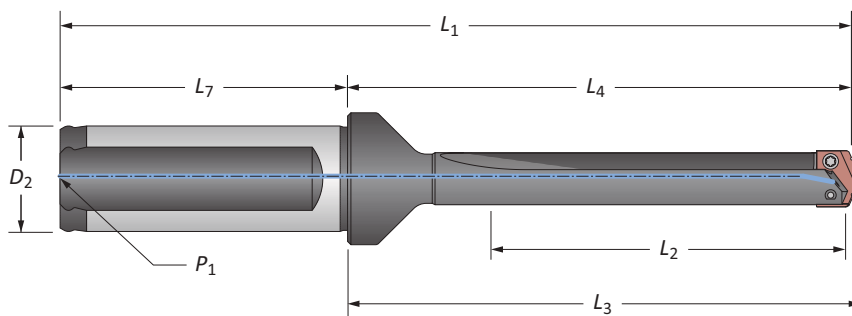
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 1C5YT-XXXX	TiAlN = 1C5YA-XXXX
TiCN = 1C5YN-XXXX	AM200® = 1C5YH-XXXX

Inserts sold in quantities of 2

T-A Drill Insert Holders

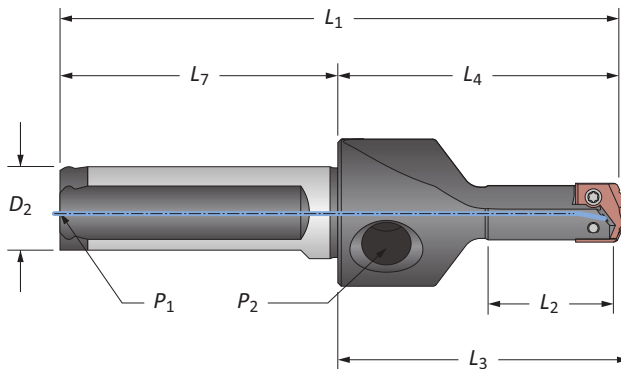
Y Series | Flange Shank | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m	Short	31.8	61.1	63.5	111.1	20.0	50.0	1/8*	220Y0S-20FM
	XL	222	251.7	254.1	301.7	20.0	50.0	1/8*	270Y0S-20FM
	3XL	290	319.9	322.3	369.9	20.0	50.0	1/8*	290Y0S-20FM
i	Short	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8	220Y0S-075F
	Standard	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8	240Y0S-075F
	Extended	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8	250Y0S-075F

*Metric thread to BSP and ISO 7-1



Straight Flute (Stub Length)

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m	Stub	19.1	47.6	50.0	95.6	16.0	48.0	1/16*	210Y0S-16FM
i	Stub	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	210Y0S-063F

*Metric thread to BSP and ISO 7-1

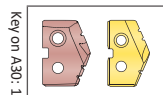
NOTE: Stub length holders have a 1/8" side pipe tap (P₂)

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 12 - 17



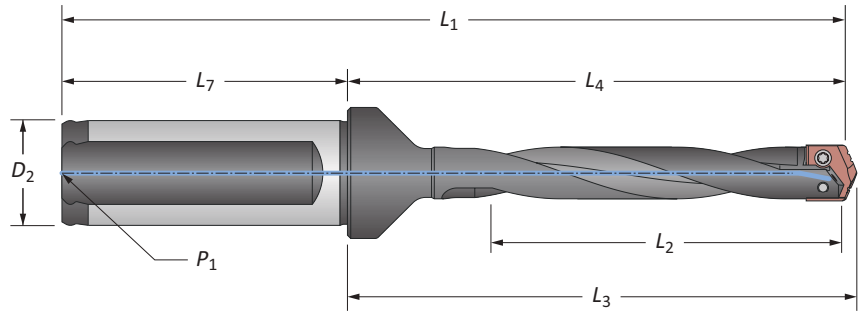
m = Metric (mm)
i = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

Y Series | Flange Shank | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



Helical Flute

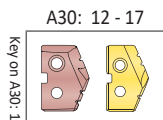
Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
M Standard	60.3	89.7	92.1	139.7	20.0	50.0	1/8*	240Y0H-20FM
M Standard Plus	86.0	115.4	117.8	165.4	20.0	50.0	1/8*	245Y0H-20FM
M Extended	111.1	140.5	142.9	190.5	20.0	50.0	1/8*	250Y0H-20FM
I Standard	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8	240Y0H-075F
I Standard Plus	3-3/8	4-35/64	4-41/64	6-43/64	3/4	2-1/32	1/8	245Y0H-075F
I Extended	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8	250Y0H-075F

*Metric thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



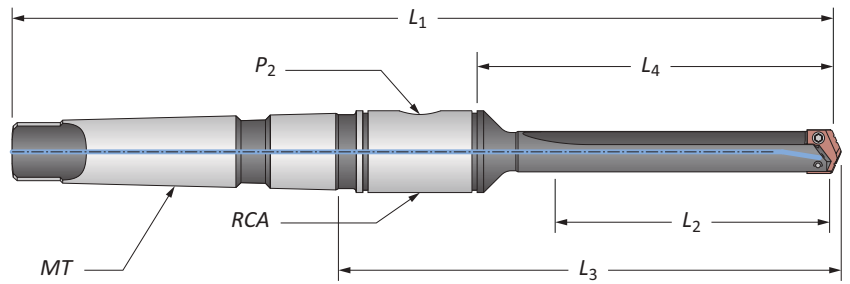
M = Metric (mm)
I = Imperial (in)

Screws sold in quantities of 10

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

Y Series | Taper Shank | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")

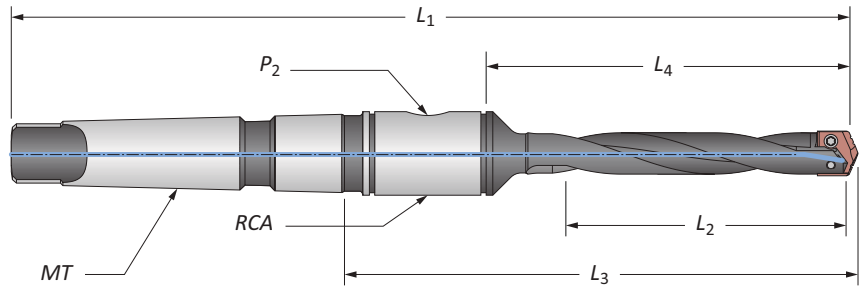


Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Short	31.8	51.5	88.0	160.3	#2**	1/16*	2T-2SRM	220Y0S-002M
i	Short	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	2T-2SR	220Y0S-002I
	Standard	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	2T-2SR	240Y0S-002I
	Extended	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	2T-2SR	250Y0S-002I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK



Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Standard	60.3	80.2	116.7	188.9	#2**	1/16*	2T-2SRM	240Y0H-002M
	Extended	111.1	130.9	167.4	239.7	#2**	1/16*	2T-2SRM	250Y0H-002M
i	Standard	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	2T-2SR	240Y0H-002I
	Extended	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	2T-2SR	250Y0H-002I

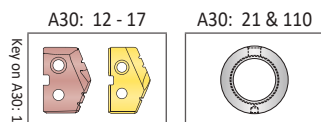
*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

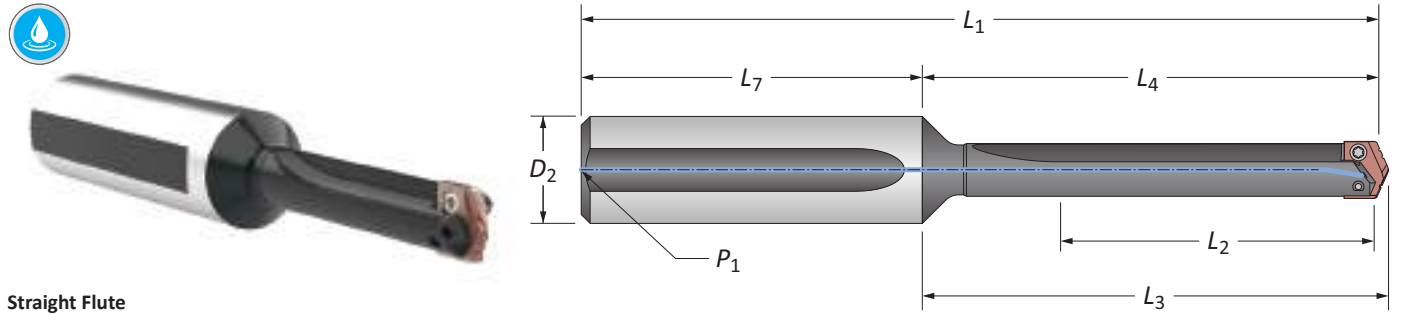


m = Metric (mm)
i = Imperial (in)
 Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

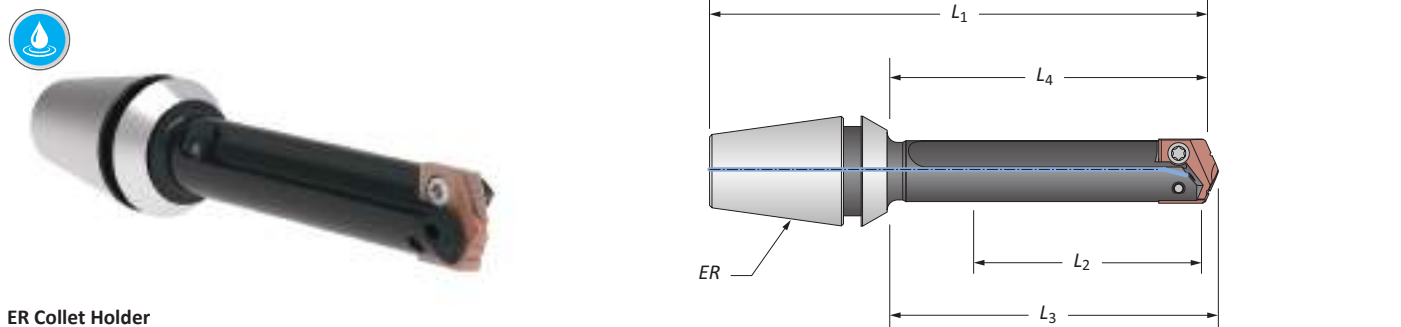
T-A Drill Insert Holders

Y Series | Straight Shank | ER Collet | Diameter Range: 9.50 mm - 11.07 mm (0.374" - 0.436")



Straight Flute

Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
Short	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8	220Y0S-075L
Standard	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8	240Y0S-075L
Extended	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8	250Y0S-075L
XL	8-3/4	9-17/32	9-5/8	11-29/32	3/4	2-3/8	1/8	270Y0S-075L
3XL	11-7/16	12-7/32	12-5/16	14-19/32	3/4	2-3/8	1/8	290Y0S-075L



ER Collet Holder

L ₂	L ₄	L ₃	L ₁	ER	Part No.	Collet Nut without Retaining Ring
1-3/8	1-29/32	2	3-15/64	ER-20	210Y0S-20ER	ER-20N

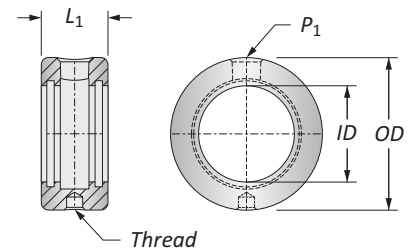
T-A Drill Accessories

Y Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.**	Replacements
19.05	44.45	22.23	M8 x 1.25	1/8*	2T-2SRM	2T1-2SR	2T1-2OR-10
3/4	1-3/4	7/8	5/16-18	1/8	2T-2SR	2T1-2SR	2T1-2OR-10

*Thread to BSP and ISO 7-1 | **RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers
 ⚠ Refer to page A30: 110 for proper RCA assembly and safety information





Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

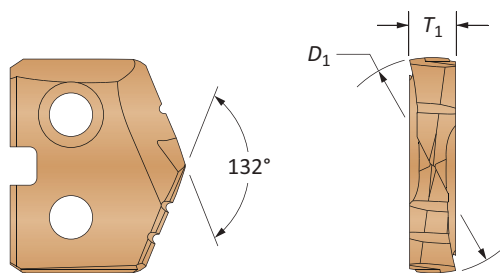
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.




 = Metric (mm)
 = Imperial (in)
 Screws sold in packs of 10
 O-rings sold in packs of 10

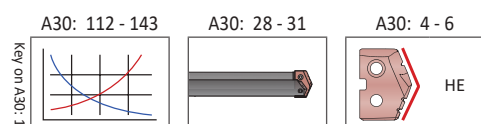
GEN2 T-A Drill Inserts

Z Series | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")



HSS Inserts – Super Cobalt • Carbide Inserts – K20 (C2) | K35 (C1)

Insert				HSS Part No.	Carbide Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200® Super Cobalt	 AM300® K20 (C2)	 AM300® K35 (C1)
11.11	0.4375	7/16	2.38	45ZH-0014	4C2ZP-0014	4C1ZP-0014
11.46	0.4510	–	2.38	45ZH-.451	4C2ZP-.451	4C1ZP-.451
11.50	0.4528	–	2.38	45ZH-11.5	4C2ZP-11.5	4C1ZP-11.5
11.51	0.4531	29/64	2.38	45ZH-.453	4C2ZP-.453	4C1ZP-.453
11.91	0.4688	15/32	2.38	45ZH-0015	4C2ZP-0015	4C1ZP-0015
12.00	0.4724	–	2.38	45ZH-12	4C2ZP-12	4C1ZP-12
12.30	0.4844	31/64	2.38	45ZH-.484	4C2ZP-.484	4C1ZP-.484
12.50	0.4921	–	2.38	45ZH-12.5	4C2ZP-12.5	4C1ZP-12.5
12.70	0.5000	1/2	2.38	45ZH-0016	4C2ZP-0016	4C1ZP-0016
12.85	0.5060	–	2.38	45ZH-.506	4C2ZP-.506	4C1ZP-.506
12.95	0.5100	–	2.38	45ZH-.510	4C2ZP-.510	4C1ZP-.510



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

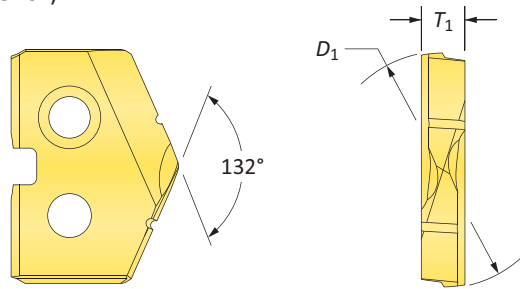
TIN = 4C2ZT-XXXX	TiAIN = 4C2ZA-XXXX
TiCN = 4C2ZN-XXXX	AM200® = 4C2ZH-XXXX

Inserts sold in quantities of 2






T-A Drill Inserts

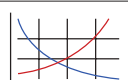


Z Series | HSS | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")




HSS Inserts – Premium Cobalt

Insert				Part No.		
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
11.11	0.4375	7/16	2.38	18ZT-0014	18ZA-0014	18ZN-0014
11.46	0.4510	-	2.38	18ZT-.451	18ZA-.451	18ZN-.451
11.50	0.4528	-	2.38	18ZT-11.5	18ZA-11.5	18ZN-11.5
11.51	0.4531	29/64	2.38	18ZT-.453	18ZA-.453	18ZN-.453
11.91	0.4688	15/32	2.38	18ZT-0015	18ZA-0015	18ZN-0015
12.00	0.4724	-	2.38	18ZT-12	18ZA-12	18ZN-12
12.30	0.4844	31/64	2.38	18ZT-.484	18ZA-.484	18ZN-.484
12.50	0.4921	-	2.38	18ZT-12.5	18ZA-12.5	18ZN-12.5
12.70	0.5000	1/2	2.38	18ZT-0016	18ZA-0016	18ZN-0016
12.85	0.5060	-	2.38	18ZT-.506	18ZA-.506	18ZN-.506
12.95	0.5100	-	2.38	18ZT-.510	18ZA-.510	18ZN-.510

Inserts sold in quantities of 2

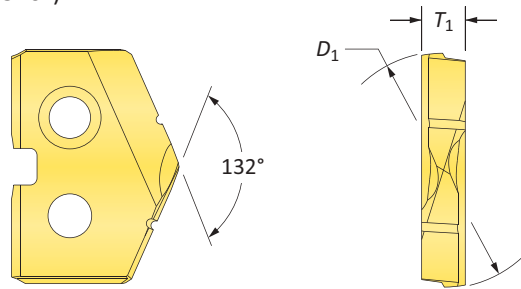
A30: 112 - 143  A30: 28 - 31  A30: 4 - 6  HI, HR, CR, TC, SK, NP, IN, RN, CN, AN, BR, CI, CP, NC, WC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 




TiN = 18ZYT-XXXX	TiAlN = 18ZA-XXXX
TiCN = 18ZLN-XXXX	AM200® = 18ZH-XXXX

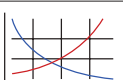


T-A Drill Inserts

Z Series | HSS | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")




HSS Inserts – Super Cobalt

Insert				Part No.		
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
11.11	0.4375	7/16	2.38	15ZT-0014	15ZA-0014	15ZN-0014
11.46	0.4510	–	2.38	15ZT-.451	15ZA-.451	15ZN-.451
11.50	0.4528	–	2.38	15ZT-11.5	15ZA-11.5	15ZN-11.5
11.51	0.4531	29/64	2.38	15ZT-.453	15ZA-.453	15ZN-.453
11.91	0.4688	15/32	2.38	15ZT-0015	15ZA-0015	15ZN-0015
12.00	0.4724	–	2.38	15ZT-12	15ZA-12	15ZN-12
12.30	0.4844	31/64	2.38	15ZT-.484	15ZA-.484	15ZN-.484
12.50	0.4921	–	2.38	15ZT-12.5	15ZA-12.5	15ZN-12.5
12.70	0.5000	1/2	2.38	15ZT-0016	15ZA-0016	15ZN-0016
12.85	0.5060	–	2.38	15ZT-.506	15ZA-.506	15ZN-.506
12.95	0.5100	–	2.38	15ZT-.510	15ZA-.510	15ZN-.510

A30: 112 - 143  A30: 28 - 31  A30: 4 - 6 

Key on A30: 1

HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 2

TiN = 15ZT-XXXX	TiAlN = 15ZA-XXXX
TiCN = 15ZN-XXXX	AM200® = 15ZH-XXXX

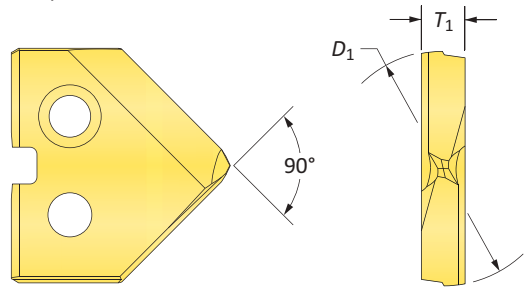


T-A Drill Inserts

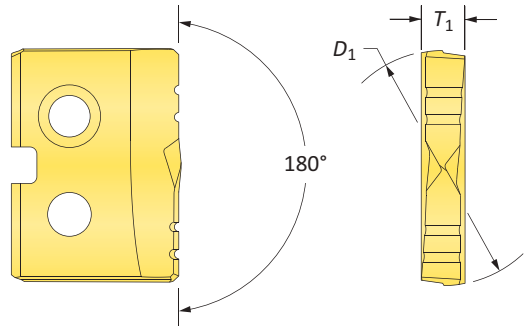
Z Series | HSS | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")







90° Spot & Chamfer

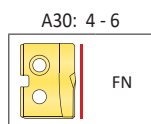
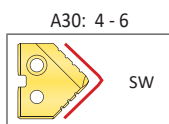
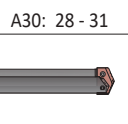
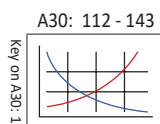


Flat Bottom



HSS Inserts – Super Cobalt

Insert				90° Spot & Chamfer Part No.			Flat Bottom Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN	 TiN
11.11	0.4375	7/16	2.38	15ZT-0014-SP	15ZA-0014-SP	15ZN-0014-SP	15ZT-0014-FB
11.46	0.4510	–	2.38	15ZT-.451-SP	15ZA-.451-SP	15ZN-.451-SP	15ZT-.451-FB
11.50	0.4528	–	2.38	15ZT-11.5-SP	15ZA-11.5-SP	15ZN-11.5-SP	15ZT-11.5-FB
11.51	0.4531	29/64	2.38	15ZT-.453-SP	15ZA-.453-SP	15ZN-.453-SP	15ZT-.453-FB
11.91	0.4688	15/32	2.38	15ZT-0015-SP	15ZA-0015-SP	15ZN-0015-SP	15ZT-0015-FB
12.00	0.4724	–	2.38	15ZT-12-SP	15ZA-12-SP	15ZN-12-SP	15ZT-12-FB
12.30	0.4844	31/64	2.38	15ZT-.484-SP	15ZA-.484-SP	15ZN-.484-SP	15ZT-.484-FB
12.50	0.4921	–	2.38	15ZT-12.5-SP	15ZA-12.5-SP	15ZN-12.5-SP	15ZT-12.5-FB
12.70	0.5000	1/2	2.38	15ZT-0016-SP	15ZA-0016-SP	15ZN-0016-SP	15ZT-0016-FB
12.85	0.5060	–	2.38	15ZT-.506-SP	15ZA-.506-SP	15ZN-.506-SP	15ZT-.506-FB
12.95	0.5100	–	2.38	15ZT-.510-SP	15ZA-.510-SP	15ZN-.510-SP	15ZT-.510-FB



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 15ZT-XXXX	TiAlN = 15ZA-XXXX
TiCN = 15ZN-XXXX	AM200® = 15ZH-XXXX

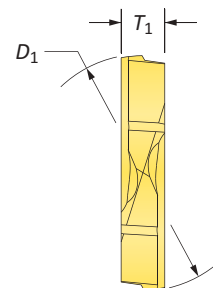
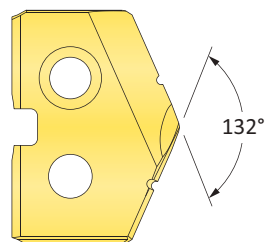
Inserts sold in quantities of 2

T-A Drill Inserts

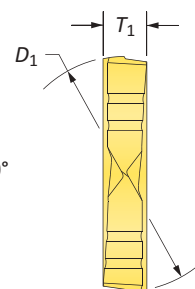
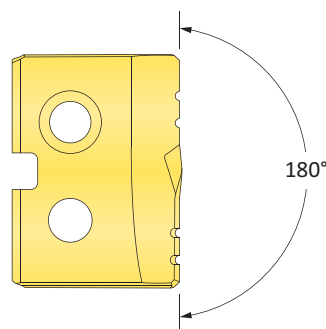
Z Series | Carbide | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")






Standard

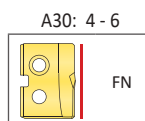
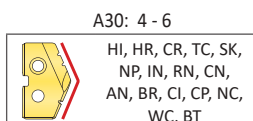
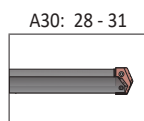
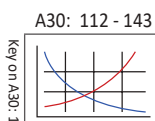


Flat Bottom



Carbide Inserts – K20 (C2)

Insert				Part No.		Flat Bottom Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiN
11.11	0.4375	7/16	2.38	1C2ZT-0014	1C2ZA-0014	1C2ZT-0014-FB
11.46	0.4510	–	2.38	1C2ZT-.451	1C2ZA-.451	1C2ZT-.451-FB
11.50	0.4528	–	2.38	1C2ZT-11.5	1C2ZA-11.5	1C2ZT-11.5-FB
11.51	0.4531	29/64	2.38	1C2ZT-.453	1C2ZA-.453	1C2ZT-.453-FB
11.91	0.4688	15/32	2.38	1C2ZT-0015	1C2ZA-0015	1C2ZT-0015-FB
12.00	0.4724	–	2.38	1C2ZT-12	1C2ZA-12	1C2ZT-12-FB
12.30	0.4844	31/64	2.38	1C2ZT-.484	1C2ZA-.484	1C2ZT-.484-FB
12.50	0.4921	–	2.38	1C2ZT-12.5	1C2ZA-12.5	1C2ZT-12.5-FB
12.70	0.5000	1/2	2.38	1C2ZT-0016	1C2ZA-0016	1C2ZT-0016-FB
12.85	0.5060	–	2.38	1C2ZT-.506	1C2ZA-.506	1C2ZT-.506-FB
12.95	0.5100	–	2.38	1C2ZT-.510	1C2ZA-.510	1C2ZT-.510-FB



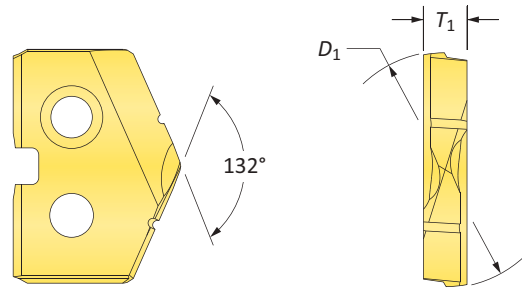
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 1C2ZT-XXXX	TiAlN = 1C2ZA-XXXX
TiCN = 1C2ZN-XXXX	AM200® = 1C2ZH-XXXX





Inserts sold in quantities of 2

T-A Drill Inserts

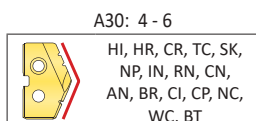
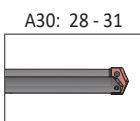
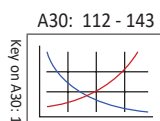
Z Series | Carbide | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")



Carbide Inserts – P40 (C5) | K10 (C3) | N2

Insert				C5 Part No.		C3 Part No.	N2 Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiAlN (Cast Iron)	 Diamond Film*
11.11	0.4375	7/16	2.38	1C5ZT-0014	1C5ZA-0014	1C3ZA-0014-CI	1N2ZD-0014
11.46	0.4510	–	2.38	1C5ZT-.451	1C5ZA-.451	1C3ZA-.451-CI	1N2ZD-.451
11.50	0.4528	–	2.38	1C5ZT-11.5	1C5ZA-11.5	1C3ZA-11.5-CI	1N2ZD-11.5
11.51	0.4531	29/64	2.38	1C5ZT-.453	1C5ZA-.453	1C3ZA-.453-CI	1N2ZD-.453
11.91	0.4688	15/32	2.38	1C5ZT-0015	1C5ZA-0015	1C3ZA-0015-CI	1N2ZD-0015
12.00	0.4724	–	2.38	1C5ZT-12	1C5ZA-12	1C3ZA-12-CI	1N2ZD-12
12.30	0.4844	31/64	2.38	1C5ZT-.484	1C5ZA-.484	1C3ZA-.484-CI	1N2ZD-.484
12.50	0.4921	–	2.38	1C5ZT-12.5	1C5ZA-12.5	1C3ZA-12.5-CI	1N2ZD-12.5
12.70	0.5000	1/2	2.38	1C5ZT-0016	1C5ZA-0016	1C3ZA-0016-CI	1N2ZD-0016
12.85	0.5060	–	2.38	1C5ZT-.506	1C5ZA-.506	1C3ZA-.506-CI	1N2ZD-.506
12.95	0.5100	–	2.38	1C5ZT-.510	1C5ZA-.510	1C3ZA-.510-CI	1N2ZD-.510

*Diamond Film is only available in standard geometry. For additional geometries, please contact Application Engineering.



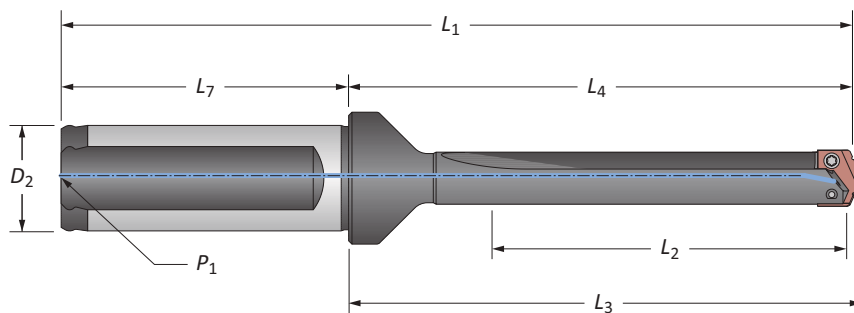
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2

TiN = 1C5ZT-XXXX	TiAlN = 1C5ZA-XXXX
TiCN = 1C5ZN-XXXX	AM200® = 1C5ZH-XXXX

T-A Drill Insert Holders

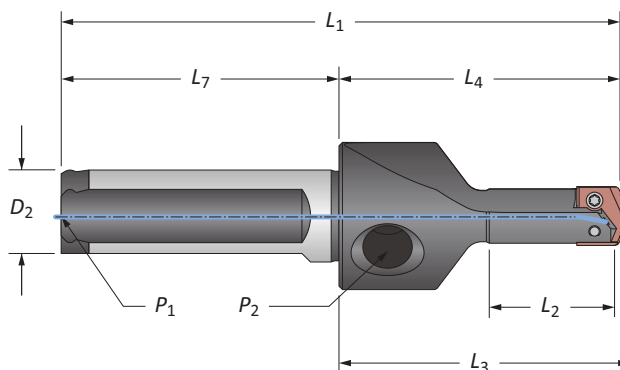
Z Series | Flange Shank | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")



Straight Flute

	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
m	Short	31.8	61.1	63.5	111.1	20.0	50.0	1/8*	220Z0S-20FM
	XL	222.3	251.7	254.1	301.7	20.0	50.0	1/8*	270Z0S-20FM
	3XL	290.5	319.9	322.3	369.9	20.0	50.0	1/8*	290Z0S-20FM
i	Short	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8	220Z0S-075F
	Standard	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8	240Z0S-075F
	Extended	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8	250Z0S-075F

*Metric thread to BSP and ISO 7-1



Straight Flute (Stub Length)

	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
m	Stub	19.1	45.6	48.0	93.6	16.0	48.0	1/16*	210Z0S-16FM
i	Stub	3/4	1-51/64	1-57/64	3-43/64	5/8	1-7/8	1/16	210Z0S-063F

*Metric thread to BSP and ISO 7-1

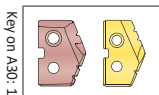
NOTE: Stub length holders have a 1/8" side pipe tap (P_2)

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 22 - 27



m = Metric (mm)

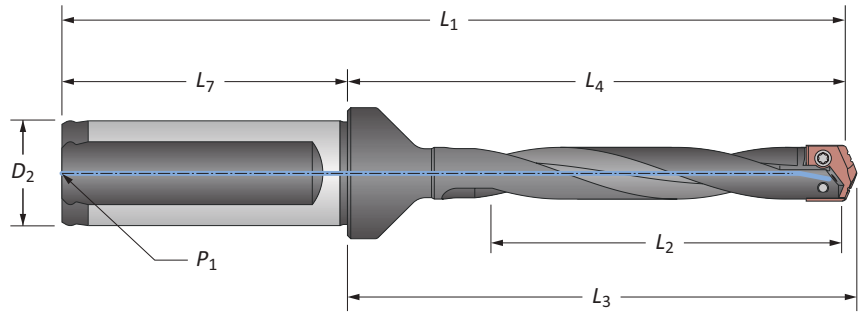
i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

Z Series | Flange Shank | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")








Helical Flute

Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m Standard	60.3	89.7	92.1	139.7	20.0	50.0	1/8*	240Z0H-20FM
m Standard Plus	86.0	115.4	117.8	165.4	20.0	50.0	1/8*	245Z0H-20FM
m Extended	111.1	140.5	142.9	190.5	20.0	50.0	1/8*	250Z0H-20FM
m Long	180.0	209.4	211.8	259.4	20.0	50.0	1/8*	260Z0H-20FM
i Standard	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8	240Z0H-075F
i Standard Plus	3-3/8	4-35/64	4-41/64	6-43/64	3/4	2-1/32	1/8	245Z0H-075F
i Extended	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8	250Z0H-075F
i Long	7-1/16	8-1/4	8-11/32	10-3/8	3/4	2-1/32	1/8	260Z0H-075F

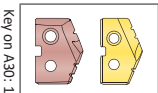
*Metric thread to BSP and ISO 7-1

Connection Accessories

					Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 22 - 27



m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

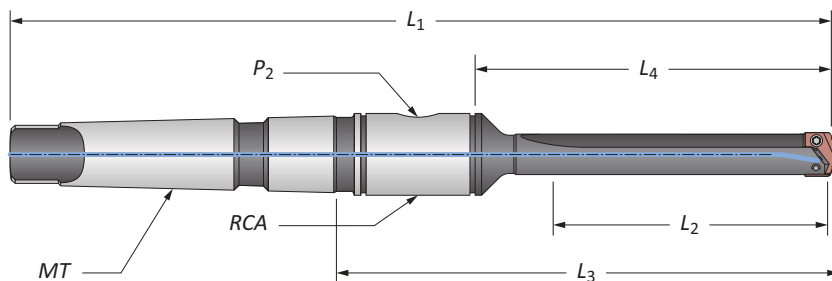
Z

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

Z Series | Taper Shank | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")



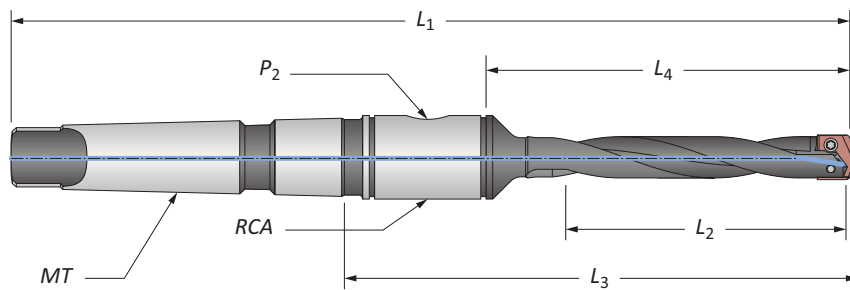

Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Short	31.8	51.5	88.0	160.3	#2**	1/16*	2T-2SRM	220Z0S-002M
i	Short	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	2T-2SR	220Z0S-002I
	Standard	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	2T-2SR	240Z0S-002I
	Extended	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	2T-2SR	250Z0S-002I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK




Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Standard	60.3	80.2	116.7	188.9	#2**	1/16*	2T-2SRM	240Z0H-002M
	Extended	111.1	130.9	167.4	239.7	#2**	1/16*	2T-2SRM	250Z0H-002M
i	Standard	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	2T-2SR	240Z0H-002I
	Extended	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	2T-2SR	250Z0H-002I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

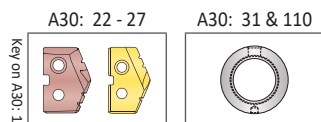
 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

X

SPECIALS

A30: 22 - 27 A30: 31 & 110

Key on A30: 1


m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

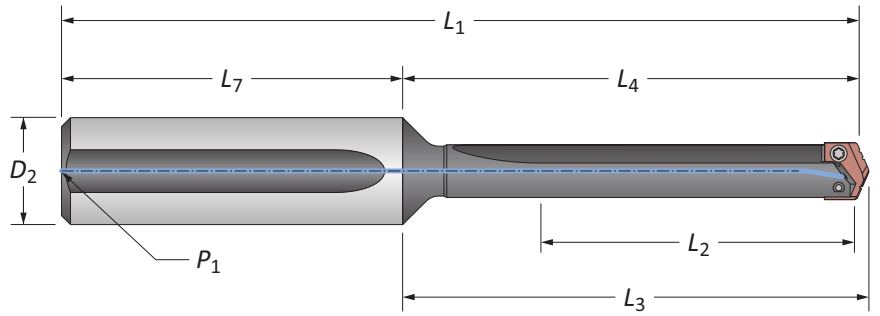
! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A30: 30

www.febametal.com/amec | Tel. 011.770.14.12

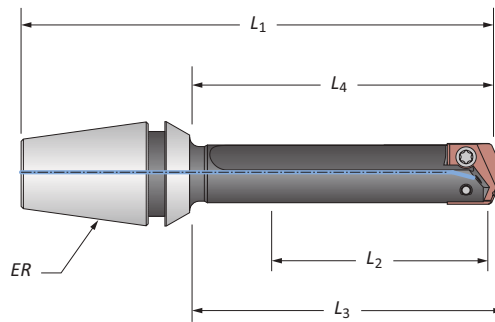
T-A Drill Insert Holders

Z Series | Straight Shank | ER Collet | Diameter Range: 11.10 mm - 12.95 mm (0.437" - 0.510")



Straight Flute

Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
Short	1-1/4	2-1/32	2-1/8	4-7/16	3/4	2-3/8	1/8	220Z0S-075L
Standard	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8	240Z0S-075L
Extended	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8	250Z0S-075L
XL	8-3/4	9-17/32	9-5/8	11-29/32	3/4	2-3/8	1/8	270Z0S-075L
3XL	11-7/16	12-7/32	12-5/16	14-19/32	3/4	2-3/8	1/8	290Z0S-075L



ER Collet Holder

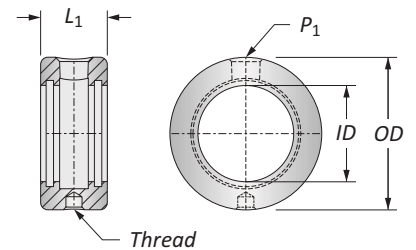
L ₂	L ₄	L ₃	L ₁	ER	Part No.	Collet Nut without Retaining Ring
1-3/8	1-29/32	2	3-5/64	ER-16	210Z0S-16ER	ER-16N
1-3/8	1-29/32	2	3-15/64	ER-20	210Z0S-20ER	ER-20N

T-A Drill Accessories

Z Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.**	Replacements
19.05	44.45	22.23	M8 x 1.25	1/8*	2T-2SRM	2T1-2SR	2T1-2OR-10
3/4	1-3/4	7/8	5/16-18	1/8	2T-2SR	2T1-2SR	2T1-2OR-10



*Thread to BSP and ISO 7-1 | **RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers
 ⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	84 N-cm (7.4 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

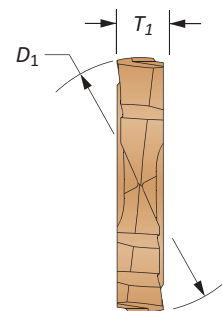
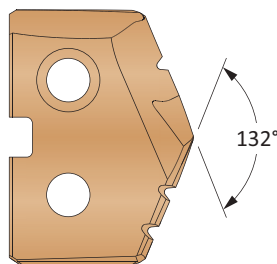
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

= Metric (mm)
 = Imperial (in)




Screws sold in packs of 10
 O-rings sold in packs of 10

GEN2 T-A Drill Inserts

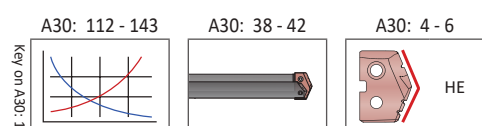
0 Series | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



HSS Inserts – Super Cobalt • Carbide Inserts – K20 (C2) | K35 (C1)

Series	Insert				HSS Part No.			Carbide Part No.		
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200® Super Cobalt	 AM300® K20 (C2)	 AM300® K35 (C1)			
0	13.00	0.5118	–	3.18	450H-13	4C20P-13	4C10P-13			
	13.10	0.5156	33/64	3.18	450H-.515	4C20P-.515	4C10P-.515			
	13.49	0.5313	17/32	3.18	450H-0017	4C20P-0017	4C10P-0017			
	13.50	0.5315	–	3.18	450H-13.5	4C20P-13.5	4C10P-13.5			
	13.89	0.5469	35/64	3.18	450H-.546	4C20P-.546	4C10P-.546			
	14.00	0.5512	–	3.18	450H-14	4C20P-14	4C10P-14			
	14.29	0.5625	9/16	3.18	450H-0018	4C20P-0018	4C10P-0018			
	14.50	0.5709	–	3.18	450H-14.5	4C20P-14.5	4C10P-14.5			
	14.68	0.5781	37/64	3.18	450H-.578	4C20P-.578	4C10P-.578			
	15.00	0.5906	–	3.18	450H-15	4C20P-15	4C10P-15			
15.08	0.5938	19/32	3.18	450H-0019	4C20P-0019	4C10P-0019				
0.5	15.48	0.6094	39/64	3.18	450H-.609	4C20P-.609	4C10P-.609			
	15.50	0.6102	–	3.18	450H-15.5	4C20P-15.5	4C10P-15.5			
	15.88	0.6250	5/8	3.18	450H-0020	4C20P-0020	4C10P-0020			
	16.00	0.6299	–	3.18	450H-16	4C20P-16	4C10P-16			
	16.27	0.6406	41/64	3.18	450H-.640	4C20P-.640	4C10P-.640			
	16.50	0.6496	–	3.18	450H-16.5	4C20P-16.5	4C10P-16.5			
	16.67	0.6563	21/32	3.18	450H-0021	4C20P-0021	4C10P-0021			
	17.00	0.6693	–	3.18	450H-17	4C20P-17	4C10P-17			
	17.07	0.6719	43/64	3.18	450H-.671	4C20P-.671	4C10P-.671			
	17.46	0.6875	11/16	3.18	450H-0022	4C20P-0022	4C10P-0022			
17.50	0.6890	–	3.18	450H-17.5	4C20P-17.5	4C10P-17.5				

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

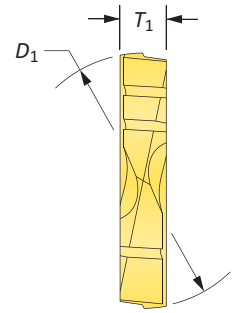
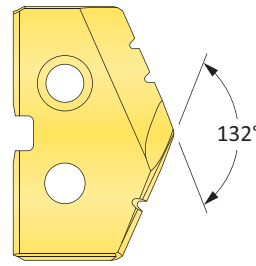
TiN = 4C20T-XXXX	TiAlN = 4C20A-XXXX
TiCN = 4C20N-XXXX	AM200® = 4C20H-XXXX

Inserts sold in quantities of 2






T-A Drill Inserts

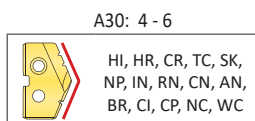
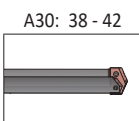
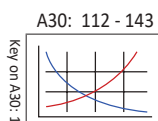
0 Series | HSS | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



HSS Inserts – Premium Cobalt

Series	Insert				Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
0	13.00	0.5118	–	3.18	180T-13	180A-13	180N-13
	13.10	0.5156	33/64	3.18	180T-.515	180A-.515	180N-.515
	13.49	0.5313	17/32	3.18	180T-0017	180A-0017	180N-0017
	13.50	0.5315	–	3.18	180T-13.5	180A-13.5	180N-13.5
	13.89	0.5469	35/64	3.18	180T-.546	180A-.546	180N-.546
	14.00	0.5512	–	3.18	180T-14	180A-14	180N-14
	14.29	0.5625	9/16	3.18	180T-0018	180A-0018	180N-0018
	14.50	0.5709	–	3.18	180T-14.5	180A-14.5	180N-14.5
	14.68	0.5781	37/64	3.18	180T-.578	180A-.578	180N-.578
	15.00	0.5906	–	3.18	180T-15	180A-15	180N-15
0.5	15.08	0.5938	19/32	3.18	180T-0019	180A-0019	180N-0019
	15.48	0.6094	39/64	3.18	180T-.609	180A-.609	180N-.609
	15.50	0.6102	–	3.18	180T-15.5	180A-15.5	180N-15.5
	15.88	0.6250	5/8	3.18	180T-0020	180A-0020	180N-0020
	16.00	0.6299	–	3.18	180T-16	180A-16	180N-16
	16.27	0.6406	41/64	3.18	180T-.640	180A-.640	180N-.640
	16.50	0.6496	–	3.18	180T-16.5	180A-16.5	180N-16.5
	16.67	0.6563	21/32	3.18	180T-0021	180A-0021	180N-0021
	17.00	0.6693	–	3.18	180T-17	180A-17	180N-17
	17.07	0.6719	43/64	3.18	180T-.671	180A-.671	180N-.671
17.46	0.6875	11/16	3.18	180T-0022	180A-0022	180N-0022	
17.50	0.6890	–	3.18	180T-17.5	180A-17.5	180N-17.5	

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.



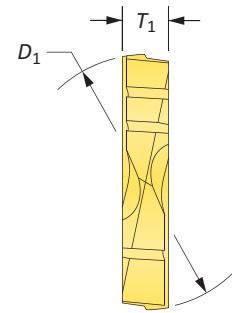
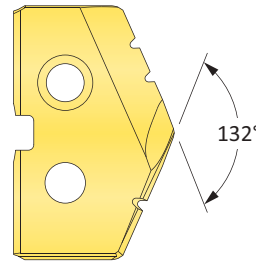
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2




TiN = 180T-XXXX	TiAlN = 180A-XXXX
TiCN = 180N-XXXX	AM200® = 180H-XXXX

T-A Drill Inserts

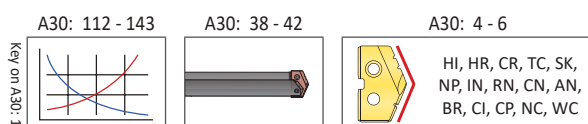
0 Series | HSS | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



HSS Inserts – Super Cobalt

Series	Insert				Part No.		
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
0	13.00	0.5118	–	3.18	150T-13	150A-13	150N-13
	13.10	0.5156	33/64	3.18	150T-.515	150A-.515	150N-.515
	13.49	0.5313	17/32	3.18	150T-0017	150A-0017	150N-0017
	13.50	0.5315	–	3.18	150T-13.5	150A-13.5	150N-13.5
	13.89	0.5469	35/64	3.18	150T-.546	150A-.546	150N-.546
	14.00	0.5512	–	3.18	150T-14	150A-14	150N-14
	14.29	0.5625	9/16	3.18	150T-0018	150A-0018	150N-0018
	14.50	0.5709	–	3.18	150T-14.5	150A-14.5	150N-14.5
	14.68	0.5781	37/64	3.18	150T-.578	150A-.578	150N-.578
0.5	15.00	0.5906	–	3.18	150T-15	150A-15	150N-15
	15.08	0.5938	19/32	3.18	150T-0019	150A-0019	150N-0019
	15.48	0.6094	39/64	3.18	150T-.609	150A-.609	150N-.609
	15.50	0.6102	–	3.18	150T-15.5	150A-15.5	150N-15.5
	15.88	0.6250	5/8	3.18	150T-0020	150A-0020	150N-0020
	16.00	0.6299	–	3.18	150T-16	150A-16	150N-16
	16.27	0.6406	41/64	3.18	150T-.640	150A-.640	150N-.640
	16.50	0.6496	–	3.18	150T-16.5	150A-16.5	150N-16.5
	16.67	0.6563	21/32	3.18	150T-0021	150A-0021	150N-0021
	17.00	0.6693	–	3.18	150T-17	150A-17	150N-17
	17.07	0.6719	43/64	3.18	150T-.671	150A-.671	150N-.671
17.46	0.6875	11/16	3.18	150T-0022	150A-0022	150N-0022	
17.50	0.6890	–	3.18	150T-17.5	150A-17.5	150N-17.5	

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 150T-XXXX	TiAlN = 150A-XXXX
TiCN = 150N-XXXX	AM200® = 150H-XXXX

Inserts sold in quantities of 2

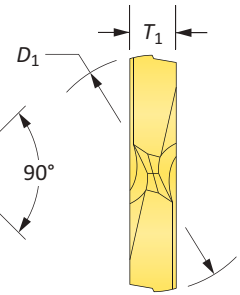
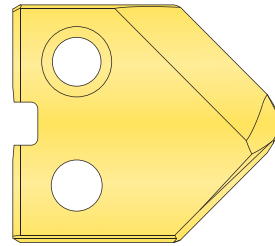


T-A Drill Inserts

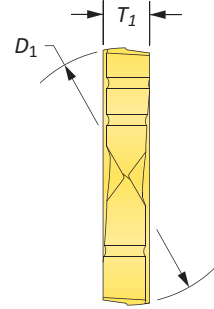
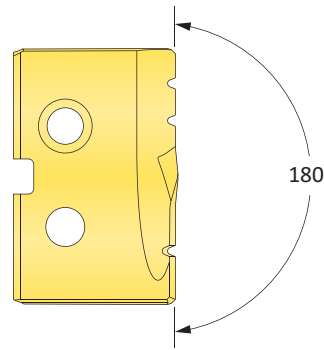
0 Series | HSS | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



90° Spot & Chamfer



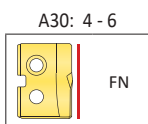
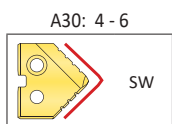
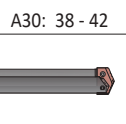
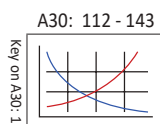
Flat Bottom



HSS Inserts – Super Cobalt

Series	Insert				90° Spot & Chamfer Part No.			Flat Bottom Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	TiN	TiAlN	TiCN	TiN
0	13.00	0.5118	–	3.18	150T-13-SP	150A-13-SP	150N-13-SP	150T-13-FB
	13.10	0.5156	33/64	3.18	150T-.515-SP	150A-.515-SP	150N-.515-SP	150T-.515-FB
	13.49	0.5313	17/32	3.18	150T-0017-SP	150A-0017-SP	150N-0017-SP	150T-0017-FB
	13.50	0.5315	–	3.18	150T-13.5-SP	150A-13.5-SP	150N-13.5-SP	150T-13.5-FB
	13.89	0.5469	35/64	3.18	150T-.546-SP	150A-.546-SP	150N-.546-SP	150T-.546-FB
	14.00	0.5512	–	3.18	150T-14-SP	150A-14-SP	150N-14-SP	150T-14-FB
	14.29	0.5625	9/16	3.18	150T-0018-SP	150A-0018-SP	150N-0018-SP	150T-0018-FB
	14.50	0.5709	–	3.18	150T-14.5-SP	150A-14.5-SP	150N-14.5-SP	150T-14.5-FB
	14.68	0.5781	37/64	3.18	150T-.578-SP	150A-.578-SP	150N-.578-SP	150T-.578-FB
	15.00	0.5906	–	3.18	150T-15-SP	150A-15-SP	150N-15-SP	150T-15-FB
15.08	0.5938	19/32	3.18	150T-0019-SP	150A-0019-SP	150N-0019-SP	150T-0019-FB	
0.5	15.48	0.6094	39/64	3.18	150T-.609-SP	150A-.609-SP	150N-.609-SP	150T-.609-FB
	15.50	0.6102	–	3.18	150T-15.5-SP	150A-15.5-SP	150N-15.5-SP	150T-15.5-FB
	15.88	0.6250	5/8	3.18	150T-0020-SP	150A-0020-SP	150N-0020-SP	150T-0020-FB
	16.00	0.6299	–	3.18	150T-16-SP	150A-16-SP	150N-16-SP	150T-16-FB
	16.27	0.6406	41/64	3.18	150T-.640-SP	150A-.640-SP	150N-.640-SP	150T-.640-FB
	16.50	0.6496	–	3.18	150T-16.5-SP	150A-16.5-SP	150N-16.5-SP	150T-16.5-FB
	16.67	0.6563	21/32	3.18	150T-0021-SP	150A-0021-SP	150N-0021-SP	150T-0021-FB
	17.00	0.6693	–	3.18	150T-17-SP	150A-17-SP	150N-17-SP	150T-17-FB
	17.07	0.6719	43/64	3.18	150T-.671-SP	150A-.671-SP	150N-.671-SP	150T-.671-FB
	17.46	0.6875	11/16	3.18	150T-0022-SP	150A-0022-SP	150N-0022-SP	150T-0022-FB
17.50	0.6890	–	3.18	150T-17.5-SP	150A-17.5-SP	150N-17.5-SP	150T-17.5-FB	

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply.

TiN = 150T-XXXX	TiAlN = 150A-XXXX
TiCN = 150N-XXXX	AM200® = 150H-XXXX

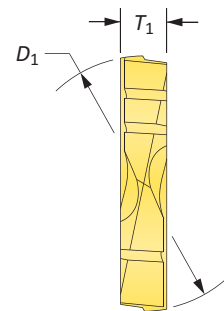
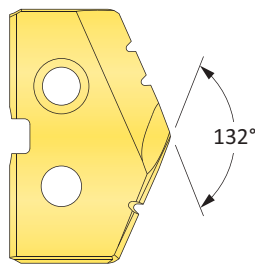
Inserts sold in quantities of 2

T-A Drill Inserts

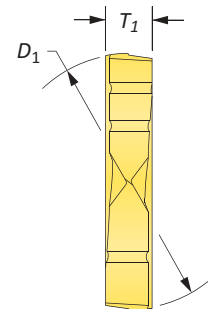
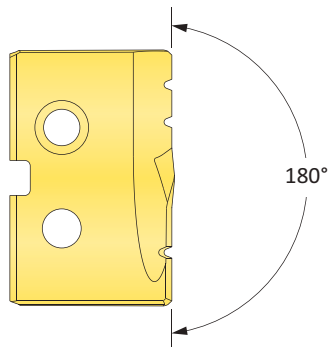
0 Series | Carbide | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")






Standard



Flat Bottom

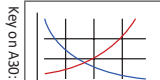


Carbide Inserts – K20 (C2)


Series	Insert				Part No.		Flat Bottom Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiN
0	13.00	0.5118	–	3.18	1C20T-13	1C20A-13	1C20T-13-FB
	13.10	0.5156	33/64	3.18	1C20T-.515	1C20A-.515	1C20T-.515-FB
	13.49	0.5313	17/32	3.18	1C20T-0017	1C20A-0017	1C20T-0017-FB
	13.50	0.5315	–	3.18	1C20T-13.5	1C20A-13.5	1C20T-13.5-FB
	13.89	0.5469	35/64	3.18	1C20T-.546	1C20A-.546	1C20T-.546-FB
	14.00	0.5512	–	3.18	1C20T-14	1C20A-14	1C20T-14-FB
	14.29	0.5625	9/16	3.18	1C20T-0018	1C20A-0018	1C20T-0018-FB
	14.50	0.5709	–	3.18	1C20T-14.5	1C20A-14.5	1C20T-14.5-FB
	14.68	0.5781	37/64	3.18	1C20T-.578	1C20A-.578	1C20T-.578-FB
	15.00	0.5906	–	3.18	1C20T-15	1C20A-15	1C20T-15-FB
0.5	15.08	0.5938	19/32	3.18	1C20T-0019	1C20A-0019	1C20T-0019-FB
	15.48	0.6094	39/64	3.18	1C20T-.609	1C20A-.609	1C20T-.609-FB
	15.50	0.6102	–	3.18	1C20T-15.5	1C20A-15.5	1C20T-15.5-FB
	15.88	0.6250	5/8	3.18	1C20T-0020	1C20A-0020	1C20T-0020-FB
	16.00	0.6299	–	3.18	1C20T-16	1C20A-16	1C20T-16-FB
	16.27	0.6406	41/64	3.18	1C20T-.640	1C20A-.640	1C20T-.640-FB
	16.50	0.6496	–	3.18	1C20T-16.5	1C20A-16.5	1C20T-16.5-FB
	16.67	0.6563	21/32	3.18	1C20T-0021	1C20A-0021	1C20T-0021-FB
	17.00	0.6693	–	3.18	1C20T-17	1C20A-17	1C20T-17-FB
	17.07	0.6719	43/64	3.18	1C20T-.671	1C20A-.671	1C20T-.671-FB
	17.46	0.6875	11/16	3.18	1C20T-0022	1C20A-0022	1C20T-0022-FB
	17.50	0.6890	–	3.18	1C20T-17.5	1C20A-17.5	1C20T-17.5-FB

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.


A30: 112 - 143



A30: 38 - 42




A30: 4 - 6



HI, HR, CR, TC, SK,
NP, IN, RN, CN,
AN, BR, CI, CP, NC,
WC, BT

A30: 4 - 6



FN

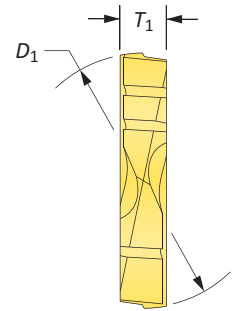
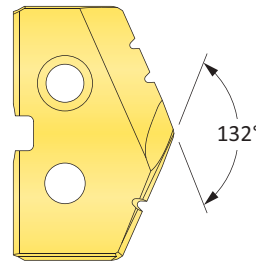
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 1C20T-XXXX	TiAlN = 1C20A-XXXX
TiCN = 1C20N-XXXX	AM200® = 1C20H-XXXX





Inserts sold in quantities of 2

T-A Drill Inserts

0 Series | Carbide | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Carbide Inserts – P40 (C5) | K10 (C3) | N2

Series	Insert				C5 Part No.		C3 Part No.	N2 Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiAlN (Cast Iron)	 Diamond Film*
0	13.00	0.5118	–	3.18	1C50T-13	1C50A-13	1C30A-13-CI	1N20D-13
	13.10	0.5156	33/64	3.18	1C50T-.515	1C50A-.515	1C30A-.515-CI	1N20D-.515
	13.49	0.5313	17/32	3.18	1C50T-0017	1C50A-0017	1C30A-0017-CI	1N20D-0017
	13.50	0.5315	–	3.18	1C50T-13.5	1C50A-13.5	1C30A-13.5-CI	1N20D-13.5
	13.89	0.5469	35/64	3.18	1C50T-.546	1C50A-.546	1C30A-.546-CI	1N20D-.546
	14.00	0.5512	–	3.18	1C50T-14	1C50A-14	1C30A-14-CI	1N20D-14
	14.29	0.5625	9/16	3.18	1C50T-0018	1C50A-0018	1C30A-0018-CI	1N20D-0018
	14.50	0.5709	–	3.18	1C50T-14.5	1C50A-14.5	1C30A-14.5-CI	1N20D-14.5
	14.68	0.5781	37/64	3.18	1C50T-.578	1C50A-.578	1C30A-.578-CI	1N20D-.578
	15.00	0.5906	–	3.18	1C50T-15	1C50A-15	1C30A-15-CI	1N20D-15
0.5	15.08	0.5938	19/32	3.18	1C50T-0019	1C50A-0019	1C30A-0019-CI	1N20D-0019
	15.48	0.6094	39/64	3.18	1C50T-.609	1C50A-.609	1C30A-.609-CI	1N20D-.609
	15.50	0.6102	–	3.18	1C50T-15.5	1C50A-15.5	1C30A-15.5-CI	1N20D-15.5
	15.88	0.6250	5/8	3.18	1C50T-0020	1C50A-0020	1C30A-0020-CI	1N20D-0020
	16.00	0.6299	–	3.18	1C50T-16	1C50A-16	1C30A-16-CI	1N20D-16
	16.27	0.6406	41/64	3.18	1C50T-.640	1C50A-.640	1C30A-.640-CI	1N20D-.640
	16.50	0.6496	–	3.18	1C50T-16.5	1C50A-16.5	1C30A-16.5-CI	1N20D-16.5
	16.67	0.6563	21/32	3.18	1C50T-0021	1C50A-0021	1C30A-0021-CI	1N20D-0021
	17.00	0.6693	–	3.18	1C50T-17	1C50A-17	1C30A-17-CI	1N20D-17
	17.07	0.6719	43/64	3.18	1C50T-.671	1C50A-.671	1C30A-.671-CI	1N20D-.671
17.46	0.6875	11/16	3.18	1C50T-0022	1C50A-0022	1C30A-0022-CI	1N20D-0022	
17.50	0.6890	–	3.18	1C50T-17.5	1C50A-17.5	1C30A-17.5-CI	1N20D-17.5	

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

*Diamond Film is only available in standard geometry. For additional geometries, please contact Application Engineering.

A

DRILLING

B

BORING

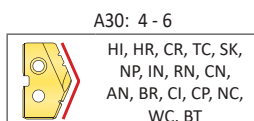
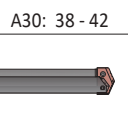
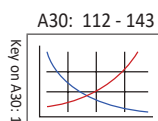
E

THREADING

X

SPECIALS

Inserts sold in quantities of 2

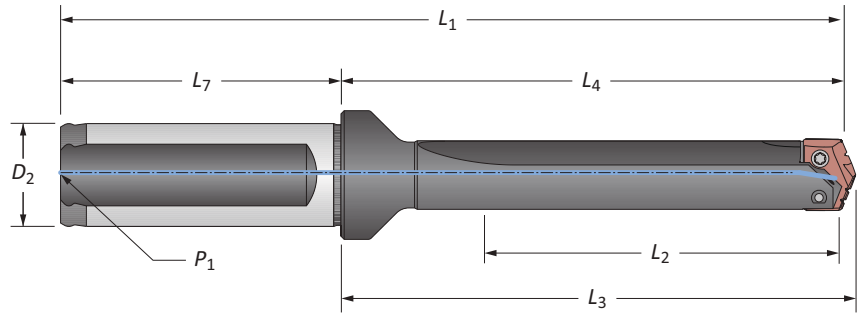


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

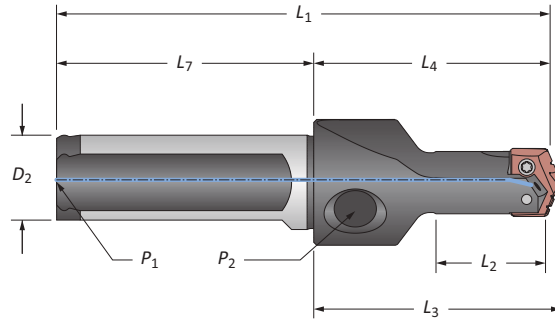
TiN = 1C50T-XXXX	TiAlN = 1C50A-XXXX
TiCN = 1C50N-XXXX	AM200® = 1C50H-XXXX

T-A Drill Insert Holders

0 Series | Flange Shank | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Stub Length



Straight Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁		
m	0	Stub	22.2	47.6	50.4	97.6	20.0	50.0	1/8*	21000S-20FM
		Short	34.9	63.5	66.3	113.5	20.0	50.0	1/8*	22000S-20FM
		Standard	64.0	92.1	94.1	142.1	20.0	50.0	1/8*	24000S-20FM
		XL	295.0	323.9	326.7	373.9	20.0	50.0	1/8*	27000S-20FM
		3XL	387.0	416.0	418.8	466.0	20.0	50.0	1/8*	29000S-20FM
0.5	Stub	Stub	22.2	47.6	50.4	97.6	20.0	50.0	1/8*	21005S-20FM
		Short	34.9	63.5	66.3	113.5	20.0	50.0	1/8*	22005S-20FM
i	0	Stub	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	21000S-075F
		Short	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8	22000S-075F
		Standard	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8	24000S-075F
		Extended	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8	25000S-075F
	0.5	Stub	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	21005S-075F
		Short	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8	22005S-075F
		Standard	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8	24005S-075F
		Extended	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8	25005S-075F

*Metric thread to BSP and ISO 7-1

NOTE: Stub length holders have a 1/8" side pipe tap (P₂)

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

Connection Accessories

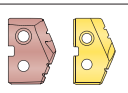
Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 32 - 37

A30: 43 & 111

Key on A30: 1



m = Metric (mm)

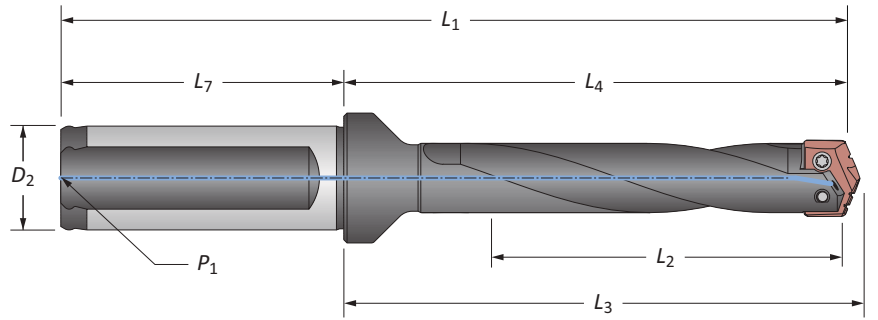
i = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

0 Series | Flange Shank | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Helical Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁		
Ⓜ	0	Standard	63.5	92.1	94.9	142.1	20.0	50.0	1/8*	24000H-20FM
	Standard Plus	89.0	117.6	120.4	167.6	20.0	50.0	1/8*	▲ 24500H-20FM	
	Extended	114.3	142.9	145.7	192.9	20.0	50.0	1/8*	▲ 25000H-20FM	
	Long	177.8	206.4	209.1	256.4	20.0	50.0	1/8*	▲ 26000H-20FM	
	Long Plus	240.0	268.6	271.4	318.6	20.0	50.0	1/8*	▲ 26500H-20FM	
0.5	Standard	63.5	92.1	94.9	142.1	20.0	50.0	1/8*	24005H-20FM	
	Extended	114.3	142.9	145.7	192.9	20.0	50.0	1/8*	▲ 25005H-20FM	
	Long	177.8	206.4	209.1	256.4	20.0	50.0	1/8*	▲ 26005H-20FM	
Ⓜ	0	Standard	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8	24000H-075F
		Standard Plus	3-1/2	4-5/8	4-37/64	6-39/64	3/4	2-1/32	1/8	▲ 24500H-075F
		Extended	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8	▲ 25000H-075F
		Long	7	8-1/8	8-15/64	10-5/32	3/4	2-1/32	1/8	▲ 26000H-075F
		Long Plus	9-7/16	10-37/64	10-11/16	12-23/32	3/4	2-1/32	1/8	▲ 26500H-075F
	0.5	Standard	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8	24005H-075F
		Extended	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8	▲ 25005H-075F
		Long	7	8-1/8	8-15/64	10-5/32	3/4	2-1/32	1/8	▲ 26005H-075F

*Metric thread to BSP and ISO 7-1

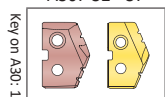
NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 32 - 37



Ⓜ = Metric (mm)

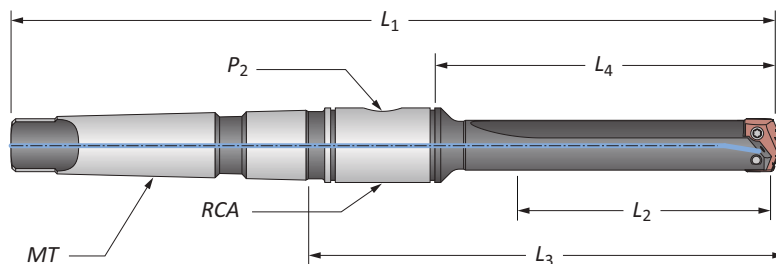
Ⓜ = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

0 Series | Taper Shank | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Straight Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA		
m	0	Short	35.0	55.5	92.4	164.3	#2**	1/16*	2T-2SRM	22000S-002M
	0.5	Short	35.0	55.5	92.4	164.3	#2**	1/16*	2T-2SRM	22005S-002M
i	0	Short	1-3/8	2-3/16	3-15/32	6-15/32	#2	1/16	2T-2SR	22000S-002i
		Standard	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	2T-2SR	24000S-002i
		Extended	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	2T-2SR	25000S-002i
	0.5	Short	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	2T-2SR	22005S-002i
		Standard	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	2T-2SR	24005S-002i
		Extended	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	2T-2SR	25005S-002i

*Metric thread to BSP and ISO 7-1

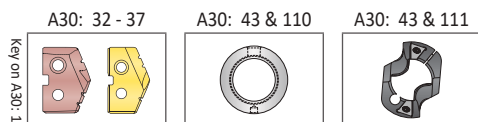
**Per ISO 296 type BEK

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

i = Imperial (in)

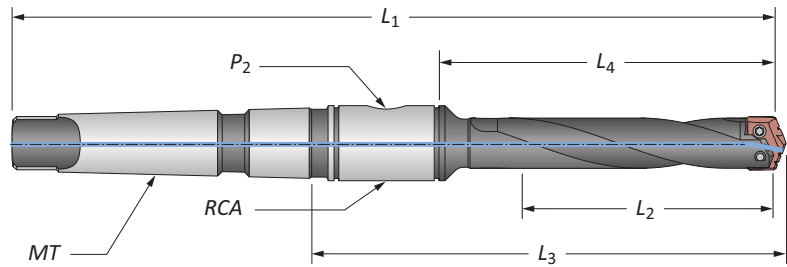
Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



T-A Drill Insert Holders

0 Series | Taper Shank | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Helical Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA		
Ⓜ	0	Standard	63.5	84.1	121.0	192.9	#2**	1/16*	2T-2SRM	24000H-002M
	Extended	114.3	135.0	171.8	243.7	#2**	1/16*	2T-2SRM	⚠ 25000H-002M	
	Long	177.8	198.5	235.3	307.2	#2**	1/16*	2T-2SRM	⚠ 26000H-002M	
Ⓜ	0.5	Standard	63.5	84.1	121.0	192.9	#2**	1/16*	2T-2SRM	24005H-002M
	Extended	114.3	135.0	171.8	243.7	#2**	1/16*	2T-2SRM	⚠ 25005H-002M	
	Long	177.8	198.5	235.3	307.2	#2**	1/16*	2T-2SRM	⚠ 26005H-002M	
Ⓜ	0	Standard	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	2T-2SR	24000H-002I
		Extended	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	2T-2SR	⚠ 25000H-002I
		Long	7	7-13/16	8-17/64	12-3/32	#2	1/16	2T-2SR	⚠ 26000H-002I
	0.5	Standard	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	2T-2SR	24005H-002I
		Extended	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	2T-2SR	⚠ 25005H-002I
		Long	7	7-13/16	8-17/64	12-3/32	#2	1/16	2T-2SR	⚠ 26005H-002I

*Metric thread to BSP and ISO 7-1

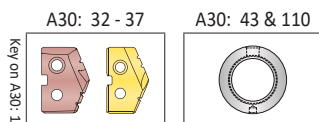
**Per ISO 296 type BEK

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Ⓜ = Metric (mm)

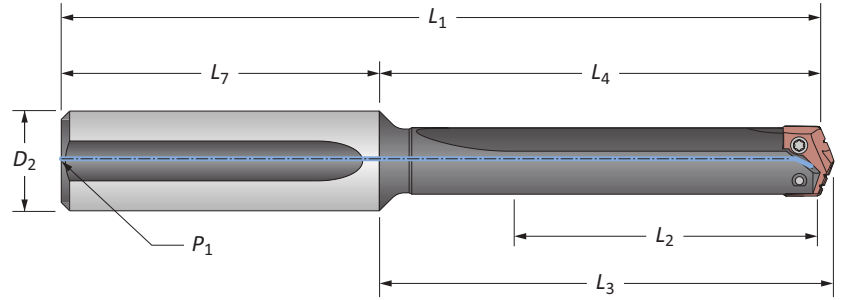
Ⓜ = Imperial (in)

Screws sold in quantities of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

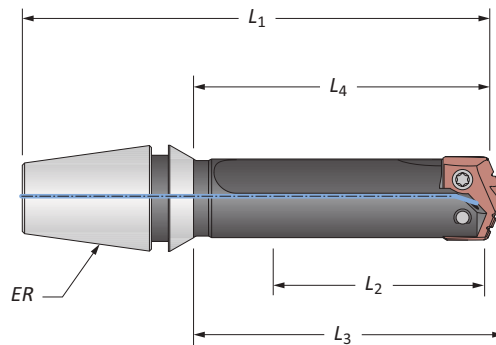
0 Series | Straight Shank | ER Collet | Diameter Range: 12.98 mm - 17.65 mm (0.511" - 0.695")



Straight Flute

Series	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
0	Short	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8	22000S-075L
	Standard	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8	24000S-075L
	Extended	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8	25000S-075L
	Long	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8	26000S-075L
	XL	11-5/8	12-7/16	12-35/64	14-13/16	3/4	2-3/8	1/8	27000S-075L
0.5	3XL	15-1/4	16-1/16	16-11/64	18-7/16	3/4	2-3/8	1/8	29000S-075L
	Short	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8*	22005S-075L
	Standard	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8*	24005S-075L
	Extended	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8*	25005S-075L
	Long	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8*	26005S-075L

NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.



ER Collet Holder

Series	Body				ER	Part No.	Collet Nut without Retaining Ring
	L_2	L_4	L_3	L_1			
0	1-3/8	1-57/64	2	3-5/64	ER-16	21000S-16ER	ER-16N
	1-3/8	1-57/64	2	3-15/64	ER-20	21000S-20ER	ER-20N

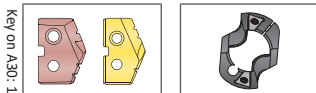
Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 32 - 37

A30: 43 & 111



m = Metric (mm)

i = Imperial (in)

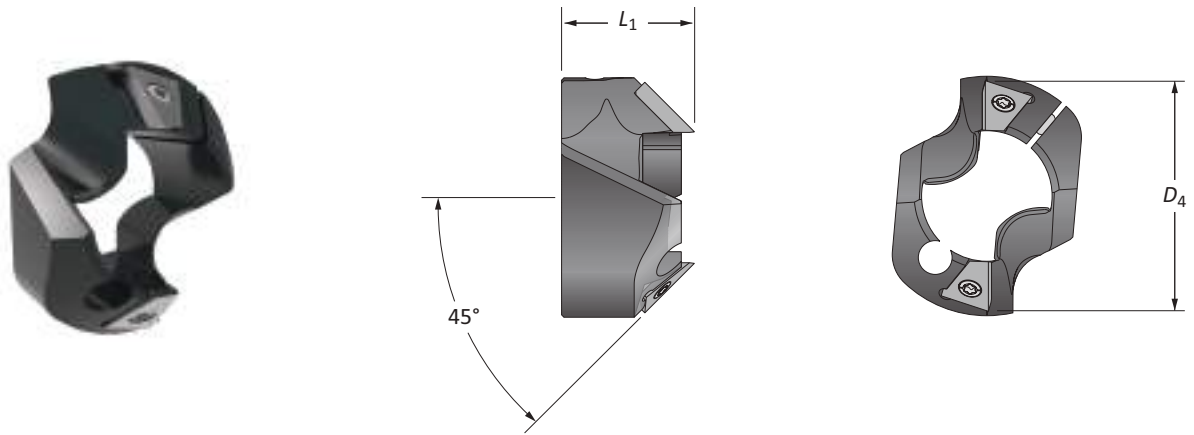
Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



T-A Drill Accessories

0 Series | Chamfer Rings | Rotary Coolant Adapters | Torx® Plus Screws

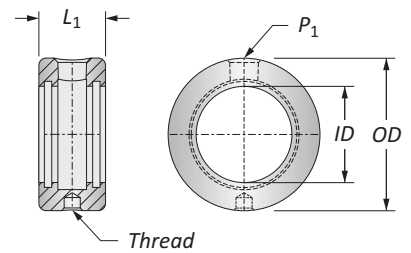


T-ACR 45 Chamfer Ring

Holder Series	D ₁ Range	Chamfer Ring		Part No.	Insert Part No.	Insert Screw	Insert Driver	Clamping Screw	Insert Driver
		D ₄	L ₁						
0	0.5118 - 0.6890	13/16	0.676	T-ACR-45-0	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7375-IP9-1	8IP-9

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.**	Replacements
m 19.05	44.45	22.23	M8 x 1.25	1/8*	⚠ 2T-2SRM	2T1-2SR	2T1-2OR-10
i 3/4	1-3/4	7/8	5/16-18	1/8	⚠ 2T-2SR	2T1-2SR	2T1-2OR-10



*Thread to BSP and ISO 7-1

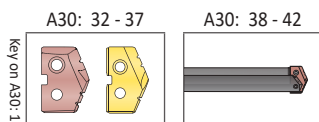
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

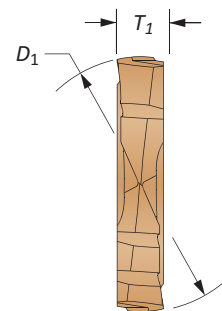
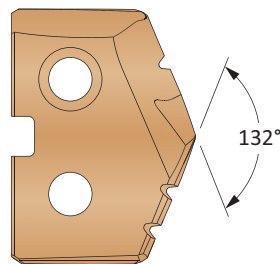
i = Imperial (in)

Chamfer Ring Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10




⚠ WARNING RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications.

GEN2 T-A Drill Inserts

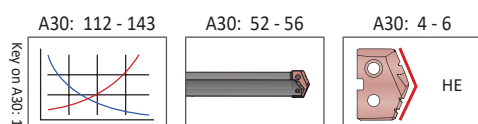
1 Series | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



HSS Inserts – Super Cobalt • Carbide Inserts – K20 (C2) | K35 (C1)

Series	Insert				HSS Part No.			Carbide Part No.		
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200® Super Cobalt	 AM300® K20 (C2)	 AM300® K35 (C1)			
1	17.86	0.7031	45/64	3.97	451H-.703	4C21P-.703	4C11P-.703			
	18.00	0.7087	–	3.97	451H-18	4C21P-18	4C11P-18			
	18.26	0.7188	23/32	3.97	451H-0023	4C21P-0023	4C11P-0023			
	18.50	0.7283	–	3.97	451H-18.5	4C21P-18.5	4C11P-18.5			
	18.65	0.7344	47/64	3.97	451H-.734	4C21P-.734	4C11P-.734			
	19.00	0.7480	–	3.97	451H-19	4C21P-19	4C11P-19			
	19.05	0.7500	3/4	3.97	451H-0024	4C21P-0024	4C11P-0024			
	19.45	0.7656	49/64	3.97	451H-.765	4C21P-.765	4C11P-.765			
	19.50	0.7677	–	3.97	451H-19.5	4C21P-19.5	4C11P-19.5			
	19.84	0.7813	25/32	3.97	451H-0025	4C21P-0025	4C11P-0025			
	20.00	0.7874	–	3.97	451H-20	4C21P-20	4C11P-20			
	20.24	0.7969	51/64	3.97	451H-.796	4C21P-.796	4C11P-.796			
	20.34	0.8010	–	3.97	451H-.801	4C21P-.801	4C11P-.801			
	20.50	0.8071	–	3.97	451H-20.5	4C21P-20.5	4C11P-20.5			
	20.64	0.8125	13/16	3.97	451H-0026	4C21P-0026	4C11P-0026			
	21.00	0.8268	–	3.97	451H-21	4C21P-21	4C11P-21			
21.43	0.8438	27/32	3.97	451H-0027	4C21P-0027	4C11P-0027				
21.50	0.8465	–	3.97	451H-21.5	4C21P-21.5	4C11P-21.5				
1.5	21.83	0.8594	55/64	3.97	451H-.859	4C21P-.859	4C11P-.859			
	22.00	0.8661	–	3.97	451H-22	4C21P-22	4C11P-22			
	22.23	0.8750	7/8	3.97	451H-0028	4C21P-0028	4C11P-0028			
	22.50	0.8858	–	3.97	451H-22.5	4C21P-22.5	4C11P-22.5			
	22.62	0.8906	57/64	3.97	451H-.890	4C21P-.890	4C11P-.890			
	23.00	0.9055	–	3.97	451H-23	4C21P-23	4C11P-23			
	23.02	0.9063	29/32	3.97	451H-0029	4C21P-0029	4C11P-0029			
	23.42	0.9219	59/64	3.97	451H-.921	4C21P-.921	4C11P-.921			
	23.50	0.9252	–	3.97	451H-23.5	4C21P-23.5	4C11P-23.5			
	23.81	0.9375	15/16	3.97	451H-0030	4C21P-0030	4C11P-0030			
24.00	0.9449	–	3.97	451H-24	4C21P-24	4C11P-24				

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

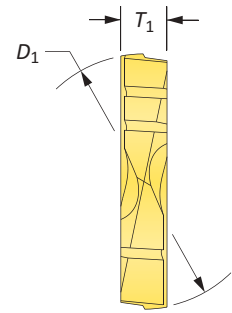
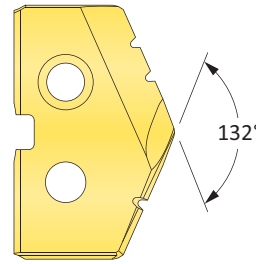
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TICN = 4C21N-XXXX	AM200® = 4C21H-XXXX

Inserts sold in quantities of 2



T-A Drill Inserts

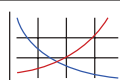
1 Series | HSS | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")





HSS Inserts – Premium Cobalt

Series	Insert				Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
1	17.86	0.7031	45/64	3.97	181T-703	181A-703	181N-703
	18.00	0.7087	–	3.97	181T-18	181A-18	181N-18
	18.26	0.7188	23/32	3.97	181T-0023	181A-0023	181N-0023
	18.50	0.7283	–	3.97	181T-18.5	181A-18.5	181N-18.5
	18.65	0.7344	47/64	3.97	181T-734	181A-734	181N-734
	19.00	0.7480	–	3.97	181T-19	181A-19	181N-19
	19.05	0.7500	3/4	3.97	181T-0024	181A-0024	181N-0024
	19.45	0.7656	49/64	3.97	181T-765	181A-765	181N-765
	19.50	0.7677	–	3.97	181T-19.5	181A-19.5	181N-19.5
	19.84	0.7813	25/32	3.97	181T-0025	181A-0025	181N-0025
	20.00	0.7874	–	3.97	181T-20	181A-20	181N-20
	20.24	0.7969	51/64	3.97	181T-796	181A-796	181N-796
	20.34	0.8010	–	3.97	181T-801	181A-801	181N-801
	20.50	0.8071	–	3.97	181T-20.5	181A-20.5	181N-20.5
	20.64	0.8125	13/16	3.97	181T-0026	181A-0026	181N-0026
	21.00	0.8268	–	3.97	181T-21	181A-21	181N-21
21.43	0.8438	27/32	3.97	181T-0027	181A-0027	181N-0027	
21.50	0.8465	–	3.97	181T-21.5	181A-21.5	181N-21.5	
1.5	21.83	0.8594	55/64	3.97	181T-859	181A-859	181N-859
	22.00	0.8661	–	3.97	181T-22	181A-22	181N-22
	22.23	0.8750	7/8	3.97	181T-0028	181A-0028	181N-0028
	22.50	0.8858	–	3.97	181T-22.5	181A-22.5	181N-22.5
	22.62	0.8906	57/64	3.97	181T-890	181A-890	181N-890
	23.00	0.9055	–	3.97	181T-23	181A-23	181N-23
	23.02	0.9063	29/32	3.97	181T-0029	181A-0029	181N-0029
	23.42	0.9219	59/64	3.97	181T-921	181A-921	181N-921
	23.50	0.9252	–	3.97	181T-23.5	181A-23.5	181N-23.5
	23.81	0.9375	15/16	3.97	181T-0030	181A-0030	181N-0030
24.00	0.9449	–	3.97	181T-24	181A-24	181N-24	

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

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Key on A30: 1

A30: 52 - 56


A30: 4 - 6
 HI, HR, CR, TC, SK, NP, IN, RN, CN, AN, BR, CI, CP, NC, WC

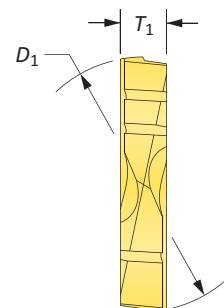
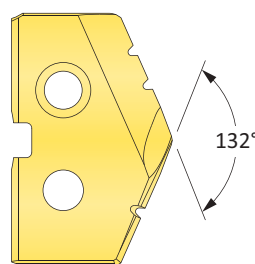
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2


TiN = 181T-XXXX	TiAlN = 181A-XXXX
TiCN = 181N-XXXX	AM200® = 181H-XXXX

T-A Drill Inserts

1 Series | HSS | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")

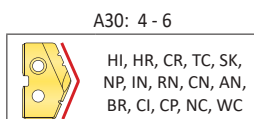
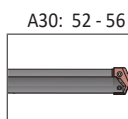
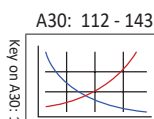


HSS Inserts – Super Cobalt

Series	Insert				Part No.		
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
1	17.86	0.7031	45/64	3.97	151T-.703	151A-.703	151N-.703
	18.00	0.7087	–	3.97	151T-18	151A-18	151N-18
	18.26	0.7188	23/32	3.97	151T-0023	151A-0023	151N-0023
	18.50	0.7283	–	3.97	151T-18.5	151A-18.5	151N-18.5
	18.65	0.7344	47/64	3.97	151T-.734	151A-.734	151N-.734
	19.00	0.7480	–	3.97	151T-19	151A-19	151N-19
	19.05	0.7500	3/4	3.97	151T-0024	151A-0024	151N-0024
	19.45	0.7656	49/64	3.97	151T-.765	151A-.765	151N-.765
	19.50	0.7677	–	3.97	151T-19.5	151A-19.5	151N-19.5
	19.84	0.7813	25/32	3.97	151T-0025	151A-0025	151N-0025
	20.00	0.7874	–	3.97	151T-20	151A-20	151N-20
	20.24	0.7969	51/64	3.97	151T-.796	151A-.796	151N-.796
	20.34	0.8010	–	3.97	151T-.801	151A-.801	151N-.801
	20.50	0.8071	–	3.97	151T-20.5	151A-20.5	151N-20.5
	20.64	0.8125	13/16	3.97	151T-0026	151A-0026	151N-0026
	21.00	0.8268	–	3.97	151T-21	151A-21	151N-21
21.43	0.8438	27/32	3.97	151T-0027	151A-0027	151N-0027	
21.50	0.8465	–	3.97	151T-21.5	151A-21.5	151N-21.5	
1.5	21.83	0.8594	55/64	3.97	151T-.859	151A-.859	151N-.859
	22.00	0.8661	–	3.97	151T-22	151A-22	151N-22
	22.23	0.8750	7/8	3.97	151T-0028	151A-0028	151N-0028
	22.50	0.8858	–	3.97	151T-22.5	151A-22.5	151N-22.5
	22.62	0.8906	57/64	3.97	151T-.890	151A-.890	151N-.890
	23.00	0.9055	–	3.97	151T-23	151A-23	151N-23
	23.02	0.9063	29/32	3.97	151T-0029	151A-0029	151N-0029
	23.42	0.9219	59/64	3.97	151T-.921	151A-.921	151N-.921
	23.50	0.9252	–	3.97	151T-23.5	151A-23.5	151N-23.5
	23.81	0.9375	15/16	3.97	151T-0030	151A-0030	151N-0030
	24.00	0.9449	–	3.97	151T-24	151A-24	151N-24

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

Inserts sold in quantities of 2



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 151T-XXXX	TiAlN = 151A-XXXX
TiCN = 151N-XXXX	AM200® = 151H-XXXX

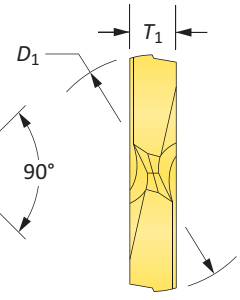
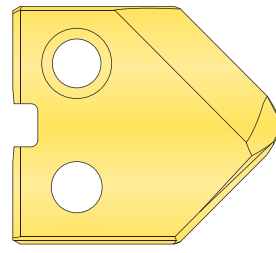


T-A Drill Inserts

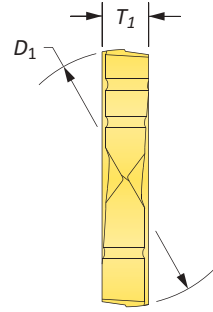
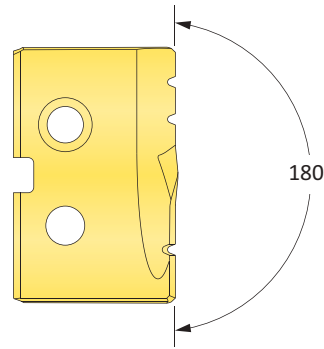
1 Series | HSS | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")




90° Spot & Chamfer



Flat Bottom

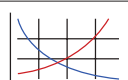


HSS Inserts – Super Cobalt


Series	Insert				90° Spot & Chamfer Part No.			Flat Bottom Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN	 TiN
1	17.86	0.7031	45/64	3.97	151T-.703-SP	151A-.703-SP	151N-.703-SP	151T-.703-FB
	18.00	0.7087	–	3.97	151T-18-SP	151A-18-SP	151N-18-SP	151T-18-FB
	18.26	0.7188	23/32	3.97	151T-0023-SP	151A-0023-SP	151N-0023-SP	151T-0023-FB
	18.50	0.7283	–	3.97	151T-18.5-SP	151A-18.5-SP	151N-18.5-SP	151T-18.5-FB
	18.65	0.7344	47/64	3.97	151T-.734-SP	151A-.734-SP	151N-.734-SP	151T-.734-FB
	19.00	0.7480	–	3.97	151T-19-SP	151A-19-SP	151N-19-SP	151T-19-FB
	19.05	0.7500	3/4	3.97	151T-0024-SP	151A-0024-SP	151N-0024-SP	151T-0024-FB
	19.45	0.7656	49/64	3.97	151T-.765-SP	151A-.765-SP	151N-.765-SP	151T-.765-FB
	19.50	0.7677	–	3.97	151T-19.5-SP	151A-19.5-SP	151N-19.5-SP	151T-19.5-FB
	19.84	0.7813	25/32	3.97	151T-0025-SP	151A-0025-SP	151N-0025-SP	151T-0025-FB
	20.00	0.7874	–	3.97	151T-20-SP	151A-20-SP	151N-20-SP	151T-20-FB
	20.24	0.7969	51/64	3.97	151T-.796-SP	151A-.796-SP	151N-.796-SP	151T-.796-FB
	20.34	0.8010	–	3.97	151T-.801-SP	151A-.801-SP	151N-.801-SP	151T-.801-FB
	20.50	0.8071	–	3.97	151T-20.5-SP	151A-20.5-SP	151N-20.5-SP	151T-20.5-FB
	20.64	0.8125	13/16	3.97	151T-0026-SP	151A-0026-SP	151N-0026-SP	151T-0026-FB
	21.00	0.8268	–	3.97	151T-21-SP	151A-21-SP	151N-21-SP	151T-21-FB
21.43	0.8438	27/32	3.97	151T-0027-SP	151A-0027-SP	151N-0027-SP	151T-0027-FB	
21.50	0.8465	–	3.97	151T-21.5-SP	151A-21.5-SP	151N-21.5-SP	151T-21.5-FB	
1.5	21.83	0.8594	55/64	3.97	151T-.859-SP	151A-.859-SP	151N-.859-SP	151T-.859-FB
	22.00	0.8661	–	3.97	151T-22-SP	151A-22-SP	151N-22-SP	151T-22-FB
	22.23	0.8750	7/8	3.97	151T-0028-SP	151A-0028-SP	151N-0028-SP	151T-0028-FB
	22.50	0.8858	–	3.97	151T-22.5-SP	151A-22.5-SP	151N-22.5-SP	151T-22.5-FB
	22.62	0.8906	57/64	3.97	151T-.890-SP	151A-.890-SP	151N-.890-SP	151T-.890-FB
	23.00	0.9055	–	3.97	151T-23-SP	151A-23-SP	151N-23-SP	151T-23-FB
	23.02	0.9063	29/32	3.97	151T-0029-SP	151A-0029-SP	151N-0029-SP	151T-0029-FB
	23.42	0.9219	59/64	3.97	151T-.921-SP	151A-.921-SP	151N-.921-SP	151T-.921-FB
	23.50	0.9252	–	3.97	151T-23.5-SP	151A-23.5-SP	151N-23.5-SP	151T-23.5-FB
	23.81	0.9375	15/16	3.97	151T-0030-SP	151A-0030-SP	151N-0030-SP	151T-0030-FB
24.00	0.9449	–	3.97	151T-24-SP	151A-24-SP	151N-24-SP	151T-24-FB	

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.


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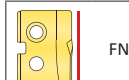
A30: 52 - 56



A30: 4 - 6



A30: 4 - 6



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 151T-XXXX	TiAlN = 151A-XXXX
TiCN = 151N-XXXX	AM200® = 151H-XXXX

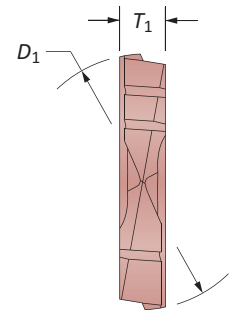
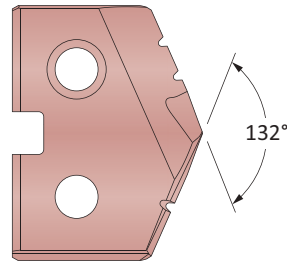
Inserts sold in quantities of 2

T-A Drill Inserts



1 Series | HSS | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



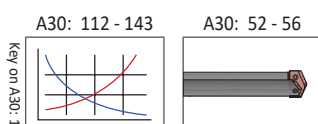
Tube Sheet



HSS Inserts – Super Cobalt | HSS

Series	Insert				Part No.	
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 Super Cobalt	 HSS
1	19.25	0.7580	–	3.97	151H-.7580-IN	131H-.7580-IN
	19.45	0.7656	49/64	3.97	151H-.765-IN	131H-.765-IN
	19.85	0.7813	25/32	3.97	151H-0025-IN	131H-0025-IN

Inserts sold in quantities of 2



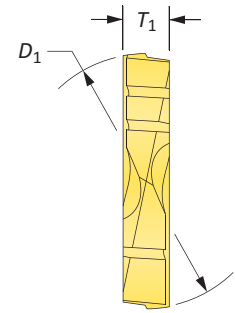
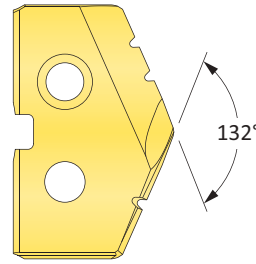
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 151T-XXXX	TiAlN = 151A-XXXX
TiCN = 151N-XXXX	AM200® = 151H-XXXX






T-A Drill Inserts

1 Series | HSS | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



HSS Inserts – HSS

Series	Insert				Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
1	17.86	0.7031	45/64	3.97	131T-.703	131A-.703	131N-.703
	18.00	0.7087	–	3.97	131T-18	131A-18	131N-18
	18.26	0.7188	23/32	3.97	131T-0023	131A-0023	131N-0023
	18.50	0.7283	–	3.97	131T-18.5	131A-18.5	131N-18.5
	18.65	0.7344	47/64	3.97	131T-.734	131A-.734	131N-.734
	19.00	0.7480	–	3.97	131T-19	131A-19	131N-19
	19.05	0.7500	3/4	3.97	131T-0024	131A-0024	131N-0024
	19.45	0.7656	49/64	3.97	131T-.765	131A-.765	131N-.765
	19.50	0.7677	–	3.97	131T-19.5	131A-19.5	131N-19.5
	19.84	0.7813	25/32	3.97	131T-0025	131A-0025	131N-0025
	20.00	0.7874	–	3.97	131T-20	131A-20	131N-20
	20.24	0.7969	51/64	3.97	131T-.796	131A-.796	131N-.796
	20.34	0.8010	–	3.97	131T-.801	131A-.801	131N-.801
	20.50	0.8071	–	3.97	131T-20.5	131A-20.5	131N-20.5
	20.64	0.8125	13/16	3.97	131T-0026	131A-0026	131N-0026
	21.00	0.8268	–	3.97	131T-21	131A-21	131N-21
21.43	0.8438	27/32	3.97	131T-0027	131A-0027	131N-0027	
21.50	0.8465	–	3.97	131T-21.5	131A-21.5	131N-21.5	
1.5	21.83	0.8594	55/64	3.97	131T-.859	131A-.859	131N-.859
	22.00	0.8661	–	3.97	131T-22	131A-22	131N-22
	22.23	0.8750	7/8	3.97	131T-0028	131A-0028	131N-0028
	22.50	0.8858	–	3.97	131T-22.5	131A-22.5	131N-22.5
	22.62	0.8906	57/64	3.97	131T-.890	131A-.890	131N-.890
	23.00	0.9055	–	3.97	131T-23	131A-23	131N-23
	23.02	0.9063	29/32	3.97	131T-0029	131A-0029	131N-0029
	23.42	0.9219	59/64	3.97	131T-.921	131A-.921	131N-.921
	23.50	0.9252	–	3.97	131T-23.5	131A-23.5	131N-23.5
	23.81	0.9375	15/16	3.97	131T-0030	131A-0030	131N-0030
24.00	0.9449	–	3.97	131T-24	131A-24	131N-24	

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

A30: 112 - 143
Key on A30: 1

A30: 52 - 56

A30: 4 - 6

HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2

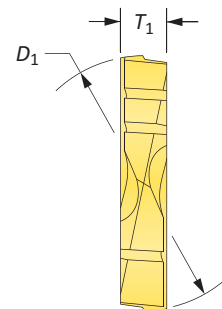
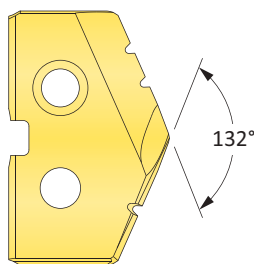
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TiCN = 131N-XXXX	AM200® = 131H-XXXX

T-A Drill Inserts

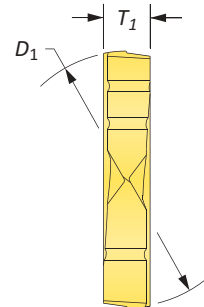
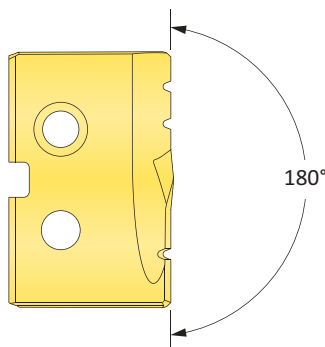
1 Series | Carbide | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")






Standard



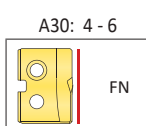
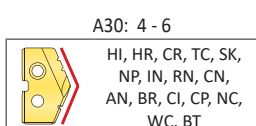
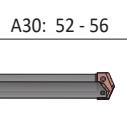
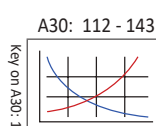
Flat Bottom



Carbide Inserts – K20 (C2)

Series	Insert				Part No.		Flat Bottom Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiN
1	17.86	0.7031	45/64	3.97	1C21T-.703	1C21A-.703	1C21T-.703-FB
	18.00	0.7087	-	3.97	1C21T-18	1C21A-18	1C21T-18-FB
	18.26	0.7188	23/32	3.97	1C21T-0023	1C21A-0023	1C21T-0023-FB
	18.50	0.7283	-	3.97	1C21T-18.5	1C21A-18.5	1C21T-18.5-FB
	18.65	0.7344	47/64	3.97	1C21T-.734	1C21A-.734	1C21T-.734-FB
	19.00	0.7480	-	3.97	1C21T-19	1C21A-19	1C21T-19-FB
	19.05	0.7500	3/4	3.97	1C21T-0024	1C21A-0024	1C21T-0024-FB
	19.45	0.7656	49/64	3.97	1C21T-.765	1C21A-.765	1C21T-.765-FB
	19.50	0.7677	-	3.97	1C21T-19.5	1C21A-19.5	1C21T-19.5-FB
	19.84	0.7813	25/32	3.97	1C21T-0025	1C21A-0025	1C21T-0025-FB
	20.00	0.7874	-	3.97	1C21T-20	1C21A-20	1C21T-20-FB
	20.24	0.7969	51/64	3.97	1C21T-.796	1C21A-.796	1C21T-.796-FB
	20.34	0.8010	-	3.97	1C21T-.801	1C21A-.801	1C21T-.801-FB
	20.50	0.8071	-	3.97	1C21T-20.5	1C21A-20.5	1C21T-20.5-FB
	20.64	0.8125	13/16	3.97	1C21T-0026	1C21A-0026	1C21T-0026-FB
	21.00	0.8268	-	3.97	1C21T-21	1C21A-21	1C21T-21-FB
21.43	0.8438	27/32	3.97	1C21T-0027	1C21A-0027	1C21T-0027-FB	
21.50	0.8465	-	3.97	1C21T-21.5	1C21A-21.5	1C21T-21.5-FB	
1.5	21.83	0.8594	55/64	3.97	1C21T-.859	1C21A-.859	1C21T-.859-FB
	22.00	0.8661	-	3.97	1C21T-22	1C21A-22	1C21T-22-FB
	22.23	0.8750	7/8	3.97	1C21T-0028	1C21A-0028	1C21T-0028-FB
	22.50	0.8858	-	3.97	1C21T-22.5	1C21A-22.5	1C21T-22.5-FB
	22.62	0.8906	57/64	3.97	1C21T-.890	1C21A-.890	1C21T-.890-FB
	23.00	0.9055	-	3.97	1C21T-23	1C21A-23	1C21T-23-FB
	23.02	0.9063	29/32	3.97	1C21T-0029	1C21A-0029	1C21T-0029-FB
	23.42	0.9219	59/64	3.97	1C21T-.921	1C21A-.921	1C21T-.921-FB
	23.50	0.9252	-	3.97	1C21T-23.5	1C21A-23.5	1C21T-23.5-FB
	23.81	0.9375	15/16	3.97	1C21T-0030	1C21A-0030	1C21T-0030-FB
24.00	0.9449	-	3.97	1C21T-24	1C21A-24	1C21T-24-FB	

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.



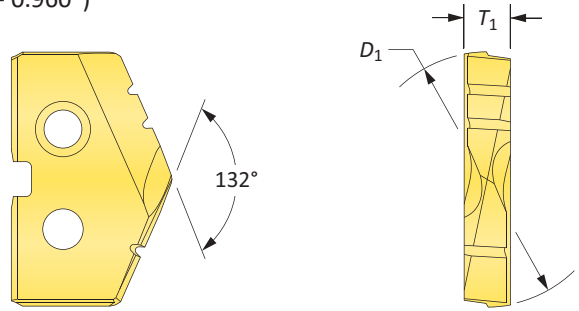
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply.

TiN = 1C21T-XXXX	TiAlN = 1C21A-XXXX
TiCN = 1C21N-XXXX	AM200® = 1C21H-XXXX





Inserts sold in quantities of 2

T-A Drill Inserts

1 Series | Carbide | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")

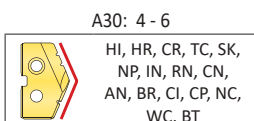
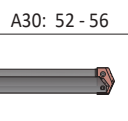
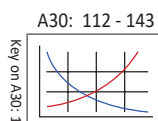


Carbide Inserts – P40 (C5) | K10 (C3) | N2

Series	Insert				C5 Part No.		C3 Part No.	N2 Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiAlN (Cast Iron)	 Diamond Film*
1	17.86	0.7031	45/64	3.97	1C51T-.703	1C51A-.703	1C31A-.703-CI	1N21D-.703
	18.00	0.7087	–	3.97	1C51T-18	1C51A-18	1C31A-18-CI	1N21D-18
	18.26	0.7188	23/32	3.97	1C51T-0023	1C51A-0023	1C31A-0023-CI	1N21D-0023
	18.50	0.7283	–	3.97	1C51T-18.5	1C51A-18.5	1C31A-18.5-CI	1N21D-18.5
	18.65	0.7344	47/64	3.97	1C51T-.734	1C51A-.734	1C31A-.734-CI	1N21D-.734
	19.00	0.7480	–	3.97	1C51T-19	1C51A-19	1C31A-19-CI	1N21D-19
	19.05	0.7500	3/4	3.97	1C51T-0024	1C51A-0024	1C31A-0024-CI	1N21D-0024
	19.45	0.7656	49/64	3.97	1C51T-.765	1C51A-.765	1C31A-.765-CI	1N21D-.765
	19.50	0.7677	–	3.97	1C51T-19.5	1C51A-19.5	1C31A-19.5-CI	1N21D-19.5
	19.84	0.7813	25/32	3.97	1C51T-0025	1C51A-0025	1C31A-0025-CI	1N21D-0025
	20.00	0.7874	–	3.97	1C51T-20	1C51A-20	1C31A-20-CI	1N21D-20
	20.24	0.7969	51/64	3.97	1C51T-.796	1C51A-.796	1C31A-.796-CI	1N21D-.796
	20.34	0.8010	–	3.97	1C51T-.801	1C51A-.801	1C31A-.801-CI	1N21D-.801
	20.50	0.8071	–	3.97	1C51T-20.5	1C51A-20.5	1C31A-20.5-CI	1N21D-20.5
	20.64	0.8125	13/16	3.97	1C51T-0026	1C51A-0026	1C31A-0026-CI	1N21D-0026
	21.00	0.8268	–	3.97	1C51T-21	1C51A-21	1C31A-21-CI	1N21D-21
21.43	0.8438	27/32	3.97	1C51T-0027	1C51A-0027	1C31A-0027-CI	1N21D-0027	
21.50	0.8465	–	3.97	1C51T-21.5	1C51A-21.5	1C31A-21.5-CI	1N21D-21.5	
1.5	21.83	0.8594	55/64	3.97	1C51T-.859	1C51A-.859	1C31A-.859-CI	1N21D-.859
	22.00	0.8661	–	3.97	1C51T-22	1C51A-22	1C31A-22-CI	1N21D-22
	22.23	0.8750	7/8	3.97	1C51T-0028	1C51A-0028	1C31A-0028-CI	1N21D-0028
	22.50	0.8858	–	3.97	1C51T-22.5	1C51A-22.5	1C31A-22.5-CI	1N21D-22.5
	22.62	0.8906	57/64	3.97	1C51T-.890	1C51A-.890	1C31A-.890-CI	1N21D-.890
	23.00	0.9055	–	3.97	1C51T-23	1C51A-23	1C31A-23-CI	1N21D-23
	23.02	0.9063	29/32	3.97	1C51T-0029	1C51A-0029	1C31A-0029-CI	1N21D-0029
	23.42	0.9219	59/64	3.97	1C51T-.921	1C51A-.921	1C31A-.921-CI	1N21D-.921
	23.50	0.9252	–	3.97	1C51T-23.5	1C51A-23.5	1C31A-23.5-CI	1N21D-23.5
	23.81	0.9375	15/16	3.97	1C51T-0030	1C51A-0030	1C31A-0030-CI	1N21D-0030
24.00	0.9449	–	3.97	1C51T-24	1C51A-24	1C31A-24-CI	1N21D-24	

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

*Diamond Film is only available in standard geometry. For additional geometries, please contact Application Engineering.



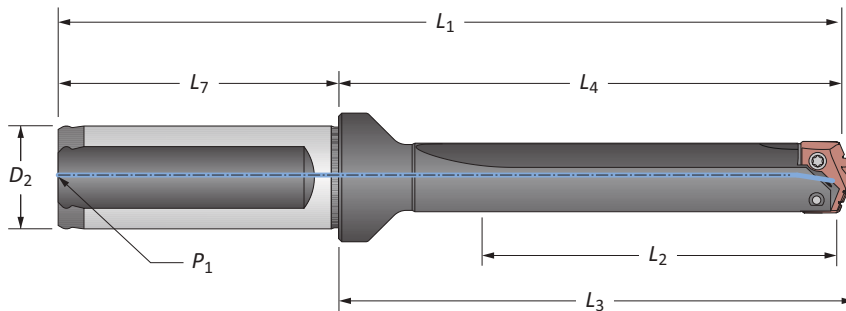
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2

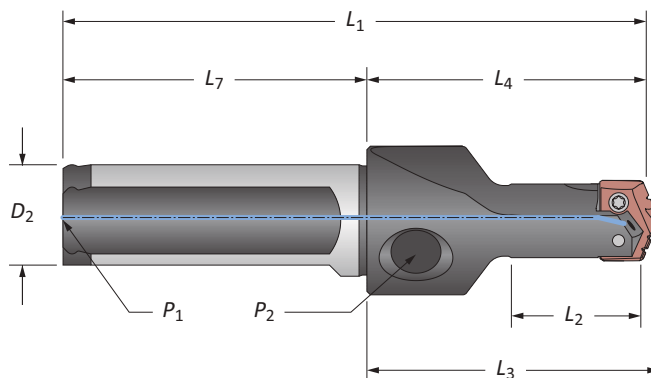
TiN = 1C51T-XXXX	TiAlN = 1C51A-XXXX
TiCN = 1C51N-XXXX	AM200® = 1C51H-XXXX

T-A Drill Insert Holders

1 Series | Flange Shank | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



Stub Length



Straight Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁		
1	Stub	47.6	75.8	79.4	131.8	25.0	56.0	1/8*	21010S-25FM	
	Short	66.7	107.2	110.7	163.2	25.0	56.0	1/8*	22010S-25FM	
	Intermediate	118.0	154.8	158.4	210.8	25.0	56.0	1/8*	23010S-25FM	
	Standard	168.0	205.6	209.2	261.6	25.0	56.0	1/8*	24010S-25FM	
	XL	457.0	494.5	498.1	550.5	25.0	56.0	1/8*	27010S-25FM	
	3XL	569.0	602.5	606.1	658.5	25.0	56.0	1/8*	29010S-25FM	
1.5	Stub	57.2	88.5	92.1	144.5	25.0	56.0	1/8*	21015S-25FM	
	Short	66.7	107.2	110.7	163.2	25.0	56.0	1/8*	22015S-25FM	
	Intermediate	118.0	154.8	158.4	210.8	25.0	56.0	1/8*	23015S-25FM	
	Standard	168.0	205.6	209.2	261.6	25.0	56.0	1/8*	24015S-25FM	
1	Stub	1-7/8	2-63/64	3-1/8	5-17/64	1	2-9/32	1/8	21010S-100F	
	Short	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8	22010S-100F	
	Intermediate	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8	23010S-100F	
	Standard	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8	24010S-100F	
	Extended	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8	25010S-100F	
	1.5	Stub	2-1/4	3-31/64	3-5/8	5-49/64	1	2-9/32	1/8	21015S-100F
		Short	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8	22015S-100F
		Intermediate	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8	23015S-100F
		Standard	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8	24015S-100F
		Extended	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8	25015S-100F

*Metric thread to BSP and ISO 7-1

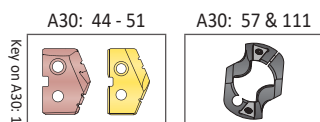
NOTE: Stub length holders have a 1/8" side pipe tap (P₂)

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Ⓜ = Metric (mm)

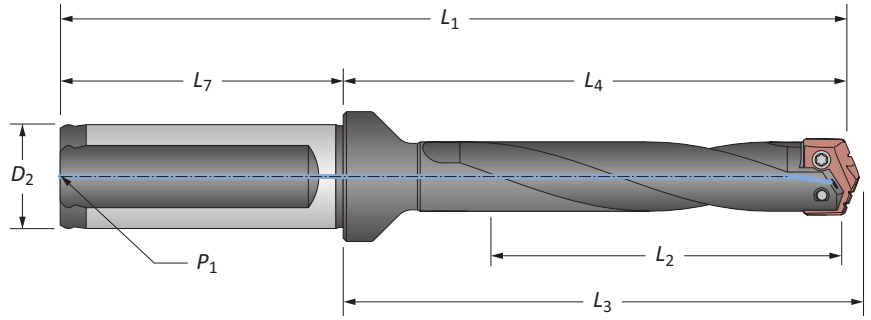
Ⓢ = Imperial (in)

Screws sold in quantities of 10

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

1 Series | Flange Shank | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



Helical Flute

Series	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
1	Intermediate	117.5	154.8	158.4	210.8	25.0	56.0	1/8*	23010H-25FM
	Standard	168.3	205.6	209.2	261.6	25.0	56.0	1/8*	24010H-25FM
	Standard Plus	219.0	256.3	259.9	312.3	25.0	56.0	1/8*	24510H-25FM
	Extended	269.9	307.2	310.8	363.2	25.0	56.0	1/8*	25010H-25FM
	Long	365.0	402.3	405.9	458.3	25.0	56.0	1/8*	26010H-25FM
1.5	Intermediate	117.5	154.8	158.4	210.8	25.0	56.0	1/8*	23015H-25FM
	Standard	168.3	205.6	209.2	261.6	25.0	56.0	1/8*	24015H-25FM
	Extended	269.9	307.2	310.8	363.2	25.0	56.0	1/8*	25015H-25FM
1	Intermediate	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8	23010H-100F
	Standard	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8	24010H-100F
	Standard Plus	8-5/8	10-3/32	10-15/64	12-33/64	1	2-9/32	1/8	24510H-100F
	Extended	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8	25010H-100F
	Long	14-3/8	15-27/32	15-63/64	18-17/64	1	2-9/32	1/8	26010H-100F
1.5	Intermediate	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8	23015H-100F
	Standard	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8	24015H-100F
	Extended	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8	25015H-100F

*Metric thread to BSP and ISO 7-1

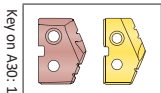
NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 44 - 51



m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

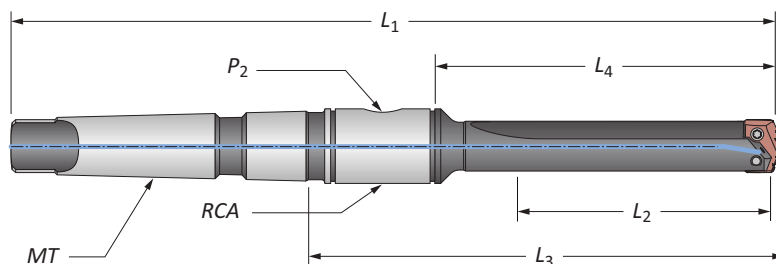
1

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

1 Series | Taper Shank | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")





Straight Flute

Series	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m 1	Short	69.8	98.4	142.5	232.5	#3**	1/8*	2T-3SRM	22010S-003M
1.5	Short	69.8	98.4	142.5	232.5	#3**	1/8*	2T-3SRM	22015S-003M
i 1	Short	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	2T-3SR	22010S-003I
	Short	2-3/4	3-7/8	5-39/64	10-5/32	#4	1/8	2T-3SR	22010S-004I
	Intermediate	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	2T-3SR	23010S-003I
	Standard	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	2T-3SR	24010S-003I
	Standard	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	2T-3SR	24010S-004I
1.5	Extended	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	2T-3SR	25010S-003I
	Short	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	2T-3SR	22015S-003I
	Short	2-3/4	3-7/8	5-39/64	10-5/32	#4	1/8	2T-3SR	22015S-004I
	Intermediate	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	2T-3SR	23015S-003I
	Standard	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	2T-3SR	24015S-003I
1.5	Standard	6-3/4	7-7/8	9-39/64	14-5/32	#4	1/8	2T-3SR	24015S-004I
	Extended	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	2T-3SR	25015S-003I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

B

BORING

E



THREADING

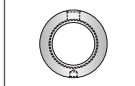
Connection Accessories


Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on A30: 1

A30: 44 - 51  

A30: 57 & 110 

A30: 57 & 111 

m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

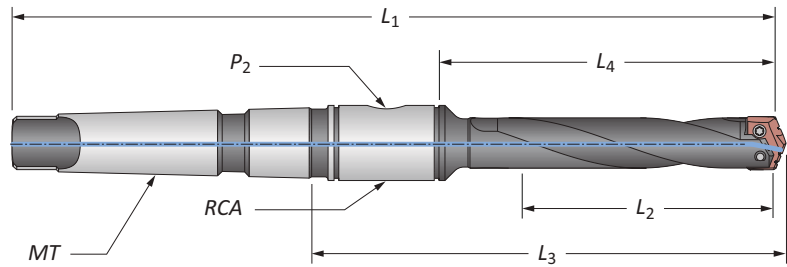
A30: 54

www.febametal.com/amec | Tel. 011.770.14.12

SPECIALS

T-A Drill Insert Holders

1 Series | Taper Shank | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")



Helical Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA		
m	1	Intermediate	120.7	149.2	193.3	283.3	#3**	1/8*	2T-3SRM	23010H-003M
		Standard	171.5	200.0	244.1	334.2	#3**	1/8*	2T-3SRM	24010H-003M
		Extended	273.1	301.6	345.7	435.8	#3**	1/8*	2T-3SRM	25010H-003M
m	1.5	Intermediate	120.7	149.2	193.3	283.3	#3**	1/8*	2T-3SRM	23015H-003M
		Standard	171.5	200.0	244.1	334.2	#3**	1/8*	2T-3SRM	24015H-003M
		Extended	273.1	301.6	345.7	435.8	#3**	1/8*	2T-3SRM	25015H-003M
i	1	Intermediate	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	2T-3SR	23010H-003I
		Standard	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	2T-3SR	24010H-003I
		Standard	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	2T-3SR	24010H-004I
		Extended	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	2T-3SR	25010H-003I
	1.5	Intermediate	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	2T-3SR	23015H-003I
		Standard	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	2T-3SR	24015H-003I
		Standard	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	2T-3SR	24015H-004I
Extended	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	2T-3SR	25015H-003I		

*Metric thread to BSP and ISO 7-1

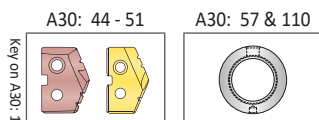
**Per ISO 296 type BEK

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

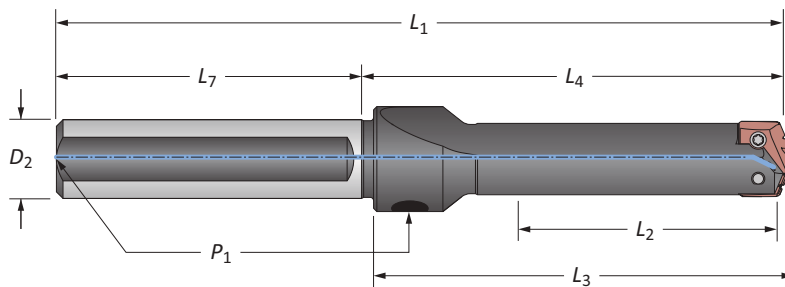
1

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

1 Series | Straight Shank | Diameter Range: 17.53 mm - 24.38 mm (0.690" - 0.960")





Straight Flute

Series	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
1	Short	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8	22010S-075L
	Short	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8	22010S-100L
	Intermediate	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8	23010S-100L
	Standard	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8	24010S-075L
	Standard	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8	24010S-100L
	Extended	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8	⚠ 25010S-100L
	XL	18	19-1/4	19-25/64	22-1/4	1	3	1/8	⚠ 27010S-100L
1.5	3XL	22-1/4	23-1/2	23-41/64	26-1/2	1	3	1/8	⚠ 29010S-100L
	Short	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8*	22015S-075L
	Short	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8*	22015S-100L
	Intermediate	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8*	23015S-100L
	Standard	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8*	24015S-075L
	Standard	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8*	24015S-100L
	Extended	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8*	⚠ 25015S-100L

NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

A

B

BORING

E

THREADING

X




SPECIALS

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 44 - 51 A30: 57 & 111

Ⓜ = Metric (mm)

Ⓜ = Imperial (in)

Screws sold in quantities of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

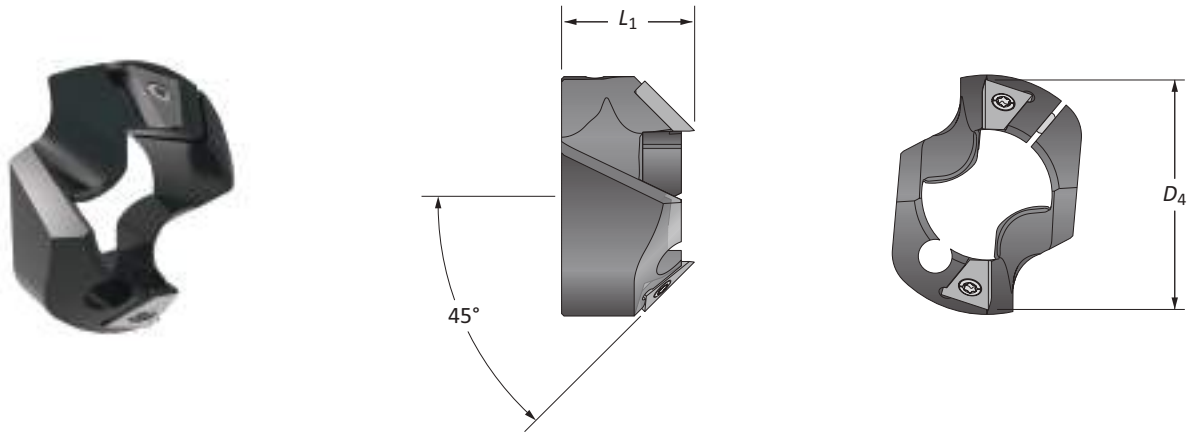
A30: 56

www.febametal.com/amec | Tel. 011.770.14.12



T-A Drill Accessories

1 Series | Chamfer Rings | Rotary Coolant Adapters | Torx® Plus Screws

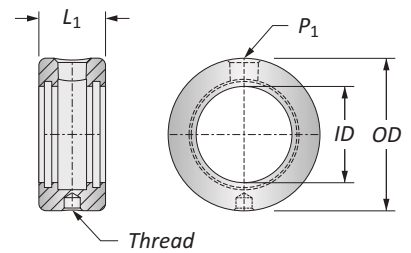


T-ACR 45 Chamfer Ring

Holder Series	D ₁ Range	Chamfer Ring		Part No.	Insert Part No.	Insert Screw	Insert Driver	Clamping Screw	Insert Driver
		D ₄	L ₁						
1	0.6900 - 0.9600	1-3/64	51/64	T-ACR-45-1	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15
1.5	0.8540 - 0.9600	1-1/8	57/64	T-ACR-45-1.5	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.**	Replacements
25.40	53.97	28.57	M8 x 1.25	1/8*	2T-3SRM	2T1-3SR	2T1-3OR-10
1	2-1/8	1-1/8	5/16-18	1/8	2T-3SR	2T1-3SR	2T1-3OR-10



*Thread to BSP and ISO 7-1

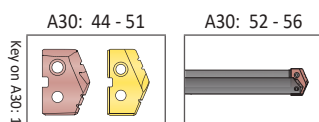
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



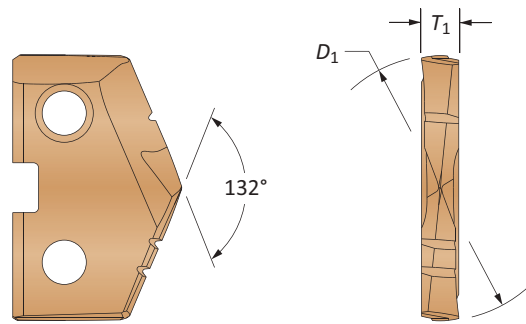
= Metric (mm)
 = Imperial (in)

Chamfer Ring Inserts sold separately
 Screws sold in packs of 10
 O-rings sold in packs of 10




WARNING RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications.

GEN2 T-A Drill Inserts

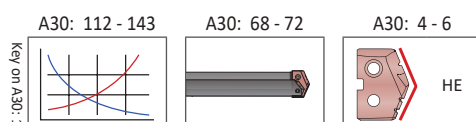
2 Series | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



HSS Inserts – Super Cobalt • Carbide Inserts – K20 (C2) | K35 (C1)

Series	Insert				HSS Part No.	Carbide Part No.	
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200® Super Cobalt	 AM300® K20 (C2)	 AM300® K35 (C1)
2	24.50	0.9646	–	4.76	452H-24.5	4C22P-24.5	4C12P-24.5
	24.61	0.9688	31/32	4.76	452H-0031	4C22P-0031	4C12P-0031
	24.79	0.9760	–	4.76	452H-.976	4C22P-.976	4C12P-.976
	25.00	0.9843	63/64	4.76	452H-25	4C22P-25	4C12P-25
	25.40	1.0000	1	4.76	452H-0100	4C22P-0100	4C12P-0100
	25.50	1.0039	–	4.76	452H-25.5	4C22P-25.5	4C12P-25.5
	25.80	1.0156	1-1/64	4.76	452H-1.015	4C22P-1.015	4C12P-1.015
	26.00	1.0236	–	4.76	452H-26	4C22P-26	4C12P-26
	26.19	1.0313	1-1/32	4.76	452H-0101	4C22P-0101	4C12P-0101
	26.50	1.0433	–	4.76	452H-26.5	4C22P-26.5	4C12P-26.5
	26.59	1.0469	1-3/64	4.76	452H-1.046	4C22P-1.046	4C12P-1.046
	26.99	1.0625	1-1/16	4.76	452H-0102	4C22P-0102	4C12P-0102
	27.00	1.0630	–	4.76	452H-27	4C22P-27	4C12P-27
	27.50	1.0827	–	4.76	452H-27.5	4C22P-27.5	4C12P-27.5
	27.78	1.0938	1-3/32	4.76	452H-0103	4C22P-0103	4C12P-0103
	28.00	1.1024	–	4.76	452H-28	4C22P-28	4C12P-28
	28.18	1.1094	1-7/64	4.76	452H-1.109	4C22P-1.109	4C12P-1.109
	28.50	1.1220	–	4.76	452H-28.5	4C22P-28.5	4C12P-28.5
	28.58	1.1250	1-1/8	4.76	452H-0104	4C22P-0104	4C12P-0104
	29.00	1.1417	–	4.76	452H-29	4C22P-29	4C12P-29
29.37	1.1563	1-5/32	4.76	452H-0105	4C22P-0105	4C12P-0105	
29.50	1.1614	–	4.76	452H-29.5	4C22P-29.5	4C12P-29.5	
30.00	1.1811	–	4.76	452H-30	4C22P-30	4C12P-30	
2.5	30.16	1.1875	1-3/16	4.76	452H-0106	4C22P-0106	4C12P-0106
	30.50	1.2008	–	4.76	452H-30.5	4C22P-30.5	4C12P-30.5
	30.96	1.2188	1-7/32	4.76	452H-0107	4C22P-0107	4C12P-0107
	31.00	1.2205	–	4.76	452H-31	4C22P-31	4C12P-31
	31.14	1.2260	–	4.76	452H-1.226	4C22P-1.226	4C12P-1.226
	31.26	1.2310	–	4.76	452H-1.231	4C22P-1.231	4C12P-1.231
	31.34	1.2340	–	4.76	452H-1.234	4C22P-1.234	4C12P-1.234
	31.50	1.2402	–	4.76	452H-31.5	4C22P-31.5	4C12P-31.5
	31.75	1.2500	1-1/4	4.76	452H-0108	4C22P-0108	4C12P-0108
	32.00	1.2598	–	4.76	452H-32	4C22P-32	4C12P-32
	32.50	1.2795	–	4.76	452H-32.5	4C22P-32.5	4C12P-32.5
	32.54	1.2813	1-9/32	4.76	452H-0109	4C22P-0109	4C12P-0109
	33.00	1.2992	–	4.76	452H-33	4C22P-33	4C12P-33
	33.34	1.3125	1-5/16	4.76	452H-0110	4C22P-0110	4C12P-0110
	33.50	1.3189	–	4.76	452H-33.5	4C22P-33.5	4C12P-33.5
	34.00	1.3386	–	4.76	452H-34	4C22P-34	4C12P-34
	34.13	1.3438	1-11/32	4.76	452H-0111	4C22P-0111	4C12P-0111
	34.50	1.3582	–	4.76	452H-34.5	4C22P-34.5	4C12P-34.5
	34.93	1.3750	1-3/8	4.76	452H-0112	4C22P-0112	4C12P-0112
	35.00	1.3780	–	4.76	452H-35	4C22P-35	4C12P-35

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



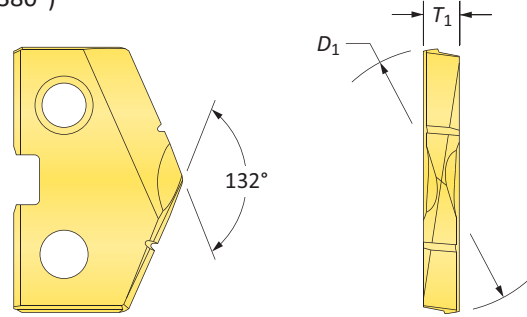
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

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TiCN = 4C22N-XXXX	AM200® = 4C22H-XXXX




Inserts sold in quantities of 2

T-A Drill Inserts

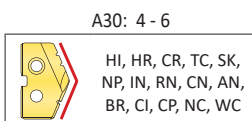
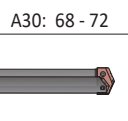
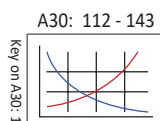
2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



HSS Inserts – Premium Cobalt

Series	Insert				Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
2	24.50	0.9646	–	4.76	182T-24.5	182A-24.5	182N-24.5
	24.61	0.9688	31/32	4.76	182T-0031	182A-0031	182N-0031
	24.79	0.9760	–	4.76	182T-.976	182A-.976	182N-.976
	25.00	0.9843	63/64	4.76	182T-25	182A-25	182N-25
	25.40	1.0000	1	4.76	182T-0100	182A-0100	182N-0100
	25.50	1.0039	–	4.76	182T-25.5	182A-25.5	182N-25.5
	25.80	1.0156	1-1/64	4.76	182T-1.015	182A-1.015	182N-1.015
	26.00	1.0236	–	4.76	182T-26	182A-26	182N-26
	26.19	1.0313	1-1/32	4.76	182T-0101	182A-0101	182N-0101
	26.50	1.0433	–	4.76	182T-26.5	182A-26.5	182N-26.5
	26.59	1.0469	1-3/64	4.76	182T-1.046	182A-1.046	182N-1.046
	26.99	1.0625	1-1/16	4.76	182T-0102	182A-0102	182N-0102
	27.00	1.0630	–	4.76	182T-27	182A-27	182N-27
	27.50	1.0827	–	4.76	182T-27.5	182A-27.5	182N-27.5
	27.78	1.0938	1-3/32	4.76	182T-0103	182A-0103	182N-0103
	28.00	1.1024	–	4.76	182T-28	182A-28	182N-28
	28.18	1.1094	1-7/64	4.76	182T-1.109	182A-1.109	182N-1.109
	28.50	1.1220	–	4.76	182T-28.5	182A-28.5	182N-28.5
	28.58	1.1250	1-1/8	4.76	182T-0104	182A-0104	182N-0104
	29.00	1.1417	–	4.76	182T-29	182A-29	182N-29
29.37	1.1563	1-5/32	4.76	182T-0105	182A-0105	182N-0105	
29.50	1.1614	–	4.76	182T-29.5	182A-29.5	182N-29.5	
30.00	1.1811	–	4.76	182T-30	182A-30	182N-30	
2.5	30.16	1.1875	1-4/76	4.76	182T-0106	182A-0106	182N-0106
	30.50	1.2008	–	4.76	182T-30.5	182A-30.5	182N-30.5
	30.96	1.2188	1-7/32	4.76	182T-0107	182A-0107	182N-0107
	31.00	1.2205	–	4.76	182T-31	182A-31	182N-31
	31.14	1.2260	–	4.76	182T-1.226	182A-1.226	182N-1.226
	31.26	1.2310	–	4.76	182T-1.231	182A-1.231	182N-1.231
	31.34	1.2340	–	4.76	182T-1.234	182A-1.234	182N-1.234
	31.50	1.2402	–	4.76	182T-31.5	182A-31.5	182N-31.5
	31.75	1.2500	1-1/4	4.76	182T-0108	182A-0108	182N-0108
	32.00	1.2598	–	4.76	182T-32	182A-32	182N-32
	32.50	1.2795	–	4.76	182T-32.5	182A-32.5	182N-32.5
	32.54	1.2813	1-9/32	4.76	182T-0109	182A-0109	182N-0109
	33.00	1.2992	–	4.76	182T-33	182A-33	182N-33
	33.34	1.3125	1-5/16	4.76	182T-0110	182A-0110	182N-0110
	33.50	1.3189	–	4.76	182T-33.5	182A-33.5	182N-33.5
	34.00	1.3386	–	4.76	182T-34	182A-34	182N-34
	34.13	1.3438	1-11/32	4.76	182T-0111	182A-0111	182N-0111
	34.50	1.3582	–	4.76	182T-34.5	182A-34.5	182N-34.5
	34.93	1.3750	1-3/8	4.76	182T-0112	182A-0112	182N-0112
	35.00	1.3780	–	4.76	182T-35	182A-35	182N-35

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



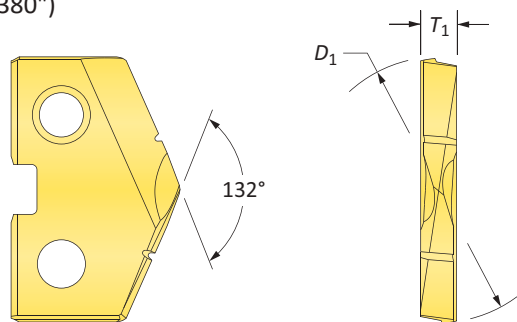
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2




TiN = 182T-XXXX	TiAlN = 182A-XXXX
TiCN = 182N-XXXX	AM200® = 182H-XXXX

T-A Drill Inserts

2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



HSS Inserts – Super Cobalt

Series	Insert				Part No.		
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
2	24.50	0.9646	–	4.76	152T-24.5	152A-24.5	152N-24.5
	24.61	0.9688	31/32	4.76	152T-0031	152A-0031	152N-0031
	24.79	0.9760	–	4.76	152T-.976	152A-.976	152N-.976
	25.00	0.9843	63/64	4.76	152T-25	152A-25	152N-25
	25.40	1.0000	1	4.76	152T-0100	152A-0100	152N-0100
	25.50	1.0039	–	4.76	152T-25.5	152A-25.5	152N-25.5
	25.80	1.0156	1-1/64	4.76	152T-1.015	152A-1.015	152N-1.015
	26.00	1.0236	–	4.76	152T-26	152A-26	152N-26
	26.19	1.0313	1-1/32	4.76	152T-0101	152A-0101	152N-0101
	26.50	1.0433	–	4.76	152T-26.5	152A-26.5	152N-26.5
	26.59	1.0469	1-3/64	4.76	152T-1.046	152A-1.046	152N-1.046
	26.99	1.0625	1-1/16	4.76	152T-0102	152A-0102	152N-0102
	27.00	1.0630	–	4.76	152T-27	152A-27	152N-27
	27.50	1.0827	–	4.76	152T-27.5	152A-27.5	152N-27.5
	27.78	1.0938	1-3/32	4.76	152T-0103	152A-0103	152N-0103
	28.00	1.1024	–	4.76	152T-28	152A-28	152N-28
	28.18	1.1094	1-7/64	4.76	152T-1.109	152A-1.109	152N-1.109
	28.50	1.1220	–	4.76	152T-28.5	152A-28.5	152N-28.5
	28.58	1.1250	1-1/8	4.76	152T-0104	152A-0104	152N-0104
	29.00	1.1417	–	4.76	152T-29	152A-29	152N-29
29.37	1.1563	1-5/32	4.76	152T-0105	152A-0105	152N-0105	
29.50	1.1614	–	4.76	152T-29.5	152A-29.5	152N-29.5	
30.00	1.1811	–	4.76	152T-30	152A-30	152N-30	
2.5	30.16	1.1875	1-3/16	4.76	152T-0106	152A-0106	152N-0106
	30.50	1.2008	–	4.76	152T-30.5	152A-30.5	152N-30.5
	30.96	1.2188	1-7/32	4.76	152T-0107	152A-0107	152N-0107
	31.00	1.2205	–	4.76	152T-31	152A-31	152N-31
	31.14	1.2260	–	4.76	152T-1.226	152A-1.226	152N-1.226
	31.26	1.2310	–	4.76	152T-1.231	152A-1.231	152N-1.231
	31.34	1.2340	–	4.76	152T-1.234	152A-1.234	152N-1.234
	31.50	1.2402	–	4.76	152T-31.5	152A-31.5	152N-31.5
	31.75	1.2500	1-1/4	4.76	152T-0108	152A-0108	152N-0108
	32.00	1.2598	–	4.76	152T-32	152A-32	152N-32
	32.50	1.2795	–	4.76	152T-32.5	152A-32.5	152N-32.5
	32.54	1.2813	1-9/32	4.76	152T-0109	152A-0109	152N-0109
	33.00	1.2992	–	4.76	152T-33	152A-33	152N-33
	33.34	1.3125	1-5/16	4.76	152T-0110	152A-0110	152N-0110
	33.50	1.3189	–	4.76	152T-33.5	152A-33.5	152N-33.5
	34.00	1.3386	–	4.76	152T-34	152A-34	152N-34
	34.13	1.3438	1-11/32	4.76	152T-0111	152A-0111	152N-0111
	34.50	1.3582	–	4.76	152T-34.5	152A-34.5	152N-34.5
	34.93	1.3750	1-3/8	4.76	152T-0112	152A-0112	152N-0112
	35.00	1.3780	–	4.76	152T-35	152A-35	152N-35

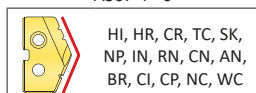
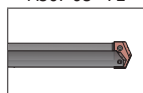
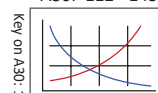
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Inserts sold in quantities of 2

A30: 112 - 143

A30: 68 - 72

A30: 4 - 6



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

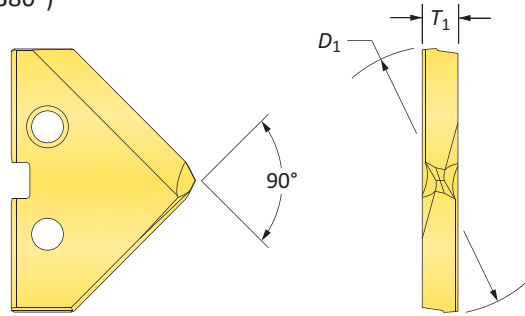
TiN = 152T-XXXX	TiAlN = 152A-XXXX
TiCN = 152N-XXXX	AM200® = 152H-XXXX

T-A Drill Inserts




2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



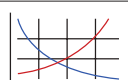


90° Spot & Chamfer




HSS Inserts – Super Cobalt

Series	Insert				90° Spot & Chamfer Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
2	24.50	0.9646	–	4.76	152T-24.5-SP	152A-24.5-SP	152N-24.5-SP
	24.61	0.9688	31/32	4.76	152T-0031-SP	152A-0031-SP	152N-0031-SP
	24.79	0.9760	–	4.76	152T-.976-SP	152A-.976-SP	152N-.976-SP
	25.00	0.9843	63/64	4.76	152T-25-SP	152A-25-SP	152N-25-SP
	25.40	1.0000	1	4.76	152T-0100-SP	152A-0100-SP	152N-0100-SP
	25.50	1.0039	–	4.76	152T-25.5-SP	152A-25.5-SP	152N-25.5-SP
	25.80	1.0156	1-1/64	4.76	152T-1.015-SP	152A-1.015-SP	152N-1.015-SP
	26.00	1.0236	–	4.76	152T-26-SP	152A-26-SP	152N-26-SP
	26.19	1.0313	1-1/32	4.76	152T-0101-SP	152A-0101-SP	152N-0101-SP
	26.50	1.0433	–	4.76	152T-26.5-SP	152A-26.5-SP	152N-26.5-SP
	26.59	1.0469	1-3/64	4.76	152T-1.046-SP	152A-1.046-SP	152N-1.046-SP
	26.99	1.0625	1-1/16	4.76	152T-0102-SP	152A-0102-SP	152N-0102-SP
	27.00	1.0630	–	4.76	152T-27-SP	152A-27-SP	152N-27-SP
	27.50	1.0827	–	4.76	152T-27.5-SP	152A-27.5-SP	152N-27.5-SP
	27.78	1.0938	1-3/32	4.76	152T-0103-SP	152A-0103-SP	152N-0103-SP
	28.00	1.1024	–	4.76	152T-28-SP	152A-28-SP	152N-28-SP
	28.18	1.1094	1-7/64	4.76	152T-1.109-SP	152A-1.109-SP	152N-1.109-SP
	28.50	1.1220	–	4.76	152T-28.5-SP	152A-28.5-SP	152N-28.5-SP
	28.58	1.1250	1-1/8	4.76	152T-0104-SP	152A-0104-SP	152N-0104-SP
	29.00	1.1417	–	4.76	152T-29-SP	152A-29-SP	152N-29-SP
29.37	1.1563	1-5/32	4.76	152T-0105-SP	152A-0105-SP	152N-0105-SP	
29.50	1.1614	–	4.76	152T-29.5-SP	152A-29.5-SP	152N-29.5-SP	
30.00	1.1811	–	4.76	152T-30-SP	152A-30-SP	152N-30-SP	
2.5	30.16	1.1875	1-3/16	4.76	152T-0106-SP	152A-0106-SP	152N-0106-SP
	30.50	1.2008	–	4.76	152T-30.5-SP	152A-30.5-SP	152N-30.5-SP
	30.96	1.2188	1-7/32	4.76	152T-0107-SP	152A-0107-SP	152N-0107-SP
	31.00	1.2205	–	4.76	152T-31-SP	152A-31-SP	152N-31-SP
	31.14	1.2260	–	4.76	152T-1.226-SP	152A-1.226-SP	152N-1.226-SP
	31.26	1.2310	–	4.76	152T-1.231-SP	152A-1.231-SP	152N-1.231-SP
	31.34	1.2340	–	4.76	152T-1.234-SP	152A-1.234-SP	152N-1.234-SP
	31.50	1.2402	–	4.76	152T-31.5-SP	152A-31.5-SP	152N-31.5-SP
	31.75	1.2500	1-1/4	4.76	152T-0108-SP	152A-0108-SP	152N-0108-SP
	32.00	1.2598	–	4.76	152T-32-SP	152A-32-SP	152N-32-SP
	32.50	1.2795	–	4.76	152T-32.5-SP	152A-32.5-SP	152N-32.5-SP
	32.54	1.2813	1-9/32	4.76	152T-0109-SP	152A-0109-SP	152N-0109-SP
	33.00	1.2992	–	4.76	152T-33-SP	152A-33-SP	152N-33-SP
	33.34	1.3125	1-5/16	4.76	152T-0110-SP	152A-0110-SP	152N-0110-SP
	33.50	1.3189	–	4.76	152T-33.5-SP	152A-33.5-SP	152N-33.5-SP
	34.00	1.3386	–	4.76	152T-34-SP	152A-34-SP	152N-34-SP
	34.13	1.3438	1-11/32	4.76	152T-0111-SP	152A-0111-SP	152N-0111-SP
	34.50	1.3582	–	4.76	152T-34.5-SP	152A-34.5-SP	152N-34.5-SP
	34.93	1.3750	1-3/8	4.76	152T-0112-SP	152A-0112-SP	152N-0112-SP
	35.00	1.3780	–	4.76	152T-35-SP	152A-35-SP	152N-35-SP

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

A30: 112 - 143  A30: 68 - 72  A30: 4 - 6  SW

Key on A30: 1

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 2

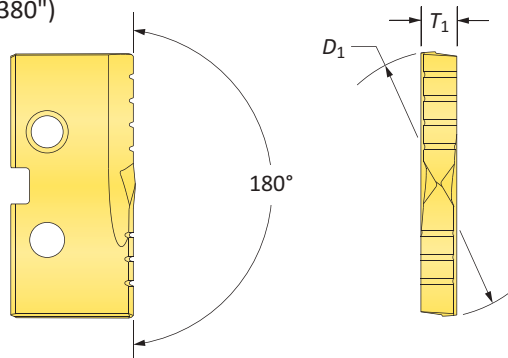
TiN = 152T-XXXX	TiAlN = 152A-XXXX
TiCN = 152N-XXXX	AM200® = 152H-XXXX

T-A Drill Inserts


2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Flat Bottom

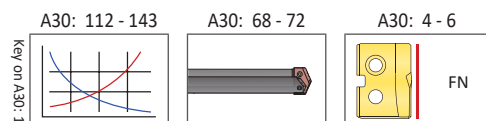


HSS Inserts – Super Cobalt

Series	Insert				Flat Bottom Part No.
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	TiN 
2	24.50	0.9646	–	4.76	152T-24.5-FB
	24.61	0.9688	31/32	4.76	152T-0031-FB
	24.79	0.9760	–	4.76	152T-976-FB
	25.00	0.9843	63/64	4.76	152T-25-FB
	25.40	1.0000	1	4.76	152T-0100-FB
	25.50	1.0039	–	4.76	152T-25.5-FB
	25.80	1.0156	1-1/64	4.76	152T-1.015-FB
	26.00	1.0236	–	4.76	152T-26-FB
	26.19	1.0313	1-1/32	4.76	152T-0101-FB
	26.50	1.0433	–	4.76	152T-26.5-FB
	26.59	1.0469	1-3/64	4.76	152T-1.046-FB
	26.99	1.0625	1-1/16	4.76	152T-0102-FB
	27.00	1.0630	–	4.76	152T-27-FB
	27.50	1.0827	–	4.76	152T-27.5-FB
	27.78	1.0938	1-3/32	4.76	152T-0103-FB
	28.00	1.1024	–	4.76	152T-28-FB
	28.18	1.1094	1-7/64	4.76	152T-1.109-FB
	28.50	1.1220	–	4.76	152T-28.5-FB
	28.58	1.1250	1-1/8	4.76	152T-0104-FB
	29.00	1.1417	–	4.76	152T-29-FB
29.37	1.1563	1-5/32	4.76	152T-0105-FB	
29.50	1.1614	–	4.76	152T-29.5-FB	
30.00	1.1811	–	4.76	152T-30-FB	
2.5	30.16	1.1875	1-3/16	4.76	152T-0106-FB
	30.50	1.2008	–	4.76	152T-30.5-FB
	30.96	1.2188	1-7/32	4.76	152T-0107-FB
	31.00	1.2205	–	4.76	152T-31-FB
	31.14	1.2260	–	4.76	152T-1.226-FB
	31.26	1.2310	–	4.76	152T-1.231-FB
	31.34	1.2340	–	4.76	152T-1.234-FB
	31.50	1.2402	–	4.76	152T-31.5-FB
	31.75	1.2500	1-1/4	4.76	152T-0108-FB
	32.00	1.2598	–	4.76	152T-32-FB
	32.50	1.2795	–	4.76	152T-32.5-FB
	32.54	1.2813	1-9/32	4.76	152T-0109-FB
	33.00	1.2992	–	4.76	152T-33-FB
	33.34	1.3125	1-5/16	4.76	152T-0110-FB
	33.50	1.3189	–	4.76	152T-33.5-FB
	34.00	1.3386	–	4.76	152T-34-FB
	34.13	1.3438	1-11/32	4.76	152T-0111-FB
	34.50	1.3582	–	4.76	152T-34.5-FB
	34.93	1.3750	1-3/8	4.76	152T-0112-FB
	35.00	1.3780	–	4.76	152T-35-FB

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Inserts sold in quantities of 2



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

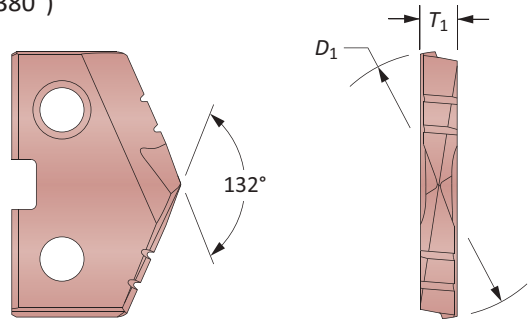
TiN = 152T-XXXX	TiAlN = 152A-XXXX
TiCN = 152N-XXXX	AM200® = 152H-XXXX

T-A Drill Inserts



2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Tube Sheet



HSS Inserts – Super Cobalt | HSS

Series	Insert				Part No.	
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	 Super Cobalt	 HSS
2	25.60	1.0080	–	4.76	152H-1.0080-IN	132H-1.0080-IN
	25.80	1.0156	1-1/64	4.76	152H-1.015-IN	132H-1.015-IN
	26.19	1.0313	1-1/32	4.76	152H-0101-IN	132H-0101-IN

A

DRILLING

B

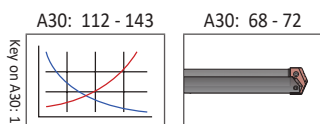
BORING

F

THREADING

X

SPECIALS



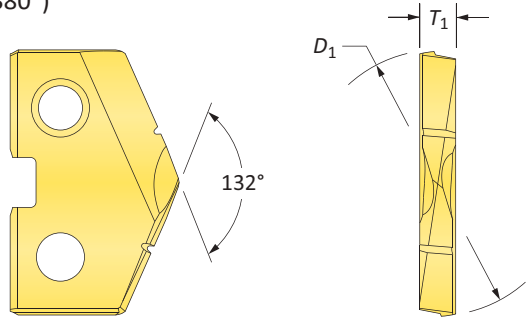
Inserts sold in quantities of 2

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →




TiN = 152T-XXXX	TiAlN = 152A-XXXX
TiCN = 152N-XXXX	AM200® = 152H-XXXX

T-A Drill Inserts

2 Series | HSS | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")

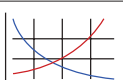




HSS Inserts – HSS

Series	Insert				Part No.		
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TiN	 TiAlN	 TiCN
2	24.50	0.9646	–	4.76	132T-24.5	132A-24.5	132N-24.5
	24.61	0.9688	31/32	4.76	132T-0031	132A-0031	132N-0031
	24.79	0.9760	–	4.76	132T-.976	132A-.976	132N-.976
	25.00	0.9843	63/64	4.76	132T-25	132A-25	132N-25
	25.40	1.0000	1	4.76	132T-0100	132A-0100	132N-0100
	25.50	1.0039	–	4.76	132T-25.5	132A-25.5	132N-25.5
	25.80	1.0156	1-1/64	4.76	132T-1.015	132A-1.015	132N-1.015
	26.00	1.0236	–	4.76	132T-26	132A-26	132N-26
	26.19	1.0313	1-1/32	4.76	132T-0101	132A-0101	132N-0101
	26.50	1.0433	–	4.76	132T-26.5	132A-26.5	132N-26.5
	26.59	1.0469	1-3/64	4.76	132T-1.046	132A-1.046	132N-1.046
	26.99	1.0625	1-1/16	4.76	132T-0102	132A-0102	132N-0102
	27.00	1.0630	–	4.76	132T-27	132A-27	132N-27
	27.50	1.0827	–	4.76	132T-27.5	132A-27.5	132N-27.5
	27.78	1.0938	1-3/32	4.76	132T-0103	132A-0103	132N-0103
	28.00	1.1024	–	4.76	132T-28	132A-28	132N-28
	28.18	1.1094	1-7/64	4.76	132T-1.109	132A-1.109	132N-1.109
	28.50	1.1220	–	4.76	132T-28.5	132A-28.5	132N-28.5
	28.58	1.1250	1-1/8	4.76	132T-0104	132A-0104	132N-0104
	29.00	1.1417	–	4.76	132T-29	132A-29	132N-29
29.37	1.1563	1-5/32	4.76	132T-0105	132A-0105	132N-0105	
29.50	1.1614	–	4.76	132T-29.5	132A-29.5	132N-29.5	
30.00	1.1811	–	4.76	132T-30	132A-30	132N-30	
2.5	30.16	1.1875	1-3/16	4.76	132T-0106	132A-0106	132N-0106
	30.50	1.2008	–	4.76	132T-30.5	132A-30.5	132N-30.5
	30.96	1.2188	1-7/32	4.76	132T-0107	132A-0107	132N-0107
	31.00	1.2205	–	4.76	132T-31	132A-31	132N-31
	31.14	1.2260	–	4.76	132T-1.226	132A-1.226	132N-1.226
	31.26	1.2310	–	4.76	132T-1.231	132A-1.231	132N-1.231
	31.34	1.2340	–	4.76	132T-1.234	132A-1.234	132N-1.234
	31.50	1.2402	–	4.76	132T-31.5	132A-31.5	132N-31.5
	31.75	1.2500	1-1/4	4.76	132T-0108	132A-0108	132N-0108
	32.00	1.2598	–	4.76	132T-32	132A-32	132N-32
	32.50	1.2795	–	4.76	132T-32.5	132A-32.5	132N-32.5
	32.54	1.2813	1-9/32	4.76	132T-0109	132A-0109	132N-0109
	33.00	1.2992	–	4.76	132T-33	132A-33	132N-33
	33.34	1.3125	1-5/16	4.76	132T-0110	132A-0110	132N-0110
	33.50	1.3189	–	4.76	132T-33.5	132A-33.5	132N-33.5
	34.00	1.3386	–	4.76	132T-34	132A-34	132N-34
	34.13	1.3438	1-11/32	4.76	132T-0111	132A-0111	132N-0111
	34.50	1.3582	–	4.76	132T-34.5	132A-34.5	132N-34.5
	34.93	1.3750	1-3/8	4.76	132T-0112	132A-0112	132N-0112
	35.00	1.3780	–	4.76	132T-35	132A-35	132N-35

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Inserts sold in quantities of 2

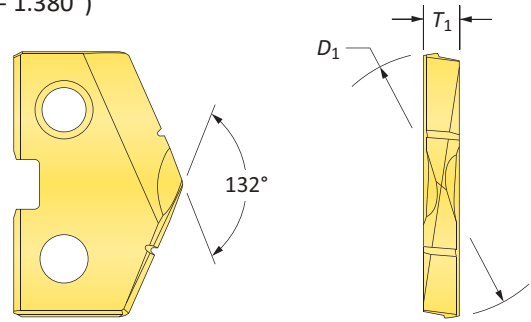
A30: 112 - 143  A30: 68 - 72  A30: 4 - 6  HI, HR, CR, TC, SK, NP, IN, RN, CN, AN, BR, CI, CP, NC, WC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →



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TiCN = 132N-XXXX	AM200® = 132H-XXXX

T-A Drill Inserts

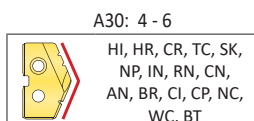
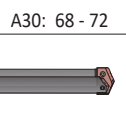
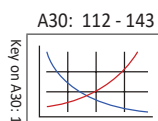
2 Series | Carbide | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Carbide Inserts – K20 (C2)

Series	Insert				Part No.	
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	 TIN	 TiAlN
2	24.50	0.9646	–	4.76	1C22T-24.5	1C22A-24.5
	24.61	0.9688	31/32	4.76	1C22T-0031	1C22A-0031
	24.79	0.9760	–	4.76	1C22T-.976	1C22A-.976
	25.00	0.9843	63/64	4.76	1C22T-25	1C22A-25
	25.40	1.0000	1	4.76	1C22T-0100	1C22A-0100
	25.50	1.0039	–	4.76	1C22T-25.5	1C22A-25.5
	25.80	1.0156	1-1/64	4.76	1C22T-1.015	1C22A-1.015
	26.00	1.0236	–	4.76	1C22T-26	1C22A-26
	26.19	1.0313	1-1/32	4.76	1C22T-0101	1C22A-0101
	26.50	1.0433	–	4.76	1C22T-26.5	1C22A-26.5
	26.59	1.0469	1-3/64	4.76	1C22T-1.046	1C22A-1.046
	26.99	1.0625	1-1/16	4.76	1C22T-0102	1C22A-0102
	27.00	1.0630	–	4.76	1C22T-27	1C22A-27
	27.50	1.0827	–	4.76	1C22T-27.5	1C22A-27.5
	27.78	1.0938	1-3/32	4.76	1C22T-0103	1C22A-0103
	28.00	1.1024	–	4.76	1C22T-28	1C22A-28
	28.18	1.1094	1-7/64	4.76	1C22T-1.109	1C22A-1.109
	28.50	1.1220	–	4.76	1C22T-28.5	1C22A-28.5
	28.58	1.1250	1-1/8	4.76	1C22T-0104	1C22A-0104
	29.00	1.1417	–	4.76	1C22T-29	1C22A-29
29.37	1.1563	1-5/32	4.76	1C22T-0105	1C22A-0105	
29.50	1.1614	–	4.76	1C22T-29.5	1C22A-29.5	
30.00	1.1811	–	4.76	1C22T-30	1C22A-30	
2.5	30.16	1.1875	1-3/16	4.76	1C22T-0106	1C22A-0106
	30.50	1.2008	–	4.76	1C22T-30.5	1C22A-30.5
	30.96	1.2188	1-7/32	4.76	1C22T-0107	1C22A-0107
	31.00	1.2205	–	4.76	1C22T-31	1C22A-31
	31.14	1.2260	–	4.76	1C22T-1.226	1C22A-1.226
	31.26	1.2310	–	4.76	1C22T-1.231	1C22A-1.231
	31.34	1.2340	–	4.76	1C22T-1.234	1C22A-1.234
	31.50	1.2402	–	4.76	1C22T-31.5	1C22A-31.5
	31.75	1.2500	1-1/4	4.76	1C22T-0108	1C22A-0108
	32.00	1.2598	–	4.76	1C22T-32	1C22A-32
	32.50	1.2795	–	4.76	1C22T-32.5	1C22A-32.5
	32.54	1.2813	1-9/32	4.76	1C22T-0109	1C22A-0109
	33.00	1.2992	–	4.76	1C22T-33	1C22A-33
	33.34	1.3125	1-5/16	4.76	1C22T-0110	1C22A-0110
	33.50	1.3189	–	4.76	1C22T-33.5	1C22A-33.5
	34.00	1.3386	–	4.76	1C22T-34	1C22A-34
	34.13	1.3438	1-11/32	4.76	1C22T-0111	1C22A-0111
	34.50	1.3582	–	4.76	1C22T-34.5	1C22A-34.5
	34.93	1.3750	1-3/8	4.76	1C22T-0112	1C22A-0112
	35.00	1.3780	–	4.76	1C22T-35	1C22A-35

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 2

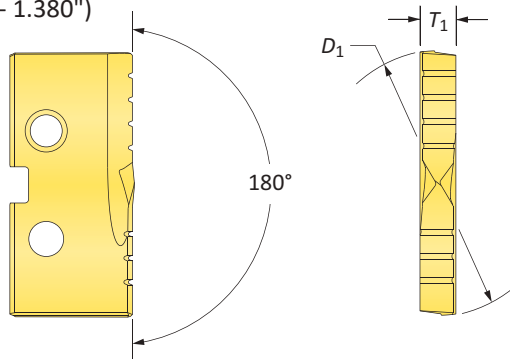
TIN = 1C22T-XXXX	TiAlN = 1C22A-XXXX
TiCN = 1C22N-XXXX	AM200® = 1C22H-XXXX

T-A Drill Inserts


2 Series | Carbide | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



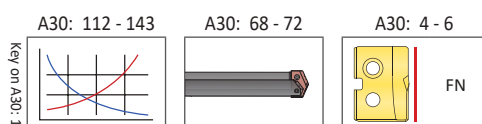
Flat Bottom



Carbide Inserts – K20 (C2)

Series	Insert				Flat Bottom Part No.
	D_1 mm	D_1 inch	Fractional Equivalent	T_1	TiN 
2	24.50	0.9646	–	4.76	1C22T-24.5-FB
	24.61	0.9688	31/32	4.76	1C22T-0031-FB
	24.79	0.9760	–	4.76	1C22T-.976-FB
	25.00	0.9843	63/64	4.76	1C22T-25-FB
	25.40	1.0000	1	4.76	1C22T-0100-FB
	25.50	1.0039	–	4.76	1C22T-25.5-FB
	25.80	1.0156	1-1/64	4.76	1C22T-1.015-FB
	26.00	1.0236	–	4.76	1C22T-26-FB
	26.19	1.0313	1-1/32	4.76	1C22T-0101-FB
	26.50	1.0433	–	4.76	1C22T-26.5-FB
	26.59	1.0469	1-3/64	4.76	1C22T-1.046-FB
	26.99	1.0625	1-1/16	4.76	1C22T-0102-FB
	27.00	1.0630	–	4.76	1C22T-27-FB
	27.50	1.0827	–	4.76	1C22T-27.5-FB
	27.78	1.0938	1-3/32	4.76	1C22T-0103-FB
	28.00	1.1024	–	4.76	1C22T-28-FB
	28.18	1.1094	1-7/64	4.76	1C22T-1.109-FB
	28.50	1.1220	–	4.76	1C22T-28.5-FB
	28.58	1.1250	1-1/8	4.76	1C22T-0104-FB
	29.00	1.1417	–	4.76	1C22T-29-FB
29.37	1.1563	1-5/32	4.76	1C22T-0105-FB	
29.50	1.1614	–	4.76	1C22T-29.5-FB	
30.00	1.1811	–	4.76	1C22T-30-FB	
2.5	30.16	1.1875	1-3/16	4.76	1C22T-0106-FB
	30.50	1.2008	–	4.76	1C22T-30.5-FB
	30.96	1.2188	1-7/32	4.76	1C22T-0107-FB
	31.00	1.2205	–	4.76	1C22T-31-FB
	31.14	1.2260	–	4.76	1C22T-1.226-FB
	31.26	1.2310	–	4.76	1C22T-1.231-FB
	31.34	1.2340	–	4.76	1C22T-1.234-FB
	31.50	1.2402	–	4.76	1C22T-31.5-FB
	31.75	1.2500	1-1/4	4.76	1C22T-0108-FB
	32.00	1.2598	–	4.76	1C22T-32-FB
	32.50	1.2795	–	4.76	1C22T-32.5-FB
	32.54	1.2813	1-9/32	4.76	1C22T-0109-FB
	33.00	1.2992	–	4.76	1C22T-33-FB
	33.34	1.3125	1-5/16	4.76	1C22T-0110-FB
	33.50	1.3189	–	4.76	1C22T-33.5-FB
	34.00	1.3386	–	4.76	1C22T-34-FB
	34.13	1.3438	1-11/32	4.76	1C22T-0111-FB
	34.50	1.3582	–	4.76	1C22T-34.5-FB
	34.93	1.3750	1-3/8	4.76	1C22T-0112-FB
	35.00	1.3780	–	4.76	1C22T-35-FB

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



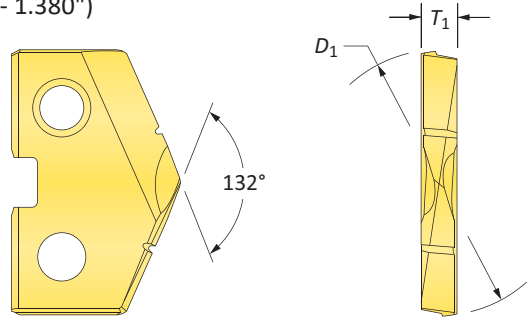
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 1C22T-XXXX	TiAlN = 1C22A-XXXX
TiCN = 1C22N-XXXX	AM200® = 1C22H-XXXX

Inserts sold in quantities of 2

T-A Drill Inserts

2 Series | Carbide | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")

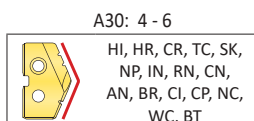
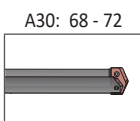
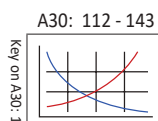


Carbide Inserts – P40 (C5) | K10 (C3) | N2

Series	Insert				C5 Part No.		C3 Part No.	N2 Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	T ₁	TiN	TiAlN	TiAlN (Cast Iron)	Diamond Film*
2	24.50	0.9646	–	4.76	1C52T-24.5	1C52A-24.5	1C32A-24.5-CI	1N22D-24.5
	24.61	0.9688	31/32	4.76	1C52T-0031	1C52A-0031	1C32A-0031-CI	1N22D-0031
	24.79	0.9760	–	4.76	1C52T-.976	1C52A-.976	1C32A-.976-CI	1N22D-.976
	25.00	0.9843	63/64	4.76	1C52T-25	1C52A-25	1C32A-25-CI	1N22D-25
	25.40	1.0000	1	4.76	1C52T-0100	1C52A-0100	1C32A-0100-CI	1N22D-0100
	25.50	1.0039	–	4.76	1C52T-25.5	1C52A-25.5	1C32A-25.5-CI	1N22D-25.5
	25.80	1.0156	1-1/64	4.76	1C52T-1.015	1C52A-1.015	1C32A-1.015-CI	1N22D-1.015
	26.00	1.0236	–	4.76	1C52T-26	1C52A-26	1C32A-26-CI	1N22D-26
	26.19	1.0313	1-1/32	4.76	1C52T-0101	1C52A-0101	1C32A-0101-CI	1N22D-0101
	26.50	1.0433	–	4.76	1C52T-26.5	1C52A-26.5	1C32A-26.5-CI	1N22D-26.5
	26.59	1.0469	1-3/64	4.76	1C52T-1.046	1C52A-1.046	1C32A-1.046-CI	1N22D-1.046
	26.99	1.0625	1-1/16	4.76	1C52T-0102	1C52A-0102	1C32A-0102-CI	1N22D-0102
	27.00	1.0630	–	4.76	1C52T-27	1C52A-27	1C32A-27-CI	1N22D-27
	27.50	1.0827	–	4.76	1C52T-27.5	1C52A-27.5	1C32A-27.5-CI	1N22D-27.5
	27.78	1.0938	1-3/32	4.76	1C52T-0103	1C52A-0103	1C32A-0103-CI	1N22D-0103
	28.00	1.1024	–	4.76	1C52T-28	1C52A-28	1C32A-28-CI	1N22D-28
	28.18	1.1094	1-7/64	4.76	1C52T-1.109	1C52A-1.109	1C32A-1.109-CI	1N22D-1.109
	28.50	1.1220	–	4.76	1C52T-28.5	1C52A-28.5	1C32A-28.5-CI	1N22D-28.5
	28.58	1.1250	1-1/8	4.76	1C52T-0104	1C52A-0104	1C32A-0104-CI	1N22D-0104
	29.00	1.1417	–	4.76	1C52T-29	1C52A-29	1C32A-29-CI	1N22D-29
29.37	1.1563	1-5/32	4.76	1C52T-0105	1C52A-0105	1C32A-0105-CI	1N22D-0105	
29.50	1.1614	–	4.76	1C52T-29.5	1C52A-29.5	1C32A-29.5-CI	1N22D-29.5	
30.00	1.1811	–	4.76	1C52T-30	1C52A-30	1C32A-30-CI	1N22D-30	
2.5	30.16	1.1875	1-3/16	4.76	1C52T-0106	1C52A-0106	1C32A-0106-CI	1N22D-0106
	30.50	1.2008	–	4.76	1C52T-30.5	1C52A-30.5	1C32A-30.5-CI	1N22D-30.5
	30.96	1.2188	1-7/32	4.76	1C52T-0107	1C52A-0107	1C32A-0107-CI	1N22D-0107
	31.00	1.2205	–	4.76	1C52T-31	1C52A-31	1C32A-31-CI	1N22D-31
	31.14	1.2260	–	4.76	1C52T-1.226	1C52A-1.226	1C32A-1.226-CI	1N22D-1.226
	31.26	1.2310	–	4.76	1C52T-1.231	1C52A-1.231	1C32A-1.231-CI	1N22D-1.231
	31.34	1.2340	–	4.76	1C52T-1.234	1C52A-1.234	1C32A-1.234-CI	1N22D-1.234
	31.50	1.2402	–	4.76	1C52T-31.5	1C52A-31.5	1C32A-31.5-CI	1N22D-31.5
	31.75	1.2500	1-1/4	4.76	1C52T-0108	1C52A-0108	1C32A-0108-CI	1N22D-0108
	32.00	1.2598	–	4.76	1C52T-32	1C52A-32	1C32A-32-CI	1N22D-32
	32.50	1.2795	–	4.76	1C52T-32.5	1C52A-32.5	1C32A-32.5-CI	1N22D-32.5
	32.54	1.2813	1-9/32	4.76	1C52T-0109	1C52A-0109	1C32A-0109-CI	1N22D-0109
	33.00	1.2992	–	4.76	1C52T-33	1C52A-33	1C32A-33-CI	1N22D-33
	33.34	1.3125	1-5/16	4.76	1C52T-0110	1C52A-0110	1C32A-0110-CI	1N22D-0110
	33.50	1.3189	–	4.76	1C52T-33.5	1C52A-33.5	1C32A-33.5-CI	1N22D-33.5
	34.00	1.3386	–	4.76	1C52T-34	1C52A-34	1C32A-34-CI	1N22D-34
	34.13	1.3438	1-11/32	4.76	1C52T-0111	1C52A-0111	1C32A-0111-CI	1N22D-0111
	34.50	1.3582	–	4.76	1C52T-34.5	1C52A-34.5	1C32A-34.5-CI	1N22D-34.5
	34.93	1.3750	1-3/8	4.76	1C52T-0112	1C52A-0112	1C32A-0112-CI	1N22D-0112
	35.00	1.3780	–	4.76	1C52T-35	1C52A-35	1C32A-35-CI	1N22D-35

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

*Diamond Film is only available in standard geometry. For additional geometries, please contact Application Engineering.



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

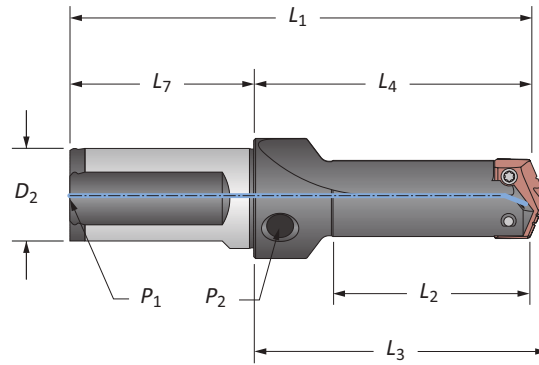
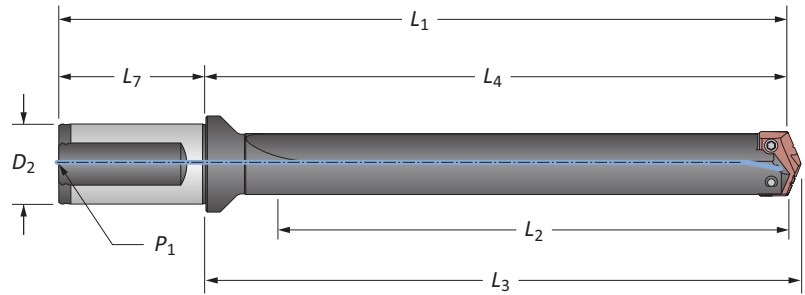
Inserts sold in quantities of 2

TiN = 1C22T-XXXX	TiAlN = 1C22A-XXXX
TiCN = 1C22N-XXXX	AM200® = 1C22H-XXXX

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

T-A Drill Insert Holders

2 Series | Flange Shank | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Stub Length

Straight Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁		
m	2	Stub	57.2	88.5	92.1	148.5	32.0	60.0	1/4*	21020S-32FM
		Short	85.7	128.6	132.2	188.6	32.0	60.0	1/4*	22020S-32FM
		Intermediate	137.0	179.4	183.0	239.4	32.0	60.0	1/4*	23020S-32FM
		Standard	187.0	230.2	233.8	290.2	32.0	60.0	1/4*	24020S-32FM
		XL	511.0	554.1	557.7	614.1	32.0	60.0	1/4*	⚠ 27020S-32FM
		3XL	692.0	735.1	738.7	795.1	32.0	60.0	1/4*	⚠ 29020S-32FM
2.5	Stub	85.7	123.4	127.0	183.4	32.0	60.0	1/4*	21025S-32FM	
		85.7	128.6	132.2	188.6	32.0	60.0	1/4*	22025S-32FM	
i	2	Stub	2-1/4	3-31/64	3-5/8	5-49/64	1-1/4	2-9/32	1/4	21020S-125F
		Short	3-5/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4	22020S-125F
		Intermediate	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4	23020S-125F
		Standard	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4	24020S-125F
		Extended	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4	⚠ 25020S-125F
	2.5	Stub	3-3/8	4-55/64	5	7-9/64	1-1/4	2-9/32	1/4	21025S-125F
		Short	3-5/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4	22025S-125F
		Intermediate	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4	23025S-125F
		Standard	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4	24025S-125F
		Extended	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4	⚠ 25025S-125F

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Connection Accessories

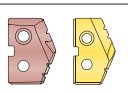
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 58 - 67

A30: 73 & 111

Key on A30: 1



m = Metric (mm)

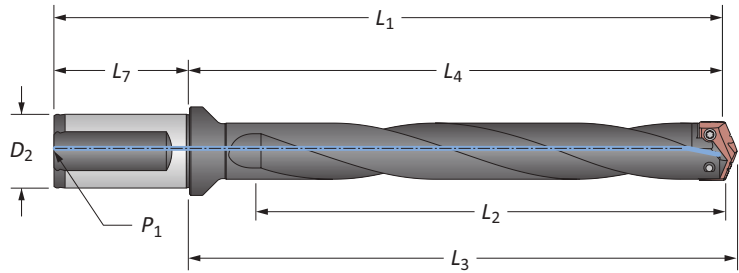
i = Imperial (in)

Screws sold in quantities of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

2 Series | Flange Shank | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Helical Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁		
2	Intermediate	136.5	179.4	183.0	239.4	32.0	60.0	1/4*	23020H-32FM	
	Standard	187.3	230.2	233.8	290.2	32.0	60.0	1/4*	24020H-32FM	
	Standard Plus	238.0	280.9	284.5	340.9	32.0	60.0	1/4*	24520H-32FM	
	Extended	288.9	331.8	335.4	391.8	32.0	60.0	1/4*	25020H-32FM	
	Long	410.0	452.9	456.5	512.9	32.0	60.0	1/4*	26020H-32FM	
2.5	Intermediate	136.5	179.4	183.0	239.4	32.0	60.0	1/4*	23025H-32FM	
	Standard	187.3	230.2	233.8	290.2	32.0	60.0	1/4*	24025H-32FM	
	Extended	288.9	331.8	335.4	391.8	32.0	60.0	1/4*	25025H-32FM	
2	Intermediate	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4	23020H-125F	
	Standard	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4	24020H-125F	
	Standard Plus	9-3/8	11-1/16	11-13/64	13-31/64	1-1/4	2-9/32	1/4	24520H-125F	
	Extended	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4	25020H-125F	
	Long	16-1/8	17-53/64	7-31/32	20-1/4	1-1/4	2-9/32	1/4	26020H-125F	
	2.5	Intermediate	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4	23025H-125F
		Standard	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4	24025H-125F
Extended		11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4	25025H-125F	

*Metric thread to BSP and ISO 7-1

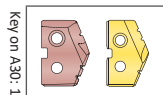
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 58 - 67



Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Screws sold in quantities of 10

1. WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

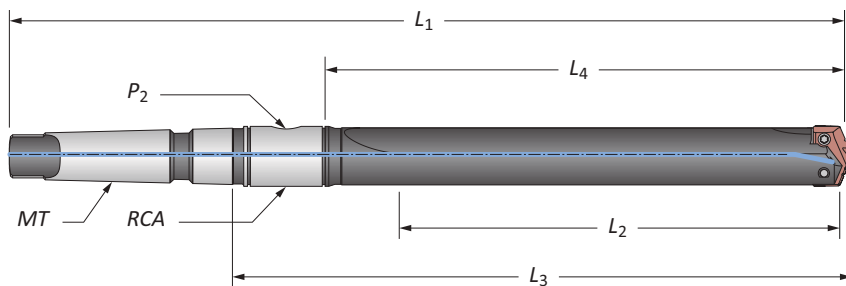
2

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

2 Series | Taper Shank | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")





Straight Flute

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA		
m 2	Short	92.1	114.3	142.5	273.8	#4**	1/8*	2T-3SRM	22020S-004M	
2.5	Short	92.1	114.3	142.5	281.0	#4**	1/4*	2T-4SRM	22025S-004M	
i	2	Short	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	2T-3SR	22020S-003I
		Short	3-3/8	4-1/2	6-19/64	10-25/32	#4	1/8	2T-3SR	22020S-004I
		Intermediate	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	2T-3SR	23020S-004I
		Standard	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	2T-3SR	24020S-003I
		Standard	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	2T-3SR	24020S-004I
	Extended	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/4	2T-3SR	25020S-004I	
	2.5	Short	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	2T-3SR	22025S-003I
		Short	3-3/8	4-1/2	6-37/64	11-1/16	#4	1/4	2T-4SR	22025S-004I
		Intermediate	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	2T-4SR	23025S-004I
		Standard	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	2T-3SR	24025S-003I
Standard		7-3/8	8-1/2	10-37/64	15-1/16	#4	1/8	2T-4SR	24025S-004I	
Extended	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	2T-4SR	25025S-004I		

*Metric thread to BSP and ISO 7-1






**Per ISO 296 type BEK

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

E

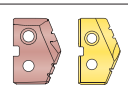
THREADING

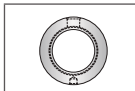
Connection Accessories


Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
					
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on A30: 1

A30: 58 - 67 

A30: 73 & 110 

A30: 73 & 111 

m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A30: 70

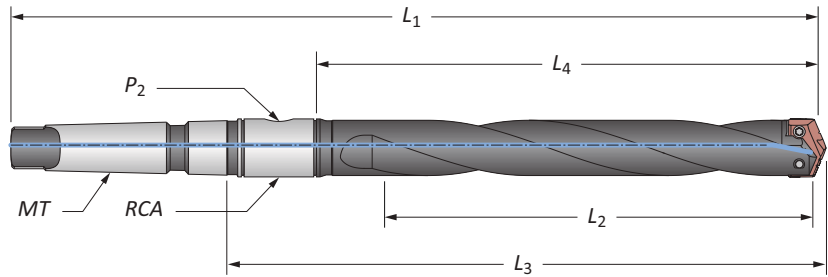
www.febametal.com/amec | Tel. 011.770.14.12

X

SPECIALS

T-A Drill Insert Holders

2 Series | Taper Shank | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")



Helical Flute




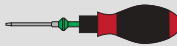

Series	Length	Body				Shank			Part No.	
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA		
m	2	Intermediate	136.5	165.1	211.2	324.6	#4**	1/8*	2T-3SRM	23020H-004M
		Standard	187.3	215.9	262.0	375.4	#4**	1/8*	2T-3SRM	24020H-004M
		Extended	289.0	317.5	363.6	477.0	#4**	1/8*	2T-3SRM	25020H-004M
m	2.5	Intermediate	136.5	165.1	218.4	331.8	#4**	1/4*	2T-4SRM	23025H-004M
		Standard	187.3	215.9	269.2	382.6	#4**	1/4*	2T-4SRM	24025H-004M
		Extended	289.0	317.5	370.8	484.2	#4**	1/4*	2T-4SRM	25025H-004M
i	2	Intermediate	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	2T-3SR	23020H-004I
		Standard	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	2T-3SR	24020H-003I
		Standard	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	2T-3SR	24020H-004I
		Extended	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	2T-3SR	25020H-004I
	2.5	Intermediate	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	2T-4SR	23025H-004I
		Standard	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	2T-3SR	24025H-003I
		Standard	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	2T-4SR	24025H-004I
	Extended	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	2T-4SR	25025H-004I	

*Metric thread to BSP and ISO 7-1

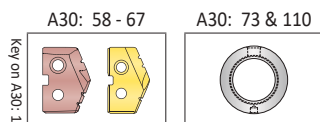
**Per ISO 296 type BEK

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

i = Imperial (in)

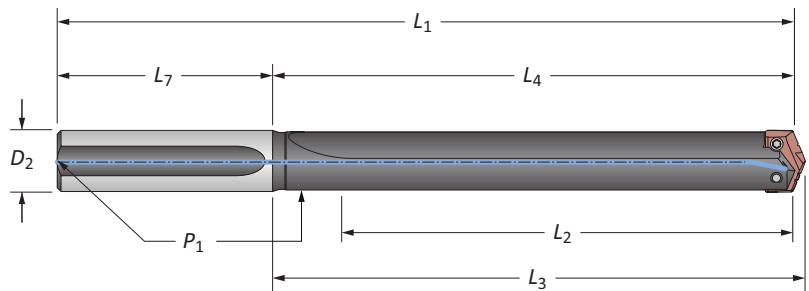
Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

T-A Drill Insert Holders

2 Series | Straight Shank | Diameter Range: 24.41 mm - 35.05 mm (0.961" - 1.380")








Straight Flute

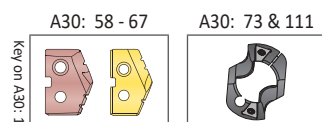
Series	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
2	Short	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8	22020S-100L
	Short	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8	22020S-125L
	Intermediate	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8	23020S-125L
	Standard	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8	24020S-100L
	Standard	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8	24020S-125L
	Extended	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8	⚠ 25020S-125L
	XL	20-1/8	21-1/4	21-25/64	24-3/4	1-1/4	3-1/2	1/8	⚠ 27020S-125L
2.5	3XL	27-1/4	28-3/8	28-33/64	31-7/8	1-1/4	3-1/2	1/8	⚠ 29020S-125L
	Short	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8*	22025S-100L
	Short	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8*	22025S-125L
	Intermediate	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8*	23025S-125L
	Standard	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8*	24025S-100L
	Standard	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8*	24025S-125L
	Extended	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8*	⚠ 25025S-125L

NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Connection Accessories

					Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

i = Imperial (in)

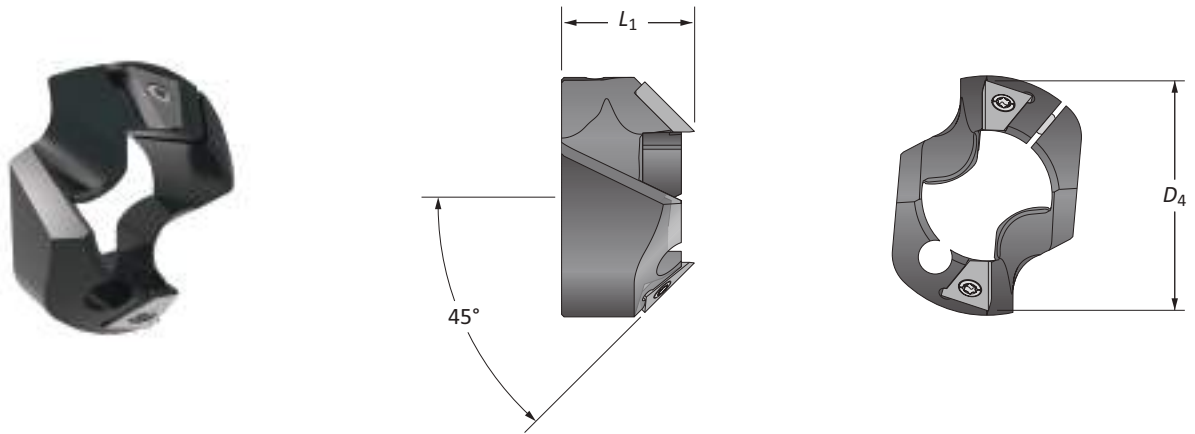
Screws sold in quantities of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



T-A Drill Accessories

2 Series | Chamfer Rings | Rotary Coolant Adapters | Torx® Plus Screws

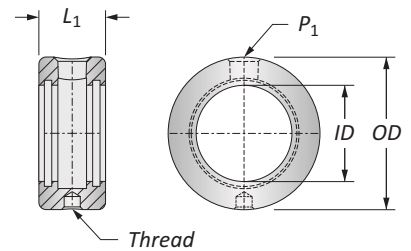


T-ACR 45 Chamfer Ring

Holder Series	D ₁ Range	Chamfer Ring		Part No.	Insert Part No.	Insert Screw	Insert Driver	Clamping Screw	Insert Driver
		D ₄	L ₁						
2	0.9610 - 1.3800	1-9/16	1	T-ACR-45-2	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7514-IP20-1	8IP-20

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings		
						Kit Part No.**	Replacements	
Ⓜ	25.40	53.97	28.57	M8 x 1.25	1/8*	⚠ 2T-3SRM	2T1-3SR	2T1-3OR-10
	31.75	63.50	34.92	M10 x 1.50	1/4*	⚠ 2T-4SRM	2T1-4SR	2T1-4OR-10
Ⓜ	1	2-1/8	1-1/8	5/16-18	1/8	⚠ 2T-3SR	2T1-3SR	2T1-3OR-10
	1-1/4	2-1/2	1-3/8	3/8-16	1/4	⚠ 2T-4SR	2T1-4SR	2T1-4OR-10



*Thread to BSP and ISO 7-1

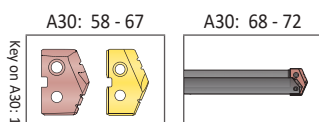
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10

⚠ WARNING RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications.

A

DRILLING

B

BORING

E

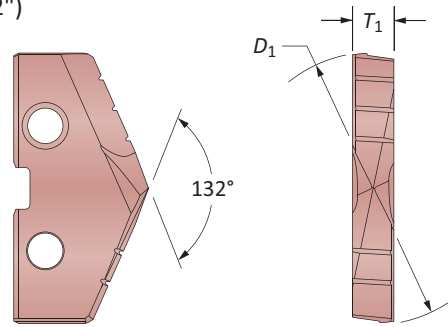
THREADING

X

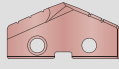
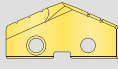
SPECIALS

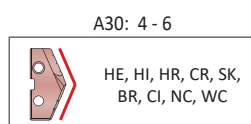
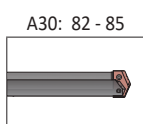
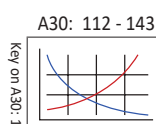
GEN2 T-A Drill Inserts

3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



HSS Inserts – Premium Cobalt

Insert				Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200®	 TiN
35.72	1.4063	1-13/32	6.35	483H-0113	483T-0113
36.00	1.4173	-	6.35	483H-36	483T-36
36.51	1.4375	1-7/16	6.35	483H-0114	483T-0114
37.00	1.4567	-	6.35	483H-37	483T-37
37.31	1.4688	1-15/32	6.35	483H-0115	483T-0115
38.00	1.4961	-	6.35	483H-38	483T-38
38.10	1.5000	1-1/2	6.35	483H-0116	483T-0116
38.89	1.5313	1-17/32	6.35	483H-0117	483T-0117
39.00	1.5354	-	6.35	483H-39	483T-39
39.29	1.5470	-	6.35	483H-1.547	483T-1.547
39.69	1.5625	1-9/16	6.35	483H-0118	483T-0118
40.00	1.5748	-	6.35	483H-40	483T-40
40.48	1.5938	1-19/32	6.35	483H-0119	483T-0119
41.00	1.6142	-	6.35	483H-41	483T-41
41.28	1.6250	1-5/8	6.35	483H-0120	483T-0120
42.00	1.6535	-	6.35	483H-42	483T-42
42.07	1.6563	1-21/32	6.35	483H-0121	483T-0121
42.86	1.6875	1-11/16	6.35	483H-0122	483T-0122
43.00	1.6929	-	6.35	483H-43	483T-43
43.66	1.7188	1-23/32	6.35	483H-0123	483T-0123
44.00	1.7323	-	6.35	483H-44	483T-44
44.45	1.7500	1-3/4	6.35	483H-0124	483T-0124
45.00	1.7717	-	6.35	483H-45	483T-45
45.24	1.7813	1-25/32	6.35	483H-0125	483T-0125
45.50	1.7913	-	6.35	483H-45.5	483T-45.5
45.64	1.7970	-	6.35	483H-1.797	483T-1.797
46.00	1.8110	-	6.35	483H-46	483T-46
46.04	1.8125	1-13/16	6.35	483H-0126	483T-0126
46.83	1.8438	1-27/32	6.35	483H-0127	483T-0127
47.00	1.8504	-	6.35	483H-47	483T-47
47.63	1.8750	1-7/8	6.35	483H-0128	483T-0128



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

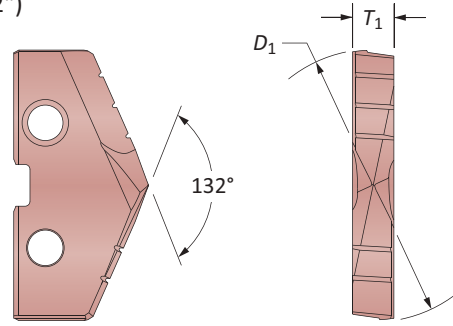
TiN = 483T-XXXX	TiAlN = 483A-XXXX
TiCN = 483N-XXXX	AM200® = 483H-XXXX

Inserts sold in quantities of 1

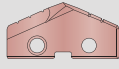
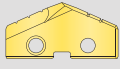


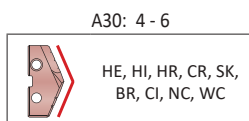
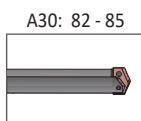
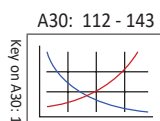
GEN2 T-A Drill Inserts

3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



HSS Inserts – Super Cobalt

Insert				Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200®	 TiN
35.72	1.4063	1-13/32	6.35	453H-0113	453T-0113
36.00	1.4173	-	6.35	453H-36	453T-36
36.51	1.4375	1-7/16	6.35	453H-0114	453T-0114
37.00	1.4567	-	6.35	453H-37	453T-37
37.31	1.4688	1-15/32	6.35	453H-0115	453T-0115
38.00	1.4961	-	6.35	453H-38	453T-38
38.10	1.5000	1-1/2	6.35	453H-0116	453T-0116
38.89	1.5313	1-17/32	6.35	453H-0117	453T-0117
39.00	1.5354	-	6.35	453H-39	453T-39
39.29	1.5470	-	6.35	453H-1.547	453T-1.547
39.69	1.5625	1-9/16	6.35	453H-0118	453T-0118
40.00	1.5748	-	6.35	453H-40	453T-40
40.48	1.5938	1-19/32	6.35	453H-0119	453T-0119
41.00	1.6142	-	6.35	453H-41	453T-41
41.28	1.6250	1-5/8	6.35	453H-0120	453T-0120
42.00	1.6535	-	6.35	453H-42	453T-42
42.07	1.6563	1-21/32	6.35	453H-0121	453T-0121
42.86	1.6875	1-11/16	6.35	453H-0122	453T-0122
43.00	1.6929	-	6.35	453H-43	453T-43
43.66	1.7188	1-23/32	6.35	453H-0123	453T-0123
44.00	1.7323	-	6.35	453H-44	453T-44
44.45	1.7500	1-3/4	6.35	453H-0124	453T-0124
45.00	1.7717	-	6.35	453H-45	453T-45
45.24	1.7813	1-25/32	6.35	453H-0125	453T-0125
45.50	1.7913	-	6.35	453H-45.5	453T-45.5
45.64	1.7970	-	6.35	453H-1.797	453T-1.797
46.00	1.8110	-	6.35	453H-46	453T-46
46.04	1.8125	1-13/16	6.35	453H-0126	453T-0126
46.83	1.8438	1-27/32	6.35	453H-0127	453T-0127
47.00	1.8504	-	6.35	453H-47	453T-47
47.63	1.8750	1-7/8	6.35	453H-0128	453T-0128



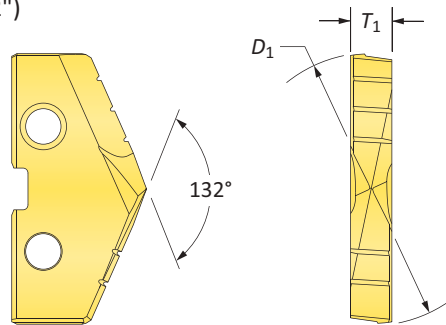
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 1


TiN = 453T-XXXX	TiAlN = 453A-XXXX
TiCN = 453N-XXXX	AM200® = 453H-XXXX

GEN2 T-A Drill Inserts

3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



HSS Inserts – HSS

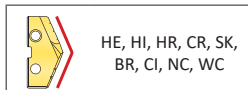
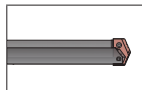
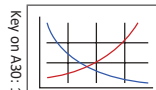
Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN
35.72	1.4063	1-13/32	6.35	433T-0113
36.00	1.4173	-	6.35	433T-36
36.51	1.4375	1-7/16	6.35	433T-0114
37.00	1.4567	-	6.35	433T-37
37.31	1.4688	1-15/32	6.35	433T-0115
38.00	1.4961	-	6.35	433T-38
38.10	1.5000	1-1/2	6.35	433T-0116
38.89	1.5313	1-17/32	6.35	433T-0117
39.00	1.5354	-	6.35	433T-39
39.29	1.5470	-	6.35	433T-1.547
39.69	1.5625	1-9/16	6.35	433T-0118
40.00	1.5748	-	6.35	433T-40
40.48	1.5938	1-19/32	6.35	433T-0119
41.00	1.6142	-	6.35	433T-41
41.28	1.6250	1-5/8	6.35	433T-0120
42.00	1.6535	-	6.35	433T-42
42.07	1.6563	1-21/32	6.35	433T-0121
42.86	1.6875	1-11/16	6.35	433T-0122
43.00	1.6929	-	6.35	433T-43
43.66	1.7188	1-23/32	6.35	433T-0123
44.00	1.7323	-	6.35	433T-44
44.45	1.7500	1-3/4	6.35	433T-0124
45.00	1.7717	-	6.35	433T-45
45.24	1.7813	1-25/32	6.35	433T-0125
45.50	1.7913	-	6.35	433T-45.5
45.64	1.7970	-	6.35	433T-1.797
46.00	1.8110	-	6.35	433T-46
46.04	1.8125	1-13/16	6.35	433T-0126
46.83	1.8438	1-27/32	6.35	433T-0127
47.00	1.8504	-	6.35	433T-47
47.63	1.8750	1-7/8	6.35	433T-0128

Inserts sold in quantities of 1

A30: 112 - 143

A30: 82 - 85

A30: 4 - 6

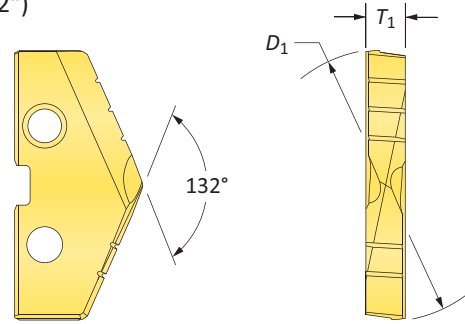


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →


TiN = 433T-XXXX	TiAlN = 433A-XXXX
TiCN = 433N-XXXX	AM200® = 433H-XXXX

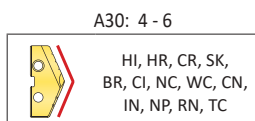
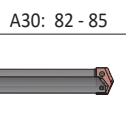
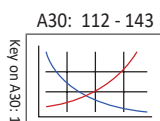
T-A Drill Inserts


3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



HSS Inserts – Super Cobalt

Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN
35.72	1.4063	1-13/32	6.35	153T-0113
36.00	1.4173	-	6.35	153T-36
36.51	1.4375	1-7/16	6.35	153T-0114
37.00	1.4567	-	6.35	153T-37
37.31	1.4688	1-15/32	6.35	153T-0115
38.00	1.4961	-	6.35	153T-38
38.10	1.5000	1-1/2	6.35	153T-0116
38.89	1.5313	1-17/32	6.35	153T-0117
39.00	1.5354	-	6.35	153T-39
39.29	1.5470	-	6.35	153T-1.547
39.69	1.5625	1-9/16	6.35	153T-0118
40.00	1.5748	-	6.35	153T-40
40.48	1.5938	1-19/32	6.35	153T-0119
41.00	1.6142	-	6.35	153T-41
41.28	1.6250	1-5/8	6.35	153T-0120
42.00	1.6535	-	6.35	153T-42
42.07	1.6563	1-21/32	6.35	153T-0121
42.86	1.6875	1-11/16	6.35	153T-0122
43.00	1.6929	-	6.35	153T-43
43.66	1.7188	1-23/32	6.35	153T-0123
44.00	1.7323	-	6.35	153T-44
44.45	1.7500	1-3/4	6.35	153T-0124
45.00	1.7717	-	6.35	153T-45
45.24	1.7813	1-25/32	6.35	153T-0125
45.50	1.7913	-	6.35	153T-45.5
45.64	1.7970	-	6.35	153T-1.797
46.00	1.8110	-	6.35	153T-46
46.04	1.8125	1-13/16	6.35	153T-0126
46.83	1.8438	1-27/32	6.35	153T-0127
47.00	1.8504	-	6.35	153T-47
47.63	1.8750	1-7/8	6.35	153T-0128



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 1

TiN = 153T-XXXX	TiAlN = 153A-XXXX
TiCN = 153N-XXXX	AM200® = 153H-XXXX

3




 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Inserts

3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")

90° Spot & Chamfer

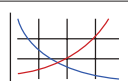
HSS Inserts – Super Cobalt

Insert				Part No.		
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN	 TiCN
35.72	1.4063	1-13/32	6.35	153T-0113-SP	153A-0113-SP	153N-0113-SP
36.00	1.4173	-	6.35	153T-36-SP	153A-36-SP	153N-36-SP
36.51	1.4375	1-7/16	6.35	153T-0114-SP	153A-0114-SP	153N-0114-SP
37.00	1.4567	-	6.35	153T-37-SP	153A-37-SP	153N-37-SP
37.31	1.4688	1-15/32	6.35	153T-0115-SP	153A-0115-SP	153N-0115-SP
38.00	1.4961	-	6.35	153T-38-SP	153A-38-SP	153N-38-SP
38.10	1.5000	1-1/2	6.35	153T-0116-SP	153A-0116-SP	153N-0116-SP
38.89	1.5313	1-17/32	6.35	153T-0117-SP	153A-0117-SP	153N-0117-SP
39.00	1.5354	-	6.35	153T-39-SP	153A-39-SP	153N-39-SP
39.29	1.5470	-	6.35	153T-1.547-SP	153A-1.547-SP	153N-1.547-SP
39.69	1.5625	1-9/16	6.35	153T-0118-SP	153A-0118-SP	153N-0118-SP
40.00	1.5748	-	6.35	153T-40-SP	153A-40-SP	153N-40-SP
40.48	1.5938	1-19/32	6.35	153T-0119-SP	153A-0119-SP	153N-0119-SP
41.00	1.6142	-	6.35	153T-41-SP	153A-41-SP	153N-41-SP
41.28	1.6250	1-5/8	6.35	153T-0120-SP	153A-0120-SP	153N-0120-SP
42.00	1.6535	-	6.35	153T-42-SP	153A-42-SP	153N-42-SP
42.07	1.6563	1-21/32	6.35	153T-0121-SP	153A-0121-SP	153N-0121-SP
42.86	1.6875	1-11/16	6.35	153T-0122-SP	153A-0122-SP	153N-0122-SP
43.00	1.6929	-	6.35	153T-43-SP	153A-43-SP	153N-43-SP
43.66	1.7188	1-23/32	6.35	153T-0123-SP	153A-0123-SP	153N-0123-SP
44.00	1.7323	-	6.35	153T-44-SP	153A-44-SP	153N-44-SP
44.45	1.7500	1-3/4	6.35	153T-0124-SP	153A-0124-SP	153N-0124-SP
45.00	1.7717	-	6.35	153T-45-SP	153A-45-SP	153N-45-SP
45.24	1.7813	1-25/32	6.35	153T-0125-SP	153A-0125-SP	153N-0125-SP
45.50	1.7913	-	6.35	153T-45.5-SP	153A-45.5-SP	153N-45.5-SP
45.64	1.7970	-	6.35	153T-1.797-SP	153A-1.797-SP	153N-1.797-SP
46.00	1.8110	-	6.35	153T-46-SP	153A-46-SP	153N-46-SP
46.04	1.8125	1-13/16	6.35	153T-0126-SP	153A-0126-SP	153N-0126-SP
46.83	1.8438	1-27/32	6.35	153T-0127-SP	153A-0127-SP	153N-0127-SP
47.00	1.8504	-	6.35	153T-47-SP	153A-47-SP	153N-47-SP
47.63	1.8750	1-7/8	6.35	153T-0128-SP	153A-0128-SP	153N-0128-SP


Inserts sold in quantities of 1

Key on A30: 1


A30: 112 - 143




A30: 82 - 85



A30: 4 - 6



SW

 Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

TiN = 153T-XXXX	TiAlN = 153A-XXXX
TiCN = 153N-XXXX	AM200® = 153H-XXXX

A30: 78

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A

DRILLING

B

BORING

E

THREADING

X

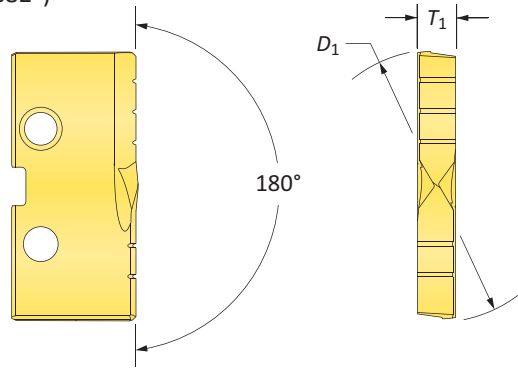
SPECIALS

T-A Drill Inserts

3 Series | HSS | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")

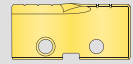


Flat Bottom



HSS Inserts – Super Cobalt

Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	TIN
35.72	1.4063	1-13/32	6.35	153T-0113-FB
36.00	1.4173	-	6.35	153T-36-FB
36.51	1.4375	1-7/16	6.35	153T-0114-FB
37.00	1.4567	-	6.35	153T-37-FB
37.31	1.4688	1-15/32	6.35	153T-0115-FB
38.00	1.4961	-	6.35	153T-38-FB
38.10	1.5000	1-1/2	6.35	153T-0116-FB
38.89	1.5313	1-17/32	6.35	153T-0117-FB
39.00	1.5354	-	6.35	153T-39-FB
39.29	1.5470	-	6.35	153T-1.547-FB
39.69	1.5625	1-9/16	6.35	153T-0118-FB
40.00	1.5748	-	6.35	153T-40-FB
40.48	1.5938	1-19/32	6.35	153T-0119-FB
41.00	1.6142	-	6.35	153T-41-FB
41.28	1.6250	1-5/8	6.35	153T-0120-FB
42.00	1.6535	-	6.35	153T-42-FB
42.07	1.6563	1-21/32	6.35	153T-0121-FB
42.86	1.6875	1-11/16	6.35	153T-0122-FB
43.00	1.6929	-	6.35	153T-43-FB
43.66	1.7188	1-23/32	6.35	153T-0123-FB
44.00	1.7323	-	6.35	153T-44-FB
44.45	1.7500	1-3/4	6.35	153T-0124-FB
45.00	1.7717	-	6.35	153T-45-FB
45.24	1.7813	1-25/32	6.35	153T-0125-FB
45.50	1.7913	-	6.35	153T-45.5-FB
45.64	1.7970	-	6.35	153T-1.797-FB
46.00	1.8110	-	6.35	153T-46-FB
46.04	1.8125	1-13/16	6.35	153T-0126-FB
46.83	1.8438	1-27/32	6.35	153T-0127-FB
47.00	1.8504	-	6.35	153T-47-FB
47.63	1.8750	1-7/8	6.35	153T-0128-FB

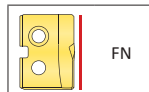
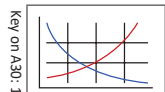



TIN

A30: 112 - 143

A30: 82 - 85

A30: 4 - 6

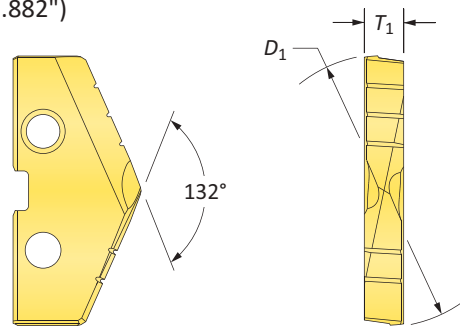


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 


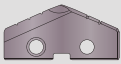
Inserts sold in quantities of 1	
TiN = 153T-XXXX	TiAlN = 153A-XXXX
TiCN = 153N-XXXX	AM200® = 153H-XXXX

T-A Drill Inserts

3 Series | Carbide | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



Carbide Inserts – K20 (C2)

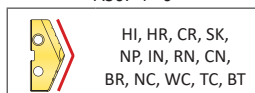
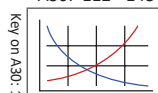
Insert				Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN
35.72	1.4063	1-13/32	6.35	1C23T-0113	1C23A-0113
36.00	1.4173	-	6.35	1C23T-36	1C23A-36
36.51	1.4375	1-7/16	6.35	1C23T-0114	1C23A-0114
37.00	1.4567	-	6.35	1C23T-37	1C23A-37
37.31	1.4688	1-15/32	6.35	1C23T-0115	1C23A-0115
38.00	1.4961	-	6.35	1C23T-38	1C23A-38
38.10	1.5000	1-1/2	6.35	1C23T-0116	1C23A-0116
38.89	1.5313	1-17/32	6.35	1C23T-0117	1C23A-0117
39.00	1.5354	-	6.35	1C23T-39	1C23A-39
39.29	1.5470	-	6.35	1C23T-1.547	1C23A-1.547
39.69	1.5625	1-9/16	6.35	1C23T-0118	1C23A-0118
40.00	1.5748	-	6.35	1C23T-40	1C23A-40
40.48	1.5938	1-19/32	6.35	1C23T-0119	1C23A-0119
41.00	1.6142	-	6.35	1C23T-41	1C23A-41
41.28	1.6250	1-5/8	6.35	1C23T-0120	1C23A-0120
42.00	1.6535	-	6.35	1C23T-42	1C23A-42
42.07	1.6563	1-21/32	6.35	1C23T-0121	1C23A-0121
42.86	1.6875	1-11/16	6.35	1C23T-0122	1C23A-0122
43.00	1.6929	-	6.35	1C23T-43	1C23A-43
43.66	1.7188	1-23/32	6.35	1C23T-0123	1C23A-0123
44.00	1.7323	-	6.35	1C23T-44	1C23A-44
44.45	1.7500	1-3/4	6.35	1C23T-0124	1C23A-0124
45.00	1.7717	-	6.35	1C23T-45	1C23A-45
45.24	1.7813	1-25/32	6.35	1C23T-0125	1C23A-0125
45.50	1.7913	-	6.35	1C23T-45.5	1C23A-45.5
45.64	1.7970	-	6.35	1C23T-1.797	1C23A-1.797
46.00	1.8110	-	6.35	1C23T-46	1C23A-46
46.04	1.8125	1-13/16	6.35	1C23T-0126	1C23A-0126
46.83	1.8438	1-27/32	6.35	1C23T-0127	1C23A-0127
47.00	1.8504	-	6.35	1C23T-47	1C23A-47
47.63	1.8750	1-7/8	6.35	1C23T-0128	1C23A-0128

Inserts sold in quantities of 1

A30: 112 - 143

A30: 82 - 85

A30: 4 - 6

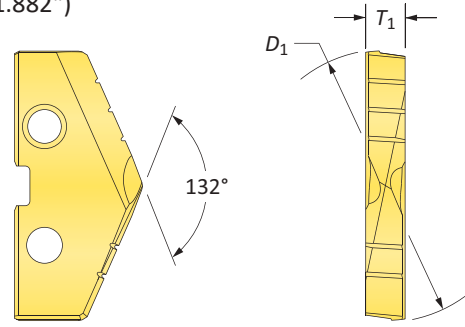


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

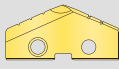
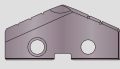
TiN = 1C23T-XXXX	TiAlN = 1C23A-XXXX
TiCN = 1C23N-XXXX	AM200® = 1C23H-XXXX

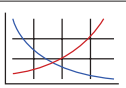
T-A Drill Inserts


3 Series | Carbide | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")





Carbide Inserts – P40 (C5)

Insert				Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiAlN
35.72	1.4063	1-13/32	6.35	1C53T-0113	1C53A-0113
36.00	1.4173	-	6.35	1C53T-36	1C53A-36
36.51	1.4375	1-7/16	6.35	1C53T-0114	1C53A-0114
37.00	1.4567	-	6.35	1C53T-37	1C53A-37
37.31	1.4688	1-15/32	6.35	1C53T-0115	1C53A-0115
38.00	1.4961	-	6.35	1C53T-38	1C53A-38
38.10	1.5000	1-1/2	6.35	1C53T-0116	1C53A-0116
38.89	1.5313	1-17/32	6.35	1C53T-0117	1C53A-0117
39.00	1.5354	-	6.35	1C53T-39	1C53A-39
39.29	1.5470	-	6.35	1C53T-1.547	1C53A-1.547
39.69	1.5625	1-9/16	6.35	1C53T-0118	1C53A-0118
40.00	1.5748	-	6.35	1C53T-40	1C53A-40
40.48	1.5938	1-19/32	6.35	1C53T-0119	1C53A-0119
41.00	1.6142	-	6.35	1C53T-41	1C53A-41
41.28	1.6250	1-5/8	6.35	1C53T-0120	1C53A-0120
42.00	1.6535	-	6.35	1C53T-42	1C53A-42
42.07	1.6563	1-21/32	6.35	1C53T-0121	1C53A-0121
42.86	1.6875	1-11/16	6.35	1C53T-0122	1C53A-0122
43.00	1.6929	-	6.35	1C53T-43	1C53A-43
43.66	1.7188	1-23/32	6.35	1C53T-0123	1C53A-0123
44.00	1.7323	-	6.35	1C53T-44	1C53A-44
44.45	1.7500	1-3/4	6.35	1C53T-0124	1C53A-0124
45.00	1.7717	-	6.35	1C53T-45	1C53A-45
45.24	1.7813	1-25/32	6.35	1C53T-0125	1C53A-0125
45.50	1.7913	-	6.35	1C53T-45.5	1C53A-45.5
45.64	1.7970	-	6.35	1C53T-1.797	1C53A-1.797
46.00	1.8110	-	6.35	1C53T-46	1C53A-46
46.04	1.8125	1-13/16	6.35	1C53T-0126	1C53A-0126
46.83	1.8438	1-27/32	6.35	1C53T-0127	1C53A-0127
47.00	1.8504	-	6.35	1C53T-47	1C53A-47
47.63	1.8750	1-7/8	6.35	1C53T-0128	1C53A-0128

A30: 112 - 143


A30: 82 - 85


A30: 4 - 6
 HI, HR, CR, SK, NP, IN, RN, CN, BR, NC, WC, TC, BT

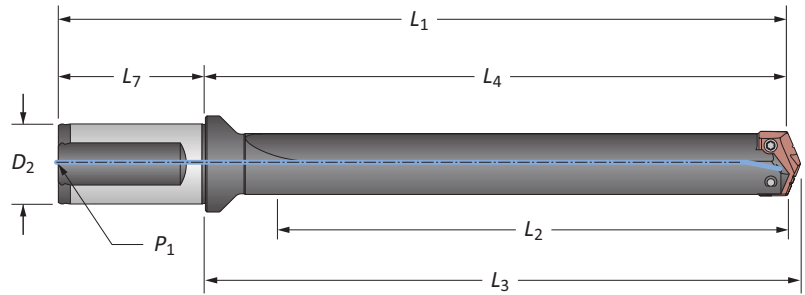
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 1

TiN = 1C53T-XXXX	TiAlN = 1C53A-XXXX
TiCN = 1C53N-XXXX	AM200® = 1C53H-XXXX

T-A Drill Insert Holders

3 Series | Flange Shank | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")

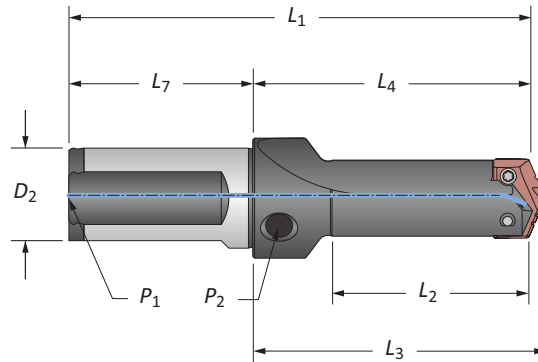


Straight Flute

Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Short	120.7	173.0	177.8	243.0	40.0	70.0	1/4*	22030S-40FM
Extended	349.3	401.6	406.4	471.6	40.0	70.0	1/4*	25030S-40FM
XL	558.8	611.1	615.9	681.1	40.0	70.0	1/4*	27030S-40FM
3XL	787.4	839.7	844.5	909.7	40.0	70.0	1/4*	29030S-40FM
Short	4-3/4	6-13/16	7	9-1/2	1-1/2	2-11/16	1/4	22030S-150F
Intermediate	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4	23030S-150F
Standard	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4	24030S-150F

*Metric thread to BSP and ISO 7-1

NOTE: Stub length holders have a 1/4" side pipe tap (P_2)



Straight Flute (Stub Length)

Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Stub	76.2	125.0	129.8	195.0	40.0	70.0	1/4*	21030S-40FM
Stub	3	4-59/64	5-7/64	7-39/64	1-1/2	2-11/16	1/4	21030S-150F

*Metric thread to BSP and ISO 7-1

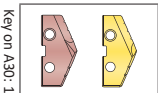
NOTE: Stub length holders have a 1/4" side pipe tap (P_2)

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 74 - 81



m = Metric (mm)

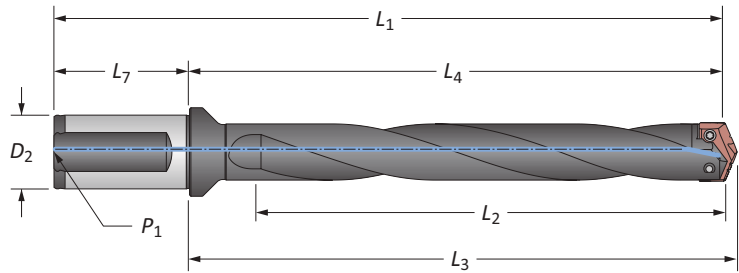
i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

3 Series | Flange Shank | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



Helical Flute

Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m Intermediate	165.1	217.5	222.3	287.5	40.0	70.0	1/4*	23030H-40FM
Standard	209.6	261.9	266.7	331.9	40.0	70.0	1/4*	24030H-40FM
i Intermediate	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4	23030H-150F
Standard	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4	24030H-150F

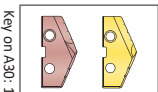
*Metric thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 74 - 81



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

Screws sold in quantities of 10

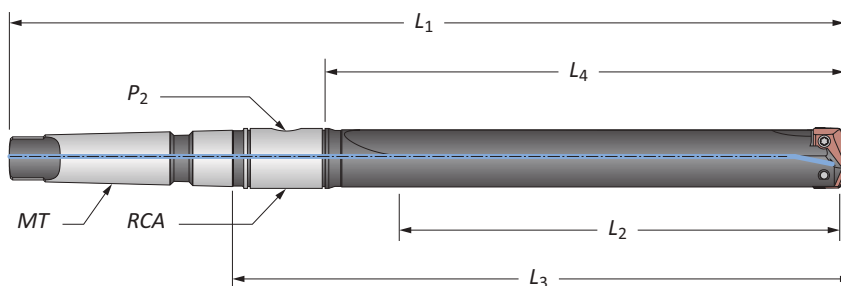
3

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

3 Series | Taper Shank | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")





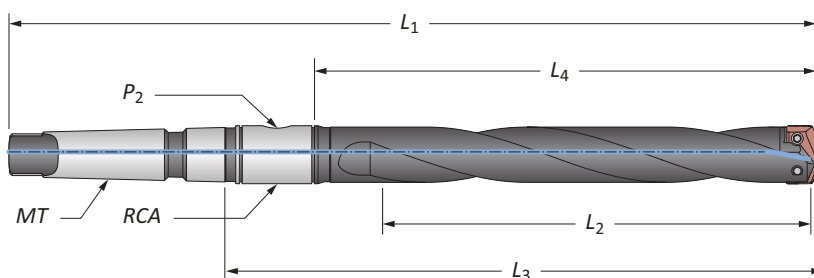
Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Short	120.6	152.4	206.4	319.1	#4**	1/4*	2T-4SRM	22030S-004M
	Extended	349.3	381.0	435.0	547.7	#4**	1/4*	2T-4SRM	▲ 25030S-004M
	XL	558.8	590.6	644.6	757.2	#4**	1/4*	2T-4SRM	▲ 27030S-004M
	3XL	787.4	819.2	873.2	985.8	#4**	1/4*	2T-4SRM	▲ 29030S-004M
i	Short	4-3/4	6	8-1/8	12-9/16	#4	1/4	2T-4SR	22030S-004I
	Short	4-3/4	6	8-1/8	13-13/16	#5	1/4	2T-5SR	22030S-005I
	Intermediate	6-1/2	7-3/4	9-7/8	14-5/16	#4	1/4	2T-4SR	23030S-004I
	Standard	8-1/4	9-1/2	11-5/8	16-1/16	#4	1/4	2T-4SR	24030S-004I
	Standard	8-1/4	9-1/2	11-5/8	17-5/16	#5	1/4	2T-5SR	24030S-005I
	Extended	13-3/4	15	17-1/8	21-9/16	#4	1/4	2T-4SR	▲ 25030S-004I
	XL	22	23-1/4	25-3/8	29-13/16	#4	1/4	2T-4SR	▲ 27030S-004I
	3XL	31	32-1/4	34-3/8	38-13/16	#4	1/4	2T-4SR	▲ 29030S-004I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK





Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Intermediate	165.1	196.9	250.9	363.6	#4**	1/4*	2T-4SRM	23030H-004M
	Standard	209.5	241.3	295.3	408.0	#4**	1/4*	2T-4SRM	24030H-004M


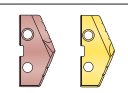
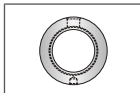
*Metric thread to BSP and ISO 7-1 | **Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 74 - 81 A30: 85 & 110

m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A30: 84

www.febametal.com/amec | Tel. 011.770.14.12

A

DRILLING

B

BORING

E

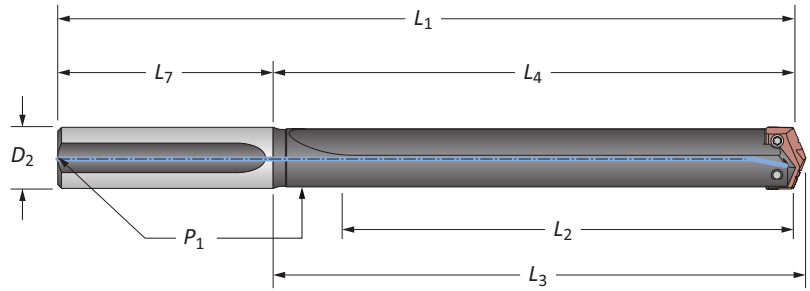
THREADING

X

SPECIALS

T-A Drill Insert Holders

3 Series | Straight Shank | Diameter Range: 34.36 mm - 47.80 mm (1.353" - 1.882")



Straight Flute

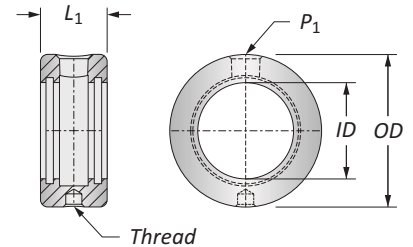
Length	Body				Shank			Part No.
	L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
Short	4-3/4	6	6-3/16	10	1-1/4	4	1/4	22030S-125L
Short	4-3/4	6	6-3/16	10	1-1/2	4	1/4	22030S-150L
Intermediate	6-1/2	7-3/4	7-15/16	11-3/4	1-1/2	4	1/4	23030S-150L
Standard	8-1/4	9-1/2	9-11/16	13-1/2	1-1/4	4	1/4	24030S-125L
Standard	8-1/4	9-1/2	9-11/16	13-1/2	1-1/2	4	1/4	24030S-150L
Extended	13-3/4	15	15-3/16	19	1-1/4	4	1/4	25030S-125L
XL	22	23-1/4	23-7/16	27-1/4	1-1/2	4	1/4	27030S-150L
3XL	31	32-1/4	32-7/16	36-1/4	1-1/2	4	1/4	29030S-150L

T-A Drill Accessories

3 Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.**	Replacements
31.75	63.50	34.92	M10 x 1.50	1/4*	2T-4SRM	2T1-4SR	2T1-4OR-10
44.45	76.20	34.92	M10 x 1.50	1/4*	2T-5SRM	2T1-5SR	2T1-5OR-10
1-1/4	2-1/2	1-3/8	3/8-16	1/4	2T-4SR	2T1-4SR	2T1-4OR-10
1-3/4	3	1-3/8	3/8-16	1/4	2T-5SR	2T1-5SR	2T1-5OR-10



*Thread to BSP and ISO 7-1

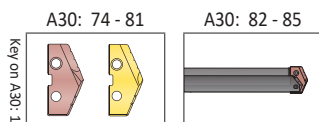
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Ⓜ = Metric (mm)

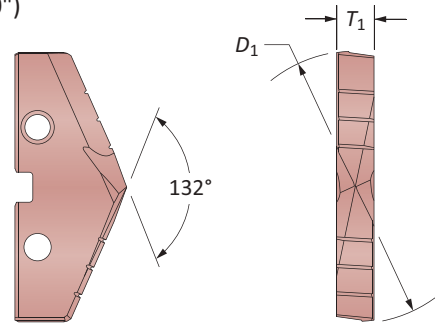
Ⓢ = Imperial (in)

Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10

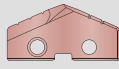
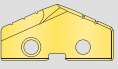
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

GEN2 T-A Drill Inserts

4 Series | HSS | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")



HSS Inserts – Super Cobalt

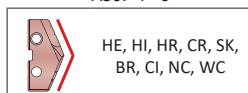
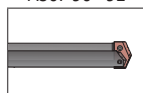
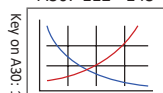
Insert				Part No.	
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200®	 TiN
48.00	1.8898	–	7.94	454H-48	454T-48
48.42	1.9063	1-29/32	7.94	454H-0129	454T-0129
49.00	1.9291	–	7.94	454H-49	454T-49
49.21	1.9375	1-15/16	7.94	454H-0130	454T-0130
50.00	1.9685	–	7.94	454H-50	454T-50
50.01	1.9688	1-31/32	7.94	454H-0131	454T-0131
50.80	2.0000	2	7.94	454H-0200	454T-0200
51.00	2.0079	–	7.94	454H-51	454T-51
51.59	2.0313	2-1/32	7.94	454H-0201	454T-0201
52.00	2.0472	2-3/64	7.94	454H-52	454T-52
52.39	2.0625	2-1/16	7.94	454H-0202	454T-0202
53.00	2.0866	–	7.94	454H-53	454T-53
53.18	2.0938	2-3/32	7.94	454H-0203	454T-0203
53.98	2.1250	2-1/8	7.94	454H-0204	454T-0204
54.00	2.1260	–	7.94	454H-54	454T-54
54.77	2.1563	2-5/32	7.94	454H-0205	454T-0205
55.00	2.1654	–	7.94	454H-55	454T-55
55.56	2.1875	2-3/16	7.94	454H-0206	454T-0206
56.00	2.2047	–	7.94	454H-56	454T-56
56.36	2.2188	2-7/32	7.94	454H-0207	454T-0207
57.00	2.2441	–	7.94	454H-57	454T-57
57.15	2.2500	2-1/4	7.94	454H-0208	454T-0208
57.94	2.2813	2-9/32	7.94	454H-0209	454T-0209
58.00	2.2835	–	7.94	454H-58	454T-58
58.74	2.3125	2-5/16	7.94	454H-0210	454T-0210
59.00	2.3228	–	7.94	454H-59	454T-59
59.53	2.3438	2-11/32	7.94	454H-0211	454T-0211
60.00	2.3622	–	7.94	454H-60	454T-60
60.33	2.3750	2-3/8	7.94	454H-0212	454T-0212
61.00	2.4016	–	7.94	454H-61	454T-61
61.12	2.4063	2-13/32	7.94	454H-0213	454T-0213
61.91	2.4375	2-7/16	7.94	454H-0214	454T-0214
62.00	2.4409	–	7.94	454H-62	454T-62
62.71	2.4688	2-15/32	7.94	454H-0215	454T-0215
63.00	2.4803	–	7.94	454H-63	454T-63
63.50	2.5000	2-1/2	7.94	454H-0216	454T-0216
64.00	2.5197	–	7.94	454H-64	454T-64
64.29	2.5313	2-17/32	7.94	454H-0217	454T-0217
65.00	2.5591	–	7.94	454H-65	454T-65
65.09	2.5625	2-9/16	7.94	454H-0218	454T-0218

Inserts sold in quantities of 1

A30: 112 - 143

A30: 90 - 92

A30: 4 - 6

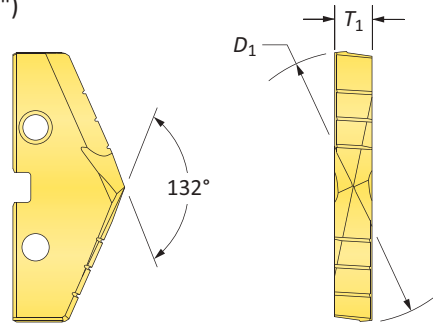


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →


TiN = 454T-XXXX	TiAlN = 454A-XXXX
TiCN = 454N-XXXX	AM200® = 454H-XXXX

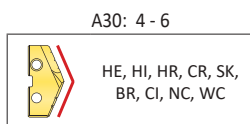
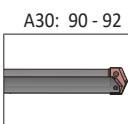
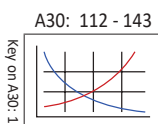
GEN2 T-A Drill Inserts


4 Series | HSS | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")



HSS Inserts – HSS

Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN
48.00	1.8898	–	7.94	434T-48
48.42	1.9063	1-29/32	7.94	434T-0129
49.00	1.9291	–	7.94	434T-49
49.21	1.9375	1-15/16	7.94	434T-0130
50.00	1.9685	–	7.94	434T-50
50.01	1.9688	1-31/32	7.94	434T-0131
50.80	2.0000	2	7.94	434T-0200
51.00	2.0079	–	7.94	434T-51
51.59	2.0313	2-1/32	7.94	434T-0201
52.00	2.0472	2-3/64	7.94	434T-52
52.39	2.0625	2-1/16	7.94	434T-0202
53.00	2.0866	–	7.94	434T-53
53.18	2.0938	2-3/32	7.94	434T-0203
53.98	2.1250	2-1/8	7.94	434T-0204
54.00	2.1260	–	7.94	434T-54
54.77	2.1563	2-5/32	7.94	434T-0205
55.00	2.1654	–	7.94	434T-55
55.56	2.1875	2-3/16	7.94	434T-0206
56.00	2.2047	–	7.94	434T-56
56.36	2.2188	2-7/32	7.94	434T-0207
57.00	2.2441	–	7.94	434T-57
57.15	2.2500	2-1/4	7.94	434T-0208
57.94	2.2813	2-9/32	7.94	434T-0209
58.00	2.2835	–	7.94	434T-58
58.74	2.3125	2-5/16	7.94	434T-0210
59.00	2.3228	–	7.94	434T-59
59.53	2.3438	2-11/32	7.94	434T-0211
60.00	2.3622	–	7.94	434T-60
60.33	2.3750	2-3/8	7.94	434T-0212
61.00	2.4016	–	7.94	434T-61
61.12	2.4063	2-13/32	7.94	434T-0213
61.91	2.4375	2-7/16	7.94	434T-0214
62.00	2.4409	–	7.94	434T-62
62.71	2.4688	2-15/32	7.94	434T-0215
63.00	2.4803	–	7.94	434T-63
63.50	2.5000	2-1/2	7.94	434T-0216
64.00	2.5197	–	7.94	434T-64
64.29	2.5313	2-17/32	7.94	434T-0217
65.00	2.5591	–	7.94	434T-65
65.09	2.5625	2-9/16	7.94	434T-0218



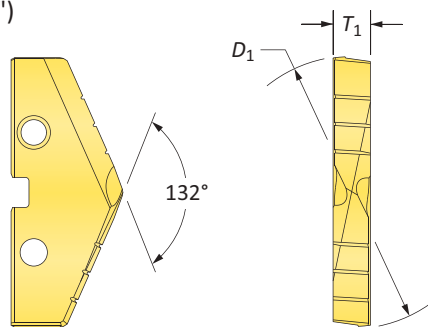
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 1


TiN = 434T-XXXX	TiAlN = 434A-XXXX
TiCN = 434N-XXXX	AM200® = 434H-XXXX

T-A Drill Inserts

4 Series | HSS | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")



HSS Inserts – Super Cobalt

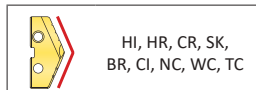
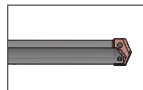
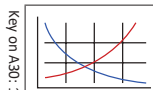
Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN
48.00	1.8898	–	7.94	154T-48
48.42	1.9063	1-29/32	7.94	154T-0129
49.00	1.9291	–	7.94	154T-49
49.21	1.9375	1-15/16	7.94	154T-0130
50.00	1.9685	–	7.94	154T-50
50.01	1.9688	1-31/32	7.94	154T-0131
50.80	2.0000	2	7.94	154T-0200
51.00	2.0079	–	7.94	154T-51
51.59	2.0313	2-1/32	7.94	154T-0201
52.00	2.0472	2-3/64	7.94	154T-52
52.39	2.0625	2-1/16	7.94	154T-0202
53.00	2.0866	–	7.94	154T-53
53.18	2.0938	2-3/32	7.94	154T-0203
53.98	2.1250	2-1/8	7.94	154T-0204
54.00	2.1260	–	7.94	154T-54
54.77	2.1563	2-5/32	7.94	154T-0205
55.00	2.1654	–	7.94	154T-55
55.56	2.1875	2-3/16	7.94	154T-0206
56.00	2.2047	–	7.94	154T-56
56.36	2.2188	2-7/32	7.94	154T-0207
57.00	2.2441	–	7.94	154T-57
57.15	2.2500	2-1/4	7.94	154T-0208
57.94	2.2813	2-9/32	7.94	154T-0209
58.00	2.2835	–	7.94	154T-58
58.74	2.3125	2-5/16	7.94	154T-0210
59.00	2.3228	–	7.94	154T-59
59.53	2.3438	2-11/32	7.94	154T-0211
60.00	2.3622	–	7.94	154T-60
60.33	2.3750	2-3/8	7.94	154T-0212
61.00	2.4016	–	7.94	154T-61
61.12	2.4063	2-13/32	7.94	154T-0213
61.91	2.4375	2-7/16	7.94	154T-0214
62.00	2.4409	–	7.94	154T-62
62.71	2.4688	2-15/32	7.94	154T-0215
63.00	2.4803	–	7.94	154T-63
63.50	2.5000	2-1/2	7.94	154T-0216
64.00	2.5197	–	7.94	154T-64
64.29	2.5313	2-17/32	7.94	154T-0217
65.00	2.5591	–	7.94	154T-65
65.09	2.5625	2-9/16	7.94	154T-0218

Inserts sold in quantities of 1

A30: 112 - 143

A30: 90 - 92

A30: 4 - 6



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

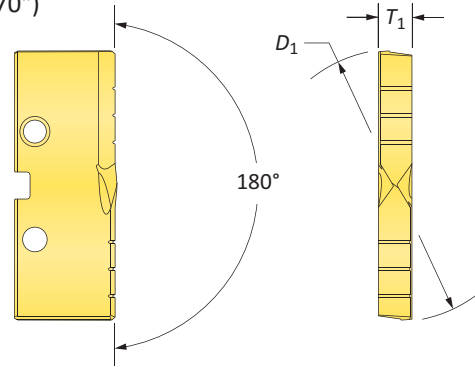
TiN = 154T-XXXX	TiAlN = 154A-XXXX
TiCN = 154N-XXXX	AM200® = 154H-XXXX

T-A Drill Inserts

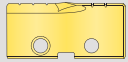
4 Series | HSS | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")

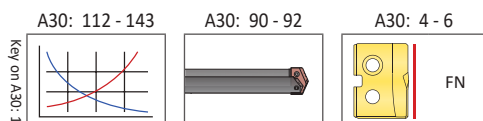



Flat Bottom



HSS Inserts – Super Cobalt

Insert				Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN
48.00	1.8898	-	7.94	154T-48-FB
48.42	1.9063	1-29/32	7.94	154T-0129-FB
49.00	1.9291	-	7.94	154T-49-FB
49.21	1.9375	1-15/16	7.94	154T-0130-FB
50.00	1.9685	-	7.94	154T-50-FB
50.01	1.9688	1-31/32	7.94	154T-0131-FB
50.80	2.0000	2	7.94	154T-0200-FB
51.00	2.0079	-	7.94	154T-51-FB
51.59	2.0313	2-1/32	7.94	154T-0201-FB
52.00	2.0472	2-3/64	7.94	154T-52-FB
52.39	2.0625	2-1/16	7.94	154T-0202-FB
53.00	2.0866	-	7.94	154T-53-FB
53.18	2.0938	2-3/32	7.94	154T-0203-FB
53.98	2.1250	2-1/8	7.94	154T-0204-FB
54.00	2.1260	-	7.94	154T-54-FB
54.77	2.1563	2-5/32	7.94	154T-0205-FB
55.00	2.1654	-	7.94	154T-55-FB
55.56	2.1875	2-3/16	7.94	154T-0206-FB
56.00	2.2047	-	7.94	154T-56-FB
56.36	2.2188	2-7/32	7.94	154T-0207-FB
57.00	2.2441	-	7.94	154T-57-FB
57.15	2.2500	2-1/4	7.94	154T-0208-FB
57.94	2.2813	2-9/32	7.94	154T-0209-FB
58.00	2.2835	-	7.94	154T-58-FB
58.74	2.3125	2-5/16	7.94	154T-0210-FB
59.00	2.3228	-	7.94	154T-59-FB
59.53	2.3438	2-11/32	7.94	154T-0211-FB
60.00	2.3622	-	7.94	154T-60-FB
60.33	2.3750	2-3/8	7.94	154T-0212-FB
61.00	2.4016	-	7.94	154T-61-FB
61.12	2.4063	2-13/32	7.94	154T-0213-FB
61.91	2.4375	2-7/16	7.94	154T-0214-FB
62.00	2.4409	-	7.94	154T-62-FB
62.71	2.4688	2-15/32	7.94	154T-0215-FB
63.00	2.4803	-	7.94	154T-63-FB
63.50	2.5000	2-1/2	7.94	154T-0216-FB
64.00	2.5197	-	7.94	154T-64-FB
64.29	2.5313	2-17/32	7.94	154T-0217-FB
65.00	2.5591	-	7.94	154T-65-FB
65.09	2.5625	2-9/16	7.94	154T-0218-FB



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. 

Inserts sold in quantities of 1

TiN = 154T-XXXX	TiAlN = 154A-XXXX
TiCN = 154N-XXXX	AM200® = 154H-XXXX

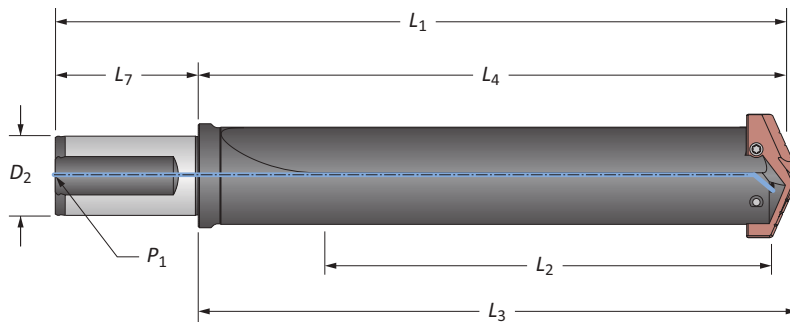
4

 DRILLING | T-A® Replaceable Insert Drilling System

T-A Drill Insert Holders

4 Series | Flange Shank | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")

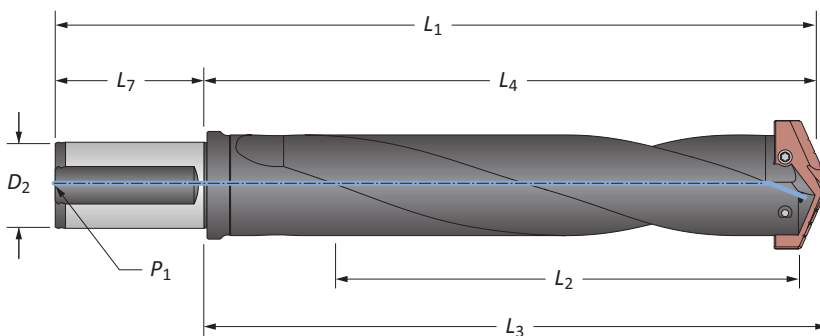



Straight Flute

Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Short	130.2	179.4	184.0	249.4	40.0	70.0	1/4*	22040S-40FM
Extended	422.3	471.5	476.0	541.5	40.0	70.0	1/4*	25040S-40FM
XL	625.0	674.7	679.0	744.7	40.0	70.0	1/4*	27040S-40FM
3XL	879.0	928.7	933.0	998.7	40.0	70.0	1/4*	29040S-40FM
Short	5-1/8	7-1/16	7-1/4	9-3/4	1-1/2	2-11/16	1/4	22040S-150F
Standard	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4	24040S-150F

*Metric thread to BSP and ISO 7-1




Helical Flute

Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Standard	231.8	281.0	285.8	351.0	40.0	70.0	1/4*	24040H-40FM
Standard	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4	24040H-150F

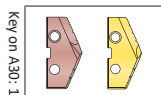
*Metric thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 86 - 89



m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A30: 90

www.febametal.com/amec | Tel. 011.770.14.12

A

DRILLING

B

BORING

E

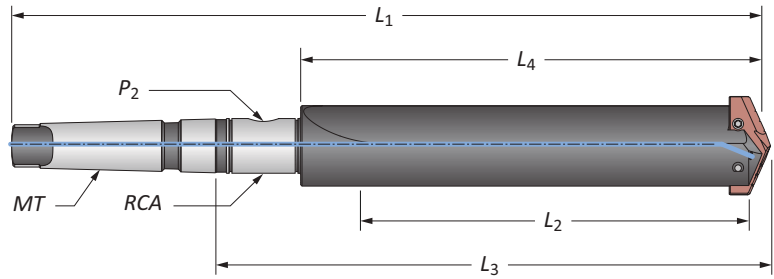
THREADING

X

SPECIALS

T-A Drill Insert Holders

4 Series | Taper Shank | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")

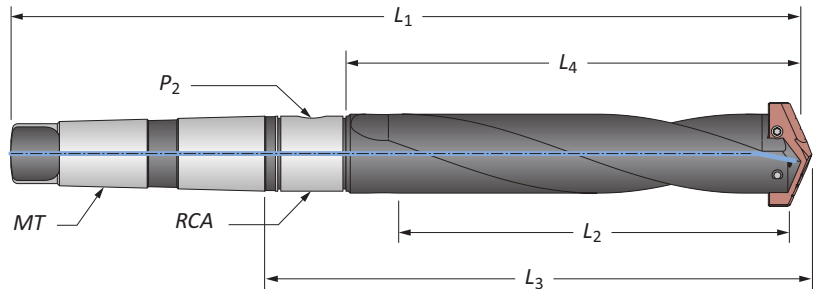


Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
M	Short	130.1	165.1	219.1	363.5	#5**	1/4*	2T-5SRM	22040S-005M
	Extended	422.3	457.2	511.2	655.6	#5**	1/4*	2T-5SRM	25040S-005M
	XL	625.0	660.4	714.4	858.8	#5**	1/4*	2T-5SRM	27040S-005M
	3XL	879.0	914.4	968.4	1112.8	#5**	1/4*	2T-5SRM	29040S-005M
I	Short	5-1/8	6-1/2	8-5/8	13-1/16	#4	1/4	2T-4SR	22040S-004I
	Short	5-1/8	6-1/2	8-5/8	14-5/16	#5	1/4	2T-5SR	22040S-005I
	Standard	9-1/8	10-1/2	12-5/8	17-1/16	#4	1/4	2T-4SR	24040S-004I
	Standard	9-1/8	10-1/2	12-5/8	18-5/16	#5	1/4	2T-5SR	24040S-005I
	Extended	16-5/8	18	20-1/8	25-13/16	#5	1/4	2T-5SR	25040S-005I
	XL	24-5/8	26	28-1/8	33-13/16	#5	1/4	2T-5SR	27040S-005I
	3XL	34-5/8	36	38-1/8	43-13/16	#5	1/4	2T-5SR	29040S-005I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK



Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
M	Standard	231.8	266.7	320.7	465.1	#5**	1/4*	2T-5SRM	24040H-005M

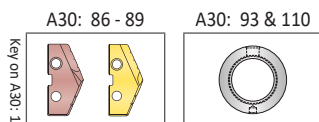
*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



M = Metric (mm)

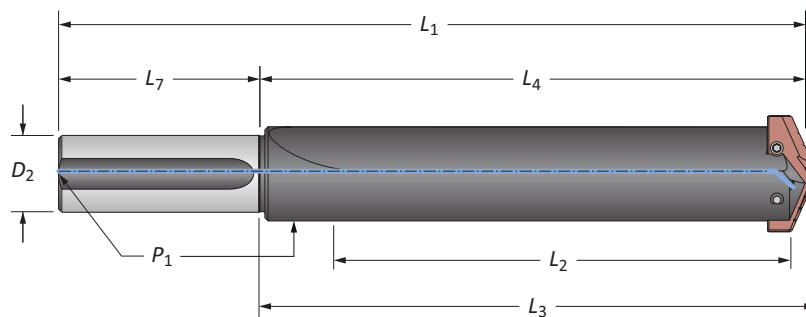
I = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

4 Series | Straight Shank | Diameter Range: 46.99 mm - 65.28 mm (1.850" - 2.570")



Straight Flute

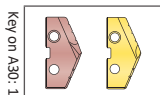
Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Short	5-1/8	6-1/2	6-11/16	10-1/2	1-1/2	4	1/4	22040S-150L
Short	5-1/8	6-1/2	6-11/16	10-1/2	1-3/4	4	1/4	22040S-175L
Standard	9-1/8	10-1/2	10-11/16	14-1/2	1-1/2	4	1/4	24040S-150L
Standard	9-1/8	10-1/2	10-11/16	14-1/2	1-3/4	4	1/4	24040S-175L
Extended	16-5/8	18	18-3/16	22	1-1/2	4	1/4	⚠ 25040S-150L
XL	24-5/8	26	26-3/16	30	1-1/2	4	1/4	⚠ 27040S-150L
3XL	34-5/8	36	36-3/16	40	1-1/2	4	1/4	⚠ 29040S-150L

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 86 - 89



m = Metric (mm)

i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

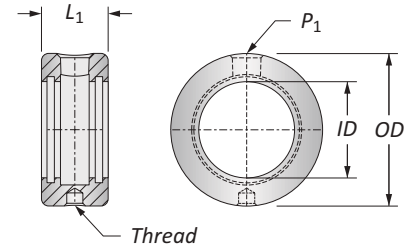


T-A Drill Accessories

4 Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings		
						Kit Part No.**	Replacements	
m	31.75	63.50	34.92	M10 x 1.50	1/4*	⚠ 2T-4SRM	2T1-4SR	2T1-4OR-10
	44.45	76.20	34.92	M10 x 1.50	1/4*	⚠ 2T-5SRM	2T1-5SR	2T1-5OR-10
i	1-1/4	2-1/2	1-3/8	3/8-16	1/4	⚠ 2T-4SR	2T1-4SR	2T1-4OR-10
	1-3/4	3	1-3/8	3/8-16	1/4	⚠ 2T-5SR	2T1-5SR	2T1-5OR-10



*Thread to BSP and ISO 7-1

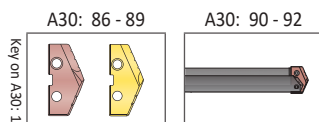
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	-	-	1370 N-cm (121.3 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



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

Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A

DRILLING

B

BORING

F

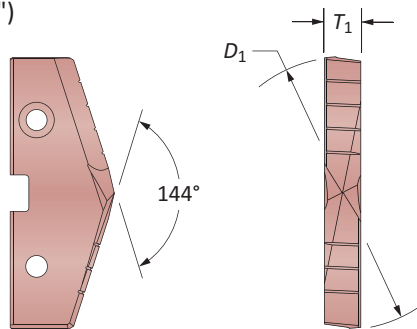
THREADING

X

SPECIALS

GEN2 T-A Drill Inserts

5 Series | HSS | Diameter Range: 62.38 mm - 76.20 mm (2.456" - 3.000")



HSS Inserts – Super Cobalt | HSS

Insert				Super Cobalt Part No.	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	AM200®	TiN
63.50	2.5000	2-1/2	11.11	455H-0216	435T-0216
64.00	2.5197	-	11.11	455H-64	435T-64
64.29	2.5313	2-17/32	11.11	455H-0217	435T-0217
65.09	2.5625	2-9/16	11.11	455H-0218	435T-0218
65.88	2.5938	2-19/32	11.11	455H-0219	435T-0219
66.00	2.5984	-	11.11	455H-66	435T-66
66.68	2.6250	2-5/8	11.11	455H-0220	435T-0220
67.47	2.6563	2-21/32	11.11	455H-0221	435T-0221
68.00	2.6772	-	11.11	455H-68	435T-68
68.26	2.6875	2-11/16	11.11	455H-0222	435T-0222
69.05	2.7188	2-23/32	11.11	455H-0223	435T-0223
69.85	2.7500	2-3/4	11.11	455H-0224	435T-0224
70.00	2.7559	-	11.11	455H-70	435T-70
70.64	2.7813	2-25/32	11.11	455H-0225	435T-0225
71.44	2.8125	2-13/16	11.11	455H-0226	435T-0226
72.00	2.8346	-	11.11	455H-72	435T-72
72.23	2.8438	2-27/32	11.11	455H-0227	435T-0227
73.03	2.8750	2-7/8	11.11	455H-0228	435T-0228
73.82	2.9063	2-29/32	11.11	455H-0229	435T-0229
74.00	2.9134	-	11.11	455H-74	435T-74
74.41	2.9375	2-15/16	11.11	455H-0230	435T-0230
75.61	2.9688	2-31/32	11.11	455H-0231	435T-0231
76.00	2.9921	-	11.11	455H-76	435T-76
76.20	3.0000	3	11.11	455H-0300	435T-0300

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

A30: 112 - 143 A30: 98 - 100 A30: 4 - 6 HI, HR, CR, SK, BR, NC, WC

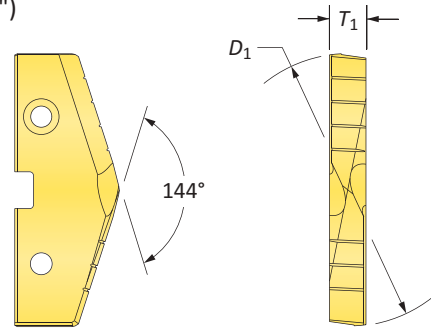
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 1

TiN = 455T-XXXX	TiAlN = 455A-XXXX
TiCN = 455N-XXXX	AM200® = 455H-XXXX

T-A Drill Inserts

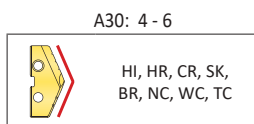
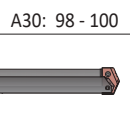
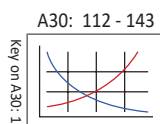
5 Series | HSS | Diameter Range: 62.38 mm - 76.20 mm (2.456" - 3.000")



HSS Inserts – Super Cobalt | HSS

Insert				Super Cobalt Part No.*	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	TiN	TiN
63.50	2.5000	2-1/2	11.11	155T-0216	135T-0216
64.00	2.5197	-	11.11	155T-64	135T-64
64.29	2.5313	2-17/32	11.11	155T-0217	135T-0217
65.09	2.5625	2-9/16	11.11	155T-0218	135T-0218
65.88	2.5938	2-19/32	11.11	155T-0219	135T-0219
66.00	2.5984	-	11.11	155T-66	135T-66
66.68	2.6250	2-5/8	11.11	155T-0220	135T-0220
67.47	2.6563	2-21/32	11.11	155T-0221	135T-0221
68.00	2.6772	-	11.11	155T-68	135T-68
68.26	2.6875	2-11/16	11.11	155T-0222	135T-0222
69.05	2.7188	2-23/32	11.11	155T-0223	135T-0223
69.85	2.7500	2-3/4	11.11	155T-0224	135T-0224
70.00	2.7559	-	11.11	155T-70	135T-70
70.64	2.7813	2-25/32	11.11	155T-0225	135T-0225
71.44	2.8125	2-13/16	11.11	155T-0226	135T-0226
72.00	2.8346	-	11.11	155T-72	135T-72
72.23	2.8438	2-27/32	11.11	155T-0227	135T-0227
73.03	2.8750	2-7/8	11.11	155T-0228	135T-0228
73.82	2.9063	2-29/32	11.11	155T-0229	135T-0229
74.00	2.9134	-	11.11	155T-74	135T-74
74.41	2.9375	2-15/16	11.11	155T-0230	135T-0230
75.61	2.9688	2-31/32	11.11	155T-0231	135T-0231
76.00	2.9921	-	11.11	155T-76	135T-76
76.20	3.0000	3	11.11	155T-0300	135T-0300

*Available as non-stocked standard



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

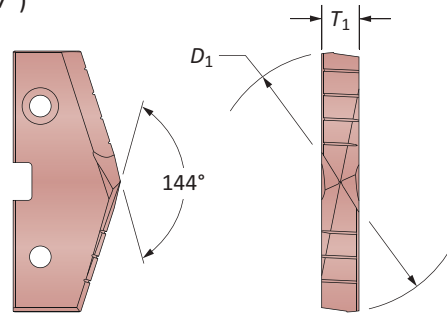
Inserts sold in quantities of 1

TiN = 155T-XXXX	TiAlN = 155A-XXXX
TiCN = 155N-XXXX	AM200® = 155H-XXXX

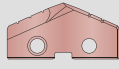
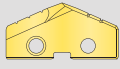
GEN2 T-A Drill Inserts

6 Series | HSS | Diameter Range: 76.22 mm - 89.08 mm (3.001" - 3.507")

(for use with 5 series holders)



HSS Inserts – Super Cobalt | HSS

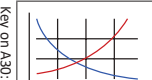


Insert				Super Cobalt Part No.	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200®	 TiN
76.99	3.0313	3-1/32	11.11	456H-0301	436T-0301
77.79	3.0625	3-1/16	11.11	456H-0302	436T-0302
78.00	3.0709	-	11.11	456H-78	436T-78
78.58	3.0938	3-3/32	11.11	456H-0303	436T-0303
79.38	3.1250	3-1/8	11.11	456H-0304	436T-0304
80.00	3.1496	-	11.11	456H-80	436T-80
80.17	3.1563	3-5/32	11.11	456H-0305	436T-0305
80.96	3.1875	3-3/16	11.11	456H-0306	436T-0306
81.76	3.2188	3-7/32	11.11	456H-0307	436T-0307
82.00	3.2283	-	11.11	456H-82	436T-82
82.55	3.2500	3-1/4	11.11	456H-0308	436T-0308
83.34	3.2813	3-9/32	11.11	456H-0309	436T-0309
84.00	3.3071	-	11.11	456H-84	436T-84
84.14	3.3125	3-5/16	11.11	456H-0310	436T-0310
84.93	3.3438	3-11/32	11.11	456H-0311	436T-0311
85.73	3.3750	3-3/8	11.11	456H-0312	436T-0312
86.00	3.3858	-	11.11	456H-86	436T-86
86.52	3.4063	3-13/32	11.11	456H-0313	436T-0313
87.31	3.4375	3-7/16	11.11	456H-0314	436T-0314
88.00	3.4646	-	11.11	456H-88	436T-88
88.11	3.4688	3-15/32	11.11	456H-0315	436T-0315
88.90	3.5000	3-1/2	11.11	456H-0316	436T-0316

A
DRILLING

B
BORING

E
THREADING

X
SPECIALS

A30: 112 - 143  A30: 98 - 100  A30: 4 - 6  HI, HR, CR, SK, BR, NC, WC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

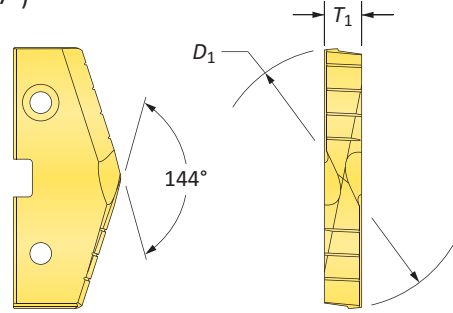
Inserts sold in quantities of 1

TiN = 456T-XXXX	TiAlN = 456A-XXXX
TiCN = 456N-XXXX	AM200® = 456H-XXXX

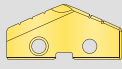
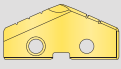
T-A Drill Inserts

6 Series | HSS | Diameter Range: 76.22 mm - 89.08 mm (3.001" - 3.507")

(for use with 5 series holders)



HSS Inserts – Super Cobalt | HSS

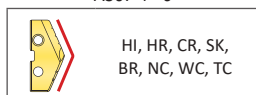
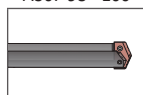
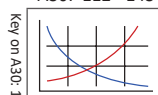
Insert				Super Cobalt Part No.*	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiN
76.99	3.0313	3-1/32	11.11	156T-0301	136T-0301
77.79	3.0625	3-1/16	11.11	156T-0302	136T-0302
78.00	3.0709	-	11.11	156T-78	136T-78
78.58	3.0938	3-3/32	11.11	156T-0303	136T-0303
79.38	3.1250	3-1/8	11.11	156T-0304	136T-0304
80.00	3.1496	-	11.11	156T-80	136T-80
80.17	3.1563	3-5/32	11.11	156T-0305	136T-0305
80.96	3.1875	3-3/16	11.11	156T-0306	136T-0306
81.76	3.2188	3-7/32	11.11	156T-0307	136T-0307
82.00	3.2283	-	11.11	156T-82	136T-82
82.55	3.2500	3-1/4	11.11	156T-0308	136T-0308
83.34	3.2813	3-9/32	11.11	156T-0309	136T-0309
84.00	3.3071	-	11.11	156T-84	136T-84
84.14	3.3125	3-5/16	11.11	156T-0310	136T-0310
84.93	3.3438	3-11/32	11.11	156T-0311	136T-0311
85.73	3.3750	3-3/8	11.11	156T-0312	136T-0312
86.00	3.3858	-	11.11	156T-86	136T-86
86.52	3.4063	3-13/32	11.11	156T-0313	136T-0313
87.31	3.4375	3-7/16	11.11	156T-0314	136T-0314
88.00	3.4646	-	11.11	156T-88	136T-88
88.11	3.4688	3-15/32	11.11	156T-0315	136T-0315
88.90	3.5000	3-1/2	11.11	156T-0316	136T-0316

*Available as non-stocked standard

A30: 112 - 143

A30: 98 - 100

A30: 4 - 6



Coatings not listed above can be supplied as non-stocked standards. Process fees may apply.



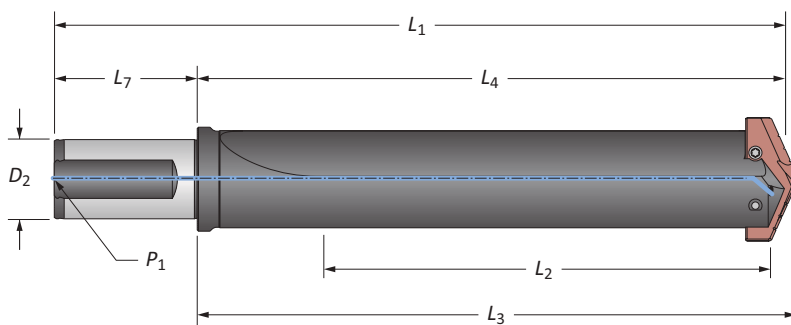
TiN = 156T-XXXX	TiAlN = 156A-XXXX
TiCN = 156N-XXXX	AM200® = 156H-XXXX

Inserts sold in quantities of 1

T-A Drill Insert Holders

5 Series | Flange Shank | Diameter Range: 62.38 mm - 89.08 mm (2.456" - 3.507")

A
DRILLING

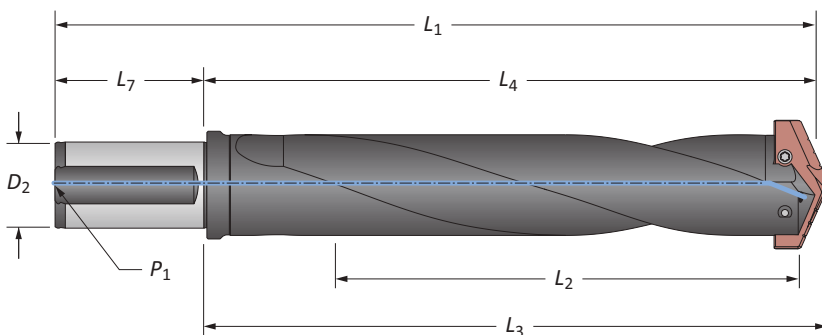


Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m	Short	172	215.9	222.3	302.3	50.0	80.0	1/2*	22050S-50FM
	Extended	464	508	514.4	594.4	50.0	80.0	1/2*	25050S-50FM
i	Short	6-49/64	8-1/2	8-3/4	13-1/4	2	4-1/2	1/2	22050S-200F
	Extended	18-17/64	20	20-1/4	24-3/4	2	4-1/2	1/2	25050S-200F

*Metric thread to BSP and ISO 7-1

B
BORING



Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	D ₂	L ₇	P ₁	
m	Standard	273	317.5	323.9	403.9	50.0	80.0	1/2*	24050H-50FM
i	Standard	10-3/4	12-1/2	12-3/4	17-1/4	2	4-1/2	1/2	24050H-200F

*Metric thread to BSP and ISO 7-1

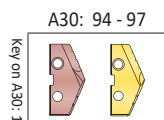
E
THREADING

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

X
SPECIALS

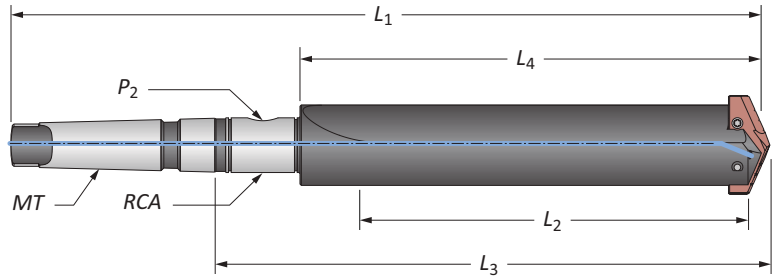


m = Metric (mm)
i = Imperial (in)
Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

5 Series | Taper Shank | Diameter Range: 62.38 mm - 89.08 mm (2.456" - 3.507")

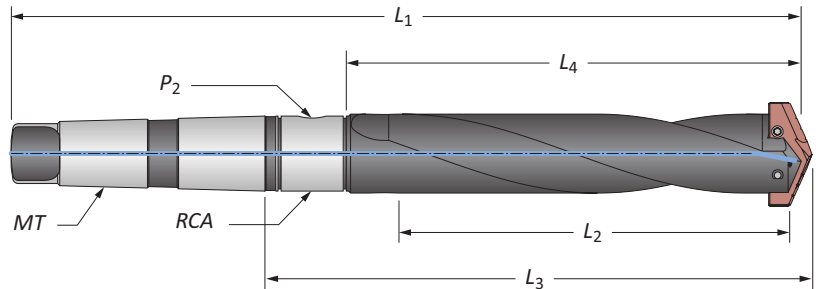


Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Short	171.5	215.9	287.3	430.2	#5**	1/2*	2T-6SRM	22050S-005M
	Extended	463.6	508.0	579.4	722.3	#5**	1/2*	2T-6SRM	25050S-005M
	XL	660.0	704.8	776.2	919.1	#5**	1/2*	2T-6SRM	27050S-005M
	3XL	889.0	933.4	1004.8	1147.7	#5**	1/2*	2T-6SRM	29050S-005M
i	Short	6-3/4	8-1/2	11-5/16	16-15/16	#5	1/2	2T-6SR	22050S-005I
	Standard	10-3/4	12-1/2	15-5/16	20-15/16	#5	1/2	2T-6SR	24050S-005I
	Extended	18-1/4	20	22-13/16	28-7/16	#5	1/2	2T-6SR	25050S-005I
	XL	26	27-3/4	30-9/16	36-3/16	#5	1/2	2T-6SR	27050S-005I
	3XL	35	36-3/4	39-9/16	45-3/16	#5	1/2	2T-6SR	29050S-005I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK



Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Standard	273.1	317.5	388.9	531.8	#5**	1/2*	2T-6SRM	24050H-005M

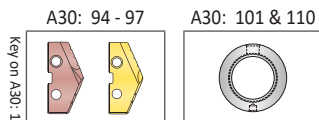
*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

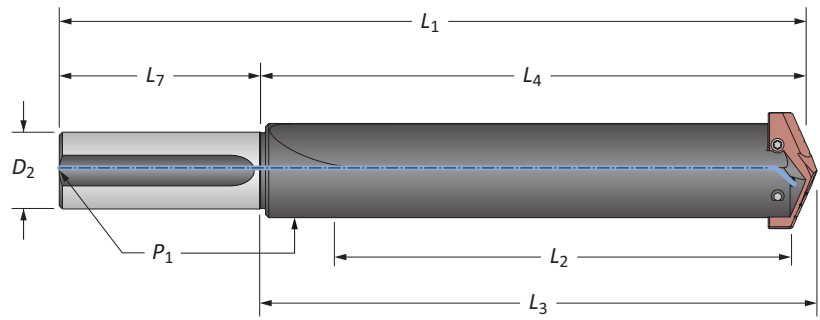


m = Metric (mm)
i = Imperial (in)
Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

5 Series | Straight Shank | Diameter Range: 62.38 mm - 89.08 mm (2.456" - 3.507")



Straight Flute

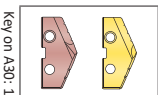
Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Short	6-3/4	8-1/2	8-3/4	12-1/2	2	4	1/2	22050S-200L
Standard	10-3/4	12-1/2	12-3/4	16-1/2	2	4	1/2	24050S-200L
Extended	18-1/4	20	20-1/4	24	2	4	1/2	25050S-200L
XL	26	27-3/4	28	31-3/4	2	4	1/2	27050S-200L
3XL	35	36-3/4	37	40-3/4	2	4	1/2	29050S-200L

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 94 - 97



= Metric (mm)

= Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

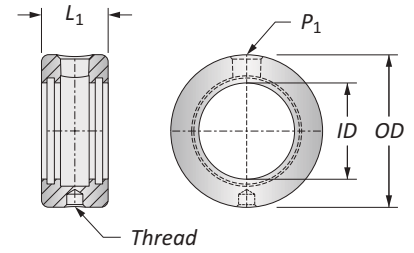


T-A Drill Accessories

5/6 Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
							Kit Part No.**	Replacements
m	57.15	95.27	44.45	M12 x 1.75	1/2*	⚠ 2T-6SRM	2T1-6SR	2T1-6OR-10
i	2-1/4	3-3/4	1-3/4	1/2-13	1/2	⚠ 2T-6SR	2T1-6SR	2T1-6OR-10



*Thread to BSP and ISO 7-1

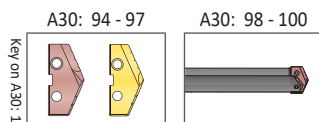
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Key on A30: 1

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

Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A

DRILLING

B

BORING

F

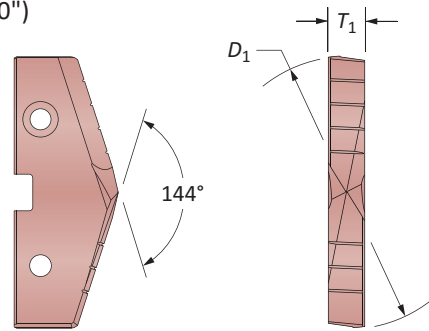
THREADING

X

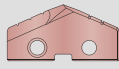
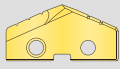
SPECIALS

GEN2 T-A Drill Inserts

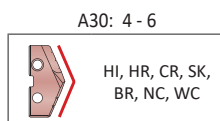
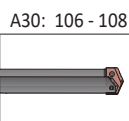
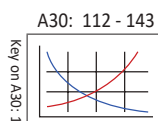
7 Series | HSS | Diameter Range: 89.10 mm - 101.60 mm (3.508" - 4.000")



HSS Inserts – Super Cobalt | HSS

Insert				Super Cobalt Part No.	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200°	 TiN
89.69	3.5313	3-17/32	11.11	457H-0317	437T-0317
90.00	3.5433	–	11.11	457H-90	437T-90
90.49	3.5625	3-9/16	11.11	457H-0318	437T-0318
91.28	3.5938	3-19/32	11.11	457H-0319	437T-0319
92.00	3.6221	–	11.11	457H-92	437T-92
92.08	3.6250	3-5/8	11.11	457H-0320	437T-0320
92.87	3.6563	3-21/32	11.11	457H-0321	437T-0321
93.66	3.6875	3-11/16	11.11	457H-0322	437T-0322
94.00	3.7008	–	11.11	457H-94	437T-94
94.46	3.7188	3-23/32	11.11	457H-0323	437T-0323
95.25	3.7500	3-3/4	11.11	457H-0324	437T-0324
96.00	3.7795	–	11.11	457H-96	437T-96
96.04	3.7813	3-25/32	11.11	457H-0325	437T-0325
96.84	3.8125	3-13/16	11.11	457H-0326	437T-0326
97.63	3.8438	3-27/32	11.11	457H-0327	437T-0327
98.00	3.8583	–	11.11	457H-98	437T-98
98.43	3.8750	3-7/8	11.11	457H-0328	437T-0328
99.22	3.9063	3-29/32	11.11	457H-0329	437T-0329
100.00	3.9370	–	11.11	457H-100	437T-100
100.01	3.9375	3-15/16	11.11	457H-0330	437T-0330
100.81	3.9688	3-31/32	11.11	457H-0331	437T-0331
101.60	4.0000	4	11.11	457H-0400	437T-0400

Inserts sold in quantities of 1

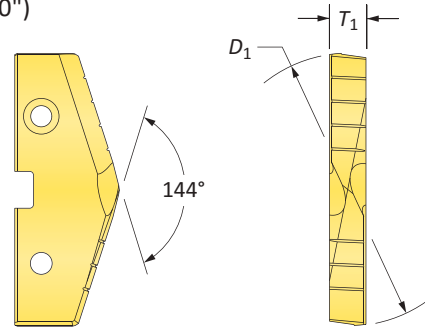


Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

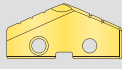
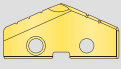
TiN = 457T-XXXX	TiAlN = 457A-XXXX
TiCN = 457N-XXXX	AM200° = 457H-XXXX

T-A Drill Inserts

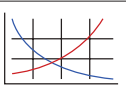
7 Series | HSS | Diameter Range: 89.10 mm - 101.60 mm (3.508" - 4.000")





HSS Inserts – Super Cobalt | HSS

Insert				Super Cobalt Part No.*	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiN
89.69	3.5313	3-17/32	11.11	157T-0317	137T-0317
90.00	3.5433	–	11.11	157T-90	137T-90
90.49	3.5625	3-9/16	11.11	157T-0318	137T-0318
91.28	3.5938	3-19/32	11.11	157T-0319	137T-0319
92.00	3.6221	–	11.11	157T-92	137T-92
92.08	3.6250	3-5/8	11.11	157T-0320	137T-0320
92.87	3.6563	3-21/32	11.11	157T-0321	137T-0321
93.66	3.6875	3-11/16	11.11	157T-0322	137T-0322
94.00	3.7008	–	11.11	157T-94	137T-94
94.46	3.7188	3-23/32	11.11	157T-0323	137T-0323
95.25	3.7500	3-3/4	11.11	157T-0324	137T-0324
96.00	3.7795	–	11.11	157T-96	137T-96
96.04	3.7813	3-25/32	11.11	157T-0325	137T-0325
96.84	3.8125	3-13/16	11.11	157T-0326	137T-0326
97.63	3.8438	3-27/32	11.11	157T-0327	137T-0327
98.00	3.8583	–	11.11	157T-98	137T-98
98.43	3.8750	3-7/8	11.11	157T-0328	137T-0328
99.22	3.9063	3-29/32	11.11	157T-0329	137T-0329
100.00	3.9370	–	11.11	157T-100	137T-100
100.01	3.9375	3-15/16	11.11	157T-0330	137T-0330
100.81	3.9688	3-31/32	11.11	157T-0331	137T-0331
101.60	4.0000	4	11.11	157T-0400	137T-0400

*Available as non-stocked standard

A30: 112 - 143


A30: 106 - 108


A30: 4 - 6
 HI, HR, CR, SK, BR, NC, WC, TC

Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 1

TiN = 157T-XXXX	TiAlN = 157A-XXXX
TiCN = 157N-XXXX	AM200® = 157H-XXXX

A

DRILLING

B

BORING

E

THREADING

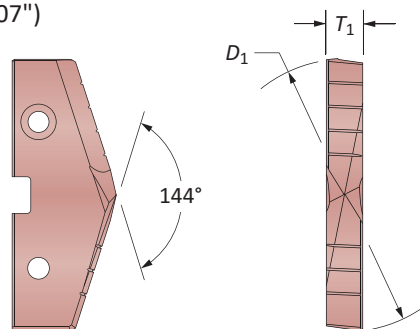
X

SPECIALS

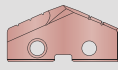
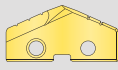
GEN2 T-A Drill Inserts

8 Series | HSS | Diameter Range: 101.63 mm - 114.48 mm (4.001" - 4.507")

(for use with 7 series holders)



HSS Inserts – Super Cobalt | HSS

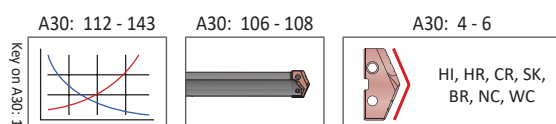
Insert				Super Cobalt Part No.	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 AM200®	 TiN
102.00	4.0157	4-1/64	11.11	458H-102	438T-102
103.19	4.0625	4-1/16	11.11	458H-0402	438T-0402
104.00	4.0945	4-3/32	11.11	458H-104	438T-104
104.75	4.1250	4-1/8	11.11	458H-0404	438T-0404
106.00	4.1732	–	11.11	458H-106	438T-106
106.36	4.1875	4-3/16	11.11	458H-0406	438T-0406
107.95	4.2500	4-1/4	11.11	458H-0408	438T-0408
108.00	4.2520	–	11.11	458H-108	438T-108
109.54	4.3125	4-5/16	11.11	458H-0410	438T-0410
110.00	4.3307	–	11.11	458H-110	438T-110
111.13	4.3750	4-3/8	11.11	458H-0412	438T-0412
112.00	4.4094	–	11.11	458H-112	438T-112
112.71	4.4375	4-7/16	11.11	458H-0414	438T-0414
114.00	4.4882	–	11.11	458H-114	438T-114
114.30	4.5000	4-1/2	11.11	458H-0416	438T-0416

F

THREADING

X

SPECIALS



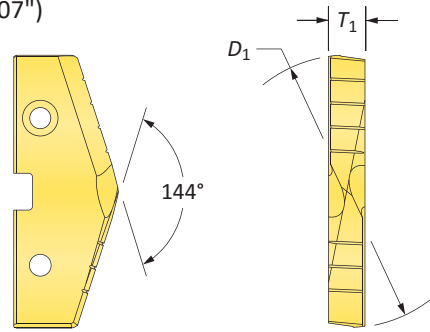
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

Inserts sold in quantities of 1



TiN = 458T-XXXX	TiAlN = 458A-XXXX
TiCN = 458N-XXXX	AM200® = 458H-XXXX

T-A Drill Inserts

8 Series | HSS | Diameter Range: 101.63 mm - 114.48 mm (4.001" - 4.507")
 (for use with 7 series holders)

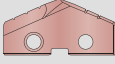


HSS Inserts – Super Cobalt | HSS

Insert				Super Cobalt Part No.*	HSS Part No.
D_1 mm	D_1 inch	Fractional Equivalent	T_1	 TiN	 TiN
102.00	4.0157	4-1/64	11.11	158T-102	138T-102
103.19	4.0625	4-1/16	11.11	158T-0402	138T-0402
104.00	4.0945	4-3/32	11.11	158T-104	138T-104
104.75	4.1250	4-1/8	11.11	158T-0404	138T-0404
106.00	4.1732	-	11.11	158T-106	138T-106
106.36	4.1875	4-3/16	11.11	158T-0406	138T-0406
107.95	4.2500	4-1/4	11.11	158T-0408	138T-0408
108.00	4.2520	-	11.11	158T-108	138T-108
109.54	4.3125	4-5/16	11.11	158T-0410	138T-0410
110.00	4.3307	-	11.11	158T-110	138T-110
111.13	4.3750	4-3/8	11.11	158T-0412	138T-0412
112.00	4.4094	-	11.11	158T-112	138T-112
112.71	4.4375	4-7/16	11.11	158T-0414	138T-0414
114.00	4.4882	-	11.11	158T-114	138T-114
114.30	4.5000	4-1/2	11.11	158T-0416	138T-0416

*Available as non-stocked standard

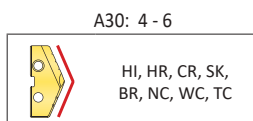
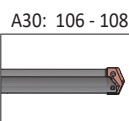
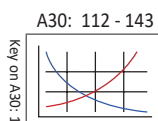
Double Wide (Oversized)** – Super Cobalt

Insert			Super Cobalt Part No.*
D_1 mm	D_1 inch	T_1	 AM200®
110.00	4.3307	11.11	158H-110DW
120.00	4.7244	11.11	158H-120DW
125.00	4.9213	11.11	158H-125DW
130.00	5.1181	11.11	158H-130DW
140.00	5.5118	11.11	158H-140DW
150.00	5.9055	11.11	158H-150DW
160.00	6.2992	11.11	158H-160DW

**Available as non-stocked standard.

Additional Diameters up to 200 mm available on request.
 120 mm maximum diameter for Stainless Steel

2 Piece Minimum Order Quantity



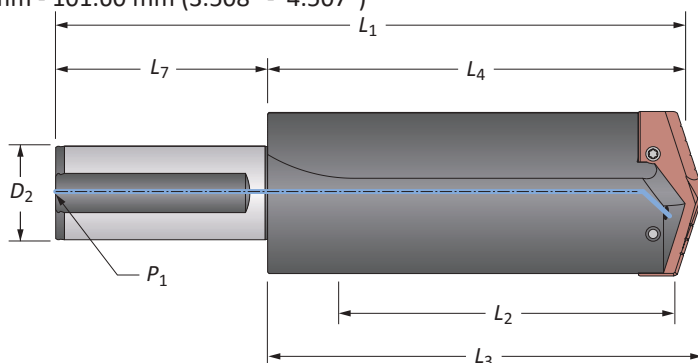
Coatings not listed above can be supplied as non-stocked standards. Process fees may apply. →

TiN = 158T-XXXX	TiAlN = 158A-XXXX
TiCN = 158N-XXXX	AM200® = 158H-XXXX

Inserts sold in quantities of 1

T-A Drill Insert Holders

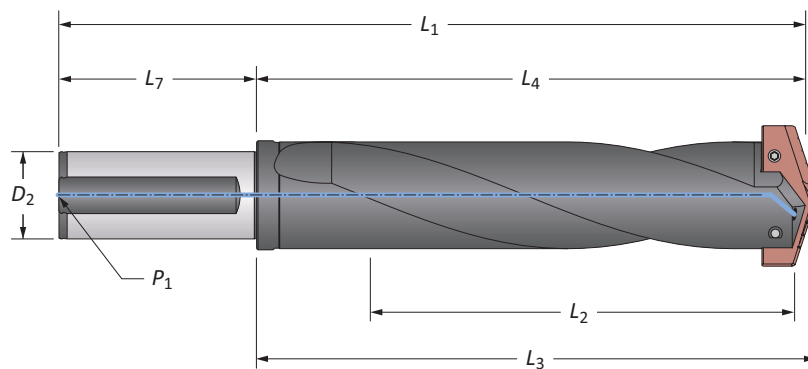
7 Series | Flange Shank | Diameter Range: 89.10 mm - 101.60 mm (3.508" - 4.507")



Straight Flute

	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
m	Short	172	225.4	231.8	311.8	50.0	80.0	1/2*	22070S-50FM
	Extended	556	606.9	616	696	50.0	80.0	1/2*	25070S-50FM
i	Short	6-49/64	8-7/8	9-1/8	13-5/8	2	4-1/2	1/2	22070S-200F
	Extended	21-57/64	23-57/64	24-1/4	27-3/4	2	4-1/2	1/2	25070S-200F

*Metric thread to BSP and ISO 7-1



Helical Flute

	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	D_2	L_7	P_1	
m	Standard	273	327	333.4	413.4	50.0	80.0	1/2*	24070H-50FM
i	Standard	10-3/4	12-7/8	13-1/8	17-5/8	2	4-1/2	1/2	24070H-200F

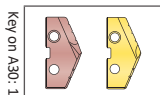
*Metric thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 102 - 105



m = Metric (mm)

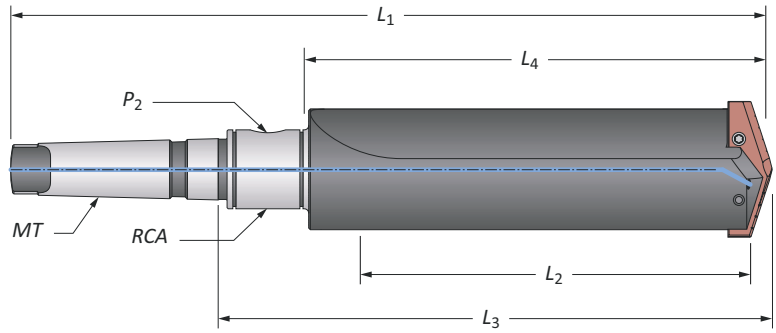
i = Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

7 Series | Taper Shank | Diameter Range: 89.10 mm - 101.60 mm (3.508" - 4.507")

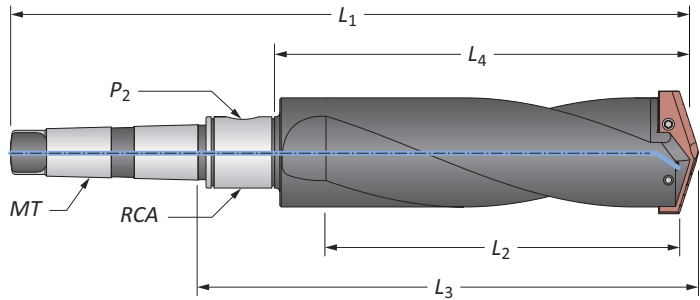


Straight Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Short	171.5	225.4	296.8	439.7	#5**	1/2*	2T-6SRM	22070S-005M
	Extended	555.6	609.6	681.1	823.9	#5**	1/2*	2T-6SRM	25070S-005M
	XL	685.0	739.7	811.2	954.0	#5**	1/2*	2T-6SRM	27070S-005M
	3XL	939.0	993.7	1065.2	1208.0	#5**	1/2*	2T-6SRM	29070S-005M
i	Short	6-3/4	8-7/8	11-11/16	17-5/16	#5	1/2	2T-6SR	22070S-005I
	Standard	10-3/4	12-7/8	15-11/16	21-5/16	#5	1/2	2T-6SR	24070S-005I
	Extended	21-7/8	24	26-13/16	32-7/16	#5	1/2	2T-6SR	25070S-005I
	XL	27	29-1/8	31-15/16	37-9/16	#5	1/2	2T-6SR	27070S-005I
	3XL	37	39-1/8	41-5/16	47-9/16	#5	1/2	2T-6SR	29070S-005I

*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK



Helical Flute

	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
m	Standard	273.1	327.0	398.5	541.3	#5**	1/2*	2T-6SRM	24070H-005M

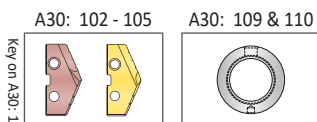
*Metric thread to BSP and ISO 7-1

**Per ISO 296 type BEK

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



m = Metric (mm)

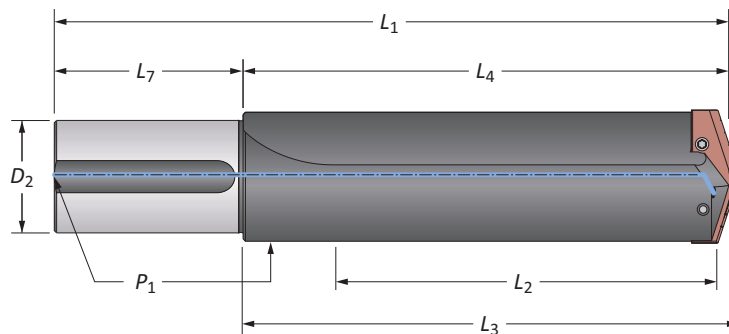
i = Imperial (in)

Screws sold in quantities of 10

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A Drill Insert Holders

7 Series | Straight Shank | Diameter Range: 89.10 mm - 101.60 mm (3.508" - 4.507")



Straight Flute

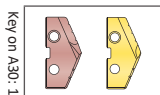
Length	Body				Shank			Part No.
	L_2	L_4	L_3	L_1	D_2	L_7	P_1	
Short	6-3/4	8-7/8	9-1/8	13-7/8	3	5	1/2	22070S-300L
Standard	10-3/4	12-7/8	13-1/8	17-7/8	3	5	1/2	24070S-300L
Extended	21-7/8	24	24-1/4	29	3	5	1/2	25070S-300L
XL	27	29-1/8	29-3/8	34-1/8	3	5	1/2	27070S-300L
3XL	37	39-1/8	39-3/8	44-1/8	3	5	1/2	29070S-300L

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A30: 102 - 105



= Metric (mm)

= Imperial (in)

Screws sold in quantities of 10

! WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

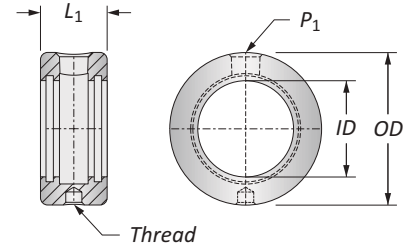


T-A Drill Accessories

7/8 Series | Rotary Coolant Adapters | Torx® Plus Screws

Rotary Coolant Adapter (RCA) and Accessories

	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
							Kit Part No.**	Replacements
m	57.15	95.27	44.45	M12 x 1.75	1/2*	⚠ 2T-6SRM	2T1-6SR	2T1-6OR-10
i	2-1/4	3-3/4	1-3/4	1/2-13	1/2	⚠ 2T-6SR	2T1-6SR	2T1-6OR-10



*Thread to BSP and ISO 7-1

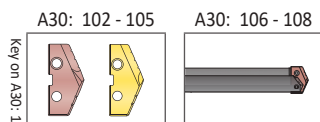
**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

⚠ Refer to page A30: 110 for proper RCA assembly and safety information

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7619-IP25-1	-	8IP-25	-	-	1750 N-cm (155.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



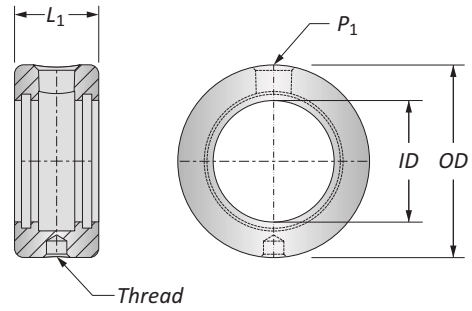
m = Metric (mm)
i = Imperial (in)

Inserts sold separately
Screws sold in packs of 10
O-rings sold in packs of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Rotary Coolant Adapters (RCA)

Morse Taper Shanks



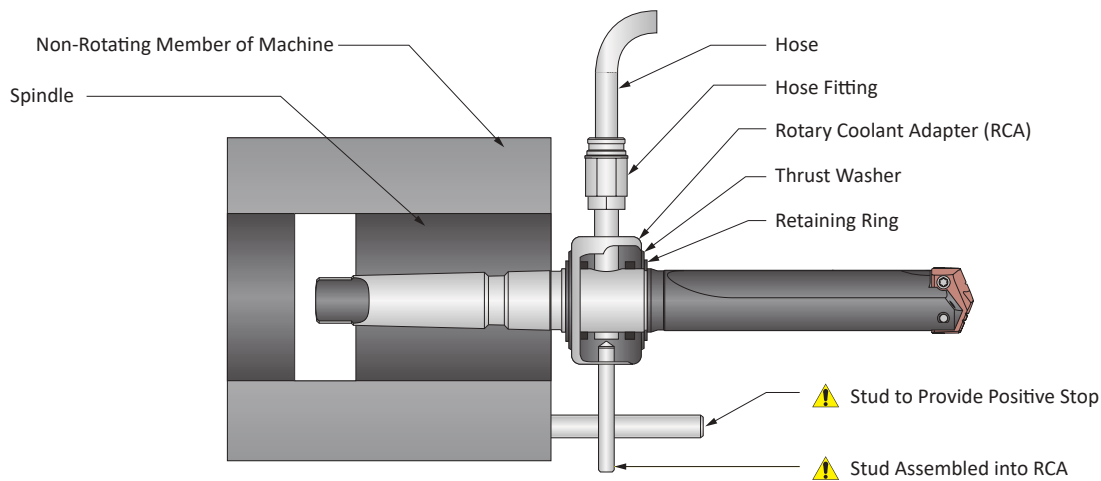
Holder Series	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	Max Recommended RPM	RCA O-Rings		
								Kit Part No.**	Replacements	
M	Y, Z, 0	19.05	44.45	22.23	M8 x 1.25	1/8*	⚠ 2T-2SRM	3500	2T1-2SR	2T1-2OR-10
	1, 2	25.40	53.97	28.57	M8 x 1.25	1/8*	⚠ 2T-3SRM	2500	2T1-3SR	2T1-3OR-10
	2, 3, 4	31.75	63.50	34.92	M10 x 1.50	1/4*	⚠ 2T-4SRM	2000	2T1-4SR	2T1-4OR-10
	3, 4	44.45	76.20	34.92	M10 x 1.50	1/4*	⚠ 2T-5SRM	1500	2T1-5SR	2T1-5OR-10
	5, 7	57.15	95.27	44.45	M12 x 1.75	1/2*	⚠ 2T-6SRM	1100	2T1-6SR	2T1-6OR-10
I	Y, Z, 0	3/4	1-3/4	7/8	5/16 - 18	1/8	⚠ 2T-2SR	3500	2T1-2SR	2T1-2OR-10
	1, 2	1	2-1/8	1-1/8	5/16 - 18	1/8	⚠ 2T-3SR	2500	2T1-3SR	2T1-3OR-10
	2, 3, 4	1-1/4	2-1/2	1-3/8	3/8 - 16	1/4	⚠ 2T-4SR	2000	2T1-4SR	2T1-4OR-10
	3, 4	1-3/4	3	1-3/8	3/8 - 16	1/4	⚠ 2T-5SR	1500	2T1-5SR	2T1-5OR-10
	5, 7	2-1/4	3-3/4	1-3/4	1/2 - 13	1/2	⚠ 2T-6SR	1100	2T1-6SR	2T1-6OR-10

*Thread to BSP and ISO 7-1

**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers

NOTE: Max recommended pressure is 42 Bar (600 PSI)

NOTE: Recommendations above are based on water and oil based coolants



M = Metric (mm)

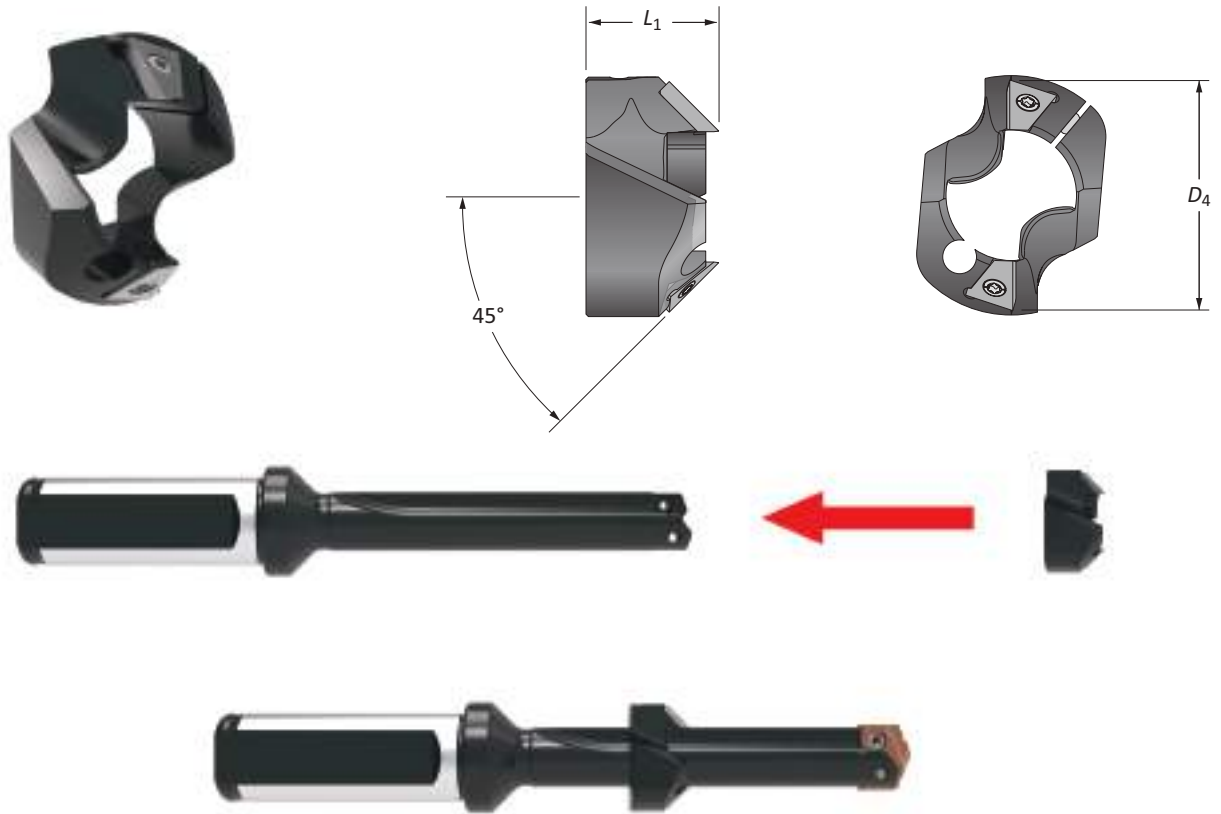
I = Imperial (in)

O-rings sold in packs of 10

⚠ WARNING RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications.

T-ACR 45 Chamfer Rings

Straight Flute Holders



Holder Series	D ₁ Range	Chamfer Ring		Part No.	Insert Part No.	Insert Screw	Insert Driver	Clamping Screw	Insert Driver
		D ₄	L ₁						
0	12.98 - 17.65	20.64	17.17	T-ACR-45-0	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7375-IP9-1	8IP-9
1	17.53 - 24.38	26.59	20.24	T-ACR-45-1	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15
1.5	21.83 - 24.38	28.58	22.62	T-ACR-45-1.5	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15
2	24.41 - 35.05	39.69	25.40	T-ACR-45-2	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7514-IP20-1	8IP-20

Highlights and Other Information

- Produces a 45° chamfer only
- Clamping screw allows for setting at any length along the flute
- Double effective cutting with face mounted inserts provides increased feed rates and greater insert strength
- The ring is balanced to match the holder center of gravity to ensure stability
- Inserts only available in C5 carbide and TiAlN coating
- Ideal for short-run or time-sensitive jobs that require quick delivery

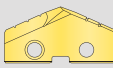
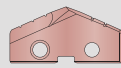


IMPORTANT: T-A chamfer rings can only be used with straight flute T-A holders

Inserts sold in quantities of 2
Screws sold in quantities of 10

GEN2 T-A Recommended Drilling Data | Metric (mm)

HSS Inserts

ISO	Material	Hardness (BHN)	HSS Grade	m/min		Feed Rate (mm/rev) by Diameter	
				 TiN	 AM200®	9.50 mm - 12.95 mm	12.98 mm - 17.52 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	61	99	0.20	0.30
		150 - 200	HSS	55	91	0.18	0.28
		200 - 250	HSS	49	85	0.15	0.25
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	52	88	0.20 ❖	0.25
		125 - 175	HSS	49	83	0.18 ❖	0.25
		175 - 225	HSS	46	79	0.15 ❖	0.23
		225 - 275	HSS	43	73	0.13 ❖	0.23
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	49	83	0.18	0.25
		175 - 225	HSS	46	79	0.15	0.23
		225 - 275	HSS	43	73	0.15	0.23
		275 - 325	SC, PC	40	68	0.13	0.20
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	46	73	0.18	0.25
175 - 225		HSS	43	68	0.15	0.23	
225 - 275		HSS	40	64	0.15	0.23	
275 - 325		SC, PC	37	59	0.13	0.20	
325 - 375		SC, PC	34	54	0.10	0.18	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC, PC	24	38	0.15 ❖	0.23	
	300 - 350	SC, PC	18	30	0.13 ❖	0.20	
	350 - 400	PC	15	24	0.10 ❖	0.18	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	43	71	0.20 ❖	0.28	
	150 - 250	HSS	37	57	0.15 ❖	0.25	
	250 - 350	SC, PC	30	48	0.13 ❖	0.23	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	24	38	0.10	0.18	
	200 - 250	SC, PC	18	32	0.10	0.18	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC, PC	9	13	0.10 ❖	0.18
		220 - 310	PC	8	12	0.10 ❖	0.15
	Titanium Alloy	140 - 220	SC, PC	11	16	0.10 ❖	0.18
		220 - 310	PC	10	15	0.08 ❖	0.15
	Aerospace Alloy S82	185 - 275	SC, PC	23	35	0.15 ❖	0.20
275 - 350		SC, PC	18	31	0.13 ❖	0.18	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC, PC	23	35	0.15 ❖	0.20
		275 - 350	SC, PC	18	31	0.13 ❖	0.18
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC, PC	23	35	0.08 ❖	0.18
		185 - 275	SC, PC	18	31	0.08 ❖	0.15
	Super Duplex Stainless Steel	135 - 185	SC, PC	18	26	0.08 ❖	0.18
185 - 275		SC, PC	15	22	0.08 ❖	0.15	
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC, PC	14	21	0.08 ❖	0.15
		500	PC	10	14	0.05 ❖	0.12
		600	-	-	-	-	-
	Hardened Steel	300 - 400	PC	15	29	0.10 ❖	0.15
400 - 500		PC	10	14	0.06 ❖	0.12	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	52	84	0.20	0.30
		150 - 200	HSS	46	79	0.18	0.28
		200 - 220	HSS	40	68	0.15	0.23
		220 - 260	SC, PC	34	57	0.13	0.20
		260 - 320	SC, PC	27	47	0.13	0.18
N	Cast Aluminium	30	HSS	183	-	0.23	0.38
		180	HSS	91	-	0.20	0.33
	Wrought Aluminium	30	HSS	183	280	0.12	0.33
		180	HSS	91	200	0.12	0.18
	Aluminium Bronze	100 - 200	SC	52	82	0.15	0.24
		200 - 250	SC	40	65	0.12	0.18
	Brass	100	HSS	91	144	0.18	0.27
Copper	60	SC	40	58	0.07 ❖	0.10	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (mm/rev) by Diameter				
17.53 mm - 24.38 mm	24.41 mm - 35.00 mm	35.01 mm - 47.80 mm	47.85 mm - 65.99 mm	66.00 mm - 114.48 mm
0.41	0.48	0.51	0.58	0.71
0.38	0.43	0.51	0.58	0.71
0.36	0.41	0.51	0.58	0.71
0.36	0.46	0.48	0.58	0.69
0.36	0.43	0.48	0.58	0.69
0.33	0.41	0.46	0.53	0.61
0.33	0.41	0.46	0.53	0.61
0.36	0.43	0.48	0.58	0.69
0.33	0.41	0.46	0.53	0.61
0.33	0.41	0.46	0.53	0.61
0.30	0.38	0.41	0.48	0.56
0.36	0.43	0.43	0.48	0.56
0.33	0.41	0.43	0.48	0.56
0.33	0.41	0.43	0.48	0.56
0.30	0.38	0.38	0.43	0.51
0.28	0.36	0.38	0.43	0.51
0.28	0.33	0.36	0.43	0.51
0.25	0.30	0.36	0.43	0.51
0.23	0.28	0.30	0.41	0.46
0.38	0.43	0.46	0.53	0.66
0.33	0.38	0.41	0.48	0.61
0.30	0.33	0.36	0.43	0.51
0.25	0.30	0.30	0.38	0.43
0.25	0.30	0.30	0.38	0.43
0.23	0.28	0.30	0.38	-
0.20	0.25	0.25	0.30	-
0.21	0.27	0.30	0.38	-
0.18	0.23	0.25	0.30	-
0.23	0.28	0.36	0.41	0.51
0.20	0.25	0.30	0.36	0.46
0.23	0.28	0.36	0.41	0.51
0.20	0.25	0.30	0.36	0.46
0.20	0.28	0.36	0.41	0.51
0.18	0.25	0.30	0.36	0.46
0.20	0.23	0.30	0.41	0.46
0.18	0.20	0.25	0.30	0.40
-	-	-	-	-
0.23	0.27	0.30	0.41	0.46
0.18	0.24	0.25	0.30	0.40
0.41	0.51	0.61	0.69	0.76
0.38	0.48	0.56	0.64	0.71
0.33	0.43	0.46	0.53	0.61
0.28	0.36	0.36	0.43	0.51
0.25	0.28	0.28	0.36	0.41
0.46	0.58	0.56	0.64	0.64
0.40	0.50	0.56	0.64	0.64
0.40	0.50	0.56	0.64	0.64
0.30	0.35	0.56	0.64	0.64
0.30	0.38	0.43	0.48	0.53
0.23	0.28	0.36	0.40	0.46
0.33	0.45	0.47	0.53	0.58
0.18	0.26	0.23	0.27	0.31

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

50 • 0.75 = 37.5 m/min 0.20 • 0.90 = 0.18 mm/rev

Formulas

1.	RPM = (318.47 • m/min) / DIA
	where:
	RPM = revolutions per minute (rev/min)
	m/min = speed (m/min)
	DIA = diameter of drill (mm)
2.	mm/min = RPM • mm/rev
	where:
	mm/min = mm per minute (mm/min)
	RPM = revolutions per minute (rev/min)
	mm/rev = feed rate (mm/rev)
3.	m/min = RPM • 0.003 • DIA
	where:
	m/min = speed (m/min)
	RPM = revolutions per minute (rev/min)
	DIA = diameter of drill (mm)

⚠ WARNING Tool failure can cause serious injury. To prevent:


- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS


GEN2 T-A Recommended Drilling Data | Metric (mm)

Carbide Inserts

ISO	Material	Hardness (BHN)	Carbide Grade	m/min  AM300®	Feed Rate (mm/rev) by Diameter			
					9.50 mm - 12.95 mm	12.98 mm - 17.53 mm	17.54 mm - 24.38 mm	24.41 mm - 35.00 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C1	146	0.20	0.30	0.41	0.48
		150 - 200	C1	126	0.18	0.28	0.38	0.43
		200 - 250	C1	119	0.15	0.25	0.36	0.41
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C1	137	0.20 ❖	0.25	0.36	0.46
		125 - 175	C1	119	0.18 ❖	0.25	0.36	0.43
		175 - 225	C1	108	0.15 ❖	0.23	0.33	0.41
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	C1	95	0.13 ❖	0.23	0.33	0.41
		125 - 175	C1	119	0.18	0.25	0.36	0.43
		175 - 225	C1	108	0.15	0.23	0.33	0.41
		225 - 275	C1	95	0.15	0.23	0.33	0.41
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	C1	80	0.13	0.20	0.30	0.38
		125 - 175	C1	115	0.18	0.25	0.36	0.43
175 - 225		C1	105	0.15	0.23	0.33	0.43	
225 - 275		C1	95	0.15	0.23	0.33	0.41	
275 - 325		C1	87	0.13	0.20	0.30	0.38	
High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	C1	78	0.10	0.18	0.28	0.36	
	225 - 300	C1	70	0.15 ❖	0.23	0.28	0.33	
	300 - 350	C1	63	0.13 ❖	0.20	0.25	0.30	
Structural Steel A36, A285, A516, etc.	350 - 400	C1	56	0.10 ❖	0.18	0.23	0.28	
	100 - 150	C1	108	0.20 ❖	0.28	0.38	0.43	
	150 - 250	C1	87	0.15 ❖	0.25	0.33	0.38	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	250 - 350	C1	80	0.13 ❖	0.23	0.30	0.33	
	150 - 200	C1	78	0.10	0.18	0.25	0.30	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	200 - 250	C1	59	0.10	0.18	0.25	0.30
		140 - 220	C2	37	0.10 ❖	0.18	0.23	0.28
	Titanium Alloy	220 - 310	C2	29	0.10 ❖	0.15	0.20	0.25
		140 - 220	C2	42	0.10 ❖	0.18	0.21	0.27
	Aerospace Alloy S82	220 - 310	C2	33	0.08 ❖	0.15	0.18	0.23
		185 - 275	C2	73	0.12 ❖	0.16	0.18	0.22
M	Stainless Steel 400 Series 416, 420, etc.	275 - 350	C2	56	0.10 ❖	0.14	0.16	0.19
		185 - 275	C2	73	0.18 ❖	0.23	0.30	0.36
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	73	0.14 ❖	0.18	0.24	0.29
		185 - 275	C2	56	0.12 ❖	0.16	0.22	0.24
	Super Duplex Stainless Steel	135 - 185	C2	38	0.12 ❖	0.17	0.22	0.26
		185 - 275	C2	30	0.10 ❖	0.15	0.18	0.22

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	m/min  AM300®	Feed Rate (mm/rev) by Diameter			
					9.50 mm - 12.95 mm	12.98 mm - 17.53 mm	17.54 mm - 24.38 mm	24.41 mm - 35.00 mm
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C2	45	0.07 ❖	0.12	0.20	0.25
		500	C2	37	0.05 ❖	0.10	0.15	0.20
		600	C2	30	0.04 ❖	0.08	0.12	0.16
	Hardened Steel	300 - 400	C1	47	0.10 ❖	0.18	0.23	0.27
400 - 500		C1	37	0.06 ❖	0.12	0.18	0.24	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2	152	0.20	0.30	0.38	0.48
		150 - 200	C2	146	0.18	0.28	0.33	0.43
		200 - 220	C2	131	0.15	0.23	0.30	0.38
		220 - 260	C2	113	0.13	0.20	0.28	0.33
		260 - 320	C2	102	0.13	0.18	0.25	0.28
N	Cast Aluminium	30	C2	300	0.23	0.38	0.46	0.58
		180	C2	225	0.20	0.33	0.40	0.50
	Wrought Aluminium	30	C2	426	0.12	0.33	0.40	0.50
		180	C2	300	0.12	0.18	0.30	0.35
	Aluminium Bronze	100 - 200	C2	110	0.15	0.24	0.30	0.38
		200 - 250	C2	90	0.12	0.18	0.23	0.28
	Brass	100	C2	200	0.18	0.27	0.33	0.45
Copper	60	C2	130	0.07 ❖	0.10	0.18	0.26	

❖ Contact our Application Engineering department for assistance when machining these materials

Deep Hole Drilling Speed and Feed Adjustment

	⚠ Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$50 \cdot 0.75 = 37.5 \text{ m/min}$	$0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$
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Formulas

<p>1. $RPM = (318.47 \cdot m/min) / DIA$</p> <p>where: RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA = diameter of drill (mm)</p>	<p>2. $mm/min = RPM \cdot mm/rev$</p> <p>where: mm/min = mm per minute (mm/min) RPM = revolutions per minute (rev/min) mm/rev = feed rate (mm/rev)</p>	<p>3. $m/min = RPM \cdot 0.003 \cdot DIA$</p> <p>where: m/min = speed (m/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)</p>
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⚠ WARNING Tool failure can cause serious injury. To prevent:




- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

T-A Recommended Drilling Data | Metric (mm)

HSS Inserts

ISO	Material	Hardness (BHN)	HSS Grade	m/min			Feed Rate (mm/rev) by Diameter	
				 TiN	 TiAlN	 TiCN	9.50 mm - 12.95 mm	12.98 mm - 17.52 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	61	85	79	0.18	0.25
		150 - 200	HSS	55	79	72	0.18	0.25
		200 - 250	HSS	49	73	64	0.15	0.25
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	52	76	67	0.15 ❖	0.23
		125 - 175	HSS	49	73	64	0.15 ❖	0.23
		175 - 225	HSS	46	69	59	0.13 ❖	0.20
		225 - 275	HSS	43	64	55	0.13 ❖	0.20
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	49	73	64	0.15	0.23
		175 - 225	HSS	46	69	59	0.13	0.20
		225 - 275	HSS	43	64	55	0.13	0.20
		275 - 325	SC, PC	40	59	52	0.10	0.18
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	46	64	59	0.15	0.20
175 - 225		HSS	43	59	55	0.13	0.20	
225 - 275		HSS	40	55	52	0.13	0.18	
275 - 325		SC, PC	37	52	47	0.10	0.15	
325 - 375		SC, PC	34	47	44	0.08	0.15	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC, PC	24	34	30	0.13 ❖	0.18	
	300 - 350	SC, PC	18	26	24	0.10 ❖	0.18	
	350 - 400	PC	15	21	20	0.08 ❖	0.15	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	43	61	55	0.15 ❖	0.25	
	150 - 250	HSS	37	52	47	0.13 ❖	0.23	
	250 - 350	SC, PC	30	43	40	0.10 ❖	0.20	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	24	34	32	0.10	0.15	
	200 - 250	SC, PC	18	27	26	0.10	0.15	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC, PC	9	12	11	0.08 ❖	0.18
		220 - 310	PC	8	11	9	0.08 ❖	0.15
	Titanium Alloy	140 - 220	SC, PC	11	15	14	0.08 ❖	0.18
		220 - 310	PC	9	14	11	0.08 ❖	0.15
	Aerospace Alloy S82	185 - 275	SC, PC	23	32	29	0.15 ❖	0.20
275 - 350		SC, PC	18	27	24	0.13 ❖	0.18	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC, PC	23	32	29	0.15 ❖	0.20
		275 - 350	SC, PC	18	27	24	0.13 ❖	0.18
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC, PC	23	32	29	0.08 ❖	0.18
		185 - 275	SC, PC	18	27	24	0.08 ❖	0.15
	Super Duplex Stainless Steel	135 - 185	SC, PC	18	24	21	0.08 ❖	0.18
		185 - 275	SC, PC	15	20	18	0.08 ❖	0.15
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC, PC	14	21	17	0.08 ❖	0.15
		500	PC	11	14	12	0.05 ❖	0.13
		600	-	-	-	-	-	-
	Hardened Steel	300 - 400	PC	15	29	21	0.08 ❖	0.15
400 - 500		PC	11	14	12	0.05 ❖	0.13	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	52	76	67	0.18	0.30
		150 - 200	HSS	46	69	59	0.15	0.28
		200 - 220	HSS	40	59	52	0.15	0.23
		220 - 260	SC, PC	34	50	44	0.13	0.18
		260 - 320	SC, PC	27	41	37	0.10	0.15
N	Cast Aluminium	30	HSS	183	259	229	0.20	0.33
		180	HSS	91	137	122	0.20	0.33
	Wrought Aluminium	30	HSS	183	259	229	0.10	0.15
		180	HSS	91	137	122	0.20	0.33
	Aluminium Bronze	100 - 200	SC	52	76	67	0.15	0.28
		200 - 250	SC	40	58	52	0.13	0.18
	Brass	100	HSS	91	136	122	0.18	0.30
Copper	60	SC	40	50	46	0.05 ❖	0.08	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (mm/rev) by Diameter					DW Cutting Data	
17.53 - 24.38	24.41 - 35.00	35.01 - 47.80	47.85 - 65.99	66.00 - 114.48	Speed m/min	Feed (mm/rev)
0.33	0.41	0.51	0.58	0.71	58-76	0.35
0.33	0.41	0.51	0.58	0.71		
0.33	0.41	0.51	0.58	0.71		
0.30	0.38	0.48	0.58	0.69	48-66	0.30
0.30	0.38	0.48	0.58	0.69		
0.25	0.36	0.46	0.53	0.61		
0.25	0.36	0.46	0.53	0.61	48-66	0.30
0.30	0.38	0.48	0.58	0.69		
0.25	0.36	0.46	0.53	0.61		
0.25	0.36	0.43	0.48	0.56	30.36	0.28
0.25	0.36	0.43	0.48	0.56		
0.25	0.36	0.43	0.48	0.56		
0.23	0.30	0.38	0.43	0.51	22-26	0.25
0.23	0.30	0.38	0.43	0.51		
0.23	0.30	0.38	0.43	0.51		
0.23	0.25	0.36	0.43	0.51	16-20	0.25
0.23	0.25	0.36	0.43	0.51		
0.20	0.23	0.30	0.38	0.46		
0.30	0.36	0.46	0.53	0.66	42-54	0.30
0.25	0.30	0.41	0.48	0.61		
0.23	0.25	0.36	0.43	0.51		
0.20	0.25	0.30	0.38	0.43	31-38	0.23
0.20	0.25	0.30	0.38	0.43		
0.20	0.25	0.30	0.38	0.43		
0.20	0.25	0.30	0.38	-	N/A	N/A
0.18	0.20	0.25	0.30	-		
0.20	0.25	0.30	0.38	-		
0.18	0.20	0.25	0.30	-		
0.23	0.25	0.36	0.41	0.51		
0.20	0.20	0.30	0.36	0.46	22-29*	0.23*
0.23	0.25	0.36	0.41	0.51		
0.20	0.20	0.30	0.36	0.46		
0.20	0.25	0.36	0.41	0.51	22-29*	0.23*
0.18	0.20	0.30	0.36	0.46		
0.20	0.25	0.36	0.41	0.51		
0.18	0.20	0.30	0.36	0.46	16-20*	0.23*
0.20	0.25	0.36	0.41	0.51		
0.18	0.20	0.30	0.36	0.46		
0.20	0.23	0.30	0.41	0.46	N/A	N/A
0.18	0.20	0.25	0.30	0.41		
-	-	-	-	-		
0.20	0.23	0.30	0.41	0.46	N/A	N/A
0.18	0.20	0.25	0.30	0.41		
-	-	-	-	-		
0.41	0.51	0.61	0.69	0.76	53-62	0.30
0.36	0.46	0.56	0.64	0.71		
0.30	0.41	0.46	0.53	0.61		
0.23	0.30	0.36	0.43	0.51		
0.18	0.23	0.30	0.36	0.41		
0.41	0.51	0.56	0.64	0.64	109-146	0.32
0.41	0.46	0.56	0.64	0.64		
0.25	0.30	0.56	0.64	0.64		
0.41	0.46	0.56	0.64	0.64	109-146	0.32
0.36	0.46	0.56	0.66	0.71		
0.23	0.30	0.36	0.43	0.51		
0.35	0.44	0.30	0.30	0.30	35-44	0.30
0.41	0.51	0.61	0.71	0.76	79-99	0.38
0.15	0.20	0.30	0.36	0.41	29-32	0.20

*only applicable up to 120mm

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$50 \cdot 0.75 = 37.5 \text{ m/min}$	$0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$
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Formulas

1.	RPM	= (318.47 • m/min) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
	where:	
	mm/min	= mm per minute (mm/min)
	RPM	= revolutions per minute (rev/min)
	mm/rev	= feed rate (mm/rev)
3.	m/min	= RPM • 0.003 • DIA
	where:	
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)

⚠ WARNING Tool failure can cause serious injury. To prevent:




- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

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A
DRILLING
B
BORING
E
THREADING
X
SPECIALS




T-A Recommended Drilling Data | Metric (mm)

Carbide Inserts

ISO	Material	Hardness (BHN)	Carbide Grade	m/min			Feed Rate (mm/rev) by Diameter				
				 TiN	 TiAlN	 TiCN	9.50 mm - 12.95 mm	12.98 mm - 17.52 mm	17.53 mm - 24.38 mm	24.41 mm - 35.00 mm	35.01 mm - 47.80 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C5	96	128	115	0.20	0.30	0.38	0.45	0.53
		150 - 200	C5	85	110	100	0.18	0.28	0.35	0.40	0.48
		200 - 250	C5	79	104	90	0.15	0.25	0.33	0.38	0.43
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C5	91	119	110	0.20 ❖	0.25	0.33	0.43	0.48
		125 - 175	C5	79	104	90	0.18 ❖	0.25	0.33	0.40	0.45
		175 - 225	C5	73	95	82	0.15 ❖	0.23	0.30	0.38	0.43
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	C5	64	83	75	0.13 ❖	0.23	0.30	0.38	0.43
		125 - 175	C5	79	104	90	0.18	0.25	0.33	0.40	0.45
		175 - 225	C5	73	95	84	0.15	0.23	0.30	0.38	0.43
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	C5	67	83	72	0.15	0.23	0.30	0.38	0.43
		275 - 325	C5	55	70	62	0.13	0.20	0.28	0.35	0.40
		125 - 175	C5	76	99	87	0.18	0.25	0.33	0.40	0.45
175 - 225		C5	70	92	80	0.15	0.23	0.30	0.38	0.43	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 275	C5	64	83	72	0.15	0.23	0.30	0.38	0.43	
	275 - 325	C5	61	76	68	0.13	0.20	0.28	0.35	0.40	
	325 - 375	C5	52	67	60	0.10	0.18	0.25	0.33	0.38	
	225 - 300	C5	49	61	55	0.15 ❖	0.23	0.25	0.30	0.38	
Structural Steel A36, A285, A516, etc.	300 - 350	C5	43	55	49	0.13 ❖	0.20	0.23	0.28	0.35	
	350 - 400	C5	37	49	43	0.10 ❖	0.18	0.20	0.25	0.30	
	100 - 150	C5	73	95	84	0.20 ❖	0.28	0.35	0.40	0.45	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	C5	61	76	68	0.15 ❖	0.25	0.30	0.35	0.40	
	250 - 350	C5	55	70	62	0.13 ❖	0.23	0.28	0.30	0.35	
	150 - 200	C5	49	67	58	0.10	0.18	0.23	0.28	0.33	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	200 - 250	C5	37	52	45	0.10	0.18	0.23	0.28	0.33
		140 - 220	C2	24	32	28	0.10 ❖	0.18	0.23	0.28	0.33
	Titanium Alloy	220 - 310	C2	18	26	22	0.10 ❖	0.15	0.20	0.25	0.30
		140 - 220	C2	30	38	32	0.10 ❖	0.18	0.23	0.28	0.33
	Aerospace Alloy S82	220 - 310	C2	24	33	28	0.10 ❖	0.15	0.20	0.25	0.30
		185 - 275	C2	49	64	57	0.17 ❖	0.22	0.29	0.35	0.40
M	Stainless Steel 400 Series 416, 420, etc.	275 - 350	C2	37	49	43	0.14 ❖	0.19	0.27	0.30	0.35
		185 - 275	C2	49	64	57	0.17 ❖	0.22	0.29	0.35	0.40
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	49	64	57	0.13 ❖	0.17	0.22	0.26	0.30
		185 - 275	C2	37	49	43	0.11 ❖	0.14	0.20	0.22	0.25
	Super Duplex Stainless Steel	135 - 185	C2	25	33	29	0.11 ❖	0.15	0.19	0.23	0.27
		185 - 275	C2	19	25	22	0.09 ❖	0.13	0.18	0.20	0.23

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	m/min			Feed Rate (mm/rev) by Diameter				
				 TiN	 TiAlN	 TiCN	9.50 mm - 12.95 mm	12.98 mm - 17.52 mm	17.53 mm - 24.38 mm	24.41 mm - 35.00 mm	35.01 mm - 47.80 mm
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C5	23	35	30	0.07	0.12	0.20	0.25	0.30
		500	C5	15	26	21	0.05	0.10	0.15	0.20	0.25
		600	C5	11	22	16	0.04	0.08	0.12	0.16	0.20
	Hardened Steel	300 - 400	C5	34	43	39	0.10 ❖	0.18	0.23	0.28	0.33
400 - 500		C5	20	25	23	0.08 ❖	0.15	0.20	0.23	0.28	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2, C3	98	141	127	0.20	0.30	0.38	0.48	0.58
		150 - 200	C2, C3	82	122	102	0.18	0.28	0.33	0.43	0.53
		200 - 220	C2, C3	73	110	93	0.15	0.23	0.30	0.38	0.45
		220 - 260	C2, C3	64	95	79	0.13	0.20	0.28	0.33	0.38
		260 - 320	C2, C3	55	83	69	0.13	0.18	0.25	0.28	0.33
N	Cast Aluminium	30	C2	366	460	410	0.25	0.38	0.45	0.50	0.55
		180	C2	244	306	275	0.23	0.33	0.40	0.45	0.50
	Wrought Aluminium	30	C2	366	460	410	0.10	0.15	0.25	0.30	0.36
		180	C2	244	306	275	0.20	0.28	0.36	0.45	0.50
	Aluminium Bronze	100 - 200	C2	85	110	100	0.13	0.20	0.25	0.36	0.42
		200 - 250	C2	64	94	79	0.10	0.15	0.18	0.25	0.33
	Brass	100	C2	130	184	160	0.15	0.23	0.28	0.38	0.45
Copper	60	C2	80	120	100	0.05 ❖	0.08	0.10	0.15	0.25	

❖ Contact our Application Engineering department for assistance when machining these materials

Deep Hole Drilling Speed and Feed Adjustment

	1. Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$50 \cdot 0.75 = 37.5 \text{ m/min}$	$0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$
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Formulas





1. $RPM = (318.47 \cdot m/min) / DIA$ where: RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA = diameter of drill (mm)	2. $mm/min = RPM \cdot mm/rev$ where: mm/min = mm per minute (mm/min) RPM = revolutions per minute (rev/min) mm/rev = feed rate (mm/rev)	3. $m/min = RPM \cdot 0.003 \cdot DIA$ where: m/min = speed (m/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)
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1. WARNING Tool failure can cause serious injury. To prevent:
 - When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
 - Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.
 Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

T-A Recommended Drilling Data | Metric (mm)

HSS Inserts | Flat Bottom Geometry

ISO	Material	Hardness (BHN)	HSS Grade	m/min			
				 TiN	 TiAlN	 TiCN	 AM200®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	52	76	70	88
		150 - 200	HSS	47	70	62	81
		200 - 250	HSS	43	64	56	74
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	46	67	59	77
		125 - 175	HSS	43	64	56	74
		175 - 225	HSS	40	59	53	68
		225 - 275	HSS	37	56	47	65
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	43	64	56	74
		175 - 225	HSS	40	59	53	68
		225 - 275	HSS	37	56	47	65
		275 - 325	SC	34	53	46	61
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	40	56	53	65
175 - 225		HSS	37	53	47	61	
225 - 275		HSS	34	47	44	54	
275 - 325		SC	32	44	41	51	
325 - 375		SC	29	41	38	47	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	21	29	26	33	
	300 - 350	SC	15	23	21	27	
	350 - 400	SC	13	20	18	23	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	36	52	47	60	
	150 - 250	HSS	32	44	41	51	
	250 - 350	SC	26	37	34	43	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	21	29	27	33	
	200 - 250	SC	15	24	23	28	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	7	10	9	13
		220 - 310	SC	6	9	7	10
	Titanium Alloy	140 - 220	SC	10	14	12	16
		220 - 310	SC	8	12	11	14
Aerospace Alloy S82	185 - 275	SC	20	27	26	34	
	275 - 350	SC	15	24	21	28	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC	20	27	26	34
		275 - 350	SC	15	24	21	28
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC	20	27	26	34
		185 - 275	SC	15	24	21	28
	Super Duplex Stainless Steel	135 - 185	SC	20	27	26	34
185 - 275	SC	15	24	21	28		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC	-	-	-	-
		500	SC	-	-	-	-
		600	-	-	-	-	-
	Hardened Steel	300 - 400	SC	13	20	18	24
400 - 500		SC	8	12	10	13	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	46	67	59	77
		150 - 200	HSS	40	59	53	68
		200 - 220	HSS	34	53	46	61
		220 - 260	SC	29	46	38	53
		260 - 320	SC	24	37	32	43
N	Cast Aluminium	30	HSS	160	228	198	-
		180	HSS	79	122	107	-
	Wrought Aluminium	30	HSS	160	228	198	261
		180	HSS	79	122	107	141
	Aluminium Bronze	100 - 200	SC	40	59	53	70
		200 - 250	SC	29	46	38	50
	Brass	100	HSS	46	67	59	78
Copper	60	SC	35	45	40	53	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (mm/rev) by Diameter					
9.50 mm - 12.95 mm	12.98 mm - 17.53 mm	17.53 mm - 24.38 mm	24.21 mm - 35.00 mm	35.01 mm - 47.80 mm	47.85 mm - 65.99 mm
0.15	0.23	0.28	0.35	0.41	0.46
0.15	0.23	0.28	0.35	0.41	0.46
0.13	0.23	0.28	0.35	0.38	0.43
0.13 ❖	0.20	0.25	0.33	0.38	0.43
0.13 ❖	0.20	0.25	0.33	0.38	0.41
0.10 ❖	0.18	0.23	0.30	0.36	0.41
0.10 ❖	0.18	0.23	0.30	0.36	0.38
0.13	0.20	0.25	0.33	0.38	0.46
0.10	0.18	0.23	0.30	0.36	0.43
0.10	0.18	0.23	0.30	0.36	0.43
0.10	0.15	0.20	0.25	0.33	0.38
0.13	0.18	0.23	0.30	0.33	0.41
0.10	0.18	0.23	0.30	0.33	0.41
0.10	0.15	0.23	0.30	0.33	0.41
0.10	0.13	0.20	0.25	0.30	0.38
0.08	0.13	0.20	0.25	0.30	0.36
0.10 ❖	0.15	0.20	0.23	0.25	0.30
0.08 ❖	0.15	0.20	0.23	0.25	0.30
0.08 ❖	0.13	0.18	0.20	0.23	0.28
0.13 ❖	0.23	0.25	0.30	0.38	0.43
0.10 ❖	0.20	0.23	0.25	0.33	0.41
0.10 ❖	0.18	0.20	0.23	0.30	0.38
0.10	0.13	0.18	0.23	0.25	0.30
0.10	0.13	0.18	0.23	0.23	0.28
0.08 ❖	0.15	0.18	0.23	0.25	0.30
0.08 ❖	0.13	0.15	0.18	0.20	0.25
0.08 ❖	0.15	0.18	0.23	0.25	0.30
0.08 ❖	0.13	0.15	0.18	0.20	0.25
0.13 ❖	0.18	0.20	0.25	0.30	0.38
0.10 ❖	0.15	0.18	0.23	0.25	0.30
0.13 ❖	0.18	0.20	0.25	0.30	0.36
0.10 ❖	0.15	0.18	0.23	0.25	0.28
0.13 ❖	0.18	0.20	0.25	0.30	0.36
0.10 ❖	0.15	0.18	0.23	0.25	0.28
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
0.08 ❖	0.13	0.18	0.20	0.27	0.38
0.06 ❖	0.10	0.15	0.18	0.23	0.28
0.15	0.25	0.36	0.43	0.48	0.51
0.13	0.23	0.30	0.41	0.46	0.48
0.13	0.20	0.25	0.36	0.41	0.43
0.10	0.15	0.20	0.25	0.33	0.33
0.10	0.13	0.15	0.20	0.25	0.25
0.18	0.28	0.36	0.43	0.46	0.48
0.18	0.28	0.36	0.41	0.43	0.48
0.18	0.28	0.36	0.43	0.46	0.48
0.18	0.28	0.36	0.41	0.43	0.48
0.13	0.23	0.30	0.41	0.51	0.61
0.10	0.15	0.20	0.25	0.31	0.38
0.15	0.25	0.36	0.43	0.53	0.63
0.05 ❖	0.08	0.15	0.20	0.25	0.35

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$50 \cdot 0.75 = 37.5 \text{ m/min}$ $0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$

Formulas

1.	RPM	= (318.47 • m/min) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
	where:	
	mm/min	= mm per minute (mm/min)
	RPM	= revolutions per minute (rev/min)
	mm/rev	= feed rate (mm/rev)
3.	m/min	= RPM • 0.003 • DIA
	where:	
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)

1. WARNING Tool failure can cause serious injury. To prevent:





- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

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A
DRILLING
B
BORING
E
THREADING
X
SPECIALS





T-A Recommended Drilling Data | Metric (mm)

Carbide Inserts | Flat Bottom Geometry

ISO	Material	Hardness (BHN)	Carbide Grade	m/min				Feed Rate (mm/rev) by Diameter			
				 TiN	 TiAlN	 TiCN	 AM200®	9.50 mm - 12.95 mm	12.98 mm - 17.53 mm	17.54 mm - 24.38 mm	24.41 mm - 35.00 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C2	82	110	98	126	0.17	0.26	0.32	0.39
		150 - 200	C2	73	94	85	110	0.15	0.24	0.30	0.35
		200 - 250	C2	67	88	76	102	0.13	0.22	0.28	0.32
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C2	79	102	94	117	0.17 ❖	0.22	0.28	0.37
		125 - 175	C2	67	88	76	102	0.15 ❖	0.22	0.28	0.35
		175 - 225	C2	61	81	70	93	0.13 ❖	0.19	0.26	0.32
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	C2	55	70	64	81	0.11 ❖	0.19	0.26	0.32
		125 - 175	C2	67	88	76	102	0.15	0.22	0.28	0.35
		175 - 225	C2	61	81	72	93	0.13	0.19	0.26	0.32
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	C2	55	70	61	81	0.13	0.19	0.26	0.32
		275 - 325	C2	46	61	53	70	0.11	0.17	0.24	0.30
		125 - 175	C2	64	85	75	99	0.15	0.22	0.28	0.35
175 - 225		C2	59	79	67	91	0.13	0.19	0.26	0.32	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 275	C2	55	70	61	81	0.13	0.19	0.26	0.32	
	275 - 325	C2	52	66	58	76	0.11	0.17	0.24	0.30	
	325 - 375	C2	44	58	50	67	0.09	0.15	0.22	0.28	
Structural Steel A36, A285, A516, etc.	225 - 300	C2	41	52	47	59	0.13 ❖	0.19	0.22	0.26	
	300 - 350	C2	37	47	41	55	0.11 ❖	0.17	0.19	0.24	
	350 - 400	C2	30	41	37	47	0.09 ❖	0.15	0.17	0.22	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	100 - 150	C2	62	81	72	93	0.17 ❖	0.24	0.30	0.35	
	150 - 250	C2	52	66	58	76	0.13 ❖	0.22	0.28	0.30	
	250 - 350	C2	47	61	53	70	0.11 ❖	0.19	0.25	0.26	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	150 - 200	C2	41	58	49	67	0.09	0.15	0.19	0.24
		200 - 250	C2	30	44	37	50	0.09	0.15	0.19	0.24
	Titanium Alloy	140 - 220	C2	21	27	23	32	0.09 ❖	0.15	0.19	0.24
		220 - 310	C2	15	21	18	24	0.09 ❖	0.13	0.17	0.22
	Aerospace Alloy S82	140 - 220	C2	26	33	28	40	0.08 ❖	0.14	0.17	0.20
220 - 310		C2	21	29	25	30	0.08 ❖	0.12	0.15	0.18	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	C2	43	56	50	64	0.15 ❖	0.20	0.25	0.30
		275 - 350	C2	33	43	38	49	0.13 ❖	0.18	0.23	0.25
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	28	37	33	40	0.13 ❖	0.17	0.21	0.25
		185 - 275	C2	21	28	25	32	0.11 ❖	0.15	0.19	0.21
	Super Duplex Stainless Steel	135 - 185	C2	22	29	26	33	0.10 ❖	0.14	0.17	0.20
		185 - 275	C2	17	22	19	26	0.08 ❖	0.12	0.15	0.17

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	m/min				Feed Rate (mm/rev) by Diameter			
				 TiN	 TiAlN	 TiCN	 AM200®	9.50 mm - 12.95 mm	12.98 mm - 17.53 mm	17.54 mm - 24.38 mm	24.41 mm - 35.00 mm
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C2	20	31	26	39	0.06 ❖	0.10	0.16	0.20
		500	C2	13	23	18	31	0.04 ❖	0.08	0.12	0.16
		600	C2	10	19	14	25	0.03 ❖	0.06	0.10	0.13
	Hardened Steel	300 - 400	C2	30	38	34	41	0.08 ❖	0.14	0.18	0.22
400 - 500		C2	18	22	20	33	0.06 ❖	0.12	0.16	0.18	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2	82	120	108	137	0.17	0.26	0.32	0.41
		150 - 200	C2	70	104	87	119	0.15	0.24	0.28	0.38
		200 - 220	C2	61	94	79	108	0.13	0.19	0.26	0.32
		220 - 260	C2	55	81	67	93	0.11	0.17	0.24	0.28
		260 - 320	C2	47	70	58	81	0.11	0.15	0.22	0.24
N	Cast Aluminium	30	C2	160	228	198	–	0.22	0.32	0.41	0.43
		180	C2	79	122	107	–	0.19	0.28	0.35	0.39
	Wrought Aluminium	30	C2	292	368	328	390	0.12	0.18	0.23	0.25
		180	C2	195	245	220	260	0.10	0.16	0.20	0.22
	Aluminium Bronze	100 - 200	C2	73	95	85	105	0.10	0.16	0.20	0.29
		200 - 250	C2	55	81	68	87	0.08	0.12	0.14	0.20
	Brass	100	C2	112	160	138	185	0.12	0.18	0.22	0.30
Copper	60	C2	68	105	85	117	0.04 ❖	0.06	0.08	0.12	

❖ Contact our Application Engineering department for assistance when machining these materials

Deep Hole Drilling Speed and Feed Adjustment

	⚠ Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	–	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$50 \cdot 0.75 = 37.5 \text{ m/min}$	$0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$
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Formulas

<p>1. $RPM = (318.47 \cdot m/min) / DIA$</p> <p>where:</p> <p>RPM = revolutions per minute (rev/min)</p> <p>m/min = speed (m/min)</p> <p>DIA = diameter of drill (mm)</p>	<p>2. $mm/min = RPM \cdot mm/rev$</p> <p>where:</p> <p>mm/min = mm per minute (mm/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>mm/rev = feed rate (mm/rev)</p>	<p>3. $m/min = RPM \cdot 0.003 \cdot DIA$</p> <p>where:</p> <p>m/min = speed (m/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>DIA = diameter of drill (mm)</p>
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⚠ WARNING Tool failure can cause serious injury. To prevent:


- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

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T-A Recommended Drilling Data | Metric (mm)

Carbide Inserts | Diamond Coating

Material	Carbide Grade	m/min  Diamond Coating	Feed Rate (mm/rev) by Diameter			
			9.5 mm - 12.5 mm	13 mm - 17.5 mm	18 mm - 24 mm	25 mm - 35 mm
Polymer Matrix Composites						
Carbon (hard)	N2	305 - 450	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Carbon Fiber	N2	305 - 450	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Carbon / Glass Fiber	N2	305 - 450	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Fiberglass	N2	305 - 450	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Graphite	N2	305 - 450	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Plastics	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Epoxy Resin	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Bismaleimide Resin	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Polyester Resin	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Phenolic Resin	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Rubber	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Metal Matrix Composites						
Aluminium	N2	305	0.20	0.33	0.41	0.51
Si < 10%	N2	305	0.20	0.33	0.41	0.51
10% < Si < 15%	N2	259 - 305	0.20	0.33	0.41	0.51
15% < Si < 20%	N2	198 - 259	0.20	0.33	0.41	0.51
20% < Si < 25%	N2	152 - 198	0.20	0.33	0.41	0.51
25% < Si	N2	61 - 152	0.20	0.33	0.41	0.51
Brass	N2	76 - 152	0.20	0.33	0.41	0.51
Bronze	N2	76 - 152	0.20	0.33	0.41	0.51
Copper	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Copper Alloys	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Lead Alloys	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Magnesium Alloys	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Precious Metals	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Ceramic Matrix Composites						
Carbide (green)	N2	15 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Ceramic (green)	N2	15 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
Ceramic (pre-sintered)	N2	15 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 50 m/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 m/min and 0.18 mm/rev.

$$50 \cdot 0.75 = 37.5 \text{ m/min}$$

$$0.20 \cdot 0.90 = 0.18 \text{ mm/rev}$$

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Tap Drill Information and Formulas | Metric (mm)

Metric Profile Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
12 x 1.75	10.2 mm	0.4016"	79%	0.075 mm	10.28 mm	76%
12 x 1.75	13/32"	0.4063"	74%	0.075 mm	10.40 mm	71%
12 x 1.25	27/64"	0.4219"	79%	0.075 mm	10.79 mm	74%
12 x 1.25	10.8 mm	0.4252"	74%	0.075 mm	10.88 mm	69%
14 x 20	15/32"	0.4688"	81%	0.075 mm	11.98 mm	78%
14 x 20	12.0 mm	0.4724"	77%	0.075 mm	12.08 mm	74%
14 x 1.5	12.5 mm	0.4921"	77%	0.075 mm	12.58 mm	73%
16 x 2.0	14.0 mm	0.5512"	77%	0.075 mm	14.08 mm	74%
16 x 1.5	14.5 mm	0.5709"	77%	0.075 mm	14.58 mm	73%
16 x 1.5	37/64"	0.5781"	68%	0.075 mm	14.76 mm	64%
18 x 2.5	15.5 mm	0.6102"	77%	0.075 mm	15.58 mm	75%
18 x 1.5	16.5 mm	0.6496"	77%	0.075 mm	16.58 mm	73%
18 x 1.5	21/32"	0.6563"	68%	0.075 mm	16.75 mm	64%
20 x 2.5	11/16"	0.6875"	78%	0.075 mm	17.54 mm	76%
20 x 2.5	17.5 mm	0.6890"	77%	0.075 mm	17.58 mm	74%
20 x 1.5	18.5 mm	0.7283"	77%	0.075 mm	18.58 mm	73%
20 x 1.5	47/64"	0.7344"	69%	0.075 mm	18.66 mm	65%
22 x 2.5	49/64"	0.7656"	79%	0.075 mm	19.52 mm	76%
22 x 2.5	19.5 mm	0.7677"	77%	0.075 mm	19.58 mm	75%
22 x 1.5	20.5 mm	0.8071"	77%	0.075 mm	20.58 mm	73%
22 x 1.5	13/16"	0.8125"	70%	0.075 mm	20.71 mm	66%
24 x 3	13/16"	0.8125"	86%	0.075 mm	20.71 mm	84%
24 x 3	21.0 mm	0.8268"	76%	0.075 mm	21.08 mm	75%
24 x 2	22.0 mm	0.8661"	77%	0.075 mm	22.08 mm	74%
24 x 2	7/8"	0.8750"	68%	0.075 mm	22.30 mm	65%
27 x 3	24.0 mm	0.9449"	77%	0.075 mm	24.08 mm	75%

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivalent	Theo % Thread*	Probable Mean Oversize	Probable Hole Size	Probable % Thread**
1/4 - 18	7/16	0.4375	-	0.075 mm	11.19 mm	-
3/8 - 18	9/16	0.5625	-	0.075 mm	14.76 mm	-
1/2 - 14	45/64	0.7031	-	0.075 mm	18.33 mm	-
3/4 - 14	29/32	0.9063	-	0.075 mm	23.89 mm	-

* Based on nominal tap drill diameter

** Based on 0.075 mm probable mean oversize

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

$$\% \text{ Thread} = \left[\frac{76.93}{\text{Pitch (mm)}} \right] \left[\text{Basic Major Diameter of Thread (mm)} - \text{Drill Hole Size (mm)} \right]$$

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirements.
- The 0.0075 mm probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Formulas

1.	RPM	= (318.47 • m/min) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
	where:	
	mm/min	= mm per minute (mm/min)
	RPM	= revolutions per minute (rev/min)
	mm/rev	= feed rate (mm/rev)
3.	m/min	= RPM • 0.003 • DIA
	where:	
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)
4.	Thrust	= 154 • (mm/rev) • DIA • K _m
	where:	
	Thrust	= axial thrust (N)
	mm/rev	= feed rate (mm/rev)
	DIA	= diameter of drill (mm)
	K _m	= specific cutting energy (kPa)
5.	Tool Power	= ((mm/rev) • RPM • K _m • DIA ²) / 210604.8
	where:	
	Tool Power	= tool power (HP)
	mm/rev	= feed rate (mm/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (kPa)
	DIA	= diameter of drill (mm)

Material Constants

Type of Material	Hardness	K _m (kPa)
Plain Carbon and Alloy Steel	85 - 200 BHN	5.45
	200 - 275 BHN	6.48
	275 - 375 BHN	6.89
	375 - 425 BHN	7.93
High-Temperature Alloys	-	9.93
Stainless Steels	135 - 275 BHN	6.48
	30 - 45 RC	7.45
Cast Iron	100 - 200 BHN	3.45
	200 - 300 BHN	7.45
Copper Alloy	20 - 80 RB	2.96
	80 - 100 RB	4.96
Titanium Alloy	-	4.96
Aluminium Alloy	-	1.52
Magnesium Alloy	-	1.10

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Coolant Recommendations | Metric (mm)

HSS Drill Inserts

ISO	Material	Pressure or Flow Rate	9.5 mm - 12.5 mm	13 mm - 17 mm	18 mm - 24 mm	25 mm - 35 mm	36 mm - 50 mm	51 mm - 76 mm	76 mm - 102 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	Bar	12 - 13	7 - 8	7 - 10	6 - 8	5 - 7	4	5 - 6
		LPM	9.5 - 9.8	10.6 - 11.4	16.7 - 19.7	26.5 - 30.3	45.4 - 53.0	114 - 125	144 - 167
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	Bar	11 - 12	5 - 6	5 - 7	4 - 6	4 - 5	2 - 3	3 - 5
		LPM	9.1 - 9.5	9.1 - 9.8	14.0 - 15.9	22.7 - 26.5	41.6 - 45.4	98 - 114	125 - 144
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	Bar	11	5 - 6	5 - 6	4 - 5	3 - 5	2 - 3	3 - 5
		LPM	8.7 - 9.1	8.7 - 9.8	13.6 - 15.5	18.9 - 22.7	37.9 - 45.4	98 - 114	125 - 144
	Alloy Steel 4140, 5140, 8640, etc.	Bar	11	5	5 - 6	3 - 5	3 - 4	2	3
		LPM	8.7 - 9.1	8.3 - 9.1	13.2 - 14.8	18.9 - 22.7	31.9 - 41.6	98 - 106	114 - 125
	High-Strength Alloy 4340, 4330V, 300M, etc.	Bar	10 - 11	4	3	2	2	1 - 2	2
		LPM	8.7 - 9.1	7.9 - 8.3	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87	87 - 98
	Structural Steel A36, A285, A516, etc.	Bar	11	5 - 6	5 - 6	3 - 4	3	2	3
		LPM	8.7 - 9.1	9.1 - 9.8	13.2 - 14.8	18.9 - 22.7	34.1 - 37.9	87 - 98	114 - 125
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	Bar	10 - 11	4	3	2	2	1 - 2	2
		LPM	8.7 - 9.1	7.9 - 8.3	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87	87 - 98
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	Bar	10 - 11	4 - 5	3 - 4	2	2	2	3
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98	125
	Titanium Alloy	Bar	10 - 11	4 - 5	3 - 4	2	2	2	3
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98	125
	Aerospace Alloy S82	Bar	10 - 11	4 - 5	3 - 4	2	2	2	3
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98	125
M	Stainless Steel 400 Series 416, 420, etc.	Bar	11.8	5.9	5.2	3.8	3.5	2	3.1
		LPM	9.5	9.8	14	23	38	98	117
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	Bar	11.8	5.9	5.2	3.8	3.5	2	3.1
		LPM	9.5	9.8	14	23	38	98	117
	Super Duplex Stainless Steel	Bar	11.8	5.9	5.2	3.8	3.5	2	3.1
		LPM	9.5	9.8	14	23	38	98	117
H	Wear Plate Hardox®, AR400, T-1, etc.	Bar	10.7	4.2	3.5	2	2	1.7	2
		LPM	9.1	8.3	11.7	19	30	87	98
	Hardened Steel	Bar	10.7	4.2	3.5	2	2	1.7	2
		LPM	9.1	8.3	11.7	19	30	87	98
K	SG / Nodular Cast Iron	Bar	11	4.5	4.2	2.8	2.4	2	2.4
		LPM	9.1	8.7	12.5	19	34	98	106
	Grey / White Iron	Bar	11	4.5	4.2	2.8	2.4	2	2.4
		LPM	9.1	8.7	12.5	19	34	98	106
N	Cast Aluminium	Bar	14.5	12.4	15.8	11	8.6	3.5	5.5
		LPM	10	14	23	34	61	125	159
	Wrought Aluminium	Bar	14.5	12.4	15.8	11	8.6	3.5	5.5
		LPM	10	14	23	34	61	125	159
	Aluminium Bronze	Bar	12.8	8.3	9.65	7.95	6.9	3.5	6.2
		LPM	9.6	11.4	19.7	30.3	53	125	167
	Brass	Bar	11	4.5	4.2	2.8	2.4	2	2.4
		LPM	9.1	8.7	12.5	19	34	98	106
	Copper	Bar	12.8	8.3	9.65	7.95	6.9	3.5	6.2
		LPM	9.6	11.4	19.7	30.3	53	125	167

Deep Hole Drilling Coolant Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Pressure and Flow	1.3	1.5	2	2	3

Recommended Coolant Example

If the recommended pressure and flow is 12 Bar and 22 LPM for a standard length holder, then the adjusted pressure and flow for a 3XL holder would be 36 Bar and 66 LPM.

$$12 \cdot 3 = 36 \text{ Bar} \qquad 22 \cdot 3 = 66 \text{ LPM}$$

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the T-A® drilling system will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

Coolant Recommendations | Metric (mm)

Carbide Drill Inserts

ISO	Material	Pressure or Flow Rate	9.5 mm - 12.5 mm	13 mm - 17 mm	18 mm - 24 mm	25 mm - 35 mm	36 mm - 47 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	Bar	17 - 20	17	15	15	20
		LPM	12.2	16.3	25.2	41.5	71.9
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	Bar	18	11	11	12	9
		LPM	11.4	13.3	20.6	36.5	62.0
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	Bar	17	10	10	10	8
		LPM	11.3	12.5	20.0	33.8	57.0
	Alloy Steel 4140, 5140, 8640, etc.	Bar	17	9	10	8	7
		LPM	11.1	12.3	19.3	30.0	55.8
	High-Strength Alloy 4340, 4330V, 300M, etc.	Bar	15	5	4	3	3
		LPM	10.4	9.1	12.6	18.8	33.6
Structural Steel A36, A285, A516, etc.	Bar	16	9	8	7	5	
	LPM	10.8	12.0	17.5	27.8	47.1	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	Bar	15	5	5	3	3	
	LPM	10.4	9.1	13.6	19.7	36.5	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	Bar	17	11	12	11	9
		LPM	11.1	13.5	21.9	35.4	62.0
	Titanium Alloy	Bar	17	11	12	11	9
		LPM	11.1	13.5	21.9	35.4	62.0
	Aerospace Alloy S82	Bar	17	11	12	11	9
LPM		11.1	13.5	21.9	35.4	62.0	
M	Stainless Steel 400 Series 416, 420, etc.	Bar	22.7	16.5	17.9	17.2	13.1
		LPM	13	16.3	26.3	44.2	75
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	Bar	22.7	16.5	17.9	17.2	13.1
		LPM	13	16.3	26.3	44.2	75
	Super Duplex Stainless Steel	Bar	22.7	16.5	17.9	17.2	13.1
LPM		13	16.3	26.3	44.2	75	
H	Wear Plate Hardox®, AR400, T-1, etc.	Bar	14.5	5.2	4.8	3.4	3.1
		LPM	10.4	9.1	13.6	19.7	36.5
	Hardened Steel	Bar	14.5	5.2	4.8	3.4	3.1
		LPM	10.4	9.1	13.6	19.7	36.5
K	SG / Nodular Cast Iron	Bar	15.5	7.2	6.2	6.2	5.5
		LPM	10.7	10.8	15.4	26.5	48.7
	Grey / White Iron	Bar	15.5	7.2	6.2	6.2	5.5
		LPM	10.7	10.8	15.4	26.5	48.7
N	Cast Aluminium	Bar	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77
	Wrought Aluminium	Bar	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77
	Aluminium Bronze	Bar	20	16.5	16.5	15.2	12
		LPM	12.2	16.3	25.2	41.5	71.9
	Brass	Bar	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77
	Copper	Bar	20	16.5	16.5	15.2	12
		LPM	12.2	16.3	25.2	41.5	71.9

Deep Hole Drilling Coolant Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Pressure and Flow	1.3	1.5	2	2	3

Recommended Coolant Example

If the recommended pressure and flow is 12 Bar and 22 LPM for a standard length holder, then the adjusted pressure and flow for a 3XL holder would be 36 Bar and 66 LPM.	
12 • 3 = 36 Bar	22 • 3 = 66 LPM

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

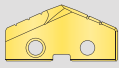
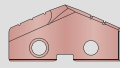
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GEN2 T-A Recommended Drilling Data | Imperial (inch)

HSS Inserts

ISO	Material	Hardness (BHN)	HSS Grade	SFM		Feed Rate (IPR) by Diameter	
				 TiN	 AM200®	3/8" - 1/2"	33/64" - 11/16"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	200	325	0.008	0.012
		150 - 200	HSS	180	300	0.007	0.011
		200 - 250	HSS	160	280	0.006	0.010
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	170	290	0.008 ❖	0.010
		125 - 175	HSS	160	275	0.007 ❖	0.010
		175 - 225	HSS	150	260	0.006 ❖	0.009
		225 - 275	HSS	140	240	0.005 ❖	0.009
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	160	275	0.007	0.010
		175 - 225	HSS	150	260	0.006	0.009
		225 - 275	HSS	140	240	0.006	0.009
		275 - 325	SC	130	225	0.005	0.008
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	150	240	0.007	0.010
175 - 225		HSS	140	225	0.006	0.009	
225 - 275		HSS	130	210	0.006	0.009	
275 - 325		SC	120	195	0.005	0.008	
325 - 375		SC	110	180	0.004	0.007	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	80	125	0.006 ❖	0.009	
	300 - 350	SC	60	100	0.005 ❖	0.008	
	350 - 400	SC	50	80	0.004 ❖	0.007	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	140	235	0.008 ❖	0.011	
	150 - 250	HSS	120	190	0.006 ❖	0.010	
	250 - 350	SC	100	160	0.005 ❖	0.009	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	80	125	0.004	0.007	
	200 - 250	SC	60	105	0.004	0.007	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	30	45	0.004 ❖	0.007
		220 - 310	SC	25	40	0.004 ❖	0.006
	Titanium Alloy	140 - 220	SC	35	55	0.004 ❖	0.007
		220 - 310	SC	30	50	0.003 ❖	0.006
	Aerospace Alloy S82	185 - 275	SC	75	110	0.006 ❖	0.008
275 - 350		SC	60	100	0.005 ❖	0.007	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC	75	110	0.006 ❖	0.008
		275 - 350	SC	60	100	0.005 ❖	0.007
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC	75	110	0.003 ❖	0.007
		185 - 275	SC	60	100	0.003 ❖	0.006
	Super Duplex Stainless Steel	135 - 185	SC	60	85	0.003 ❖	0.007
185 - 275		SC	50	70	0.003	0.006	
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC	45	70	0.003 ❖	0.006
		500	SC	35	45	0.002 ❖	0.005
		600	-	-	-	0.004 ❖	0.006
	Hardened Steel	300 - 400	SC	50	95	-	-
400 - 500		SC	35	45	0.002 ❖	0.005	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	170	290	0.008	0.012
		150 - 200	HSS	150	260	0.007	0.011
		200 - 220	HSS	130	225	0.006	0.009
		220 - 260	SC	110	190	0.005	0.008
		260 - 320	SC	90	155	0.005	0.007
N	Cast Aluminium	30	HSS	600	-	0.009	0.015
		180	HSS	300	-	0.008	0.013
	Wrought Aluminium	30	HSS	600	900	0.005	0.013
		180	HSS	300	650	0.005	0.007
	Aluminium Bronze	100 - 200	SC	170	270	0.006	0.009
		200 - 250	SC	130	210	0.005	0.007
	Brass	100	HSS	300	470	0.007	0.011
	Copper	60	SC	130	190	0.003 ❖	0.004

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (IPR) by Diameter				
45/64" - 15/16"	31/32" - 1-3/8"	1-13/32" - 1-7/8"	1-29/32" - 2-9/16"	2-19/32" - 4-1/2"
0.016	0.019	0.020	0.023	0.028
0.015	0.017	0.020	0.023	0.028
0.014	0.016	0.020	0.023	0.028
0.014	0.018	0.019	0.023	0.027
0.014	0.017	0.019	0.023	0.027
0.013	0.016	0.018	0.021	0.024
0.013	0.016	0.018	0.021	0.024
0.014	0.017	0.019	0.023	0.027
0.013	0.016	0.018	0.021	0.024
0.013	0.016	0.018	0.021	0.024
0.012	0.015	0.016	0.019	0.022
0.014	0.017	0.017	0.019	0.022
0.013	0.016	0.017	0.019	0.022
0.013	0.016	0.017	0.019	0.022
0.012	0.015	0.015	0.017	0.020
0.011	0.014	0.015	0.017	0.020
0.011	0.013	0.014	0.017	0.020
0.010	0.012	0.014	0.017	0.020
0.009	0.011	0.012	0.015	0.018
0.015	0.017	0.018	0.021	0.026
0.013	0.015	0.016	0.019	0.024
0.012	0.013	0.014	0.017	0.020
0.010	0.012	0.012	0.015	0.017
0.010	0.012	0.012	0.015	0.017
0.009	0.011	0.012	0.015	0.017
0.008	0.010	0.010	0.012	0.014
0.008	0.010	0.012	0.015	0.017
0.007	0.009	0.010	0.012	0.014
0.009	0.011	0.014	0.016	0.020
0.008	0.010	0.012	0.014	0.018
0.008	0.011	0.014	0.016	0.020
0.007	0.010	0.012	0.014	0.018
0.008	0.011	0.014	0.016	0.020
0.007	0.010	0.012	0.014	0.018
0.008	0.009	0.012	0.016	0.018
0.007	0.008	0.010	0.012	0.016
0.009	0.011	0.012	0.016	0.018
-	-	-	-	-
0.007	0.009	0.010	0.012	0.016
0.016	0.020	0.024	0.027	0.030
0.015	0.019	0.022	0.025	0.028
0.013	0.017	0.018	0.021	0.024
0.011	0.014	0.014	0.017	0.020
0.010	0.012	0.012	0.014	0.016
0.018	0.023	0.022	0.025	0.025
0.016	0.020	0.022	0.025	0.025
0.016	0.020	0.022	0.025	0.025
0.012	0.014	0.022	0.025	0.025
0.012	0.015	0.017	0.019	0.021
0.009	0.011	0.014	0.016	0.018
0.013	0.018	0.019	0.021	0.023
0.007	0.010	0.009	0.011	0.012

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$200 \cdot 0.75 = 150 \text{ SFM}$	$0.008 \cdot 0.90 = 0.007 \text{ IPR}$
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Formulas

1.	RPM	=	$(3.82 \cdot \text{SFM}) / \text{DIA}$
	where:		
	RPM	=	revolutions per minute (rev/min)
	SFM	=	speed (ft/min)
	DIA	=	diameter of drill (inch)
2.	IPM	=	$\text{RPM} \cdot \text{IPR}$
	where:		
	IPM	=	inches per minute (in/min)
	RPM	=	revolutions per minute (rev/min)
	IPR	=	feed rate (in/rev)
3.	SFM	=	$\text{RPM} \cdot 0.262 \cdot \text{DIA}$
	where:		
	SFM	=	speed (ft/min)
	RPM	=	revolutions per minute (rev/min)
	DIA	=	diameter of drill (inch)

⚠ WARNING Tool failure can cause serious injury. To prevent:


- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS


GEN2 T-A Recommended Drilling Data | Imperial (inch)

Carbide Inserts

ISO	Material	Hardness (BHN)	Carbide Grade	SFM  AM300®	Feed Rate (IPR) by Diameter			
					3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C1	480	0.008	0.012	0.016	0.019
		150 - 200	C1	415	0.007	0.011	0.015	0.017
		200 - 250	C1	390	0.006	0.010	0.014	0.016
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C1	450	0.008 ❖	0.010	0.014	0.018
		125 - 175	C1	390	0.007 ❖	0.010	0.014	0.017
		175 - 225	C1	355	0.006 ❖	0.009	0.013	0.016
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	C1	310	0.005 ❖	0.009	0.013	0.016
		125 - 175	C1	390	0.007	0.010	0.014	0.017
		175 - 225	C1	355	0.006	0.009	0.013	0.016
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	C1	310	0.006	0.009	0.013	0.016
		275 - 325	C1	285	0.005	0.008	0.012	0.015
		325 - 375	C1	255	0.004	0.007	0.011	0.014
125 - 175		C1	375	0.007	0.010	0.014	0.017	
175 - 225		C1	345	0.006	0.009	0.013	0.016	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	C1	230	0.006 ❖	0.009	0.011	0.013	
	300 - 350	C1	205	0.005 ❖	0.008	0.010	0.012	
	350 - 400	C1	185	0.004 ❖	0.007	0.009	0.011	
Structural Steel A36, A285, A516, etc.	100 - 150	C1	355	0.008 ❖	0.011	0.015	0.017	
	150 - 250	C1	285	0.006 ❖	0.010	0.013	0.015	
	250 - 350	C1	265	0.005 ❖	0.009	0.012	0.013	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	C1	255	0.007	0.007	0.010	0.012	
	200 - 250	C1	195	0.007	0.007	0.010	0.012	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	120	0.004 ❖	0.007	0.009	0.011
		220 - 310	C2	95	0.004 ❖	0.006	0.008	0.010
	Titanium Alloy	140 - 220	C2	140	0.004 ❖	0.007	0.008	0.011
		220 - 310	C2	110	0.003 ❖	0.006	0.007	0.009
	Aerospace Alloy S82	185 - 275	C2	240	0.005 ❖	0.006	0.007	0.009
275 - 350		C2	180	0.004 ❖	0.005	0.006	0.008	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	C2	240	0.007 ❖	0.009	0.012	0.014
		275 - 350	C2	180	0.006 ❖	0.008	0.011	0.012
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	240	0.006 ❖	0.007	0.009	0.012
		185 - 275	C2	180	0.005 ❖	0.006	0.008	0.009
	Super Duplex Stainless Steel	135 - 185	C2	125	0.005 ❖	0.007	0.008	0.010
185 - 275		C2	100	0.004 ❖	0.006	0.007	0.009	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	SFM  AM300®	Feed Rate (IPR) by Diameter			
					3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C2	150	0.003 ❖	0.005	0.008	0.010
		500	C2	120	0.002 ❖	0.004	0.006	0.008
		600	C2	100	0.001 ❖	0.003	0.005	0.006
	Hardened Steel	300 - 400	C1	150	0.004 ❖	0.006	0.009	0.011
400 - 500		C1	120	0.003 ❖	0.005	0.008	0.010	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2	500	0.008	0.012	0.015	0.019
		150 - 200	C2	480	0.007	0.011	0.013	0.017
		200 - 220	C2	430	0.006	0.009	0.012	0.015
		220 - 260	C2	370	0.005	0.008	0.011	0.013
		260 - 320	C2	335	0.005	0.007	0.010	0.011
N	Cast Aluminium	30	C2	975	0.009	0.015	0.018	0.023
		180	C2	730	0.008	0.013	0.016	0.020
	Wrought Aluminium	30	C2	1385	0.005	0.013	0.016	0.020
		180	C2	975	0.005	0.007	0.012	0.014
	Aluminium Bronze	100 - 200	C2	360	0.006	0.009	0.012	0.015
		200 - 250	C2	300	0.005	0.007	0.009	0.011
	Brass	100	C2	650	0.007	0.011	0.013	0.018
Copper	60	C2	420	0.003 ❖	0.004	0.007	0.010	

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Deep Hole Drilling Speed and Feed Adjustment

	1. Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$$200 \cdot 0.75 = 150 \text{ SFM}$$

$$0.008 \cdot 0.90 = 0.007 \text{ IPR}$$

Formulas




1. RPM = (3.82 • SFM) / DIA where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = diameter of drill (inch)	2. IPM = RPM • IPR where: IPM = inches per minute (in/min) RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)	3. SFM = RPM • 0.262 • DIA where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)
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1. WARNING Tool failure can cause serious injury. To prevent:
 - When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
 - Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.
 Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

T-A Recommended Drilling Data | Imperial (inch)

HSS Inserts

ISO	Material	Hardness (BHN)	HSS Grade	SFM			Feed Rate (IPR) by Diameter	
				 TiN	 TiAlN	 TiCN	3/8" - 1/2"	33/64" - 11/16"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	200	280	260	0.007	0.010
		150 - 200	HSS	180	260	235	0.007	0.010
		200 - 250	HSS	160	240	210	0.006	0.010
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	170	250	220	0.006 ❖	0.009
		125 - 175	HSS	160	240	210	0.006 ❖	0.009
		175 - 225	HSS	150	225	195	0.005 ❖	0.008
		225 - 275	HSS	140	210	180	0.005 ❖	0.008
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	160	240	210	0.006	0.009
		175 - 225	HSS	150	225	195	0.005	0.008
		225 - 275	HSS	140	210	180	0.005	0.008
		275 - 325	SC, PC	130	195	170	0.004	0.007
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	150	210	195	0.006	0.008
175 - 225		HSS	140	195	180	0.005	0.008	
225 - 275		HSS	130	180	170	0.005	0.007	
275 - 325		SC, PC	120	170	155	0.004	0.006	
325 - 375		SC, PC	110	155	145	0.003	0.006	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC, PC	80	110	100	0.005 ❖	0.007	
	300 - 350	SC, PC	60	85	80	0.004 ❖	0.007	
	350 - 400	PC	50	70	65	0.003 ❖	0.006	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	140	200	180	0.006 ❖	0.010	
	150 - 250	HSS	120	170	155	0.005 ❖	0.009	
	250 - 350	SC, PC	100	140	130	0.003 ❖	0.008	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	80	110	105	0.004	0.006	
	200 - 250	SC, PC	60	90	85	0.004	0.006	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC, PC	30	40	35	0.003 ❖	0.007
		220 - 310	PC	25	35	30	0.003 ❖	0.006
	Titanium Alloy	140 - 220	SC, PC	35	50	45	0.003 ❖	0.007
		220 - 310	PC	30	45	35	0.003 ❖	0.006
	Aerospace Alloy S82	185 - 275	SC, PC	75	105	95	0.006 ❖	0.008
275 - 350		SC, PC	60	90	80	0.005 ❖	0.007	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC, PC	75	105	95	0.009	0.010
		275 - 350	SC, PC	60	90	80	0.008	0.009
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC, PC	75	105	95	0.007	0.007
		185 - 275	SC, PC	60	90	80	0.006	0.006
	Super Duplex Stainless Steel	135 - 185	SC, PC	60	80	70	0.005	0.005
185 - 275		SC, PC	50	65	60	0.004	0.005	
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC, PC	45	70	55	0.003 ❖	0.006
		500	PC	35	45	40	0.002 ❖	0.005
		600	-	-	-	-	-	-
	Hardened Steel	300 - 400	PC	50	95	70	0.003 ❖	0.006
400 - 500		PC	35	45	40	0.002 ❖	0.005	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	170	250	220	0.007	0.012
		150 - 200	HSS	150	225	195	0.006	0.011
		200 - 220	HSS	130	195	170	0.006	0.009
		220 - 260	SC, PC	110	165	145	0.005	0.007
		260 - 320	SC, PC	90	135	120	0.004	0.006
N	Cast Aluminium	30	HSS	600	850	750	0.008	0.013
		180	HSS	300	450	400	0.008	0.013
	Wrought Aluminium	30	HSS	600	850	750	0.004	0.006
		180	HSS	300	450	400	0.008	0.013
	Aluminium Bronze	100 - 200	SC	170	250	220	0.006	0.011
		200 - 250	SC	130	190	170	0.005	0.007
	Brass	100	HSS	300	445	400	0.007	0.012
Copper	60	SC	130	165	150	0.002 ❖	0.003	

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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (IPR) by Diameter				
45/64" - 15/16"	31/32" - 1-3/8"	1-13/32" - 1-7/8"	1-29/32" - 2-9/16"	2-19/32" - 4-1/2"
0.013	0.016	0.020	0.023	0.028
0.013	0.016	0.020	0.023	0.028
0.013	0.016	0.020	0.023	0.028
0.012	0.015	0.019	0.023	0.027
0.012	0.015	0.019	0.023	0.027
0.010	0.014	0.018	0.021	0.024
0.010	0.014	0.018	0.021	0.024
0.012	0.015	0.019	0.023	0.027
0.010	0.014	0.018	0.021	0.024
0.010	0.014	0.018	0.021	0.024
0.009	0.012	0.016	0.019	0.022
0.010	0.014	0.017	0.019	0.022
0.010	0.014	0.017	0.019	0.022
0.010	0.014	0.017	0.019	0.022
0.009	0.012	0.015	0.017	0.020
0.009	0.012	0.015	0.017	0.020
0.009	0.010	0.014	0.017	0.020
0.009	0.010	0.014	0.017	0.020
0.008	0.009	0.012	0.015	0.018
0.012	0.014	0.018	0.021	0.026
0.010	0.012	0.016	0.019	0.024
0.009	0.010	0.014	0.017	0.020
0.008	0.010	0.012	0.015	0.017
0.008	0.010	0.012	0.015	0.017
0.008	0.010	0.012	0.015	-
0.007	0.008	0.010	0.012	-
0.008	0.010	0.012	0.015	-
0.007	0.008	0.010	0.012	-
0.009	0.010	0.014	0.016	0.020
0.008	0.008	0.012	0.014	0.018
0.011	0.012	0.013	0.014	0.015
0.010	0.011	0.012	0.013	0.014
0.008	0.008	0.009	0.009	0.010
0.007	0.007	0.008	0.008	0.009
0.006	0.006	0.007	0.008	0.008
0.005	0.006	0.006	0.007	0.007
0.008	0.009	0.012	0.016	0.018
0.007	0.008	0.010	0.012	0.016
-	-	-	-	-
0.008	0.009	0.012	0.016	0.018
0.007	0.008	0.010	0.012	0.016
0.016	0.020	0.024	0.027	0.030
0.014	0.018	0.022	0.025	0.028
0.012	0.016	0.018	0.021	0.024
0.009	0.012	0.014	0.017	0.020
0.007	0.009	0.012	0.014	0.016
0.016	0.020	0.022	0.025	0.025
0.016	0.018	0.022	0.025	0.025
0.010	0.012	0.022	0.025	0.025
0.016	0.018	0.022	0.025	0.025
0.014	0.018	0.022	0.026	0.028
0.009	0.012	0.014	0.017	0.020
0.016	0.020	0.024	0.028	0.030
0.006	0.008	0.012	0.014	0.016

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$200 \cdot 0.75 = 150 \text{ SFM}$	$0.008 \cdot 0.90 = 0.007 \text{ IPR}$
------------------------------------	--

Formulas

- RPM = (3.82 • SFM) / DIA**

where:

 - RPM = revolutions per minute (rev/min)
 - SFM = speed (ft/min)
 - DIA = diameter of drill (inch)
- IPM = RPM • IPR**

where:

 - IPM = inches per minute (in/min)
 - RPM = revolutions per minute (rev/min)
 - IPR = feed rate (in/rev)
- SFM = RPM • 0.262 • DIA**

where:

 - SFM = speed (ft/min)
 - RPM = revolutions per minute (rev/min)
 - DIA = diameter of drill (inch)

1. WARNING Tool failure can cause serious injury. To prevent:




- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A DRILLING B BORING E THREADING X SPECIALS




T-A Recommended Drilling Data | Imperial (inch)

Carbide Inserts

ISO	Material	Hardness (BHN)	Carbide Grade	SFM			Feed Rate (IPR) by Diameter				
				 TiN	 TiAlN	 TiCN	3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"	1-13/32" - 1-7/8"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C5	320	420	375	0.008	0.012	0.015	0.018	0.021
		150 - 200	C5	280	360	325	0.007	0.011	0.014	0.016	0.019
		200 - 250	C5	260	340	295	0.006	0.010	0.013	0.015	0.017
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C5	300	390	360	0.008 ❖	0.010	0.013	0.017	0.019
		125 - 175	C5	260	340	295	0.007 ❖	0.010	0.013	0.016	0.018
		175 - 225	C5	240	310	270	0.006 ❖	0.009	0.012	0.015	0.017
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	C5	210	270	245	0.005 ❖	0.009	0.012	0.015	0.017
		125 - 175	C5	260	340	295	0.007	0.010	0.013	0.016	0.018
		175 - 225	C5	240	310	275	0.006	0.009	0.012	0.015	0.017
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	C5	210	270	235	0.006	0.009	0.012	0.015	0.017
		275 - 325	C5	200	250	225	0.005	0.008	0.011	0.014	0.016
		325 - 375	C5	170	220	195	0.004	0.007	0.010	0.013	0.015
225 - 300		C5	160	200	180	0.006 ❖	0.009	0.010	0.012	0.015	
High-Strength Alloy 4340, 4330V, 300M, etc.	300 - 350	C5	140	180	160	0.005 ❖	0.008	0.009	0.011	0.014	
	350 - 400	C5	120	160	140	0.004 ❖	0.007	0.008	0.010	0.012	
Structural Steel A36, A285, A516, etc.	100 - 150	C5	240	310	275	0.008 ❖	0.011	0.014	0.016	0.018	
	150 - 250	C5	200	250	225	0.006 ❖	0.010	0.012	0.014	0.016	
	250 - 350	C5	180	230	205	0.005 ❖	0.009	0.011	0.012	0.014	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	C5	160	220	190	0.004	0.007	0.009	0.011	0.013	
	200 - 250	C5	120	170	145	0.004	0.007	0.009	0.011	0.013	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	80	105	90	0.004 ❖	0.007	0.009	0.011	0.013
		220 - 310	C2	60	85	70	0.004 ❖	0.006	0.008	0.010	0.012
	Titanium Alloy	140 - 220	C2	100	125	105	0.004 ❖	0.007	0.009	0.011	0.013
		220 - 310	C2	80	110	90	0.004 ❖	0.006	0.008	0.010	0.012
Aerospace Alloy S82	185 - 275	C2	160	210	185	0.007 ❖	0.006	0.011	0.014	0.016	
	275 - 350	C2	120	160	140	0.006 ❖	0.008	0.010	0.012	0.014	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	C2	160	210	185	0.007 ❖	0.008	0.011	0.014	0.016
		275 - 350	C2	120	160	140	0.006 ❖	0.007	0.010	0.012	0.014
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	160	210	185	0.005 ❖	0.007	0.009	0.010	0.012
		185 - 275	C2	120	160	140	0.004 ❖	0.006	0.008	0.009	0.010
	Super Duplex Stainless Steel	135 - 185	C2	80	110	95	0.004 ❖	0.007	0.008	0.009	0.011
185 - 275		C2	60	80	70	0.003 ❖	0.006	0.007	0.008	0.009	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	SFM			Feed Rate (IPR) by Diameter				
				 TiN	 TiAlN	 TiCN	3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"	1-13/32" - 1-7/8"
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C5	75	115	100	0.003 ❖	0.006	0.008	0.010	0.012
		500	C5	50	85	70	0.002 ❖	0.005	0.006	0.008	0.010
		600	C5	35	75	55	0.001 ❖	0.004	0.005	0.006	0.008
	Hardened Steel	300 - 400	C5	110	140	130	0.004 ❖	0.006	0.009	0.011	0.013
400 - 500		C5	65	85	75	0.003 ❖	0.005	0.008	0.009	0.011	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2, C3	320	460	415	0.008	0.012	0.015	0.019	0.023
		150 - 200	C2, C3	270	400	335	0.007	0.011	0.013	0.017	0.021
		200 - 220	C2, C3	240	360	305	0.006	0.009	0.012	0.015	0.018
		220 - 260	C2, C3	210	310	260	0.005	0.008	0.011	0.013	0.015
		260 - 320	C2, C3	180	270	225	0.005	0.007	0.010	0.011	0.013
N	Cast Aluminium	30	C2	1200	1500	1330	0.010	0.013	0.018	0.020	0.022
		180	C2	800	1000	900	0.009	0.013	0.016	0.018	0.020
	Wrought Aluminium	30	C2	1200	1500	1330	0.004	0.006	0.010	0.012	0.014
		180	C2	800	1000	900	0.008	0.013	0.014	0.018	0.020
	Aluminium Bronze	100 - 200	C2	275	360	325	0.005	0.008	0.010	0.014	0.017
		200 - 250	C2	210	305	260	0.004	0.007	0.007	0.010	0.013
	Brass	100	C2	425	600	520	0.006	0.009	0.011	0.015	0.018
	Copper	60	C2	260	390	325	0.002 ❖	0.003	0.004	0.006	0.010

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Deep Hole Drilling Speed and Feed Adjustment

	⚠ Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$200 \cdot 0.75 = 150 \text{ SFM}$	$0.008 \cdot 0.90 = 0.007 \text{ IPR}$
------------------------------------	--

Formulas

<p>1. RPM = (3.82 • SFM) / DIA</p> <p>where:</p> <p>RPM = revolutions per minute (rev/min)</p> <p>SFM = speed (ft/min)</p> <p>DIA = diameter of drill (inch)</p>	<p>2. IPM = RPM • IPR</p> <p>where:</p> <p>IPM = inches per minute (in/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>IPR = feed rate (in/rev)</p>	<p>3. SFM = RPM • 0.262 • DIA</p> <p>where:</p> <p>SFM = speed (ft/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>DIA = diameter of drill (inch)</p>
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⚠ WARNING Tool failure can cause serious injury. To prevent:





- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

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A
DRILLING
B
BORING
C
THREADING
D
SPECIALS
E
X

T-A Recommended Drilling Data | Imperial (inch)

HSS Inserts | Flat Bottom Geometry

ISO	Material	Hardness (BHN)	HSS Grade	SFM			
				 TiN	 TiAlN	 TiCN	 AM200®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	170	250	230	290
		150 - 200	HSS	155	230	205	265
		200 - 250	HSS	140	210	185	245
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	150	220	195	255
		125 - 175	HSS	140	210	185	245
		175 - 225	HSS	130	195	175	225
		225 - 275	HSS	120	185	155	215
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	140	210	185	245
		175 - 225	HSS	130	195	175	225
		225 - 275	HSS	120	185	155	215
		275 - 325	SC	110	175	150	205
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	130	185	175	215
175 - 225		HSS	120	175	155	205	
225 - 275		HSS	110	155	145	180	
275 - 325		SC	105	145	135	170	
325 - 375		SC	95	135	125	155	
High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	70	95	85	110	
	300 - 350	SC	50	75	70	90	
	350 - 400	SC	45	65	60	75	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	120	170	155	195	
	150 - 250	HSS	105	145	135	170	
	250 - 350	SC	85	120	110	140	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	70	95	90	110	
	200 - 250	SC	50	80	75	95	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	25	35	30	40
		220 - 310	SC	20	30	25	35
	Titanium Alloy	140 - 220	SC	35	45	40	50
		220 - 310	SC	26	40	35	45
Aerospace Alloy S82	185 - 275	SC	65	90	85	110	
	275 - 350	SC	50	80	70	90	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	SC	65	90	85	110
		275 - 350	SC	50	80	70	90
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	SC	65	90	85	110
		185 - 275	SC	50	80	70	90
	Super Duplex Stainless Steel	135 - 185	SC	65	90	85	110
185 - 275	SC	50	80	70	90		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC	-	-	-	-
		500	SC	-	-	-	-
		600	-	-	-	-	-
	Hardened Steel	300 - 400	SC	45	65	60	80
400 - 500		SC	25	40	35	45	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	150	220	195	255
		150 - 200	HSS	130	195	175	225
		200 - 220	HSS	110	175	150	205
		220 - 260	SC	95	150	125	175
		260 - 320	SC	80	120	105	140
N	Cast Aluminium	30	HSS	520	750	650	-
		180	HSS	260	400	350	-
	Wrought Aluminium	30	HSS	520	750	650	850
		180	HSS	260	400	350	450
	Aluminium Bronze	100 - 200	SC	130	190	175	230
		200 - 250	SC	95	150	125	165
	Brass	100	HSS	150	220	190	250
Copper	60	SC	115	150	130	170	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Feed Rate (IPR) by Diameter					
3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"	1-13/32" - 1-7/8"	1-29/32" - 2-9/16"
0.006	0.009	0.011	0.014	0.016	0.018
0.006	0.009	0.011	0.014	0.016	0.018
0.005	0.009	0.011	0.014	0.015	0.017
0.005 ❖	0.008	0.010	0.013	0.015	0.017
0.005 ❖	0.008	0.010	0.013	0.015	0.016
0.004 ❖	0.007	0.009	0.012	0.014	0.016
0.004 ❖	0.007	0.009	0.012	0.014	0.015
0.005	0.008	0.010	0.013	0.015	0.018
0.004	0.007	0.009	0.012	0.014	0.017
0.004	0.007	0.009	0.012	0.014	0.017
0.004	0.006	0.008	0.010	0.013	0.015
0.005	0.007	0.009	0.012	0.013	0.016
0.004	0.007	0.009	0.012	0.013	0.016
0.004	0.006	0.009	0.012	0.013	0.016
0.004	0.005	0.008	0.010	0.012	0.015
0.003	0.005	0.008	0.010	0.012	0.014
0.004 ❖	0.006	0.008	0.009	0.010	0.012
0.003 ❖	0.006	0.008	0.009	0.010	0.012
0.003 ❖	0.005	0.007	0.008	0.009	0.011
0.005 ❖	0.009	0.010	0.012	0.015	0.017
0.004 ❖	0.008	0.009	0.010	0.013	0.016
0.004 ❖	0.007	0.008	0.009	0.012	0.015
0.004	0.005	0.007	0.009	0.010	0.012
0.004	0.005	0.007	0.009	0.009	0.011
0.003 ❖	0.006	0.007	0.009	0.010	0.012
0.003 ❖	0.005	0.006	0.007	0.008	0.010
0.003 ❖	0.006	0.007	0.009	0.010	0.012
0.003	0.005	0.006	0.007	0.008	0.010
0.005 ❖	0.007	0.008	0.010	0.012	0.015
0.004 ❖	0.006	0.007	0.009	0.010	0.012
0.005 ❖	0.007	0.008	0.010	0.012	0.014
0.004 ❖	0.006	0.007	0.009	0.010	0.011
0.005 ❖	0.007	0.008	0.010	0.012	0.014
0.004 ❖	0.006	0.007	0.009	0.010	0.011
0.005 ❖	0.007	0.008	0.010	0.012	0.014
0.004 ❖	0.006	0.007	0.009	0.010	0.011
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
0.003 ❖	0.005	0.007	0.008	0.011	0.015
0.002 ❖	0.004	0.006	0.007	0.009	0.011
0.007	0.012	0.016	0.020	0.024	0.027
0.006	0.011	0.014	0.018	0.022	0.025
0.006	0.009	0.012	0.016	0.018	0.021
0.005	0.007	0.009	0.012	0.014	0.017
0.004	0.006	0.007	0.009	0.012	0.014
0.007	0.011	0.014	0.017	0.018	0.019
0.007	0.011	0.014	0.016	0.017	0.019
0.007	0.011	0.014	0.017	0.018	0.019
0.007	0.011	0.014	0.016	0.017	0.019
0.005	0.009	0.012	0.016	0.020	0.024
0.004	0.006	0.008	0.010	0.012	0.015
0.006	0.010	0.014	0.017	0.021	0.025
0.002 ❖	0.003	0.006	0.008	0.010	0.014

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$200 \cdot 0.75 = 150$ SFM	$0.008 \cdot 0.90 = 0.007$ IPR
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Formulas

1.	RPM	= (3.82 • SFM) / DIA
	where:	
	RPM	= revolutions per minute (rev/min)
	SFM	= speed (ft/min)
	DIA	= diameter of drill (inch)
2.	IPM	= RPM • IPR
	where:	
	IPM	= inches per minute (in/min)
	RPM	= revolutions per minute (rev/min)
	IPR	= feed rate (in/rev)
3.	SFM	= RPM • 0.262 • DIA
	where:	
	SFM	= speed (ft/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (inch)

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

A
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



T-A Recommended Drilling Data | Imperial (inch)

Carbide Inserts | Flat Bottom Geometry

ISO	Material	Hardness (BHN)	Carbide Grade	SFM				Feed Rate (IPR) by Diameter			
				TIN	TiAlN	TiCN	AM200®	3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-7/8"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C2	270	380	325	425	0.007	0.010	0.013	0.015
		150 - 200	C2	240	320	280	375	0.006	0.009	0.012	0.014
		200 - 250	C2	220	300	260	350	0.005	0.009	0.011	0.013
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C2	260	345	315	410	0.007 ❖	0.009	0.011	0.014
		125 - 175	C2	220	300	260	350	0.006 ❖	0.009	0.011	0.014
		175 - 225	C2	200	280	235	320	0.005 ❖	0.008	0.010	0.013
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	C2	220	300	260	350	0.006	0.009	0.011	0.014
		175 - 225	C2	200	280	240	320	0.005	0.008	0.010	0.013
		225 - 275	C2	180	240	210	285	0.005	0.008	0.010	0.013
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	C2	150	210	180	240	0.004	0.007	0.009	0.012
		125 - 175	C2	215	290	250	340	0.006	0.009	0.011	0.014
		175 - 225	C2	200	270	230	320	0.005	0.008	0.010	0.013
225 - 275		C2	180	230	205	290	0.005	0.008	0.010	0.013	
275 - 325		C2	175	215	190	280	0.004	0.007	0.009	0.012	
High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	C2	145	190	170	230	0.003	0.006	0.009	0.011	
	225 - 300	C2	140	170	160	220	0.005 ❖	0.008	0.009	0.010	
	300 - 350	C2	120	160	140	190	0.004 ❖	0.007	0.008	0.009	
Structural Steel A36, A285, A516, etc.	350 - 400	C2	100	145	120	160	0.003 ❖	0.006	0.007	0.009	
	100 - 150	C2	205	265	240	325	0.007 ❖	0.009	0.012	0.014	
	150 - 250	C2	170	215	200	270	0.005 ❖	0.009	0.010	0.012	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	250 - 350	C2	155	200	180	240	0.004 ❖	0.008	0.009	0.010	
	150 - 200	C2	140	190	160	220	0.003	0.006	0.008	0.009	
	200 - 250	C2	100	150	120	160	0.003	0.006	0.008	0.009	
	S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	70	90	80	110	0.003 ❖	0.006	0.008
220 - 310			C2	50	70	60	80	0.003 ❖	0.005	0.007	0.009
Titanium Alloy		140 - 220	C2	85	110	90	130	0.003 ❖	0.005	0.006	0.008
		220 - 310	C2	70	95	80	100	0.003 ❖	0.004	0.005	0.007
Aerospace Alloy S82	185 - 275	C2	140	120	165	130	0.006 ❖	0.006	0.010	0.012	
	275 - 350	C2	110	90	125	105	0.005 ❖	0.005	0.009	0.010	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	C2	140	180	165	210	0.006 ❖	0.008	0.010	0.012
		275 - 350	C2	110	140	125	160	0.005 ❖	0.007	0.009	0.010
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	C2	90	120	110	130	0.005 ❖	0.007	0.008	0.010
		185 - 275	C2	70	90	80	105	0.004 ❖	0.006	0.007	0.009
	Super Duplex Stainless Steel	135 - 185	C2	70	95	85	110	0.004 ❖	0.006	0.007	0.008
	185 - 275	C2	55	70	60	85	0.003 ❖	0.005	0.006	0.007	

❖ Contact our Application Engineering department for assistance when machining these materials

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

ISO	Material	Hardness (BHN)	Carbide Grade	SFM				Feed Rate (IPR) by Diameter			
				 TiN	 TiAlN	 TiCN	 AM200®	3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-7/8"
H	Wear Plate Hardox®, AR400, T-1, etc.	400	C2	65	100	85	130	0.003 ❖	0.004	0.006	0.008
		500	C2	45	75	60	100	0.002 ❖	0.003	0.005	0.006
		600	C2	35	65	45	80	0.001 ❖	0.002	0.004	0.005
	Hardened Steel	300 - 400	C2	100	125	110	135	0.004 ❖	0.006	0.007	0.009
400 - 500		C2	60	75	65	110	0.003 ❖	0.005	0.006	0.007	
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2	270	405	360	450	0.007	0.010	0.013	0.016
		150 - 200	C2	230	350	290	390	0.006	0.009	0.011	0.014
		200 - 220	C2	200	320	260	350	0.005	0.008	0.010	0.013
		220 - 260	C2	180	270	220	300	0.004	0.007	0.009	0.011
		260 - 320	C2	160	240	200	265	0.004	0.006	0.009	0.009
N	Cast Aluminium	30	C2	520	750	650	-	0.009	0.013	0.016	0.017
		180	C2	260	400	350	-	0.008	0.012	0.014	0.015
	Wrought Aluminium	30	C2	950	1200	1070	1270	0.005	0.007	0.009	0.010
		180	C2	630	800	715	850	0.004	0.006	0.008	0.009
	Aluminium Bronze	100 - 200	C2	240	310	280	340	0.004	0.006	0.008	0.011
		200 - 250	C2	180	265	220	285	0.003	0.005	0.006	0.008
	Brass	100	C2	370	520	450	600	0.005	0.006	0.008	0.012
Copper	60	C2	220	345	280	380	0.002 ❖	0.002	0.003	0.005	

❖ Contact our Application Engineering department for assistance when machining these materials

Deep Hole Drilling Speed and Feed Adjustment

	⚠ Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$$200 \cdot 0.75 = 150 \text{ SFM}$$

$$0.008 \cdot 0.90 = 0.007 \text{ IPR}$$

Formulas


1. RPM = (3.82 • SFM) / DIA where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = diameter of drill (inch)	2. IPM = RPM • IPR where: IPM = inches per minute (in/min) RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)	3. SFM = RPM • 0.262 • DIA where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)
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⚠ WARNING Tool failure can cause serious injury. To prevent:
 - When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
 - Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.
 Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

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T-A Recommended Drilling Data | Imperial (inch)

Carbide Inserts | Diamond Coating

Material	Carbide Grade	SFM  Diamond Coating	Feed Rate (IPR) by Diameter			
			3/8" - 1/2"	33/64" - 11/16"	45/64" - 15/16"	31/32" - 1-3/8"
Polymer Matrix Composites						
Carbon (hard)	N2	1000 - 1500	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Carbon Fiber	N2	1000 - 1500	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Carbon / Glass Fiber	N2	1000 - 1500	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Fiberglass	N2	1000 - 1500	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Graphite	N2	1000 - 1500	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Plastics	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Epoxy Resin	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Bismaleimide Resin	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Polyester Resin	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Phenolic Resin	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Rubber	N2	250 - 1000	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Metal Matrix Composites						
Aluminium	N2	1000	0.008	0.013	0.016	0.020
Si < 10%	N2	1000	0.008	0.013	0.016	0.020
10% < Si < 15%	N2	850 - 1000	0.008	0.013	0.016	0.020
15% < Si < 20%	N2	650 - 850	0.008	0.013	0.016	0.020
20% < Si < 25%	N2	500 - 650	0.008	0.013	0.016	0.020
25% < Si	N2	200 - 500	0.008	0.013	0.016	0.020
Brass	N2	250 - 500	0.008	0.013	0.016	0.020
Bronze	N2	250 - 500	0.008	0.013	0.016	0.020
Copper	N2	100 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Copper Alloys	N2	100 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Lead Alloys	N2	100 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Magnesium Alloys	N2	100 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Precious Metals	N2	100 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Ceramic Matrix Composites						
Carbide (green)	N2	50 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Ceramic (green)	N2	50 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014
Ceramic (pre-sintered)	N2	50 - 250	0.004 - 0.006	0.008 - 0.010	0.010 - 0.012	0.012 - 0.014

Deep Hole Drilling Speed and Feed Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Speed	0.90	0.85	0.80	0.80	0.75
Feed	-	0.95	0.90	0.90	0.90

Recommended Speed and Feed Example

If the recommended speed and feed is 200 SFM and 0.008 IPR for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

$$200 \cdot 0.75 = 150 \text{ SFM}$$

$$0.008 \cdot 0.90 = 0.007 \text{ IPR}$$

⚠ WARNING Tool failure can cause serious injury. To prevent:

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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. See adjustment examples on the following page.

Tap Drill Information and Formulas | Imperial (inch)

American - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Probable Mean Oversize	Probable Hole Size	** Probable % Thread
7/16 - 20	W	0.3860	79%	0.003"	0.3890"	75%
7/16 - 20	25/64"	0.3906	72%	0.003"	0.3936"	68%
1/2 - 13	10.5 mm	0.4134	87%	0.003"	0.4164"	84%
1/2 - 13	27/64"	0.4219	78%	0.003"	0.4249"	75%
1/2 - 13	7/16"	0.4375	63%	0.003"	0.4405"	60%
1/2 - 20	29/64"	0.4531	72%	0.003"	0.4561"	68%
9/16 - 12	15/32"	0.4688	87%	0.003"	0.4718"	84%
9/16 - 12	12.0 mm	0.4724	72%	0.003"	0.4874"	69%
9/16 - 12	31/64"	0.4844	83%	0.003"	0.4754"	80%
9/16 - 18	1/2"	0.5000"	87%	0.003"	0.5030"	82%
9/16 - 18	13.0 mm	0.5118"	70%	0.003"	0.5148"	66%
9/16 - 18	31/64"	0.5156"	65%	0.003"	0.5186"	61%
5/8 - 11	17/32"	0.5313"	79%	0.003"	0.5343"	77%
5/8 - 12	35/64"	0.5469"	72%	0.003"	0.5499"	69%
5/8 - 18	9/16"	0.5625"	87%	0.003"	0.5655"	82%
5/8 - 18	14.5 mm	0.5709"	75%	0.003"	0.5739"	75%
5/8 - 18	37/64"	0.5781"	65%	0.003"	0.5811"	70%
11/16 - 12	39/64"	0.6094"	72%	0.003"	0.6124"	69%
3/4 - 10	41/64"	0.6406"	84%	0.003"	0.6436"	82%
3/4 - 10	16.5 mm	0.6496"	77%	0.003"	0.6526"	75%
3/4 - 10	21/32"	0.6563"	72%	0.003"	0.6593"	70%
3/4 - 12	43/64"	0.6719"	72%	0.003"	0.6749"	69%
3/4 - 16	11/16"	0.6875"	77%	0.003"	0.6905"	73%
3/4 - 16	17.5 mm	0.6890"	75%	0.003"	0.6920"	71%
7/8 - 9	49/64"	0.7656"	76%	0.003"	0.7686"	74%
7/8 - 9	25/32"	0.7813"	65%	0.003"	0.7843"	63%
7/8 - 14	51/64"	0.7969"	84%	0.003"	0.7999"	81%
7/8 - 14	13/16"	0.8125"	67%	0.003"	0.8155"	64%
15/16 - 12	55/64"	0.8594"	72%	0.003"	0.8624"	69%
15/16 - 20	57/64"	0.8906"	72%	0.003"	0.8936"	68%
1 - 8	22.0 mm	0.8661"	82%	0.003"	0.8691"	81%
1 - 8	7/8"	0.8750"	77%	0.003"	0.8780"	75%
1 - 8	57/64"	0.8906"	67%	0.003"	0.8936"	65%
1 - 12	29/32"	0.9063"	87%	0.003"	0.9093"	84%
1 - 12	59/64"	0.9219"	72%	0.003"	0.9249"	69%
1 - 14	15/16"	0.9375"	67%	0.003"	0.9405"	64%
1-1/8 - 12	1-1/32"	1.0313"	87%	0.003"	1.0343"	84%
1-1/8 - 12	1-3/64"	1.0469"	72%	0.003"	1.0499"	69%
1-1/4 - 7	1-7/64"	1.1094"	76%	0.003"	1.1124"	74%
24 x 2	7/8"	0.8750"	68%	0.003"	0.8780"	65%
27 x 3	24.0 mm	0.9449"	77%	0.003"	0.9403"	75%

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivalent	Theo % Thread*	Probable Mean Oversize	Probable Hole Size	Probable % Thread**
1/4 - 18	7/16	0.4375	-	0.003	0.4405	-
3/8 - 18	9/16	0.5625	-	0.003	0.5655	-
1/2 - 14	45/64	0.7031	-	0.003	0.7061	-
3/4 - 14	29/32	0.9063	-	0.003	0.9093	-

* Based on nominal tap drill diameter

** Based on 0.003" probable mean oversize

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

$$\% \text{ Thread} = \# \text{ of Thread per Inch} \left[\frac{\text{Basic Major Diameter of Thread} - \text{Drill Hole Size}}{0.0130} \right]$$

Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirements.
- The 0.003" probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the editor of the *Machinery's Handbook*.

Formulas

1.	RPM = $(3.82 \cdot \text{SFM}) / \text{DIA}$ where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = diameter of drill (inch)
2.	IPM = $\text{RPM} \cdot \text{IPR}$ where: IPM = inches per minute (in/min) RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)
3.	SFM = $\text{RPM} \cdot 0.262 \cdot \text{DIA}$ where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)
4.	Thrust = $153,700 \cdot \text{IPR} \cdot \text{DIA} \cdot K_m$ where: Thrust = axial thrust (lbs) IPR = feed rate (in/rev) DIA = diameter of drill (inch) K_m = specific cutting energy (lbs/in ²)
5.	Tool Power = $.6283 \cdot \text{IPR} \cdot \text{RPM} \cdot K_m \cdot \text{DIA}^2$ where: Tool Power = tool power (HP) IPR = feed rate (in/rev) RPM = revolutions per minute (rev/min) K_m = specific cutting energy (lbs/in ²) DIA = diameter of drill (inch)

Material Constants

Type of Material	Hardness	K_m (lbs/in ²)
Plain Carbon and Alloy Steel	85 - 200 BHN	0.79
	200 - 275 BHN	0.94
	275 - 375 BHN	1.00
	375 - 425 BHN	1.15
High-Temperature Alloys	-	1.44
Stainless Steels	135 - 275 BHN	0.94
	30 - 45 RC	1.08
Cast Iron	100 - 200 BHN	0.50
	200 - 300 BHN	1.08
Copper Alloy	20 - 80 RB	0.43
	80 - 100 RB	0.72
Titanium Alloy	-	0.72
Aluminium Alloy	-	0.22
Magnesium Alloy	-	0.16

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Coolant Recommendations | Imperial (inch)

HSS Drill Inserts

ISO	Material	Pressure or Flow Rate	3/8" - 1/2"	33/64" - 11/16"	23/32" - 1"	1" - 1-1/4"	1-1/4" - 2"	2" - 3"	3" - 4"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	PSI	175 - 185	100 - 120	105 - 140	80 - 115	75 - 100	40 - 50	65 - 90
		GPM	2.5 - 2.6	2.8 - 3.0	4.4 - 5.2	7 - 8	12 - 14	30 - 33	38 - 44
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	165 - 170	75 - 90	75 - 95	60 - 80	55 - 75	30 - 40	50 - 65
		GPM	2.4 - 2.5	2.4 - 2.6	3.7 - 4.2	6 - 7	11 - 12	26 - 30	33 - 38
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	160 - 165	70 - 85	70 - 90	55 - 75	50 - 70	30 - 40	50 - 65
		GPM	2.3 - 2.4	2.3 - 2.6	3.7 - 4.2	5 - 6	10 - 12	26 - 30	33 - 38
	Alloy Steel 4140, 5140, 8640, etc.	PSI	160 - 165	65 - 75	65 - 80	50 - 70	45 - 60	30 - 35	40 - 50
		GPM	2.3 - 2.4	2.2 - 2.4	3.5 - 3.9	5 - 6	10 - 11	26 - 28	30 - 33
	High-Strength Alloy 4340, 4330V, 300M, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25	40 - 50
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23	23 - 26
	Structural Steel A36, A285, A516, etc.	PSI	160 - 165	75 - 85	65 - 80	40 - 55	40 - 50	25 - 30	40 - 50
		GPM	2.3 - 2.4	2.4 - 2.6	3.5 - 3.9	5 - 6	9 - 10	23 - 26	30 - 33
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25	25 - 30
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23	23 - 26
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30	25 - 30	44
		GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8	23 - 26	33
	Titanium Alloy	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30	25 - 30	44
		GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8	23 - 26	33
Aerospace Alloy S82	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30	25 - 30	44	
	GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8	23 - 26	33	
M	Stainless Steel 400 Series 416, 420, etc.	PSI	171	86	75	55	51	29	45
		GPM	3	3	4	6	10	26	31
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	PSI	171	86	75	55	51	29	45
		GPM	3	3	4	6	10	26	31
	Super Duplex Stainless Steel	PSI	171	86	75	55	51	29	45
		GPM	3	3	4	6	10	26	31
H	Wear Plate Hardox®, AR400, T-1, etc.	PSI	155	61	51	29	29	25	29
		GPM	2	2	3	5	8	23	26
	Hardened Steel	PSI	155	61	51	29	29	25	29
		GPM	2	2	3	5	8	23	26
K	SG / Nodular Cast Iron	PSI	160	65	61	41	35	29	35
		GPM	2	2	3	5	9	26	28
	Grey / White Iron	PSI	160	65	61	41	35	29	35
		GPM	2	2	3	5	9	26	28
N	Cast Aluminium	PSI	210	180	230	159	125	51	80
		GPM	3	4	6	9	16	33	42
	Wrought Aluminium	PSI	210	180	230	159	125	51	80
		GPM	3	4	6	9	16	33	42
	Aluminium Bronze	PSI	186	120	140	115	100	51	90
		GPM	2.5	3	5	8	14	33	44
	Brass	PSI	159	65	61	41	35	29	35
		GPM	2	2	3	5	9	26	28
	Copper	PSI	186	120	140	115	100	51	90
		GPM	2.5	3	5	8	14	33	44

Deep Hole Drilling Coolant Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Pressure and Flow	1.3	1.5	2	2	3

Recommended Coolant Example

If the recommended pressure and flow is 150 PSI and 2.4 GPM for a standard length holder, then the adjusted pressure and flow for a 3XL holder would be 450 PSI and 7.2 GPM.

150 • 3 = 450 PSI	2.4 • 3 = 7.2 GPM
-------------------	-------------------

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the T-A® drilling system will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

Coolant Recommendations | Imperial (inch)

Carbide Drill Inserts

ISO	Material	Pressure or Flow Rate	3/8" - 1/2"	33/64" - 11/16"	23/32" - 1"	1" - 1-3/8"	1-13/32" - 1-7/8"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	PSI	195	140	160	140	155
		GPM	2.6	3.3	5.5	9	18
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	180	105	105	110	115
		GPM	2.5	2.9	4.4	8	15
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	175	100	90	70	75
		GPM	2.5	2.8	4.1	7	13
	Alloy Steel 4140, 5140, 8640, etc.	PSI	165	85	100	75	70
		GPM	2.4	2.6	4.3	6	12
	High-Strength Alloy 4340, 4330V, 300M, etc.	PSI	175	115	105	75	70
		GPM	2.4	2.3	3.2	5	8
	Structural Steel A36, A285, A516, etc.	PSI	175	115	105	75	70
		GPM	2.5	3.0	4.4	6	12
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	PSI	155	60	55	40	35
		GPM	2.4	2.2	3.2	5	8
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	PSI	247	160	174	160	130
		GPM	3	4	6	9	16
	Titanium Alloy	PSI	247	160	174	160	130
		GPM	3	4	6	9	16
	Aerospace Alloy S82	PSI	247	160	174	160	130
		GPM	3	4	6	9	16
M	Stainless Steel 400 Series 416, 420, etc.	PSI	329	239	260	250	190
		GPM	3	4	7	12	20
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	PSI	329	239	260	250	190
		GPM	3	4	7	12	20
	Super Duplex Stainless Steel	PSI	329	239	260	250	190
		GPM	3	4	7	12	20
H	Wear Plate Hardox®, AR400, T-1, etc.	PSI	210	75	70	49	45
		GPM	3	2	4	5	10
	Hardened Steel	PSI	210	75	70	49	45
		GPM	3	2	4	5	10
K	SG / Nodular Cast Iron	PSI	225	104	90	90	80
		GPM	3	3	4	7	13
	Grey / White Iron	PSI	225	104	90	90	80
		GPM	3	3	4	7	13
N	Cast Aluminium	PSI	350	319	315	284	200
		GPM	4	5	8	12	20
	Wrought Aluminium	PSI	350	319	315	284	200
		GPM	4	5	8	12	20
	Aluminium Bronze	PSI	290	239	239	220	174
		GPM	3	4	7	11	19
	Brass	PSI	350	319	315	284	200
		GPM	4	5	7	12	20
	Copper	PSI	290	239	239	220	174
		GPM	3	4	7	11	19

Deep Hole Drilling Coolant Adjustment

	Holder Length				
	Extended	Long	Long Plus	XL	3XL
Pressure and Flow	1.3	1.5	2	2	3

Recommended Coolant Example

If the recommended pressure and flow is 150 PSI and 2.4 GPM for a standard length holder, then the adjusted pressure and flow for a 3XL holder would be 450 PSI and 7.2 GPM.

$150 \cdot 3 = 450 \text{ PSI}$	$2.4 \cdot 3 = 7.2 \text{ GPM}$
---------------------------------	---------------------------------

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the T-A® drilling system will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS

Troubleshooting Guide

	Potential Problem																					
	Accelerated corner wear	Barber pole	Bell-mouth hole	Insert chipping	Blue chips	Built-up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of position	Hole out of round	Notching of insert	Oversize hole	Poor hole finish	Poor tool life	Power spikes - Load meter	Step burned on insert	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Possible Solutions
<p>⚠ Use of Standard, Standard Plus, Extended, Long, Long Plus, XL, and 3XL holders.</p> <p>See page 146 for Deep Hole Drilling guidelines.</p>		2	3				7		9				13	14			17					<ul style="list-style-type: none"> Start with short holder and drill a minimum depth equal to 2xD (see page A30: 146 for instructions). Spot hole with stub tool of same or greater included angle as T-A® drill insert. Decrease feed a minimum of 50% until establishing full diameter. Use special holder with wear pads or chrome bearing area to work with drill bushings.
Starting on an inclined surface.		2					7		9	10	11		13		15							<ul style="list-style-type: none"> Spot face surface to provide a flat entry surface. Spot hole with stub tool of same or greater included angle as T-A® drill insert. Decrease feed a minimum of 50% until establishing full diameter. Use special holder with wear pads or chrome bearing area to work with drill bushings.
Worn or misaligned spindle (lathe, screw machine, chucker).	1	2	3				7		9	10	11		13				17	18				<ul style="list-style-type: none"> Align spindle and turret or tailstock. Repair spindle. Spot hole with stub tool of same or greater included angle as T-A® drill insert.
Use of low rigidity machine tools (radial drills, multi-spindle drill press, etc.).		2	3	4			7		9	10			13	14								<ul style="list-style-type: none"> Spot hole with stub tool of same or greater included angle as T-A® drill insert. Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation). Use special holder with wear pads or chrome bearing area to work with drill bushings. Use tougher tool steel grades with high wear-resistant coatings.
Poor work piece support.		2		4			7			10	11				15			18				<ul style="list-style-type: none"> Provide additional support for the work piece. Reduce penetration rate to fall within the physical limits of the machine or setup (NOTICE: Do not reduce feed below threshold of good chip formation). Use tougher tool steel grades with high wear-resistant coatings.
Flood coolant, low coolant pressure or low coolant volume.	1				5	6		8		10		12					17	18	19	20	21	<ul style="list-style-type: none"> Run coolant through tool holder when drilling greater than one times diameter. Increase coolant pressure and volume through the tool holder. Reduce penetration rate to fall within the coolant limitations (NOTICE: Do not reduce feed below threshold of good chip formation). Add a peck cycle to help clear chips.

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holder more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

	Potential Problem																					
	Accelerated corner wear	Barber pole	Bell-mouth hole	Insert chipping	Blue chips	Built-up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of position	Hole out of round	Notching of insert	Over-size hole	Poor hole finish	Poor tool life	Power spikes - Load meter	Step burned on insert	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Possible Solutions
Interrupted cuts. Entry or exit surfaces that are not perpendicular to the spindle (draft angles, stepped surfaces, cross holes, and cast or forged surfaces).				4			7		9	10	11		13	14	15		17	18	19			<ul style="list-style-type: none"> • Premill (spot face) entry or exit surface to remove interruption. • Spot hole with stub tool of same or greater included angle as T-A® drill insert. • Decrease feed as much as 50% through entry or exit interruption. • Use short holders in low impact entry cuts.
Material harder than expected or running tools beyond recommended speeds.	1				5	6				10		12							19		21	<ul style="list-style-type: none"> • Reduce speed if a step is worn in the insert, calculate SFM at the worn diameter. Reduce this value by 10% and apply this new value to the original tool diameter. • Increase coolant pressure and volume. • Improve coolant condition by use of quality products and regular maintenance. • Select an insert grade (premium, super cobalt, or carbide) or coating (TiAlN, TiCN, or AM200®) that is more wear-and heat-resistant.
Poor material micro-structure or foreign particles (forgings and castings that have not been normalised or annealed, poorly prepared steel, flame cut parts and sand casting).				4		6				10		12	13			16			19			<ul style="list-style-type: none"> • Compare performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalise parts to improve micro-structure for machining. • To improve tool life in materials with poor micro-structure, try carbide grades. • For hard spots or inclusions, use the tougher insert steel grade with high wear-resistant coatings (TiAlN, TiCN, AM200®). • Reduce feeds (NOTICE: Do not reduce feed below threshold of good chip formation).
Poor chip control.									8	10	11		13					17	18	19	20	<ul style="list-style-type: none"> • Increase feed to recommended levels. Contact Allied's Application Engineering team for technical recommendations. • Increase coolant pressure and volume. • Improve coolant condition by use of quality products and regular maintenance. • See pages A30: 4 - 5 for special purpose geometries.
Spot drilled holes with included angle less than that matching T-A® or cored holes.	1			4			7						13			16			19			<ul style="list-style-type: none"> • Spot hole with short tool of same or greater included angle as T-A® drill insert. • Reduce feed (NOTICE: Do not reduce feed below threshold of good chip formation) • If possible, drill from solid.
Use of high wear-resistant insert grades.				4						10												<ul style="list-style-type: none"> • Use tougher grade of T-A® (from carbide to cobalt to HSS). See wear versus toughness chart on page A30: 9. • Increase rigidity of setup.

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

Deep Hole Drilling Guidelines

For Lengths Greater Than 9xD (including Standard Plus, Extended Length, Long Length, Long Plus Length, XL, 3XL, and Special Length)

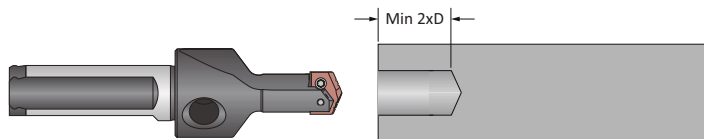
A

DRILLING

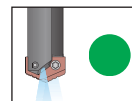
1. Pilot Hole

100% RPM
100% mm/rev (IPR)

Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum. Utilise a pilot drill with the same or larger included point angle.



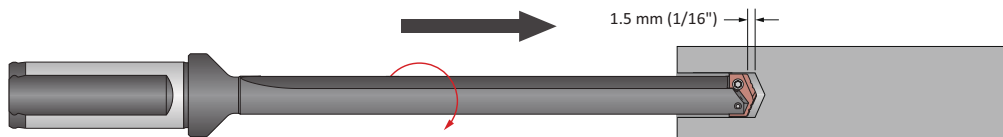
Coolant ON



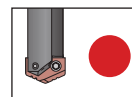
2. Feed-in

50 RPM max
300 mm/min (12 IPM)

Feed the longer drill within 1.5 mm (1/16") short of the established pilot hole bottom at a **maximum of 50 RPM** and 300 mm/min (12 IPM) feed rate.



Coolant OFF



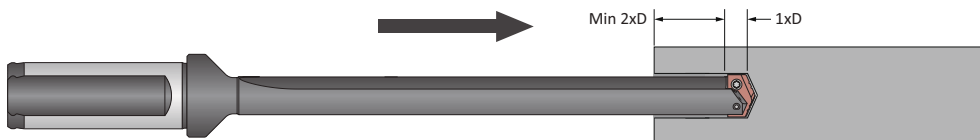
B

BORING

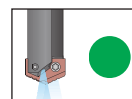
3. Deep Hole Transition Drilling

50% RPM
75% mm/rev (IPR)

Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of 1 second dwell is required to meet full speed before feeding.



Coolant ON

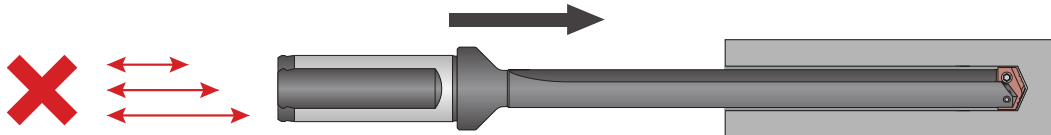


F

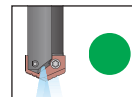
4. Deep Hole Drilling - Blind

100% RPM
100% mm/rev (IPR)

Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts. **No peck cycle recommended.**



Coolant ON



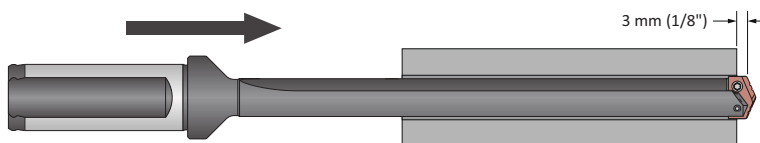
THREADING

5. Deep Hole Drilling - at Breakout

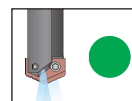
50% RPM
75% mm/rev (IPR)

For through holes only:

Reduce speed by 50% and feed by 25% prior to breakout. Do not breakout more than 3 mm (1/8") past the full diameter of the drill.



Coolant ON



X

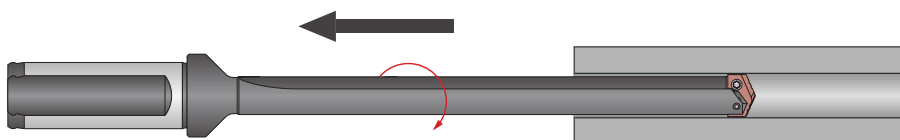
SPECIALS



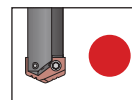
6. Drill Retract

50 RPM max

Reduce speed to a **maximum of 50 RPM** before retracting from the hole.



Coolant OFF



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The background of the page is a solid red color. Overlaid on this is a large, faint, circular graphic. This graphic consists of a grid of concentric circles and radial lines, creating a circular grid pattern. The grid is composed of thin white lines. In the center of the grid, there is a pattern of small white dots, which becomes sparser as it moves outwards, creating a halftone or dot-matrix effect. The overall appearance is technical and precise.

SECTION

A50

APX™ Drill

APX™ Drill

Deep Hole / Large Diameter Drilling System

► **Diameter Range:** 33.00 mm - 101.60 mm (1.299" - 4.000")



Don't Let Your Machine Slow You Down

The APX deep hole/large diameter drilling system delivers the strength and versatility needed for any deep hole drilling application. The breakthrough geometry is designed to increase penetration rates and tool life. By allowing for higher spindle speeds, the APX lets you take advantage of the power curve on modern CNC machines.

Excellent chip control	Improves hole quality and surface finish	Provides maximum durability and stability
------------------------	--	---

Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General Machining



Oil & Gas



Renewable Energy

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

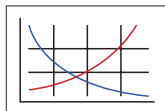
Reference Icons

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



Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



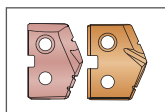
Recommended Cutting Data

Speed and feed recommendations for optimum and safe drilling



GEN3SYS® Pilot Inserts

Lists the GEN3SYS XT Pro pilot ISO insert options for each APX drill series



T-A® Pilot Inserts

Lists the T-A and GEN2 T-A pilot insert options for each APX Drill series



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
33	33.00 - 37.99	1.299 - 1.496
38	38.00 - 43.99	1.496 - 1.732
44	44.00 - 50.99	1.732 - 2.008
51	51.00 - 56.99	2.008 - 2.244
57	57.00 - 62.99	2.244 - 2.480
63	63.00 - 69.99	2.480 - 2.756
70	70.00 - 75.99	2.756 - 2.992
76	76.00 - 82.99	2.992 - 3.268
83	83.00 - 88.99	3.268 - 3.504
89	89.00 - 94.99	3.504 - 3.740
95	95.00 - 101.60	3.740 - 4.000

Introduction Information

Drill Selection Guide / Assembly Details	2 - 3
Pilot Insert Options / Details	4
Product Nomenclature	5

Drill Series

33 Series	6 - 7
38 Series	8 - 9
44 Series	10 - 11
51 Series	12 - 13
57 Series	14 - 15
63 Series	16 - 17
70 Series	18 - 19
76 Series	20 - 21
83 Series	22 - 23
89 Series	24 - 25
95 Series	26 - 27

Recommended Cutting Data

Metric (mm)	28
Imperial (inch)	29
Deep Hole Drilling Guidelines	30



Drill Selection Guide

Series	33	38	44	51	57
Page	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15
D ₅ mm	33.00 - 37.99	38.00 - 43.99	44.00 - 50.99	51.00 - 56.99	57.00 - 62.99
D ₅ inch	1.2992 - 1.4688	1.4961 - 1.7322	1.7323 - 2.0075	2.0076 - 2.2438	2.2439 - 2.4799
ISO Material					
IC Insert Shape					
IC Insert Size (mm)	7.94	9.53	9.53, 12.70	12.70, 14.29	14.29
IC Insert Size (inch)	5/16"	3/8"	3/8", 1/2"	1/2", 9/16"	9/16"
Wear Pads	NO	NO	NO	NO	NO
Holders					
Drill Depth (mm)	112.6 - 378.6	130.5 - 439.9	151.5 - 510.0	161.8 - 570.0	179.9 - 626.9
Drill Depth (inch)	4-7/16 - 14-29/32	5-1/8 - 17-1/4	6 - 20-1/8	6-3/8 - 22-3/8	7-1/8 - 24-3/4
Pilot Insert					
T-A Series	0, 1	0, 1	1	1	1, 2
GEN3SYS XT Pro Series	-	15, 17, 18, 20	17, 18, 22	18, 20, 22	22, 24, 26



T-A® Style Pilot Insert Head

- Utilises both T-A Pro and T-A inserts (0 - 2 series)
- Multiple geometry options are available to achieve optimal results in different types of applications



GEN3SYS® XT Style Pilot Insert Head

- Utilises GEN3SYS XT Pro inserts (15 - 32 series)
- ISO geometry options are available to achieve optimal results in different types of applications



IC Insert AM300®

- The design allows for excellent chip control and aggressive penetration rates
- The proprietary AM300 coatings increase tool life above competitors' premium coatings

Insert Application Recommendations

Carbide Grade Options

P35 (C5)	General purpose carbide grade suitable for most applications. ▶ <i>Common application in steels and stainless steels.</i>
K35 (C1)	Toughest carbide grade. Provides the best combination of edge strength and tool life. ▶ <i>Recommended for less rigid applications.</i>
K25 (C2)	Higher wear-resistant carbide suitable for abrasive material applications. ▶ <i>Recommended for grey, ductile, and nodular irons.</i>

Additional Geometry Option

High Rake (HR)	Provides superior chip control and tool life in long-chipping carbon and alloy steels below 200 Bhn.
----------------	--



Flanged Straight Shank



CAT40 / CAT50 Integral Shank



63	70	76	83	89	95
16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27
63.00 - 69.99	70.00 - 75.99	76.00 - 82.99	83.00 - 88.99	89.00 - 94.99	95.00 - 101.60
2.4800 - 2.7555	2.7556 - 2.9917	2.9918 - 3.2673	3.2674 - 3.5035	3.5036 - 3.7400	3.7401 - 4.0000
14.29	9.53	12.70	12.70	14.29	14.29
9/16"	3/8"	1/2"	1/2"	9/16"	9/16"
NO	YES	YES	YES	YES	YES
200.8 - 688.3	218.8 - 709.4	239.9 - 664.0	257.8 - 704.9	275.8 - 701.8	302.0 - 698.5
7-7/8 - 27-1/8	8-3/4 - 27-7/8	9-1/2 - 26-1/8	10-1/8 - 27-3/4	10-7/8 - 27-5/8	11-7/8 - 27-1/2
2	2	2	2	2	2
26, 29, 32	29	29	32	29	32



Step 1:

Lower the APX head assembly onto the APX holder.

Step 2:

Insert the head mounting screws into points A and B. Tighten until the head is properly secured to the holder.

Step 3:

Tighten with the head mounting driver using the torque setting chart below.

Torque Setting Chart

Series	Screw	Driver	Torque
33 - 63	75020-IP20-1	8IP-20	678 N-cm (60 in-lb)
70 - 95	78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)



Pilot Insert Options

A

DRILLING

T-A® Pilot Inserts



T-A Tiny Chip (-TC)

- Unique lip and point design for excellent chip control
- Improved capabilities in long-chipping materials such as low-carbon steels and soft alloy steels
- Enhanced performance in lower-powered machines for better chip formation at lower feed rates



T-A High Impact (-HI)

- Designed to enhance chip formation in materials with high elasticity/ductility and poor chip forming characteristics
- SK2 corner preparation for increased tool life
- Improves chip formation in structural, cast, and forged steels



T-A Pro P - Steels

- Designed to provide increased penetration rates and tool life in steel applications
- Superior geometry and edge provides excellent chip control
- Allied's multilayer AM300® coating increases heat resistance and improves tool life



GEN3SYS® XT Pro Pilot Inserts



T-A Pro K - Cast Irons

- Uniquely designed for cast/ductile iron applications
- Geometry developed for maximum tool life, reduced exit burr, and improved hole finish
- Allied's multilayer TiAlN coating provides increased abrasion resistance and tool life



P - Steels

- Designed to provide increased penetration rates and tool life in steel applications
- Superior geometry and edge provides excellent chip control
- Allied's multilayer AM420 coating increases heat resistance and improves tool life



T-A Pro N - Non-ferrous Materials

- Designed for applications in aluminium, brass, and copper
- The geometry yields excellent chip control in these softer materials
- TiCN coating gives the versatility to run in a variety of materials while reducing buildup



K - Cast Irons

- Uniquely designed for cast/nodular iron applications
- Geometry includes a corner radius for improved hole finish and heat dispersion
- Allied's multilayer AM440 coating provides increased abrasion resistance and tool life



T-A Pro M - Stainless Steel

- Designed for all stainless steels and heat-resistant super alloys
- Geometry optimised for improved chip formation while minimizing exit burr
- Allied's new AM460 coating provides industry leading tool life in stainless and HRSA materials



N - Non-ferrous Materials

- Designed for applications in aluminium, brass, and copper
- The geometry yields excellent chip control in these softer materials
- TiN coating gives the versatility to run in a variety of materials while reducing buildup



T-A Pro X - High-Speed Steel Materials

- Improved chip geometry for excellent chip control in all materials
- Long tool life and high-process security for the most challenging applications
- Allied's multilayer AM200® coating combines excellent heat resistance and high lubricity for wide application use



T-A Standard

- Excellent choice for general purpose use
- Provides fast penetration rates that produce good hole size and finish
- Combines highly efficient, stable cutting action to minimize power consumption



NOTE: For a complete offering of pilot inserts, see sections **A20** (GEN3SYS Drilling Systems), **A25** (T-A Pro Drilling Systems) and **A30** (T-A Drilling Systems) of our catalogue.

B

BORING

F

THREADING

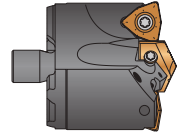
X

SPECIALS

Product Nomenclature

APX Drill Heads

V	38	15	D	-	0116
1	2	3	4		5



1. APX Head	2. Series	3. Pilot Series
V = Head	33 = 33 series * 70 = 70 series 38 = 38 series 76 = 76 series 44 = 44 series 83 = 83 series 51 = 51 series 89 = 89 series 57 = 57 series 95 = 95 series 63 = 63 series *T-A* only	T-A® Pilot Insert GEN3SYS® XT Pro Pilot Insert 00 = 0 series 15 = 15 series 24 = 24 series 01 = 1 series 17 = 17 series 26 = 26 series 02 = 2 series 18 = 18 series 29 = 29 series 20 = 20 series 32 = 32 series 22 = 22 series

4. Effective Cutting	5. Major Diameter
D = Double effective S = Single effective	68 = Metric 1.5153 = Decimal 0116 = Inch

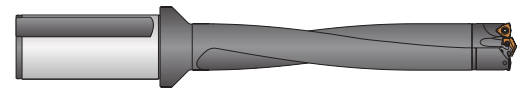
Ordering Non-Stocked Diameters:

Non-stocked diameters are also available. Please refer to the price list for applicable process fees. Follow the ordering examples below:

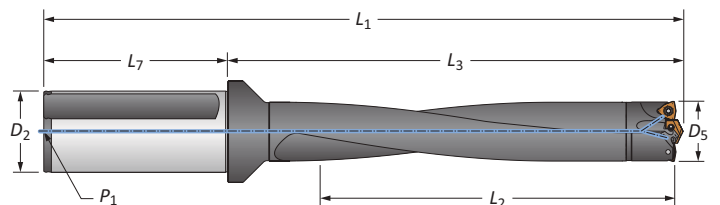
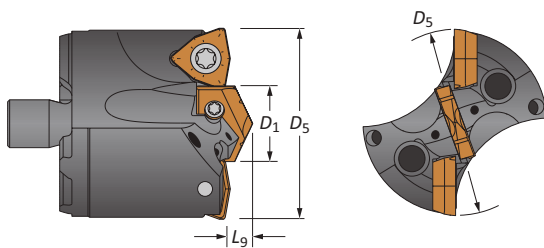
- Metric: 38 series, T-A (1 series), 42.15 mm = **V3801D-42.15**
- Inch: 38 series, T-A (1 series), 1.6790" = **V3801D-1.6790**

APX Drill Holders

W	38	05	H	-	200F
1	2	3	4		5



1. APX Holder	2. Series	3. Drill Length	4. Flute Style	5. Shank
W = Holder	33 = 33 series 70 = 70 series 38 = 38 series 76 = 76 series 44 = 44 series 83 = 83 series 51 = 51 series 89 = 89 series 57 = 57 series 95 = 95 series 63 = 63 series	03 = 3xD 05 = 5xD 08 = 8xD 10 = 10xD	H = Helical	150F = 1-1/2" flanged straight shank 200F = 2" flanged straight shank 40FM = 40 mm flanged straight shank 50FM = 50 mm flanged straight shank CV40 = CAT40 integral shank CV50 = CAT50 integral shank



Reference Key

Symbol	Attribute
D₁	Pilot insert diameter
D₅	Major cutting diameter
L₉	Pilot insert length

Reference Key

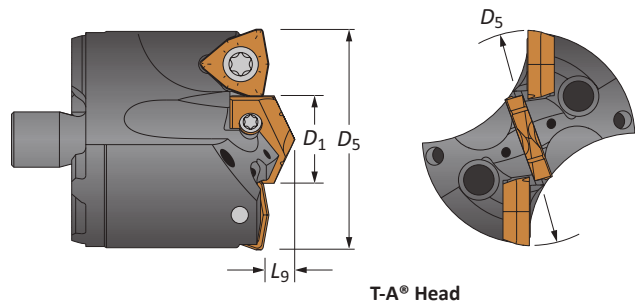
Symbol	Attribute	Symbol	Attribute
D₂	Shank diameter	L₃	Holder reference length
D₅	Drill diameter range	L₇	Shank length
L₁	Overall length	P₁	Rear pipe tap
L₂	Drill depth		

33

 DRILLING | APX™ Drill: Deep Hole / Large Diameter Replaceable Insert Drilling System



APX Drill Heads

33 Series | Diameter Range: 33.00 mm - 37.99 mm (1.299" - 1.496")






T-A® Head

Heads

Head					T-A Head				IC Insert Size	
D_5 metric	D_5 inch	D_5 fractional	D_1	L_9	Part No.	Pilot Series	 T-A Pro Insert	 T-A (-TC) Insert	metric	inch
33.00	1.299	-	16.00	5.56	V3300D-33	0	TA#0-16.00	1C10H-16-TC	7.94	5/16
33.34	1.313	1-5/16	16.00	5.56	V3300D-0110	0	TA#0-16.00	1C10H-16-TC	7.94	5/16
34.00	1.339	-	18.00	5.95	V3301D-34	1	TA#1-18.00	1C11H-18-TC	7.94	5/16
34.13	1.344	1-11/32	18.00	5.95	V3301D-0111	1	TA#1-18.00	1C11H-18-TC	7.94	5/16
34.93	1.375	1-3/8	18.00	5.95	V3301D-0112	1	TA#1-18.00	1C11H-18-TC	7.94	5/16
35.00	1.378	-	18.00	5.95	V3301D-35	1	TA#1-18.00	1C11H-18-TC	7.94	5/16
35.72	1.406	1-13/32	18.00	5.95	V3301D-0113	1	TA#1-18.00	1C11H-18-TC	7.94	5/16
36.00	1.417	-	20.00	6.35	V3301D-36	1	TA#1-20.00	1C11H-20-TC	7.94	5/16
36.51	1.438	1-7/16	20.00	6.35	V3301D-0114	1	TA#1-20.00	1C11H-20-TC	7.94	5/16
37.00	1.457	-	20.00	6.35	V3301D-37	1	TA#1-20.00	1C11H-20-TC	7.94	5/16
37.31	1.469	1-15/32	20.00	6.35	V3301D-0115	1	TA#1-20.00	1C11H-20-TC	7.94	5/16



#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

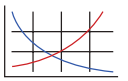

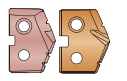
Coating	Size		Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	7.94	5/16	P35 (C5)	Standard	OP-05T308-PW	IS-10-1	8IP-10	305 N-cm (27.0 in-lbs)
AM300®	7.94	5/16	K35 (C1)	Standard	OP-05T308-1PW	IS-10-1	8IP-10	305 N-cm (27.0 in-lbs)
AM300®	7.94	5/16	K25 (C2)	Standard	OP-05T308-2PW	IS-10-1	8IP-10	305 N-cm (27.0 in-lbs)
AM300®	7.94	5/16	P35 (C5)	High Rake	OP-05T308-PWHR	IS-10-1	8IP-10	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	0	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
T-A	1	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A50: 28 - 29  A50: 2 - 5  Section A25 & A30 

Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

A50: 6

www.febametal.com/amec | Tel. 011.770.14.12

A DRILLING

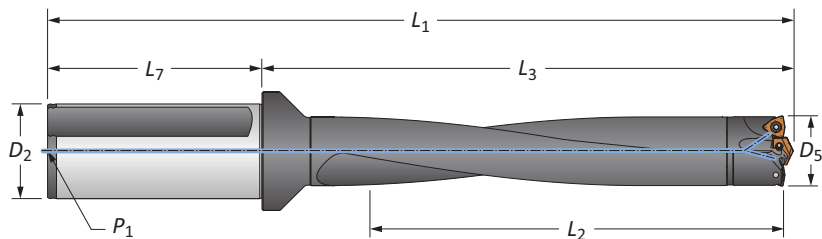
B BORING

F THREADING

X SPECIALS

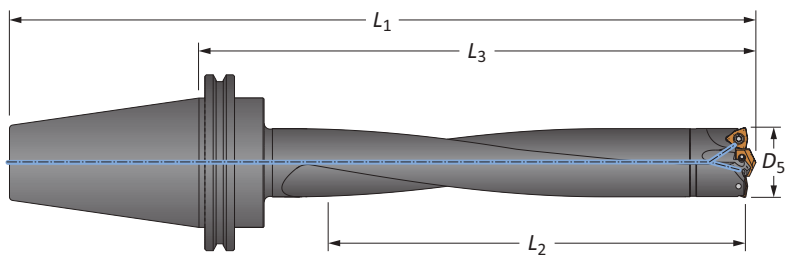
APX Drill Holders

33 Series | Diameter Range: 33.00 mm - 37.99 mm (1.299" - 1.496")



Straight Shank

Length	D ₅	Body			Shank			Part No.	
		L ₂	L ₃	L ₁	L ₇	D ₂	P ₁		
Metric (M)	3xD	33.00 - 37.99	112.60	167.49	237.49	70.00	40.00	1/4 BSPT	W3303H-40FM
	5xD	33.00 - 37.99	188.60	243.41	313.41	70.00	40.00	1/4 BSPT	W3305H-40FM
	8xD	33.00 - 37.99	302.60	357.40	427.40	70.00	40.00	1/4 BSPT	⚠ W3308H-40FM
	10xD	33.00 - 37.99	378.61	433.40	503.40	70.00	40.00	1/4 BSPT	⚠ W3310H-40FM
Imperial (I)	3xD	1.299 - 1.496	4-7/16	6-19/32	9-9/32	2-11/16	1-1/2	1/4 NPT	W3303H-150F
	5xD	1.299 - 1.496	7-27/64	9-37/64	12-9/32	2-11/16	1-1/2	1/4 NPT	W3305H-150F
	8xD	1.299 - 1.496	11-59/64	14-5/64	16-3/4	2-11/16	1-1/2	1/4 NPT	⚠ W3308H-150F
	10xD	1.299 - 1.496	14-29/32	17-1/16	19-3/4	2-11/16	1-1/2	1/4 NPT	⚠ W3310H-150F



CAT Integral Shank

Length	D ₅		Body			Shank	Part No.	
	mm	inch	L ₂	L ₃	L ₁			
Imperial (I)	3xD	33.00 - 37.99	1.299 - 1.496	4-7/16	7-3/8	10-3/16	CV40	W3303H-CV40
	5xD	33.00 - 37.99	1.299 - 1.496	7-27/64	10-23/64	13-11/64	CV40	W3305H-CV40
	8xD	33.00 - 37.99	1.299 - 1.496	11-59/64	14-55/64	17-21/32	CV40	⚠ W3308H-CV40
	10xD	33.00 - 37.99	1.299 - 1.496	14-29/32	17-27/32	20-21/32	CV40	⚠ W3310H-CV40
Imperial (I)	3xD	33.00 - 37.99	1.299 - 1.496	4-7/16	7-3/8	11-1/2	CV50	W3303H-CV50
	5xD	33.00 - 37.99	1.299 - 1.496	7-27/64	10-23/64	14-31/64	CV50	W3305H-CV50
	8xD	33.00 - 37.99	1.299 - 1.496	11-59/64	14-55/64	18-31/32	CV50	⚠ W3308H-CV50
	10xD	33.00 - 37.99	1.299 - 1.496	14-29/32	17-27/32	21-31/32	CV50	⚠ W3310H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

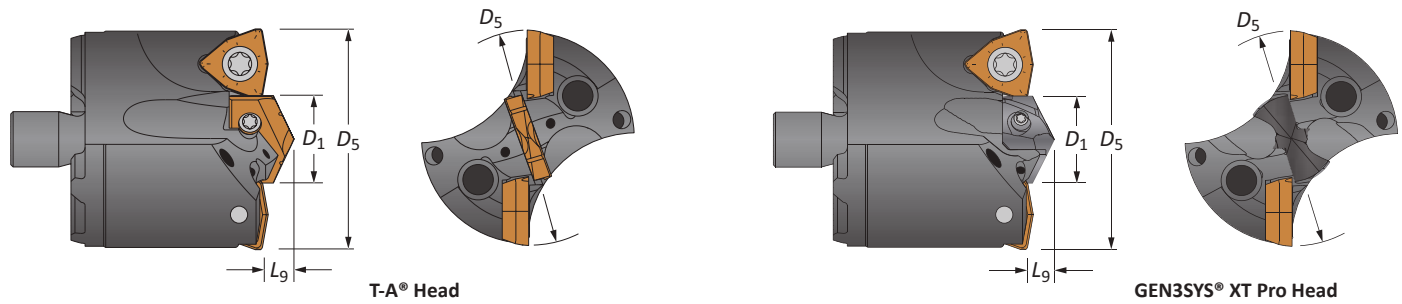
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Mounting screws sold in multiples of 4

APX Drill Heads

38 Series | Diameter Range: 38.00 mm - 43.99 mm (1.496" - 1.732")



Heads

Head					T-A Head				GEN3SYS XT Pro Head			IC Insert Size	
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	metric	inch
38.00	1.496	-	15.50	7.54	V3800D-38	0	TA#0-15.50	1C10H-15.5-TC	V3815D-38	15	XT#15-15.50	9.53	3/8
38.10	1.500	1-1/2	15.50	7.54	V3800D-0116	0	TA#0-15.50	1C10H-15.5-TC	V3815D-0116	15	XT#15-15.50	9.53	3/8
38.90	1.531	1-17/32	15.50	7.54	V3800D-0117	0	TA#0-15.50	1C10H-15.5-TC	V3815D-0117	15	XT#15-15.50	9.53	3/8
39.00	1.535	-	15.50	7.54	V3800D-39	0	TA#0-15.50	1C10H-15.5-TC	V3815D-39	15	XT#15-15.50	9.53	3/8
39.69	1.563	1-9/16	15.50	7.54	V3800D-0118	0	TA#0-15.50	1C10H-15.5-TC	V3815D-0118	15	XT#15-15.50	9.53	3/8
40.00	1.575	-	17.50	7.54	V3800D-40	0	TA#0-17.50	1C10H-17.5-TC	V3817D-40	17	XT#17-17.50	9.53	3/8
40.48	1.594	1-19/32	17.50	7.54	V3800D-0119	0	TA#0-17.50	1C10H-17.5-TC	V3817D-0119	17	XT#17-17.50	9.53	3/8
41.00	1.614	-	17.50	7.54	V3800D-41	0	TA#0-17.50	1C10H-17.5-TC	V3817D-41	17	XT#17-17.50	9.53	3/8
41.28	1.625	1-5/8	17.50	7.54	V3800D-0120	0	TA#0-17.50	1C10H-17.5-TC	V3817D-0120	17	XT#17-17.50	9.53	3/8
42.00	1.654	-	19.50	7.54	V3801D-42	1	TA#1-19.50	1C11H-19.5-TC	V3818D-42	18	XT#18-19.50	9.53	3/8
42.07	1.656	1-21/32	19.50	7.54	V3801D-0121	1	TA#1-19.50	1C11H-19.5-TC	V3818D-0121	18	XT#18-19.50	9.53	3/8
42.86	1.688	1-11/16	19.50	7.54	V3801D-0122	1	TA#1-19.50	1C11H-19.5-TC	V3818D-0122	18	XT#18-19.50	9.53	3/8
43.00	1.693	-	21.00	7.54	V3801D-43	1	TA#1-21.00	1C11H-21-TC	V3820D-43	20	XT#20-21.00	9.53	3/8
43.66	1.719	1-23/32	21.00	7.54	V3801D-0123	1	TA#1-21.00	1C11H-21-TC	V3820D-0123	20	XT#20-21.00	9.53	3/8

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	9.53	3/8	P35 (C5)	Standard	OP-060408-PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K35 (C1)	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K25 (C2)	Standard	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	P35 (C5)	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	0	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
T-A	1	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	15	7247-IP7-1	8IP-7	84 N-cm (7.4 in-lbs)
GEN3SYS	17	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
GEN3SYS	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	20	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A50: 28 - 29 A50: 2 - 5 Section A20 Section A25 & A30

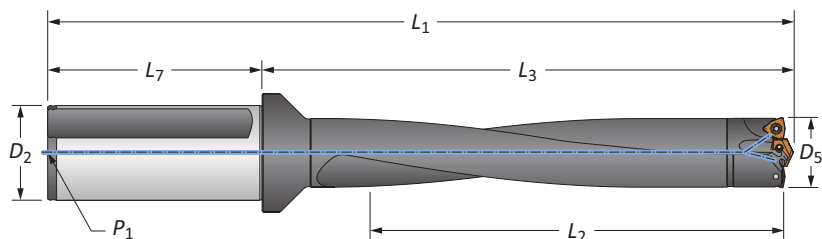
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

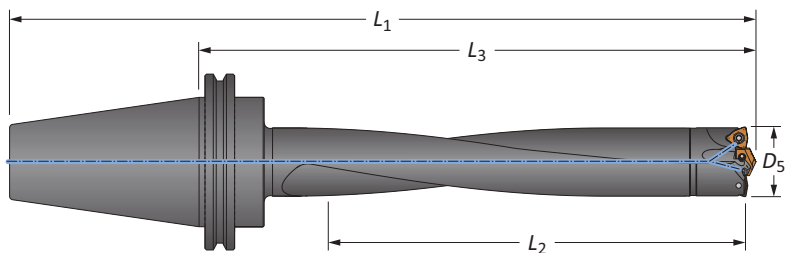
APX Drill Holders

38 Series | Diameter Range: 38.00 mm - 43.99 mm (1.496" - 1.732")



Straight Shank

	Length	D_5		Body			Shank		Part No.	
		mm	inch	L_2	L_3	L_1	L_7	D_2		P_1
m	3xD	38.00 - 43.99		130.51	196.49	265.71	70.00	40.00	1/4 BSPT	W3803H-40FM
	5xD	38.00 - 43.99		219.99	284.51	353.70	70.00	40.00	1/4 BSPT	W3805H-40FM
	8xD	38.00 - 43.99		351.99	416.51	485.70	70.00	40.00	1/4 BSPT	⚠ W3808H-40FM
	10xD	38.00 - 43.99		439.90	503.91	573.71	70.00	40.00	1/4 BSPT	⚠ W3810H-40FM
	3xD	38.00 - 43.99		130.51	196.49	276.50	80.00	50.00	1/4 BSPT	W3803H-50FM
	5xD	38.00 - 43.99		219.99	284.51	364.49	80.00	50.00	1/4 BSPT	W3805H-50FM
	8xD	38.00 - 43.99		351.99	416.51	496.99	80.00	50.00	1/4 BSPT	⚠ W3808H-50FM
	10xD	38.00 - 43.99		439.90	503.90	583.91	80.00	50.00	1/4 BSPT	⚠ W3810H-50FM
i	3xD	1.496 - 1.732		5-1/8	7-47/64	10-25/64	2-11/16	1-1/2	1/4 NPT	W3803H-150F
	5xD	1.496 - 1.732		8-5/8	11-13/64	13-55/64	2-11/16	1-1/2	1/4 NPT	W3805H-150F
	8xD	1.496 - 1.732		13-7/8	16-25/64	19-3/64	2-11/16	1-1/2	1/4 NPT	⚠ W3808H-150F
	10xD	1.496 - 1.732		17-1/4	19-27/32	22-33/64	2-11/16	1-1/2	1/4 NPT	⚠ W3810H-150F
	3xD	1.496 - 1.732		5-1/8	7-47/64	12-15/64	4-1/2	2	1/4 NPT	W3803H-200F
	5xD	1.496 - 1.732		8-5/8	11-13/64	15-45/64	4-1/2	2	1/4 NPT	W3805H-200F
	8xD	1.496 - 1.732		13-7/8	16-25/64	20-57/64	4-1/2	2	1/4 NPT	⚠ W3808H-200F
	10xD	1.496 - 1.732		17-1/4	19-27/32	24-59/64	4-1/2	2	1/4 NPT	⚠ W3810H-200F



CAT Integral Shank

	Length	D_5		Body			Shank	Part No.	
		mm	inch	L_2	L_3	L_1			
i	3xD	38.00 - 43.99		1.496 - 1.732	5-1/8	8-5/16	11	CV40	W3803H-CV40
	5xD	38.00 - 43.99		1.496 - 1.732	8-5/8	11-49/64	14-29/64	CV40	W3805H-CV40
	8xD	38.00 - 43.99		1.496 - 1.732	13-7/8	16-31/32	19-21/32	CV40	⚠ W3808H-CV40
	10xD	38.00 - 43.99		1.496 - 1.732	17-1/4	20-7/16	23-1/8	CV40	⚠ W3810H-CV40
	3xD	38.00 - 43.99		1.496 - 1.732	5-1/8	8-5/16	12-5/16	CV50	W3803H-CV50
	5xD	38.00 - 43.99		1.496 - 1.732	8-5/8	11-49/64	15-49/64	CV50	W3805H-CV50
	8xD	38.00 - 43.99		1.496 - 1.732	13-7/8	16-31/32	20-31/32	CV50	⚠ W3808H-CV50
	10xD	38.00 - 43.99		1.496 - 1.732	17-1/4	20-7/16	24-7/16	CV50	⚠ W3810H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

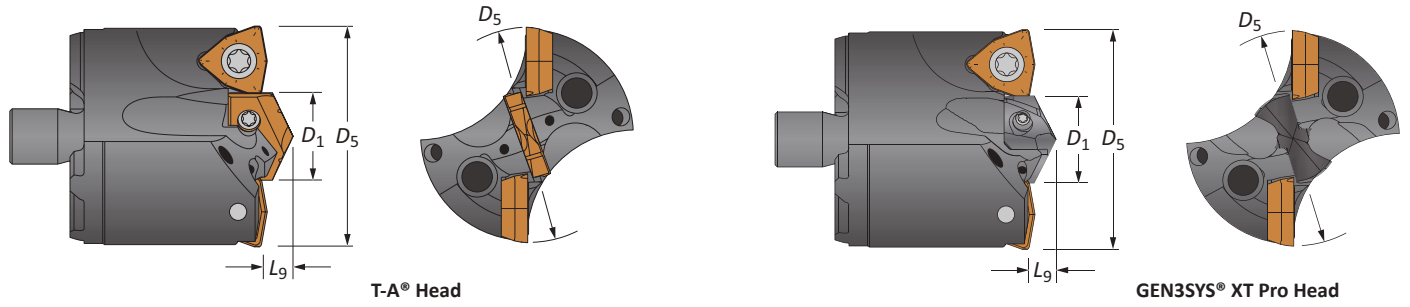
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

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

Mounting screws sold in multiples of 4

APX Drill Heads

44 Series | Diameter Range: 44.00 mm - 50.99 mm (1.732" - 2.008")



Heads

Head					T-A Head				GEN3SYS XT Pro Head				
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	IC Insert Size	
												metric	inch
44.00	1.732	-	23.00	8.33	V4401D-44	1	TA#1-23.00	1C11H-23-TC	V4422D-44	22	XT#22-23.00	9.53	3/8
44.45	1.750	1-3/4	23.00	8.33	V4401D-0124	1	TA#1-23.00	1C11H-23-TC	V4422D-0124	22	XT#22-23.00	9.53	3/8
45.00	1.772	-	23.00	8.33	V4401D-45	1	TA#1-23.00	1C11H-23-TC	V4422D-45	22	XT#22-23.00	9.53	3/8
45.25	1.781	1-25/32	23.00	8.33	V4401D-0125	1	TA#1-23.00	1C11H-23-TC	V4422D-0125	22	XT#22-23.00	9.53	3/8
46.00	1.811	-	24.00	8.33	V4401D-46	1	TA#1-24.00	1C11H-24-TC	V4422D-46	22	XT#22-23.80	9.53	3/8
46.04	1.813	1-13/16	24.00	8.33	V4401D-0126	1	TA#1-24.00	1C11H-24-TC	V4422D-0126	22	XT#22-23.80	9.53	3/8
46.83	1.844	1-27/32	24.00	8.33	V4401D-0127	1	TA#1-24.00	1C11H-24-TC	V4422D-0127	22	XT#22-23.80	9.53	3/8
47.00	1.850	-	24.00	8.33	V4401D-47	1	TA#1-24.00	1C11H-24-TC	V4422D-47	22	XT#22-23.80	9.53	3/8
47.63	1.875	1-7/8	24.00	8.33	V4401D-0128	1	TA#1-24.00	1C11H-24-TC	V4422D-0128	22	XT#22-23.80	9.53	3/8
48.00	1.890	-	18.00	8.33	V4401D-48	1**	TA#1-18.00	1C11H-18-TC	V4417D-48	17	XT#17-17.90	12.70	1/2
48.42	1.906	1-29/32	18.00	8.33	V4401D-0129	1**	TA#1-18.00	1C11H-18-TC	V4417D-0129	17	XT#17-17.90	12.70	1/2
49.00	1.929	-	18.00	8.33	V4401D-49	1**	TA#1-18.00	1C11H-18-TC	V4417D-49	17	XT#17-17.90	12.70	1/2
49.21	1.938	1-15/16	18.00	8.33	V4401D-0130	1**	TA#1-18.00	1C11H-18-TC	V4417D-0130	17	XT#17-17.90	12.70	1/2
50.00	1.969	-	19.00	8.33	V4401D-50	1**	TA#1-19.00	1C11H-19-TC	V4418D-50	18	XT#18-19.00	12.70	1/2
50.01	1.969	1-31/32	19.00	8.33	V4401D-0131	1**	TA#1-19.00	1C11H-19-TC	V4418D-0131	18	XT#18-19.00	12.70	1/2
50.80	2.000	2	19.00	8.33	V4401D-0200	1**	TA#1-19.00	1C11H-19-TC	V4418D-0200	18	XT#18-19.00	12.70	1/2

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

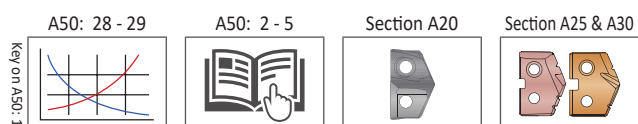
Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	9.53	3/8	P35 (C5)	Standard	OP-060408-PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K35 (C1)	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K25 (C2)	Standard	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	P35 (C5)	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	12.70	1/2	P35 (C5)	Standard	OP-080508-PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K35 (C1)	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K25 (C2)	Standard	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	P35 (C5)	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	1	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
T-A	1**	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	17	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
GEN3SYS	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	22	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

A DRILLING

B BORING

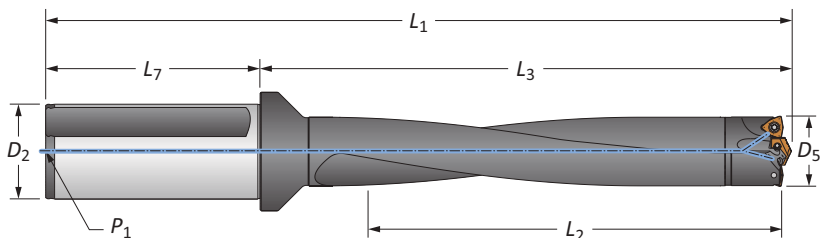
F THREADING

X

SPECIALS

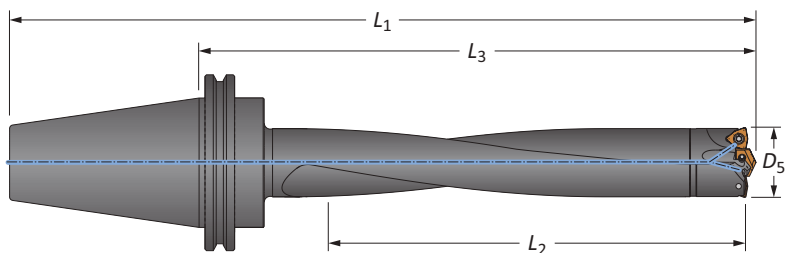
APX Drill Holders

44 Series | Diameter Range: 44.00 mm - 50.99 mm (1.732" - 2.008")



Straight Shank

Length	D ₅	Body				Shank		Part No.	
		L ₂	L ₃	L ₁	L ₇	D ₂	P ₁		
m	3xD	44.00 - 50.99	152.00	216.79	286.89	70.00	40.00	1/4 BSPT	W4403H-40FM
	5xD	44.00 - 50.99	255.00	318.80	388.90	70.00	40.00	1/4 BSPT	W4405H-40FM
	8xD	44.00 - 50.99	408.00	471.81	541.81	70.00	40.00	1/4 BSPT	⚠ W4408H-40FM
	10xD	44.00 - 50.99	510.01	573.81	643.79	70.00	40.00	1/4 BSPT	⚠ W4410H-40FM
	3xD	44.00 - 50.99	152.00	216.79	296.90	80.00	50.00	1/4 BSPT	W4403H-50FM
	5xD	44.00 - 50.99	255.00	318.80	398.80	80.00	50.00	1/4 BSPT	W4405H-50FM
	8xD	44.00 - 50.99	409.00	471.70	551.69	80.00	50.00	1/4 BSPT	⚠ W4408H-50FM
	10xD	44.00 - 50.99	510.01	573.81	653.80	80.00	50.00	1/4 BSPT	⚠ W4410H-50FM
i	3xD	1.732 - 2.008	6	8-17/32	11-15/64	2-11/16	1-1/2	1/4 NPT	W4403H-150F
	5xD	1.732 - 2.008	10	12-35/64	15-1/4	2-11/16	1-1/2	1/4 NPT	W4405H-150F
	8xD	1.732 - 2.008	16	18-37/64	21-17/64	2-11/16	1-1/2	1/4 NPT	⚠ W4408H-150F
	10xD	1.732 - 2.008	20-1/8	22-19/32	25-9/32	2-11/16	1-1/2	1/4 NPT	⚠ W4410H-150F
	3xD	1.732 - 2.008	6	8-33/64	13-1/32	4-1/2	2	1/4 NPT	W4403H-200F
	5xD	1.732 - 2.008	10	12-35/64	17-3/64	4-1/2	2	1/4 NPT	W4405H-200F
	8xD	1.732 - 2.008	16	18-37/64	23-5/64	4-1/2	2	1/4 NPT	⚠ W4408H-200F
	10xD	1.732 - 2.008	20-1/8	22-19/32	27-3/32	4-1/2	2	1/4 NPT	⚠ W4410H-200F



CAT Integral Shank

Length	D ₅		Body			Shank	Part No.	
	mm	inch	L ₂	L ₃	L ₁			
i	3xD	44.00 - 50.99	1.732 - 2.008	6	9-1/4	11-15/16	CV40	W4403H-CV40
	5xD	44.00 - 50.99	1.732 - 2.008	10	13-17/64	15-61/64	CV40	W4405H-CV40
	8xD	44.00 - 50.99	1.732 - 2.008	16	19-19/64	21-63/64	CV40	⚠ W4408H-CV40
	10xD	44.00 - 50.99	1.732 - 2.008	20-1/8	23-5/16	26	CV40	⚠ W4410H-CV40
i	3xD	44.00 - 50.99	1.732 - 2.008	6	9-1/4	13-1/4	CV50	W4403H-CV50
	5xD	44.00 - 50.99	1.732 - 2.008	10	13-17/64	17-17/64	CV50	W4405H-CV50
	8xD	44.00 - 50.99	1.732 - 2.008	16	19-19/64	23-19/64	CV50	⚠ W4408H-CV50
	10xD	44.00 - 50.99	1.732 - 2.008	20	23-5/16	27-5/16	CV50	⚠ W4410H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

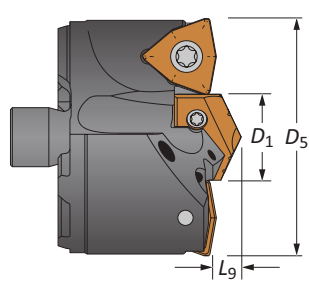
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4

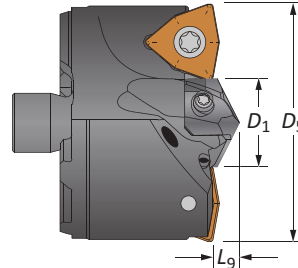
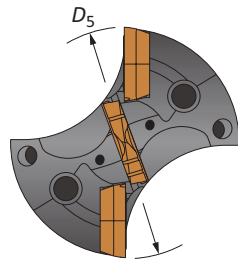
A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

APX Drill Heads

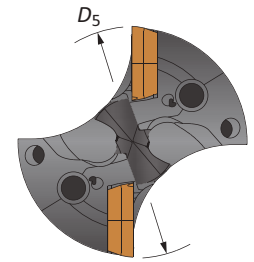
51 Series | Diameter Range: 51.00 mm - 56.99 mm (2.008" - 2.244")



T-A® Head



GEN3SYS® XT Pro Head



Heads

Head					T-A Head				GEN3SYS XT Pro Head			IC Insert Size	
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	metric	inch
51.00	2.008	-	20.00	8.73	V5101D-51	1**	TA#1-20.00	1C11H-20-TC	V5118D-51	18	XT#18-19.80	12.70	1/2
51.59	2.031	2-1/32	20.00	8.73	V5101D-0201	1**	TA#1-20.00	1C11H-20-TC	V5118D-0201	18	XT#18-19.80	12.70	1/2
52.00	2.047	-	20.00	8.73	V5101D-52	1**	TA#1-20.00	1C11H-20-TC	V5118D-52	18	XT#18-19.80	12.70	1/2
52.39	2.063	2-1/16	20.00	8.73	V5101D-0202	1**	TA#1-20.00	1C11H-20-TC	V5118D-0202	18	XT#18-19.80	12.70	1/2
53.00	2.087	-	21.50	8.73	V5101D-53	1**	TA#1-21.50	1C11H-21.5-TC	V5120D-53	20	XT#20-21.50	12.70	1/2
53.18	2.094	2-3/32	21.50	8.73	V5101D-0203	1**	TA#1-21.50	1C11H-21.5-TC	V5120D-0203	20	XT#20-21.50	12.70	1/2
53.98	2.125	2-1/8	21.50	8.73	V5101D-0204	1**	TA#1-21.50	1C11H-21.5-TC	V5120D-0204	20	XT#20-21.50	12.70	1/2
54.00	2.126	-	24.00	8.73	V5101D-54	1	TA#1-24.00	1C11H-24-TC	V5122D-54	22	XT#22-23.80	12.70	1/2
54.77	2.156	2-5/32	24.00	8.73	V5101D-0205	1	TA#1-24.00	1C11H-24-TC	V5122D-0205	22	XT#22-23.80	12.70	1/2
55.00	2.165	-	24.00	8.73	V5101D-55	1	TA#1-24.00	1C11H-24-TC	V5122D-55	22	XT#22-23.80	12.70	1/2
55.56	2.188	2-3/16	24.00	8.73	V5101D-0206	1	TA#1-24.00	1C11H-24-TC	V5122D-0206	22	XT#22-23.80	12.70	1/2
56.00	2.205	-	24.00	8.73	V5101D-56	1	TA#1-24.00	1C11H-24-TC	V5122D-56	22	XT#22-23.80	12.70	1/2
56.36	2.219	2-7/32	21.00	8.73	V5101D-0207	1**	TA#1-21.00	1C11H-21-TC	V5120D-0207	20	XT#20-21.00	14.29	9/16

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	12.70	1/2	P35 (C5)	Standard	OP-080508-PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K35 (C1)	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K25 (C2)	Standard	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	P35 (C5)	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	Standard	OP-090608-PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K35 (C1)	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K25 (C2)	Standard	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	1	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
T-A	1**	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	20	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	22	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A50: 28 - 29 A50: 2 - 5 Section A20 Section A25 & A30

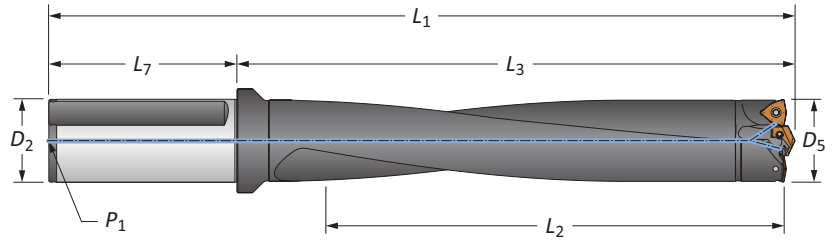
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

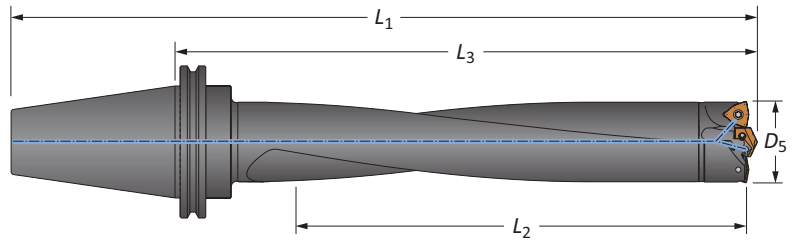
APX Drill Holders

51 Series | Diameter Range: 51.00 mm - 56.99 mm (2.008" - 2.244")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	51.00 - 56.99	161.80	225.50	305.51	80.00	50.00	1/4 BSPT	W5103H-50FM
	5xD	51.00 - 56.99	284.99	339.60	419.61	80.00	50.00	1/4 BSPT	W5105H-50FM
	8xD	51.00 - 56.99	455.90	510.49	590.50	80.00	50.00	1/4 BSPT	⚠ W5108H-50FM
	10xD	51.00 - 56.99	570.00	624.61	704.60	80.00	50.00	1/4 BSPT	⚠ W5110H-50FM
i	3xD	2.008 - 2.244	6-3/8	8-7/8	13-3/8	4-1/2	2	1/4 NPT	W5103H-200F
	5xD	2.008 - 2.244	11-1/8	13-3/8	17-7/8	4-1/2	2	1/4 NPT	W5105H-200F
	8xD	2.008 - 2.244	17-7/8	20-3/32	24-19/32	4-1/2	2	1/4 NPT	⚠ W5108H-200F
	10xD	2.008 - 2.244	22-3/8	24-19/32	29-3/32	4-1/2	2	1/4 NPT	⚠ W5110H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	51.00 - 56.99	2.008 - 2.244	6-3/8	9-47/64	13-47/64	CV50	W5103H-CV50
	5xD	51.00 - 56.99	2.008 - 2.244	11-1/4	14-7/32	18-7/32	CV50	W5105H-CV50
	8xD	51.00 - 56.99	2.008 - 2.244	17-7/8	20-61/64	24-61/64	CV50	⚠ W5108H-CV50
	10xD	51.00 - 56.99	2.008 - 2.244	22-3/8	25-7/16	29-7/16	CV50	⚠ W5110H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

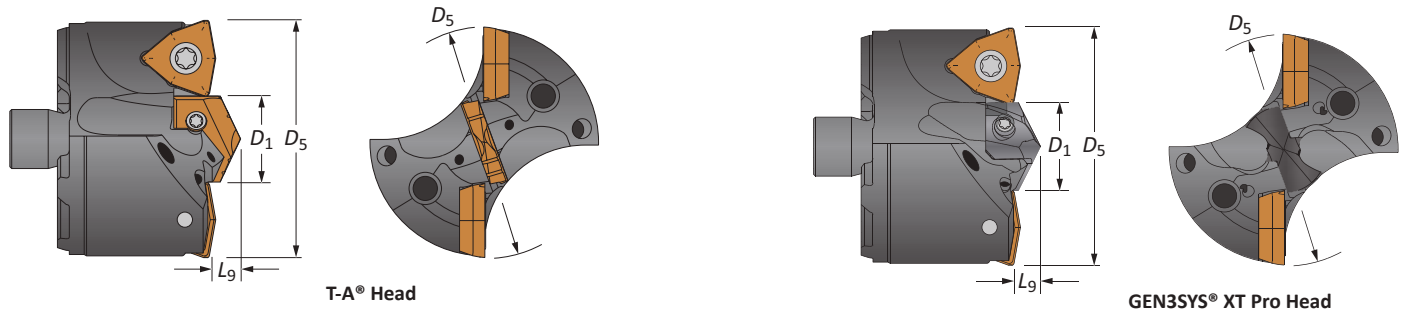
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

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

Mounting screws sold in multiples of 4

APX Drill Heads

57 Series | Diameter Range: 57.00 mm - 62.99 mm (2.244" - 2.480")



Heads

Head					T-A Head				GEN3SYS XT Pro Head			IC Insert Size	
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	metric	inch
57.00	2.244	-	23.00	9.92	V5701D-57	1	TA#1-23.00	1C11H-23-TC	V5722D-57	22	XT#22-23.00	14.29	9/16
57.15	2.250	2-1/4	23.00	9.92	V5701D-0208	1	TA#1-23.00	1C11H-23-TC	V5722D-0208	22	XT#22-23.00	14.29	9/16
57.94	2.281	2-9/32	23.00	9.92	V5701D-0209	1	TA#1-23.00	1C11H-23-TC	V5722D-0209	22	XT#22-23.00	14.29	9/16
58.00	2.284	-	23.00	9.92	V5701D-58	1	TA#1-23.00	1C11H-23-TC	V5722D-58	22	XT#22-23.00	14.29	9/16
58.74	2.313	2-5/16	23.00	9.92	V5701D-0210	1	TA#1-23.00	1C11H-23-TC	V5722D-0210	22	XT#22-23.00	14.29	9/16
59.00	2.323	-	24.00	9.92	V5701D-59	1	TA#1-24.00	1C11H-24-TC	V5722D-59	22	XT#22-23.80	14.29	9/16
59.53	2.344	2-11/32	24.00	9.92	V5701D-0211	1	TA#1-24.00	1C11H-24-TC	V5722D-0211	22	XT#22-23.80	14.29	9/16
60.00	2.362	-	24.00	9.92	V5701D-60	1	TA#1-24.00	1C11H-24-TC	V5722D-60	22	XT#22-23.80	14.29	9/16
60.33	2.375	2-3/8	24.00	9.92	V5701D-0212	1	TA#1-24.00	1C11H-24-TC	V5722D-0212	22	XT#22-23.80	14.29	9/16
61.00	2.402	-	25.50	9.92	V5702D-61	2	TA#2-25.50	1C12H-25.5-TC	V5724D-61	24	XT#24-25.50	14.29	9/16
61.12	2.406	2-13/32	25.50	9.92	V5702D-0213	2	TA#2-25.50	1C12H-25.5-TC	V5724D-0213	24	XT#24-25.50	14.29	9/16
61.91	2.438	2-7/16	25.50	9.92	V5702D-0214	2	TA#2-25.50	1C12H-25.5-TC	V5724D-0214	24	XT#24-25.50	14.29	9/16
62.00	2.441	-	27.00	9.92	V5702D-62	2	TA#2-27.00	1C12H-27-TC	V5726D-62	26	XT#26-27.00	14.29	9/16
62.71	2.469	2-15/32	27.00	9.92	V5702D-0215	2	TA#2-27.00	1C12H-27-TC	V5726D-0215	26	XT#26-27.00	14.29	9/16

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	14.29	9/16	P35 (C5)	Standard	OP-090608-PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K35 (C1)	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K25 (C2)	Standard	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	1	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	22	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	24	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
GEN3SYS	26	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A50: 28 - 29 A50: 2 - 5 Section A20 Section A25 & A30

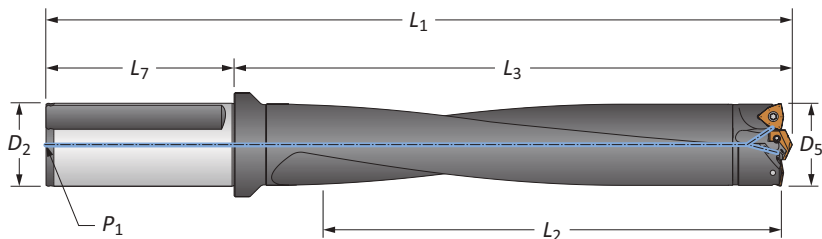
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

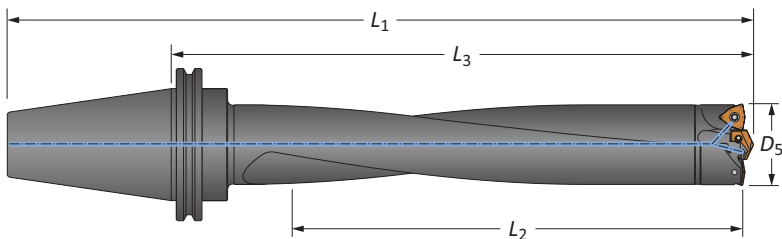
APX Drill Holders

57 Series | Diameter Range: 57.00 mm - 62.99 mm (2.244" - 2.480")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	57.00 - 62.99	179.91	242.70	322.71	80.00	50.00	1/4 BSPT	W5703H-50FM
	5xD	57.00 - 62.99	315.01	368.60	448.59	80.00	50.00	1/4 BSPT	W5705H-50FM
	8xD	57.00 - 62.99	503.90	557.81	637.81	80.00	50.00	1/4 BSPT	⚠ W5708H-50FM
	10xD	57.00 - 62.99	626.90	683.79	763.80	80.00	50.00	1/4 BSPT	⚠ W5710H-50FM
i	3xD	2.244 - 2.480	7-1/8	9-35/64	14-1/16	4-1/2	2	1/4 NPT	W5703H-200F
	5xD	2.244 - 2.480	12-3/8	14-33/64	19-1/64	4-1/2	2	1/4 NPT	W5705H-200F
	8xD	2.244 - 2.480	19-3/4	21-31/32	26-15/32	4-1/2	2	1/4 NPT	⚠ W5708H-200F
	10xD	2.244 - 2.480	24-3/4	26-59/64	31-27/64	4-1/2	2	1/4 NPT	⚠ W5710H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	57.00 - 62.99	2.244 - 2.480	7-1/8	10-17/32	14-17/32	CV50	W5703H-CV50
	5xD	57.00 - 62.99	2.244 - 2.480	12-3/8	15-31/64	19-31/64	CV50	W5705H-CV50
	8xD	57.00 - 62.99	2.244 - 2.480	19-7/8	22-15/16	26-15/16	CV50	⚠ W5708H-CV50
	10xD	57.00 - 62.99	2.244 - 2.480	24-3/4	27-57/64	31-57/64	CV50	⚠ W5710H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

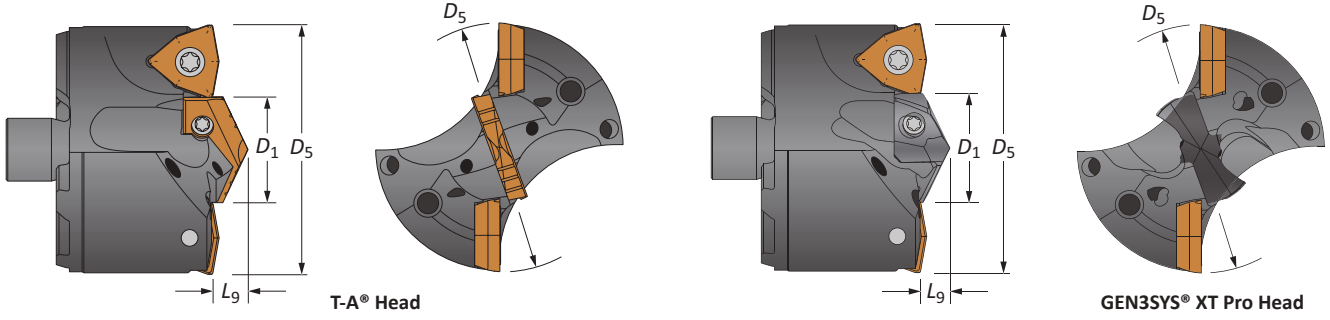
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4




A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

APX Drill Heads

63 Series | Diameter Range: 63.00 mm - 69.99 mm (2.480" - 2.756")






Heads

Head					T-A Head				GEN3SYS XT Pro Head			IC Insert Size	
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	 T-A Pro Insert	 T-A (-TC) Insert	Part No.	Pilot Series	 Pilot Insert	metric	inch
63.00	2.480	-	28.50	11.11	V6302D-63	2	TA#2-28.50	1C12H-28.5-TC	V6326D-63	26	XT#26-28.50	14.29	9/16
63.50	2.500	2-1/2	28.50	11.11	V6302D-0216	2	TA#2-28.50	1C12H-28.5-TC	V6326D-0216	26	XT#26-28.50	14.29	9/16
64.00	2.520	-	28.50	11.11	V6302D-64	2	TA#2-28.50	1C12H-28.5-TC	V6326D-64	26	XT#26-28.50	14.29	9/16
64.29	2.531	2-17/32	28.50	11.11	V6302D-0217	2	TA#2-28.50	1C12H-28.5-TC	V6326D-0217	26	XT#26-28.50	14.29	9/16
65.00	2.559	-	28.50	11.11	V6302D-65	2	TA#2-28.50	1C12H-28.5-TC	V6326D-65	26	XT#26-28.50	14.29	9/16
65.09	2.563	2-9/16	31.00	11.11	V6302D-0218	2	TA#2-31.00	1C12H-31-TC	V6329D-0218	29	XT#29-31.00	14.29	9/16
65.88	2.594	2-19/32	31.00	11.11	V6302D-0219	2	TA#2-31.00	1C12H-31-TC	V6329D-0219	29	XT#29-31.00	14.29	9/16
66.00	2.598	-	31.00	11.11	V6302D-66	2	TA#2-31.00	1C12H-31-TC	V6329D-66	29	XT#29-31.00	14.29	9/16
66.68	2.625	2-5/8	31.00	11.11	V6302D-0220	2	TA#2-31.00	1C12H-31-TC	V6329D-0220	29	XT#29-31.00	14.29	9/16
67.00	2.638	-	32.00	11.11	V6302D-67	2	TA#2-32.00	1C12H-32-TC	V6329D-67	29	XT#29-31.80	14.29	9/16
67.47	2.656	2-21/32	32.00	11.11	V6302D-0221	2	TA#2-32.00	1C12H-32-TC	V6329D-0221	29	XT#29-31.80	14.29	9/16
68.00	2.677	-	32.00	11.11	V6302D-68	2	TA#2-32.00	1C12H-32-TC	V6329D-68	29	XT#29-31.80	14.29	9/16
68.26	2.688	2-11/16	32.00	11.11	V6302D-0222	2	TA#2-32.00	1C12H-32-TC	V6329D-0222	29	XT#29-31.80	14.29	9/16
69.00	2.717	-	34.00	11.11	V6302D-69	2	TA#2-34.00	1C12H-34-TC	V6332D-69	32	XT#32-34.00	14.29	9/16
69.06	2.719	2-23/32	34.00	11.11	V6302D-0223	2	TA#2-34.00	1C12H-34-TC	V6332D-0223	32	XT#32-34.00	14.29	9/16
69.85	2.750	2-3/4	34.00	11.11	V6302D-0224	2	TA#2-34.00	1C12H-34-TC	V6332D-0224	32	XT#32-34.00	14.29	9/16



#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

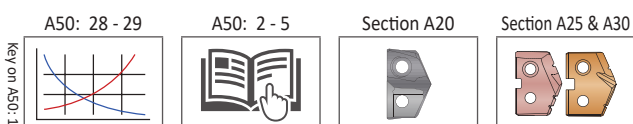
Coating	Size		Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	14.29	9/16	P35 (C5)	Standard	OP-090608-PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K35 (C1)	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K25 (C2)	Standard	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	26	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	29	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	32	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



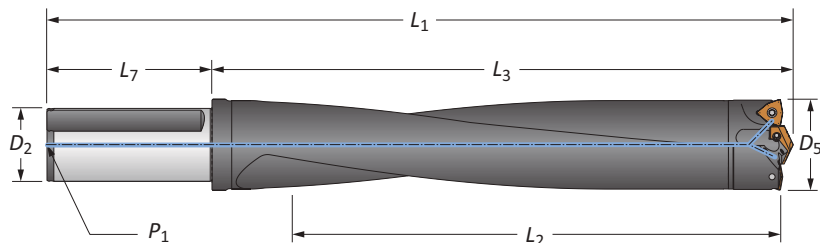
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

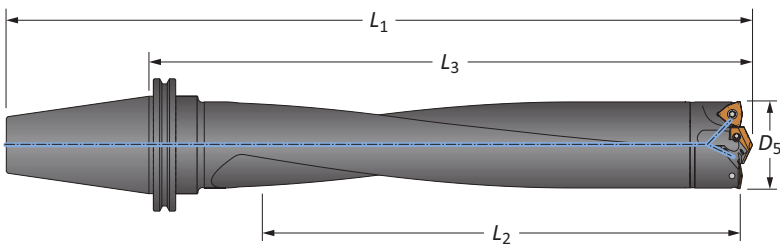
APX Drill Holders

63 Series | Diameter Range: 63.00 mm - 69.99 mm (2.480" - 2.756")



Straight Shank

	Length	Body				Shank			Part No.
		D ₅	L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	63.00 - 69.99	200.81	262.61	342.60	80.00	50.00	1/4 BSPT	W6303H-50FM
	5xD	63.00 - 69.99	350.00	402.59	482.60	80.00	50.00	1/4 BSPT	W6305H-50FM
	8xD	63.00 - 69.99	559.99	612.60	692.61	80.00	50.00	1/4 BSPT	⚠ W6308H-50FM
	10xD	63.00 - 69.99	688.29	740.89	820.90	80.00	50.00	1/4 BSPT	⚠ W6310H-50FM
i	3xD	2.480 - 2.756	7-7/8	10-11/32	14-27/32	4-1/2	2	1/4 NPT	W6303H-200F
	5xD	2.480 - 2.756	13-3/4	15-27/32	20-11/32	4-1/2	2	1/4 NPT	W6305H-200F
	8xD	2.480 - 2.756	22-1/8	24-1/8	28-5/8	4-1/2	2	1/4 NPT	⚠ W6308H-200F
	10xD	2.480 - 2.756	27-1/8	29-11/64	33-43/64	4-1/2	2	1/4 NPT	⚠ W6310H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	63.00 - 69.99	2.480 - 2.756	7-7/8	11-7/16	15-7/16	CV50	W6303H-CV50
	5xD	63.00 - 69.99	2.480 - 2.756	13-3/4	16-15/16	20-15/16	CV50	W6305H-CV50
	8xD	63.00 - 69.99	2.480 - 2.756	22	25-13/64	29-13/64	CV50	⚠ W6308H-CV50
	10xD	63.00 - 69.99	2.480 - 2.756	26-1/2	29-43/64	33-43/64	CV50	⚠ W6310H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	Admissible Tightening Torque*
75020-IP20-1	8IP-20	678 N-cm (60 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

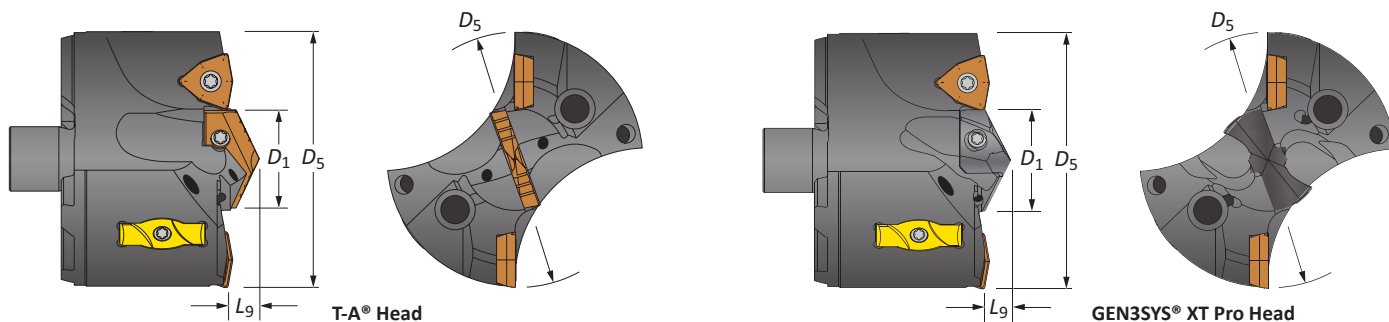
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. email: ufficiotecnico@febametal.com

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

Mounting screws sold in multiples of 4

APX Drill Heads

70 Series | Diameter Range: 70.00 mm - 75.99 mm (2.756" - 2.992")



Heads

Head					T-A Head				GEN3SYS XT Pro Head				
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	IC Insert Size	
70.00	2.756	-	31.00	9.92	V7002S-70	2	TA#2-31.00	1C12H-31-TC	V7029S-70	29	XT#29-31.00	9.53	3/8
71.44	2.813	2-13/16	31.00	9.92	V7002S-0226	2	TA#2-31.00	1C12H-31-TC	V7029S-0226	29	XT#29-31.00	9.53	3/8
72.00	2.835	-	31.00	9.92	V7002S-72	2	TA#2-31.00	1C12H-31-TC	V7029S-72	29	XT#29-31.00	9.53	3/8
73.03	2.875	2-7/8	31.00	9.92	V7002S-0228	2	TA#2-31.00	1C12H-31-TC	V7029S-0228	29	XT#29-31.00	9.53	3/8
74.00	2.913	-	31.00	9.92	V7002S-74	2	TA#2-31.00	1C12H-31-TC	V7029S-74	29	XT#29-31.00	9.53	3/8
74.61	2.938	2-15/16	31.00	9.92	V7002S-0230	2	TA#2-31.00	1C12H-31-TC	V7029S-0230	29	XT#29-31.00	9.53	3/8

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	9.53	3/8	P35 (C5)	Standard	OP-060408-PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K35 (C1)	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	K25 (C2)	Standard	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
AM300®	9.53	3/8	P35 (C5)	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

Part No.	Wear Pad Screw	Wear Pad Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	300 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	29	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A50: 28 - 29 | A50: 2 - 5 | Section A20 | Section A25 & A30

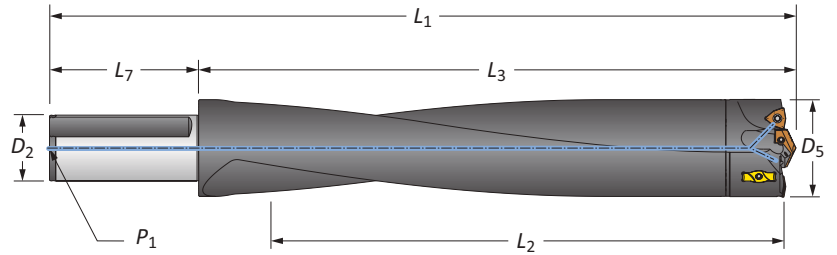
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

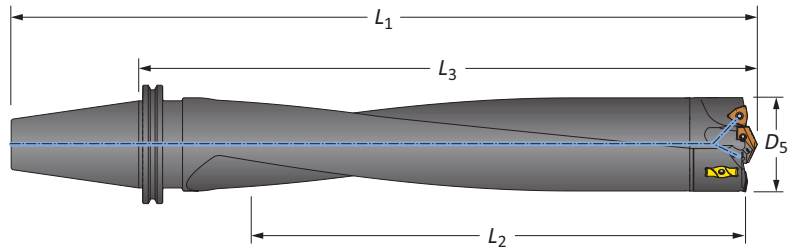
APX Drill Holders

70 Series | Diameter Range: 70.00 mm - 75.99 mm (2.756" - 2.992")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	70.00 - 75.99	218.80	269.01	349.00	80.00	50.00	1/4 BSPT	W7003H-50FM
	5xD	70.00 - 75.99	380.01	421.11	501.09	80.00	50.00	1/4 BSPT	W7005H-50FM
	8xD	70.00 - 75.99	608.00	649.00	729.01	80.00	50.00	1/4 BSPT	⚠ W7008H-50FM
	10xD	70.00 - 75.99	709.40	750.29	830.30	80.00	50.00	1/4 BSPT	⚠ W7010H-50FM
i	3xD	2.756 - 2.992	8-3/4	10-19/32	15-3/32	4-1/2	2	1/4 NPT	W7003H-200F
	5xD	2.756 - 2.992	14-7/8	16-37/64	21-5/64	4-1/2	2	1/4 NPT	W7005H-200F
	8xD	2.756 - 2.992	23-7/8	25-35/64	30-3/64	4-1/2	2	1/4 NPT	⚠ W7008H-200F
	10xD	2.756 - 2.992	27-7/8	29-35/64	34-3/64	4-1/2	2	1/4 NPT	⚠ W7010H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	70.00 - 75.99	2.756 - 2.992	8-3/4	12-7/32	16-7/32	CV50	W7003H-CV50
	5xD	70.00 - 75.99	2.756 - 2.992	14-7/8	18-13/64	22-13/64	CV50	W7005H-CV50
	8xD	70.00 - 75.99	2.756 - 2.992	23-7/8	27-5/32	31-5/32	CV50	⚠ W7008H-CV50
	10xD	70.00 - 75.99	2.756 - 2.992	26-3/4	29-61/64	33-61/64	CV50	⚠ W7010H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

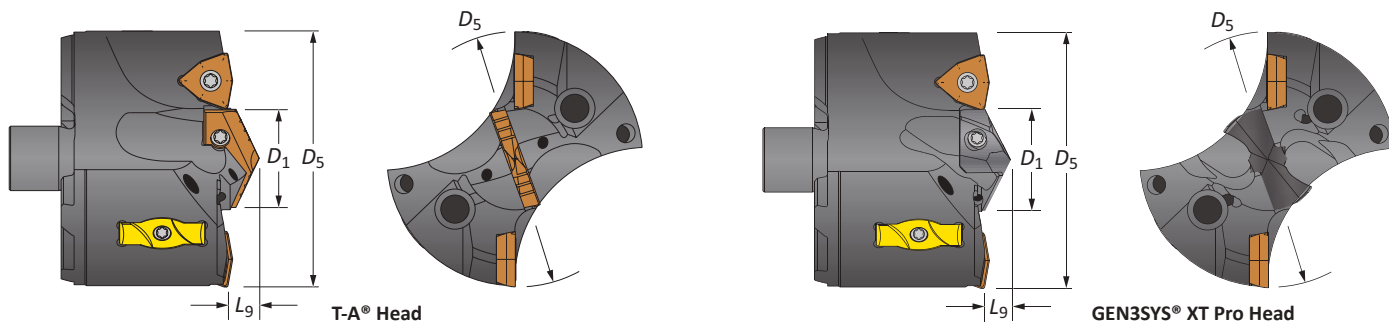
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Mounting screws sold in multiples of 4

APX Drill Heads

76 Series | Diameter Range: 76.00 mm - 82.99 mm (2.992" - 3.268")



Heads

Head					T-A Head				GEN3SYS XT Pro Head				
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	IC Insert Size metric	IC Insert Size inch
76.00	2.992	-	31.00	10.32	V7602S-76	2	TA#2-31.00	1C12H-31-TC	V7629S-76	29	XT#29-31.00	12.70	1/2
76.20	3.000	3	31.00	10.32	V7602S-0300	2	TA#2-31.00	1C12H-31-TC	V7629S-0300	29	XT#29-31.00	12.70	1/2
77.79	3.063	3-1/16	31.00	10.32	V7602S-0302	2	TA#2-31.00	1C12H-31-TC	V7629S-0302	29	XT#29-31.00	12.70	1/2
78.00	3.071	-	31.00	10.32	V7602S-78	2	TA#2-31.00	1C12H-31-TC	V7629S-78	29	XT#29-31.00	12.70	1/2
79.38	3.125	3-1/8	31.00	10.32	V7602S-0304	2	TA#2-31.00	1C12H-31-TC	V7629S-0304	29	XT#29-31.00	12.70	1/2
80.00	3.150	-	31.00	10.32	V7602S-80	2	TA#2-31.00	1C12H-31-TC	V7629S-80	29	XT#29-31.00	12.70	1/2
80.96	3.188	3-3/16	31.00	10.32	V7602S-0306	2	TA#2-31.00	1C12H-31-TC	V7629S-0306	29	XT#29-31.00	12.70	1/2
82.00	3.228	-	31.00	10.32	V7602S-82	2	TA#2-31.00	1C12H-31-TC	V7629S-82	29	XT#29-31.00	12.70	1/2
82.55	3.250	3-1/4	31.00	10.32	V7602S-0308	2	TA#2-31.00	1C12H-31-TC	V7629S-0308	29	XT#29-31.00	12.70	1/2

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	12.70	1/2	P35 (C5)	Standard	OP-080508-PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K35 (C1)	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K25 (C2)	Standard	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	P35 (C5)	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

Part No.	Wear Pad Screw	Wear Pad Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	300 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	29	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on A50: 1

A50: 28 - 29

A50: 2 - 5

Section A20

Section A25 & A30

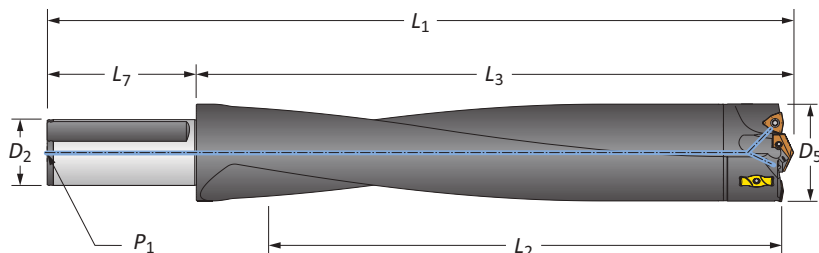
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

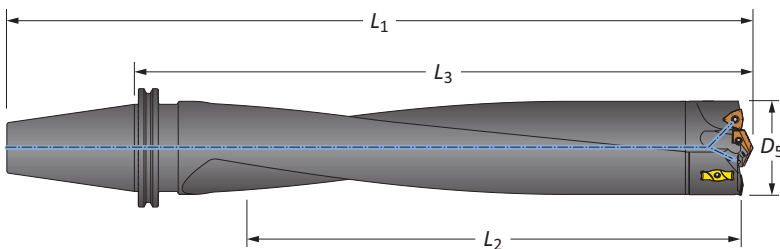
APX Drill Holders

76 Series | Diameter Range: 76.00 mm - 82.99 mm (2.992" - 3.268")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	76.00 - 82.99	240.00	292.40	372.39	80.00	50.00	1/4 BSPT	W7603H-50FM
	5xD	76.00 - 82.99	415.01	421.11	501.09	80.00	50.00	1/4 BSPT	W7605H-50FM
	8xD	76.00 - 82.99	664.01	648.69	728.70	80.00	50.00	1/4 BSPT	⚠ W7608H-50FM
i	3xD	2.992 - 3.268	9-1/2	11-33/64	16-1/64	4-1/2	2	1/4 NPT	W7603H-200F
	5xD	2.992 - 3.268	16-3/8	18-3/64	22-35/64	4-1/2	2	1/4 NPT	W7605H-200F
	8xD	2.992 - 3.268	26-1/8	27-27/32	32-11/32	4-1/2	2	1/4 NPT	⚠ W7608H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	76.00 - 82.99	2.992 - 3.268	9-1/2	12-57/64	16-57/64	CV50	W7603H-CV50
	5xD	76.00 - 82.99	2.992 - 3.268	16-3/8	19-27/64	23-27/64	CV50	W7605H-CV50
	8xD	76.00 - 82.99	2.992 - 3.268	26-1/8	29-7/32	33-7/32	CV50	⚠ W7608H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

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

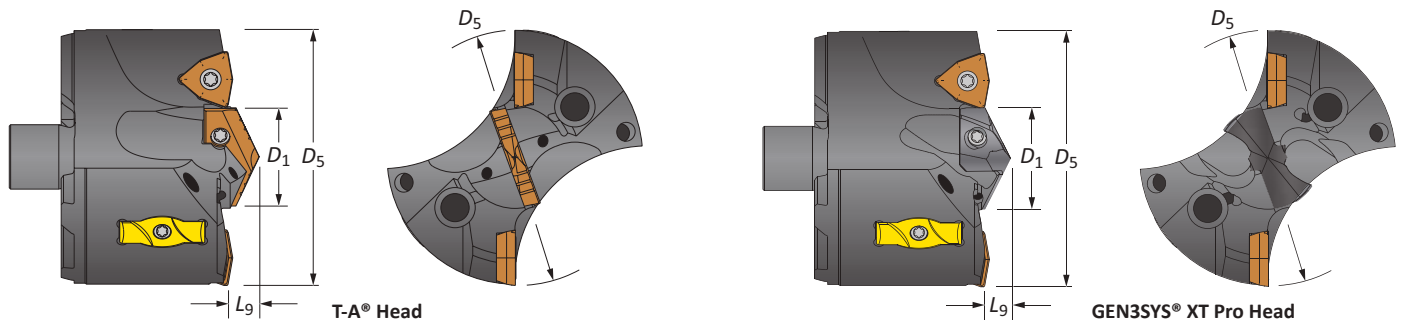
Mounting screws sold in multiples of 4

83

 DRILLING | APX™ Drill: Deep Hole / Large Diameter Replaceable Insert Drilling System




APX Drill Heads

83 Series | Diameter Range: 83.00 mm - 88.99 mm (3.268" - 3.504")






T-A® Head **GEN3SYS® XT Pro Head**

Heads

Head					T-A Head				GEN3SYS XT Pro Head				
D_5 metric	D_5 inch	D_5 fractional	D_1	L_9	Part No.	Pilot Series			Part No.	Pilot Series		IC Insert Size	
												metric	inch
84.00	3.307	-	35.00	10.72	V8302S-84	2	TA#2-35.00	1C12H-35-TC	V8332S-84	32	XT#32-35.00	12.70	1/2
84.14	3.313	3-5/16	35.00	10.72	V8302S-0310	2	TA#2-35.00	1C12H-35-TC	V8332S-0310	32	XT#32-35.00	12.70	1/2
85.73	3.375	3-3/8	35.00	10.72	V8302S-0312	2	TA#2-35.00	1C12H-35-TC	V8332S-0312	32	XT#32-35.00	12.70	1/2
86.00	3.386	-	35.00	10.72	V8302S-86	2	TA#2-35.00	1C12H-35-TC	V8332S-86	32	XT#32-35.00	12.70	1/2
87.31	3.438	3-7/16	35.00	10.72	V8302S-0314	2	TA#2-35.00	1C12H-35-TC	V8332S-0314	32	XT#32-35.00	12.70	1/2
88.00	3.465	-	35.00	10.72	V8302S-88	2	TA#2-35.00	1C12H-35-TC	V8332S-88	32	XT#32-35.00	12.70	1/2
88.90	3.500	3-1/2	35.00	10.72	V8302S-0316	2	TA#2-35.00	1C12H-35-TC	V8332S-0316	32	XT#32-35.00	12.70	1/2




#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	12.70	1/2	P35 (C5)	Standard	OP-080508-PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K35 (C1)	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	K25 (C2)	Standard	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
AM300®	12.70	1/2	P35 (C5)	High Rate	OP-080508-PWHR	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)



 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

 Part No.	 Wear Pad Screw	 Wear Pad Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	300 N-cm (27.0 in-lbs)

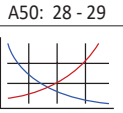
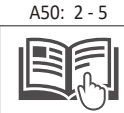
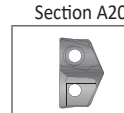
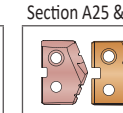
 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	32	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

 *Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on ASO: 1

 A50: 28 - 29	 A50: 2 - 5	 Section A20	 Section A25 & A30
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Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

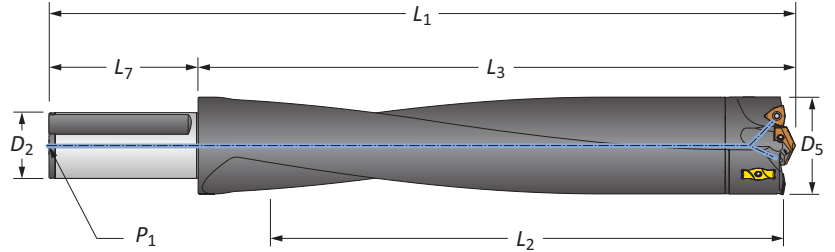
 Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
 IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

A50: 22

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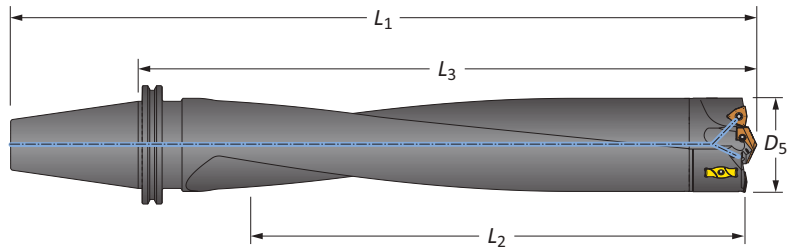
APX Drill Holders

83 Series | Diameter Range: 83.00 mm - 88.99 mm (3.268" - 3.504")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	83.00 - 88.99	257.81	312.50	392.61	80.00	50.00	1/4 BSPT	W8303H-50FM
	5xD	83.00 - 88.99	445.00	490.50	570.51	80.00	50.00	1/4 BSPT	W8305H-50FM
	8xD	83.00 - 88.99	704.90	750.29	830.30	80.00	50.00	1/4 BSPT	⚠ W8308H-50FM
i	3xD	3.268 - 3.504	10-1/8	12-5/16	16-13/16	4-1/2	2	1/4 NPT	W8303H-200F
	5xD	3.268 - 3.504	17-1/2	19-5/16	23-13/16	4-1/2	2	1/4 NPT	W8305H-200F
	8xD	3.268 - 3.504	27-3/4	29-35/64	34-3/64	4-1/2	2	1/4 NPT	⚠ W8308H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	83.00 - 88.99	3.268 - 3.504	10-1/8	13-11/16	17-11/16	CV50	W8303H-CV50
	5xD	83.00 - 88.99	3.268 - 3.504	17-1/2	20-11/16	24-11/16	CV50	W8305H-CV50
	8xD	83.00 - 88.99	3.268 - 3.504	26-7/8	30-3/64	34-3/64	CV50	⚠ W8308H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

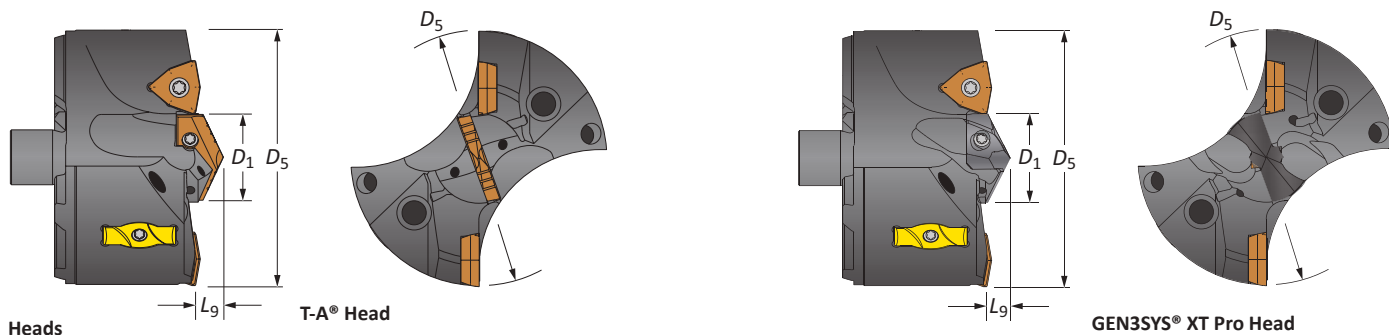
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

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

Mounting screws sold in multiples of 4

APX Drill Heads

89 Series | Diameter Range: 89.00 mm - 94.99 mm (3.504" - 3.740")



Head					T-A Head				GEN3SYS XT Pro Head				
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	IC Insert Size	
												metric	inch
90.00	3.543	-	32.00	10.72	V8902S-90	2	TA#2-32.00	1C12H-32-TC	V8929S-90	29	XT#29-31.80	14.29	9/16
90.49	3.563	3-9/16	32.00	10.72	V8902S-0318	2	TA#2-32.00	1C12H-32-TC	V8929S-0318	29	XT#29-31.80	14.29	9/16
92.00	3.622	-	32.00	10.72	V8902S-92	2	TA#2-32.00	1C12H-32-TC	V8929S-92	29	XT#29-31.80	14.29	9/16
92.08	3.625	3-5/8	32.00	10.72	V8902S-0320	2	TA#2-32.00	1C12H-32-TC	V8929S-0320	29	XT#29-31.80	14.29	9/16
93.66	3.688	3-11/16	32.00	10.72	V8902S-0322	2	TA#2-32.00	1C12H-32-TC	V8929S-0322	29	XT#29-31.80	14.29	9/16
94.00	3.701	-	32.00	10.72	V8902S-94	2	TA#2-32.00	1C12H-32-TC	V8929S-94	29	XT#29-31.80	14.29	9/16

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	14.29	9/16	P35 (C5)	Standard	OP-090608-PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K35 (C1)	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K25 (C2)	Standard	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

Part No.	Wear Pad Screw	Wear Pad Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	300 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	29	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on ASO: 1

A50: 28 - 29

A50: 2 - 5

Section A20

Section A25 & A30

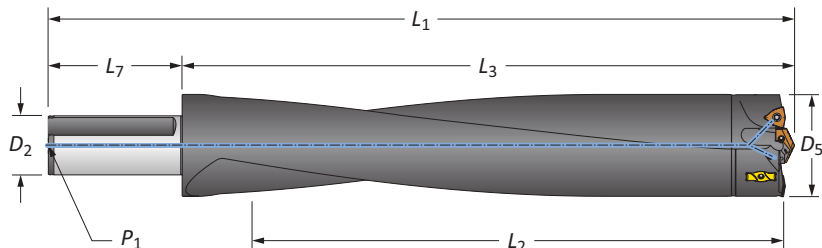
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

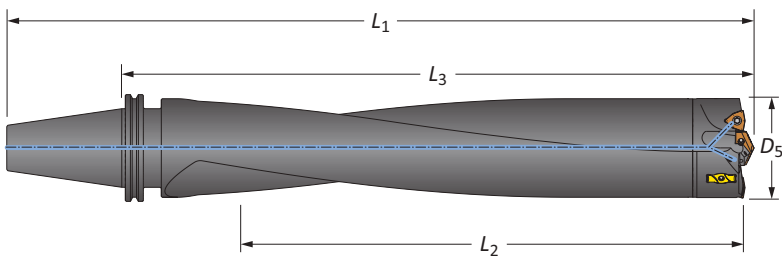
89 Series | Diameter Range: 89.00 mm - 94.99 mm (3.504" - 3.740")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	89.00 - 94.99	275.79	333.60	413.59	80.00	50.00	1/4 BSPT	W8903H-50FM
	5xD	89.00 - 94.99	475.01	523.70	603.71	80.00	50.00	1/4 BSPT	W8905H-50FM
	8xD	89.00 - 94.99	701.80	750.29	830.30	80.00	50.00	1/4 BSPT	⚠ W8908H-50FM
i	3xD	3.504 - 3.740	10-7/8	13-1/8	17-5/8	4-1/2	2	1/4 NPT	W8903H-200F
	5xD	3.504 - 3.740	18-5/8	20-5/8	25-1/8	4-1/2	2	1/4 NPT	W8905H-200F
	8xD	3.504 - 3.740	27-5/8	29-35/64	34-3/64	4-1/2	2	1/4 NPT	⚠ W8908H-200F

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	89.00 - 94.99	3.504 - 3.740	10-7/8	14-33/64	18-33/64	CV50	W8903H-CV50
	5xD	89.00 - 94.99	3.504 - 3.740	18-5/8	22	26	CV50	W8905H-CV50
	8xD	89.00 - 94.99	3.504 - 3.740	26-3/4	30-1/32	34-1/32	CV50	⚠ W8908H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

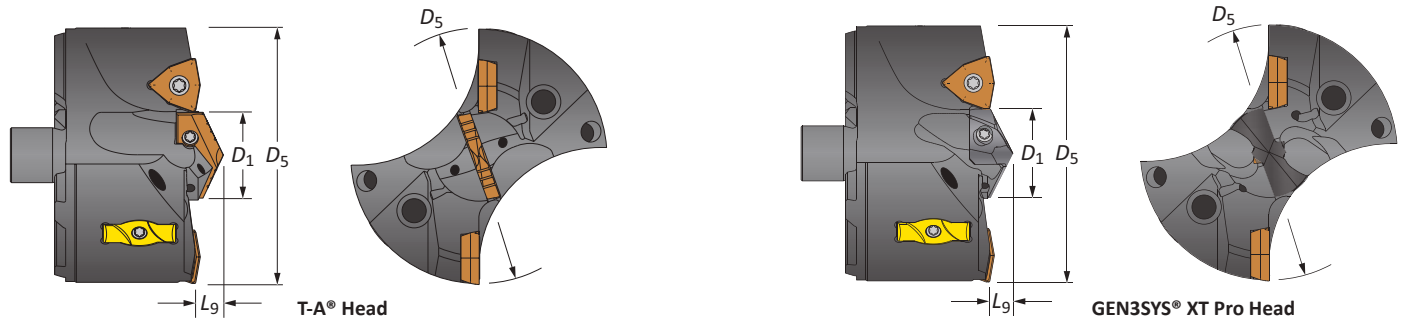
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

APX Drill Heads

95 Series | Diameter Range: 95.00 mm - 101.60 mm (3.740" - 4.000")



Heads

Head					T-A Head				GEN3SYS XT Pro Head				
D ₅ metric	D ₅ inch	D ₅ fractional	D ₁	L ₉	Part No.	Pilot Series	T-A Pro Insert	T-A (-TC) Insert	Part No.	Pilot Series	Pilot Insert	IC Insert Size	
												metric	inch
95.25	3.750	3-3/4	35.00	11.51	V9502S-0324	2	TA#2-35.00	1C12H-35-TC	V9532S-0324	32	XT#32-35.00	14.29	9/16
96.00	3.780	-	35.00	11.51	V9502S-96	2	TA#2-35.00	1C12H-35-TC	V9532S-96	32	XT#32-35.00	14.29	9/16
96.84	3.813	3-13/16	35.00	11.51	V9502S-0326	2	TA#2-35.00	1C12H-35-TC	V9532S-0326	32	XT#32-35.00	14.29	9/16
98.00	3.858	-	35.00	11.51	V9502S-98	2	TA#2-35.00	1C12H-35-TC	V9532S-98	32	XT#32-35.00	14.29	9/16
98.43	3.875	3-7/8	35.00	11.51	V9502S-0328	2	TA#2-35.00	1C12H-35-TC	V9532S-0328	32	XT#32-35.00	14.29	9/16
100.00	3.937	-	35.00	11.51	V9502S-100	2	TA#2-35.00	1C12H-35-TC	V9532S-100	32	XT#32-35.00	14.29	9/16
100.01	3.936	3-15/16	35.00	11.51	V9502S-0330	2	TA#2-35.00	1C12H-35-TC	V9532S-0330	32	XT#32-35.00	14.29	9/16
101.60	4.000	4	35.00	11.51	V9502S-0400	2	TA#2-35.00	1C12H-35-TC	V9532S-0400	32	XT#32-35.00	14.29	9/16

#Denotes ISO material/geometry (P= steel, K= cast iron, N= non-ferrous)

IC Inserts

Coating	Size		Grade	Geometry	Part No.	Insert Screw	Insert Driver	Admissible Tightening Torque*
	metric	inch						
AM300®	14.29	9/16	P35 (C5)	Standard	OP-090608-PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K35 (C1)	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	K25 (C2)	Standard	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
AM300®	14.29	9/16	P35 (C5)	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

Part No.	Wear Pad Screw	Wear Pad Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	300 N-cm (27.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
GEN3SYS	32	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on A50-1

A50: 28 - 29

A50: 2 - 5

Section A20

Section A25 & A30

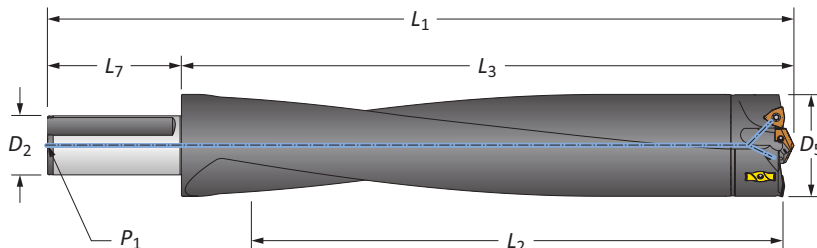
Non-stocked diameters are also available. Follow the examples shown below.

Metric	38 series, T-A (1 series), 42.15 mm	Part No. = V3801D-42.15
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

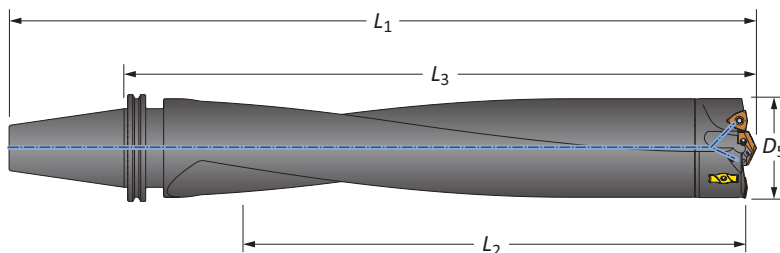
APX Drill Holders

95 Series | Diameter Range: 95.00 mm - 101.60 mm (3.740" - 4.000")



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
m	3xD	95.00 - 101.60	302.01	362.79	442.80	80.00	50.00	1/4 BSPT	W9503H-50FM
	5xD	95.00 - 101.60	508.00	566.19	646.20	80.00	50.00	1/4 BSPT	W9505H-50FM
	8xD	95.00 - 101.60	699.00	756.69	836.70	80.00	50.00	1/4 BSPT	⚠ W9508H-50FM
i	3xD	3.740 - 4.000	11-7/8	14-9/32	18-25/32	4-1/2	2	1/4 NPT	W9503H-200F
	5xD	3.740 - 4.000	20	22-19/64	26-51/64	4-1/2	2	1/4 NPT	W9505H-200F
	8xD	3.740 - 4.000	27-1/2	29-51/64	34-19/64	4-1/2	2	1/4 NPT	⚠ W9508H-200F



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		mm	inch	L ₂	L ₃	L ₁		
i	3xD	95.00 - 101.60	3.740 - 4.000	11-7/8	15-43/64	19-43/64	CV50	W9503H-CV50
	5xD	95.00 - 101.60	3.740 - 4.000	20	23-43/64	27-43/64	CV50	W9505H-CV50
	8xD	95.00 - 101.60	3.740 - 4.000	26-5/8	30-9/32	34-9/32	CV50	⚠ W9508H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	2825 N-cm (250 in-lb)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.
email: ufficiotecnico@febametal.com

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

Mounting screws sold in multiples of 4



Recommended Drilling Data | Metric (mm)

ISO	Material	Hardness (BHN)	Feed Rate (mm/rev) by Diameter								
			Outboard Insert		7.94 IC	9.52 IC	12.70 IC	14.29 IC	9.52 IC	12.70 IC	14.29 IC
			Series		33	38 - 44	44 - 51	51 - 63	70	76 - 83	89 - 95
			Speed (M/min)	Pilot Style	33.00 mm - 37.99 mm	38.00 mm - 47.88 mm	47.89 mm - 56.13 mm	56.14 mm - 69.99 mm	70.00 mm - 75.99 mm	76.00 mm - 88.99 mm	89.00 mm - 101.60 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	122 - 213	T-A/GEN3SYS	0.13 - 0.18	0.13 - 0.23	0.18 - 0.25	0.18 - 0.28	0.13 - 0.23	0.15 - 0.25	0.15 - 0.25
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	91 - 152	T-A/GEN3SYS	0.13 - 0.15	0.13 - 0.18	0.13 - 0.20	0.15 - 0.23	0.13 - 0.18	0.13 - 0.20	0.15 - 0.20
	Structural Steel A36, A285, A516, etc.	100 - 350	137 - 229	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.28	0.13 - 0.23	0.15 - 0.25	0.15 - 0.25
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	91 - 152	T-A/GEN3SYS	0.13 - 0.15	0.13 - 0.18	0.18 - 0.23	0.20 - 0.25	0.13 - 0.18	0.15 - 0.23	0.18 - 0.25
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	61 - 122	T-A	0.10 - 0.13	0.10 - 0.18	0.15 - 0.23	0.18 - 0.23	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
	Titanium Alloy	140 - 310	91 - 152	T-A	0.13 - 0.18	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
	Aerospace Alloy S82	185 - 350	122 - 183	T-A/GEN3SYS	0.10 - 0.15	0.13 - 0.18	0.15 - 0.20	0.15 - 0.20	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	91 - 152	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.28	0.13 - 0.18	0.18 - 0.23	0.18 - 0.25
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	91 - 152	T-A/GEN3SYS	0.13 - 0.18	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.10 - 0.20	0.15 - 0.25	0.15 - 0.25
	Super Duplex Stainless Steel	135 - 275	76 - 137	T-A/GEN3SYS	0.10 - 0.15	0.13 - 0.18	0.18 - 0.23	0.18 - 0.23	0.10 - 0.18	0.15 - 0.23	0.18 - 0.25
H	Wear Plate Hardox®, AR400, T-1, etc.	400 - 600	91 - 152	T-A	0.07 - 0.13	0.10 - 0.15	0.15 - 0.20	0.18 - 0.23	0.08 - 0.13	0.10 - 0.15	0.10 - 0.15
	Hardened Steel	300 - 500	91 - 152	T-A	0.10 - 0.13	0.13 - 0.15	0.15 - 0.20	0.15 - 0.20	0.08 - 0.13	0.10 - 0.20	0.10 - 0.20
K	Nodular, Grey, Ductile Cast Iron	120 - 320	152 - 244	T-A/GEN3SYS	0.13 - 0.23	0.15 - 0.25	0.20 - 0.30	0.25 - 0.30	0.20 - 0.25	0.23 - 0.28	0.25 - 0.30
N	Cast Aluminium	30 - 180	183 - 244	T-A/GEN3SYS	0.23 - 0.30	0.25 - 0.36	0.30 - 0.40	0.30 - 0.40	0.15 - 0.23	0.20 - 0.28	0.20 - 0.30
	Wrought Aluminium	30 - 180	183 - 244	T-A/GEN3SYS	0.18 - 0.28	0.20 - 0.30	0.25 - 0.36	0.25 - 0.36	0.15 - 0.23	0.20 - 0.28	0.20 - 0.30
	Aluminium Bronze	100 - 250	123 - 213	T-A/GEN3SYS	0.13 - 0.18	0.13 - 0.20	0.18 - 0.25	0.23 - 0.28	0.15 - 0.23	0.18 - 0.25	0.20 - 0.30
	Brass	30 - 100	244	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.30	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25
	Copper	60	213	T-A/GEN3SYS	0.05 - 0.13	0.08 - 0.15	0.15 - 0.20	0.20 - 0.25	0.08 - 0.15	0.15 - 0.20	0.15 - 0.20

Coolant Recommendations

Series	Pressure (BAR)	Flow Rate (LPM)
33	24	38
38	21	38
44	19	45
51	17	68
57	16	76
63	14	83
70	10	95
76	7	106
83	7	114
89	7	125
95	7	125

Calculations

Value	Formula
M/min	RPM • 0.003 • Diameter
RPM	(m/min • 318.47) / Diameter
mm/min	RPM • mm/rev

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. *email: ufficiotecnico@febametal.com*

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the APX Drilling System will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

⚠ WARNING Tool failure can cause serious injury. To prevent: For APX holders 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture. Refer to page A50: 30 for Deep Hole Drilling Guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Recommended Drilling Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Feed Rate (IPR) by Diameter								
			Outboard Insert		5/16" IC	3/8" IC	1/2" IC	9/16" IC	3/8" IC	1/2" IC	9/16" IC
			Series		33	38 - 44	44 - 51	51 - 63	70	76 - 83	89 - 95
			Speed (SFM)	Pilot Style	1.299" - 1.495"	1.496" - 1.885"	1.886" - 2.210"	2.211" - 2.755"	2.756" - 2.992"	2.992" - 3.503"	3.504" - 4.000"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	450 - 750	T-A/GEN3SYS	0.006 - 0.011	0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	450 - 750	T-A/GEN3SYS	0.006 - 0.011	0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	450 - 750	T-A/GEN3SYS	0.006 - 0.011	0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	400 - 700	T-A/GEN3SYS	0.005 - 0.007	0.005 - 0.009	0.007 - 0.010	0.007 - 0.011	0.005 - 0.009	0.006 - 0.010	0.006 - 0.010
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	300 - 500	T-A/GEN3SYS	0.005 - 0.006	0.005 - 0.007	0.005 - 0.008	0.006 - 0.009	0.005 - 0.007	0.005 - 0.008	0.006 - 0.008
	Structural Steel A36, A285, A516, etc.	100 - 350	450 - 750	T-A/GEN3SYS	0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.009 - 0.011	0.005 - 0.009	0.006 - 0.010	0.007 - 0.010
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	300 - 500	T-A/GEN3SYS	0.005 - 0.006	0.005 - 0.007	0.007 - 0.009	0.008 - 0.010	0.005 - 0.007	0.006 - 0.009	0.007 - 0.010
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	200 - 400	T-A	0.004 - 0.005	0.004 - 0.007	0.006 - 0.009	0.007 - 0.009	0.004 - 0.006	0.005 - 0.007	0.005 - 0.007
	Titanium Alloy	140 - 310	300 - 500	T-A	0.005 - 0.007	0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.004 - 0.006	0.005 - 0.007	0.005 - 0.007
	Aerospace Alloy S82	185 - 350	400 - 600	T-A/GEN3SYS	0.004 - 0.006	0.005 - 0.007	0.006 - 0.008	0.006 - 0.008	0.004 - 0.006	0.005 - 0.007	0.005 - 0.007
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	300 - 500	T-A/GEN3SYS	0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.009 - 0.011	0.005 - 0.007	0.007 - 0.009	0.007 - 0.010
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	300 - 500	T-A/GEN3SYS	0.005 - 0.007	0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.004 - 0.008	0.006 - 0.010	0.006 - 0.010
	Super Duplex Stainless Steel	135 - 275	250 - 450	T-A/GEN3SYS	0.004 - 0.006	0.005 - 0.007	0.007 - 0.009	0.007 - 0.009	0.004 - 0.007	0.006 - 0.009	0.007 - 0.010
H	Wear Plate Hardox®, AR400, T-1, etc.	400 - 600	300 - 500	T-A	0.003 - 0.005	0.004 - 0.006	0.006 - 0.008	0.007 - 0.009	0.003 - 0.005	0.004 - 0.006	0.004 - 0.006
	Hardened Steel	300 - 500	300 - 500	T-A	0.004 - 0.005	0.005 - 0.006	0.006 - 0.008	0.006 - 0.008	0.003 - 0.005	0.004 - 0.006	0.004 - 0.006
K	Nodular, Grey, Ductile Cast Iron	120 - 320	500 - 800	T-A/GEN3SYS	0.005 - 0.009	0.006 - 0.010	0.008 - 0.012	0.010 - 0.012	0.008 - 0.010	0.009 - 0.011	0.010 - 0.012
N	Cast Aluminium	30 - 180	600 - 800	T-A/GEN3SYS	0.009 - 0.012	0.010 - 0.014	0.012 - 0.016	0.012 - 0.016	0.006 - 0.009	0.008 - 0.011	0.008 - 0.012
	Wrought Aluminium	30 - 180	600 - 800	T-A/GEN3SYS	0.007 - 0.011	0.008 - 0.012	0.010 - 0.014	0.010 - 0.014	0.006 - 0.009	0.008 - 0.011	0.008 - 0.012
	Aluminium Bronze	100 - 250	400 - 700	T-A/GEN3SYS	0.005 - 0.007	0.005 - 0.008	0.007 - 0.010	0.009 - 0.011	0.006 - 0.009	0.007 - 0.010	0.008 - 0.012
	Brass	30 - 100	800	T-A/GEN3SYS	0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.009 - 0.012	0.006 - 0.008	0.007 - 0.009	0.008 - 0.012
	Copper	60	700	T-A/GEN3SYS	0.002 - 0.005	0.003 - 0.006	0.006 - 0.008	0.008 - 0.010	0.006 - 0.008	0.006 - 0.008	0.006 - 0.008

Coolant Recommendations

Series	Pressure (PSI)	Flow Rate (GPM)
33	350	10
38	300	10
44	275	12
51	250	18
57	225	20
63	200	22
70	150	25
76	100	28
83	100	30
89	100	33
95	100	33

Calculations

Value	Formula
SFM	$RPM \cdot 0.262 \cdot \text{Diameter}$
RPM	$(SFM \cdot 3.82) / \text{Diameter}$
IPM	$RPM \cdot \text{IPR}$

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. *email: ufficiotecnico@febametal.com*

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the APX Drilling System will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

⚠ WARNING Tool failure can cause serious injury. To prevent: For APX holders 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture. Refer to page A50: 30 for Deep Hole Drilling Guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

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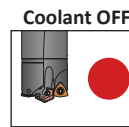
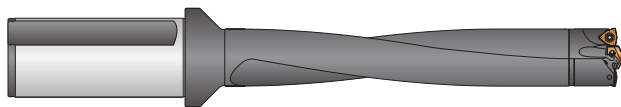
Deep Hole Drilling Guidelines

A

DRILLING

- 1. Approach**
 50 RPM max
 300 mm/min (12 IPM)

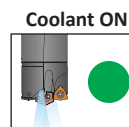
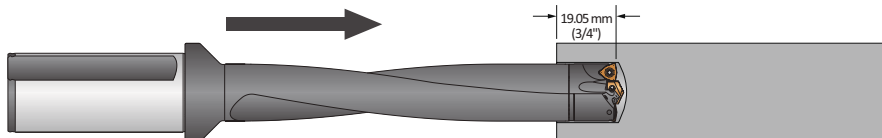
Feed the longer drill within 1.5 mm (1/16") short of the workpiece at a **maximum of 50 RPM** and 300 mm/min (12 IPM) feed rate.



B

- 2. Feed-in**
 Speed at 75% of recommended start
 Feed at 50% of recommended start

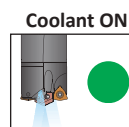
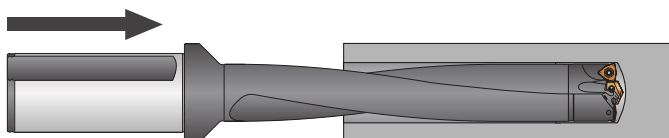
Drill 19.05 mm (3/4") deep at 75% recommended speed and 50% recommended feed to establish the hole.



BORING

- 3. Deep Hole Drilling - Blind**
 100% RPM
 100% mm/rev (IPR)

Drill to full depth at recommended speed and feed for longer drills (according to Allied Machine speed and feed charts).
***No peck cycle recommended.**

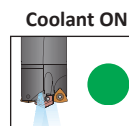
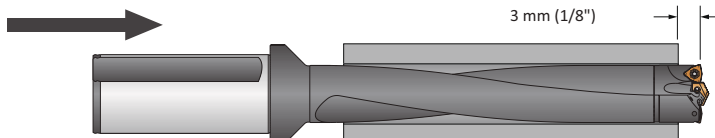


F

THREADING

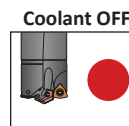
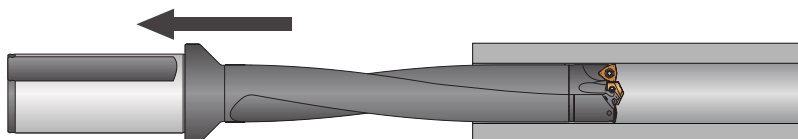
- 4. Deep Hole Drilling - at Breakout**
 50% RPM
 100% mm/rev (IPR)

***For through holes only:**
 Reduce speed by 50% prior to breakout.
 Do not breakout more than 3 mm (1/8") past the full diameter of the drill.



- 5. Drill Retract**
 50 RPM max

Reduce speed to a **maximum of 50 RPM** before retracting from the hole.



X

SPECIALS

⚠ WARNING Tool failure can cause serious injury. To prevent: NEVER rotate these tool holders more than 50 RPM without proper engagement with a workpiece or fixture. Failure to do so could result in tool failure and/or personal injury. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.
 email: ufficiotecnico@febametal.com

SECTION

A55

4TEX® Drill

4TEX® Drill

Indexable Carbide Insert Drilling System

► **Diameter Range:** 12.00 mm - 47.00 mm (0.472" - 1.850")



Don't Let Your Machine Slow You Down

The 4TEX indexable carbide drill provides increased penetration rates on light duty machines due to the single effective design. With twisted coolant outlets and increased core strength, the design provides improved hole size and finish.

The four-sided 4TEX inserts are designed to use two sides in the center pocket and two sides in the periphery pocket for an improved cost per hole. With insert geometries available for all ISO material classes and a robust body design, the 4TEX is suited for your difficult applications.

Improved hole size and finish	Superior chip evacuation	Increased penetration rates
-------------------------------	--------------------------	-----------------------------

Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General
Machining



Oil & Gas



Renewable
Energy

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

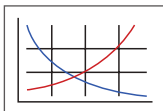
Reference Icons

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



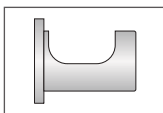
Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data

Speed and feed recommendations for optimum and safe drilling



Eccentric Sleeves

Refers to the corresponding eccentric sleeve for the holder



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
03	12.00 - 13.49	0.472 - 0.531
04	13.50 - 15.49	0.532 - 0.610
05	15.50 - 18.49	0.611 - 0.728
06	18.50 - 21.99	0.728 - 0.866
07	22.00 - 26.49	0.867 - 1.043
09	26.50 - 31.99	1.044 - 1.259
11	32.00 - 38.99	1.260 - 1.535
14	39.00 - 47.00	1.536 - 1.850

Introduction Information

Product Overview	2
Insert Information	3 - 4
Product Nomenclature	5

Drill Series

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04 Series	8 - 9
05 Series	10 - 11
06 Series	12 - 13
07 Series	14 - 15
09 Series	16 - 19
11 Series	20 - 23
14 Series	24 - 27

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Technical Information

Diameter Adjustment	29
Center Height Alignment	30 - 31

Recommended Cutting Data

Metric (mm)	32
Imperial (inch)	33

Insert Geometry Recommendations	34
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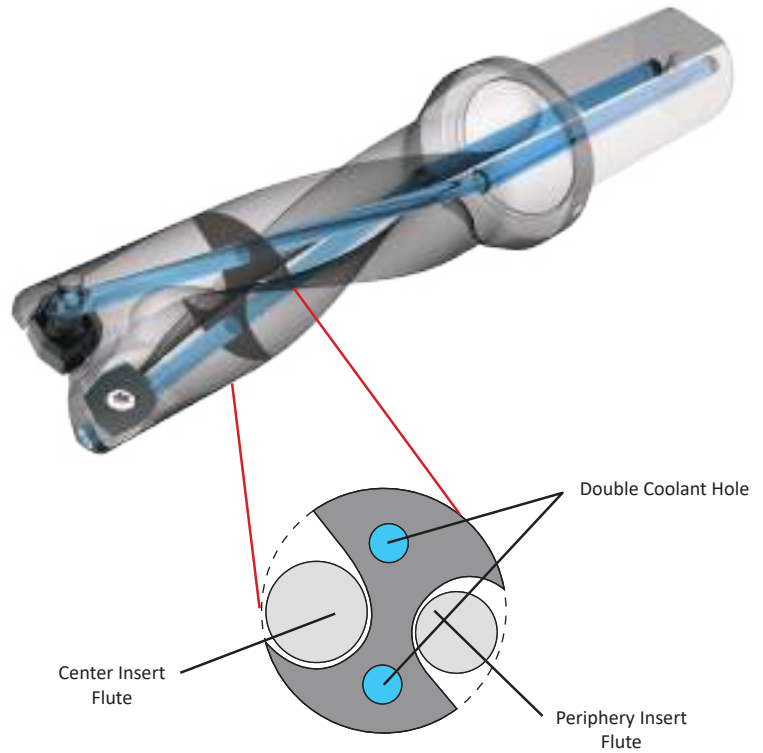
Troubleshooting Guide	35
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Safety Information	36
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Product Overview

4TEX Drill *Advantages*

- ✓ **Superior chip evacuation**
provided by the two twisted coolant holes
- ✓ **Improved hole size**
from the increased holder rigidity
- ✓ **Longer tool life**
provided by the four-sided insert design
- ✓ **Optimal chip formation**
with ISO-specific insert geometry/coating combinations
- ✓ **Competitive cycle times**
due to single effective cutting when using light duty machines

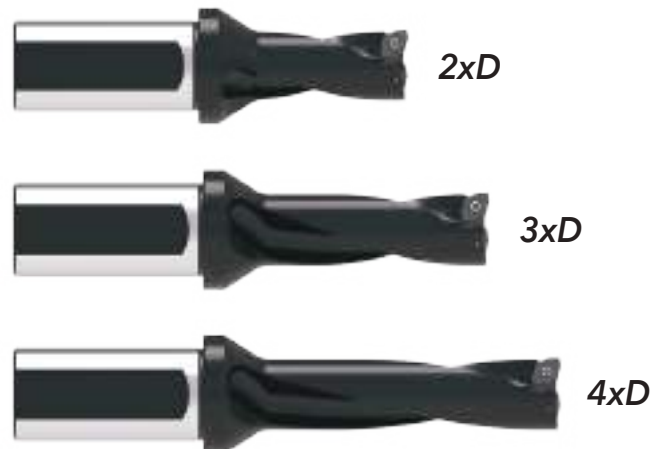


DESIGNED TO GIVE YOU *IMPROVED* HOLE SIZE AND STRAIGHTNESS

- The two twisted coolant holes allow the core to remain intact, making the core thicker and stronger for improved hole straightness even in uneven surfaces.
- The enlarged dual coolant outlets increase the coolant volume, which improved the chip evacuation resulting in improved hole size.
- The flute space of the internal cutting edge side (where chips get stuck most often) is 1.6x larger than typical IC drills, helping to mitigate catastrophic failures and improve hole size.

LONGER TOOL LIFE

AVAILABLE *LENGTHS*

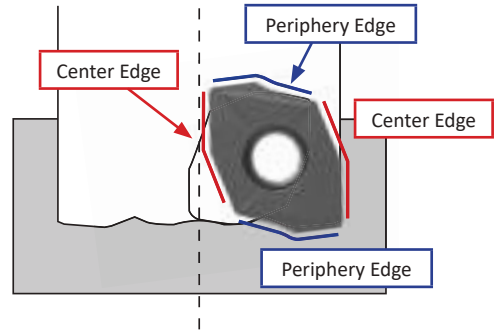


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Insert Information

4 CUTTING EDGES

- Each insert has two inner cutting edges and two outer cutting edges.
- Economical solution that increases tool life because of the rotation ability of the inserts.
- Available in ISO material-specific geometry/coating combinations.



Periphery Insert



Periphery edge chip formation:



Center Insert






Center edge chip formation:

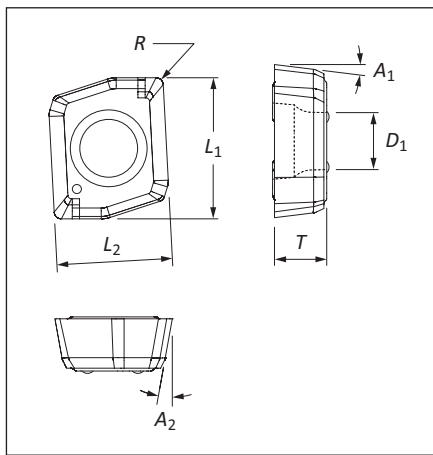


ISO Material	Geometry	Coating	Description
P	General Rake	AM480	A general purpose geometry that provides excellent chip formation in most steels including free-machining, medium- and high-carbon steels. A P30 carbide substrate for improved toughness and AM480 coating, a proprietary wear resistant multilayer PVD coating to improve tool life.
S M	High Rake	AM485	A higher rake geometry that provides excellent chip formation in both stainless steels and high-temperature alloys. A tough M25 carbide substrate coated with AM485, a high heat resistance proprietary multilayer PVD coating.
H	Low Rake	AM480	A lower rake geometry to improve edge strength in both hardened tool steels and high-strength alloys. With a P30 carbide substrate for improved toughness and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
K	General Rake	AM480	With a general purpose geometry, the K inserts can be used in grey cast irons as well as ductile irons. A high wear-resistant K10 carbide substrate to improve tool life and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
N	High Rake	TiCN	A higher rake cutting geometry provides excellent chip formation in nonferrous materials. An M15/K15 carbide substrate paired with TiCN coating for improved lubricity to resist built-up material, increasing tool life and maintaining chip formation.

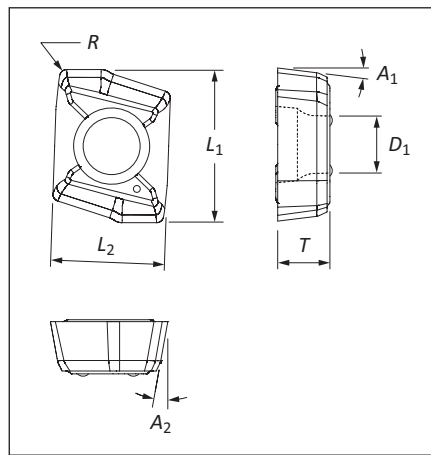
Insert Information

Series	Insert Prefix	Dimension (mm)					Angle		Shape
		L_1	L_2	T	D_1	R	A_1	A_2	
03	4T-030203C-x	5.60	4.80	2.30	2.40	0.30	7°	10°	 Style 1
	4T-030203P-x	6.38	4.77	2.30	2.40	0.30	7°	10°	 Style 2
04	4T-040203-x	6.21	5.06	2.60	2.45	0.30	13°	10°	 Style 3
05	4T-05T203-x	7.26	5.48	2.76	2.55	0.30	13°	7°	
06	4T-06T204-x	8.59	6.44	2.89	2.79	0.40	13°	7°	
07	4T-070305-x	10.21	8.02	3.24	3.00	0.50	13°	7°	
09	4T-09T306-x	12.18	9.55	4.03	3.64	0.60	13°	7°	
11	4T-11T306-x	14.50	11.61	4.06	4.62	0.60	13°	7°	
14	4T-140408-x	17.99	14.40	4.88	5.76	0.80	13°	7°	

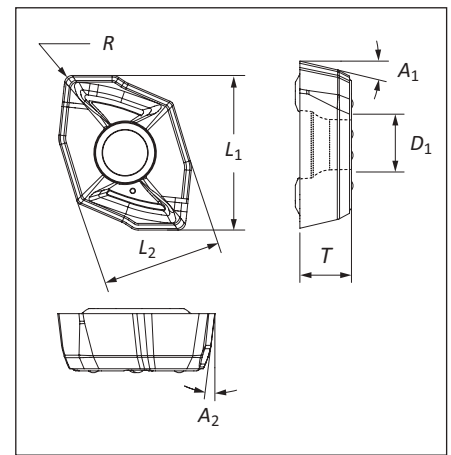
Style 1



Style 2



Style 3

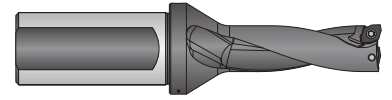


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Product Nomenclature

4TEX Drill Holders

D4	03	1200	M	-	20	FM
1	2	3*	4		5	6



1. Length to Diameter Ratio
D2 = 2xD
D3 = 3xD
D4 = 4xD

2. Series
03 = 03 series 07 = 07 series
04 = 04 series 09 = 09 series
05 = 05 series 11 = 11 series
06 = 06 series 14 = 14 series

3. Diameter*
1200 = 12 mm
0750 = 0.075"

4. Diameter Style
M = Metric
I = Imperial

5. Shank Diameter	
Metric	Imperial
20 = 20 mm	075 = 0.75"
25 = 25 mm	100 = 1.000"
32 = 32 mm	125 = 1.250"
40 = 40 mm	150 = 1.500"

6. Shank Style
FM = Metric flanged shank
F = Imperial flanged shank

***Ordering Non-Stocked Diameters:**

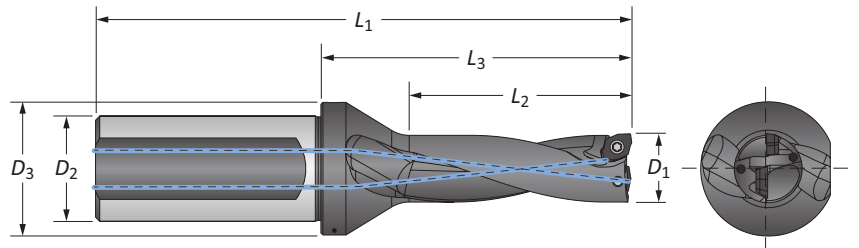
Non-stocked diameters are available upon request. Please refer to price list for applicable process fees.

Ordering example:

Metric: 03 Series (12.65 mm) = D2031265M-20FM
 Inch: 03 Series (Ø 0.480") = D2030480I-075F

Reference Key

Symbol	Attribute
D₁	Drill diameter
D₂	Shank diameter
D₃	Flange diameter
L₁	Assembled overall length
L₂	Drill depth
L₃	Reference length



A

DRILLING

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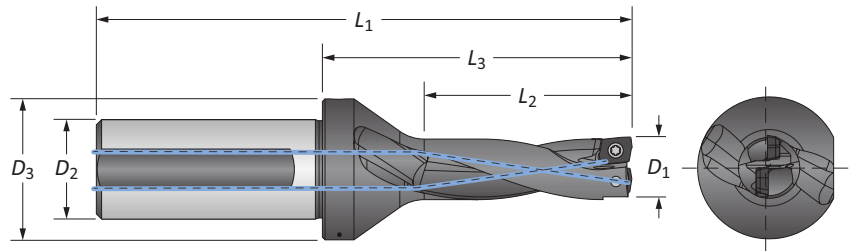
03

 DRILLING | 4TEX® Drill: Indexable Carbide Insert Drilling System

4TEX Drill Holders | Metric Shank

03 Series | Diameter Range: 12.00 mm - 13.49 mm (0.472" - 0.531")





Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	12.00	0.472	24.00	45.40	88.40	20.00	27.00	0.50	D2031200M-20FM
	12.50	0.492	25.00	46.40	89.40	20.00	27.00	0.40	D2031250M-20FM
	12.70	0.500	25.40	46.40	89.40	20.00	27.00	0.35	D2030500I-20FM
	13.00	0.512	26.00	47.40	90.40	20.00	27.00	0.30	D2031300M-20FM
3xD	12.00	0.472	36.00	57.40	100.40	20.00	27.00	0.50	D3031200M-20FM
	12.50	0.492	37.50	58.90	101.90	20.00	27.00	0.40	D3031250M-20FM
	12.70	0.500	38.10	58.90	101.90	20.00	27.00	0.35	D3030500I-20FM
	13.00	0.512	39.00	60.40	103.40	20.00	27.00	0.30	D3031300M-20FM
4xD	12.00	0.472	48.00	69.40	112.40	20.00	27.00	0.50	D4031200M-20FM
	12.50	0.492	50.00	71.40	114.40	20.00	27.00	0.40	D4031250M-20FM
	12.70	0.500	50.80	71.40	114.40	20.00	27.00	0.35	D4030500I-20FM
	13.00	0.512	52.00	73.40	116.40	20.00	27.00	0.30	D4031300M-20FM

IC Inserts

ISO Material	Style	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	Center	4T-030203C-P	7241-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
	Periphery	4T-030203P-P			
S M	Center	4T-030203C-M			
	Periphery	4T-030203P-M			
H	Center	4T-030203C-H			
	Periphery	4T-030203P-H			
K	Center	4T-030203C-K			
	Periphery	4T-030203P-K			
N	Center	4T-030203C-N			
	Periphery	4T-030203P-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

A

DRILLING

B

BORING

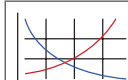
F

THREADING


X

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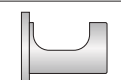
A55: 32 - 33
Key on A55: 1



A55: 29 - 31



A55: 28



Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

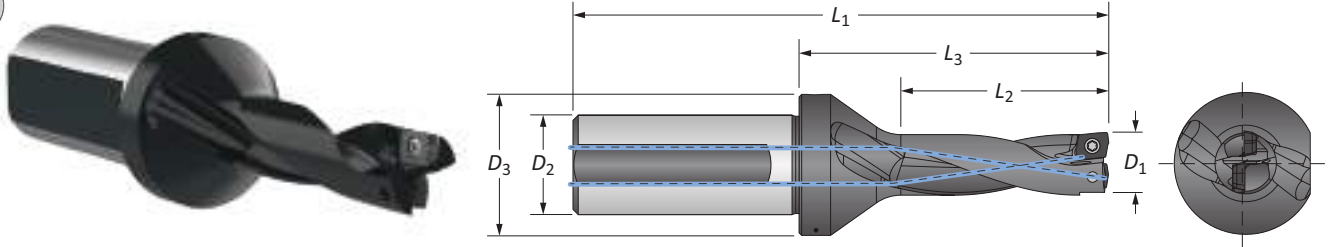
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

A55: 6

www.febametal.com/amec | Tel. 011.770.14.12

4TEX Drill Holders | Imperial Shank

03 Series | Diameter Range: 12.00 mm - 13.49 mm (0.472" - 0.531")



Imperial Shank

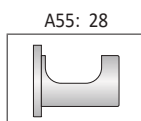
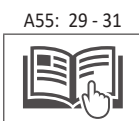
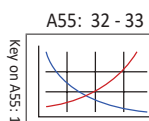
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	12.00	0.472	0.945	1.787	3.480	0.750	1.063	0.020	D2031200M-075F
	12.50	0.492	0.984	1.827	3.520	0.750	1.063	0.016	D2031250M-075F
	12.70	0.500	1.000	1.827	3.520	0.750	1.063	0.014	D2030500I-075F
	13.00	0.512	1.024	1.866	3.559	0.750	1.063	0.012	D2031300M-075F
3xD	12.00	0.472	1.417	2.260	3.953	0.750	1.063	0.020	D3031200M-075F
	12.50	0.492	1.476	2.319	4.012	0.750	1.063	0.016	D3031250M-075F
	12.70	0.500	1.500	2.319	4.012	0.750	1.063	0.014	D3030500I-075F
	13.00	0.512	1.535	2.378	4.071	0.750	1.063	0.012	D3031300M-075F
4xD	12.00	0.472	1.890	2.732	4.425	0.750	1.063	0.020	D4031200M-075F
	12.50	0.492	1.969	2.811	4.504	0.750	1.063	0.016	D4031250M-075F
	12.70	0.500	2.000	2.811	4.504	0.750	1.063	0.014	D4030500I-075F
	13.00	0.512	2.047	2.890	4.583	0.750	1.063	0.012	D4031300M-075F

IC Inserts

ISO Material	Style	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	Center	4T-030203C-P	7241-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
	Periphery	4T-030203P-P			
S M	Center	4T-030203C-M			
	Periphery	4T-030203P-M			
H	Center	4T-030203C-H			
	Periphery	4T-030203P-H			
K	Center	4T-030203C-K			
	Periphery	4T-030203P-K			
N	Center	4T-030203C-N			
	Periphery	4T-030203P-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010



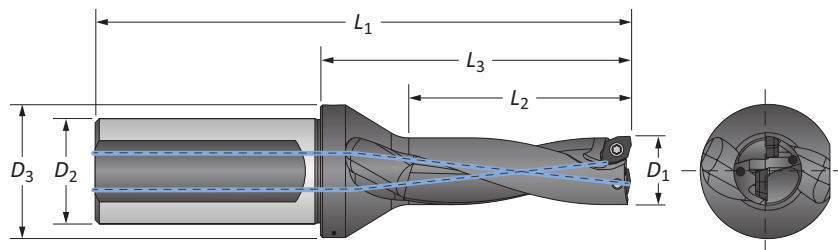
Key on A55: 1

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

04 Series | Diameter Range: 13.50 mm - 15.49 mm (0.532" - 0.610")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	13.50	0.531	27.00	48.40	91.40	20.00	27.00	0.50	D2041350M-20FM
	14.00	0.551	28.00	49.40	92.40	20.00	27.00	0.40	D2041400M-20FM
	14.29	0.563	28.55	49.40	92.40	20.00	27.00	0.30	D2040562I-20FM
	14.50	0.571	29.00	50.40	93.40	20.00	27.00	0.30	D2041450M-20FM
	15.00	0.591	30.00	51.40	94.40	20.00	27.00	0.20	D2041500M-20FM
3xD	13.50	0.531	40.50	61.90	104.90	20.00	27.00	0.50	D3041350M-20FM
	14.00	0.551	42.00	63.40	106.40	20.00	27.00	0.40	D3041400M-20FM
	14.29	0.563	42.82	63.40	106.40	20.00	27.00	0.30	D3040562I-20FM
	14.50	0.571	43.50	64.90	107.90	20.00	27.00	0.30	D3041450M-20FM
	15.00	0.591	45.00	66.40	109.40	20.00	27.00	0.20	D3041500M-20FM
4xD	13.50	0.531	54.00	75.40	118.40	20.00	27.00	0.50	D4041350M-20FM
	14.00	0.551	56.00	77.40	120.40	20.00	27.00	0.40	D4041400M-20FM
	14.29	0.563	57.10	77.40	120.40	20.00	27.00	0.30	D4040562I-20FM
	14.50	0.571	58.00	79.40	122.40	20.00	27.00	0.30	D4041450M-20FM
	15.00	0.591	60.00	81.40	124.40	20.00	27.00	0.20	D4041500M-20FM

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-040203-P	7241-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
S	4T-040203-M			
H	4T-040203-H			
K	4T-040203-K			
N	4T-040203-N			

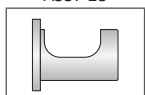
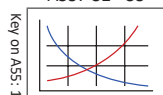
Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

A55: 32 - 33

A55: 29 - 31

A55: 28



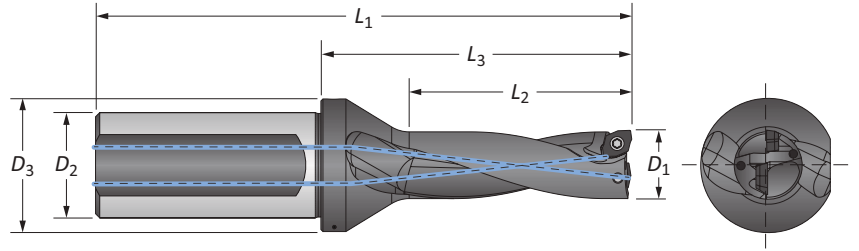
Key on A55: 1

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

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

04 Series | Diameter Range: 13.50 mm - 15.49 mm (0.532" - 0.610")



Imperial Shank

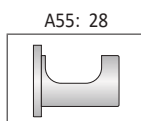
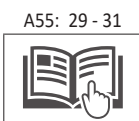
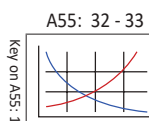
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	13.50	0.531	1.063	1.906	3.598	0.750	1.063	0.020	D2041350M-075F
	14.00	0.551	1.102	1.945	3.638	0.750	1.063	0.016	D2041400M-075F
	14.29	0.563	1.124	1.945	3.638	0.750	1.063	0.013	D2040562I-075F
	14.50	0.571	1.142	1.984	3.677	0.750	1.063	0.012	D2041450M-075F
	15.00	0.591	1.181	2.024	3.717	0.750	1.063	0.008	D2041500M-075F
3xD	13.50	0.531	1.594	2.437	4.130	0.750	1.063	0.020	D3041350M-075F
	14.00	0.551	1.654	2.496	4.189	0.750	1.063	0.016	D3041400M-075F
	14.29	0.563	1.686	2.496	4.189	0.750	1.063	0.013	D3040562I-075F
	14.50	0.571	1.713	2.555	4.248	0.750	1.063	0.012	D3041450M-075F
	15.00	0.591	1.772	2.614	4.307	0.750	1.063	0.008	D3041500M-075F
4xD	13.50	0.531	2.126	2.969	4.661	0.750	1.063	0.020	D4041350M-075F
	14.00	0.551	2.205	3.047	4.740	0.750	1.063	0.016	D4041400M-075F
	14.29	0.563	2.248	3.047	4.740	0.750	1.063	0.013	D4040562I-075F
	14.50	0.571	2.283	3.126	4.819	0.750	1.063	0.012	D4041450M-075F
	15.00	0.591	2.362	3.205	4.898	0.750	1.063	0.008	D4041500M-075F

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-040203-P	7241-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
S	4T-040203-M			
H	4T-040203-H			
K	4T-040203-K			
N	4T-040203-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

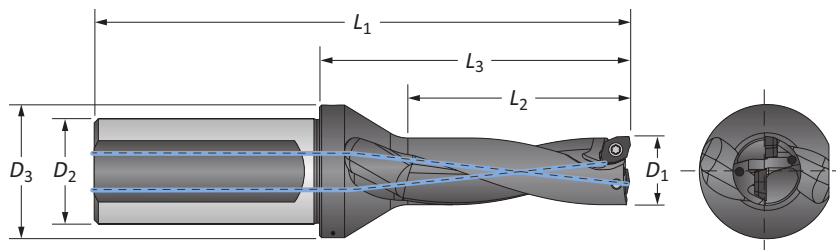


m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

05 Series | Diameter Range: 15.50 mm - 18.49 mm (0.611" - 0.728")



Metric Shank

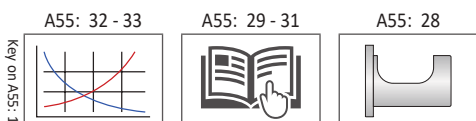
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	15.50	0.610	31.00	54.50	108.50	25.00	32.00	0.80	D2051550M-25FM
	15.88	0.625	31.75	54.50	108.50	25.00	32.00	0.70	D2050625I-25FM
	16.00	0.630	32.00	55.50	109.50	25.00	32.00	0.70	D2051600M-25FM
	16.50	0.650	33.00	56.50	110.50	25.00	32.00	0.50	D2051650M-25FM
	16.66	0.656	33.32	56.49	110.50	25.00	32.00	0.40	D2050656I-25FM
	17.00	0.669	34.00	57.50	111.50	25.00	32.00	0.40	D2051700M-25FM
	17.46	0.687	34.90	57.50	111.50	25.00	32.00	0.30	D2050687I-25FM
	17.50	0.689	35.00	58.50	112.50	25.00	32.00	0.30	D2051750M-25FM
	18.00	0.709	36.00	59.50	113.50	25.00	32.00	0.20	D2051800M-25FM
3xD	18.24	0.718	36.47	59.51	113.51	25.00	32.00	0.15	D2050718I-25FM
	15.50	0.610	46.50	70.00	124.00	25.00	32.00	0.80	D3051550M-25FM
	15.88	0.625	47.63	70.00	124.00	25.00	32.00	0.70	D3050625I-25FM
	16.00	0.630	48.00	71.50	125.50	25.00	32.00	0.70	D3051600M-25FM
	16.50	0.650	49.50	73.00	127.00	25.00	32.00	0.50	D3051650M-25FM
	16.66	0.656	49.98	73.00	127.00	25.00	32.00	0.40	D3050656I-25FM
	17.00	0.669	51.00	74.50	128.50	25.00	32.00	0.40	D3051700M-25FM
	17.46	0.687	52.35	74.50	128.50	25.00	32.00	0.30	D3050687I-25FM
	17.50	0.689	52.50	76.00	130.00	25.00	32.00	0.30	D3051750M-25FM
4xD	18.00	0.709	54.00	77.50	131.50	25.00	32.00	0.20	D3051800M-25FM
	18.24	0.718	54.71	77.50	131.50	58.00	32.00	0.15	D3050718I-25FM
	15.50	0.610	62.00	85.50	139.50	25.00	32.00	0.80	D4051550M-25FM
	15.88	0.625	63.50	85.50	139.50	25.00	32.00	0.70	D4050625I-25FM
	16.00	0.630	64.00	87.50	141.50	25.00	32.00	0.70	D4051600M-25FM
	16.50	0.650	66.00	89.50	143.50	25.00	32.00	0.50	D4051650M-25FM
	16.66	0.656	66.64	89.51	143.51	25.00	32.00	0.40	D4050656I-25FM
	17.00	0.669	68.00	91.50	145.50	25.00	32.00	0.40	D4051700M-25FM
	17.46	0.687	69.80	91.50	145.50	25.00	32.00	0.30	D4050687I-25FM
Metric	17.50	0.689	70.00	93.50	147.50	25.00	32.00	0.30	D4051750M-25FM
	18.00	0.709	72.00	95.50	149.50	25.00	32.00	0.20	D4051800M-25FM
	18.24	0.718	72.95	95.50	149.50	25.00	32.00	0.15	D4050718I-25FM

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-05T203-P	7243-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
S	4T-05T203-M			
H	4T-05T203-H			
K	4T-05T203-K			
N	4T-05T203-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010



Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

DRILLING

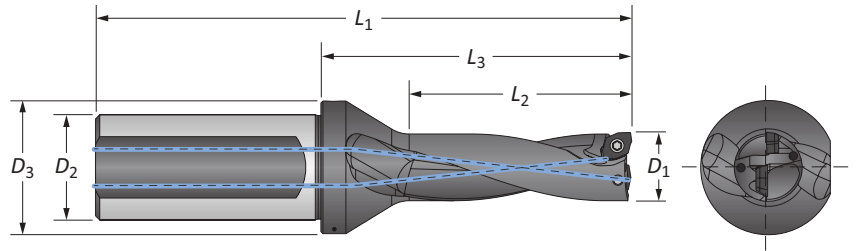
BORING

THREADING

SPECIALS

4TEX Drill Holders | Imperial Shank

05 Series | Diameter Range: 15.50 mm - 18.49 mm (0.611" - 0.728")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	15.50	0.610	1.220	2.146	4.272	1.000	1.260	0.031	D2051550M-100F
	15.88	0.625	1.250	2.146	4.272	1.000	1.260	0.029	D2050625I-100F
	16.00	0.630	1.260	2.185	4.311	1.000	1.260	0.028	D2051600M-100F
	16.50	0.650	1.299	2.224	4.350	1.000	1.260	0.020	D2051650M-100F
	16.66	0.656	1.312	2.224	4.350	1.000	1.260	0.016	D2050656I-100F
	17.00	0.669	1.339	2.264	4.390	1.000	1.260	0.016	D2051700M-100F
	17.46	0.687	1.374	2.264	4.390	1.000	1.260	0.012	D2050687I-100F
	17.50	0.689	1.378	2.303	4.429	1.000	1.260	0.012	D2051750M-100F
	18.00	0.709	1.417	2.343	4.469	1.000	1.260	0.008	D2051800M-100F
3xD	18.24	0.718	1.436	2.343	4.469	1.000	1.260	0.006	D2050718I-100F
	15.50	0.610	1.831	2.756	4.882	1.000	1.260	0.031	D3051550M-100F
	15.88	0.625	1.875	2.756	4.882	1.000	1.260	0.029	D3050625I-100F
	16.00	0.630	1.890	2.815	4.941	1.000	1.260	0.028	D3051600M-100F
	16.50	0.650	1.949	2.874	5.000	1.000	1.260	0.020	D3051650M-100F
	16.66	0.656	1.968	2.784	5.000	1.000	1.260	0.016	D3050656I-100F
	17.00	0.669	2.008	2.933	5.059	1.000	1.260	0.016	D3051700M-100F
	17.46	0.687	2.061	2.933	5.059	1.000	1.260	0.012	D3050687I-100F
	17.50	0.689	2.067	2.992	5.118	1.000	1.260	0.012	D3051750M-100F
4xD	18.00	0.709	2.126	3.051	5.177	1.000	1.260	0.008	D3051800M-100F
	18.24	0.718	2.154	3.051	5.177	1.000	1.260	0.006	D3050718I-100F
	15.50	0.610	2.441	3.366	5.492	1.000	1.260	0.031	D4051550M-100F
	15.88	0.625	2.500	3.366	5.492	1.000	1.260	0.029	D4050625I-100F
	16.00	0.630	2.520	3.445	5.571	1.000	1.260	0.028	D4051600M-100F
	16.50	0.650	2.598	3.524	5.650	1.000	1.260	0.020	D4051650M-100F
	16.66	0.656	2.624	3.524	5.650	1.000	1.260	0.016	D4050656I-100F
	17.00	0.669	2.677	3.602	5.728	1.000	1.260	0.016	D4051700M-100F
	17.46	0.687	2.748	3.602	5.728	1.000	1.260	0.012	D4050687I-100F
17.50	0.689	2.756	3.681	5.807	1.000	1.260	0.012	D4051750M-100F	
18.00	0.709	2.835	3.760	5.886	1.000	1.260	0.008	D4051800M-100F	
18.24	0.718	2.872	3.760	5.886	1.000	1.260	0.006	D4050718I-100F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-05T203-P	7243-T6-1	8T-6	0.5 N-m (4.4 in-lbs)
S	4T-05T203-M			
H	4T-05T203-H			
K	4T-05T203-K			
N	4T-05T203-N			

Expected Hole Tolerances

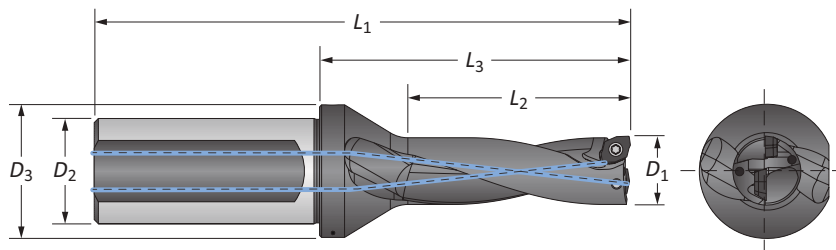
Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

A55: 32 - 33 A55: 29 - 31 A55: 28

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

06 Series | Diameter Range: 18.50 mm - 21.99 mm (0.728" - 0.866")



Metric Shank

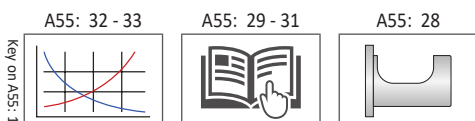
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	18.50	0.728	37.00	58.40	112.40	25.00	32.00	0.90	D2061850M-25FM
	19.00	0.748	38.00	59.40	113.40	25.00	32.00	0.80	D2061900M-25FM
	19.05	0.750	38.10	59.40	113.40	25.00	32.00	0.80	D2060750I-25FM
	19.43	0.765	38.86	59.41	113.41	25.00	32.00	0.70	D2060765I-25FM
	19.50	0.768	39.00	60.40	114.40	25.00	32.00	0.70	D2061950M-25FM
	20.00	0.787	40.00	61.40	115.40	25.00	32.00	0.50	D2062000M-25FM
	20.50	0.807	41.00	62.40	116.40	25.00	32.00	0.40	D2062050M-25FM
	20.64	0.813	41.25	62.40	116.40	25.00	32.00	0.40	D2060812I-25FM
	21.00	0.827	42.00	63.40	117.40	25.00	32.00	0.30	D2062100M-25FM
3xD	18.50	0.728	55.00	76.90	130.90	25.00	32.00	0.90	D3061850M-25FM
	19.00	0.748	57.00	78.40	132.40	25.00	32.00	0.80	D3061900M-25FM
	19.05	0.750	57.15	78.40	132.40	25.00	32.00	0.80	D3060750I-25FM
	19.43	0.765	58.29	78.41	132.41	25.00	32.00	0.70	D3060765I-25FM
	19.50	0.768	58.50	79.90	133.90	25.00	32.00	0.70	D3061950M-25FM
	20.00	0.787	60.00	81.40	135.40	25.00	32.00	0.50	D3062000M-25FM
	20.50	0.807	61.50	82.90	136.90	25.00	32.00	0.40	D3062050M-25FM
	20.64	0.813	61.87	82.90	136.90	25.00	32.00	0.40	D3060812I-25FM
	21.00	0.827	63.00	84.40	138.40	25.00	32.00	0.30	D3062100M-25FM
4xD	18.50	0.728	74.00	95.40	149.40	25.00	32.00	0.90	D4061850M-25FM
	19.00	0.748	76.00	97.40	151.40	25.00	32.00	0.80	D4061900M-25FM
	19.05	0.750	76.20	97.40	151.40	25.00	32.00	0.80	D4060750I-25FM
	19.43	0.765	77.72	97.41	151.41	25.00	32.00	0.70	D4060765I-25FM
	19.50	0.768	78.00	99.40	153.40	25.00	32.00	0.70	D4061950M-25FM
	20.00	0.787	80.00	101.40	155.40	25.00	32.00	0.50	D4062000M-25FM
	20.50	0.807	82.00	103.40	157.40	25.00	32.00	0.40	D4062050M-25FM
	20.64	0.813	82.49	103.40	157.40	25.00	32.00	0.40	D4060812I-25FM
	21.00	0.827	84.00	105.40	159.40	25.00	32.00	0.30	D4062100M-25FM
	21.50	0.846	86.00	107.40	161.40	25.00	32.00	0.20	D4062150M-25FM

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-06T204-P	72251-T7-1	8T-7	0.8 N-m (7.1 in-lbs)
S	4T-06T204-M			
H	4T-06T204-H			
K	4T-06T204-K			
N	4T-06T204-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

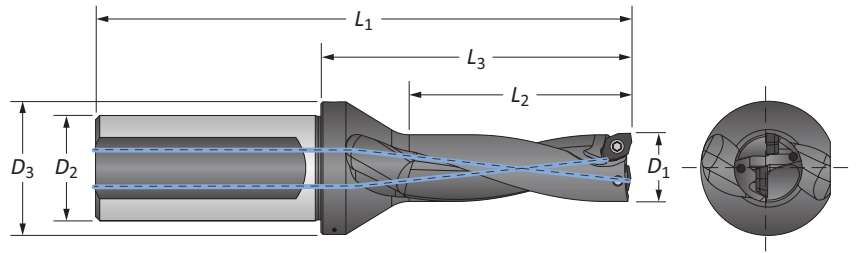


m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

06 Series | Diameter Range: 18.50 mm - 21.99 mm (0.728" - 0.866")



Imperial Shank

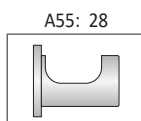
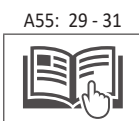
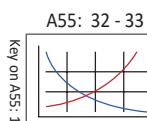
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	18.50	0.728	1.457	2.299	4.425	1.000	1.260	0.035	D2061850M-100F
	19.00	0.748	1.496	2.339	4.465	1.000	1.260	0.031	D2061900M-100F
	19.05	0.750	1.500	2.339	4.465	1.000	1.260	0.031	D2060750I-100F
	19.43	0.765	1.530	2.339	4.465	1.000	1.260	0.028	D2060765I-100F
	19.50	0.768	1.535	2.378	4.504	1.000	1.260	0.028	D2061950M-100F
	20.00	0.787	1.575	2.417	4.543	1.000	1.260	0.020	D2062000M-100F
	20.50	0.807	1.614	2.457	4.583	1.000	1.260	0.016	D2062050M-100F
	20.64	0.813	1.624	2.457	4.583	1.000	1.260	0.015	D2060812I-100F
	21.00	0.827	1.654	2.496	4.622	1.000	1.260	0.012	D2062100M-100F
21.50	0.846	1.693	2.535	4.661	1.000	1.260	0.008	D2062150M-100F	
3xD	18.50	0.728	2.165	3.028	5.154	1.000	1.260	0.035	D3061850M-100F
	19.00	0.748	2.244	3.087	5.213	1.000	1.260	0.031	D3061900M-100F
	19.05	0.750	2.250	3.087	5.213	1.000	1.260	0.031	D3060750I-100F
	19.43	0.765	2.295	3.087	5.213	1.000	1.260	0.028	D3060765I-100F
	19.50	0.768	2.303	3.146	5.272	1.000	1.260	0.028	D3061950M-100F
	20.00	0.787	2.362	3.205	5.331	1.000	1.260	0.020	D3062000M-100F
	20.50	0.807	2.421	3.264	5.390	1.000	1.260	0.016	D3062050M-100F
	20.64	0.813	2.436	3.264	5.390	1.000	1.260	0.015	D3060812I-100F
	21.00	0.827	2.480	3.323	5.449	1.000	1.260	0.012	D3062100M-100F
21.50	0.846	2.539	3.382	5.508	1.000	1.260	0.008	D3062150M-100F	
4xD	18.50	0.728	2.913	3.756	5.882	1.000	1.260	0.035	D4061850M-100F
	19.00	0.748	2.992	3.835	5.961	1.000	1.260	0.031	D4061900M-100F
	19.05	0.750	3.000	3.835	5.961	1.000	1.260	0.031	D4060750I-100F
	19.43	0.765	3.060	3.835	5.961	1.000	1.260	0.028	D4060765I-100F
	19.50	0.768	3.071	3.913	6.039	1.000	1.260	0.028	D4061950M-100F
	20.00	0.787	3.150	3.992	6.118	1.000	1.260	0.020	D4062000M-100F
	20.50	0.807	3.228	4.071	6.197	1.000	1.260	0.016	D4062050M-100F
	20.64	0.813	3.248	4.071	6.197	1.000	1.260	0.015	D4060812I-100F
	21.00	0.827	3.307	4.150	6.276	1.000	1.260	0.012	D4062100M-100F
21.50	0.846	3.386	4.228	6.354	1.000	1.260	0.008	D4062150M-100F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-06T204-P	72251-T7-1	8T-7	0.8 N-m (7.1 in-lbs)
S	4T-06T204-M			
H	4T-06T204-H			
K	4T-06T204-K			
N	4T-06T204-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

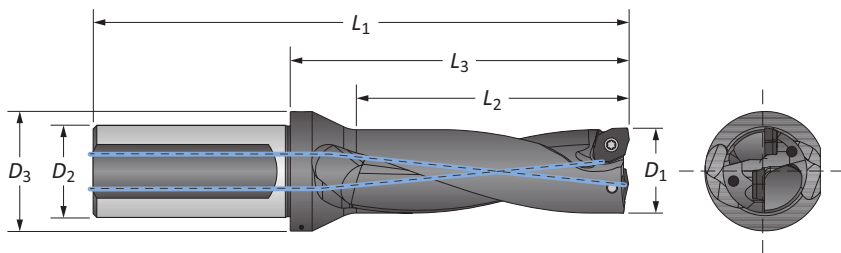


m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

07 Series | Diameter Range: 22.00 mm - 26.49 mm (0.867" - 1.043")



Metric Shank

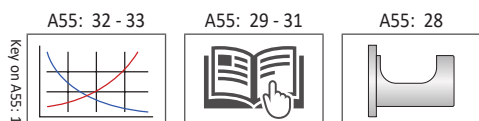
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	22.00	0.866	44.00	64.90	118.90	25.00	33.00	1.20	D2072200M-25FM
	22.22	0.875	44.45	64.90	118.90	25.00	33.00	1.10	D2070875I-25FM
	22.50	0.886	45.00	65.90	119.90	25.00	33.00	1.00	D2072250M-25FM
	23.00	0.906	46.00	66.90	120.90	25.00	33.00	0.90	D2072300M-25FM
	23.50	0.925	47.00	67.90	121.90	25.00	33.00	0.80	D2072350M-25FM
	23.81	0.937	47.60	67.90	121.90	25.00	33.00	7.40	D2070937I-25FM
	24.00	0.945	48.00	68.90	122.90	25.00	33.00	0.70	D2072400M-25FM
	24.50	0.965	49.00	69.90	123.90	25.00	33.00	0.50	D2072450M-25FM
	25.00	0.984	50.00	70.90	124.90	25.00	33.00	0.40	D2072500M-25FM
	25.40	1.000	50.80	70.90	124.90	25.00	33.00	0.30	D2071000I-25FM
3xD	22.00	0.866	66.00	86.90	140.90	25.00	33.00	1.20	D3072200M-25FM
	22.22	0.875	66.68	86.90	140.90	25.00	33.00	1.10	D3070875I-25FM
	22.50	0.886	67.50	88.40	142.40	25.00	33.00	1.00	D3072250M-25FM
	23.00	0.906	69.00	89.90	143.90	25.00	33.00	0.90	D3072300M-25FM
	23.50	0.925	70.50	91.40	145.40	25.00	33.00	0.80	D3072350M-25FM
	23.81	0.937	71.40	91.40	145.40	25.00	33.00	7.40	D3070937I-25FM
	24.00	0.945	72.00	92.90	146.90	25.00	33.00	0.70	D3072400M-25FM
	24.50	0.965	73.50	94.40	148.40	25.00	33.00	0.50	D3072450M-25FM
	25.00	0.984	75.00	95.90	149.90	25.00	33.00	0.40	D3072500M-25FM
	25.40	1.000	76.20	95.90	149.90	25.00	33.00	0.30	D3071000I-25FM
4xD	22.00	0.866	88.00	109.00	163.00	25.00	33.00	1.20	D4072200M-25FM
	22.22	0.875	88.90	108.90	162.90	25.00	33.00	1.10	D4070875I-25FM
	22.50	0.886	90.00	111.00	165.00	25.00	33.00	1.00	D4072250M-25FM
	23.00	0.906	92.00	113.00	167.00	25.00	33.00	0.90	D4072300M-25FM
	23.50	0.925	94.00	115.00	169.00	25.00	33.00	0.80	D4072350M-25FM
	23.81	0.937	95.20	114.90	168.90	25.00	33.00	7.40	D4070937I-25FM
	24.00	0.945	96.00	117.00	171.00	25.00	33.00	0.70	D4072400M-25FM
	24.50	0.965	98.00	119.00	173.00	25.00	33.00	0.50	D4072450M-25FM
	25.00	0.984	100.00	121.00	175.00	25.00	33.00	0.40	D4072500M-25FM
	25.40	1.000	101.60	120.90	174.90	25.00	33.00	0.30	D4071000I-25FM
Metric	25.50	1.004	102.00	123.00	177.00	25.00	33.00	0.30	D4072550M-25FM
	26.00	1.024	104.00	125.00	179.00	25.00	33.00	0.20	D4072600M-25FM

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-070305-P	72568-T8-1	8T-8	1.2 N-m (10.6 in-lbs)
S	4T-070305-M			
H	4T-070305-H			
K	4T-070305-K			
N	4T-070305-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

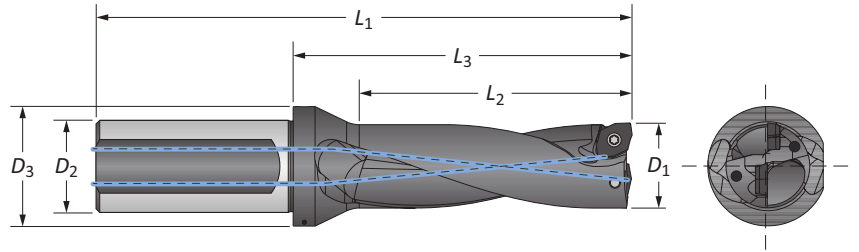


Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

07 Series | Diameter Range: 22.00 mm - 26.49 mm (0.867" - 1.043")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	22.00	0.866	1.732	2.555	4.681	1.000	1.299	0.047	D2072200M-100F
	22.22	0.875	1.750	2.555	4.681	1.000	1.299	0.043	D2070875I-100F
	22.50	0.886	1.772	2.594	4.720	1.000	1.299	0.039	D2072250M-100F
	23.00	0.906	1.811	2.634	4.760	1.000	1.299	0.035	D2072300M-100F
	23.50	0.925	1.850	2.673	4.799	1.000	1.299	0.031	D2072350M-100F
	23.81	0.937	1.874	2.673	4.799	1.000	1.299	0.292	D2070937I-100F
	24.00	0.945	1.890	2.713	4.839	1.000	1.299	0.028	D2072400M-100F
	24.50	0.965	1.929	2.752	4.878	1.000	1.299	0.020	D2072450M-100F
	25.00	0.984	1.969	2.791	4.917	1.000	1.299	0.016	D2072500M-100F
	25.40	1.000	2.000	2.791	4.917	1.000	1.299	0.013	D2071000I-100F
3xD	22.00	0.866	2.598	3.421	5.547	1.000	1.299	0.047	D3072200M-100F
	22.22	0.875	2.625	3.421	5.547	1.000	1.299	0.043	D3070875I-100F
	22.50	0.886	2.657	3.480	5.606	1.000	1.299	0.039	D3072250M-100F
	23.00	0.906	2.717	3.539	5.665	1.000	1.299	0.035	D3072300M-100F
	23.50	0.925	2.776	3.598	5.724	1.000	1.299	0.031	D3072350M-100F
	23.81	0.937	2.811	3.598	5.724	1.000	1.299	0.292	D3070937I-100F
	24.00	0.945	2.835	3.657	5.783	1.000	1.299	0.028	D3072400M-100F
	24.50	0.965	2.894	3.717	5.843	1.000	1.299	0.020	D3072450M-100F
	25.00	0.984	2.953	3.776	5.902	1.000	1.299	0.016	D3072500M-100F
	25.40	1.000	3.000	3.776	5.902	1.000	1.299	0.013	D3071000I-100F
4xD	22.00	0.866	3.465	4.287	6.413	1.000	1.299	0.047	D4072200M-100F
	22.22	0.875	3.500	4.287	6.413	1.000	1.299	0.043	D4070875I-100F
	22.50	0.886	3.543	4.366	6.492	1.000	1.299	0.039	D4072250M-100F
	23.00	0.906	3.622	4.445	6.571	1.000	1.299	0.035	D4072300M-100F
	23.50	0.925	3.701	4.524	6.650	1.000	1.299	0.031	D4072350M-100F
	23.81	0.937	3.748	4.524	6.650	1.000	1.299	0.292	D4070937I-100F
	24.00	0.945	3.780	4.602	6.728	1.000	1.299	0.028	D4072400M-100F
	24.50	0.965	3.858	4.681	6.807	1.000	1.299	0.020	D4072450M-100F
	25.00	0.984	3.937	4.760	6.886	1.000	1.299	0.016	D4072500M-100F
	25.40	1.000	4.000	4.760	6.886	1.000	1.299	0.013	D4071000I-100F
4xD	25.50	1.004	4.016	4.839	6.965	1.000	1.299	0.012	D4072550M-100F
	26.00	1.024	4.094	4.917	7.043	1.000	1.299	0.008	D4072600M-100F

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-070305-P	72568-T8-1	8T-8	1.2 N-m (10.6 in-lbs)
S	4T-070305-M			
H	4T-070305-H			
K	4T-070305-K			
N	4T-070305-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.10 / +0.20	-0.004 / +0.008
3xD	-0.10 / +0.20	-0.004 / +0.008
4xD	-0.10 / +0.25	-0.004 / +0.010

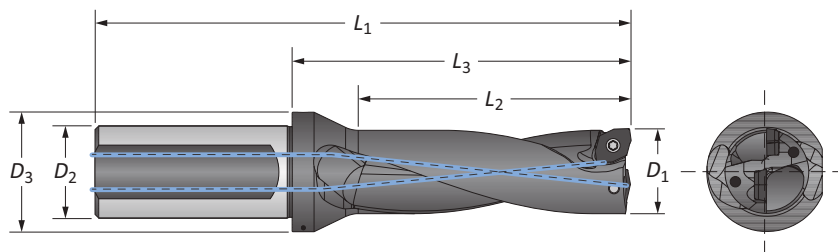
A55: 32 - 33 A55: 29 - 31 A55: 28

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

A
 DRILLING
 B
 BORING
 F
 THREADING
 X
 SPECIALS

4TEX Drill Holders | Metric Shank

09 Series | Diameter Range: 26.50 mm - 31.99 mm (1.044" - 1.259")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	26.50	1.043	53.00	75.70	134.70	32.00	41.00	1.68	D2092650M-32FM
	27.00	1.063	54.00	76.70	135.70	32.00	41.00	1.60	D2092700M-32FM
	27.50	1.083	55.00	77.70	136.70	32.00	41.00	1.45	D2092750M-32FM
	28.00	1.102	56.00	78.70	137.70	32.00	41.00	1.30	D2092800M-32FM
	28.50	1.122	57.00	79.70	138.70	32.00	41.00	1.21	D2092850M-32FM
	28.58	1.125	57.15	79.70	138.70	32.00	41.00	1.20	D2091125I-32FM
	29.00	1.142	58.00	80.70	139.70	32.00	41.00	1.10	D2092900M-32FM
	29.50	1.161	59.00	81.70	140.70	32.00	43.00	0.97	D2092950M-32FM
	30.00	1.181	60.00	82.70	141.70	32.00	43.00	0.80	D2093000M-32FM
	30.15	1.187	60.30	82.70	141.70	32.00	43.00	0.82	D2091187I-32FM
	30.50	1.201	61.00	83.70	142.70	32.00	43.00	0.74	D2093050M-32FM
	31.00	1.220	62.00	84.70	143.70	32.00	43.00	0.60	D2093100M-32FM
	31.50	1.240	63.00	85.70	144.70	32.00	43.00	0.50	D2093150M-32FM
31.75	1.250	63.50	85.70	144.70	32.00	43.00	0.50	D2091250I-32FM	
3xD	26.50	1.043	79.50	102.20	161.20	32.00	41.00	1.68	D3092650M-32FM
	27.00	1.063	81.00	103.70	162.70	32.00	41.00	1.60	D3092700M-32FM
	27.50	1.083	82.50	105.20	164.20	32.00	41.00	1.45	D3092750M-32FM
	28.00	1.102	84.00	106.70	165.70	32.00	41.00	1.30	D3092800M-32FM
	28.50	1.122	85.50	108.20	167.20	32.00	41.00	1.21	D3092850M-32FM
	28.58	1.125	85.73	108.20	167.20	32.00	41.00	1.20	D3091125I-32FM
	29.00	1.142	87.00	109.70	168.70	32.00	41.00	1.10	D3092900M-32FM
	29.50	1.161	88.50	111.20	170.20	32.00	43.00	0.97	D3092950M-32FM
	30.00	1.181	90.00	112.70	171.70	32.00	43.00	0.80	D3093000M-32FM
	30.15	1.187	90.45	112.70	171.70	32.00	43.00	0.82	D3091187I-32FM
	30.50	1.201	91.50	114.20	173.20	32.00	43.00	0.74	D3093050M-32FM
	31.00	1.220	93.00	115.70	174.70	32.00	43.00	0.60	D3093100M-32FM
	31.50	1.240	94.50	117.00	176.20	32.00	43.00	0.50	D3093150M-32FM
31.75	1.250	95.25	117.20	176.20	32.00	43.00	0.50	D3091250I-32FM	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-09T306-P	738-T10-1	8T-10	2.0 N-m (17.7 in-lbs)
S	4T-09T306-M			
H	4T-09T306-H			
K	4T-09T306-K			
N	4T-09T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

A55: 32 - 33 A55: 29 - 31 A55: 28

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

DRILLING

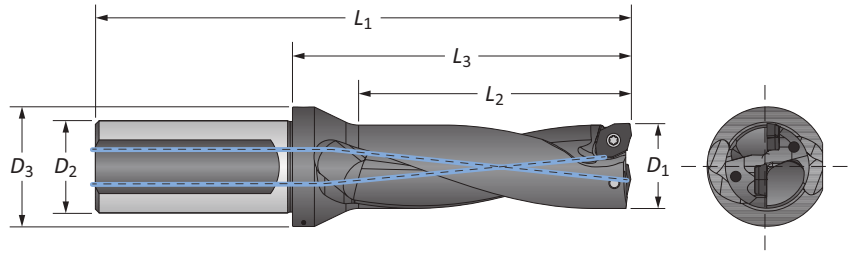
BORING

THREADING

SPECIALS

4TEX Drill Holders | Metric Shank

09 Series | Diameter Range: 26.50 mm - 31.99 mm (1.044" - 1.259")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
m 4xD	26.50	1.043	106.00	128.70	187.70	32.00	41.00	1.68	D4092650M-32FM
	27.00	1.063	108.00	130.70	189.70	32.00	41.00	1.60	D4092700M-32FM
	27.50	1.083	110.00	132.70	191.70	32.00	41.00	1.45	D4092750M-32FM
	28.00	1.102	112.00	134.70	193.70	32.00	41.00	1.30	D4092800M-32FM
	28.50	1.122	114.00	136.70	195.70	32.00	41.00	1.21	D4092850M-32FM
	28.58	1.125	114.30	136.70	195.70	32.00	41.00	1.20	D4091125I-32FM
	29.00	1.142	116.00	138.70	197.70	32.00	41.00	1.10	D4092900M-32FM
	29.50	1.161	118.00	140.70	199.70	32.00	43.00	0.97	D4092950M-32FM
	30.00	1.181	120.00	142.70	201.70	32.00	43.00	0.80	D4093000M-32FM
	30.15	1.187	120.60	142.70	201.70	32.00	43.00	0.82	D4091187I-32FM
	30.50	1.201	122.00	144.70	203.70	32.00	43.00	0.74	D4093050M-32FM
	31.00	1.220	124.00	146.70	205.70	32.00	43.00	0.60	D4093100M-32FM
	31.50	1.240	126.00	148.70	207.70	32.00	43.00	0.50	D4093150M-32FM
31.75	1.250	127.00	148.70	207.70	32.00	43.00	0.50	D4091250I-32FM	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-09T306-P	738-T10-1	8T-10	2.0 N-m (17.7 in-lbs)
S M	4T-09T306-M			
H	4T-09T306-H			
K	4T-09T306-K			
N	4T-09T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

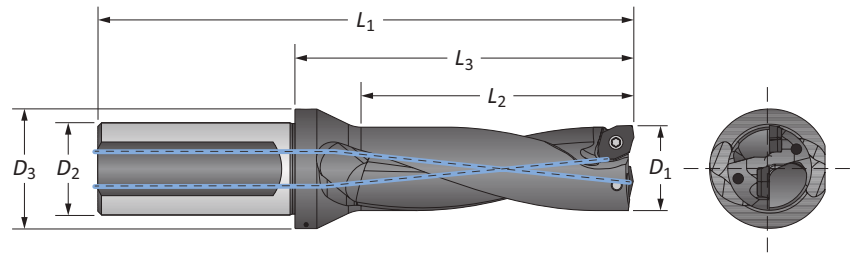
A55: 32 - 33 A55: 29 - 31 A55: 28

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

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank



09 Series | Diameter Range: 26.50 mm - 31.99 mm (1.044" - 1.259")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	26.50	1.043	2.087	2.980	5.303	1.250	1.614	0.066	D2092650M-125F
	27.00	1.063	2.126	3.020	5.343	1.250	1.614	0.063	D2092700M-125F
	27.50	1.083	2.165	3.059	5.382	1.250	1.614	0.057	D2092750M-125F
	28.00	1.102	2.205	3.098	5.421	1.250	1.614	0.051	D2092800M-125F
	28.50	1.122	2.244	3.138	5.461	1.250	1.614	0.048	D2092850M-125F
	28.58	1.125	2.250	3.138	5.461	1.250	1.614	0.046	D2091125I-125F
	29.00	1.142	2.283	3.177	5.500	1.250	1.614	0.043	D2092900M-125F
	29.50	1.161	2.323	3.217	5.539	1.250	1.693	0.038	D2092950M-125F
	30.00	1.181	2.362	3.256	5.579	1.250	1.693	0.031	D2093000M-125F
	30.15	1.187	2.374	3.256	5.579	1.250	1.693	0.032	D2091187I-125F
	30.50	1.201	2.402	3.295	5.618	1.250	1.693	0.029	D2093050M-125F
	31.00	1.220	2.441	3.335	5.657	1.250	1.693	0.024	D2093100M-125F
	31.50	1.240	2.480	3.374	5.697	1.250	1.693	0.020	D2093150M-125F
31.75	1.250	2.500	3.374	5.697	1.250	1.693	0.019	D2091250I-125F	
3xD	26.50	1.043	3.130	4.024	6.346	1.250	1.614	0.066	D3092650M-125F
	27.00	1.063	3.189	4.083	6.406	1.250	1.614	0.063	D3092700M-125F
	27.50	1.083	3.248	4.142	6.465	1.250	1.614	0.057	D3092750M-125F
	28.00	1.102	3.307	4.201	6.524	1.250	1.614	0.051	D3092800M-125F
	28.50	1.122	3.366	4.260	6.583	1.250	1.614	0.048	D3092850M-125F
	28.58	1.125	3.375	4.260	6.583	1.250	1.614	0.046	D3091125I-125F
	29.00	1.142	3.425	4.319	6.642	1.250	1.614	0.043	D3092900M-125F
	29.50	1.161	3.484	4.378	6.701	1.250	1.693	0.038	D3092950M-125F
	30.00	1.181	3.543	4.437	6.760	1.250	1.693	0.031	D3093000M-125F
	30.15	1.187	3.561	4.437	6.760	1.250	1.693	0.032	D3091187I-125F
	30.50	1.201	3.602	4.496	6.819	1.250	1.693	0.029	D3093050M-125F
	31.00	1.220	3.661	4.555	6.878	1.250	1.693	0.024	D3093100M-125F
	31.50	1.240	3.720	4.614	6.937	1.250	1.693	0.020	D3093150M-125F
31.75	1.250	3.750	4.614	6.937	1.250	1.693	0.019	D3091250I-125F	

IC Inserts

ISO Material	Part No.	 Insert Screw	 Torx® Driver	Admissible Tightening Torque
P	4T-09T306-P	738-T10-1	8T-10	2.0 N-m (17.7 in-lbs)
S	4T-09T306-M			
H	4T-09T306-H			
K	4T-09T306-K			
N	4T-09T306-N			

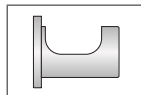
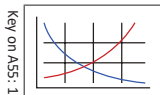
Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

A55: 32 - 33

A55: 29 - 31

A55: 28



Key on A55: 1

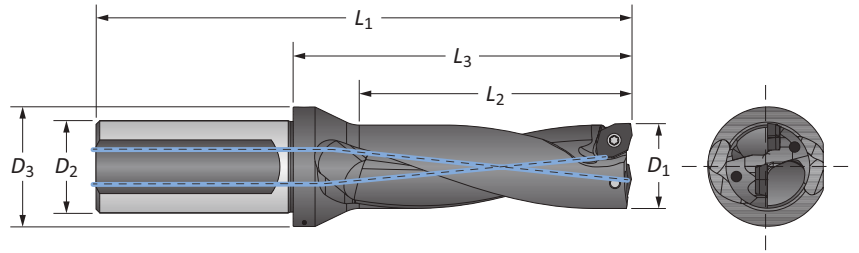
m = Metric (mm)

i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

09 Series | Diameter Range: 26.50 mm - 31.99 mm (1.044" - 1.259")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
4xD	26.50	1.043	4.173	5.067	7.390	1.250	1.614	0.066	D4092650M-125F
	27.00	1.063	4.252	5.146	7.469	1.250	1.614	0.063	D4092700M-125F
	27.50	1.083	4.331	5.224	7.547	1.250	1.614	0.057	D4092750M-125F
	28.00	1.102	4.409	5.303	7.626	1.250	1.614	0.051	D4092800M-125F
	28.50	1.122	4.488	5.382	7.705	1.250	1.614	0.048	D4092850M-125F
	28.58	1.125	4.500	5.382	7.705	1.250	1.614	0.046	D4091125I-125F
	29.00	1.142	4.567	5.461	7.783	1.250	1.614	0.043	D4092900M-125F
	29.50	1.161	4.646	5.539	7.862	1.250	1.693	0.038	D4092950M-125F
	30.00	1.181	4.724	5.618	7.941	1.250	1.693	0.031	D4093000M-125F
	30.15	1.187	4.748	5.618	7.941	1.250	1.693	0.032	D4091187I-125F
	30.50	1.201	4.803	5.697	8.020	1.250	1.693	0.029	D4093050M-125F
	31.00	1.220	4.882	5.776	8.098	1.250	1.693	0.024	D4093100M-125F
	31.50	1.240	4.961	5.854	8.177	1.250	1.693	0.020	D4093150M-125F
31.75	1.250	5.000	5.854	8.177	1.250	1.693	0.019	D4091250I-125F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-09T306-P	738-T10-1	8T-10	2.0 N-m (17.7 in-lbs)
S	4T-09T306-M			
H	4T-09T306-H			
K	4T-09T306-K			
N	4T-09T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

Key on ASS: 1

A55: 32 - 33

A55: 29 - 31

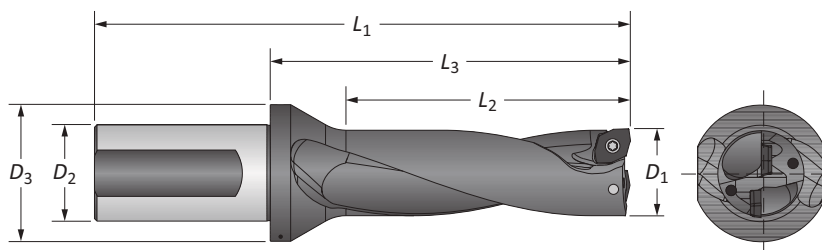
A55: 28

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

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

11 Series | Diameter Range: 32.00 mm - 38.99 mm (1.260" - 1.535")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	32.00	1.260	64.00	100.40	169.40	40.00	54.00	2.20	D2113200M-40FM
	32.50	1.280	65.00	100.40	169.40	40.00	54.00	2.05	D2113250M-40FM
	33.00	1.299	66.00	102.40	171.40	40.00	54.00	1.90	D2113300M-40FM
	33.32	1.312	66.65	102.40	171.40	40.00	54.00	1.84	D2111312I-40FM
	33.50	1.319	67.00	102.40	171.40	40.00	54.00	1.80	D2113350M-40FM
	34.00	1.339	68.00	104.40	173.40	40.00	54.00	1.70	D2113400M-40FM
	34.50	1.358	69.00	104.40	173.40	40.00	54.00	1.55	D2113450M-40FM
	34.92	1.375	69.85	104.40	173.40	40.00	54.00	1.42	D2111375I-40FM
	35.00	1.378	70.00	106.40	175.40	40.00	54.00	1.40	D2113500M-40FM
	35.50	1.398	71.00	106.40	175.40	40.00	54.00	1.30	D2113550M-40FM
	36.00	1.417	72.00	108.40	177.40	40.00	54.00	1.20	D2113600M-40FM
	36.50	1.437	73.00	108.40	177.40	40.00	54.00	1.06	D2113650M-40FM
	37.00	1.457	74.00	110.40	179.40	40.00	54.00	0.90	D2113700M-40FM
	37.50	1.476	75.00	110.40	179.40	40.00	54.00	0.81	D2113750M-40FM
38.00	1.496	76.00	112.40	181.40	40.00	54.00	0.70	D2113800M-40FM	
38.10	1.500	76.20	112.40	181.40	40.00	54.00	0.69	D2111500I-40FM	
38.50	1.516	77.00	112.40	181.40	40.00	54.00	0.56	D2113850M-40FM	
3xD	32.00	1.260	96.00	132.40	201.40	40.00	54.00	2.20	D3113200M-40FM
	32.50	1.280	97.50	132.40	201.40	40.00	54.00	2.05	D3113250M-40FM
	33.00	1.299	99.00	135.40	204.40	40.00	54.00	1.90	D3113300M-40FM
	33.32	1.312	99.97	135.40	204.40	40.00	54.00	1.84	D3111312I-40FM
	33.50	1.319	100.50	135.40	204.40	40.00	54.00	1.80	D3113350M-40FM
	34.00	1.339	102.00	138.40	207.40	40.00	54.00	1.70	D3113400M-40FM
	34.50	1.358	103.50	138.40	207.40	40.00	54.00	1.55	D3113450M-40FM
	34.92	1.375	104.78	138.40	207.40	40.00	54.00	1.42	D3111375I-40FM
	35.00	1.378	105.00	141.40	210.40	40.00	54.00	1.40	D3113500M-40FM
	35.50	1.398	106.50	141.40	210.40	40.00	54.00	1.30	D3113550M-40FM
	36.00	1.417	108.00	144.40	213.40	40.00	54.00	1.20	D3113600M-40FM
	36.50	1.437	109.50	144.40	213.40	40.00	54.00	1.06	D3113650M-40FM
	37.00	1.457	111.00	147.40	216.40	40.00	54.00	0.90	D3113700M-40FM
	37.50	1.476	112.50	147.40	216.40	40.00	54.00	0.81	D3113750M-40FM
38.00	1.496	114.00	150.40	219.40	40.00	54.00	0.70	D3113800M-40FM	
38.10	1.500	114.30	150.40	219.40	40.00	54.00	0.69	D3111500I-40FM	
38.50	1.516	115.50	150.40	219.40	40.00	54.00	0.56	D3113850M-150F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-11T306-P	7488-T15-1	8T-15	3.5 N-m (30.9 in-lbs)
S	4T-11T306-M			
H	4T-11T306-H			
K	4T-11T306-K			
N	4T-11T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

Key on A55: 1

A55: 32 - 33

A55: 29 - 31

A55: 28

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

A DRILLING

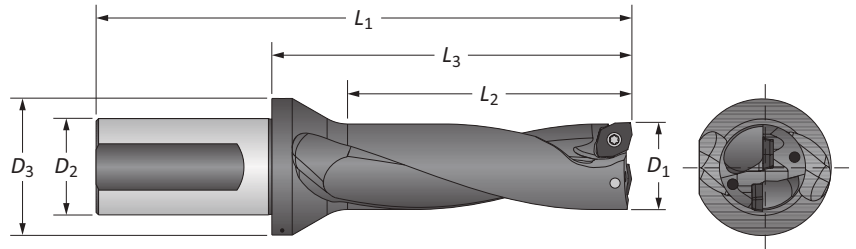
B BORING

F THREADING

X SPECIALS

4TEX Drill Holders | Metric Shank

11 Series | Diameter Range: 32.00 mm - 38.99 mm (1.260" - 1.535")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
m 4xD	32.00	1.260	128.00	154.40	223.40	40.00	54.00	2.20	D4113200M-40FM
	32.50	1.280	130.00	154.40	223.40	40.00	54.00	2.05	D4113250M-40FM
	33.00	1.299	132.00	158.40	227.40	40.00	54.00	1.90	D4113300M-40FM
	33.32	1.312	133.30	158.40	227.40	40.00	54.00	1.84	D4111312I-40FM
	33.50	1.319	134.00	158.40	227.40	40.00	54.00	1.80	D4113350M-40FM
	34.00	1.339	136.00	162.40	231.40	40.00	54.00	1.70	D4113400M-40FM
	34.50	1.358	138.00	162.40	231.40	40.00	54.00	1.55	D4113450M-40FM
	34.92	1.375	139.70	162.40	231.40	40.00	54.00	1.42	D4111375I-40FM
	35.00	1.378	140.00	166.40	235.40	40.00	54.00	1.40	D4113500M-40FM
	35.50	1.398	142.00	166.40	235.40	40.00	54.00	1.30	D4113550M-40FM
	36.00	1.417	144.00	170.40	239.40	40.00	54.00	1.20	D4113600M-40FM
	36.50	1.437	146.00	170.40	239.40	40.00	54.00	1.06	D4113650M-40FM
	37.00	1.457	148.00	174.40	243.40	40.00	54.00	0.90	D4113700M-40FM
	37.50	1.476	150.00	174.40	243.40	40.00	54.00	0.81	D4113750M-40FM
	38.00	1.496	152.00	178.40	247.40	40.00	54.00	0.70	D4113800M-40FM
38.10	1.500	152.40	178.40	247.40	40.00	54.00	0.69	D4111500I-40FM	
38.50	1.516	154.00	178.40	247.40	40.00	54.00	0.56	D4113850M-40FM	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-11T306-P	7488-T15-1	8T-15	3.5 N-m (30.9 in-lbs)
S	4T-11T306-M			
H	4T-11T306-H			
K	4T-11T306-K			
N	4T-11T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

Key on A55: 1

A55: 32 - 33

A55: 29 - 31

A55: 28

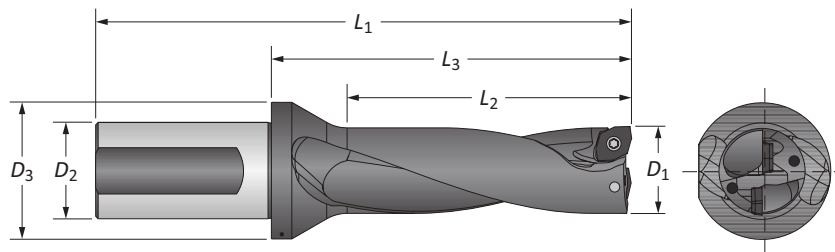
m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

A DRILLING B BORING C THREADING D SPECIALS

4TEX Drill Holders | Imperial Shank

11 Series | Diameter Range: 32.00 mm - 38.99 mm (1.260" - 1.535")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	32.00	1.260	2.520	3.953	6.669	1.500	2.126	0.087	D2113200M-150F
	32.50	1.280	2.559	3.953	6.669	1.500	2.126	0.081	D2113250M-150F
	33.00	1.299	2.598	4.031	6.748	1.500	2.126	0.075	D2113300M-150F
	33.32	1.312	2.624	4.031	6.748	1.500	2.126	0.073	D2111312I-150F
	33.50	1.319	2.638	4.031	6.748	1.500	2.126	0.071	D2113350M-150F
	34.00	1.339	2.677	4.110	6.827	1.500	2.126	0.067	D2113400M-150F
	34.50	1.358	2.717	4.110	6.827	1.500	2.126	0.061	D2113450M-150F
	34.92	1.375	2.750	4.110	6.827	1.500	2.126	0.056	D2111375I-150F
	35.00	1.378	2.756	4.189	6.906	1.500	2.126	0.055	D2113500M-150F
	35.50	1.398	2.795	4.189	6.906	1.500	2.126	0.051	D2113550M-150F
	36.00	1.417	2.835	4.268	6.984	1.500	2.126	0.047	D2113600M-150F
	36.50	1.437	2.874	4.268	6.984	1.500	2.126	0.042	D2113650M-150F
	37.00	1.457	2.913	4.346	7.063	1.500	2.126	0.035	D2113700M-150F
	37.50	1.476	2.953	4.346	7.063	1.500	2.126	0.032	D2113750M-150F
	38.00	1.496	2.992	4.425	7.142	1.500	2.126	0.028	D2113800M-150F
	38.10	1.500	3.000	4.425	7.142	1.500	2.126	0.027	D2111500I-150F
38.50	1.516	3.031	4.425	7.142	1.500	2.126	0.022	D2113850M-150F	
3xD	32.00	1.260	3.780	5.213	7.929	1.500	2.126	0.087	D3113200M-150F
	32.50	1.280	3.839	5.213	7.929	1.500	2.126	0.081	D3113250M-150F
	33.00	1.299	3.898	5.331	8.047	1.500	2.126	0.075	D3113300M-150F
	33.32	1.312	3.936	5.331	8.047	1.500	2.126	0.073	D3111312I-150F
	33.50	1.319	3.957	5.331	8.047	1.500	2.126	0.071	D3113350M-150F
	34.00	1.339	4.016	5.449	8.165	1.500	2.126	0.067	D3113400M-150F
	34.50	1.358	4.075	5.449	8.165	1.500	2.126	0.061	D3113450M-150F
	34.92	1.375	4.125	5.449	8.165	1.500	2.126	0.056	D3111375I-150F
	35.00	1.378	4.134	5.567	8.283	1.500	2.126	0.055	D3113500M-150F
	35.50	1.398	4.193	5.567	8.283	1.500	2.126	0.051	D3113550M-150F
	36.00	1.417	4.252	5.685	8.402	1.500	2.126	0.047	D3113600M-150F
	36.50	1.437	4.311	5.685	8.402	1.500	2.126	0.042	D3113650M-150F
	37.00	1.457	4.370	5.803	8.520	1.500	2.126	0.035	D3113700M-150F
	37.50	1.476	4.429	5.803	8.520	1.500	2.126	0.032	D3113750M-150F
	38.00	1.496	4.488	5.921	8.638	1.500	2.126	0.028	D3113800M-150F
	38.10	1.500	4.500	5.921	8.638	1.500	2.126	0.027	D3111500I-150F
38.50	1.516	4.547	5.921	8.638	1.500	2.126	0.022	D3113850M-150F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-11T306-P	7488-T15-1	8T-15	3.5 N-m (30.9 in-lbs)
S	4T-11T306-M			
H	4T-11T306-H			
K	4T-11T306-K			
N	4T-11T306-N			

Expected Hole Tolerances

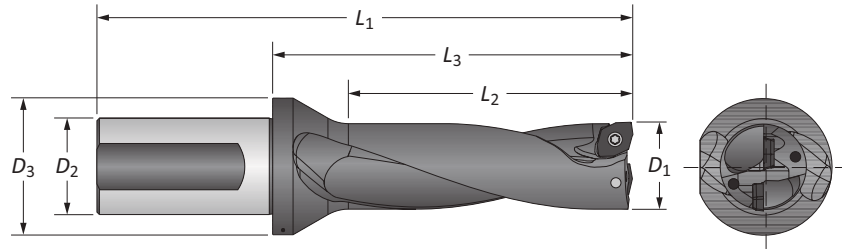
Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

A55: 32 - 33 A55: 29 - 31 A55: 28

m = Metric (mm)
 i = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

11 Series | Diameter Range: 32.00 mm - 38.99 mm (1.260" - 1.535")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
4xD	32.00	1.260	5.039	6.079	8.795	1.500	2.126	0.087	D4113200M-150F
	32.50	1.280	5.118	6.079	8.795	1.500	2.126	0.081	D4113250M-150F
	33.00	1.299	5.197	6.236	8.953	1.500	2.126	0.075	D4113300M-150F
	33.32	1.312	5.248	6.236	8.953	1.500	2.126	0.073	D4111312I-150F
	33.50	1.319	5.276	6.236	8.953	1.500	2.126	0.071	D4113350M-150F
	34.00	1.339	5.354	6.394	9.110	1.500	2.126	0.067	D4113400M-150F
	34.50	1.358	5.433	6.394	9.110	1.500	2.126	0.061	D4113450M-150F
	34.92	1.375	5.500	6.394	9.110	1.500	2.126	0.056	D4111375I-150F
	35.00	1.378	5.512	6.551	9.268	1.500	2.126	0.055	D4113500M-150F
	35.50	1.398	5.591	6.551	9.268	1.500	2.126	0.051	D4113550M-150F
	36.00	1.417	5.669	6.709	9.425	1.500	2.126	0.047	D4113600M-150F
	36.50	1.437	5.748	6.709	9.425	1.500	2.126	0.042	D4113650M-150F
	37.00	1.457	5.827	6.866	9.583	1.500	2.126	0.035	D4113700M-150F
	37.50	1.476	5.906	6.866	9.583	1.500	2.126	0.032	D4113750M-150F
	38.00	1.496	5.984	7.024	9.740	1.500	2.126	0.028	D4113800M-150F
	38.10	1.500	6.000	7.024	9.740	1.500	2.126	0.027	D4111500I-150F
38.50	1.516	6.063	7.024	9.740	1.500	2.126	0.022	D4113850M-150F	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-11T306-P	7488-T15-1	8T-15	3.5 N-m (30.9 in-lbs)
S	4T-11T306-M			
H	4T-11T306-H			
K	4T-11T306-K			
N	4T-11T306-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.15 / +0.25	-0.006 / +0.010
3xD	-0.15 / +0.25	-0.006 / +0.010
4xD	-0.15 / +0.30	-0.006 / +0.012

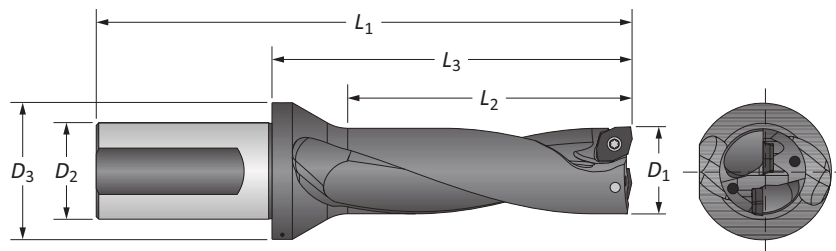
A55: 32 - 33 A55: 29 - 31 A55: 28

m = Metric (mm)
 i = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

4TEX Drill Holders | Metric Shank

14 Series | Diameter Range: 39.00 mm - 47.00 mm (1.536" - 1.850")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	39.00	1.535	78.00	110.40	179.40	40.00	54.00	2.80	D2143900M-40FM
	39.50	1.555	79.00	110.40	179.40	40.00	54.00	2.66	D2143950M-40FM
	39.67	1.562	79.40	110.40	179.40	40.00	54.00	2.61	D2141562I-40FM
	40.00	1.575	80.00	112.40	181.40	40.00	54.00	2.50	D2144000M-40FM
	40.50	1.594	81.00	112.40	181.40	40.00	54.00	2.41	D2144050M-40FM
	41.00	1.614	82.00	114.40	183.40	40.00	54.00	2.30	D2144100M-40FM
	41.28	1.625	82.55	114.40	183.40	40.00	54.00	2.23	D2141625I-40FM
	41.50	1.634	83.00	114.40	183.40	40.00	54.00	2.16	D2144150M-40FM
	42.00	1.654	84.00	116.40	185.40	40.00	54.00	2.00	D2144200M-40FM
	42.50	1.673	85.00	116.40	185.40	40.00	54.00	1.90	D2144250M-40FM
	42.85	1.687	85.70	116.40	185.40	40.00	54.00	1.82	D2141687I-40FM
	43.00	1.693	86.00	118.40	187.40	40.00	59.00	1.80	D2144300M-40FM
	43.50	1.713	87.00	118.40	187.40	40.00	59.00	1.65	D2144350M-40FM
	44.00	1.732	88.00	120.40	189.40	40.00	59.00	1.50	D2144400M-40FM
	44.45	1.750	88.90	120.40	189.40	40.00	59.00	1.41	D2141750I-40FM
	44.50	1.752	89.00	120.40	189.40	40.00	59.00	1.40	D2144450M-40FM
	45.00	1.772	90.00	122.40	191.40	40.00	59.00	1.30	D2144500M-40FM
	45.50	1.791	91.00	122.40	191.40	40.00	59.00	1.15	D2144550M-40FM
46.02	1.812	92.10	124.40	193.40	40.00	59.00	1.02	D2141812I-40FM	
46.00	1.811	92.00	124.40	193.40	40.00	59.00	1.00	D2144600M-40FM	
46.50	1.831	93.00	124.40	193.40	40.00	59.00	0.90	D2144650M-40FM	
47.00	1.850	94.00	126.40	195.40	40.00	59.00	0.80	D2144700M-40FM	
3xD	39.00	1.535	117.00	149.40	218.40	40.00	54.00	2.80	D3143900M-40FM
	39.50	1.555	118.50	149.40	218.40	40.00	54.00	2.66	D3143950M-40FM
	39.67	1.562	119.02	149.40	218.40	40.00	54.00	2.61	D3141562I-40FM
	40.00	1.575	120.00	152.40	221.40	40.00	54.00	2.50	D3144000M-40FM
	40.50	1.594	121.50	152.40	221.40	40.00	54.00	2.41	D3144050M-40FM
	41.00	1.614	123.00	155.40	224.40	40.00	54.00	2.30	D3144100M-40FM
	41.28	1.625	123.83	155.40	224.40	40.00	54.00	2.23	D3141625I-40FM
	41.50	1.634	124.50	155.40	224.40	40.00	54.00	2.16	D3144150M-40FM
	42.00	1.654	126.00	158.40	227.40	40.00	54.00	2.00	D3144200M-40FM
	42.50	1.673	127.50	158.40	227.40	40.00	54.00	1.90	D3144250M-40FM
	42.85	1.687	128.55	158.40	227.40	40.00	54.00	1.82	D3141687I-40FM
	43.00	1.693	129.00	161.40	230.40	40.00	59.00	1.80	D3144300M-40FM

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-140408-P	7595-T20-1	8T-20	4.5 N-m (39.8 in-lbs)
S M	4T-140408-M			
H	4T-140408-H			
K	4T-140408-K			
N	4T-140408-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.20 / +0.30	-0.008 / +0.012
3xD	-0.20 / +0.30	-0.008 / +0.012
4xD	-0.20 / +0.35	-0.008 / +0.014

A55: 32 - 33 A55: 29 - 31 A55: 28

Key on A55: 1

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

A DRILLING

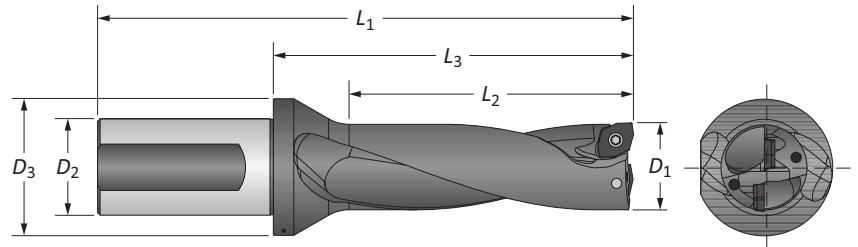
B BORING

F THREADING

X SPECIALS

4TEX Drill Holders | Metric Shank

14 Series | Diameter Range: 39.00 mm - 47.00 mm (1.536" - 1.850")



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
3xD	43.50	1.713	130.50	161.40	230.40	40.00	59.00	1.65	D3144350M-40FM
	44.00	1.732	132.00	164.40	233.40	40.00	59.00	1.50	D3144400M-40FM
	44.45	1.750	133.35	164.40	233.40	40.00	59.00	1.41	D3141750I-40FM
	44.50	1.752	133.50	164.40	233.40	40.00	59.00	1.40	D3144450M-40FM
	45.00	1.772	135.00	167.40	236.40	40.00	59.00	1.30	D3144500M-40FM
	45.50	1.791	136.50	167.40	236.40	40.00	59.00	1.15	D3144550M-40FM
	46.00	1.811	138.00	170.40	239.40	40.00	59.00	1.00	D3144600M-40FM
	46.02	1.812	138.07	170.40	239.40	40.00	59.00	1.02	D3141812I-40FM
	46.50	1.831	139.50	170.40	239.40	40.00	59.00	0.90	D3144650M-40FM
47.00	1.850	141.00	173.40	242.40	40.00	59.00	0.80	D3144700M-40FM	
4xD	39.00	1.535	156.00	188.40	257.40	40.00	54.00	2.80	D4143900M-40FM
	39.50	1.555	158.00	188.40	257.40	40.00	54.00	2.66	D4143950M-40FM
	39.67	1.562	158.70	188.40	257.40	40.00	54.00	2.61	D4141562I-40FM
	40.00	1.575	160.00	192.40	261.40	40.00	54.00	2.50	D4144000M-40FM
	40.50	1.594	162.00	192.40	261.40	40.00	54.00	2.41	D4144050M-40FM
	41.00	1.614	164.00	196.40	265.40	40.00	54.00	2.30	D4144100M-40FM
	41.28	1.625	165.10	196.40	265.40	40.00	54.00	2.23	D4141625I-40FM
	41.50	1.634	166.00	196.40	265.40	40.00	54.00	2.16	D4144150M-40FM
	42.00	1.654	168.00	200.40	269.40	40.00	54.00	2.00	D4144200M-40FM
	42.50	1.673	170.00	200.40	269.40	40.00	54.00	1.90	D4144250M-40FM
	42.85	1.687	171.40	200.40	269.40	40.00	54.00	1.82	D4141687I-40FM
	43.00	1.693	172.00	204.40	273.40	40.00	59.00	1.80	D4144300M-40FM
	43.50	1.713	174.00	204.40	273.40	40.00	59.00	1.65	D4144350M-40FM
	44.00	1.732	176.00	208.40	277.40	40.00	59.00	1.50	D4144400M-40FM
	44.45	1.750	177.80	208.40	277.40	40.00	59.00	1.41	D4141750I-40FM
	44.50	1.752	178.00	208.40	277.40	40.00	59.00	1.40	D4144450M-40FM
	45.00	1.772	180.00	212.40	281.40	40.00	59.00	1.30	D4144500M-40FM
	45.50	1.791	182.00	212.40	281.40	40.00	59.00	1.15	D4144550M-40FM
46.00	1.811	184.00	216.40	285.40	40.00	59.00	1.00	D4144600M-40FM	
46.02	1.812	184.10	216.40	285.40	40.00	59.00	1.02	D4141812I-40FM	
46.50	1.831	186.00	216.40	285.40	40.00	59.00	0.90	D4144650M-40FM	
47.00	1.850	188.00	220.40	289.40	40.00	59.00	0.80	D4144700M-40FM	

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-140408-P	7595-T20-1	8T-20	4.5 N-m (39.8 in-lbs)
S	4T-140408-M			
H	4T-140408-H			
K	4T-140408-K			
N	4T-140408-N			

Expected Hole Tolerances

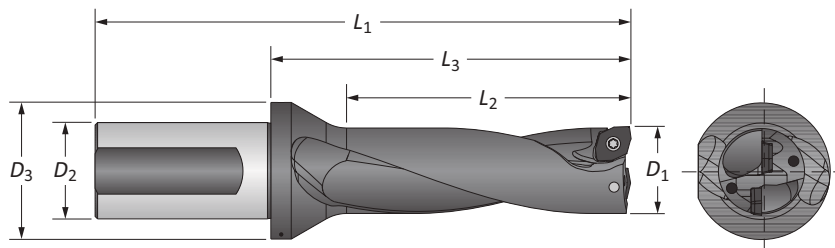
Length	mm	in
2xD	-0.20 / +0.30	-0.008 / +0.012
3xD	-0.20 / +0.30	-0.008 / +0.012
4xD	-0.20 / +0.35	-0.008 / +0.014

A55: 32 - 33 A55: 29 - 31 A55: 28

= Metric (mm)
 = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

14 Series | Diameter Range: 39.00 mm - 47.00 mm (1.536" - 1.850")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃		
2xD	39.00	1.535	3.071	4.346	7.063	1.500	2.126	0.110	D2143900M-150F
	39.50	1.555	3.110	4.346	7.063	1.500	2.126	0.105	D2143950M-150F
	39.67	1.562	3.124	4.346	7.063	1.500	2.126	0.103	D2141562I-150F
	40.00	1.575	3.150	4.425	7.142	1.500	2.126	0.098	D2144000M-150F
	40.50	1.594	3.189	4.425	7.142	1.500	2.126	0.095	D2144050M-150F
	41.00	1.614	3.228	4.504	7.220	1.500	2.126	0.091	D2144100M-150F
	41.28	1.625	3.250	4.504	7.220	1.500	2.126	0.088	D2141625I-150F
	41.50	1.634	3.268	4.504	7.220	1.500	2.126	0.085	D2144150M-150F
	42.00	1.654	3.307	4.583	7.299	1.500	2.126	0.079	D2144200M-150F
	42.50	1.673	3.346	4.583	7.299	1.500	2.126	0.075	D2144250M-150F
	42.85	1.687	3.374	4.583	7.299	1.500	2.126	0.072	D2141687I-150F
	43.00	1.693	3.386	4.661	7.378	1.500	2.323	0.071	D2144300M-150F
	43.50	1.713	3.425	4.661	7.378	1.500	2.323	0.065	D2144350M-150F
	44.00	1.732	3.465	4.740	7.457	1.500	2.323	0.059	D2144400M-150F
	44.45	1.750	3.500	4.740	7.457	1.500	2.323	0.055	D2141750I-150F
	44.50	1.752	3.504	4.740	7.457	1.500	2.323	0.055	D2144450M-150F
	45.00	1.772	3.543	4.819	7.535	1.500	2.323	0.051	D2144500M-150F
	45.50	1.791	3.583	4.819	7.535	1.500	2.323	0.045	D2144550M-150F
	46.02	1.812	3.624	4.898	7.614	1.500	2.323	0.040	D2141812I-150F
	46.00	1.811	3.622	4.898	7.614	1.500	2.323	0.039	D2144600M-150F
46.50	1.831	3.661	4.898	7.614	1.500	2.323	0.036	D2144650M-150F	
47.00	1.850	3.701	4.976	7.693	1.500	2.323	0.031	D2144700M-150F	
3xD	39.00	1.535	4.606	5.882	8.598	1.500	2.126	0.110	D3143900M-150F
	39.50	1.555	4.665	5.882	8.598	1.500	2.126	0.105	D3143950M-150F
	39.67	1.562	4.686	5.882	8.598	1.500	2.126	0.103	D3141562I-150F
	40.00	1.575	4.724	6.000	8.717	1.500	2.126	0.098	D3144000M-150F
	40.50	1.594	4.783	6.000	8.717	1.500	2.126	0.095	D3144050M-150F
	41.00	1.614	4.843	6.118	8.835	1.500	2.126	0.091	D3144100M-150F
	41.28	1.625	4.875	6.118	8.835	1.500	2.126	0.088	D3141625I-150F
	41.50	1.634	4.902	6.118	8.835	1.500	2.126	0.085	D3144150M-150F
	42.00	1.654	4.961	6.236	8.953	1.500	2.126	0.079	D3144200M-150F
	42.50	1.673	5.020	6.236	8.953	1.500	2.126	0.075	D3144250M-150F
	42.85	1.687	5.061	6.236	8.953	1.500	2.126	0.072	D3141687I-150F
	43.00	1.693	5.079	6.354	9.071	1.500	2.323	0.071	D3144300M-150F

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-140408-P	7595-T20-1	8T-20	4.5 N-m (39.8 in-lbs)
S	4T-140408-M			
M	4T-140408-M			
H	4T-140408-H			
K	4T-140408-K			
N	4T-140408-N			

Expected Hole Tolerances

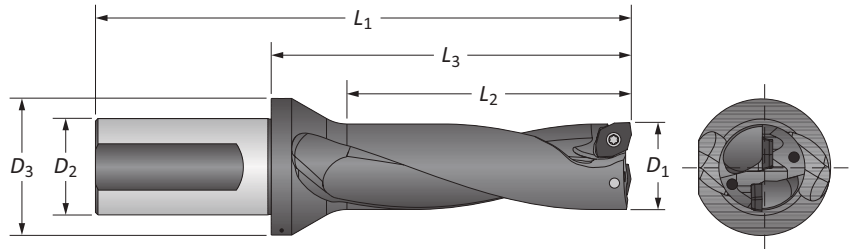
Length	mm	in
2xD	-0.20 / +0.30	-0.008 / +0.012
3xD	-0.20 / +0.30	-0.008 / +0.012
4xD	-0.20 / +0.35	-0.008 / +0.014

A55: 32 - 33 A55: 29 - 31 A55: 28

m = Metric (mm)
 i = Imperial (in)
 IC inserts sold in quantities of 10
 Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

14 Series | Diameter Range: 39.00 mm - 47.00 mm (1.536" - 1.850")



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.	
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₃			
3xD	43.50	1.713	5.138	6.354	9.071	1.500	2.323	0.065	D3144350M-150F	
	44.00	1.732	5.197	6.472	9.189	1.500	2.323	0.059	D3144400M-150F	
	44.45	1.750	5.250	6.472	9.189	1.500	2.323	0.055	D3141750I-150F	
	44.50	1.752	5.256	6.472	9.189	1.500	2.323	0.055	D3144450M-150F	
	45.00	1.772	5.315	6.591	6.591	9.307	1.500	2.323	0.051	D3144500M-150F
	45.50	1.791	5.374	6.591	6.591	9.307	1.500	2.323	0.045	D3144550M-150F
	46.00	1.811	5.433	6.709	6.709	9.425	1.500	2.323	0.039	D3144600M-150F
	46.02	1.812	5.436	6.709	6.709	9.425	1.500	2.323	0.040	D3141812I-150F
	46.50	1.831	5.492	6.709	6.709	9.425	1.500	2.323	0.036	D3144650M-150F
47.00	1.850	5.551	6.827	6.827	9.543	1.500	2.323	0.031	D3144700M-150F	
4xD	39.00	1.535	6.142	7.417	10.134	1.500	2.126	0.110	D4143900M-150F	
	39.50	1.555	6.220	7.417	10.134	1.500	2.126	0.105	D4143950M-150F	
	39.67	1.562	6.248	7.417	10.134	1.500	2.126	0.103	D4141562I-150F	
	40.00	1.575	6.299	7.575	10.291	1.500	2.126	0.098	D4144000M-150F	
	40.50	1.594	6.378	7.575	10.291	1.500	2.126	0.095	D4144050M-150F	
	41.00	1.614	6.457	7.732	10.449	1.500	2.126	0.091	D4144100M-150F	
	41.28	1.625	6.500	7.732	10.449	1.500	2.126	0.088	D4141625I-150F	
	41.50	1.634	6.535	7.732	10.449	1.500	2.126	0.085	D4144150M-150F	
	42.00	1.654	6.614	7.890	10.606	1.500	2.126	0.079	D4144200M-150F	
	42.50	1.673	6.693	7.890	10.606	1.500	2.126	0.075	D4144250M-150F	
	42.85	1.687	6.748	7.890	10.606	1.500	2.126	0.072	D4141687I-150F	
	43.00	1.693	6.772	8.047	10.764	1.500	2.323	0.071	D4144300M-150F	
	43.50	1.713	6.850	8.047	10.764	1.500	2.323	0.065	D4144350M-150F	
	44.00	1.732	6.929	8.205	10.921	1.500	2.323	0.059	D4144400M-150F	
	44.45	1.750	7.000	8.205	10.921	1.500	2.323	0.055	D4141750I-150F	
	44.50	1.752	7.008	8.205	10.921	1.500	2.323	0.055	D4144450M-150F	
	45.00	1.772	7.087	8.362	11.079	1.500	2.323	0.051	D4144500M-150F	
	45.50	1.791	7.165	8.362	11.079	1.500	2.323	0.045	D4144550M-150F	
	46.00	1.811	7.244	8.520	11.236	1.500	2.323	0.039	D4144600M-150F	
	46.02	1.812	7.248	8.520	11.236	1.500	2.323	0.040	D4141812I-150F	
46.50	1.831	7.323	8.520	11.236	1.500	2.323	0.036	D4144650M-150F		
47.00	1.850	7.402	8.677	11.394	1.500	2.323	0.031	D4144700M-150F		

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	4T-140408-P	7595-T20-1	8T-20	4.5 N-m (39.8 in-lbs)
S	4T-140408-M			
H	4T-140408-H			
K	4T-140408-K			
N	4T-140408-N			

Expected Hole Tolerances

Length	mm	in
2xD	-0.20 / +0.30	-0.008 / +0.012
3xD	-0.20 / +0.30	-0.008 / +0.012
4xD	-0.20 / +0.35	-0.008 / +0.014

Key on A55: 1

A55: 32 - 33

A55: 29 - 31

A55: 28

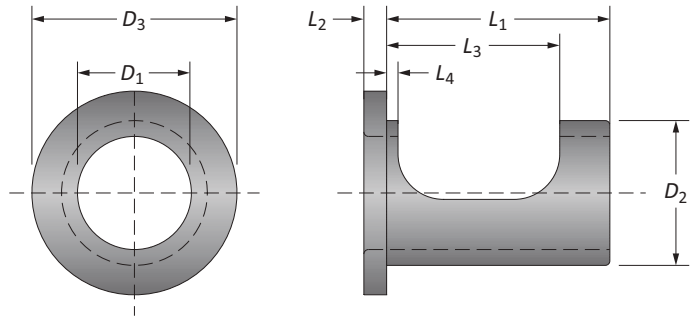
m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Eccentric Sleeves

For Cutting Diameter / Center Height Adjustment



Sleeve Dimensions								Adjustment Range		
	D_1	D_2	D_3	L_2	L_3	L_4	L_1	Part No.	Diameter*	Center Height
m	25.00	32.00	49.00	6.00	39.00	2.50	54.00	SLEEVE-25FM	-0.20 to +0.40	-0.15 to +0.20
	32.00	40.00	58.00	6.00	43.00	2.50	59.00	SLEEVE-32FM	-0.20 to +0.40	-0.15 to +0.20
	40.00	50.00	74.00	6.00	49.00	3.00	69.00	SLEEVE-40FM	-0.20 to +0.40	-0.20 to +0.30
i	0.750	1.000	1.614	0.157	1.593	0.118	1.837	SLEEVE-075F	-0.008 to +0.016	-0.006 to +0.008
	1.000	1.250	1.929	0.236	1.593	0.098	1.995	SLEEVE-100F	-0.008 to +0.016	-0.006 to +0.008
	1.250	1.500	2.283	0.236	1.693	0.098	2.087	SLEEVE-125F	-0.008 to +0.016	-0.006 to +0.008
	1.500	2.000	2.913	0.236	1.929	0.118	2.481	SLEEVE-150F	-0.008 to +0.024	-0.008 to +0.012

*Diameter adjustment range refers to the cutting diameter.



Milling Applications
Peripheral Adjustment Position



Lathe Applications
Front Adjustment Position

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

Diameter Adjustment

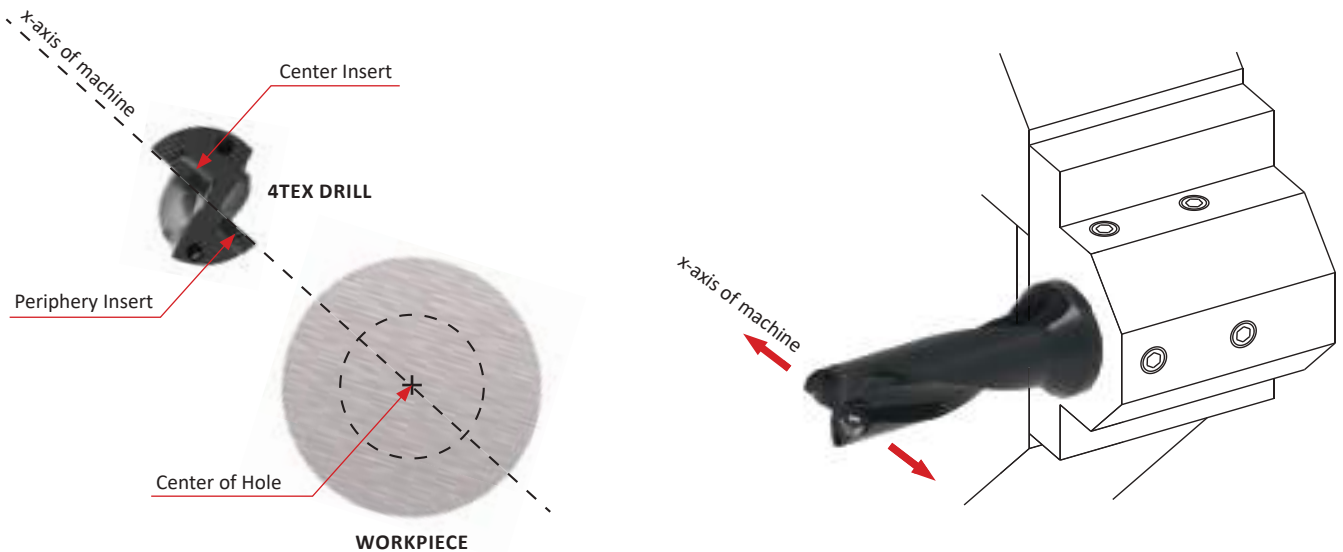
Milling and Lathe Applications



For Milling Applications

1. Assemble the 4TEX drill, eccentric sleeve, and tool holder. Do not tighten the tool holder set screws.
2. Using the peripheral marks for milling machines, align the reference indentation on the holder with the 0 (zero) mark on the eccentric sleeve to have no offset.
3. Rotate the sleeve in the (+) or (-) direction to increase or decrease the nominal diameter.
4. Once the drill has arrived at the desired diameter, firmly tighten the top set screw first and then tighten the bottom set screw.

NOTICE: Eccentric sleeves are to be used with side-locking tool holders only. Damage may result with other styles of tool holders.



For Lathe Applications

1. Assemble the 4TEX drill into the lathe turret with the top face of the inserts parallel to the x-axis of the machine. This will allow for the diameter offsets to be made using the lathe's x-axis.
2. To increase the nominal diameter, offset the x-axis so the periphery insert moves away from the center of the hole.
3. To decrease the nominal diameter, offset the x-axis so the periphery insert moves toward the center of the hole.

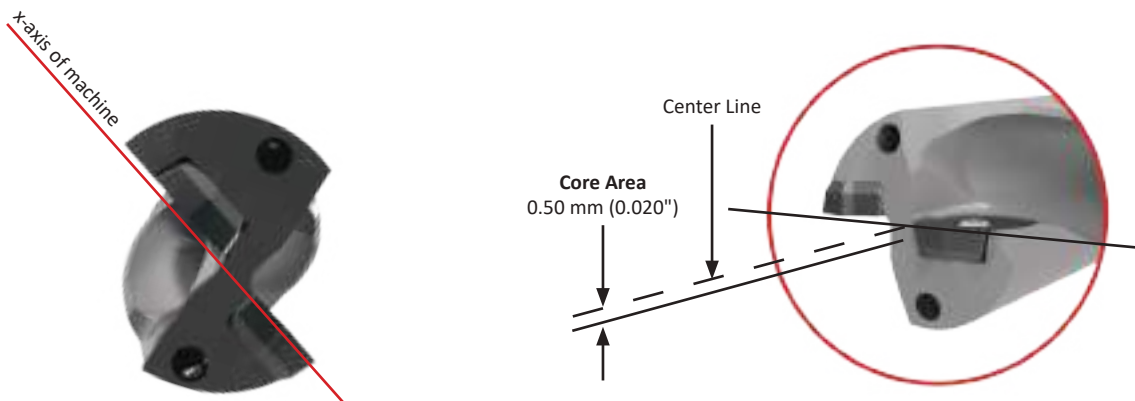
NOTE: Eccentric sleeve is not required when adjusting the diameter of the hole on a lathe.

Center Height Alignment

Proper Center Line Position

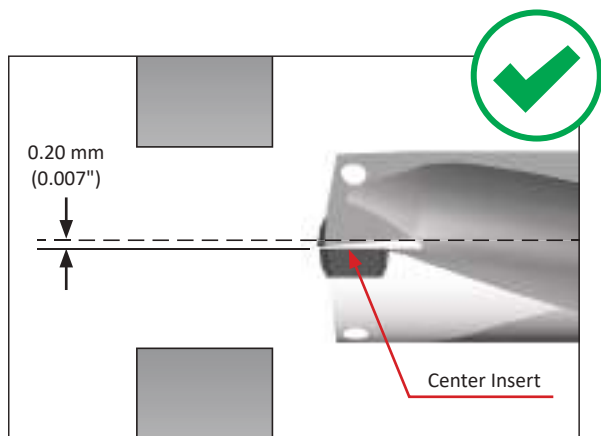
A

DRILLING



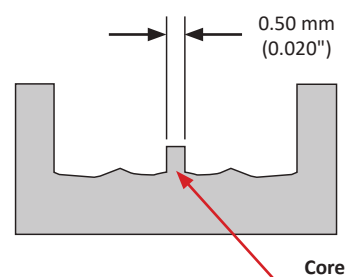
B

BORING



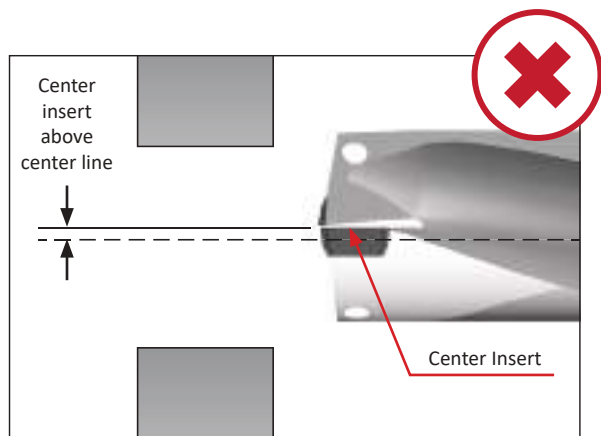
Proper Center Height Alignment

- The correct center height alignment will position the center insert 0.2 mm (0.007") below the center line.



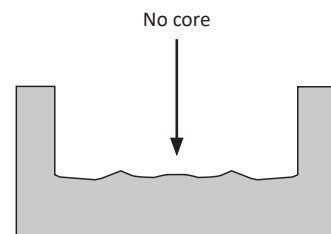
F

THREADING



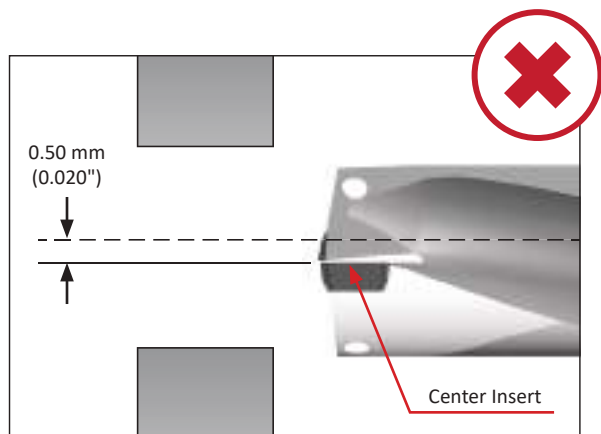
Center Insert Above the Center Line

- This will cause fracturing of the center insert
- Requires center height adjustment



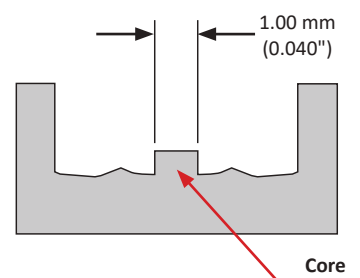
X

SPECIALS



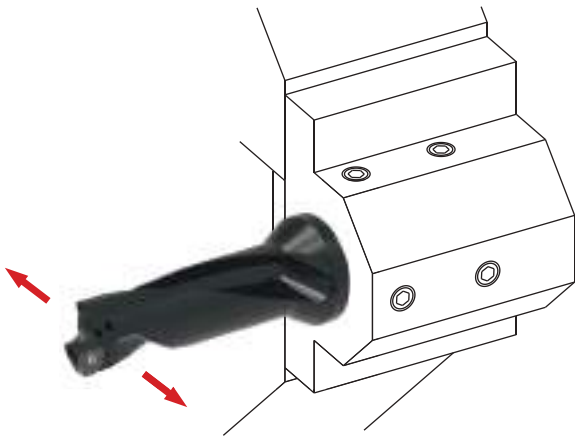
Center Insert Too Far Below Center Line

- This will cause the drill to interfere with the drilled hole
- This will impede chip evacuation on the periphery insert
- Requires center height adjustment



Center Height Alignment

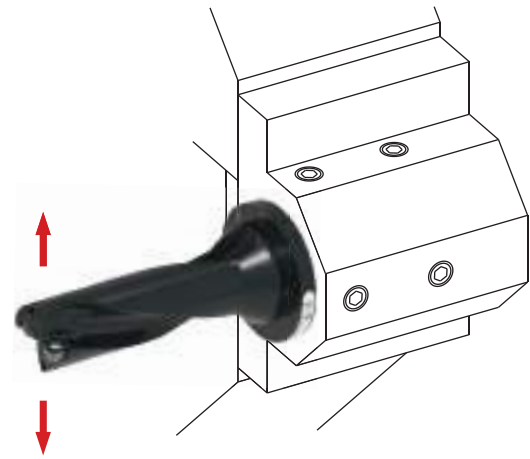
How to Correct Issues



Method 1: Adjustment with X-Axis

1. Rotate the drill body so the position of the center line of the inserts is perpendicular to the lathe's x-axis.
2. Use the x-axis to offset the position of the center line in a (+) or (-) direction to increase or decrease the center core diameter at the bottom of the hole.

NOTE: This method does not allow diameter adjustments using the x-axis.



Method 2: Adjustment with Eccentric Sleeve

1. Assemble the drill to the turret using the eccentric sleeve, positioning the center line of the inserts parallel to the x-axis.
2. Align the reference indentation on the drill to the "0" setting on the flange face.
3. Rotate the sleeve (+) or (-) to increase or decrease the center height of the inserts in order to increase or decrease the core diameter at the bottom of the hole.

NOTE: This method still allows diameter adjustments using the x-axis.

NOTE (applies to both methods): Adjusting the center line of the inserts may affect the hole diameter produced. Method two is preferred to make center height adjustments and compensate for hole diameter with the x-axis.

Recommended Drilling Data | Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/min)					Feed Rate (mm/rev) by Diameter - 2xD, 3xD**			
			P	K	H	M	N	03, 04 Series	05 Series	06, 07 Series	09, 11, 14 Series
			AM480	AM485	TiCN	(12.00 mm - 15.49 mm)	(15.50 mm - 18.49 mm)	(18.50 mm - 26.49 mm)	(26.50 mm - 47.00 mm)		
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	125 - 365	125 - 365	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
		150 - 200	125 - 305	125 - 305	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
		200 - 250	125 - 245	125 - 245	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	125 - 305	125 - 305	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
		125 - 175	125 - 305	125 - 305	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
		175 - 225	125 - 245	125 - 245	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
		225 - 275	125 - 245	125 - 245	-	0.07 - 0.1	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14		
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	100 - 245	100 - 245	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		175 - 225	100 - 245	100 - 245	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		225 - 275	100 - 245	100 - 245	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		275 - 325	100 - 245	100 - 185	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	100 - 245	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		175 - 225	100 - 245	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		225 - 275	100 - 245	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		275 - 325	100 - 245	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	100 - 165	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		300 - 350	100 - 185	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
		350 - 400	100 - 185	-	-	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21		
Structural Steel A36, A285, A516, etc.	100 - 150	100 - 185	100 - 185	-	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13			
	150 - 250	100 - 185	100 - 185	-	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13			
	250 - 350	100 - 185	-	-	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13			
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	85 - 185	85 - 185	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15			
	200 - 250	85 - 185	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15			
S	High-Temp Alloy* Hastelloy B, Inconel 600, etc.	140 - 220	30 - 80	30 - 80	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
		220 - 310	30 - 60	30 - 60	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
	Titanium Alloy*	140 - 220	40 - 155	40 - 155	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
		220 - 310	40 - 90	40 - 90	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
	Aerospace Alloy* S82	185 - 275	30 - 80	30 - 80	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
		275 - 350	30 - 60	31 - 60	-	0.06 - 0.08	0.06 - 0.08	0.07 - 0.1	0.07 - 0.1		
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	75 - 185	75 - 215	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
		275 - 350	75 - 145	75 - 155	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	75 - 185	75 - 215	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
		185 - 275	75 - 145	75 - 155	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
	Super Duplex Stainless Steel	135 - 185	75 - 185	75 - 215	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
		185 - 275	75 - 145	75 - 155	-	0.05 - 0.1	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	30 - 60	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15		
		500	30 - 60	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15		
		600	30 - 60	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15		
	Hardened Steel	300 - 400	30 - 90	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15		
400 - 500		30 - 60	-	-	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15			
K	Nodular, Grey, Ductile Cast Iron	120 - 150	90 - 245	-	-	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21		
		150 - 200	90 - 245	-	-	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21		
		200 - 220	90 - 155	-	-	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21		
		220 - 260	80 - 125	-	-	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21		
		260 - 320	80 - 125	-	-	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21		
N	Cast Aluminum	30	-	-	245 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
		180	-	-	245 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
	Wrought Aluminum	30	-	-	245 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
		180	-	-	245 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
	Aluminum Bronze	100 - 200	150 - 305	-	150 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
		200 - 250	150 - 305	-	150 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
	Brass	100	150 - 305	-	150 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		
	Copper	60	-	-	150 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21		

*For high-temp materials, 70 bar is recommended as well as a quality synthetic coolant at approximately 10% emulsion.

**For 4xD tools, begin at low end of feed recommendation.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Factory technical assistance is also available through our Application Engineering Team.
email: ufficiotecnico@febametal.com

Recommended Drilling Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM)					Feed Rate (IPR) by Diameter - 2xD, 3xD**			
			P	K	H	M	N	03, 04 Series	05 Series	06, 07 Series	09, 11, 14 Series
			AM480	AM485	TiCN	(0.472" - 0.610")	(0.611" - 0.728")	(0.729" - 1.043")	(1.044" - 1.850")		
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100-150	400 - 1200	400 - 1200	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
		150-200	400 - 1000	400 - 1000	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
		200-250	400 - 800	400 - 800	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	400 - 1000	400 - 1000	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
		125-175	400 - 1000	400 - 1000	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
		175-225	400 - 800	400 - 800	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
		225-275	400 - 800	400 - 800	-	0.0025 - 0.004	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0055		
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	330 - 800	330 - 800	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		175-225	330 - 800	330 - 800	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		225-275	330 - 800	330 - 800	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		275-325	330 - 600	330 - 600	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
	Alloy Steel 4140, 5140, 8640, etc.	125-175	330 - 800	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		175-225	330 - 800	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		225-275	330 - 800	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
		275-325	330 - 800	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008		
High-Strength Alloy 4340, 4330V, 300M, etc.	225-300	330 - 600	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
	300-350	330 - 600	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
	350-400	330 - 600	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
Structural Steel A36, A285, A516, etc.	100-150	330 - 600	330 - 600	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
	150-250	330 - 600	330 - 600	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
	250-350	330 - 600	-	-	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008			
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150-200	270 - 600	270 - 600	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006			
	200-250	270 - 600	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006			
S	High-Temp Alloy* Hastelloy B, Inconel 600, etc.	140 - 220	100 - 250	100 - 250	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
		220 - 310	100 - 200	100 - 200	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
	Titanium Alloy*	140 - 220	140 - 500	140 - 500	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
		220 - 310	140 - 300	140 - 300	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
	Aerospace Alloy* S82	185 - 275	100 - 250	100 - 250	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
		275 - 350	100 - 200	100 - 200	-	0.002 - 0.003	0.002 - 0.003	0.0025 - 0.004	0.0025 - 0.004		
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	240 - 600	240 - 700	-	0.0015 - 0.004	0.0025 - 0.005	0.0025 - 0.0055	0.0025 - 0.0055		
		275 - 350	240 - 470	240 - 500	-	0.0015 - 0.004	0.0025 - 0.005	0.0025 - 0.0055	0.0025 - 0.0055		
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	240 - 600	240 - 700	-	0.0015 - 0.004	0.0025 - 0.005	0.0025 - 0.0055	0.0025 - 0.0055		
		185 - 275	240 - 470	240 - 500	-	0.0015 - 0.004	0.0025 - 0.005	0.0025 - 0.0055	0.0025 - 0.0055		
	Super Duplex Stainless Steel	135 - 185	240 - 600	240 - 700	-	0.0015 - 0.004	0.0025 - 0.005	0.0025 - 0.0055	0.0025 - 0.0055		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	100 - 200	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006		
		500	100 - 200	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006		
		600	100 - 200	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006		
	Hardened Steel	300 - 400	100 - 300	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006		
400 - 500		100 - 200	-	-	0.0015 - 0.003	0.0025 - 0.005	0.003 - 0.006	0.003 - 0.006			
K	Nodular, Grey, Ductile Cast Iron	120 - 150	300 - 800	-	-	0.003 - 0.0055	0.003 - 0.007	0.003 - 0.008	0.003 - 0.008		
		150 - 200	300 - 800	-	-	0.003 - 0.0055	0.003 - 0.007	0.003 - 0.008	0.003 - 0.008		
		200 - 220	300 - 500	-	-	0.003 - 0.0055	0.003 - 0.007	0.003 - 0.008	0.003 - 0.008		
		220 - 260	270 - 400	-	-	0.003 - 0.0055	0.003 - 0.007	0.003 - 0.008	0.003 - 0.008		
		260 - 320	270 - 400	-	-	0.003 - 0.0055	0.003 - 0.007	0.003 - 0.008	0.003 - 0.008		
N	Cast Aluminum	30	-	-	800 - 2000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
		180	-	-	800 - 2000	0.0025 - 1.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
	Wrought Aluminum	30	-	-	800 - 2000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
		180	-	-	800 - 2000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
	Aluminum Bronze	100 - 200	500 - 1000	-	500 - 1000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
		200 - 250	500 - 1000	-	500 - 1000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
	Brass	100	500 - 1000	-	500 - 1000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008		
Copper	60	-	-	500 - 1000	0.0025 - 0.005	0.003 - 0.0055	0.003 - 0.0065	0.003 - 0.008			

*For high-temp materials, 1000 PSI is recommended as well as a quality synthetic coolant at approximately 10% emulsion.

**For 4xD tools, begin at low end of feed recommendation.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Factory technical assistance is also available through our Application Engineering Team.
email: ufficiotecnico@febametal.com



Insert Geometry Recommendations

A	ISO	Material	Hardness (BHN)	Geometry				
				P	M	K	N	H
DRILLING	P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	○	●			
			150 - 200	●	○			
			200 - 250	●	○			
	P	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	○	●			
			125 - 175	○	●			
			175 - 225	○	●			
	P	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	●	○			
			125 - 175	○	●			
			175 - 225	○	●			
	P	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	●	○			
			275 - 325	●	○			○
			125 - 175	○	●			
	B	High-Strength Alloy 4340, 4330V, 300M, etc.	175 - 225	●	○			
			225 - 275	●	○			○
			275 - 325	●	○			○
B	Structural Steel A36, A285, A516, etc.	325 - 375	○	○			●	
		225 - 300	●	○				
		300 - 350	○	○			●	
B	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	350 - 400	○	○			●	
		100 - 150	○	○	●			
		150 - 250	○	○	●			
B	High-Temp Alloy* Hastelloy B, Inconel 600, etc.	250 - 350	●	○				
		150 - 200	●	○				
		200 - 250	●	○				
S	Titanium Alloy*	140 - 220	○	●				
		220 - 310	○	●				
		140 - 220	○	●				
S	Aerospace Alloy* S82	220 - 310	○	●				
		185 - 275	○	●				
		275 - 350	○	●				
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	○	●				
		275 - 350	○	●				
		135 - 185	○	●				
M	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	185 - 275	○	●				
		135 - 185	○	●				
		185 - 275	○	●				
M	Super Duplex Stainless Steel	135 - 275	○	●				
		400	○	○			●	
		500	○	○			●	
H	Wear Plate Hardox®, AR400, T-1, etc.	600	○	○			●	
		300 - 400	○	○			●	
		400 - 500	○	○			●	
K	Nodular, Ductile Cast Iron	120 - 150	●	○				
		150 - 200	●	○				
		200 - 220	●	○				
K	Grey / White Iron	220 - 260			●		○	
		260 - 320			●		○	
		120 - 150			●		○	
K	Grey / White Iron	150 - 200			●		○	
		200 - 220			●		○	
		220 - 260			●		○	
K	Grey / White Iron	260 - 320			●		○	
		30				●		
		180				●		
N	Wrought Aluminium	30				●		
		180				●		
		100 - 200	○			●		
N	Aluminium Bronze	200 - 250	○			●		
		100	○			●		
		60	○			●		
N	Brass	100	○			●		
		60	○			●		
N	Copper	100	○			●		
		60	○			●		

A

DRILLING

B

BORING

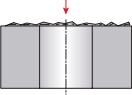

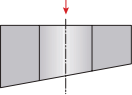
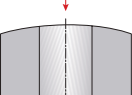
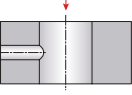
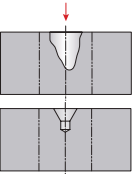
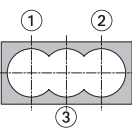
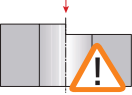
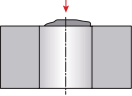
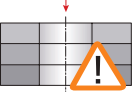
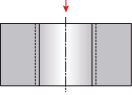
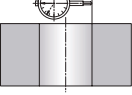
F

THREADING

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SPECIALS

Troubleshooting

1.		<p>Starting on Uneven Surfaces</p> <ul style="list-style-type: none"> • Reduce entry feed by 50% if necessary
2.		<p>Starting on Angled Surfaces</p> <ul style="list-style-type: none"> • Reduce entry feed by 20 - 50% • Use lower rake geometry if insert chipping occurs
3.		<p>Angled Bore Exit</p> <ul style="list-style-type: none"> • Reduce entry feed by 50% on breakout • Use tough insert and stable corner radius
4.		<p>Starting on Convex Surfaces</p> <ul style="list-style-type: none"> • Reduce entry feed by 50% • Use lower rake geometry if insert chipping occurs
5.		<p>Drilling Through a Cross Hole</p> <ul style="list-style-type: none"> • Reduce feed rate 50% if necessary • Use good coolant flow and monitor chip packing • Use lower rake geometry if insert chipping occurs
6.		<p>Drilling on a Groove or Large Centering Box</p> <ul style="list-style-type: none"> • Reduce entry feed • Use lower rake geometry for center insert
7.		<p>Chain Drilling</p> <ul style="list-style-type: none"> • Use good coolant flow • Reduce feed rate by 50% for interrupted cut • Use lower rake geometry if insert chipping occurs
8.		<p>Starting on an Edge</p> <ul style="list-style-type: none"> • Reduce entry feed rate by 50% • Use lower rake geometry if insert chipping occurs
9.		<p>Starting on a Welded Seam</p> <ul style="list-style-type: none"> • Reduce entry feed rate by 50% • Use lower rake geometry if insert chipping occurs
10.		<p>Drilling Through Stacked Plates</p> <ul style="list-style-type: none"> • Not recommended
11.		<p>Opening an Existing Hole</p> <ul style="list-style-type: none"> • Use flood coolant
12.		<p>Adjustable</p> <ul style="list-style-type: none"> • For mills, use eccentric sleeve with end mill holder • For lathes, use x-axis to adjust offset \varnothing <p>NOTE: Refer to maximum offset \varnothing in data tables</p>

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Safety Information



Mechanical / Physical Hazards

Operating cutting tools may present both mechanical and physical hazards. These hazards can result in serious injury to workers or those near machines and damage to machines and the cutting tools. Cutting tools and/or assemblies may break or come loose when in operation causing projectile metal fragments. Metal chips produced by cutting tools have sharp edges and may be very hot. To minimise the risk of mechanical or physical hazards:

- Always secure all components of the cutting tool assembly before operating.
- Wear cut-resistant gloves when handling cutting tool components and assemblies.
- Do not touch metal chips produced by the cutting tools with your hands.
- Always wear appropriate personal protective equipment including safety goggles or glasses with side shields.
- Immediately discontinue use of damaged cutting tools.
- To avoid machine tool damage, make sure the machine has adequate power and torque for the cutting tool when operating. See catalogue for power and torque requirements.
- Operating long cutting tools at high spindle speeds can result in a high risk of tool failure and serious injury.

Dust and Fume Hazards

Grinding, welding, cutting or burning hard metals such as high-speed steel, cobalt or carbides produces hazardous dust and/or fumes. Continued long-term exposure to hazardous dust and fumes can cause serious health issues. To minimise the risk of dust and fume hazards:

- Do not regrind or sharpen cutting tools without using adequate ventilation.
- Use appropriate personal protective equipment such as approved respirator to avoid inhalation, swallowing, or skin contact with the hazardous dust and/or fumes.
- Do not eat, drink, or smoke in the machine operation area. Always wash skin prior to eating, drinking, or smoking to avoid hazardous ingestion.

Sensitizing Hazards

Components of an assembled cutting tool are made from a variety of metal elements that may cause allergic skin reactions with prolonged skin contact. To minimise the risk of allergic skin reactions:

- Avoid skin contact with cutting tools.
- Wear appropriate gloves and protective clothing.
- Wash skin and launder clothing after handling cutting tools to reduce the risk of skin allergies.

Preventive Safety Measure Applicable to all Hazards

- Prior to using cutting tools, always read Allied Machine's Safety Data Sheets, product catalogue, and product labels for additional warnings for the Allied Machine product being used.
- For machining safety, only operate equipment when all necessary guards, interlocks and other safety devices are in place and functional. Use all appropriate safety guards or machine encapsulations to securely collect particles such as chips or cutting elements that may become projectiles.

Through Hole

- With through holes, a **sharp-edged disc** is created as tool breakout occurs.
 - ▲ Proper personal protective equipment must be used to prevent injury (e.g. wear cut-resistant gloves).



SECTION

A60

Revolution Drill®

Revolution Drill®

Large Diameter Replaceable IC Insert Drilling System

► **Diameter Range:** 47.63 mm - 101.60 mm (1.875" - 4.000")



Large Scale Innovation

The Revolution Drill has an innovative design that allows for adjustability of 5.1 mm (0.200") on diameter. This eliminates the need for special tooling and/or subsequent boring operations. With the ability to drill from solid, the Revolution Drill does not require a previously drilled pilot hole. The replaceable cartridges reduce setup time, and the indexable inserts protect your investment. The insert design provides excellent chip control and aggressive penetration rates.

Drills from solid	Drill depths up to 4.5xD	Excellent chip control
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Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General Machining



Oil & Gas



Renewable Energy

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

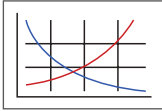
Reference Icons

The following icons will appear throughout the catalogue 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



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
34	47.63 - 50.80	1.875 - 2.000
36	50.80 - 55.88	2.000 - 2.200
38	55.88 - 60.96	2.200 - 2.400
42	60.96 - 66.04	2.400 - 2.600
44	66.04 - 71.12	2.600 - 2.800
46	71.12 - 76.20	2.800 - 3.000
48	76.20 - 81.28	3.000 - 3.200
52	81.28 - 86.36	3.200 - 3.400
54	86.36 - 91.44	3.400 - 3.600
56	91.44 - 96.52	3.600 - 3.800
58	96.52 - 101.60	3.800 - 4.000

Introduction Information

Product Overview	2 - 3
Setup Instructions	4
Product Nomenclature	5

Drill Series

34 Series	6 - 7
36 Series	8 - 9
38 Series	10 - 11
42 Series	12 - 13
44 Series	14 - 15
46 Series	16 - 17
48 Series	18 - 19
52 Series	20 - 21
54 Series	22 - 23
56 Series	24 - 25
58 Series	26 - 27

Recommended Cutting Data

Metric (mm)	28
Imperial (inch)	29

Product Overview

Series	Diameter Range		Length-to-Diameter Ratio	Shank Options			Inserts per Cartridge	Page
	Metric (mm)	Imperial (in)		Straight	CAT40	CAT50		
34	47.63 - 50.80	1.875 - 2.000	2.2, 3.5, 4.5	✓	✓	✓	2	6 - 7
36	50.80 - 55.88	2.000 - 2.200	2.2, 3.5, 4.5	✓	✓	✓	2	8 - 9
38	55.88 - 60.96	2.200 - 2.400	2.2, 3.5, 4.5	✓	✓	✓	2	10 - 11
42	60.96 - 66.04	2.400 - 2.600	2.2, 3.5, 4.5	✓	✓	✓	2	12 - 13
44	66.04 - 71.12	2.600 - 2.800	2.2, 3.5	✓		✓	3	14
46	71.12 - 76.20	2.800 - 3.000	2.2, 3.5	✓		✓	3	15
48	76.20 - 81.28	3.000 - 3.200	1.0, 2.5	✓		✓	3	16
52	81.28 - 86.36	3.200 - 3.400	1.0, 2.5	✓		✓	3	17
54	86.36 - 91.44	3.400 - 3.600	1.0, 2.5	✓		✓	3	18
56	91.44 - 96.52	3.600 - 3.800	1.0, 2.5	✓		✓	4	19
58	96.52 - 101.60	3.800 - 4.000	1.0, 2.5	✓		✓	4	20

NOTE: Stacked plate styles are also available

Features & Benefits

- Adjustability of 5.10 mm (0.200") on diameter
- Drill depths up to 4.5xD (standard)
- The replaceable cartridges protect your investment
- Adjustable diameter reduces inventory and cost
- The insert design allows for excellent chip control and aggressive penetration rates
- No pilot hole needed



2 Inserts
(34 - 42 series)



3 Inserts
(44 - 54 series)



4 Inserts
(56 - 58 series)



Shank Options

Body Lengths



Straight Shank
(all series)



CAT40 Shank
(34, 36, 38, 42 series)



CAT50 Shank
(all series)

- 1.0xD (48, 52, 54, 56, 58 series)
- 2.2xD (34, 36, 38, 42, 44, 46 series)
- 2.5xD (48, 52, 54, 56, 58 series)
- 3.5xD (34, 36, 38, 42, 44, 46 series)
- 4.5xD (34, 36, 38, 42, 44, 46 series)

A
DRILLING

B

BORING

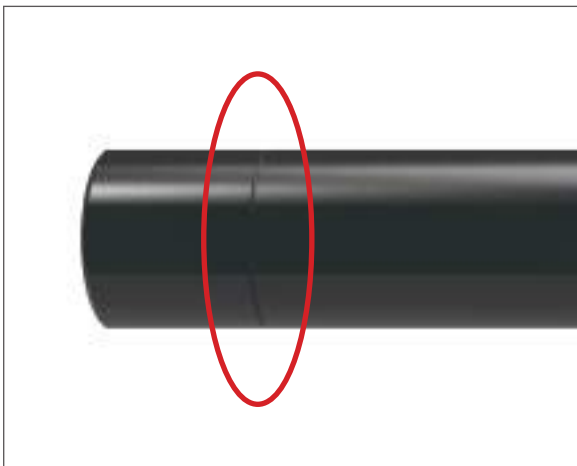
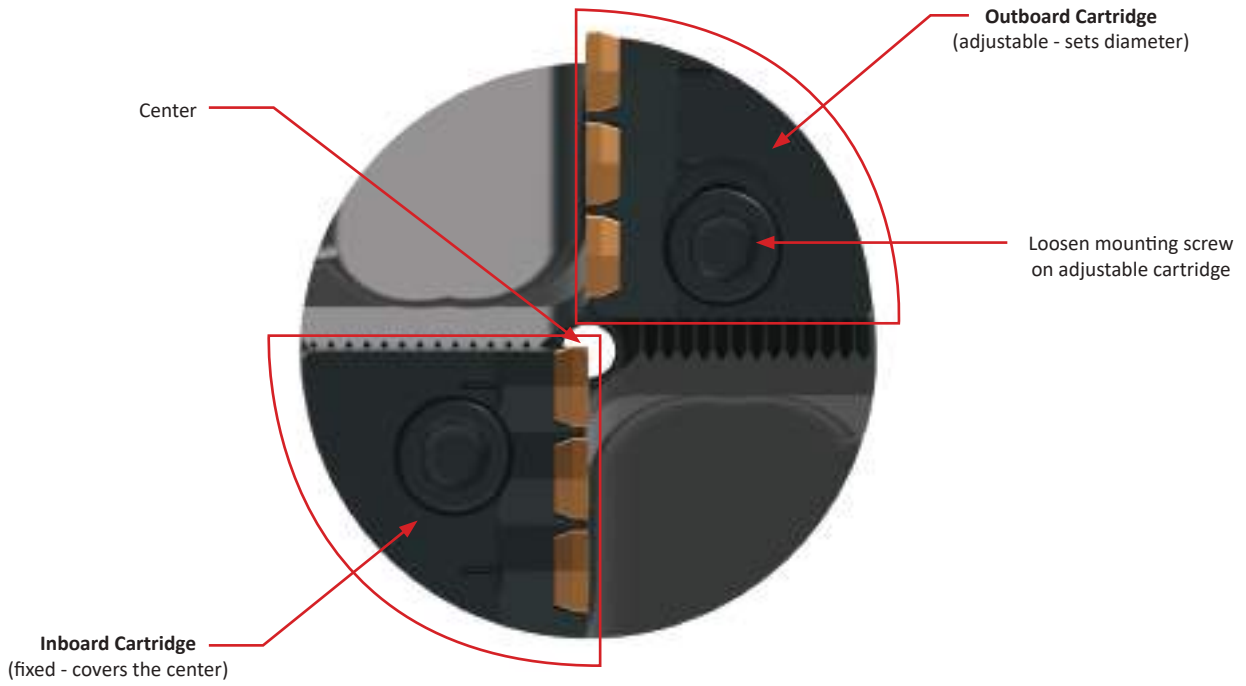
F

THREADING

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SPECIALS

Product Overview



Straight Shanks

- Designed for lathe applications
- Can be cut off for use in end mill holders
- The score mark (circled above) is provided for recommended cut length
- Cut and deburr at the score mark
- This improves rigidity when the body sits against the face of an end mill holder



A
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Setup Instructions

A
DRILLING



Step 1:
Mount the fixed cartridge and tighten the mounting screw to 15-19 N-m (11-14 ft-lbf).



Step 2:
Finger-tighten the mounting screw on the adjustable cartridge.

B
BORING



Step 3:
Set the diameter using the adjustment screw against the mounting screw. Place the drill in a presetter to ensure the correct diameter setting.



Step 4:
Tighten the mounting screw to 15-19 N-m (11-14 ft-lbf).

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THREADING

IC Inserts

- The design allows for excellent chip control and aggressive penetration rates
- The proprietary AM200® and AM300® coatings increase tool life above competitors' premium coatings
- The same inserts are used for both Revolution Drill and Opening Drill® products



AM300®



AM200®



TiN

Insert Application Recommendations

Carbide Grade Options

P35 (C5)	General purpose carbide grade suitable for most applications. ▶ <i>Common application in steels and stainless steels.</i>
K35 (C1)	Toughest carbide grade. Provides the best combination of edge strength and tool life. ▶ <i>Recommended for less rigid applications.</i>
K25 (C2)	Higher wear-resistant carbide suitable for abrasive material applications. ▶ <i>Recommended for grey, ductile, and nodular irons.</i>

Additional Geometry Option

High Rake (HR)	Provides superior chip control and tool life in long chipping carbon and alloy steels below 200 Bhn.
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X
SPECIALS

Product Nomenclature

Revolution Drill Holders

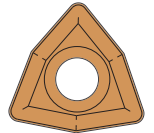
R	34	X	22	-	150L
1	2		3		4



1. Drill Style R = Standard SP = Stacked Plate	2. Series 34 = 34 series 44 = 44 series 54 = 54 series 36 = 36 series 46 = 46 series 56 = 56 series 38 = 38 series 48 = 48 series 58 = 58 series 42 = 42 series 52 = 52 series	3. Length-to-Diameter Ratio 10 = 1.0xD 22 = 2.2xD 25 = 2.5xD 35 = 3.5xD 45 = 4.5xD	4. Shank Information 40M = 40 mm ISO 9766 50M = 50 mm ISO 9766 150L = 1-1/2 Ø straight 200L = 2 Ø straight CV40 = CAT40 CV50 = CAT50
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Revolution Drill Inserts

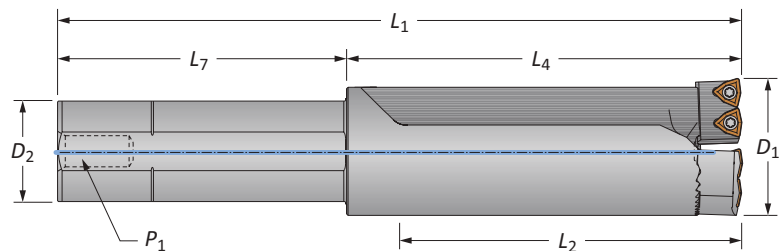
OP	-	05	T3	08	-	1	H	HR
1		2	3	4		5	6	7



1. Compatible with: Opening Drill® Revolution Drill	2. IC Type 05 = 5/16"	3. Thickness T3 = 5/32"	4. Radius 08 = 1/32"	5. Carbide Grade Blank = P35 (C5) 1 = K35 (C1) 2 = K25 (C2)
6. Coating P = AM300® H = AM200® T = TiN A = TiAlN N = TiCN U = Uncoated	7. Geometry Blank = General Purpose HR = High Rake			

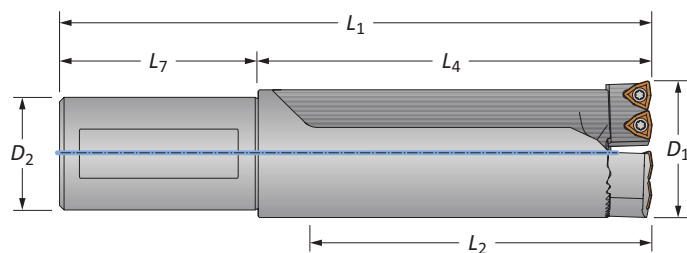
Reference Key

Symbol	Attribute
D ₁	Drill diameter range
D ₂	Shank diameter
L ₁	Overall length
L ₂	Maximum drill depth
L ₄	Holder length
L ₇	Shank length
P ₁	Rear pipe tap



Revolution Drill Holders

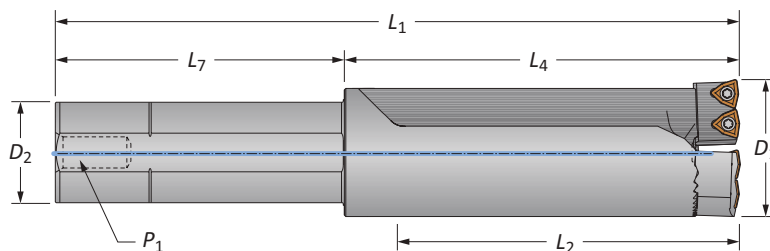
34 Series | Diameter Range: 47.63 mm - 50.80 mm (1.875" - 2.000")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	47.63 - 50.80	114.94	137.36	207.36	40.00	70.00	-	R34X22-40M	C34-...
Standard	3.5xD	47.63 - 50.80	178.44	200.86	270.86	40.00	70.00	-	R34X35-40M	C34-...
Standard	4.5xD	47.63 - 50.80	229.24	251.66	321.66	40.00	70.00	-	R34X45-40M	C34-...
Stacked Plate	2.2xD	47.63 - 50.80	112.40	134.80	204.80	40.00	70.00	-	SP34X22-40M	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	1.875 - 2.000	4-17/32	5-13/32	9-13/32	1-1/2	4	1/4	R34X22-150L	C34-...
Standard	3.5xD	1.875 - 2.000	7-1/32	7-29/32	11-29/32	1-1/2	4	1/4	R34X35-150L	C34-...
Standard	4.5xD	1.875 - 2.000	9-1/32	9-29/32	13-29/32	1-1/2	4	1/4	R34X45-150L	C34-...
Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	5-5/16	9-5/16	1-1/2	4	1/4	SP34X22-150L	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.

A
DRILLING

B

BORING

F

THREADING

X

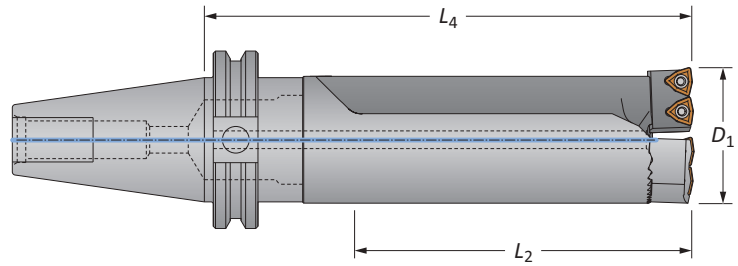
SPECIALS

A60: 28 - 29 A60: 2 - 4

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

Revolution Drill Holders

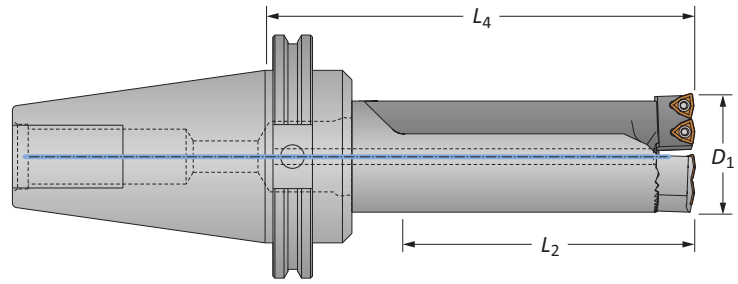
34 Series | Diameter Range: 47.63 mm - 50.80 mm (1.875" - 2.000")



CV40 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	1.875 - 2.000	4-17/32	6-25/32	CV40	R34X22-CV40	C34-...
Standard	3.5xD	1.875 - 2.000	7-1/32	9-9/32	CV40	R34X35-CV40	C34-...
Standard	4.5xD	1.875 - 2.000	9-1/32	11-9/32	CV40	R34X45-CV40	C34-...
Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	6-11/16	CV40	SP34X22-CV40	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	1.875 - 2.000	4-17/32	6-25/32	CV50	R34X22-CV50	C34-...
Standard	3.5xD	1.875 - 2.000	7-1/32	9-9/32	CV50	R34X35-CV50	C34-...
Standard	4.5xD	1.875 - 2.000	9-1/32	11-9/32	CV50	R34X45-CV50	C34-...
Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	6-11/16	CV50	SP34X22-CV50	C34SP-...

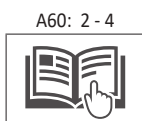
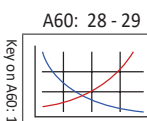
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R34...	C34-FIX	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34-ADJ	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
SP34...	C34SP-FIX	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34SP-ADJ	2	MS-17M-1	5 mm	AS-16T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

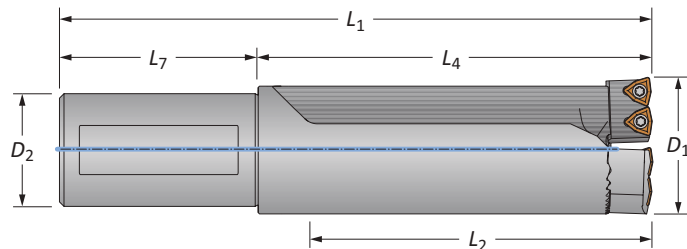


Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Revolution Drill Holders

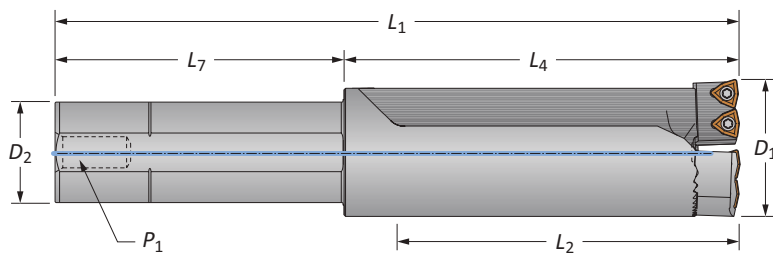
36 Series | Diameter Range: 50.80 mm - 55.88 mm (2.000" - 2.200")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	50.80 - 55.88	125.96	149.58	219.58	40.00	70.00	-	R36X22-40M	C36-...
Standard	3.5xD	50.80 - 55.88	195.81	219.43	289.43	40.00	70.00	-	R36X35-40M	C36-...
Standard	4.5xD	50.80 - 55.88	252.96	276.58	346.58	40.00	70.00	-	R36X45-40M	C36-...
Stacked Plate	2.2xD	50.80 - 55.88	125.96	147.60	217.60	40.00	70.00	-	SP36X22-40M	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	2.000 - 2.200	4-61/64	5-57/64	9-57/64	1-1/2	4	1/4	R36X22-150L	C36-...
Standard	3.5xD	2.000 - 2.200	7-45/64	8-41/64	12-41/64	1-1/2	4	1/4	R36X35-150L	C36-...
Standard	4.5xD	2.000 - 2.200	9-61/64	10-57/64	14-57/64	1-1/2	4	1/4	R36X45-150L	C36-...
Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	5-13/16	9-13/16	1-1/2	4	1/4	SP36X22-150L	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

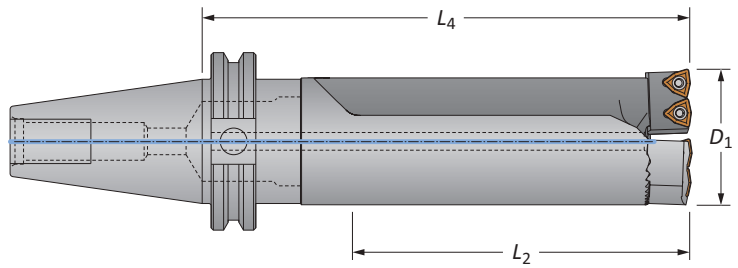
A60: 28 - 29 Key on A60: 1

A60: 2 - 4

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

Revolution Drill Holders

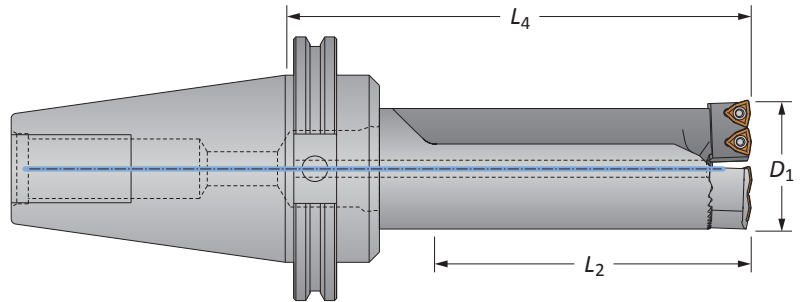
36 Series | Diameter Range: 50.80 mm - 55.88 mm (2.000" - 2.200")



CV40 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	2.000 - 2.200	4-61/64	7-17/64	CV40	R36X22-CV40	C36-...
Standard	3.5xD	2.000 - 2.200	7-45/64	10-1/64	CV40	R36X35-CV40	C36-...
Standard	4.5xD	2.000 - 2.200	9-61/64	12-17/64	CV40	R36X45-CV40	C36-...
Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	7-35/64	CV40	SP36X22-CV40	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	2.000 - 2.200	4-61/64	7-17/64	CV50	R36X22-CV50	C36-...
Standard	3.5xD	2.000 - 2.200	7-45/64	10-1/64	CV50	R36X35-CV50	C36-...
Standard	4.5xD	2.000 - 2.200	9-61/64	12-17/64	CV50	R36X45-CV50	C36-...
Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	7-35/64	CV50	SP36X22-CV50	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

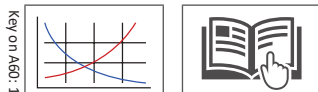
Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R36...	C36-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
SP36...	C36SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36SP-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

A60: 28 - 29

A60: 2 - 4



Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

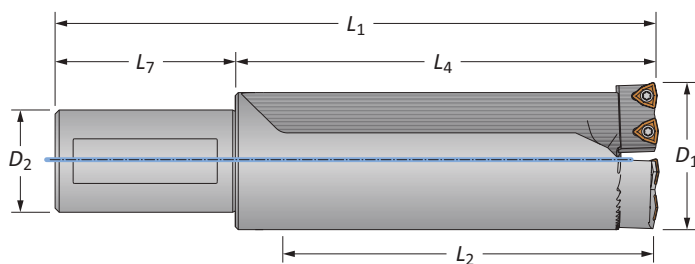
Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Revolution Drill Holders

38 Series | Diameter Range: 55.88 mm - 60.96 mm (2.200" - 2.400")

A

DRILLING



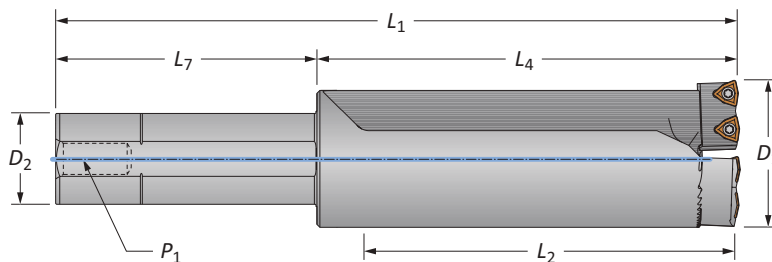
Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	55.88 - 60.96	138.66	162.20	232.20	40.00	70.00	-	R38X22-40M	C38-...
Standard	3.5xD	55.88 - 60.96	214.86	238.40	308.40	40.00	70.00	-	R38X35-40M	C38-...
Standard	4.5xD	55.88 - 60.96	278.36	301.90	371.90	40.00	70.00	-	R38X45-40M	C38-...
Stacked Plate	2.2xD	55.88 - 60.96	138.66	159.99	230.00	40.00	70.00	-	SP38X22-40M	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.

B

BORING



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	2.200 - 2.400	5-29/64	6-25/64	10-25/64	1-1/2	4	1/4	R38X22-150L	C38-...
Standard	3.5xD	2.200 - 2.400	8-29/64	9-25/64	13-25/64	1-1/2	4	1/4	R38X35-150L	C38-...
Standard	4.5xD	2.200 - 2.400	10-61/64	11-57/64	15-57/64	1-1/2	4	1/4	R38X45-150L	C38-...
Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	6-19/64	10-19/64	1-1/2	4	1/4	SP38X22-150L	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.

F

THREADING

X

SPECIALS

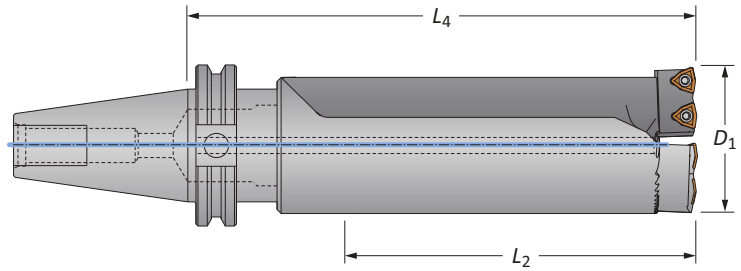
A60: 28 - 29 A60: 2 - 4

Key on A60: 1

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Revolution Drill Holders

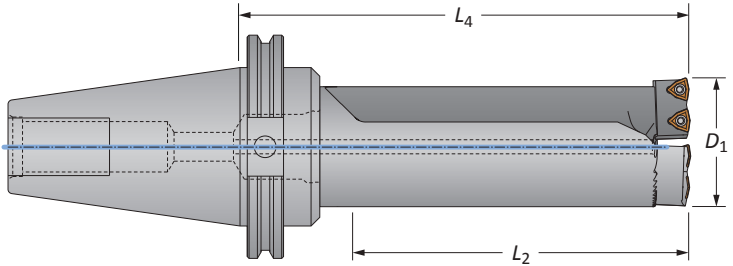
38 Series | Diameter Range: 55.88 mm - 60.96 mm (2.200" - 2.400")



CV40 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	2.2xD	2.200 - 2.400	5-29/64	7-49/64	CV40	R38X22-CV40	C38-...
	Standard	3.5xD	2.200 - 2.400	8-29/64	10-49/64	CV40	R38X35-CV40	C38-...
	Standard	4.5xD	2.200 - 2.400	10-61/64	13-17/64	CV40	R38X45-CV40	C38-...
	Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	7-43/64	CV40	SP38X22-CV40	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	2.2xD	2.200 - 2.400	5-29/64	7-49/64	CV50	R38X22-CV50	C38-...
	Standard	3.5xD	2.200 - 2.400	8-29/64	10-49/64	CV50	R38X35-CV50	C38-...
	Standard	4.5xD	2.200 - 2.400	10-61/64	13-17/64	CV50	R38X45-CV50	C38-...
	Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	7-43/64	CV50	SP38X22-CV50	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R38...	C38-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
SP38...	C38SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38SP-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9


A60: 28 - 29 A60: 2 - 4

Key on A60: 1

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

Ⓜ = Metric (mm)
 Ⓢ = Imperial (in)

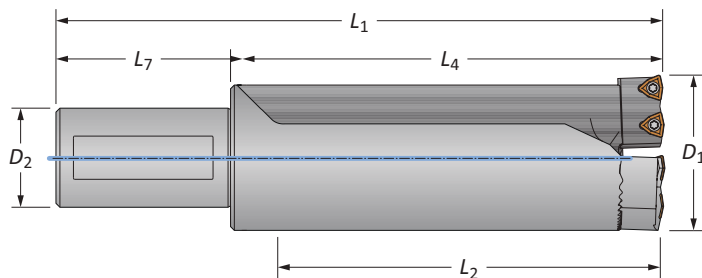
42

 DRILLING | Revolution Drill® Large Diameter Replaceable IC Insert Drilling System

Revolution Drill Holders

42 Series | Diameter Range: 60.96 mm - 66.04 mm (2.400" - 2.600")

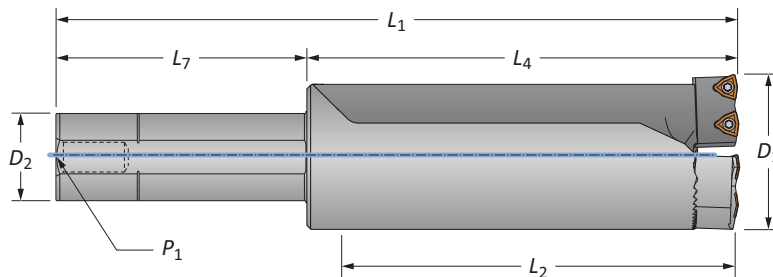



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	60.96 - 66.04	144.88	171.68	241.68	40.00	70.00	–	R42X22-40M	C42-...
Standard	3.5xD	60.96 - 66.04	233.78	260.58	330.58	40.00	70.00	–	R42X35-40M	C42-...
Standard	4.5xD	60.96 - 66.04	297.28	324.08	394.08	40.00	70.00	–	R42X45-40M	C42-...
Stacked Plate	2.2xD	60.96 - 66.04	146.10	172.90	242.90	40.00	70.00	–	SP42X22-40M	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.




Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	2.400 - 2.600	5-45/64	6-49/64	10-49/64	1-1/2	4	1/4	R42X22-150L	C42-...
Standard	3.5xD	2.400 - 2.600	9-13/64	10-17/64	14-17/64	1-1/2	4	1/4	R42X35-150L	C42-...
Standard	4.5xD	2.400 - 2.600	11-45/64	12-49/64	16-49/64	1-1/2	4	1/4	R42X45-150L	C42-...
Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	6-13/16	10-13/16	1-1/2	4	1/4	SP42X22-150L	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.

A

DRILLING

B

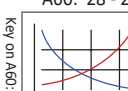
BORING

F

THREADING

X

SPECIALS

 A60: 28 - 29


 A60: 2 - 4

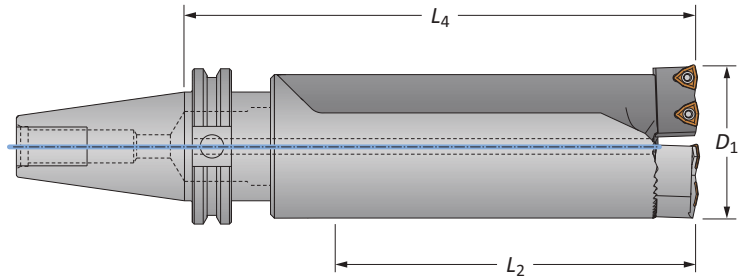

 M = Metric (mm)
 I = Imperial (in)

A60: 12

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Revolution Drill Holders

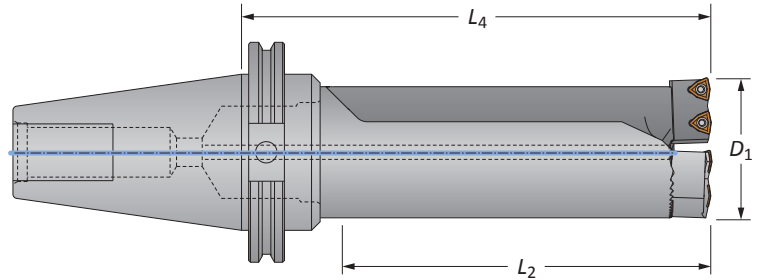
42 Series | Diameter Range: 60.96 mm - 66.04 mm (2.400" - 2.600")



CV40 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	2.400 - 2.600	5-45/64	8-9/64	CV40	R42X22-CV40	C42-...
Standard	3.5xD	2.400 - 2.600	9-13/64	11-41/64	CV40	R42X35-CV40	C42-...
Standard	4.5xD	2.400 - 2.600	11-45/64	14-9/64	CV40	R42X45-CV40	C42-...
Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	8-3/16	CV40	SP42X22-CV40	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	2.400 - 2.600	5-45/64	8-9/64	CV50	R42X22-CV50	C42-...
Standard	3.5xD	2.400 - 2.600	9-13/64	11-41/64	CV50	R42X35-CV50	C42-...
Standard	4.5xD	2.400 - 2.600	11-45/64	14-9/64	CV50	R42X45-CV50	C42-...
Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	8-3/16	CV50	SP42X22-CV50	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R42...	C42-FIX	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42-ADJ	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP42...	C42SP-FIX	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42SP-ADJ	2	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9


A60: 28 - 29 A60: 2 - 4

Key on A60: 1

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

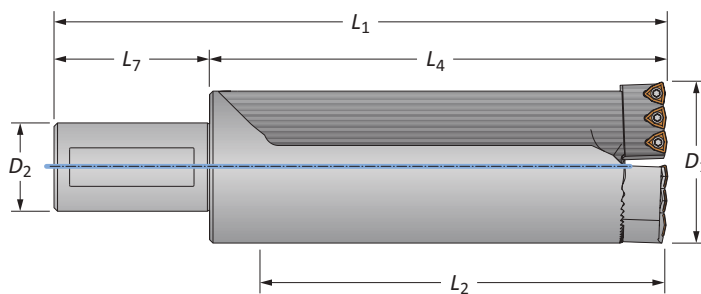
44

 DRILLING | Revolution Drill® Large Diameter Replaceable IC Insert Drilling System

Revolution Drill Holders

44 Series | Diameter Range: 66.04 mm - 71.12 mm (2.600" - 2.800")



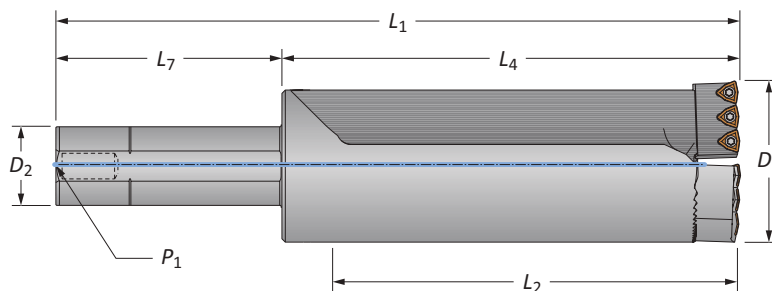


Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	66.04 - 71.12	157.63	190.65	260.65	40.00	70.00	–	R44X22-40M	C44-...
Standard	3.5xD	66.04 - 71.12	252.88	285.90	355.90	40.00	70.00	–	R44X35-40M	C44-...
Stacked Plate	2.2xD	66.04 - 71.12	158.70	191.69	261.70	40.00	70.00	–	SP44X22-40M	C44SP-...

*Holder includes cartridges; however, inserts are sold separately.





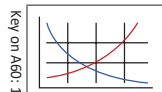
Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	2.600 - 2.800	6-13/64	7-1/2	11-1/2	1-1/2	4	1/4	R44X22-150L	C44-...
Standard	3.5xD	2.600 - 2.800	9-61/64	11-1/4	15-1/4	1-1/2	4	1/4	R44X35-150L	C44-...
Stacked Plate	2.2xD	2.600 - 2.800	6-1/4	7-35/64	11-35/64	1-1/2	4	1/4	SP44X22-150L	C44SP-...

*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29

A60: 2 - 4




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

A60: 14

www.febametal.com/amec | Tel. 011.770.14.12

A DRILLING

B

BORING

F

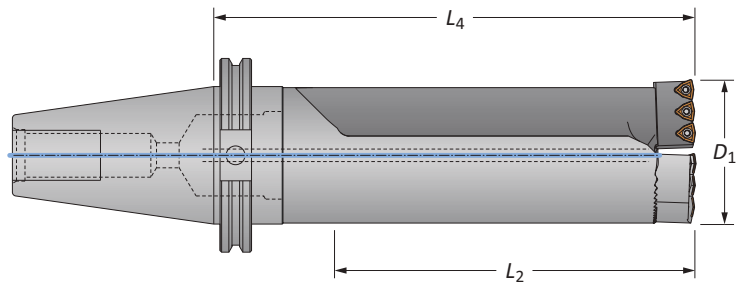
THREADING

X

SPECIALS

Revolution Drill Holders

44 Series | Diameter Range: 66.04 mm - 71.12 mm (2.600" - 2.800")



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges
			L ₂	L ₄			
Standard	2.2xD	2.600 - 2.800	6-13/64	8-7/8	CV50	R44X22-CV50	C44-...
Standard	3.5xD	2.600 - 2.800	9-61/64	12-5/8	CV50	R44X35-CV50	C44-...
Stacked Plate	2.2xD	2.600 - 2.800	6-1/4	8-59/64	CV50	SP44X22-CV50	C44SP-...

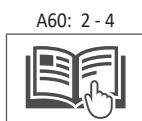
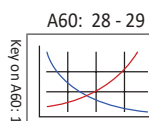
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R44...	C44-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP44...	C44SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

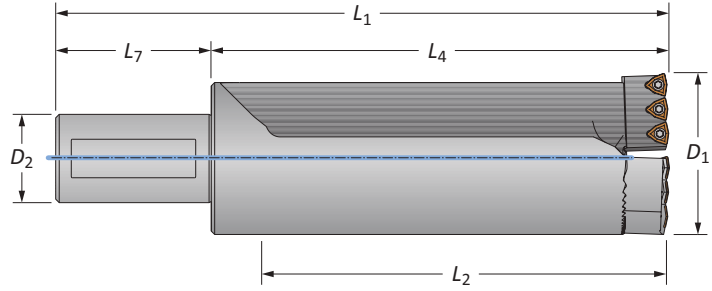


Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

Revolution Drill Holders

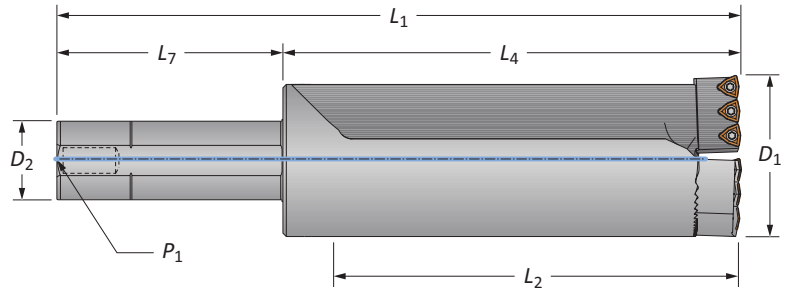
46 Series | Diameter Range: 71.12 mm - 76.20 mm (2.800" - 3.000")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	71.12 - 76.20	170.36	203.38	273.38	40.00	70.00	-	R46X22-40M	C46-...
Standard	3.5xD	71.12 - 76.20	265.61	298.63	368.63	40.00	70.00	-	R46X35-40M	C46-...
Stacked Plate	2.2xD	71.12 - 76.20	171.40	204.39	274.40	40.00	70.00	-	SP46X22-40M	C46SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	2.2xD	2.800 - 3.000	6-45/64	8	12	1-1/2	4	1/4	R46X22-150L	C46-...
Standard	3.5xD	2.800 - 3.000	10-29/64	11-3/4	15-3/4	1-1/2	4	1/4	R46X35-150L	C46-...
Stacked Plate	2.2xD	2.800 - 3.000	6-3/4	8-3/64	12-3/64	1-1/2	4	1/4	SP46X22-150L	C46SP-...

*Holder includes cartridges; however, inserts are sold separately.

A DRILLING

B BORING

F THREADING

X SPECIALS

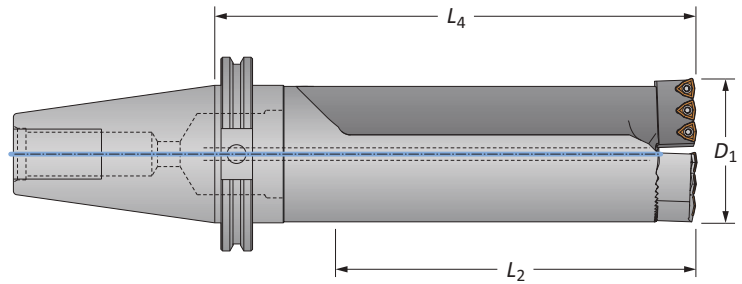
A60: 28 - 29 Key on A60: 1

A60: 2 - 4

= Metric (mm)
 = Imperial (in)

Revolution Drill Holders

46 Series | Diameter Range: 71.12 mm - 76.20 mm (2.800" - 3.000")



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	2.2xD	2.800 - 3.000	6-45/64	9-25/64	CV50	R46X22-CV50	C46-...
	Standard	3.5xD	2.800 - 3.000	10-29/64	13-1/8	CV50	R46X35-CV50	C46-...
	Stacked Plate	2.2xD	2.800 - 3.000	6-3/4	9-27/64	CV50	SP46X22-CV50	C46SP-...

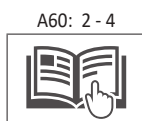
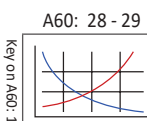
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R46...	C46-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP46...	C46SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46SP-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

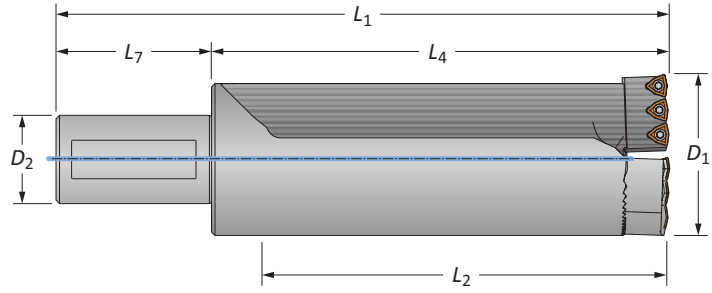


Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

Revolution Drill Holders

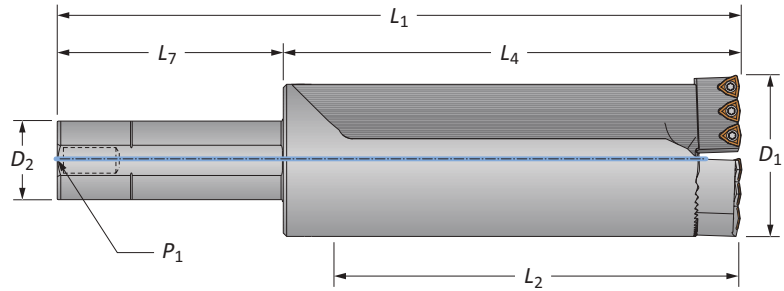
48 Series | Diameter Range: 76.20 mm - 81.28 mm (3.000" - 3.200")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	76.20 - 81.28	80.21	114.50	194.50	50.00	80.00	-	R48X10-50M	C48-...
	2.5xD	76.20 - 81.28	200.86	235.15	315.15	50.00	80.00	-	R48X25-50M	C48-...
Stacked Plate	1.0xD	76.20 - 81.28	80.21	116.51	196.52	50.00	80.00	-	SP48X10-50M	C48SP-...
	2.5xD	76.20 - 81.28	200.86	237.21	317.22	50.00	80.00	-	SP48X25-50M	C48SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	3.000 - 3.200	3-5/32	4-33/64	9-1/64	2	4-1/2	1/4	R48X10-200L	C48-...
	2.5xD	3.000 - 3.200	7-29/32	9-17/64	13-49/64	2	4-1/2	1/4	R48X25-200L	C48-...
Stacked Plate	1.0xD	3.000 - 3.200	3-15/64	4-19/32	9-3/32	2	4-1/2	1/4	SP48X10-200L	C48SP-...
	2.5xD	3.000 - 3.200	7-63/64	9-11/32	13-27/32	2	4-1/2	1/4	SP48X25-200L	C48SP-...

*Holder includes cartridges; however, inserts are sold separately.

A DRILLING

B

BORING

F

THREADING

X

SPECIALS

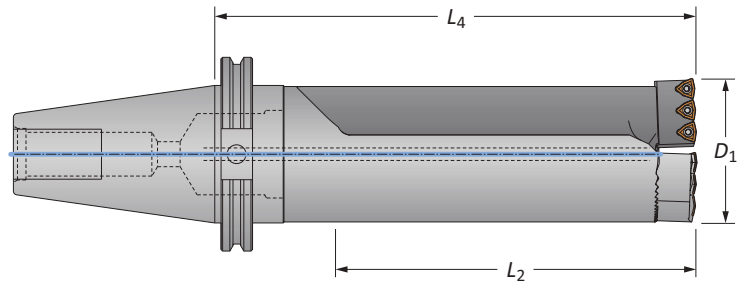
A60: 28 - 29 A60: 2 - 4

Key on A60: 1

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

Revolution Drill Holders

48 Series | Diameter Range: 76.20 mm - 81.28 mm (3.000" - 3.200")



CV50 Shank

Style	Length	D_1 Range	Holder		Shank	Part No.*	Cartridges	
			L_2	L_4				
i	Standard	1.0xD	3.000 - 3.200	3-5/32	5-57/64	CV50	R48X10-CV50	C48-...
	Standard	2.5xD	3.000 - 3.200	7-29/32	10-41/64	CV50	R48X25-CV50	C48-...
	Stacked Plate	1.0xD	3.000 - 3.200	3-15/64	5-31/32	CV50	SP48X10-CV50	C48SP-...
	Stacked Plate	2.5xD	3.000 - 3.200	7-63/64	10-23/32	CV50	SP48X25-CV50	C48SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R48...	C48-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP48...	C48SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48SP-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

A60: 28 - 29

Key on A60: 1

A60: 2 - 4

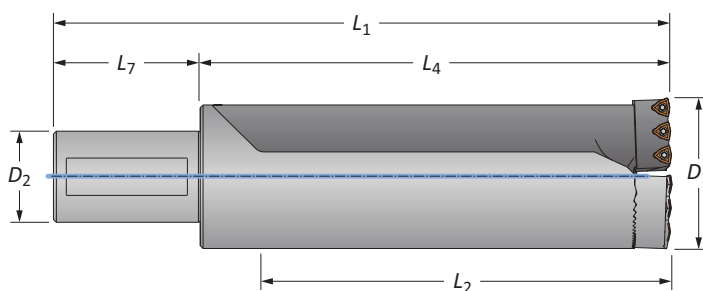
Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Revolution Drill Holders

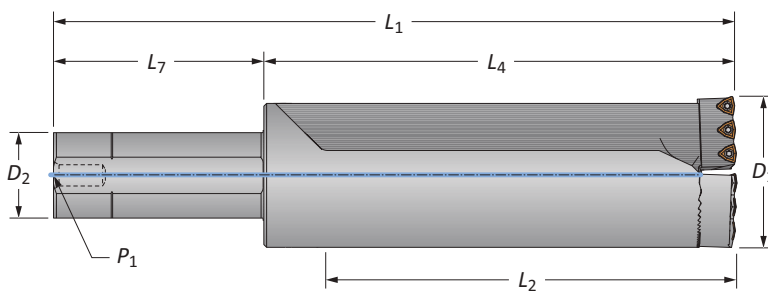
52 Series | Diameter Range: 81.28 mm - 86.36 mm (3.200" - 3.400")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	81.28 - 86.36	86.72	127.23	207.23	50.00	80.00	-	R52X10-50M	C52-...
Standard	2.5xD	81.28 - 86.36	213.72	254.02	334.02	50.00	80.00	-	R52X25-50M	C52-...
Stacked Plate	1.0xD	81.28 - 86.36	88.60	129.11	209.12	50.00	80.00	-	SP52X10-50M	C52SP-...
Stacked Plate	2.5xD	81.28 - 86.36	215.60	256.11	336.12	50.00	80.00	-	SP52X25-50M	C52SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	3.200 - 3.400	3-27/64	5-1/64	9-33/64	2	4-1/2	1/4	R52X10-200L	C52-...
Standard	2.5xD	3.200 - 3.400	8-27/64	10-1/64	14-33/64	2	4-1/2	1/4	R52X25-200L	C52-...
Stacked Plate	1.0xD	3.200 - 3.400	3-31/64	5-5/64	9-37/64	2	4-1/2	1/4	SP52X10-200L	C52SP-...
Stacked Plate	2.5xD	3.200 - 3.400	8-31/64	10-5/64	14-37/64	2	4-1/2	1/4	SP52X25-200L	C52SP-...

*Holder includes cartridges; however, inserts are sold separately.

A
DRILLING

B

BORING

F

THREADING

X

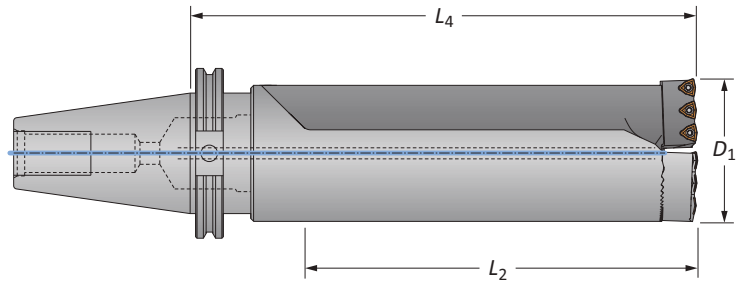
SPECIALS

A60: 28 - 29 A60: 2 - 4

Ⓜ = Metric (mm)
Ⓜ = Imperial (in)

Revolution Drill Holders

52 Series | Diameter Range: 81.28 mm - 86.36 mm (3.200" - 3.400")



CV50 Shank

Style	Length	D_1 Range	Holder		Shank	Part No.*	Cartridges
			L_2	L_4			
i Standard	1.0xD	3.200 - 3.400	3-27/64	6-25/64	CV50	R52X10-CV50	C52-...
	2.5xD	3.200 - 3.400	8-27/64	11-25/64	CV50	R52X25-CV50	C52-...
	1.0xD	3.200 - 3.400	3-31/64	6-29/64	CV50	SP52X10-CV50	C52SP-...
	2.5xD	3.200 - 3.400	8-31/64	11-29/64	CV50	SP52X25-CV50	C52SP-...

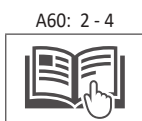
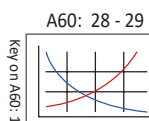
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R52...	C52-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP52...	C52SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

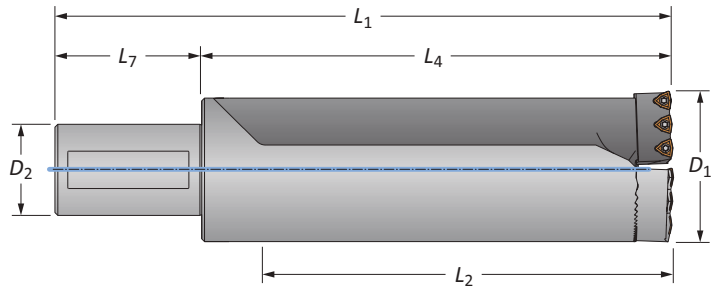


Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

Revolution Drill Holders

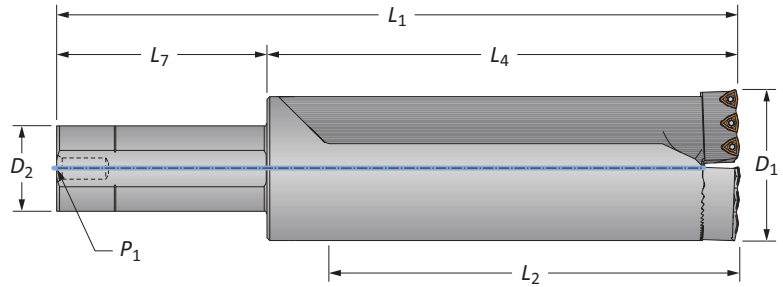
54 Series | Diameter Range: 86.36 mm - 91.44 mm (3.400" - 3.600")



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	86.36 - 91.44	92.94	133.58	213.58	50.00	80.00	-	R54X10-50M	C54-...
Standard	2.5xD	86.36 - 91.44	226.29	266.93	346.93	50.00	80.00	-	R54X25-50M	C54-...
Stacked Plate	1.0xD	86.36 - 91.44	94.50	135.10	215.10	50.00	80.00	-	SP54X10-50M	C54SP-...
Stacked Plate	2.5xD	86.36 - 91.44	227.81	268.50	348.51	50.00	80.00	-	SP54X25-50M	C54SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Standard	1.0xD	3.400 - 3.600	3-21/32	5-17/64	9-49/64	2	4-1/2	1/4	R54X10-200L	C54-...
Standard	2.5xD	3.400 - 3.600	8-29/32	10-33/64	15-1/64	2	4-1/2	1/4	R54X25-200L	C54-...
Stacked Plate	1.0xD	3.400 - 3.600	3-23/32	5-21/64	9-53/64	2	4-1/2	1/4	SP54X10-200L	C54SP-...
Stacked Plate	2.5xD	3.400 - 3.600	8-31/32	10-37/64	15-5/64	2	4-1/2	1/4	SP54X25-200L	C54SP-...

*Holder includes cartridges; however, inserts are sold separately.

A DRILLING

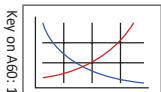
B BORING

F THREADING

X SPECIALS

A60: 28 - 29

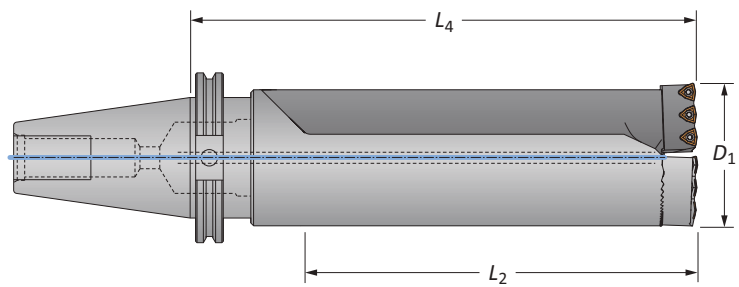
A60: 2 - 4



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

Revolution Drill Holders

54 Series | Diameter Range: 86.36 mm - 91.44 mm (3.400" - 3.600")



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	1.0xD	3.400 - 3.600	3-21/32	6-41/64	CV50	R54X10-CV50	C54-...
	Standard	2.5xD	3.400 - 3.600	8-29/32	11-57/64	CV50	R54X25-CV50	C54-...
	Stacked Plate	1.0xD	3.400 - 3.600	3-23/32	6-11/16	CV50	SP54X10-CV50	C54SP-...
	Stacked Plate	2.5xD	3.400 - 3.600	8-31/32	11-15/16	CV50	SP54X25-CV50	C54SP-...

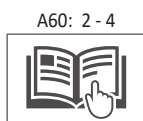
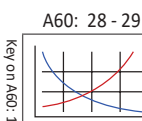
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R54...	C54-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP54...	C54SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts


Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9



Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

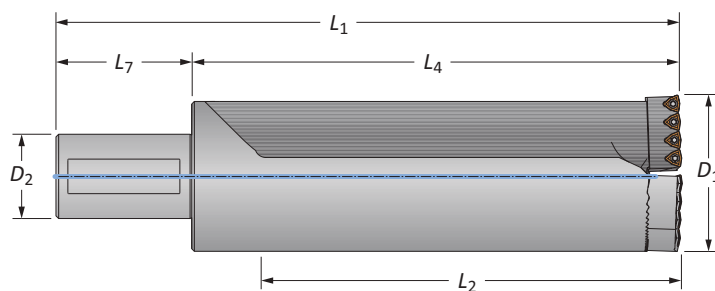
56

 DRILLING | Revolution Drill® Large Diameter Replaceable IC Insert Drilling System

Revolution Drill Holders

56 Series | Diameter Range: 91.44 mm - 96.52 mm (3.600" - 3.800")

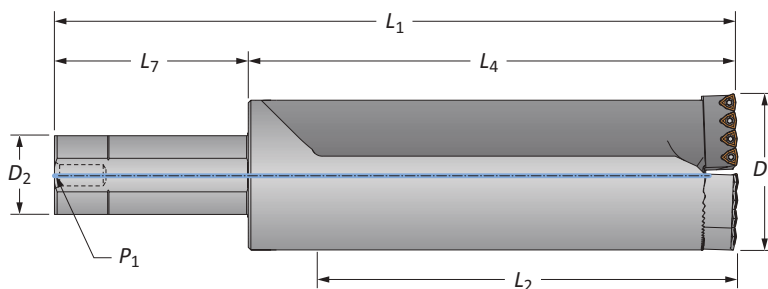



Straight Shank Metric

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges	
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁			
M	Standard	1.0xD	91.44 - 96.52	98.60	146.23	226.23	50.00	80.00	–	R56X10-50M	C56-...
	Standard	2.5xD	91.44 - 96.52	238.30	285.93	365.93	50.00	80.00	–	R56X25-50M	C56-...
	Stacked Plate	1.0xD	91.44 - 96.52	99.90	147.60	227.61	50.00	80.00	–	SP56X10-50M	C56SP-...
	Stacked Plate	2.5xD	91.44 - 96.52	239.60	287.30	367.31	50.00	80.00	–	SP56X25-50M	C56SP-...

*Holder includes cartridges; however, inserts are sold separately.



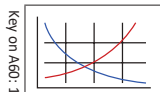

Straight Shank Imperial

Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges	
			L ₂	L ₄	L ₁	D ₂	L ₇	P ₁			
I	Standard	1.0xD	3.600 - 3.800	3-7/8	5-3/4	10-1/4	2	4-1/2	1/4	R56X10-200L	C56-...
	Standard	2.5xD	3.600 - 3.800	9-3/8	11-1/4	15-3/4	2	4-1/2	1/4	R56X25-200L	C56-...
	Stacked Plate	1.0xD	3.600 - 3.800	3-15/16	5-13/16	10-5/16	2	4-1/2	1/4	SP56X10-200L	C56SP-...
	Stacked Plate	2.5xD	3.600 - 3.800	9-7/16	11-5/16	15-13/16	2	4-1/2	1/4	SP56X25-200L	C56SP-...

*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29

A60: 2 - 4




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

A60: 24

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A

DRILLING

B

BORING

E

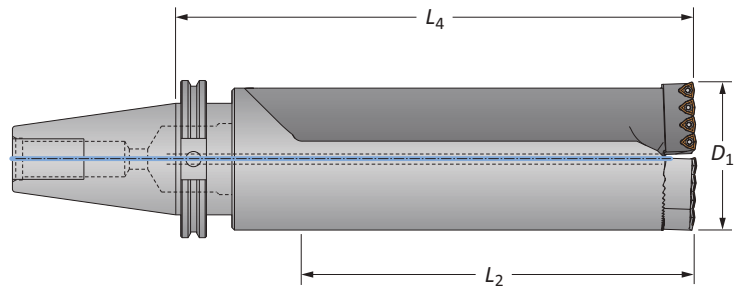
THREADING

X

SPECIALS

Revolution Drill Holders

56 Series | Diameter Range: 91.44 mm - 96.52 mm (3.600" - 3.800")



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	1.0xD	3.600 - 3.800	3-7/8	7-1/8	CV50	R56X10-CV50	C56-...
	Standard	2.5xD	3.600 - 3.800	9-3/8	12-5/8	CV50	R56X25-CV50	C56-...
	Stacked Plate	1.0xD	3.600 - 3.800	3-15/16	7-3/16	CV50	SP56X10-CV50	C56SP-...
	Stacked Plate	2.5xD	3.600 - 3.800	9-7/16	12-11/16	CV50	SP56X25-CV50	C56SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

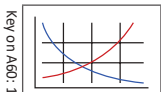
Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R56...	C56-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP56...	C56SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56SP-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

A60: 28 - 29

A60: 2 - 4



Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

= Metric (mm)
 = Imperial (in)

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

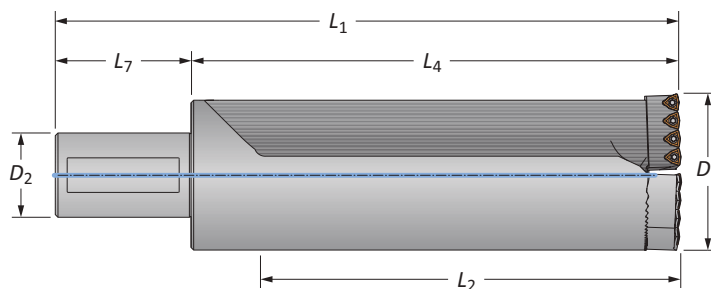
58

 DRILLING | Revolution Drill® Large Diameter Replaceable IC Insert Drilling System

Revolution Drill Holders

58 Series | Diameter Range: 96.52 mm - 101.60 mm (3.800" - 4.000")

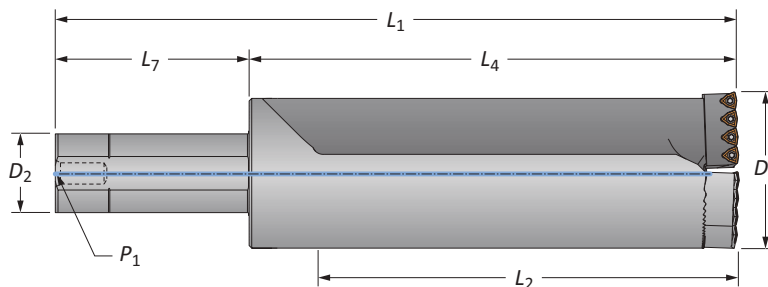



Straight Shank Metric

m	Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
				L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
	Standard	1.0xD	96.52 - 101.60	98.60	146.20	226.20	50.00	80.00	–	R58X10-50M	C58-...
	Standard	2.5xD	96.52 - 101.60	251.00	298.60	378.60	50.00	80.00	–	R58X25-50M	C58-...
	Stacked Plate	1.0xD	96.52 - 101.60	99.80	147.40	227.41	50.00	80.00	–	SP58X10-50M	C58SP-...
	Stacked Plate	2.5xD	96.52 - 101.60	252.20	299.80	379.81	50.00	80.00	–	SP58X25-50M	C58SP-...

*Holder includes cartridges; however, inserts are sold separately.




Straight Shank Imperial

i	Style	Length	D ₁ Range	Holder			Shank			Part No.*	Cartridges
				L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
	Standard	1.0xD	3.800 - 4.000	3-7/8	5-3/4	10-1/4	2	4-1/2	1/4	R58X10-200L	C58-...
	Standard	2.5xD	3.800 - 4.000	9-7/8	11-3/4	16-1/4	2	4-1/2	1/4	R58X25-200L	C58-...
	Stacked Plate	1.0xD	3.800 - 4.000	3-15/16	5-13/16	10-5/16	2	4-1/2	1/4	SP58X10-200L	C58SP-...
	Stacked Plate	2.5xD	3.800 - 4.000	9-15/16	11-13/16	16-5/16	2	4-1/2	1/4	SP58X25-200L	C58SP-...

*Holder includes cartridges; however, inserts are sold separately.

A

DRILLING

B

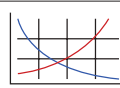
BORING


E

THREADING

X

SPECIALS

 A60: 28 - 29
 Key on A60: 1


 A60: 2 - 4


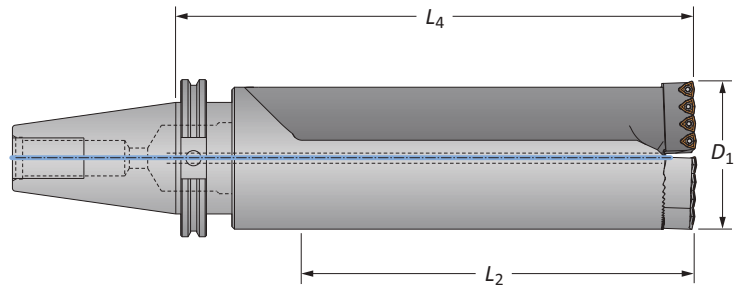
 m = Metric (mm)
 i = Imperial (in)

A60: 26

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Revolution Drill Holders

58 Series | Diameter Range: 96.52 mm - 101.60 mm (3.800" - 4.000")



CV50 Shank

Style	Length	D ₁ Range	Holder		Shank	Part No.*	Cartridges	
			L ₂	L ₄				
i	Standard	1.0xD	3.800 - 4.000	3-7/8	7-1/8	CV50	R58X10-CV50	C58-...
	Standard	2.5xD	3.800 - 4.000	9-7/8	13-1/8	CV50	R58X25-CV50	C58-...
	Stacked Plate	1.0xD	3.800 - 4.000	3-15/16	7-3/16	CV50	SP58X10-CV50	C58SP-...
	Stacked Plate	2.5xD	3.800 - 4.000	9-15/16	13-3/16	CV50	SP58X25-CV50	C58SP-...

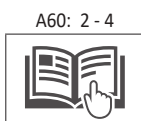
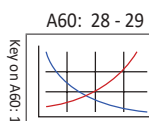
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R58...	C58-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP58...	C58SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58SP-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts




Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9



Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
 IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

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

Recommended Cutting Data | Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/min)			Feed Rate (mm/rev)
			 AM300®	 AM200®	 TIN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	274 - 396	259 - 366	213 - 274	0.09 - 0.18
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	259 - 381	244 - 351	198 - 259	0.08 - 0.17
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	244 - 320	229 - 290	183 - 259	0.09 - 0.17
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	229 - 305	213 - 274	183 - 259	0.09 - 0.17
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	183 - 259	168 - 229	122 - 198	0.08 - 0.13
	Structural Steel A36, A285, A516, etc.	100 - 350	259 - 320	244 - 290	198 - 259	0.08 - 0.17
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	122 - 244	107 - 213	76 - 198	0.06 - 0.13
	S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	76 - 137	76 - 107	46 - 91
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	183 - 259	168 - 229	122 - 198	0.08 - 0.15
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	183 - 259	168 - 229	122 - 198	0.08 - 0.15
	Super Duplex Stainless Steel	135 - 275	152 - 228	137 - 198	91 - 152	0.05 - 0.12
K	Nodular, Grey, Ductile Cast Iron	120 - 320	213 - 274	198 - 244	152 - 213	0.10 - 0.20
N	Cast Aluminium	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Wrought Aluminium	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Brass	30 - 100	290 - 411	274 - 381	229 - 335	0.13 - 0.23

Material Constants

Type of Material	Hardness (BHN)	K _m (kPa)
Free-Machining Steel	100 - 250	5.17
Low-Carbon Steel	85 - 275	5.86
Medium-Carbon Steel	125 - 325	6.21
Alloy Steel	125 - 375	6.90
High-Strength Steel	225 - 400	7.93
Structural Steel	100 - 350	6.90
Tool Steel	150 - 250	6.21
High-Temperature Alloy	140 - 310	9.93
Titanium Alloy	140 - 310	4.97
Aerospace Alloy	185 - 350	4.48
Stainless Steel 400 Series	185 - 350	7.45
Stainless Steel 300 Series	135 - 275	6.48
Super Duplex Stainless Steel	135 - 275	6.48
Wear Plate	400 - 600	11.04
Hardened Steel	300 - 500	9.66
Nodular, Ductile Cast Iron	120 - 320	4.48
Grey Cast Iron	120 - 320	5.17
Cast Aluminium	30 - 180	2.76
Wrought Aluminium	30 - 180	2.76
Aluminium Bronze	100 - 250	3.45
Brass	100	2.41
Copper	60	2.07




Formulas

1. RPM	$= (318.31 \cdot M/min) / DIA$
where:	
RPM	= revolutions per minute (rev/min)
M/min	= speed (M/min)
DIA	= diameter of drill (mm)
2. kW	$= (DIA^2 \cdot mm/rev \cdot RPM \cdot K_m) / 181,018$
where:	
kW	= tool power (kW)
DIA	= diameter of drill (mm)
mm/rev	= feed rate (mm/rev)
RPM	= revolutions per minute (rev/min)
K _m	= specific cutting energy (kPa) machine efficiency (using 181,018 as constant)
3. Thrust	$= 148.78 \cdot mm/rev \cdot DIA \cdot K_m$
where:	
Thrust	= axial thrust (N)
mm/rev	= feed rate (mm/rev)
DIA	= diameter of drill (mm)
K _m	= specific cutting energy (kPa)
5. Torque	$= (kW \cdot 9549.3) / RPM$
where:	
Torque	= torque (Nm)
HP	= tool power (kW)
RPM	= revolutions per minute (rev/min)

The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department. email: ufficiotecnico@febametal.com

Recommended Cutting Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM)			Feed Rate (IPR)
			 AM300®	 AM200®	 TIN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	900 - 1300	850 - 1200	700 - 900	0.0035 - 0.007
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	850 - 1250	800 - 1150	650 - 850	0.003 - 0.0065
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	800 - 1050	750 - 950	600 - 850	0.0035 - 0.0065
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	750 - 1000	700 - 900	600 - 850	0.0035 - 0.0065
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	600 - 850	550 - 750	400 - 650	0.003 - 0.005
	Structural Steel A36, A285, A516, etc.	100 - 350	850 - 1050	800 - 950	650 - 850	0.003 - 0.0065
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	400 - 800	350 - 700	250 - 650	0.0025 - 0.005
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	250 - 450	250 - 350	150 - 300	0.0025 - 0.005
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	600 - 850	550 - 750	400 - 650	0.003 - 0.006
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	600 - 850	550 - 750	400 - 650	0.003 - 0.006
	Super Duplex Stainless Steel	135 - 275	500 - 750	450 - 650	300 - 550	0.002 - 0.005
K	Nodular, Grey, Ductile Cast Iron	120 - 320	700 - 900	650 - 800	500 - 700	0.004 - 0.008
N	Cast Aluminium	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.006 - 0.012
	Wrought Aluminium	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.006 - 0.012
	Brass	30 - 100	950 - 1350	900 - 1250	750 - 1100	0.005 - 0.009

Material Constants

Type of Material	Hardness (BHN)	K _m (lbs/in ²)
Free-Machining Steel	100 - 250	0.75
Low-Carbon Steel	85 - 275	0.85
Medium-Carbon Steel	125 - 325	0.90
Alloy Steel	125 - 375	1.00
High-Strength Steel	225 - 400	1.15
Structural Steel	100 - 350	1.00
Tool Steel	150 - 250	0.90
High-Temperature Alloy	140 - 310	1.44
Titanium Alloy	140 - 310	0.72
Aerospace Alloy	185 - 350	0.70
Stainless Steel 400 Series	185 - 350	1.08
Stainless Steel 300 Series	135 - 275	0.94
Super Duplex Stainless Steel	135 - 275	0.94
Wear Plate	400 - 600	1.60
Hardened Steel	300 - 500	1.40
Nodular, Ductile Cast Iron	120 - 320	0.65
Grey Cast Iron	120 - 320	0.75
Cast Aluminium	30 - 180	0.40
Wrought Aluminium	30 - 180	0.40
Aluminium Bronze	100 - 250	0.50
Brass	100	0.35
Copper	60	0.30

Formulas

1.	RPM = $(3.82 \cdot \text{SFM}) / \text{DIA}$ where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = diameter of drill (inch)
2.	HP = $(0.6676 \cdot \text{DIA}^2 \cdot \text{IPR} \cdot \text{RPM} \cdot \text{K}_m) / 0.80$ where: Tool Power = tool power (HP) DIA = diameter of drill (inch) IPR = feed rate (in/rev) RPM = revolutions per minute (rev/min) K _m = specific cutting energy (lbs/in ²) machine efficiency (using 0.80 as constant)
3.	Thrust = $148,500 \cdot \text{IPR} \cdot \text{DIA} \cdot \text{K}_m$ where: Thrust = axial thrust (lbs) IPR = feed rate (in/rev) DIA = diameter of drill (inch) K _m = specific cutting energy (lbs/in ²)
5.	Torque = $(\text{HP} \cdot 5252) / \text{RPM}$ where: Torque = torque (ft/lbs) HP = tool power (HP) RPM = revolutions per minute (rev/min)

The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department. email: ufficiotecnico@febametal.com

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SECTION

A70

Opening Drill®

Opening Drill®

Large Diameter Replaceable IC Insert Drilling System

► **Diameter Range:** 50.80 mm - 142.75 mm (2.000" - 5.620")



Need larger holes? No problem.

The Opening Drill is an extremely effective tool designed to enlarge existing holes. It is available in nine different shank styles: Straight, ABS 63, CV40, CV50, HSK 63A/C, HSK 100A/C, BT 40, BT 50, and DIN50.

In a *single* operation, an existing hole can be opened and large amounts of material can be removed. The insert design reduces chip size and improves evacuation. Also, inventory and cost are reduced by the adjustable diameters.

Excellent chip control	Improves hole quality and surface finish	Provides maximum durability and stability
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Applicable Industries



Aerospace



Agriculture



Automotive



Firearms



General Machining



Oil & Gas



Renewable Energy

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

Opening Drill® Contents

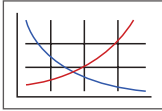
Reference Icons

The following icons will appear throughout the catalogue 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



Through Coolant Option

Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
OP1	50.80 - 63.50	2.000 - 2.500
OP2	63.50 - 76.20	2.500 - 3.000
OP3	76.20 - 104.64	3.000 - 4.120
OP4	104.64 - 142.75	4.120 - 5.620

Introduction Information

Product Overview	2
Setup Instructions	3
Product Nomenclature	4 - 5

Drill Shank Style

Straight Metric	6
Straight Imperial	7
BT40	8
BT50	9
CV40	10
CV50	11
HSK63	12
HSK100	13
ABS63	14
DIN50	15

Recommended Cutting Data

Metric (mm)	16 - 17
Imperial (inch)	18 - 19

Product Overview

Features

- Can be used as a rotating or stationary tool
- Can be used in rough boring operations
- Available in multiple different shanks (see chart below)
- Smooth cutting action and quiet operations in lathes and mills
- Special lengths, diameters, and shanks are available upon request

Advantages

- Opens an existing hole in a single operation
- Ignores core shifts up to 3.18 mm (1/8") providing straight and true holes without the need for boring
- Allows for large amounts of material removal
- Unique design enables larger holes to be made on low horsepower machines
- Replaceable cartridges protect your investment
- Adjustable diameters reduce inventory and cost

Shank Options



AM300®



AM200®



TiN



2 Inserts
(OP1 - OP3 series)



3 Inserts
(OP4 series)

Insert Application Recommendations

Carbide Grade Options

P 35 (C5)	General purpose carbide grade suitable for most applications. ▶ <i>Common application in steels and stainless steels.</i>
K35 (C1)	Toughest carbide grade. Provides the best combination of edge strength and tool life. ▶ <i>Recommended for less rigid applications.</i>
K25 (C2)	Higher wear-resistant carbide suitable for abrasive material applications. ▶ <i>Recommended for grey, ductile, and nodular irons.</i>

Additional Geometry Option

High Rake (HR)	Provides superior chip control and tool life in long chipping carbon and alloy steels below 200 Bhn.
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IC Inserts

- The design allows for excellent chip control and aggressive penetration rates
- The proprietary AM200® and AM300® coatings increase tool life above competitors' premium coatings
- The same inserts are used for both Revolution Drill and Opening Drill products

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Setup Instructions



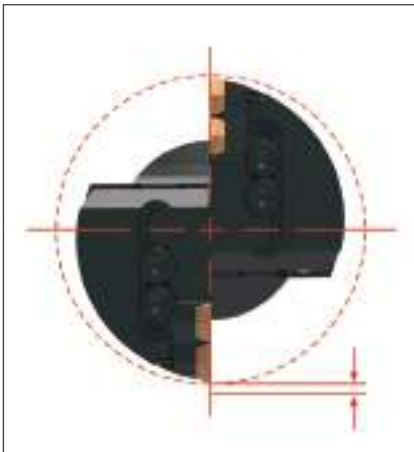
Step 1:
Loosen the mounting screws on both cartridges.



Step 2:
Set one cartridge to the finish diameter by tightening the adjustment screw against the adjustment pin.



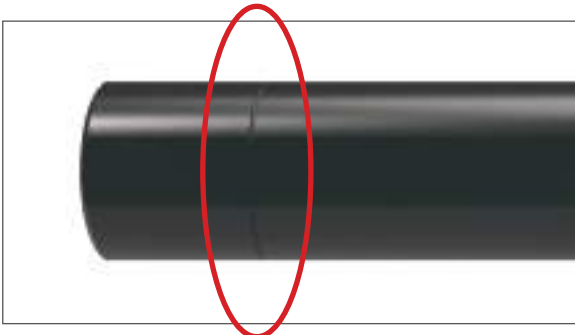
Step 3:
Tighten the mounting screws on the cartridge to 15-19 N-m (11-14 ft-lbf).



Step 4:
Set the opposing cartridge with 4.06 mm (0.160") to 5.08 mm (0.200") radial offset inward by tightening the adjustment screw against the adjustment pin (optimum situation for each insert to remove equal material).



Step 5:
Tighten the mounting screws on the cartridge to 15-19 N-m (11-14 ft-lbf).



Straight Shanks

- Designed for lathe applications
- Can be cut off for use in endmill holders
- The score mark (circled above) is provided for recommended cut length
- Cut and deburr at the score mark
- This improves rigidity when the body sits against the face of an endmill holder



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DRILLING

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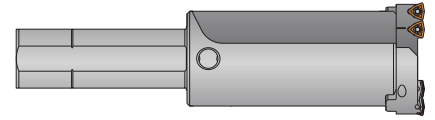
THREADING

X

SPECIALS

Product Nomenclature

Opening Drill Holders



1. Series
OP1 = 50.80 mm - 63.50 mm (2.000" - 2.500")
OP2 = 63.50 mm - 76.20 mm (2.500" - 3.000")
OP3 = 76.20 mm - 104.65 mm (3.000" - 4.120")
OP4 = 104.65 mm - 142.75 mm (4.120" - 5.620")

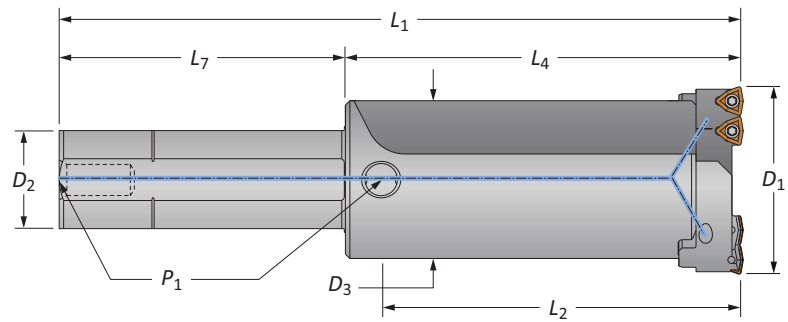
2. Length
1S = Short
1L = Long

3. Shank Type	
SS1.5 = 1-1/2 ϕ straight	BT40 = BT40
SS2.0 = 2 ϕ straight	BT50 = BT50
40M = 40 mm straight	HSK63 = HSK 63A/C
50M = 50 mm straight	HSK100 = HSK 100A/C
CV40 = CV40	ABS63 = ABS63
CV50 = CV50	DV50 = DIN50

B

Reference Key

Symbol	Attribute
D_1	Drill diameter range
D_2	Shank diameter
D_3	Body diameter
L_1	Overall length
L_2	Maximum drill depth
L_4	Holder length
L_7	Shank length
P_1	Rear pipe tap



BORING

F

THREADING

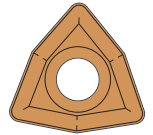
X

SPECIALS

Product Nomenclature

Opening Drill Inserts

OP	-	05	T3	08	-	1	H	HR
1		2	3	4		5	6	7



1. Compatible with: Opening Drill Revolution Drill®	2. IC Type 05 = 5/16"	3. Thickness T3 = 5/32"	4. Radius 08 = 1/32"	5. Carbide Grade Blank = P 35 (C5) 1 = K35 (C1) 2 = K25 (C2)
6. Coating P = AM300® H = AM200® T = TiN A = TiAlN N = TiCN U = Uncoated	7. Geometry Blank = General Purpose HR = High Rake			

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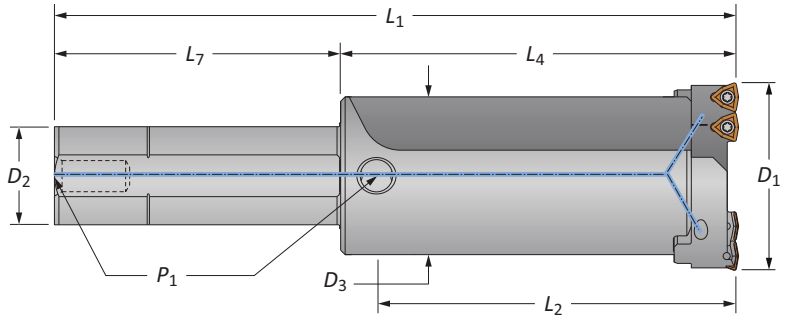
THREADING

X

SPECIALS

Opening Drill Holders

Straight Shank | Metric | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holder

Length	D ₁ Range	Holder				Shank			Part No.	Cartridges
		D ₃	L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Short	50.80 - 63.50	46.74	83.46	104.44	174.45	40.00	70.00	-	OP1-1S-40M	OP1-WC05
Long	50.80 - 63.50	46.74	140.61	161.59	231.60	40.00	70.00	-	OP1-1L-40M	OP1-WC05
Short	63.50 - 76.20	56.39	118.52	141.25	211.25	40.00	70.00	-	OP2-1S-40M	OP2-WC05
Long	63.50 - 76.20	56.39	194.72	217.45	287.45	40.00	70.00	-	OP2-1L-40M	OP2-WC05
Short	76.20 - 104.65	71.27	129.90	153.95	223.95	40.00	70.00	-	OP3-1S-40M	OP3-WC05
Long	76.20 - 104.65	71.27	231.50	255.55	325.55	40.00	70.00	-	OP3-1L-40M	OP3-WC05
Short	104.65 - 142.65	88.90	127.43	153.95	233.96	50.00	80.00	-	OP4-1S-50M	OP4-WC05
Long	104.65 - 142.65	88.90	267.13	293.65	373.66	50.00	80.00	-	OP4-1L-50M	OP4-WC05

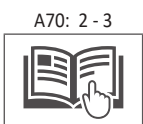
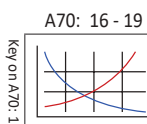
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

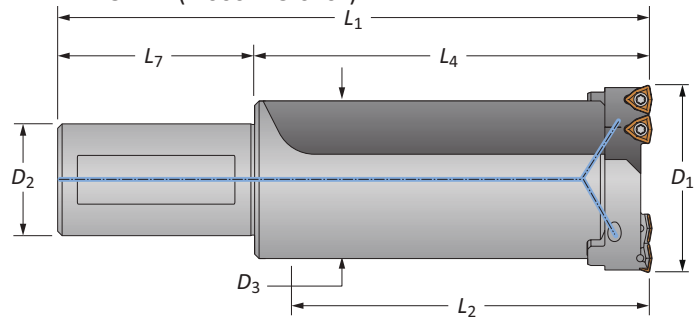


IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Opening Drill Holders

Straight Shank | Imperial | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holder

Length	D ₁ Range	Holder				Shank			Part No.	Cartridges
		D ₃	L ₂	L ₄	L ₁	D ₂	L ₇	P ₁		
Short	2.000 - 2.500	1.840	3-9/32	4-3/64	8-3/64	1-1/2	4	1/4 NPT	OP1-1S-SS1.5	OP1-WC05
	2.000 - 2.500	1.840	5-17/32	6-19/64	10-19/64	1-1/2	4	1/4 NPT	OP1-1L-SS1.5	OP1-WC05
Long	2.500 - 3.000	2.220	4-43/64	5-1/2	9-1/2	1-1/2	4	1/4 NPT	OP2-1S-SS1.5	OP2-WC05
	2.500 - 3.000	2.220	7-43/64	8-1/2	12-1/2	1-1/2	4	1/4 NPT	OP2-1L-SS1.5	OP2-WC05
Short	3.000 - 4.120	2.806	5-7/64	6	10	1-1/2	4	1/4 NPT	OP3-1S-SS1.5	OP3-WC05
	3.000 - 4.120	2.806	9-7/64	10	14	1-1/2	4	1/4 NPT	OP3-1L-SS1.5	OP3-WC05
Long	4.120 - 5.620	3.500	5-1/64	6	10-1/2	2	4-1/2	1/4 NPT	OP4-1S-SS2.0	OP4-WC05
	4.120 - 5.620	3.500	10-33/64	11-1/2	16	2	4-1/2	1/4 NPT	OP4-1L-SS2.0	OP4-WC05

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

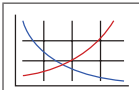
IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

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A70: 2 - 3

Key on A70: 1



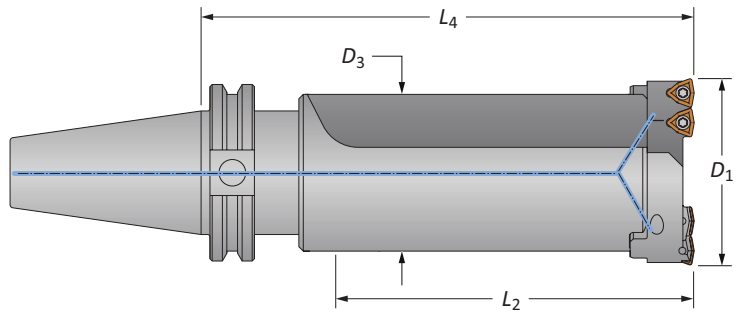
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

= Metric (mm)
 = Imperial (in)

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Opening Drill Holders

BT40 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holdings

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	50.80 - 63.50	46.74	83.46	137.85	OP1-1S-BT40	OP1-WC05
Long	50.80 - 63.50	46.74	140.61	195.00	OP1-1L-BT40	OP1-WC05
Short	63.50 - 76.20	56.39	118.52	174.68	OP2-1S-BT40	OP2-WC05
Long	63.50 - 76.20	56.39	194.72	250.88	OP2-1L-BT40	OP2-WC05
Short	76.20 - 104.65	71.27	129.90	187.38	OP3-1S-BT40	OP3-WC05
Long	76.20 - 104.65	71.27	231.50	288.98	OP3-1L-BT40	OP3-WC05
Short	104.65 - 142.75	88.90	127.43	187.38	OP4-1S-BT40	OP4-WC05

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

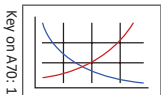
Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	—	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

A70: 16 - 19

A70: 2 - 3



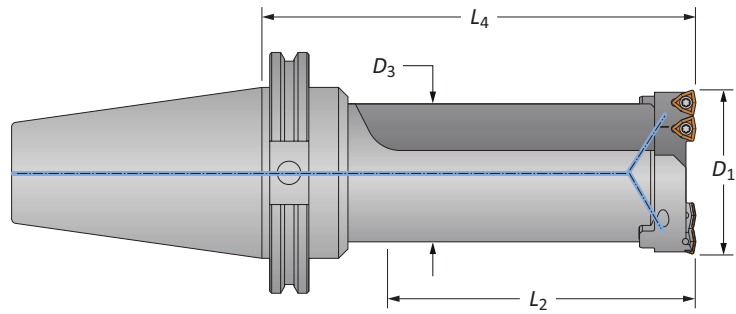
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

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Opening Drill Holders

BT50 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holders




Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	50.80 - 63.50	46.74	83.46	147.37	OP1-1S-BT50	OP1-WC05
			140.61	204.52	OP1-1L-BT50	OP1-WC05
Long	50.80 - 63.50	46.74	118.52	184.20	OP2-1S-BT50	OP2-WC05
			194.72	260.40	OP2-1L-BT50	OP2-WC05
Short	63.50 - 76.20	56.39	129.90	196.90	OP3-1S-BT50	OP3-WC05
			231.50	298.50	OP3-1L-BT50	OP3-WC05
Long	63.50 - 76.20	56.39	127.43	196.90	OP4-1S-BT50	OP4-WC05
			267.13	336.60	OP4-1L-BT50	OP4-WC05

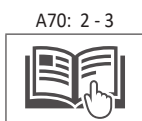
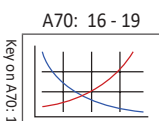
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		 AM300®	 AM200®	 TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

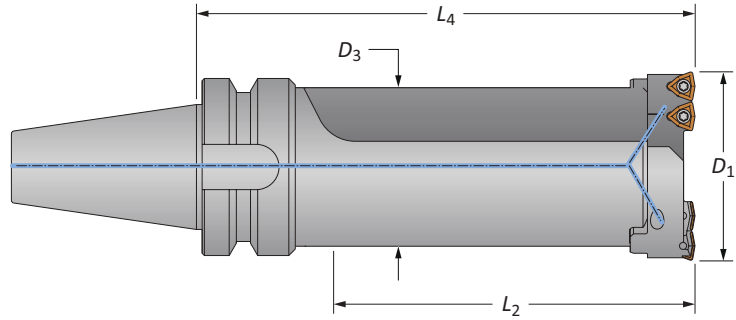


IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

 = Metric (mm)
 = Imperial (in)

Opening Drill Holders

CV40 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holders

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	2.000 - 2.500	1.840	3-9/32	5-27/64	OP1-1S-CV40	OP1-WC05
Long	2.000 - 2.500	1.840	5-17/32	7-43/64	OP1-1L-CV40	OP1-WC05
Short	2.500 - 3.000	2.220	4-43/64	6-7/8	OP2-1S-CV40	OP2-WC05
Long	2.500 - 3.000	2.220	7-43/64	9-7/8	OP2-1L-CV40	OP2-WC05
Short	3.000 - 4.120	2.806	5-7/64	7-3/8	OP3-1S-CV40	OP3-WC05
Long	3.000 - 4.120	2.806	9-7/64	11-3/8	OP3-1L-CV40	OP3-WC05
Short	4.120 - 5.620	3.500	5-1/64	7-3/8	OP4-1S-CV40	OP4-WC05

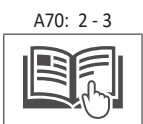
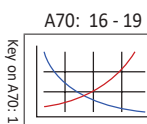
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	—	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

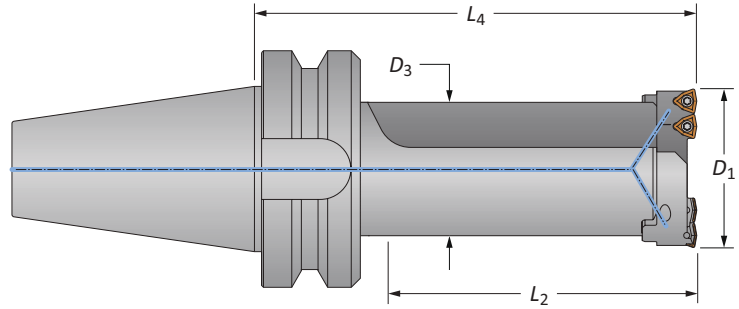


IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Opening Drill Holders

CV50 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holder

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	2.000 - 2.500	1.840	3-9/32	5-27/64	OP1-1S-CV50	OP1-WC05
			5-17/32	7-43/64		
Long	2.000 - 2.500	1.840	4-43/64	6-7/8	OP2-1S-CV50	OP2-WC05
			7-43/64	9-7/8		
Short	2.500 - 3.000	2.220	5-7/64	7-3/8	OP3-1S-CV50	OP3-WC05
			9-7/64	11-3/8		
Long	2.500 - 3.000	2.220	5-1/64	7-3/8	OP4-1S-CV50	OP4-WC05
			10-33/64	12-7/8		

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

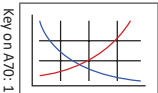
Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

A70: 16 - 19

A70: 2 - 3



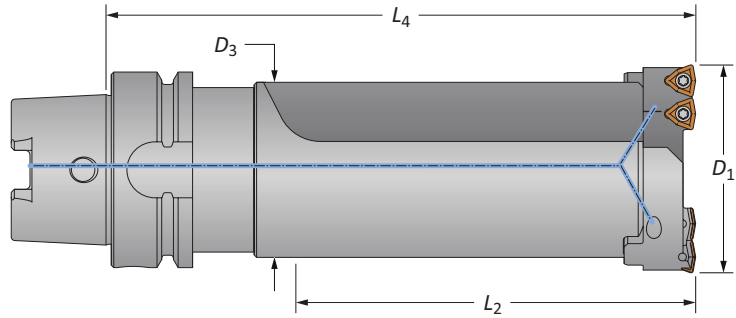
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

 = Metric (mm)
 = Imperial (in)

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Opening Drill Holders

HSK63 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holders

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	2.000 - 2.500	1.840	3-9/32	5-59/64	OP1-1S-HSK63	OP1-WC05
Long	2.000 - 2.500	1.840	5-17/32	8-11/64	OP1-1L-HSK63	OP1-WC05
Short	2.500 - 3.000	2.220	4-43/64	7-3/8	OP2-1S-HSK63	OP2-WC05
Long	2.500 - 3.000	2.220	7-43/64	10-3/8	OP2-1L-HSK63	OP2-WC05
Short	3.000 - 4.120	2.806	5-7/64	7-7/8	OP3-1S-HSK63	OP3-WC05
Long	3.000 - 4.120	2.806	9-7/64	11-7/8	OP3-1L-HSK63	OP3-WC05
Short	4.120 - 5.620	3.500	5-1/64	7-7/8	OP4-1S-HSK63	OP4-WC05

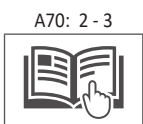
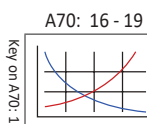
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	—	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

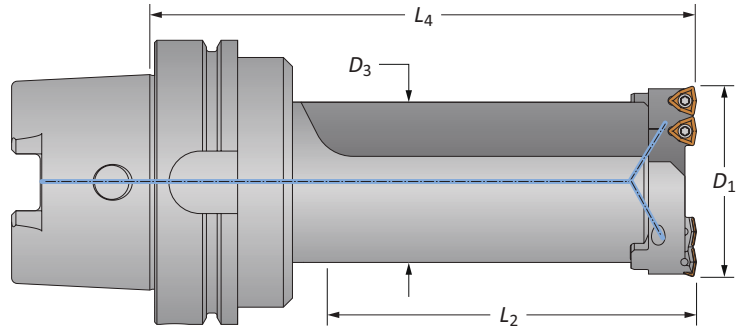


IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Opening Drill Holders

HSK100 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holder

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	2.000 - 2.500	1.840	3-9/32	6-1/64	OP1-1S-HSK100	OP1-WC05
			5-17/32	8-17/64		
Long	2.000 - 2.500	1.840	4-43/64	7-15/32	OP2-1S-HSK100	OP2-WC05
			7-43/64	10-15/32		
Short	2.500 - 3.000	2.220	5-7/64	7-31/32	OP3-1S-HSK100	OP3-WC05
			9-7/64	11-31/32		
Long	2.500 - 3.000	2.220	5-1/64	7-31/32	OP4-1S-HSK100	OP4-WC05
			10-33/64	13-15/32		
Short	3.000 - 4.120	2.806	5-1/64	7-31/32	OP4-1S-HSK100	OP4-WC05
			10-33/64	13-15/32		
Long	3.000 - 4.120	2.806	5-1/64	7-31/32	OP4-1S-HSK100	OP4-WC05
			10-33/64	13-15/32		
Short	4.120 - 5.620	3.500	5-1/64	7-31/32	OP4-1S-HSK100	OP4-WC05
			10-33/64	13-15/32		
Long	4.120 - 5.620	3.500	5-1/64	7-31/32	OP4-1S-HSK100	OP4-WC05
			10-33/64	13-15/32		

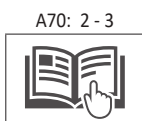
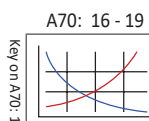
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

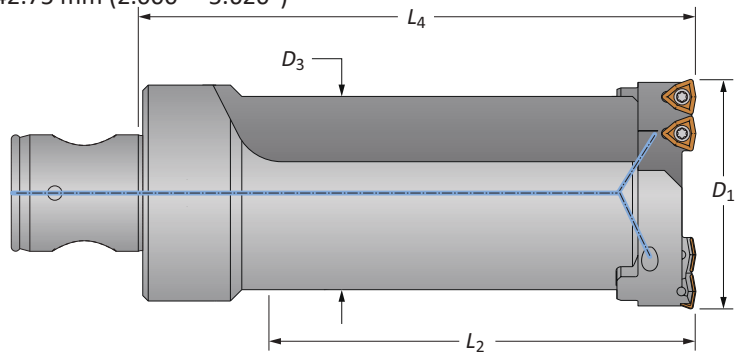


IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

 = Metric (mm)
 = Imperial (in)

Opening Drill Holders

ABS63 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holdings

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	2.000 - 2.500	1.840	3-9/32	5-1/2	OP1-1S-ABS63	OP1-WC05
Long	2.000 - 2.500	1.840	5-17/32	7-3/4	OP1-1L-ABS63	OP1-WC05
Short	2.500 - 3.000	2.220	4-43/64	6-1/4	OP2-1S-ABS63	OP2-WC05
Long	2.500 - 3.000	2.220	7-43/64	9-1/4	OP2-1L-ABS63	OP2-WC05
Short	3.000 - 4.120	2.806	5-7/64	6-3/4	OP3-1S-ABS63	OP3-WC05
Long	3.000 - 4.120	2.806	9-7/64	10-3/4	OP3-1L-ABS63	OP3-WC05
Short	4.120 - 5.620	3.500	5-1/64	6-3/4	OP4-1S-ABS63	OP4-WC05

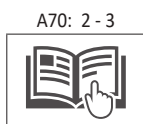
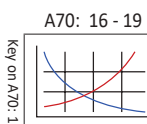
*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	—	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9



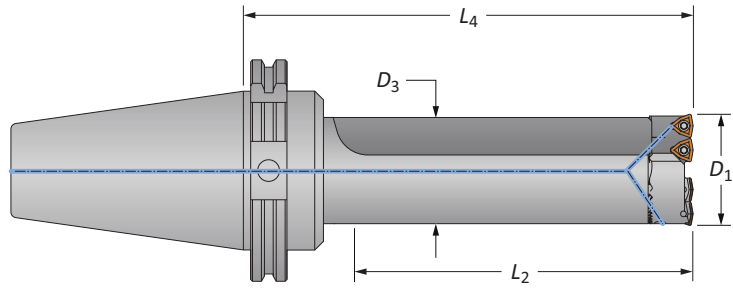
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

A DRILLING
B BORING
F THREADING
X SPECIALS

Opening Drill Holders

DIN50 Shank | Diameter Range: 50.80 mm - 142.75 mm (2.000" - 5.620")



Holder

Length	D ₁ Range	Holder			Part No.	Cartridges
		D ₃	L ₂	L ₄		
Short	50.80 - 63.50	46.74	83.46	137.92	OP1-1S-DV50	OP1-WC05
			140.61	195.07		
Long	50.80 - 63.50	46.74	140.61	195.07	OP1-1L-DV50	OP1-WC05
			194.72	250.95		
Short	63.50 - 76.20	56.39	118.52	174.75	OP2-1S-DV50	OP2-WC05
			194.72	250.95		
Long	63.50 - 76.20	56.39	194.72	250.95	OP2-1L-DV50	OP2-WC05
			231.50	289.05		
Short	76.20 - 104.65	71.27	129.90	187.45	OP3-1S-DV50	OP3-WC05
			231.50	289.05		
Long	76.20 - 104.65	71.27	231.50	289.05	OP3-1L-DV50	OP3-WC05
			127.43	187.45		
Short	104.65 - 142.75	88.90	127.43	187.45	OP4-1S-DV50	OP4-WC05
			267.13	327.15		
Long	104.65 - 142.75	88.90	267.13	327.15	OP4-1L-DV50	OP4-WC05

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
OP1-WC05	2	MS-13M-1	5 mm	AS-10T9-1	8T-9
OP2-WC05	2	MS-15M-1	5 mm	AS-10T9-1	8T-9
OP3-WC05	2	MS-15M-1	5 mm	AS-12T9-1	8T-9
OP4-WC05	3	MS-15M-1	5 mm	AS-14T9-1	8T-9

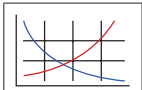
IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws	Driver
		AM300®	AM200®	TiN		
P 35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)	Standard	OP-05T308-1P	OP-05T308-1H	OP-05T308-1T	IS-10-1	8T-9
K25 (C2)	Standard	OP-05T308-2P	OP-05T308-2H	-	IS-10-1	8T-9
P 35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	-	IS-10-1	8T-9

A70: 16 - 19

A70: 2 - 3

Key on A70: 1



IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10
 Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4

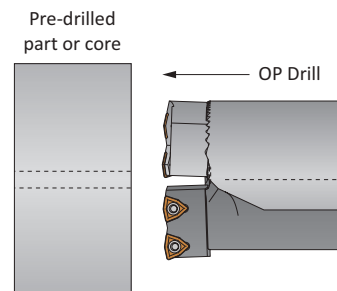
= Metric (mm)
 = Imperial (in)

Recommended Cutting Data | Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/min)			Feed Rate (mm/rev)
			AM300®	AM200®	TiN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	274 - 396	259 - 366	213 - 274	0.09 - 0.18
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	259 - 381	244 - 351	198 - 259	0.08 - 0.17
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	244 - 320	229 - 290	183 - 259	0.09 - 0.17
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	229 - 305	213 - 274	183 - 259	0.09 - 0.17
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	183 - 259	168 - 229	122 - 198	0.08 - 0.13
	Structural Steel A36, A285, A516, etc.	100 - 350	259 - 320	244 - 290	198 - 259	0.08 - 0.17
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	122 - 244	107 - 213	76 - 198	0.06 - 0.13
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	76 - 137	76 - 107	46 - 91	0.06 - 0.11
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	183 - 259	168 - 229	122 - 198	0.08 - 0.15
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	183 - 259	168 - 229	122 - 198	0.08 - 0.15
	Super Duplex Stainless Steel	135 - 275	152 - 228	137 - 198	91 - 152	0.05 - 0.12
K	Nodular, Grey, Ductile Cast Iron	120 - 320	213 - 274	198 - 244	152 - 213	0.10 - 0.20
N	Cast Aluminium	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Wrought Aluminium	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Brass	30 - 100	290 - 411	274 - 381	229 - 335	0.13 - 0.23

Minimum Pilot Hole Diameter = Finish Diameter – C

Ex: To open an existing diameter hole to 69.85 mm diameter, an OP2 tool would be used. The minimum pilot hole diameter would be: **69.85 - 47.75 = 22.10**



Opening Drill Series	Drill Diameter Range	C
OP1	50.80 - 63.50	47.75
OP2	63.50 - 76.20	47.75
OP3	76.20 - 104.64	47.75
OP4	104.64 - 142.75	68.07

IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department.

Formulas and Constants | Metric (mm)

Material Constants

Type of Material	Hardness (BHN)	K _m (kPa)
Free-Machining Steel	100 - 250	5.17
Low-Carbon Steel	85 - 275	5.86
Medium-Carbon Steel	125 - 325	6.21
Alloy Steel	125 - 375	6.90
High-Strength Steel	225 - 400	7.93
Structural Steel	100 - 350	6.90
Tool Steel	150 - 250	6.21
High-Temperature Alloy	140 - 310	9.93
Titanium Alloy	140 - 310	4.97
Aerospace Alloy	185 - 350	4.48
Stainless Steel 400 Series	185 - 350	7.45
Stainless Steel 300 Series	135 - 275	6.48
Super Duplex Stainless Steel	135 - 275	6.48
Wear Plate	400 - 600	11.04
Hardened Steel	300 - 500	9.66
Nodular, Ductile Cast Iron	120 - 320	4.48
Grey Cast Iron	120 - 320	5.17
Cast Aluminium	30 - 180	2.76
Wrought Aluminium	30 - 180	2.76
Aluminium Bronze	100 - 250	3.45
Brass	100	2.41
Copper	60	2.07

Formulas

1. RPM	= (318.31 • m/min) / DIA_F <i>where:</i> RPM = revolutions per minute (rev/min) M/min = speed (m/min) DIA _F = finish diameter of drill (mm)
2. kW	= ((DIA_F² - DIA_P²) • mm/rev • RPM • K_m) / 205,154 <i>where:</i> kW = tool power (kW) DIA _F = finish diameter of drill (mm) DIA _P = pre-drill diameter (mm) mm/rev = feed rate (mm/rev) RPM = revolutions per minute (rev/min) K _m = specific cutting energy (kPa) machine efficiency (using 205,154 as constant)
3. Thrust	= 148.78 • mm/rev • (DIA_F - DIA_P) • K_m <i>where:</i> Thrust = axial thrust (N) IPR = feed rate (mm/rev) DIA _F = finish diameter of drill (mm) DIA _P = predrill diameter (mm) K _m = specific cutting energy (kPa)
4. Torque	= (kW • 9549.3) / RPM <i>where:</i> Torque = torque (Nm) kW = tool power (kW) RPM = revolutions per minute (rev/min)

The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

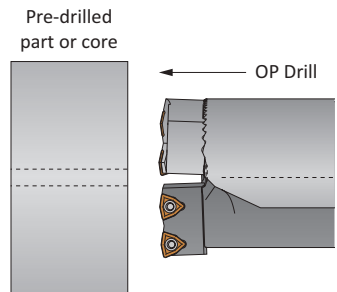
Recommended Cutting Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM)			Feed Rate (IPR)
			AM300®	AM200®	TIN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	900 - 1300	850 - 1200	700 - 900	.0035 - 0.007
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	850 - 1250	800 - 1150	650 - 850	.003 - 0.0065
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	800 - 1050	750 - 950	600 - 850	.0035 - 0.0065
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	750 - 1000	700 - 900	600 - 850	.0035 - 0.0065
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	600 - 850	550 - 750	400 - 650	.003 - 0.005
	Structural Steel A36, A285, A516, etc.	100 - 350	850 - 1050	800 - 950	650 - 850	.003 - 0.0065
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	400 - 800	350 - 700	250 - 650	.0025 - 0.005
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	250 - 450	250 - 350	150 - 300	.0025 - 0.005
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	600 - 850	550 - 750	400 - 650	.003 - 0.006
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	600 - 850	550 - 750	400 - 650	.003 - 0.006
	Super Duplex Stainless Steel	135 - 275	500 - 750	450 - 650	300 - 550	.002 - 0.005
K	Nodular, Grey, Ductile Cast Iron	120 - 320	700 - 900	650 - 800	500 - 700	.004 - 0.008
N	Cast Aluminium	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	.006 - 0.012
	Wrought Aluminium	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	.006 - 0.012
	Brass	30 - 100	950 - 1350	900 - 1250	750 - 1100	.005 - 0.009

Minimum Pilot Hole Diameter = Finish Diameter – C

Ex: To open an existing diameter hole to 2.75" diameter, an OP2 tool would be used. The minimum pilot hole diameter would be: **2.750 - 1.880 = 0.870"**

Opening Drill Series	Drill Diameter Range	C
OP1	2.00 - 2.50	1.880
OP2	2.50 - 3.00	1.880
OP3	3.00 - 4.12	1.880
OP4	4.12 - 5.62	2.680



IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department. *email: ufficiotecnico@febametal.com*

Formulas and Constants | Imperial (inch)

Material Constants

Type of Material	Hardness (BHN)	K _m (lbs/in ²)
Free-Machining Steel	100 - 250	0.75
Low-Carbon Steel	85 - 275	0.85
Medium-Carbon Steel	125 - 325	0.90
Alloy Steel	125 - 375	1.00
High-Strength Steel	225 - 400	1.15
Structural Steel	100 - 350	1.00
Tool Steel	150 - 250	0.90
High-Temperature Alloy	140 - 310	1.44
Titanium Alloy	140 - 310	0.72
Aerospace Alloy	185 - 350	0.70
Stainless Steel 400 Series	185 - 350	1.08
Stainless Steel 300 Series	135 - 275	0.94
Super Duplex Stainless Steel	135 - 275	0.94
Wear Plate	400 - 600	1.60
Hardened Steel	300 - 500	1.40
Nodular, Ductile Cast Iron	120 - 320	0.65
Grey Cast Iron	120 - 320	0.75
Cast Aluminium	30 - 180	0.40
Wrought Aluminium	30 - 180	0.40
Aluminium Bronze	100 - 250	0.50
Brass	100	0.35
Copper	60	0.30

Formulas

1.	RPM	= (3.82 • SFM) / DIA_F
	where:	
	RPM	= revolutions per minute (rev/min)
	SFM	= speed (ft/min)
	DIA _F	= finish diameter of drill (inch)
2.	HP	= (0.5891 • (DIA_F² – DIA_P²) • IPR • RPM • K_m) / 0.80
	where:	
	Tool Power	= tool power (HP)
	DIA _F	= finish diameter of drill (inch)
	DIA _P	= pre-drill diameter (inch)
	IPR	= feed rate (in/rev)
	RPM	= revolutions per minute (rev/min)
	K _m	= specific cutting energy (lbs/in ²) machine efficiency (using 0.80 as constant)
3.	Thrust	= 148,500 • IPR • (DIA_F – DIA_P) • K_m
	where:	
	Thrust	= axial thrust (lbs)
	IPR	= feed rate (in/rev)
	DIA _F	= finish diameter of drill (inch)
	DIA _P	= pre-drill diameter (inch)
	K _m	= specific cutting energy (lbs/in ²)
5.	Torque	= (HP • 5252) / RPM
	where:	
	Torque	= torque (ft/lbs)
	HP	= tool power (HP)
	RPM	= revolutions per minute (rev/min)

The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

SECTION

A92

AccuPort 432®

AccuPort 432®

Port Contour Cutters | J1926 | ISO6149 | AS5202 | JDS-G173.1



High Performance Multistep Action

Durable and precise, the AccuPort 432 holders provide a strong and rigid platform for the drilling of hydraulic ports. The precision ground insert location on each holder ensures total repeatability and simple, uncomplicated changing of the replaceable inserts.

With the AccuPort technology, you can drill and finish port forms in **ONE** operation. Save time and money with AccuPort 432.

Single operation hydraulic port cutting system	No predrilling required	Replaceable inserts eliminate regrinding and resetting
--	-------------------------	--

Applicable Industries



Aerospace



Agriculture



Automotive



Marine / Shipbuilding

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

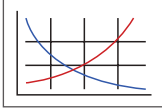
Reference Icons

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



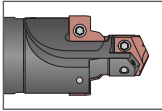
Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data

Speed and feed recommendations for optimum and safe drilling



Accuport 432 Holders

Refers to the full details of the holder items included in each kit



Port and Thread Finishing Kits

Lists the available kits complete with AccuPort tool and AccuThread® solid carbide thread mill



Through Coolant Option

Indicates that the product is through coolant

Introduction Information

Product Overview	2 - 3
Replaceable Inserts Overview	4
Product Nomenclature	5

Port Specifications

SAE J-1926 / ISO 11926-1 / MS-16142	6 - 11
ISO 6149-1:2006 / SAE J-2244/1	12 - 13
SAE AS5202 / AND10050	14 - 15
JDS-G173.1	16 - 17

Port and Thread Finishing Kits

SAE J-1926 / ISO 11926-1 / MS-16142	18 - 21
ISO 6149-1:2006 / SAE J-2244/1	22 - 25
SAE AS5202 / AND10050	26 - 27
JDS-G173.1	28

Recommended Cutting Data

Metric (mm)	HSS	30 - 31
	Carbide	32 - 33
Imperial (inch)	HSS	34 - 35
	Carbide	36 - 37

Product Overview

ONE TOOL | FOUR OPERATIONS











Advanced Solutions, Outstanding Results

As designers and manufacturing engineers push the limits of production technology to improve productivity and performance, Allied Machine has continued to innovate and develop new solutions like the unique AccuPort 432 hydraulic port contour cutter system. Every product in the AccuPort system is designed to deliver maximum performance in a diverse range of hydraulic port cutting applications and demanding manufacturing environments.

Using precision replaceable inserts for both the drilling and port forming operations, AccuPort eliminates the need for tool regrinding and enables absolute repeatability, excellent surface finish, and reduced cost per hole. The AccuPort drills, forms, and precision-finishes the hydraulic port in **one** pass. This replaces up to three separate cutting operations in a single tool to deliver outstanding improvements in productivity, accuracy, and repeatability.

Hydraulic systems are present in an incredibly diverse range of industries. Anywhere a hydraulic port is required, AccuPort can provide a more cost-effective and higher performance solution in a fraction of the time taken for traditional methods using separate drills, special forming tools, and spot facers.

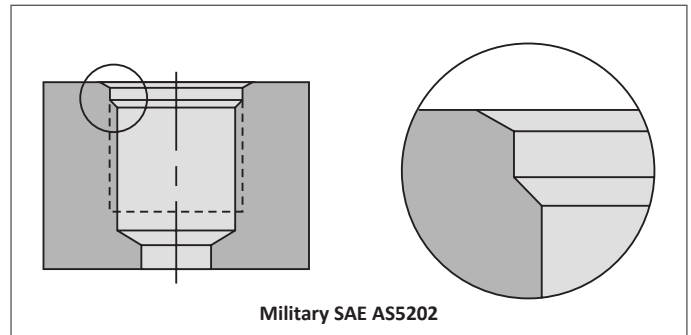
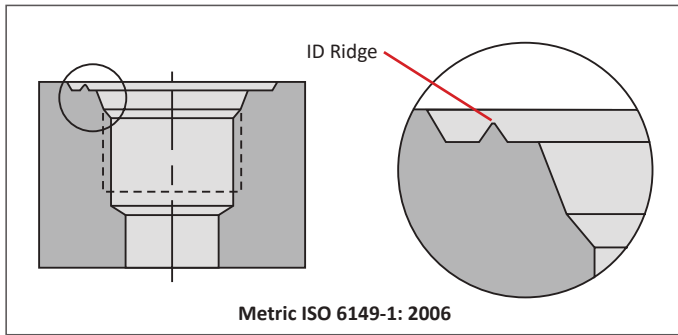
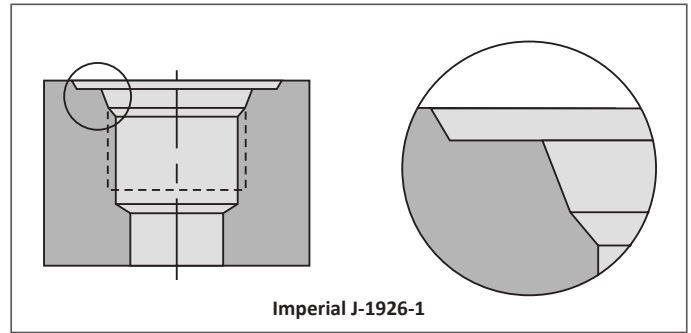
Port Specification	Notes
<p>Imperial SAE J-1926 ISO 11926-1 MS-16142</p> 	<p>Extended minor diameter length option also available</p> 
<p>Metric ISO 6149-1:2006 SAE J-2244/1</p> 	<p>Holders made with ID ridge Utilises inserts with or without ID ridge</p> <p> ID ridge</p> <p> No ID ridge</p> 
<p>Military SAE AS5202</p> 	<p>Also conforms to AND10050 specification by using an alternate tap drill size for a UN thread</p>
<p>John Deere® JDS-G173.1</p> 	<p>Adheres to John Deere port standards</p>

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Choosing the Right System

Every product in the AccuPort 432 product line is designed to deliver maximum performance in a diverse range of hydraulic port cutting applications and demanding manufacturing environments. The innovative design delivers the best possible range of benefits in terms of productivity, cost per hole, and tool life.



Common Industry Sectors and Components



Aerospace
Pumps
Landing Gear
Brake Cylinders
Manifolds



Agriculture
Pumps
Manifolds
Cylinders and Rams
Gear Pumps



Automotive
Motor Valves
Relief Valves
Brake Cylinders
Power Steering Pumps



Marine / Shipbuilding
Pumps
Cylinders and Rams
Motors
Manifolds

The Complete Package

Producing fully finished threaded hydraulic ports has never been easier. The Port and Thread Finishing Kit includes the AccuPort 432 contour cutter with a dedicated AccuThread® 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 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.



A

DRILLING

B

BORING

F





THREADING

X

SPECIALS

Replaceable Inserts Overview

T-A® Drill Insert Grades			
HSS Super Cobalt (T-A® / GEN2 T-A®) Suited for good to rigid machining applications, used for drilling exotic and high-alloy materials, or general use when surface speed needs to be increased for use in material hardness up to 350 BHN 121kg.	Carbide P 40 (C5) (T-A® only) Excellent for drilling free-machining steel, low-/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.	Carbide K10 (C1) (GEN2 T-A® only) Excellent for drilling free-machining steel, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.	Carbide K35 (C3) (T-A® only) Designed for drilling grey/white cast irons. The special geometry offers substantial increases in penetration rates and provides exceptional edge strength and tool life.

Port Form Inserts	GEN2 T-A Inserts		T-A Inserts
 AM200® TiAlN	 AM300®	 AM200®	 TiN

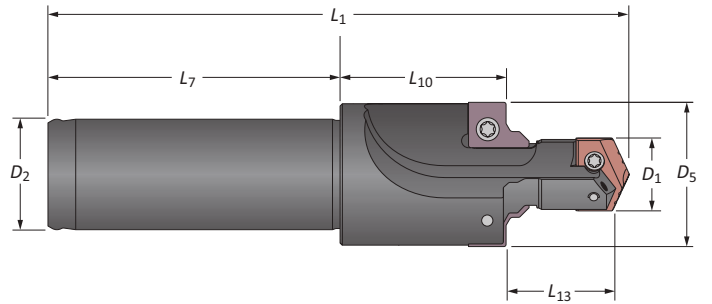
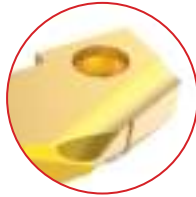
GEN2 T-A Standard Geometry

- Designed for rigid machining applications, primarily used for drilling exotic and high alloy materials
- Ideal for general use when the surface speed needs to be increased



T-A Standard Geometry

- First choice for machining aluminium
- Enhanced geometry improves chip formation and hole quality
- TiN coating improves heat resistance and extends tool life



Made-to-Order Tool Specifications

Scan and email a copy of the table below to Allied's Application Engineering Department to receive pricing for a made-to-order AccuPort 432 Port Contour Cutter.

Send emails to ufficiotecnico@febametal.com

Tube Dash No.	Specification	Port Thread Size	D ₁	L ₁₃	D ₅	L ₁₀	L ₁	D ₂	L ₇
	<input type="checkbox"/> J1926 <input type="checkbox"/> ISO 6149 <input type="checkbox"/> ISO 6149 (no ridge) <input type="checkbox"/> JDS-G173.1 <input type="checkbox"/> AS5202								

Company Name

Contact Name

Phone

Distributor Name

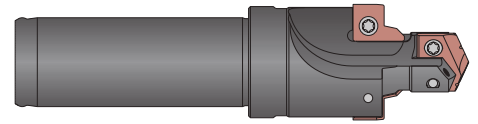
Fax



Product Nomenclature

AccuPort 432 Holders

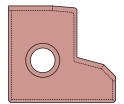
J1926	-	04	Y	-	063F
1		2	3		4



1. Port Specifications	2. Port Tube Dash No.	3. T-A® Insert Series	4. Shank Configuration	
J1926 = Imperial - J1926-1	04 14	Y = Y series	Imperial	Metric
X1926 = Imperial - J1926-1 (extended minor length)	05 16	Z = Z series	063F = 5/8" flanged	16FM = 16 mm flanged
I6149 = Metric (ISO) - 6149-1	06 18	0 = 0 series	075F = 3/4" flanged	20FM = 20 mm flanged
G1731 = John Deere® - G173.1	08 20	1 = 1 series	100F = 1" flanged	25FM = 25 mm flanged
AS5202 = Military - AS5202	10 24	2 = 2 series	125F = 1-1/4" flanged	32FM = 32 mm flanged
	12 32	3 = 3 series	150F = 1-1/2" flanged	
		4 = 4 series		

AccuPort 432 Port Form Inserts

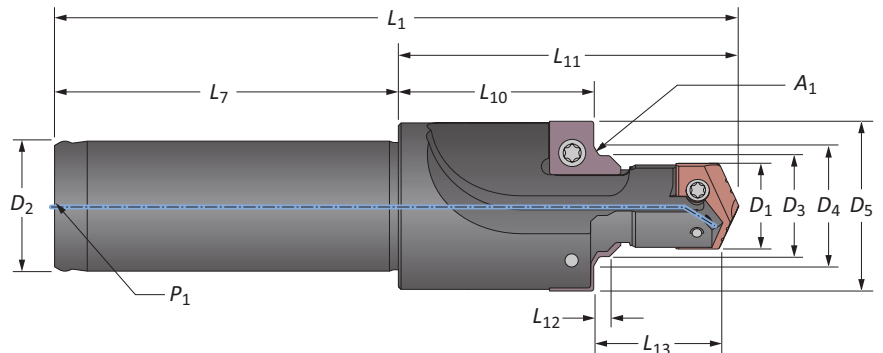
J1926	-	02	R	-	C5	A
1		2	3		4	5



1. Port Specifications	2. Insert Size	3. Port Specifications	4. Substrate	5. Coating
J1926 = Imperial	02 10	Blank = No ID ridge	C5 = C5 carbide	A = TiAlN
I6149 = Metric (ISO)	03 11	R = ID ridge	C3 = C3 carbide	H = AM200®
G1731 = John Deere	04 12			
AS5202 = Military	05 14			
	06 16			
	07 20			
	08 24			
	09 32			

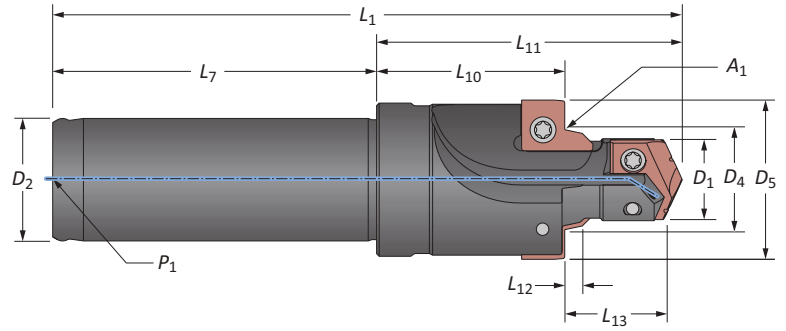
Reference Key

Symbol	Attribute
A₁	Seal angle
D₁	Minor diameter
D₂	Shank diameter
D₃	Pilot diameter
D₄	Seal angle diameter
D₅	Spot face diameter
L₁	Overall length
L₇	Shank length
L₁₀	Spot face to shoulder length
L₁₁	Total head length
L₁₂	Seal angle length
L₁₃	Minor diameter length
P₁	Rear pipe tap



SAE J-1926 / ISO 11926-1 / MS-16142

Imperial Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank			Port Thread Size	Part No.
	D ₁	L ₁₃ *	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂	P ₁		
-4	9.80	14.00	21.30	12°	12.50	2.70	38.80	22.80	86.40	47.60	15.90	1/16 NPT	7/16-20 UNF-2B	J1926-04Y-063F
-5	11.50	14.00	23.50	12°	14.10	2.70	38.80	22.50	86.40	47.60	15.90	1/16 NPT	1/2-20 UNF-2B	J1926-05Z-063F
-6	13.00	15.50	25.10	12°	15.70	2.70	47.20	29.00	97.20	50.00	19.10	1/8 NPT	9/16-18 UNF-2B	J1926-060-075F
-8	17.50	17.50	30.60	15°	20.70	2.70	50.30	29.20	100.40	50.00	19.10	1/8 NPT	3/4-16 UNF-2B	J1926-080-075F
-10	20.50	20.00	34.10	15°	24.00	2.70	54.40	30.10	112.30	57.90	25.40	1/8 NPT	7/8-14 UNF-2B	J1926-101-100F
-12	25.00	23.00	42.00	15°	29.20	3.50	67.10	38.90	125.00	57.90	31.80	1/4 NPT	1 1/16-12 UN-2B	J1926-122-125F
-14	28.00	23.00	45.20	15°	32.40	3.50	67.10	38.20	125.00	57.90	31.80	1/4 NPT	1 3/16-12 UN-2B	J1926-142-125F
-16	31.20	23.00	49.10	15°	35.60	3.50	67.10	37.50	125.00	57.90	31.80	1/4 NPT	1 5/16-12 UN-2B	J1926-162-125F
-20	39.00	23.00	58.50	15°	43.60	3.50	77.80	46.60	146.00	68.30	38.10	1/4 NPT	1 5/8-12 UN-2B	J1926-203-150F
-24	45.50	23.00	65.10	15°	49.90	3.50	77.80	45.20	146.00	68.30	38.10	1/4 NPT	1 7/8-12 UN-2B	J1926-243-150F
-32	61.50	23.00	88.10	15°	65.80	3.50	96.80	60.80	165.10	68.30	38.10	1/4 NPT	2 1/2-12 UN-2B	J1926-324-150F
-4	0.386	0.551	0.840	12°	0.490	0.106	1.527	0.896	3.402	1.875	0.625	1/16 NPT	7/16-20 UNF-2B	J1926-04Y-063F
-5	0.453	0.551	0.926	12°	0.553	0.106	1.527	0.885	3.402	1.875	0.625	1/16 NPT	1/2-20 UNF-2B	J1926-05Z-063F
-6	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	3.826	1.969	0.750	1/8 NPT	9/16-18 UNF-2B	J1926-060-075F
-8	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	3.951	1.969	0.750	1/8 NPT	3/4-16 UNF-2B	J1926-080-075F
-10	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	4.421	2.281	1.000	1/8 NPT	7/8-14 UNF-2B	J1926-101-100F
-12	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	4.921	2.281	1.250	1/4 NPT	1 1/16-12 UN-2B	J1926-122-125F
-14	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	4.921	2.281	1.250	1/4 NPT	1 3/16-12 UN-2B	J1926-142-125F
-16	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	4.921	2.281	1.250	1/4 NPT	1 5/16-12 UN-2B	J1926-162-125F
-20	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	5.750	2.688	1.500	1/4 NPT	1 5/8-12 UN-2B	J1926-203-150F
-24	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	5.750	2.688	1.500	1/4 NPT	1 7/8-12 UN-2B	J1926-243-150F
-32	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	6.500	2.688	1.500	1/4 NPT	2 1/2-12 UN-2B	J1926-324-150F

*Port contour cutters are available with extended pilot length (L₁₃). See pages A92: 10-11 for items.

A92: 30 - 37 A92: 2 - 4 A92: 18 - 21

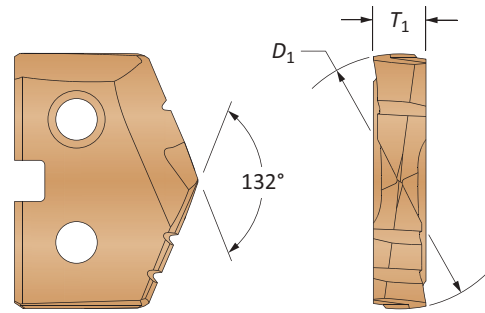
Key on A92: 1

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)



SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A30 for complete T-A insert details

T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
			Super Cobalt (AM200®)	Carbide (AM300®)			
-4	J1926-04Y-063F	Y	45YH-.386	4C1YP-.386	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	J1926-05Z-063F	Z	45ZH-11.5	4C1ZP-11.5	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	J1926-060-075F	0	450H-13	4C10P-13	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	J1926-080-075F	0	450H-0022	4C10P-0022	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	J1926-101-100F	1	451H-20.5	4C11P-20.5	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	J1926-122-125F	2	452H-25	4C12P-25	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	J1926-142-125F	2	452H-28	4C12P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	J1926-162-125F	2	452H-1.231	4C12P-1.231	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	J1926-203-150F	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	J1926-243-150F	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	J1926-324-150F	4	454H-61.5	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	J1926-04Y-063F	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	J1926-05Z-063F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	J1926-060-075F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	J1926-080-075F	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	J1926-101-100F	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-12	J1926-122-125F	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-14	J1926-142-125F	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-16	J1926-162-125F	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-20	J1926-203-150F	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-24	J1926-243-150F	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-32	J1926-324-150F	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A92: 30 - 37

A92: 2 - 4

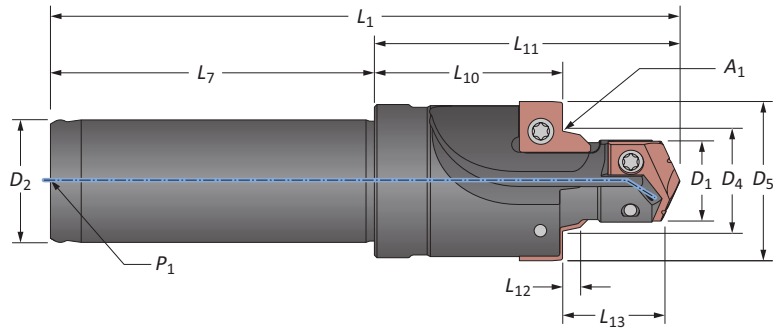
A92: 18 - 21

Key on A92: 1

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

SAE J-1926 / ISO 11926-1 / MS-16142

Metric Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank			Port Thread Size	Part No.
	D ₁	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂	P ₁		
-4	9.80	14.00	21.30	12°	12.50	2.70	38.80	22.80	80.70	41.90	16.00	1/16 BSPT	7/16-20 UNF-2B	J1926-04Y-16FM
-5	11.50	14.00	23.50	12°	14.10	2.70	38.80	22.50	80.70	41.90	16.00	1/16 BSPT	1/2-20 UNF-2B	J1926-05Z-16FM
-6	13.00	15.50	25.10	12°	15.70	2.70	47.20	29.00	89.10	41.90	20.00	1/8 BSPT	9/16-18 UNF-2B	J1926-06O-20FM
-8	17.50	17.50	30.60	15°	20.70	2.70	50.30	29.20	92.20	41.90	20.00	1/8 BSPT	3/4-16 UNF-2B	J1926-08O-20FM
-10	20.50	20.00	34.10	15°	24.00	2.70	54.40	30.10	107.50	53.10	25.00	1/8 BSPT	7/8-14 UNF-2B	J1926-10I-25FM
m -12	25.00	23.00	42.00	15°	29.20	3.50	67.10	38.90	125.00	57.90	32.00	1/4 BSPT	1 1/16-12 UN-2B	J1926-12Z-32FM
-14	28.00	23.00	45.20	15°	32.40	3.50	67.10	38.20	125.00	57.90	32.00	1/4 BSPT	1 3/16-12 UN-2B	J1926-14Z-32FM
-16	31.20	23.00	49.10	15°	35.60	3.50	67.10	37.50	125.00	57.90	32.00	1/4 BSPT	1 5/16-12 UN-2B	J1926-16Z-32FM
-20	39.00	23.00	58.50	15°	43.60	3.50	77.80	46.60	143.30	65.50	32.00	1/4 BSPT	1 5/8-12 UN-2B	J1926-20Z-32FM*
-24	45.50	23.00	65.10	15°	49.90	3.50	77.80	45.20	143.30	65.50	32.00	1/4 BSPT	1 7/8-12 UN-2B	J1926-24Z-32FM*
-32	61.50	23.00	88.10	15°	65.80	3.50	96.80	60.80	162.30	65.50	32.00	1/4 BSPT	2 1/2-12 UN-2B	J1926-32Z-32FM*
-4	0.386	0.551	0.840	12°	0.490	0.106	1.527	0.896	3.177	1.650	0.630	1/16 BSPT	7/16-20 UNF-2B	J1926-04Y-16FM
-5	0.453	0.551	0.926	12°	0.553	0.106	1.527	0.885	3.177	1.650	0.630	1/16 BSPT	1/2-20 UNF-2B	J1926-05Z-16FM
-6	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	3.508	1.650	0.787	1/8 BSPT	9/16-18 UNF-2B	J1926-06O-20FM
-8	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	3.630	1.650	0.787	1/8 BSPT	3/4-16 UNF-2B	J1926-08O-20FM
-10	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	4.232	2.091	0.984	1/8 BSPT	7/8-14 UNF-2B	J1926-10I-25FM
i -12	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	4.921	2.280	1.260	1/4 BSPT	1 1/16-12 UN-2B	J1926-12Z-32FM
-14	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	4.921	2.280	1.260	1/4 BSPT	1 3/16-12 UN-2B	J1926-14Z-32FM
-16	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	4.921	2.280	1.260	1/4 BSPT	1 5/16-12 UN-2B	J1926-16Z-32FM
-20	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	5.642	2.580	1.260	1/4 BSPT	1 5/8-12 UN-2B	J1926-20Z-32FM*
-24	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	5.642	2.580	1.260	1/4 BSPT	1 7/8-12 UN-2B	J1926-24Z-32FM*
-32	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	6.390	2.580	1.260	1/4 BSPT	2 1/2-12 UN-2B	J1926-32Z-32FM*

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

A92: 30 - 37 A92: 2 - 4 A92: 18 - 21

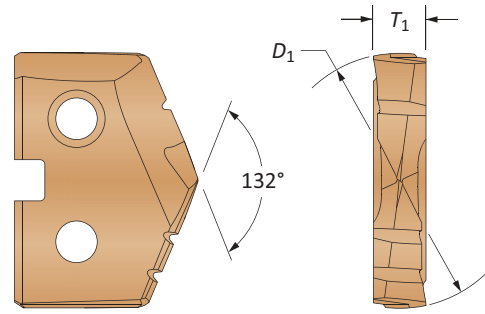
Key on A92: 1

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



SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A30 for complete T-A insert details

T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt (AM200®)	Carbide (AM300®)			
-4	J1926-04Y-16FM	Y	45YH-.386	4C1YP-.386	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	J1926-05Z-16FM	Z	45ZH-11.5	4C1ZP-11.5	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	J1926-06O-20FM	0	45OH-13	4C1OP-13	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	J1926-08O-20FM	0	45OH-0022	4C1OP-0022	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	J1926-10I-25FM	1	45IH-20.5	4C1IP-20.5	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	J1926-122-32FM	2	452H-25	4C12P-25	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	J1926-142-32FM	2	452H-28	4C12P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	J1926-162-32FM	2	452H-1.231	4C12P-1.231	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	J1926-203-32FM*	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	J1926-243-32FM*	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	J1926-324-32FM*	4	454H-61.5	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	J1926-04Y-16FM	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	J1926-05Z-16FM	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	J1926-06O-20FM	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	J1926-08O-20FM	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	J1926-10I-25FM	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-12	J1926-122-32FM	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-14	J1926-142-32FM	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-16	J1926-162-32FM	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-20	J1926-203-32FM*	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-24	J1926-243-32FM*	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-32	J1926-324-32FM*	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

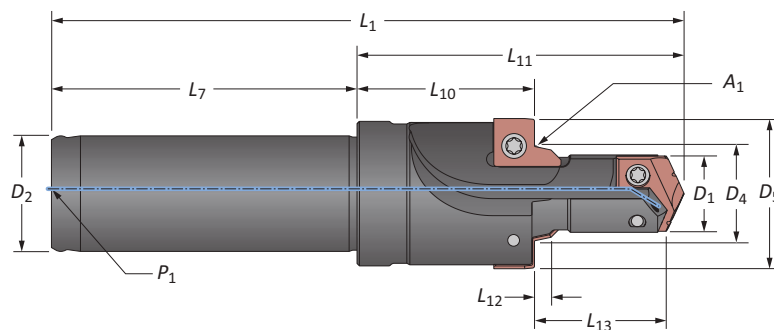
A92: 30 - 37

A92: 2 - 4

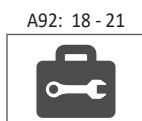
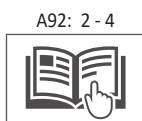
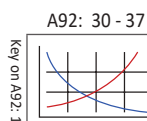
A92: 18 - 21

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

SAE J-1926 / ISO 11926-1 / MS-16142

 Imperial Shank Holders | Extended Minor Diameter Lengths (L_{13})


Tube Dash No.	Cutting			Seal Angle			Holder			Shank			Port Thread Size	Part No.
	D_1	L_{13}	D_5	A_1	D_4	L_{12}	L_{11}	L_{10}	L_1	L_7	D_2	P_1		
-4	9.80	20.30	21.30	12°	12.50	2.70	45.10	22.80	92.70	47.60	15.90	1/16 NPT	7/16-20 UNF-2B	X1926-04Y-063F
-5	11.50	20.30	23.50	12°	14.10	2.70	45.10	22.50	92.70	47.60	15.90	1/16 NPT	1/2-20 UNF-2B	X1926-05Z-063F
-6	13.00	21.80	25.10	12°	15.70	2.70	53.50	29.00	103.50	50.00	19.10	1/8 NPT	9/16-18 UNF-2B	X1926-060-075F
-8	17.50	23.80	30.60	15°	20.70	2.70	56.70	29.20	106.70	50.00	19.10	1/8 NPT	3/4-16 UNF-2B	X1926-080-075F
-10	20.50	26.30	34.10	15°	24.00	2.70	60.70	30.10	118.60	57.90	25.40	1/8 NPT	7/8-14 UNF-2B	X1926-101-100F
m -12	25.00	29.30	42.00	15°	29.20	3.50	73.40	38.90	131.30	57.90	31.80	1/4 NPT	1 1/16-12 UN-2B	X1926-122-125F
-14	28.00	29.30	45.20	15°	32.40	3.50	73.40	38.20	131.30	57.90	31.80	1/4 NPT	1 3/16-12 UN-2B	X1926-142-125F
-16	31.20	29.30	49.10	15°	35.60	3.50	73.40	37.50	131.30	57.90	31.80	1/4 NPT	1 5/16-12 UN-2B	X1926-162-125F
-20	39.00	29.30	58.50	15°	43.60	3.50	84.10	46.60	152.40	68.30	38.10	1/4 NPT	1 5/8-12 UN-2B	X1926-203-150F
-24	45.50	29.30	65.10	15°	49.90	3.50	84.10	45.20	152.40	68.30	38.10	1/4 NPT	1 7/8-12 UN-2B	X1926-243-150F
-32	61.50	29.30	88.10	15°	65.80	3.50	103.20	60.80	171.50	68.30	38.10	1/4 NPT	2 1/2-12 UN-2B	X1926-324-150F
-4	0.386	0.801	0.840	12°	0.490	0.106	1.777	0.896	3.650	1.875	0.625	1/16 NPT	7/16-20 UNF-2B	X1926-04Y-063F
-5	0.453	0.801	0.926	12°	0.553	0.106	1.777	0.885	3.650	1.875	0.625	1/16 NPT	1/2-20 UNF-2B	X1926-05Z-063F
-6	0.512	0.860	0.989	12°	0.618	0.106	2.107	1.144	4.075	1.969	0.750	1/8 NPT	9/16-18 UNF-2B	X1926-060-075F
-8	0.689	0.939	1.206	15°	0.813	0.106	2.232	1.150	4.201	1.969	0.750	1/8 NPT	3/4-16 UNF-2B	X1926-080-075F
-10	0.807	1.037	1.344	15°	0.945	0.106	2.390	1.185	4.669	2.281	1.000	1/8 NPT	7/8-14 UNF-2B	X1926-101-100F
i -12	0.984	1.156	1.655	15°	1.150	0.138	2.890	1.530	5.169	2.281	1.250	1/4 NPT	1 1/16-12 UN-2B	X1926-122-125F
-14	1.102	1.156	1.781	15°	1.276	0.138	2.890	1.504	5.169	2.281	1.250	1/4 NPT	1 3/16-12 UN-2B	X1926-142-125F
-16	1.231	1.156	1.934	15°	1.400	0.138	2.890	1.477	5.169	2.281	1.250	1/4 NPT	1 5/16-12 UN-2B	X1926-162-125F
-20	1.535	1.156	2.306	15°	1.715	0.138	3.312	1.835	6.000	2.688	1.500	1/4 NPT	1 5/8-12 UN-2B	X1926-203-150F
-24	1.791	1.156	2.564	15°	1.965	0.138	3.312	1.778	6.000	2.688	1.500	1/4 NPT	1 7/8-12 UN-2B	X1926-243-150F
-32	2.421	1.156	3.470	15°	2.589	0.138	4.062	2.393	6.752	2.688	1.500	1/4 NPT	2 1/2-12 UN-2B	X1926-324-150F

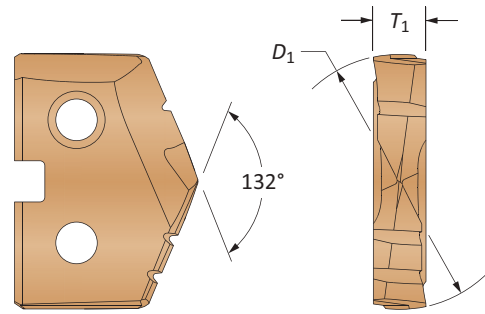


m = Metric (mm)
i = Imperial (in)



SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A30 for complete T-A insert details

T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
			Super Cobalt (AM200®)	Carbide (AM300®)			
-4	X1926-04Y-063F	Y	45YH-.386	4C1YP-.386	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	X1926-05Z-063F	Z	45ZH-11.5	4C1ZP-11.5	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	X1926-060-075F	0	450H-13	4C10P-13	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	X1926-080-075F	0	450H-0022	4C10P-0022	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	X1926-101-100F	1	451H-20.5	4C11P-20.5	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	X1926-122-125F	2	452H-25	4C12P-25	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	X1926-142-125F	2	452H-28	4C12P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	X1926-162-125F	2	452H-1.231	4C12P-1.231	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	X1926-203-150F	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	X1926-243-150F	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	X1926-324-150F	4	454H-61.5	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	X1926-04Y-063F	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	X1926-05Z-063F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	X1926-060-075F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	X1926-080-075F	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	X1926-101-100F	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-12	X1926-122-125F	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-14	X1926-142-125F	J1926-08-C3H	J1926-08-C5A	7375-IP9-1	8IP-9	175 N-cm (15.5 in/lbs)
-16	X1926-162-125F	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-20	X1926-203-150F	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-24	X1926-243-150F	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-32	X1926-324-150F	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Key on A92: 1

A92: 30 - 37

A92: 2 - 4

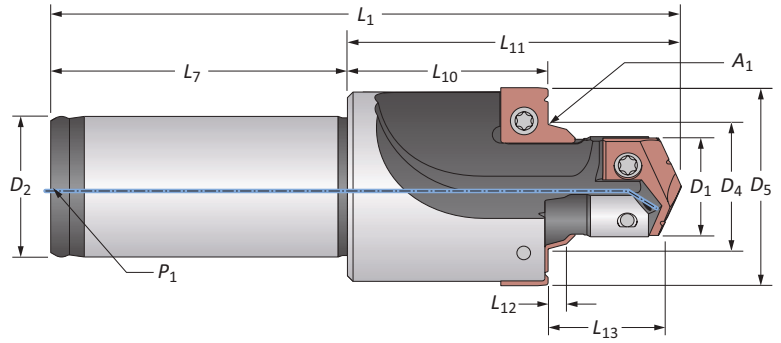
A92: 18 - 21

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

A
DRILLING
B
BORING
C
THREADING
X
SPECIALS

ISO 6149-1:2006 / SAE J-2244/1

Metric Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank			Port Thread Size	Part No.
	D ₁	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂	P ₁		
-4	10.50	14.10	24.00	15°	13.81	2.60	38.80	22.20	80.70	41.90	16.00	1/16 BSPT	M12 X 1.5	I6149-04RY-16FM
-5	12.50	14.10	26.00	15°	15.80	2.60	38.80	21.80	80.70	41.90	16.00	1/16 BSPT	M14 X 1.5	I6149-05RZ-16FM
-6	14.50	15.60	28.00	15°	17.80	2.60	47.20	28.30	89.10	41.90	20.00	1/8 BSPT	M16 X 1.5	I6149-06R0-20FM
-8	16.50	17.10	30.00	15°	19.80	2.60	50.30	29.60	92.20	41.90	20.00	1/8 BSPT	M18 X 1.5	I6149-08R0-20FM
-10	20.50	18.20	34.00	15°	23.80	2.60	54.40	31.60	107.50	53.10	25.00	1/8 BSPT	M22 X 1.5	I6149-10R1-25FM
-12	25.00	22.20	40.00	15°	29.40	3.30	67.10	39.40	125.00	57.90	32.00	1/4 BSPT	M27 X 2	I6149-12R2-32FM
-14	28.00	22.20	44.00	15°	32.40	3.30	67.10	38.80	125.00	57.90	32.00	1/4 BSPT	M30 X 2	I6149-14R2-32FM
-16	31.00	22.20	49.00	15°	35.40	3.30	67.10	38.10	125.00	57.90	32.00	1/4 BSPT	M33 X 2	I6149-16R2-32FM
-20	40.00	22.70	60.00	15°	44.40	3.30	77.80	46.40	135.70	57.90	32.00	1/4 BSPT	M42 X 2	I6149-20R3-32FM*
-24	46.00	25.20	66.10	15°	50.40	3.30	77.80	42.60	135.70	57.90	32.00	1/4 BSPT	M48 X 2	I6149-24R3-32FM*
-32	58.00	27.70	76.00	15°	62.40	3.30	96.80	56.60	154.70	57.90	32.00	1/4 BSPT	M60 X 2	I6149-32R4-32FM*
-4	0.413	0.556	0.945	15°	0.544	0.102	1.527	0.876	3.177	1.650	0.630	1/16 BSPT	M12 X 1.5	I6149-04RY-16FM
-5	0.492	0.556	1.024	15°	0.623	0.102	1.527	0.858	3.177	1.650	0.630	1/16 BSPT	M14 X 1.5	I6149-05RZ-16FM
-6	0.571	0.615	1.102	15°	0.702	0.102	1.857	1.116	3.508	1.650	0.787	1/8 BSPT	M16 X 1.5	I6149-06R0-20FM
-8	0.650	0.674	1.181	15°	0.781	0.102	1.982	1.164	3.630	1.650	0.787	1/8 BSPT	M18 X 1.5	I6149-08R0-20FM
-10	0.807	0.717	1.339	15°	0.938	0.102	2.140	1.246	4.232	2.091	0.984	1/8 BSPT	M22 X 1.5	I6149-10R1-25FM
-12	0.984	0.874	1.575	15°	1.159	0.130	2.640	1.552	4.921	2.280	1.260	1/4 BSPT	M27 X 2	I6149-12R2-32FM
-14	1.102	0.874	1.733	15°	1.277	0.130	2.640	1.526	4.921	2.280	1.260	1/4 BSPT	M30 X 2	I6149-14R2-32FM
-16	1.220	0.874	1.929	15°	1.395	0.130	2.640	1.499	4.921	2.280	1.260	1/4 BSPT	M33 X 2	I6149-16R2-32FM
-20	1.575	0.895	2.362	15°	1.749	0.130	3.062	1.828	5.343	2.280	1.260	1/4 BSPT	M42 X 2	I6149-20R3-32FM*
-24	1.811	0.993	2.602	15°	1.985	0.130	3.062	1.676	5.343	2.280	1.260	1/4 BSPT	M48 X 2	I6149-24R3-32FM*
-32	2.283	1.092	2.992	15°	2.458	0.130	3.812	2.228	6.091	2.280	1.260	1/4 BSPT	M60 X 2	I6149-32R4-32FM*

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

A92: 30 - 37 A92: 2 - 4 A92: 22 - 25

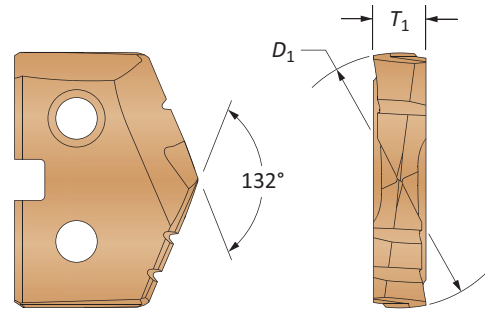
Key on A92: 1

Ⓜ = Metric (mm)
Ⓢ = Imperial (in)



ISO 6149-1:2006 / SAE J-2244/1

Inserts



See section A30 for complete T-A insert details

T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt (AM200®)	Carbide (AM300®)			
-4	I6149-04RY-16FM	Y	45YH-10.5	4C1YP-10.5	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	I6149-05RZ-16FM	Z	45ZH-12.5	4C1ZP-12.5	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	I6149-06R0-20FM	0	450H-14.5	4C10P-14.5	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	I6149-08R0-20FM	0	450H-16.5	4C10P-16.5	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	I6149-10R1-25FM	1	451H-20.5	4C11P-20.5	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	I6149-12R2-32FM	2	452H-25	4C12P-25	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	I6149-14R2-32FM	2	452H-28	4C12P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	I6149-16R2-32FM	2	452H-31	4C12P-31	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	I6149-20R3-32FM*	3	453H-40	1C53A-40	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	I6149-24R3-32FM*	3	453H-46	1C53A-46	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	I6149-32R4-32FM*	4	454H-58	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No. - C3 Carbide (AM200®)		Part No. - C5 Carbide (TiAlN)		Insert Screw	Insert Driver	Admissible Tightening Torque**
		ID Ridge	No ID Ridge	ID Ridge	No ID Ridge			
-4	I6149-04RY-16FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	I6149-05RZ-16FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	I6149-06R0-20FM	I6149-06R-C3H	I6149-06-C3H	I6149-06R-C5A	I6149-06-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	I6149-08R0-20FM	I6149-06R-C3H	I6149-06-C3H	I6149-06R-C5A	I6149-06-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	I6149-10R1-25FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-12	I6149-12R2-32FM	I6149-12R-C3H	I6149-12-C3H	I6149-12R-C5A	I6149-12-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-14	I6149-14R2-32FM	I6149-14R-C3H	I6149-14-C3H	I6149-14R-C5A	I6149-14-C5A	72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-16	I6149-16R2-32FM	I6149-16R-C3H	I6149-16-C3H	I6149-16R-C5A	I6149-16-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-20	I6149-20R3-32FM*	I6149-20R-C3H	I6149-20-C3H	I6149-20R-C5A	I6149-20-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-24	I6149-24R3-32FM*	I6149-24R-C3H	I6149-24-C3H	I6149-24R-C5A	I6149-24-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-32	I6149-32R4-32FM*	I6149-32R-C3H	I6149-32-C3H	I6149-32R-C5A	I6149-32-C5A	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A92: 30 - 37

A92: 2 - 4

A92: 22 - 25

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

A
A
B
B
E
X

DRILLING | AccuPort 432® Port Contour Cutters

SAE AS5202 / AND10050

Imperial Shank Holders

Tube Dash No.	Cutting				Seal Angle			Holder				Shank			Port Thread Size	Port Thread Size*	Part No.
	D ₁	D ₁ *	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	D ₃	L ₁₁	L ₁₀	L ₁	L ₇	D ₂	P ₁			
-4	9.91	9.80	16.79	22.23	60°	14.34	2.11	11.57	41.83	22.76	89.46	47.63	15.87	1/16 NPT	7/16-20 UNF-3B	AS5202-04Y-063F	
-5	11.50	11.46	16.79	23.27	60°	15.94	2.11	13.17	41.83	22.40	89.46	47.63	15.87	1/16 NPT	1/2-20 UNF-3B	AS5202-05Z-063F	
-6	12.95	12.85	18.14	24.87	60°	17.56	2.31	14.78	49.53	28.42	99.54	50.01	19.05	1/8 NPT	9/16-18 UNF-3B	AS5202-06Z-075F	
-8	17.50	17.48	21.31	30.43	60°	22.29	2.59	19.57	53.77	28.58	103.78	50.01	19.05	1/8 NPT	3/4-16 UNF-3B	AS5202-080-075F	
-10	20.50	20.35	23.80	34.39	60°	25.48	2.92	22.80	58.50	30.20	116.43	57.94	25.40	1/8 NPT	7/8-14 UNF-3B	AS5202-101-100F	
m -12	25.00	24.79	27.20	41.53	60°	31.51	3.38	27.63	70.59	37.95	128.52	57.94	31.74	1/4 NPT	1 1/16-12 UNJ-3B	AS5202-122-125F	
-14	28.17	27.99	27.20	45.09	60°	34.68	3.38	30.79	70.56	37.21	128.50	57.94	31.74	1/4 NPT	1 3/16-12 UNJ-3B	AS5202-142-125F	
-16	31.34	31.14	27.20	48.77	60°	37.85	3.38	33.96	70.56	36.50	128.50	57.94	31.74	1/4 NPT	1 5/16-12 UNJ-3B	AS5202-162-125F	
-20	39.29	38.99	28.54	57.91	60°	45.79	3.38	41.91	81.33	44.32	149.61	68.28	38.09	1/4 NPT	1 5/8-12 UNJ-3B	AS5202-203-150F	
-24	45.64	45.49	28.82	65.28	60°	52.13	3.38	48.25	81.28	42.57	149.56	68.28	38.09	1/4 NPT	1 7/8-12 UNJ-3B	AS5202-243-150F	
-32	61.49	61.29	34.95	88.65	60°	68.03	3.38	64.15	94.01	45.77	162.28	68.28	38.09	1/4 NPT	2 1/2-12 UNJ-3B	AS5202-324-150F	
-4	0.390	0.386	0.661	0.875	60°	0.565	0.083	0.456	1.647	0.896	3.522	1.875	0.625	1/16 NPT	7/16-20 UNF-3B	AS5202-04Y-063F	
-5	0.453	0.451	0.661	0.916	60°	0.628	0.083	0.519	1.647	0.882	3.522	1.875	0.625	1/16 NPT	1/2-20 UNF-3B	AS5202-05Z-063F	
-6	0.510	0.506	0.714	0.979	60°	0.691	0.091	0.582	1.950	1.119	3.919	1.969	0.750	1/8 NPT	9/16-18 UNF-3B	AS5202-06Z-075F	
-8	0.689	0.688	0.839	1.198	60°	0.878	0.102	0.771	2.117	1.125	4.086	1.969	0.750	1/8 NPT	3/4-16 UNF-3B	AS5202-080-075F	
-10	0.807	0.801	0.937	1.354	60°	1.003	0.115	0.898	2.303	1.189	4.584	2.281	1.000	1/8 NPT	7/8-14 UNF-3B	AS5202-101-100F	
i -12	0.984	0.976	1.071	1.635	60°	1.241	0.133	1.088	2.779	1.494	5.060	2.281	1.250	1/4 NPT	1 1/16-12 UNJ-3B	AS5202-122-125F	
-14	1.109	1.102	1.071	1.775	60°	1.365	0.133	1.212	2.778	1.465	5.059	2.281	1.250	1/4 NPT	1 3/16-12 UNJ-3B	AS5202-142-125F	
-16	1.234	1.226	1.071	1.920	60°	1.490	0.133	1.337	2.778	1.437	5.059	2.281	1.250	1/4 NPT	1 5/16-12 UNJ-3B	AS5202-162-125F	
-20	1.547	1.535	1.124	2.280	60°	1.803	0.133	1.650	3.202	1.745	5.890	2.688	1.500	1/4 NPT	1 5/8-12 UNJ-3B	AS5202-203-150F	
-24	1.797	1.791	1.135	2.570	60°	2.053	0.133	1.900	3.200	1.676	5.888	2.688	1.500	1/4 NPT	1 7/8-12 UNJ-3B	AS5202-243-150F	
-32	2.421	2.413	1.376	3.490	60°	2.679	0.133	2.526	3.701	1.802	6.389	2.688	1.500	1/4 NPT	2 1/2-12 UNJ-3B	AS5202-324-150F	

* Values above represent assembled dimensions. Resulting machined dimensions conforming to SAE AS5202 or AND10050 specifications.

* AND10050 specifications are shown in red.

A92: 30 - 37
Key on A92: 1

A92: 2 - 4

A92: 26 - 27

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

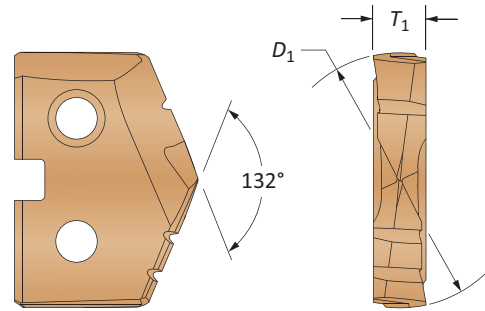
A92: 14

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SAE AS5202 / AND10050

Inserts



See section A30 for complete T-A insert details

T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*		
			Super Cobalt (AM200®)	Carbide (AM300®)					
-4	AS5202-04Y-063F	Y	45YH-.390	45YH-.386	4C1YP-.390	4C1YP-.386	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	AS5202-05Z-063F	Z	45ZH-11.5	45ZH-.451	4C1ZP-11.5	4C1ZP-.451	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	AS5202-06Z-075F	Z	45ZH-.510	45ZH-.506	4C1ZP-.510	4C1ZP-.506	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-8	AS5202-080-075F	0	450H-17.5	450H-0022	4C10P-17.5	4C10P-0022	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	AS5202-101-100F	1	451H-20.5	451H-.801	4C11P-20.5	4C11P-.801	7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	AS5202-122-125F	2	452H-25	452H-.976	4C12P-25	4C12P-.976	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	AS5202-142-125F	2	452H-1.109	452H-28	4C12P-1.109	4C12P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	AS5202-162-125F	2	452H-1.234	452H-1.226	4C12P-1.234	4C12P-1.226	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	AS5202-203-150F	3	453H-1.547	453H-39	1C53A-1.547	1C53A-39	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	AS5202-243-150F	3	453H-1.797	453H-45.5	1C53A-1.797	1C53A-45.5	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	AS5202-324-150F	4	454H-2.421	454H-2.413	-	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)

*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

NOTE: AND10050 specifications shown in red

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C5 Carbide (TiAlN)				
-4	AS5202-04Y-063F	AS5202-04-C5A		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	AS5202-05Z-063F	AS5202-05-C5A		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	AS5202-06Z-075F	AS5202-06-C5A		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	AS5202-080-075F	AS5202-08-C5A		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	AS5202-101-100F	AS5202-10-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-12	AS5202-122-125F	AS5202-12-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	AS5202-142-125F	AS5202-14-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	AS5202-162-125F	AS5202-16-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-20	AS5202-203-150F	AS5202-20-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-24	AS5202-243-150F	AS5202-24-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-32	AS5202-324-150F	AS5202-32-C5A		7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)

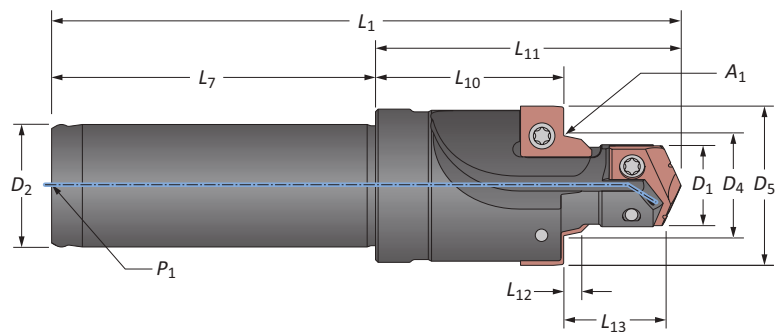
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

A92: 30 - 37 A92: 2 - 4 A92: 26 - 27

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

JDS-G173.1

Metric Shank Holders

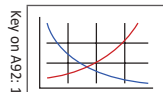


Tube Dash No.	Cutting			Seal Angle			Holder			Shank			Port Thread Size	Part No.
	D ₁	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂	P ₁		
-4	10.50	18.00	24.00	15°	13.90	2.65	42.42	22.20	84.32	41.90	16.00	1/16 BSPT	M12 X 1.5	G1731-04Y-16FM
-5	12.50	18.00	26.00	15°	15.90	2.65	42.42	21.80	84.32	41.90	16.00	1/16 BSPT	M14 X 1.5	G1731-05Z-16FM
-6	14.50	19.00	29.00	15°	17.90	2.65	50.22	28.40	92.12	41.90	20.00	1/8 BSPT	M16 X 1.5	G1731-060-20FM
-8	16.50	21.00	31.00	15°	19.90	2.65	54.03	29.50	95.93	41.90	20.00	1/8 BSPT	M18 X 1.5	G1731-080-20FM
-10	20.50	22.00	35.00	15°	23.90	2.65	57.91	31.60	111.01	53.10	25.00	1/8 BSPT	M22 X 1.5	G1731-101-25FM
-12	25.00	27.00	41.00	15°	29.50	3.35	71.63	39.40	129.53	57.90	32.00	1/4 BSPT	M27 X 2	G1731-122-32FM
m -14	28.00	27.00	44.00	15°	32.50	3.35	71.63	39.70	129.53	57.90	32.00	1/4 BSPT	M30 X 2	G1731-142-32FM
-16	31.00	27.00	50.00	15°	35.50	3.35	71.63	38.10	129.53	57.90	32.00	1/4 BSPT	M33 X 2	G1731-162-32FM
-18	36.00	27.00	55.00	15°	40.50	3.35	81.46	46.80	146.96	65.50	32.00	1/4 BSPT	M38 X 2	G1731-183-32FM*
-20	40.00	27.00	61.00	15°	44.50	3.35	81.46	45.90	146.96	65.50	32.00	1/4 BSPT	M42 X 2	G1731-203-32FM*
-24	46.00	29.00	67.00	15°	50.50	3.35	81.46	42.80	146.96	65.50	32.00	1/4 BSPT	M48 X 2	G1731-243-32FM*
-32	58.00	32.00	77.00	15°	62.50	3.35	100.76	58.40	166.26	65.50	32.00	1/4 BSPT	M60 X 2	G1731-324-32FM*
C**	18.50	20.00	33.00	15°	21.90	2.65	54.36	32.50	107.46	53.10	25.00	1/8 BSPT	M20 X 1.5	G1731-CV1-25FM
-4	0.413	0.709	0.945	15°	0.547	0.104	1.670	0.875	3.320	1.650	0.630	1/16 BSPT	M12 X 1.5	G1731-04Y-16FM
-5	0.492	0.709	1.024	15°	0.626	0.104	1.670	0.858	3.320	1.650	0.630	1/16 BSPT	M14 X 1.5	G1731-05Z-16FM
-6	0.571	0.748	1.142	15°	0.705	0.104	1.977	1.117	3.627	1.650	0.787	1/8 BSPT	M16 X 1.5	G1731-060-20FM
-8	0.650	0.827	1.220	15°	0.783	0.104	2.127	1.161	3.777	1.650	0.787	1/8 BSPT	M18 X 1.5	G1731-080-20FM
-10	0.807	0.866	1.378	15°	0.941	0.104	2.280	1.246	4.370	2.090	0.984	1/8 BSPT	M22 X 1.5	G1731-101-25FM
-12	0.984	1.063	1.614	15°	1.161	0.132	2.820	1.553	5.100	2.280	1.260	1/4 BSPT	M27 X 2	G1731-122-32FM
i -14	1.102	1.063	1.732	15°	1.280	0.132	2.820	1.526	5.100	2.280	1.260	1/4 BSPT	M30 X 2	G1731-142-32FM
-16	1.221	1.063	1.969	15°	1.398	0.132	2.820	1.500	5.100	2.280	1.260	1/4 BSPT	M33 X 2	G1731-162-32FM
-18	1.417	1.063	2.165	15°	1.594	0.132	3.207	1.844	5.786	2.580	1.260	1/4 BSPT	M38 X 2	G1731-183-32FM*
-20	1.575	1.063	2.402	15°	1.752	0.132	3.207	1.809	5.786	2.580	1.260	1/4 BSPT	M42 X 2	G1731-203-32FM*
-24	1.811	1.142	2.638	15°	1.988	0.132	3.207	1.687	5.786	2.580	1.260	1/4 BSPT	M48 X 2	G1731-243-32FM*
-32	2.284	1.260	3.031	15°	2.461	0.132	3.967	2.300	6.546	2.580	1.260	1/4 BSPT	M60 X 2	G1731-324-32FM*
C**	0.728	0.787	1.299	15°	0.862	0.104	2.140	1.281	4.231	2.090	0.984	1/8 BSPT	M20 X 1.5	G1731-CV1-25FM

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Cartridge cavity

A92: 30 - 37



A92: 2 - 4



A92: 28



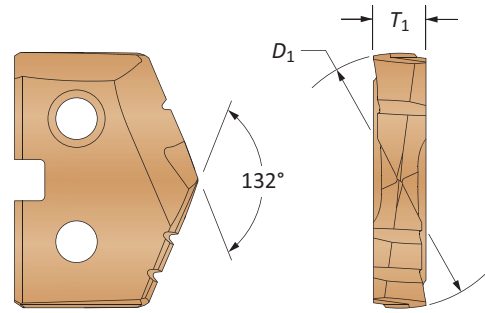
Key on A92: 1

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



JDS-G173.1

Inserts



See section A30 for complete T-A insert details

GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt (AM200®)	Carbide (AM300®)			
-4	G1731-04Y-16FM	Y	45YH-10.5	4C2YP-10.5	724-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-5	G1731-05Z-16FM	Z	45ZH-12.5	4C2ZP-12.5	7247-IP7-1	8IP-7	84 N-cm (7.4 in/lbs)
-6	G1731-060-20FM	0	450H-14.5	4C20P-14.5	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	G1731-080-20FM	0	450H-16.5	4C20P-16.5	72567-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	G1731-101-25FM	1	451H-20.5	4C21P-20.5	739-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-12	G1731-122-32FM	2	452H-25	4C22P-25	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-14	G1731-142-32FM	2	452H-28	4C22P-28	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-16	G1731-162-32FM	2	452H-31	4C22P-31	7495-IP15-1	8IP-15	690 N-cm (61.0 in/lbs)
-18	G1731-183-32FM*	3	453H-36	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-20	G1731-203-32FM*	3	453H-40	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-24	G1731-243-32FM*	3	453H-46	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
-32	G1731-324-32FM*	4	454H-58	-	7514-IP20-1	8IP-20	1370 N-cm (121.3 in/lbs)
C***	G1731-CV1-25FM	1	451H-18.5	4C21P-18.5	739-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

***Cartridge cavity

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
		C3 Carbide (AM200®)				
-4	G1731-04Y-16FM	G1731-01-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-5	G1731-05Z-16FM	G1731-01-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-6	G1731-060-20FM	G1731-02-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-8	G1731-080-20FM	G1731-02-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-10	G1731-101-25FM	G1731-02-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-12	G1731-122-32FM	G1731-03-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-14	G1731-142-32FM	G1731-03-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)
-16	G1731-162-32FM	G1731-04-C3H		7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-18	G1731-183-32FM*	G1731-04-C3H		7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-20	G1731-203-32FM*	G1731-05-C3H		7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-24	G1731-243-32FM*	G1731-05-C3H		7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
-32	G1731-324-32FM*	G1731-06-C3H		7375-IP9-1	8IP-9	305 N-cm (27.0 in/lbs)
C***	G1731-CV1-25FM	G1731-02-C3H		72556-IP8-1	8IP-8	175 N-cm (15.5 in/lbs)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

**Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

***Cartridge cavity

A92: 30 - 37

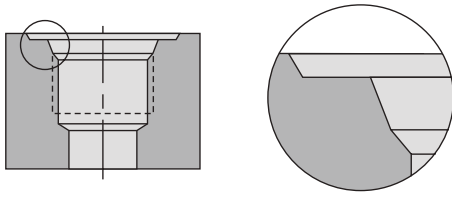
A92: 2 - 4

A92: 28

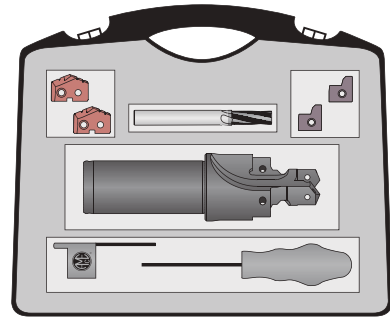
Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

Port and Thread Finishing Kits

SAE J-1926 | Imperial | Ferrous Materials

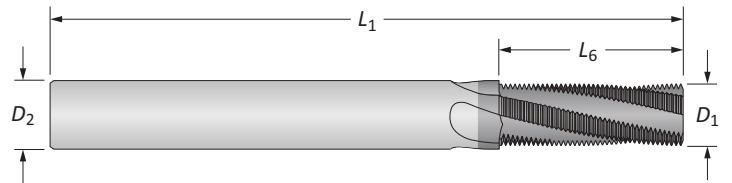


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAK0438-20	1	ATKK04-1926
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-03-C5A	2	TMAK0438-20	1	ATKK05-1926
-6	J1926-060-075F	9/16-18 UNF-2B	1	450H-13	2	J1926-03-C5A	2	TMAK0563-18	1	ATKK06-1926
-8	J1926-080-075F	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAK0750-16	1	ATKK08-1926
-10	J1926-101-100F	7/8-14 UNF-2B	1	451H-20.5	2	J1926-04-C5A	2	TMAK0875-14	1	ATKK10-1926
-12	J1926-122-125F	1-1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAK1063-12	1	ATKK12-1926
-14	J1926-142-125F	1-3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAK1063-12	1	ATKK14-1926
-16	J1926-162-125F	1-5/16-12 UN-2B	1	452H-1.231	2	J1926-09-C5A	2	TMAK1063-12	1	ATKK16-1926
-20	J1926-203-150F	1-5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAK1063-12	1	ATKK20-1926
-24	J1926-243-150F	1-7/8-12 UN-2B	1	453H-45.5	1	J1926-11-C5A	2	TMAK1063-12	1	ATKK24-1926
-32	J1926-324-150F	2-1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAK1063-12	1	ATKK32-1926



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAK0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAK0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAK0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAK0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAK1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

A92: 30 - 37

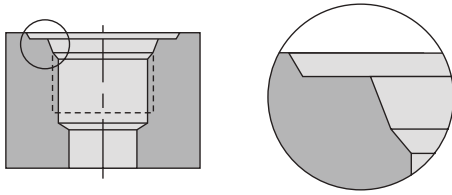
A92: 2 - 4

A92: 6 - 7

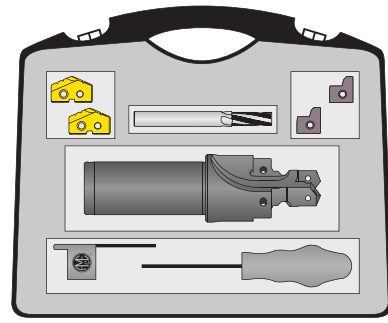


Port and Thread Finishing Kits

SAE J-1926 | Imperial | Non-Ferrous Materials

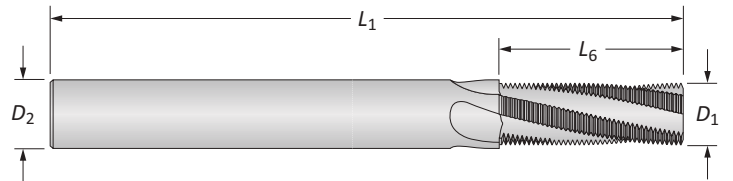


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (Uncoated)	Qty	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	15YT-386	2	J1926-02-C5A	2	TMAU0438-20	1	ATKU04-1926
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	15ZT-11.5	2	J1926-03-C5A	2	TMAU0438-20	1	ATKU05-1926
-6	J1926-060-075F	9/16-18 UNF-2B	1	150T-13	2	J1926-03-C5A	2	TMAU0563-18	1	ATKU06-1926
-8	J1926-080-075F	3/4-16 UNF-2B	1	150T-0022	2	J1926-07-C5A	2	TMAU0750-16	1	ATKU08-1926
-10	J1926-101-100F	7/8-14 UNF-2B	1	151T-20.5	2	J1926-04-C5A	2	TMAU0875-14	1	ATKU10-1926
-12	J1926-122-125F	1-1/16-12 UN-2B	1	152T-25	2	J1926-08-C5A	2	TMAU1063-12	1	ATKU12-1926
-14	J1926-142-125F	1-3/16-12 UN-2B	1	152T-28	2	J1926-08-C5A	2	TMAU1063-12	1	ATKU14-1926
-16	J1926-162-125F	1-5/16-12 UN-2B	1	152T-1.231	2	J1926-09-C5A	2	TMAU1063-12	1	ATKU16-1926
-20	J1926-203-150F	1-5/8-12 UN-2B	1	453T-39	1	J1926-10-C5A	2	TMAU1063-12	1	ATKU20-1926
-24	J1926-243-150F	1-7/8-12 UN-2B	1	453T-45.5	1	J1926-11-C5A	2	TMAU1063-12	1	ATKU24-1926
-32	J1926-324-150F	2-1/2-12 UN-2B	1	454T-61.5	1	J1926-12-C5A	2	TMAU1063-12	1	ATKU32-1926



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAU0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAU0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAU0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAU0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAU1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

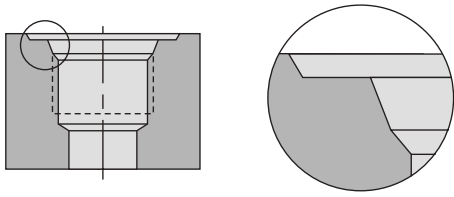
A92: 30 - 37

A92: 2 - 4

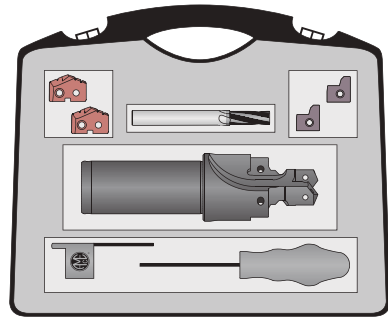
A92: 6 - 7

Port and Thread Finishing Kits

SAE J-1926 | Metric | Ferrous Materials

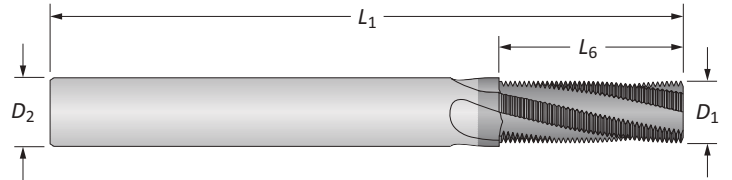


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	J1926-04Y-16FM	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAK0438-20M	1	ATKK04-1926M
-5	J1926-05Z-16FM	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-03-C5A	2	TMAK0438-20M	1	ATKK05-1926M
-6	J1926-060-20FM	9/16-18 UNF-2B	1	450H-13	2	J1926-03-C5A	2	TMAK0563-18M	1	ATKK06-1926M
-8	J1926-080-20FM	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAK0750-16M	1	ATKK08-1926M
-10	J1926-101-25FM	7/8-14 UNF-2B	1	451H-20.5	2	J1926-04-C5A	2	TMAK0875-14M	1	ATKK10-1926M
-12	J1926-122-32FM	1-1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAK1063-12M	1	ATKK12-1926M
-14	J1926-142-32FM	1-3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAK1063-12M	1	ATKK14-1926M
-16	J1926-162-32FM	1-5/16-12 UN-2B	1	452H-1.231	2	J1926-09-C5A	2	TMAK1063-12M	1	ATKK16-1926M
-20	J1926-203-32FM	1-5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAK1063-12M	1	ATKK20-1926M
-24	J1926-243-32FM	1-7/8-12 UN-2B	1	453H-45.5	1	J1926-11-C5A	2	TMAK1063-12M	1	ATKK24-1926M
-32	J1926-324-32FM	2-1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAK1063-12M	1	ATKK32-1926M



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4 to -5	20	8.51	15.24	10.00	73.00	4	TMAK0438-20M
-6	18	9.40	16.92	10.00	73.00	4	TMAK0563-18M
-8	16	11.94	19.05	12.00	84.00	4	TMAK0750-16M
-10	14	11.94	21.77	12.00	84.00	4	TMAK0875-14M
-12 to -32	12	11.94	23.29	12.00	84.00	4	TMAK1063-12M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

A92: 30 - 37

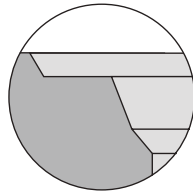
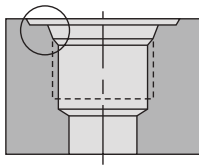
A92: 2 - 4

A92: 8 - 9

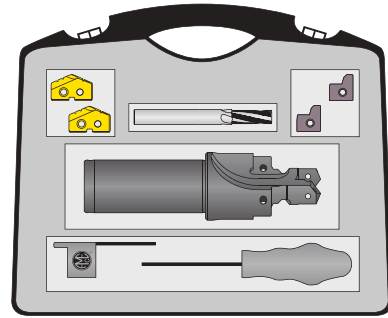


Port and Thread Finishing Kits

SAE J-1926 | Metric | Non-Ferrous Materials

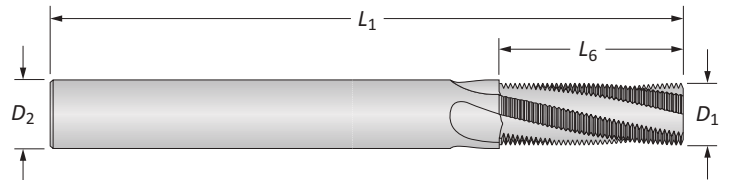


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (Uncoated)	Qty	
-4	J1926-04Y-16FM	7/16-20 UNF-2B	1	15YT-386	2	J1926-02-C5A	2	TMAU0438-20M	1	ATKU04-1926M
-5	J1926-05Z-16FM	1/2-20 UNF-2B	1	15ZT-11.5	2	J1926-03-C5A	2	TMAU0438-20M	1	ATKU05-1926M
-6	J1926-060-20FM	9/16-18 UNF-2B	1	150T-13	2	J1926-03-C5A	2	TMAU0563-18M	1	ATKU06-1926M
-8	J1926-080-20FM	3/4-16 UNF-2B	1	150T-0022	2	J1926-07-C5A	2	TMAU0750-16M	1	ATKU08-1926M
-10	J1926-101-25FM	7/8-14 UNF-2B	1	151T-20.5	2	J1926-04-C5A	2	TMAU0875-14M	1	ATKU10-1926M
-12	J1926-122-32FM	1-1/16-12 UN-2B	1	152T-25	2	J1926-08-C5A	2	TMAU1063-12M	1	ATKU12-1926M
-14	J1926-142-32FM	1-3/16-12 UN-2B	1	152T-28	2	J1926-08-C5A	2	TMAU1063-12M	1	ATKU14-1926M
-16	J1926-162-32FM	1-5/16-12 UN-2B	1	152T-1.231	2	J1926-09-C5A	2	TMAU1063-12M	1	ATKU16-1926M
-20	J1926-203-32FM	1-5/8-12 UN-2B	1	453T-39	1	J1926-10-C5A	2	TMAU1063-12M	1	ATKU20-1926M
-24	J1926-243-32FM	1-7/8-12 UN-2B	1	453T-45.5	1	J1926-11-C5A	2	TMAU1063-12M	1	ATKU24-1926M
-32	J1926-324-32FM	2-1/2-12 UN-2B	1	454T-61.5	1	J1926-12-C5A	2	TMAU1063-12M	1	ATKU32-1926M



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4 to -5	20	8.51	15.24	10.00	73.00	4	TMAU0438-20M
-6	18	9.40	16.92	10.00	73.00	4	TMAU0563-18M
-8	16	11.94	19.05	12.00	84.00	4	TMAU0750-16M
-10	14	11.94	21.77	12.00	84.00	4	TMAU0875-14M
-12 to -32	12	11.94	23.29	12.00	84.00	4	TMAU1063-12M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

A92: 30 - 37

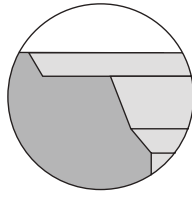
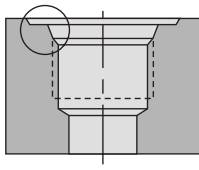
A92: 2 - 4

A92: 8 - 9

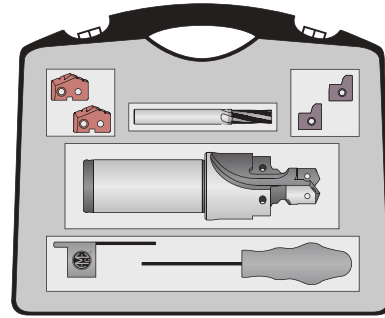
A DRILLING B BORING C THREADING X SPECIALS

Port and Thread Finishing Kits

ISO 6149 | No ID Ridge | Ferrous Materials

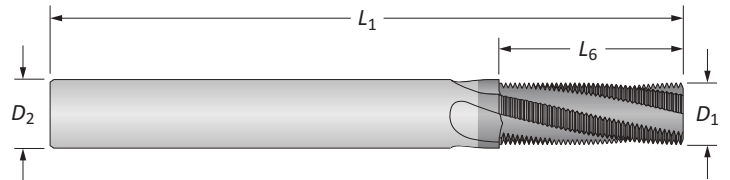


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	45YH-10.5	2	I6149-04-C5A	2	TMMK1000-150M	1	ATKK04-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	45ZH-12.5	2	I6149-04-C5A	2	TMMK1400-150M	1	ATKK05-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	450H-14.5	2	I6149-06-C5A	2	TMMK1400-150M	1	ATKK06-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	450H-16.5	2	I6149-06-C5A	2	TMMK1800-150M	1	ATKK08-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	451H-20.5	2	I6149-04-C5A	2	TMMK1800-150M	1	ATKK10-6149
-12	I6149-12R2-32FM	M27 X 2	1	452H-25	2	I6149-12-C5A	2	TMMK2000-200M	1	ATKK12-6149
-14	I6149-14R2-32FM	M30 X 2	1	452H-28	2	I6149-14-C5A	2	TMMK2000-200M	1	ATKK14-6149
-16	I6149-16R2-32FM	M33 X 2	1	452H-31	2	I6149-16-C5A	2	TMMK2000-200M	1	ATKK16-6149
-20	I6149-20R3-32FM	M42 X 2	1	453H-40	1	I6149-20-C5A	2	TMMK2000-200M	1	ATKK20-6149
-24	I6149-24R3-32FM	M48 X 2	1	453H-46	1	I6149-24-C5A	2	TMMK2000-200M	1	ATKK24-6149
-32	I6149-32R4-32FM	M60 X 2	1	454H-58	1	I6149-32-C5A	2	TMMK2000-200M	1	ATKK32-6149



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

A92: 30 - 37

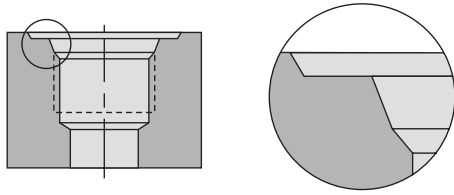
A92: 2 - 4

A92: 12 - 13

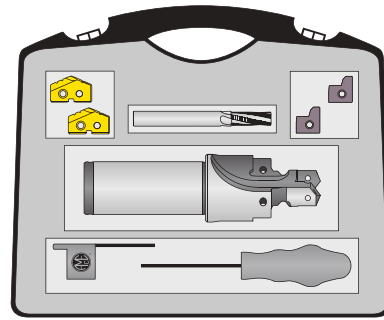


Port and Thread Finishing Kits

ISO 6149 | No ID Ridge | Non-Ferrous Materials

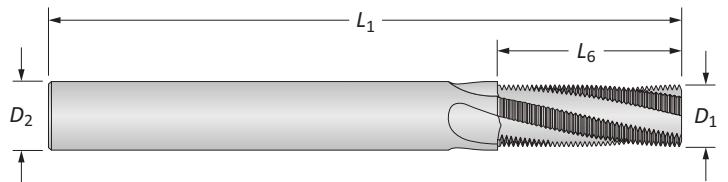


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (Uncoated)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	15YT-10.5	2	I6149-04-C5A	2	TMMU1000-150M	1	ATKU04-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	15ZT-12.5	2	I6149-04-C5A	2	TMMU1400-150M	1	ATKU05-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	150T-14.5	2	I6149-06-C5A	2	TMMU1400-150M	1	ATKU06-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	150T-16.5	2	I6149-06-C5A	2	TMMU1800-150M	1	ATKU08-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	151T-20.5	2	I6149-04-C5A	2	TMMU1800-150M	1	ATKU10-6149
-12	I6149-12R2-32FM	M27 X 2	1	152T-25	2	I6149-12-C5A	2	TMMU2000-200M	1	ATKU12-6149
-14	I6149-14R2-32FM	M30 X 2	1	152T-28	2	I6149-14-C5A	2	TMMU2000-200M	1	ATKU14-6149
-16	I6149-16R2-32FM	M33 X 2	1	152T-31	2	I6149-16-C5A	2	TMMU2000-200M	1	ATKU16-6149
-20	I6149-20R3-32FM	M42 X 2	1	453T-40	1	I6149-20-C5A	2	TMMU2000-200M	1	ATKU20-6149
-24	I6149-24R3-32FM	M48 X 2	1	453T-46	1	I6149-24-C5A	2	TMMU2000-200M	1	ATKU24-6149
-32	I6149-32R4-32FM	M60 X 2	1	454T-58	1	I6149-32-C5A	2	TMMU2000-200M	1	ATKU32-6149



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMU1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMU1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMU1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMU2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

A92: 30 - 37

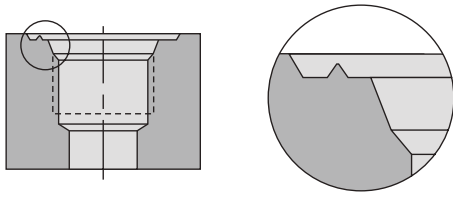
A92: 2 - 4

A92: 12 - 13

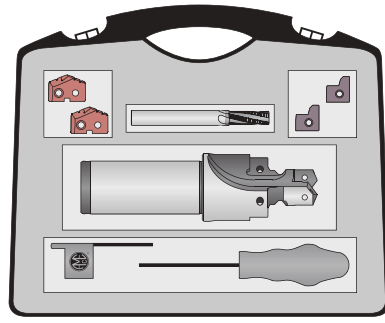
A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Port and Thread Finishing Kits

ISO 6149 | ID Ridge | Ferrous Materials

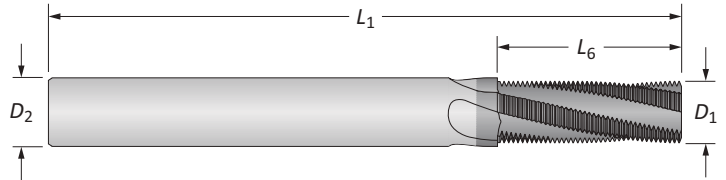


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	45YH-10.5	2	I6149-04R-C5A	2	TMMK1000-150M	1	ATKK04R-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	45ZH-12.5	2	I6149-04R-C5A	2	TMMK1400-150M	1	ATKK05R-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	450H-14.5	2	I6149-06R-C5A	2	TMMK1400-150M	1	ATKK06R-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	450H-16.5	2	I6149-06R-C5A	2	TMMK1800-150M	1	ATKK08R-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	451H-20.5	2	I6149-04R-C5A	2	TMMK1800-150M	1	ATKK10R-6149
-12	I6149-12R2-32FM	M27 X 2	1	452H-25	2	I6149-12R-C5A	2	TMMK2000-200M	1	ATKK12R-6149
-14	I6149-14R2-32FM	M30 X 2	1	452H-28	2	I6149-14R-C5A	2	TMMK2000-200M	1	ATKK14R-6149
-16	I6149-16R2-32FM	M33 X 2	1	452H-31	2	I6149-16R-C5A	2	TMMK2000-200M	1	ATKK16R-6149
-20	I6149-20R3-32FM	M42 X 2	1	453H-40	1	I6149-20R-C5A	2	TMMK2000-200M	1	ATKK20R-6149
-24	I6149-24R3-32FM	M48 X 2	1	453H-46	1	I6149-24R-C5A	2	TMMK2000-200M	1	ATKK24R-6149
-32	I6149-32R4-32FM	M60 X 2	1	454H-58	1	I6149-32R-C5A	2	TMMK2000-200M	1	ATKK32R-6149



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

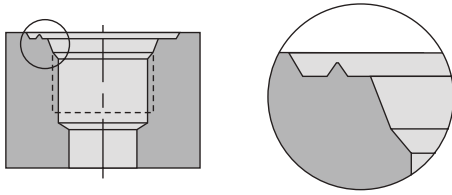
AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

A92: 30 - 37 A92: 2 - 4 A92: 12 - 13

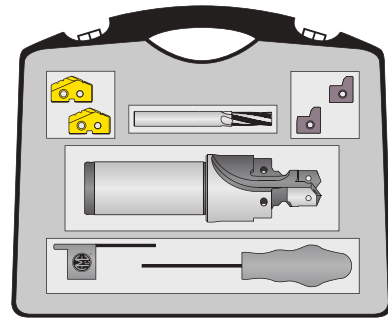


Port and Thread Finishing Kits

ISO 6149 | ID Ridge | Non-Ferrous Materials

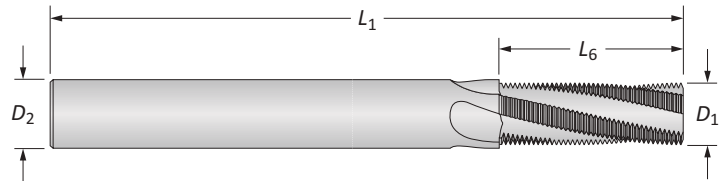


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (Uncoated)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	15YT-10.5	2	I6149-04R-C5A	2	TMMU1000-150M	1	ATKU04R-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	15ZT-12.5	2	I6149-04R-C5A	2	TMMU1400-150M	1	ATKU05R-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	150T-14.5	2	I6149-06R-C5A	2	TMMU1400-150M	1	ATKU06R-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	150T-16.5	2	I6149-06R-C5A	2	TMMU1800-150M	1	ATKU08R-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	151T-20.5	2	I6149-04R-C5A	2	TMMU1800-150M	1	ATKU10R-6149
-12	I6149-12R2-32FM	M27 X 2	1	152T-25	2	I6149-12R-C5A	2	TMMU2000-200M	1	ATKU12R-6149
-14	I6149-14R2-32FM	M30 X 2	1	152T-28	2	I6149-14R-C5A	2	TMMU2000-200M	1	ATKU14R-6149
-16	I6149-16R2-32FM	M33 X 2	1	152T-31	2	I6149-16R-C5A	2	TMMU2000-200M	1	ATKU16R-6149
-20	I6149-20R3-32FM	M42 X 2	1	453T-40	1	I6149-20R-C5A	2	TMMU2000-200M	1	ATKU20R-6149
-24	I6149-24R3-32FM	M48 X 2	1	453T-46	1	I6149-24R-C5A	2	TMMU2000-200M	1	ATKU24R-6149
-32	I6149-32R4-32FM	M60 X 2	1	454T-58	1	I6149-32R-C5A	2	TMMU2000-200M	1	ATKU32R-6149



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMU1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMU1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMU1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMU2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

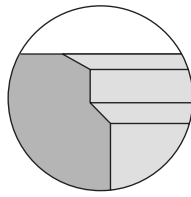
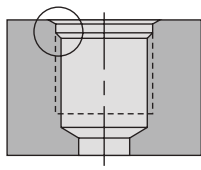
A92: 30 - 37

A92: 2 - 4

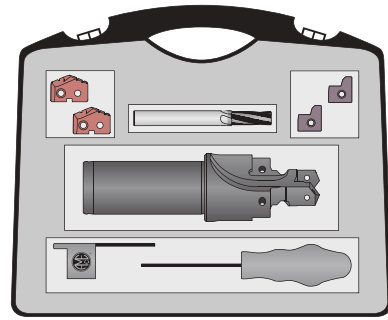
A92: 12 - 13

Port and Thread Finishing Kits



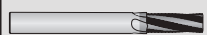
SAE AS5202 | Ferrous Materials

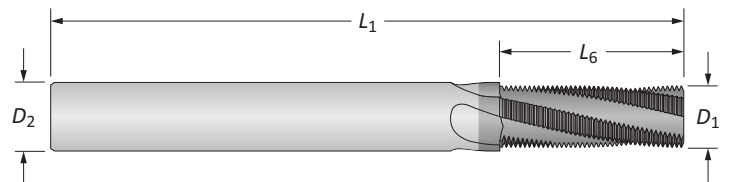


SAE AS5202



Port and Thread Finishing Kits

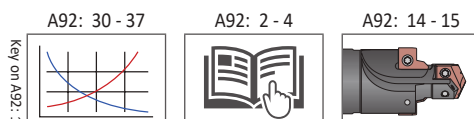
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert 		Port Form Insert 		AccuThread® Thread Mill 		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	1	45YH-.390	2	AS5202-04-C5A	2	TMAK0438-20	1	ATKK04-5202
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	1	45ZH-11.5	2	AS5202-05-C5A	2	TMAK0438-20	1	ATKK05-5202
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	1	45ZH-.510	2	AS5202-06-C5A	2	TMAK0563-18	1	ATKK06-5202
-8	AS5202-08O-075F	3/4-16 UNJF-3B	1	45OH-17.5	2	AS5202-08-C5A	2	TMAK0750-16	1	ATKK08-5202
-10	AS5202-10I-100F	7/8-14 UNJF-3B	1	45IH-20.5	2	AS5202-10-C5A	2	TMAK0875-14	1	ATKK10-5202
-12	AS5202-12Z-125F	1-1/16-12 UNJ-3B	1	45ZH-25	2	AS5202-12-C5A	2	TMAK1063-12	1	ATKK12-5202
-14	AS5202-14Z-125F	1-3/16-12 UNJ-3B	1	45ZH-1.109	2	AS5202-14-C5A	2	TMAK1063-12	1	ATKK14-5202
-16	AS5202-16Z-125F	1-5/16-12 UNJ-3B	1	45ZH-1.234	2	AS5202-16-C5A	2	TMAK1063-12	1	ATKK16-5202
-20	AS5202-20J-150F	1-5/8-12 UNJ-3B	1	453H-1.547	1	AS5202-20-C5A	2	TMAK1063-12	1	ATKK20-5202
-24	AS5202-24J-150F	1-7/8-12 UNJ-3B	1	453H-1.797	1	AS5202-24-C5A	2	TMAK1063-12	1	ATKK24-5202
-32	AS5202-32A-150F	2-1/2-12 UNJ-3B	1	454H-61.5	1	AS5202-32-C5A	2	TMAK1063-12	1	ATKK32-5202



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAK0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAK0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAK0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAK0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAK1063-12

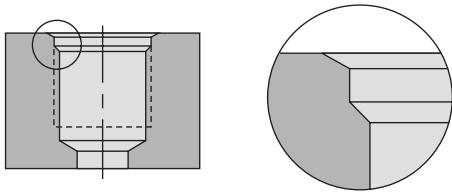
AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.



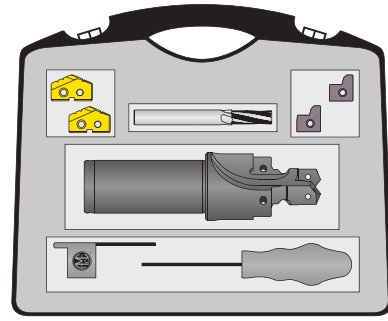


Port and Thread Finishing Kits

SAE AS5202 | Non-Ferrous Materials

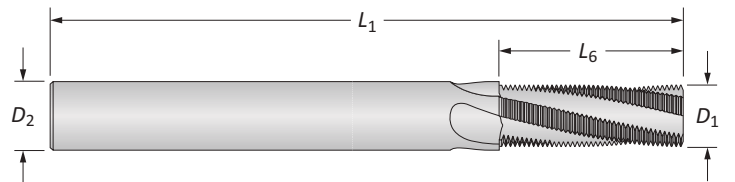


SAE AS5202



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (Uncoated)	Qty	
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	1	15YT-.390	2	AS5202-04-C5A	2	TMAU0438-20	1	ATKU04-5202
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	1	15ZT-11.5	2	AS5202-05-C5A	2	TMAU0438-20	1	ATKU05-5202
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	1	15ZT-.510	2	AS5202-06-C5A	2	TMAU0563-18	1	ATKU06-5202
-8	AS5202-080-075F	3/4-16 UNJF-3B	1	150T-17.5	2	AS5202-08-C5A	2	TMAU0750-16	1	ATKU08-5202
-10	AS5202-101-100F	7/8-14 UNJF-3B	1	151T-20.5	2	AS5202-10-C5A	2	TMAU0875-14	1	ATKU10-5202
-12	AS5202-122-125F	1-1/16-12 UNJ-3B	1	152T-25	2	AS5202-12-C5A	2	TMAU1063-12	1	ATKU12-5202
-14	AS5202-142-125F	1-3/16-12 UNJ-3B	1	152T-1.109	2	AS5202-14-C5A	2	TMAU1063-12	1	ATKU14-5202
-16	AS5202-162-125F	1-5/16-12 UNJ-3B	1	152T-1.234	2	AS5202-16-C5A	2	TMAU1063-12	1	ATKU16-5202
-20	AS5202-203-150F	1-5/8-12 UNJ-3B	1	453T-1.547	1	AS5202-20-C5A	2	TMAU1063-12	1	ATKU20-5202
-24	AS5202-243-150F	1-7/8-12 UNJ-3B	1	453T-1.797	1	AS5202-24-C5A	2	TMAU1063-12	1	ATKU24-5202
-32	AS5202-324-150F	2-1/2-12 UNJ-3B	1	454T-61.5	1	AS5202-32-C5A	2	TMAU1063-12	1	ATKU32-5202



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAU0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAU0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAU0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAU0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAU1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

Key on A92: 1

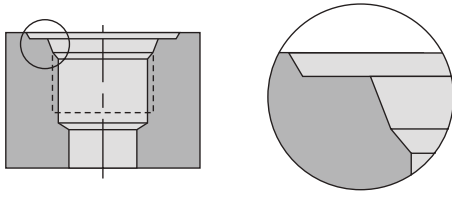
A92: 30 - 37

A92: 2 - 4

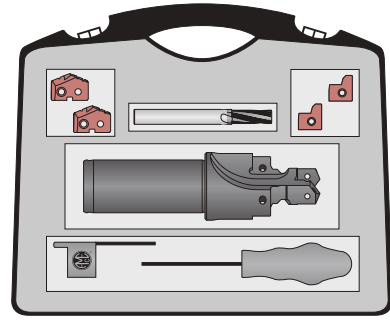
A92: 14 - 15

Port and Thread Finishing Kits

JDS-G1731 | Ferrous Materials

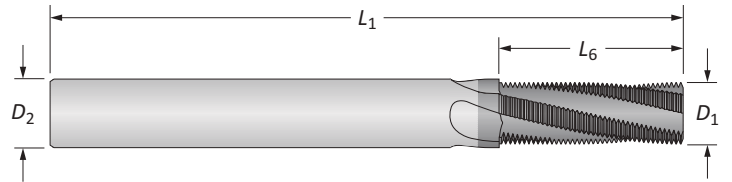


JDS-G1731



Port and Thread Finishing Kits

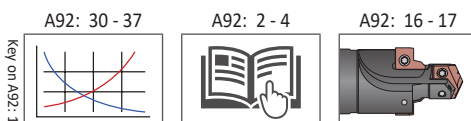
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread® Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C3 Carbide (AM200®)	Qty	Part No. (AM210®)	Qty	
-4	G1731-04Y-16FM	M12 X 1.5	1	45YH-10.5	2	G1731-01-C3H	2	TMMK1000-150M	1	ATKK04-G1731
-5	G1731-05Z-16FM	M14 X 1.5	1	45ZH-12.5	2	G1731-01-C3H	2	TMMK1400-150M	1	ATKK05-G1731
-6	G1731-06O-20FM	M16 X 1.5	1	45OH-14.5	2	G1731-02-C3H	2	TMMK1400-150M	1	ATKK06-G1731
-8	G1731-08O-20FM	M18 X 1.5	1	45OH-16.5	2	G1731-02-C3H	2	TMMK1800-150M	1	ATKK08-G1731
-10	G1731-10I-25FM	M22 X 1.5	1	45IH-20.5	2	G1731-02-C3H	2	TMMK1800-150M	1	ATKK10-G1731
-12	G1731-12Z-32FM	M27 X 2	1	45ZH-25	2	G1731-03-C3H	2	TMMK2000-200M	1	ATKK12-G1731
-14	G1731-14Z-32FM	M30 X 2	1	45ZH-28	2	G1731-03-C3H	2	TMMK2000-200M	1	ATKK14-G1731
-16	G1731-16Z-32FM	M33 X 2	1	45ZH-31	2	G1731-04-C3H	2	TMMK2000-200M	1	ATKK16-G1731
-18	G1731-18Z-32FM	M38 X 2	1	45ZH-36	1	G1731-04-C3H	2	TMMK2000-200M	1	ATKK18-G1731
-20	G1731-20Z-32FM	M42 X 2	1	45ZH-40	1	G1731-05-C3H	2	TMMK2000-200M	1	ATKK20-G1731
-24	G1731-24Z-32FM	M48 X 2	1	45ZH-46	1	G1731-05-C3H	2	TMMK2000-200M	1	ATKK24-G1731
-32	G1731-32Z-32FM	M60 X 2	1	45ZH-58	1	G1731-06-C3H	2	TMMK2000-200M	1	ATKK32-G1731



AccuThread® Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.



Key on A92: 1

Recommended Drilling Data | Metric (mm)

HSS

ISO	Material	Hardness (BHN)	Grade	Speed (m/min)				Feed Rate (mm/rev) by Tube Size and T-A® Insert Series					
				TiN	TiAlN	TiCN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
								T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	61	85	79	92	0.18	0.25	0.33	0.41	0.51	0.58
		150 - 200	HSS	55	79	72	87	0.18	0.25	0.33	0.41	0.51	0.58
		200 - 250	HSS	49	73	64	81	0.15	0.25	0.33	0.41	0.51	0.58
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	52	76	67	84	0.15 ❖	0.23	0.30	0.38	0.48	0.58
		125 - 175	HSS	49	73	64	81	0.15 ❖	0.23	0.30	0.38	0.48	0.58
		175 - 225	HSS	46	69	59	76	0.13 ❖	0.20	0.25	0.36	0.46	0.53
		225 - 275	HSS	43	64	55	70	0.13 ❖	0.20	0.25	0.36	0.46	0.53
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	49	73	64	79	0.15	0.23	0.30	0.38	0.48	0.58
		175 - 225	HSS	46	69	59	75	0.13	0.20	0.25	0.36	0.46	0.53
		225 - 275	HSS	43	64	55	70	0.13	0.20	0.25	0.36	0.46	0.53
		275 - 325	SC	40	59	52	66	0.10	0.18	0.23	0.30	0.41	0.48
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	46	64	59	69	0.15	0.20	0.25	0.36	0.43	0.48
		175 - 225	HSS	43	59	55	66	0.13	0.20	0.25	0.36	0.43	0.48
		225 - 275	HSS	40	55	52	60	0.13	0.18	0.25	0.36	0.43	0.48
		275 - 325	SC	37	52	47	56	0.10	0.15	0.23	0.30	0.38	0.43
		325 - 375	SC	34	47	44	55	0.08	0.15	0.23	0.30	0.38	0.43
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	24	34	30	37	0.13 ❖	0.18	0.23	0.25	0.36	0.43
		300 - 350	SC	18	26	24	27	0.10 ❖	0.18	0.23	0.25	0.36	0.43
350 - 400		SC	15	21	20	23	0.08 ❖	0.15	0.20	0.23	0.30	0.38	
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	43	61	55	67	0.15 ❖	0.25	0.30	0.36	0.46	0.53	
	150 - 250	HSS	37	52	47	56	0.13 ❖	0.23	0.25	0.30	0.41	0.48	
	250 - 350	SC	30	43	40	47	0.10 ❖	0.20	0.23	0.25	0.36	0.43	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	24	34	32	37	0.10	0.15	0.20	0.25	0.30	0.38	
	200 - 250	SC	18	27	26	31	0.10	0.15	0.20	0.25	0.30	0.38	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	30	40	35	45	0.08 ❖	0.18	0.20	0.25	0.30	0.38
		220 - 310	SC	25	35	30	40	0.08 ❖	0.15	0.18	0.20	0.25	0.30
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	SC	23	32	29	33	0.15 ❖	0.20	0.23	0.28	0.36	0.41
		275 - 350	SC	18	27	24	29	0.13 ❖	0.18	0.20	0.25	0.30	0.36
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	52	76	67	82	0.18	0.30	0.41	0.51	0.61	0.69
		150 - 200	HSS	46	69	59	75	0.15	0.28	0.36	0.46	0.56	0.64
		200 - 220	HSS	40	59	52	66	0.15	0.23	0.30	0.41	0.46	0.53
		220 - 260	SC	34	50	44	55	0.13	0.18	0.23	0.30	0.36	0.43
		260 - 320	SC	27	41	37	44	0.10	0.15	0.18	0.23	0.30	0.36
N	Aluminium	30	HSS	183	259	229	-	0.20	0.33	0.41	0.51	0.56	0.64
		180	HSS	91	137	122	-	0.20	0.33	0.41	0.46	0.56	0.64

Formulas

<p>1. $RPM = (318.47 \cdot m/min) / DIA$</p> <p>where:</p> <p>RPM = revolutions per minute (rev/min)</p> <p>m/min = speed (m/min)</p> <p>DIA = finish diameter of drill (mm)</p>	<p>2. $m/min = RPM \cdot 0.003 \cdot DIA$</p> <p>where:</p> <p>m/min = speed (m/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>DIA = diameter of drill (mm)</p>	<p>3. $IPM = RPM \cdot mm/rev$</p> <p>where:</p> <p>IPM = feed rate</p> <p>RPM = revolutions per minute (rev/min)</p> <p>mm/rev = feed rate (mm/rev)</p>
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The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. *email: ufficiotecnico@febametal.com*
Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Coolant Recommendations | Metric (mm)

HSS

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free-Machining Steel 1118, 1215, 12L14, etc.	BAR	12 - 13	7 - 8	7 - 10	6 - 8	6 - 7	3 - 4
		LPM	9.5 - 9.8	10.6 - 11.4	16.7 - 19.7	26.5 - 30.3	45.4 - 53.0	114 - 125
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	BAR	11 - 12	5 - 6	5 - 7	4 - 6	4 - 5	2 - 3
		LPM	9.1 - 9.5	9.1 - 9.8	14.0 - 15.9	22.7 - 26.5	41.6 - 45.4	98 - 114
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	BAR	11	5 - 6	5 - 6	4 - 5	3 - 5	2 - 3
		LPM	8.7 - 9.1	8.7 - 9.8	13.6 - 15.5	18.9 - 22.7	37.9 - 45.4	98 - 114
	Alloy Steel 4140, 5140, 8640, etc.	BAR	11	5 - 6	5	3 - 5	3 - 4	2
		LPM	8.7 - 9.1	13.2 - 14.8	8.3 - 9.1	18.9 - 22.7	34.1 - 37.9	87 - 98
	High-Strength Alloy 4340, 4330V, 300M, etc.	BAR	10 - 11	4 - 5	3 - 4	2	2	2
		LPM	8.7 - 9.1	7.9 - 8.3	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87
	Structural Steel A36, A285, A516, etc.	BAR	11	5 - 6	5 - 6	3 - 4	3	2
		LPM	8.7 - 9.1	9.1 - 9.8	13.2 - 14.8	18.9 - 22.7	34.1 - 37.9	87 - 98
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	BAR	4	10 - 11	3	2	2	1 - 2
		LPM	7.9 - 8.3	8.7 - 9.1	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	BAR	10 - 11	4 - 5	3 - 4	2	2	2
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98
M	Stainless Steel 400 Series 416, 420, 303, etc.	BAR	11.4 - 11.7	4.8 - 5.8	4.5 - 5.2	2.7 - 3.8	2.7 - 3.4	1.7 - 2
		LPM	9.1 - 9.5	8.7 - 9.8	13.2 - 14	18.9 - 22.7	34.1 - 37.9	87 - 98
K	Nodular, Grey, Ductile Cast Iron	BAR	10.7 - 11.0	4.1 - 4.5	3.4 - 4.1	2 - 2.7	2 - 2.4	1.7 - 2
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.5	15.1 - 18.9	30.3 - 34.1	87 - 98
N	Aluminium	BAR	13.1 - 14.5	9.6 - 12.4	10.3 - 15.8	7.9 - 11	6.2 - 8.6	2.7 - 3.4
		LPM	9.8 - 10.2	12.5 - 14	20.1 - 23.1	30.3 - 34.1	53 - 60.6	114 - 125

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds. *email: ufficiotecnico@febametal.com*

Recommended Drilling Data | Metric (mm)

Carbide

ISO	Material	Hardness (BHN)	Grade	Speed (m/min)			Feed Rate (mm/rev) by Tube Size and T-A® Insert Series				
				TiN	TiAlN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
							T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C1, C5	98	128	146	0.020	0.30	0.38	0.46	0.53
		150 - 200	C1, C5	85	110	126	0.18	0.28	0.36	0.41	0.48
		200 - 250	C1, C5	79	104	119	0.15	0.25	0.33	0.38	0.43
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C1, C5	91	119	137	0.20 ❖	0.25	0.33	0.43	0.48
		125 - 175	C1, C5	79	104	119	0.18 ❖	0.25	0.33	0.41	0.46
		175 - 225	C1, C5	73	94	108	0.15 ❖	0.23	0.30	0.38	0.43
		225 - 275	C1, C5	64	82	94	0.13 ❖	0.23	0.30	0.38	0.43
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	C1, C5	79	104	119	0.18	0.25	0.33	0.41	0.46
		175 - 225	C1, C5	73	94	108	0.15	0.23	0.30	0.38	0.43
		225 - 275	C1, C5	64	82	94	0.15	0.23	0.30	0.38	0.43
		275 - 325	C1, C5	55	70	81	0.13	0.20	0.28	0.36	0.41
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	C1, C5	76	99	114	0.18	0.25	0.33	0.41	0.46
		175 - 225	C1, C5	70	91	105	0.15	0.23	0.30	0.38	0.43
		225 - 275	C1, C5	64	82	94	0.15	0.23	0.30	0.38	0.43
		275 - 325	C1, C5	61	76	87	0.13	0.20	0.28	0.36	0.41
		325 - 375	C1, C5	52	67	78	0.10	0.18	0.25	0.33	0.38
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	C1, C5	49	61	73	0.15 ❖	0.23	0.25	0.30	0.38
		300 - 350	C1, C5	43	55	62	0.13 ❖	0.20	0.23	0.28	0.36
350 - 400		C1, C5	37	49	56	0.10 ❖	0.18	0.20	0.25	0.30	
Structural Steel A36, A285, A516, etc.	100 - 150	C1, C5	73	94	108	0.20 ❖	0.28	0.36	0.41	0.46	
	150 - 250	C1, C5	61	76	87	0.15 ❖	0.25	0.30	0.36	0.41	
	250 - 350	C1, C5	55	70	81	0.13 ❖	0.23	0.28	0.30	0.36	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	C1, C5	49	67	78	0.10 ❖	0.18	0.23	0.28	0.33	
	200 - 250	C1, C5	37	52	59	0.10 ❖	0.18	0.23	0.28	0.33	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	24	32	36	0.10 ❖	0.18	0.23	0.28	0.33
		220 - 310	C2	18	26	29	0.10 ❖	0.15	0.20	0.25	0.30
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	C2	49	64	73	0.18 ❖	0.23	0.30	0.36	0.41
		275 - 350	C2	37	49	46	0.15 ❖	0.20	0.28	0.30	0.36
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2, C3	98	140	152	0.20	0.30	0.38	0.48	0.58
		150 - 200	C2, C3	82	122	146	0.18	0.28	0.33	0.43	0.53
		200 - 220	C2, C3	73	110	131	0.15	0.23	0.30	0.38	0.46
		220 - 260	C2, C3	64	94	113	0.13	0.20	0.28	0.33	0.38
		260 - 320	C2, C3	55	82	102	0.13	0.18	0.25	0.28	0.33
N	Aluminium	30	C2	366	457	-	0.25	0.38	0.46	0.51	0.56
		180	C2	244	305	-	0.23	0.33	0.41	0.46	0.51

Formulas

<p>1. $RPM = (318.47 \cdot m/min) / DIA$</p> <p>where: RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA = finish diameter of drill (mm)</p>	<p>2. $m/min = RPM \cdot 0.003 \cdot DIA$</p> <p>where: m/min = speed (m/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)</p>	<p>3. $IPM = RPM \cdot mm/rev$</p> <p>where: IPM = feed rate RPM = revolutions per minute (rev/min) mm/rev = feed rate (mm/rev)</p>
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Coolant Recommendations | Metric (mm)

Carbide

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free-Machining Steel 1118, 1215, 12L14, etc.	BAR	20	16	17	15	12
		LPM	12.2	16.3	25.3	41.5	71.9
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	BAR	11.4	13.3	20.6	36.5	62
		LPM	17	10	10	10	8
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	BAR	17	9	10	8	7
		LPM	11.1	12.3	19.3	30	55.8
	Alloy Steel 4140, 5140, 8640, etc.	BAR	10.4	9.1	12.6	18.8	33.6
		LPM	16	9	8	7	5
	High-Strength Alloy 4340, 4330V, 300M, etc.	BAR	15	5	5	3	3
		LPM	10.4	9.1	13.6	19.7	36.5
	Structural Steel A36, A285, A516, etc.	BAR	16	9	8	7	5
		LPM	10.8	12	17.5	27.8	47.1
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	BAR	15	5	5	3	3	
	LPM	10.4	9.1	13.6	19.7	36.5	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	BAR	17	11.4	12.4	11	9
		LPM	11.1	13.5	21.9	35.4	62
M	Stainless Steel 400 Series 416, 420, 303, etc.	BAR	22.7	16.5	17.9	17.2	13.1
		LPM	13	16.3	26.3	44.2	75
K	Nodular, Grey, Ductile Cast Iron	BAR	15.5	7.2	6.2	6.2	5.5
		LPM	10.7	10.8	15.4	26.5	48.7
N	Aluminium	BAR	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds. *email: ufficiotecnico@febametal.com*

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS

Recommended Drilling Data | Imperial (inch)

HSS

ISO	Material	Hardness (BHN)	Grade	Speed (SFM)				Feed Rate (IPR) by Tube Size and T-A® Insert Series					
				TiN	TiAlN	TiCN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
								T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	200	280	260	325	0.007	0.010	0.013	0.016	0.020	0.023
		150 - 200	HSS	180	260	235	300	0.007	0.010	0.013	0.016	0.020	0.023
		200 - 250	HSS	160	240	210	280	0.006	0.010	0.013	0.016	0.020	0.023
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	170	250	220	290	0.006 ❖	0.009	0.012	0.015	0.019	0.023
		125 - 175	HSS	160	240	210	275	0.006 ❖	0.009	0.012	0.015	0.019	0.023
		175 - 225	HSS	150	225	195	260	0.005 ❖	0.008	0.010	0.014	0.018	0.021
		225 - 275	HSS	140	210	180	240	0.005 ❖	0.008	0.010	0.014	0.018	0.021
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	160	240	210	275	0.006	0.009	0.012	0.015	0.019	0.023
		175 - 225	HSS	150	225	195	260	0.005	0.008	0.010	0.014	0.018	0.021
		225 - 275	HSS	140	210	180	240	0.005	0.008	0.010	0.014	0.018	0.021
		275 - 325	SC	130	195	170	225	0.004	0.007	0.009	0.012	0.016	0.019
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	150	210	195	240	0.006	0.008	0.010	0.014	0.017	0.019
		175 - 225	HSS	140	195	180	225	0.005	0.008	0.010	0.014	0.017	0.019
		225 - 275	HSS	130	180	170	210	0.005	0.007	0.010	0.014	0.017	0.019
		275 - 325	SC	120	170	155	195	0.004	0.006	0.009	0.012	0.015	0.017
		325 - 375	SC	110	155	145	180	0.003	0.006	0.009	0.012	0.015	0.017
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	80	110	100	125	0.005 ❖	0.007	0.009	0.010	0.014	0.017
		300 - 350	SC	60	85	80	100	0.004 ❖	0.007	0.009	0.010	0.014	0.017
		350 - 400	SC	50	70	65	80	0.003 ❖	0.006	0.008	0.009	0.012	0.015
	Structural Steel A36, A285, A516, etc.	100 - 150	HSS	140	200	180	235	0.006 ❖	0.010	0.012	0.014	0.018	0.021
150 - 250		HSS	120	170	155	190	0.005 ❖	0.009	0.010	0.012	0.016	0.019	
250 - 350		SC	100	140	130	160	0.004 ❖	0.009	0.009	0.010	0.014	0.017	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	80	110	105	125	0.004 ❖	0.006	0.008	0.010	0.014	0.015	
	200 - 250	SC	60	90	85	105	0.004 ❖	0.006	0.008	0.010	0.012	0.015	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	30	40	35	45	0.003 ❖	0.007	0.008	0.010	0.012	0.015
		220 - 310	SC	25	35	30	40	0.003 ❖	0.006	0.007	0.008	0.010	0.012
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	SC	75	105	95	110	0.006 ❖	0.008	0.009	0.011	0.012	0.016
		275 - 350	SC	60	90	80	100	0.005 ❖	0.007	0.008	0.010	0.012	0.014
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	170	250	220	290	0.007	0.012	0.016	0.020	0.024	0.027
		150 - 200	HSS	150	225	195	260	0.006	0.011	0.014	0.018	0.022	0.025
		200 - 220	HSS	130	195	170	225	0.006	0.009	0.012	0.016	0.018	0.021
		220 - 260	SC	110	165	145	190	0.005	0.007	0.009	0.012	0.014	0.017
		260 - 320	SC	90	135	120	155	0.004	0.006	0.007	0.009	0.012	0.014
N	Aluminium	30	HSS	600	850	750	-	0.008	0.013	0.016	0.020	0.022	0.025
		180	HSS	300	450	400	-	0.008	0.013	0.016	0.018	0.022	0.025

Formulas

<p>1. RPM = (3.82 • SFM) / DIA</p> <p>where:</p> <p>RPM = revolutions per minute (rev/min)</p> <p>SFM = speed (ft/min)</p> <p>DIA = finish diameter of drill (inch)</p>	<p>2. SFM = RPM • 0.262 • DIA</p> <p>where:</p> <p>SFM = speed (ft/min)</p> <p>RPM = revolutions per minute (rev/min)</p> <p>DIA = diameter of drill (inch)</p>	<p>3. IPM = RPM • IPR</p> <p>where:</p> <p>IPM = Feed rate</p> <p>RPM = revolutions per minute (rev/min)</p> <p>IPR = feed rate (in/rev)</p>
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Coolant Recommendations | Imperial (inch)

HSS

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free-Machining Steel 1118, 1215, 12L14, etc.	PSI	175 - 185	100 - 120	105 - 140	80 - 115	75 - 100	40 - 50
		GPM	2.5 - 2.6	2.8 - 3.0	4.4 - 5.2	7 - 8	12 - 14	30 - 33
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	165 - 170	75 - 90	75 - 95	60 - 80	55 - 75	30 - 40
		GPM	2.4 - 2.5	2.4 - 2.6	3.7 - 4.2	6 - 7	11 - 12	26 - 30
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	160 - 165	70 - 85	70 - 90	55 - 75	50 - 70	30 - 40
		GPM	2.3 - 2.4	2.3 - 2.6	3.7 - 4.2	5 - 6	10 - 12	26 - 30
	Alloy Steel 4140, 5140, 8640, etc.	PSI	160 - 165	65 - 75	65 - 80	50 - 70	45 - 60	30 - 35
		GPM	2.3 - 2.4	2.2 - 2.4	3.5 - 3.9	5 - 6	10 - 11	26 - 28
	High-Strength Alloy 4340, 4330V, 300M, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23
	Structural Steel A36, A285, A516, etc.	PSI	160 - 165	75 - 85	65 - 80	40 - 55	40 - 50	25 - 30
		GPM	2.3 - 2.4	2.4 - 2.6	3.5 - 3.9	5 - 6	9 - 10	23 - 26
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30	25 - 30
		GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8	23 - 26
M	Stainless Steel 400 Series 416, 420, 303, etc.	PSI	171	86	75	55	51	29
		GPM	3	3	4	6	10	26
K	Nodular, Grey, Ductile Cast Iron	PSI	160	65	61	41	35	29
		GPM	2	2	3	5	9	26
N	Aluminium	PSI	210	180	230	159	125	51
		GPM	3	4	6	9	16	33

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

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Recommended Drilling Data | Imperial (inch)

Carbide

ISO	Material	Hardness (BHN)	Grade	Speed (SFM)			Feed Rate (IPR) by Tube Size and T-A® Insert Series				
				TiN	TiAlN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
							T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C1, C5	320	420	480	0.008	0.012	0.015	0.018	0.021
		150 - 200	C1, C5	280	360	415	0.007	0.011	0.014	0.016	0.019
		200 - 250	C1, C5	260	340	390	0.006	0.010	0.013	0.015	0.017
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C1, C5	300	390	450	0.008 ❖	0.010	0.013	0.017	0.019
		125 - 175	C1, C5	260	340	390	0.007 ❖	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	240	310	355	0.006 ❖	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.005 ❖	0.009	0.012	0.015	0.017
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	C1, C5	260	340	390	0.007	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	240	310	355	0.006	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.006	0.009	0.012	0.015	0.017
		275 - 325	C1, C5	180	230	265	0.005	0.008	0.011	0.014	0.016
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	C1, C5	250	325	375	0.007	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	230	300	345	0.006	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.006	0.009	0.012	0.015	0.017
		275 - 325	C1, C5	200	250	285	0.005	0.008	0.011	0.014	0.016
		325 - 375	C1, C5	170	220	255	0.004	0.007	0.010	0.013	0.015
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	C1, C5	160	200	230	0.006 ❖	0.009	0.010	0.012	0.015
		300 - 350	C1, C5	140	180	205	0.005 ❖	0.008	0.009	0.011	0.014
		350 - 400	C1, C5	120	160	185	0.004 ❖	0.007	0.008	0.010	0.012
	Structural Steel A36, A285, A516, etc.	100 - 150	C1, C5	240	310	355	0.008 ❖	0.011	0.014	0.016	0.018
150 - 250		C1, C5	200	250	285	0.006 ❖	0.010	0.012	0.014	0.016	
250 - 350		C1, C5	180	230	265	0.005 ❖	0.009	0.011	0.012	0.014	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	C1, C5	160	220	255	0.004 ❖	0.007	0.009	0.011	0.013	
	200 - 250	C1, C5	120	170	195	0.004 ❖	0.007	0.009	0.011	0.013	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	80	105	120	0.004 ❖	0.007	0.009	0.011	0.013
		220 - 310	C2	60	85	95	0.004 ❖	0.006	0.008	0.010	0.012
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	C2	160	210	240	0.007 ❖	0.009	0.012	0.014	0.016
		275 - 350	C2	120	160	185	0.006 ❖	0.008	0.011	0.012	0.014
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2, C3	320	460	500	0.008	0.012	0.015	0.019	0.023
		150 - 200	C2, C3	270	400	480	0.007	0.011	0.013	0.017	0.021
		200 - 220	C2, C3	240	360	430	0.006	0.009	0.012	0.015	0.018
		220 - 260	C2, C3	210	310	370	0.005	0.008	0.011	0.013	0.015
		260 - 320	C2, C3	180	270	335	0.005	0.007	0.010	0.011	0.013
N	Aluminium	30	C2	1200	1500	-	0.010	0.015	0.018	0.020	0.022
		180	C2	800	1000	-	0.009	0.013	0.016	0.018	0.020

Formulas

1. $RPM = (3.82 \cdot SFM) / DIA$ where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = finish diameter of drill (inch)	2. $SFM = RPM \cdot 0.262 \cdot DIA$ where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)	3. $IPM = RPM \cdot IPR$ where: IPM = Feed rate RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)
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Coolant Recommendations | Imperial (inch)

Carbide

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free-Machining Steel 1118, 1215, 12L14, etc.	PSI	195	140	160	140	155
		GPM	2.6	3.3	5.5	9	18
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	180	105	105	110	115
		GPM	2.5	2.9	4.4	8	15
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	175	100	90	100	75
		GPM	2.5	2.8	4.1	7	13
	Alloy Steel 4140, 5140, 8640, etc.	PSI	165	85	100	75	70
		GPM	2.4	2.6	4.3	6	12
	High-Strength Alloy 4340, 4330V, 300M, etc.	PSI	160	65	55	40	35
		GPM	2.4	2.3	3.2	5	8
	Structural Steel A36, A285, A516, etc.	PSI	175	115	105	75	70
		GPM	2.5	3	4.4	6	12
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	PSI	155	60	55	40	35	
	GPM	2.4	2.2	3.2	5	8	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30
		GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8
M	Stainless Steel 400 Series 416, 420, 303, etc.	PSI	329	239	260	250	190
		GPM	3	4	7	12	20
K	Nodular, Grey, Ductile Cast Iron	PSI	225	104	90	90	80
		GPM	3	3	4	7	13
N	Aluminium	PSI	350	319	315	284	200
		GPM	4	5	8	12	20

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A
DRILLING
B
BORING
F
THREADING
X
SPECIALS

SECTION

A93

BT-A Drill

BT-A Drill

BTA (STS) Deep Hole Machining System

► **Diameter Range:** 12.98 mm - 47.82 mm (0.5110" - 1.8829")



Material Ejection with Efficiency

The BT-A drill (using the single tube system or STS) conquers deep hole applications in ways other drills simply cannot. The internal ejection system flushes chips and debris from the hole with no interference to the cutting process.

By utilising the countless advantages of the T-A® drill insert, the BT-A design significantly increases penetration rates over brazed heads and traditional gun drills. A specific BT geometry has also been developed to increase productivity in these types of drilling applications.

Excellent hole size and finish	Optimises chip evacuation	Up to 2x the penetration rate of traditional BTA heads
--------------------------------	---------------------------	---

Applicable Industries



Aerospace



Agriculture



Automotive



Heavy Equipment



Hydraulics



Tool, Mold, and Die



Oil & Gas

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

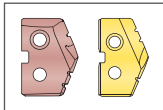
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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

BT-A Drilling System Contents

Reference Icons

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



T-A® Inserts
Refers to the range of inserts that connect with the corresponding holders

Introduction Information

System Overview 2
Product Nomenclature 3

T-A Drill Series

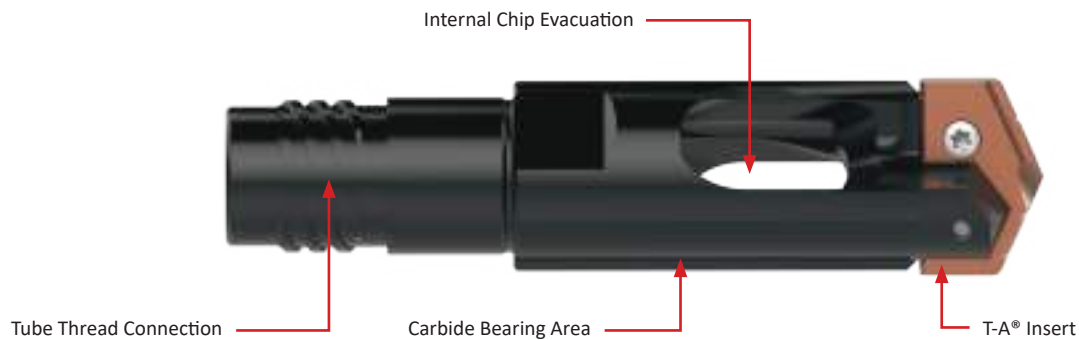
0 Series 4
1 Series 5
2 Series 6
3 Series 7

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
0	12.98 - 17.67	0.5110 - 0.6959
1	17.53 - 24.40	0.6900 - 0.9609
2	24.41 - 35.06	0.9610 - 1.3809
3	34.37 - 47.82	1.3530 - 1.8829

System Overview

BTA Machining

BTA machining is the reverse of typical gun drilling systems. The BT-A drill is a drill head consisting of a holder body and a replaceable tip T-A® insert. The drill head threads into an STS (single tube system) cylindrical tube with a diameter smaller than the drill head. The difference in diameter forms an annular area between the hole and the tube OD. This allows high-volume coolant to be directed to the cutting edge.



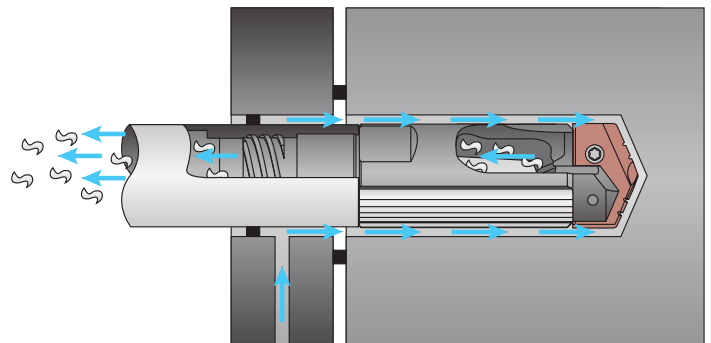
T-A Insert: BT-A Geometry (-BT)

- Low thrust web geometry reduces Z-axis requirements
- Lip geometry identical to the tiny chip (-TC) for improved chip formation
- Polished cutting surface eliminates material buildup

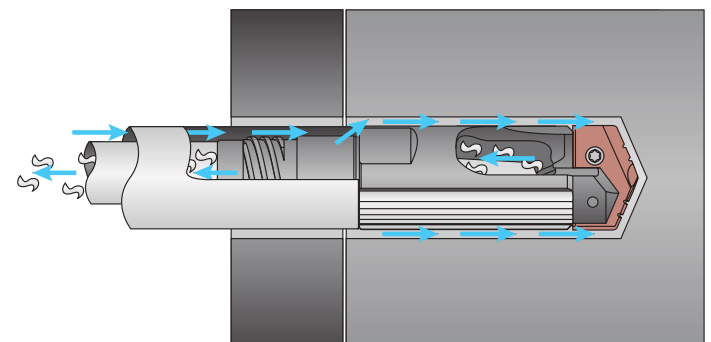


- ✓ **Improve hole straightness**
with the laser clad bearing area
- ✓ **Eliminate the need for sharpening**
with replaceable cutting edges
- ✓ **Reduce your inventory**
with the replaceable T-A® feature
- ✓ **Compatibility**
heads are compatible with standard BTA-STS systems
- ✓ **Balanced cutting forces**
- ✓ **Patented design**

BT-A Single Tube System



BT-A Double Tube (Ejector) System
(Quoted Special)



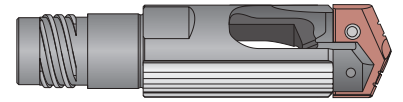
2x INCREASE in penetration rates over traditional BTA heads

A DRILLING B BORING F THREADING X SPECIALS

Product Nomenclature

BT-A Drill Holders

BTA2	804	1.1299
1	2	3



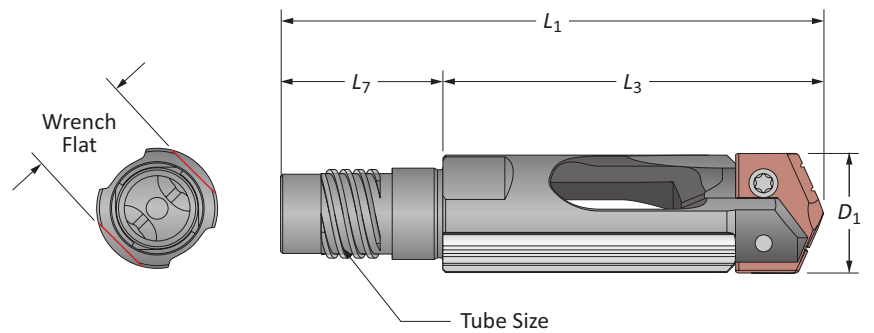
1. BT-A Drill T-A [®] Insert Series
BTA0 = 0 series T-A insert
BTA1 = 1 series T-A insert
BTA2 = 2 series T-A insert
BTA3 = 3 series T-A insert

2. Tube Size		
794	800	806
795	801	807
796	802	808
797	803	809
798	804	810
799	805	811

3. Diameter
25.00 = Metric
0.7344 = Inch

Reference Key

Symbol	Attribute
D_1	Drill insert range
L_1	Overall length
L_3	Holder reference length
L_7	Shank length



BT-A Drill Tubes

BTAT	804	63
1	2	3

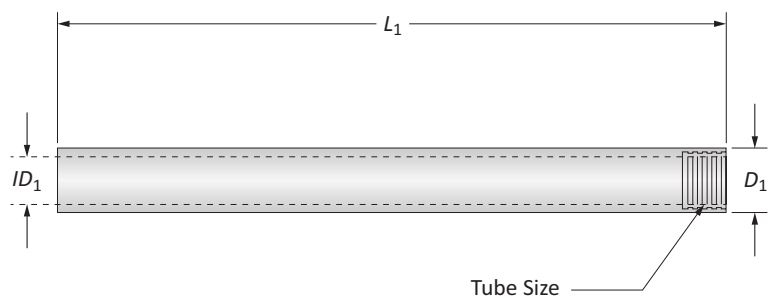
1. BT-A Drill T-A Insert Series
BTAT = BT-A Tube

2. Tube Size		
794	800	806
795	801	807
796	802	808
797	803	809
798	804	810
799	805	811

3. Length
63 = Standard
102 = Long

Reference Key

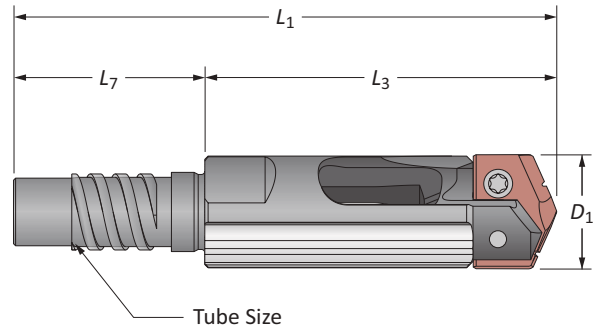
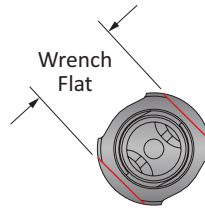
Symbol	Attribute
D_1	Body diameter
ID_1	Internal diameter
L_1	Overall length



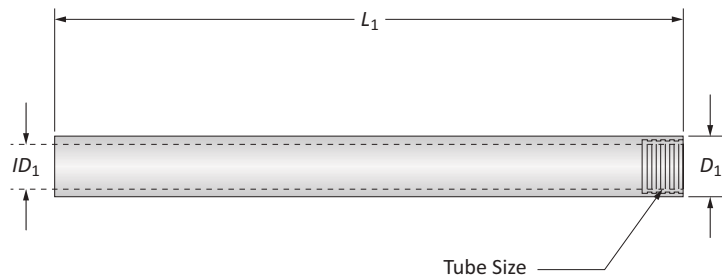


BT-A Drill Holders

0 Series | Diameter Range: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

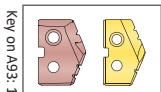


Tube Size	Holder					Part No.	T-A® Insert	Wrench Flat (mm)
	D_1	L_3	L_1	L_7				
m	794	12.98 - 13.61	43.4	66.4	23	BTA0-794-XX.XX	1C10H-XXXX-BT	11
	795	13.62 - 14.63	44.6	67.6	23	BTA0-795-XX.XX	1C10H-XXXX-BT	12
	796	14.64 - 15.62	45.9	69.9	24	BTA0-796-XX.XX	1C10H-XXXX-BT	13
	797	15.63 - 16.71	45.9	69.9	24	BTA0-797-XX.XX	1C10H-XXXX-BT	14
	798	16.72 - 17.67	45.3	69.3	24	BTA0-798-XX.XX	1C10H-XXXX-BT	15
i	794	0.5110 - 0.5359	1-45/64	2-39/64	29/32	BTA0-794-X.XXXX	1C10H-XXXX-BT	11
	795	0.5360 - 0.5759	1-3/4	2-21/32	29/32	BTA0-795-X.XXXX	1C10H-XXXX-BT	12
	796	0.5760 - 0.6149	1-13/16	2-3/4	61/64	BTA0-796-X.XXXX	1C10H-XXXX-BT	13
	797	0.6150 - 0.6579	1-13/16	2-3/4	61/64	BTA0-797-X.XXXX	1C10H-XXXX-BT	14
	798	0.6580 - 0.6959	1-25/32	2-47/64	61/64	BTA0-798-X.XXXX	1C10H-XXXX-BT	15



Tube Size	Tube			Part No.	
	D_1	ID_1	L_1		
m	794	11.00	7.00	1600	BTAT794-63
	794	11.00	7.00	2591	BTAT794-102
	795	12.00	8.00	1600	BTAT795-63
	795	12.00	8.00	2591	BTAT795-102
	796	13.00	8.50	1600	BTAT796-63
	796	13.00	8.50	2591	BTAT796-102
	797	14.00	9.00	1600	BTAT797-63
	797	14.00	9.00	2591	BTAT797-102
	798	15.00	10.00	1600	BTAT798-63
	798	15.00	10.00	2591	BTAT798-102
i	794	0.433	0.276	63	BTAT794-63
	794	0.433	0.276	102	BTAT794-102
	795	0.472	0.315	63	BTAT795-63
	795	0.472	0.315	102	BTAT795-102
	796	0.512	0.335	63	BTAT796-63
	796	0.512	0.335	102	BTAT796-102
	797	0.551	0.354	63	BTAT797-63
	797	0.551	0.354	102	BTAT797-102
	798	0.591	0.394	63	BTAT798-63
	798	0.591	0.394	102	BTAT798-102

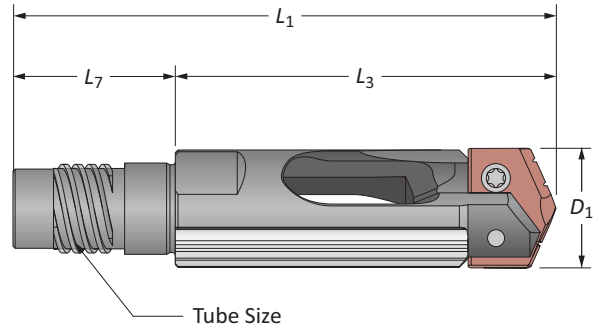
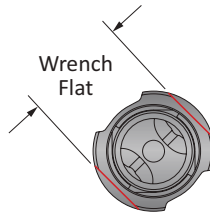
Section A30



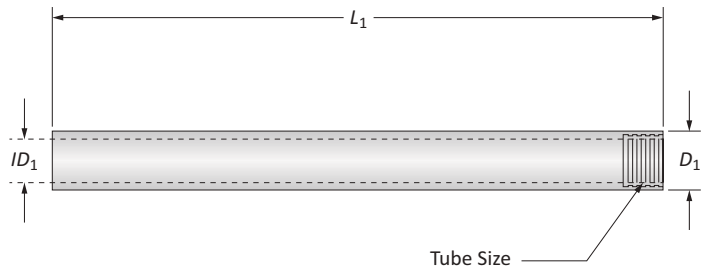
m = Metric (mm)
i = Imperial (in)

BT-A Drill Holders

1 Series | Diameter Range: 17.53 mm - 24.40 mm (0.6909" - 0.9609")

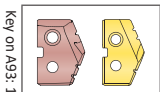


Tube Size	Holder				Part No.	T-A® Insert	Wrench Flat (mm)	
	D ₁	L ₃	L ₁	L ₇				
m	799	17.53 - 18.92	58.2	83.2	25	BTA1-799-XX.XX	1C11H-XXXX-BT	16
	800	18.93 - 20.01	58.8	86.8	28	BTA1-800-XX.XX	1C11H-XXXX-BT	17
	801	20.02 - 21.81	59.4	89.9	30.5	BTA1-801-XX.XX	1C11H-XXXX-BT	18
	802	21.82 - 24.10	60.7	93.7	33	BTA1-802-XX.XX	1C11H-XXXX-BT	19
	803	24.11 - 24.40	63.9	96.9	33	BTA1-803-XX.XX	1C11H-XXXX-BT	21
i	799	0.6900 - 0.7449	2-15/64	3-9/32	63/64	BTA1-799-X.XXXX	1C11H-XXXX-BT	16
	800	0.7450 - 0.7879	2-5/16	3-27/64	1-7/64	BTA1-800-X.XXXX	1C11H-XXXX-BT	17
	801	0.7880 - 0.8589	2-11/32	3-35/64	1-13/64	BTA1-801-X.XXXX	1C11H-XXXX-BT	18
	802	0.8590 - 0.9489	2-25/64	3-11/16	1-19/64	BTA1-802-X.XXXX	1C11H-XXXX-BT	19
	803	0.9490 - 0.9609	2-33/64	3-13/16	1-19/64	BTA1-803-X.XXXX	1C11H-XXXX-BT	21



Tube Size	Tube			Part No.	
	D ₁	ID ₁	L ₁		
m	799	16.00	10.50	1600	BTAT799-63
	799	16.00	10.50	2591	BTAT799-102
	800	17.00	11.50	1600	BTAT800-63
	800	17.00	11.50	2591	BTAT800-102
	801	18.00	12.00	1600	BTAT801-63
	801	18.00	12.00	2591	BTAT801-102
	802	20.00	13.00	1600	BTAT802-63
	802	20.00	13.00	2591	BTAT802-102
	803	22.00	14.00	1600	BTAT803-63
	803	22.00	14.00	2591	BTAT803-102
i	799	0.630	0.413	63	BTAT799-63
	799	0.630	0.413	102	BTAT799-102
	800	0.669	0.453	63	BTAT800-63
	800	0.669	0.453	102	BTAT800-102
	801	0.709	0.472	63	BTAT801-63
	801	0.709	0.472	102	BTAT801-102
	802	0.787	0.512	63	BTAT802-63
	802	0.787	0.512	102	BTAT802-102
	803	0.866	0.551	63	BTAT803-63
	803	0.866	0.551	102	BTAT803-102

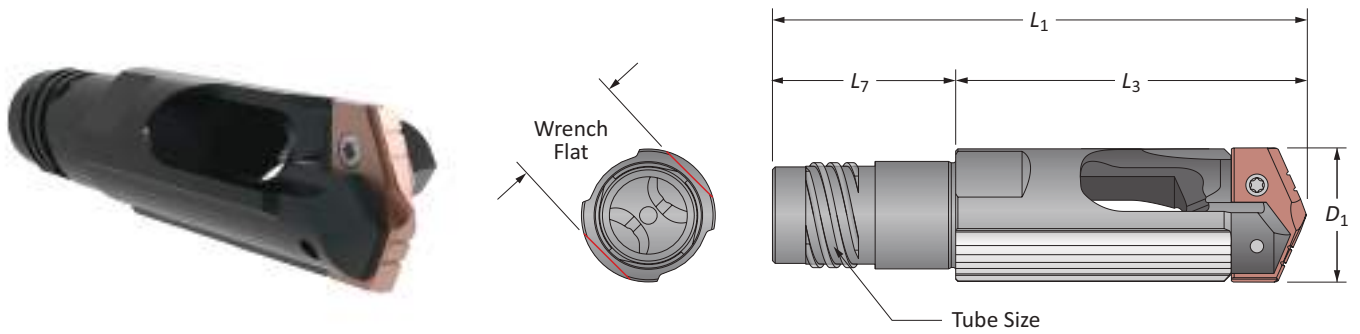
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


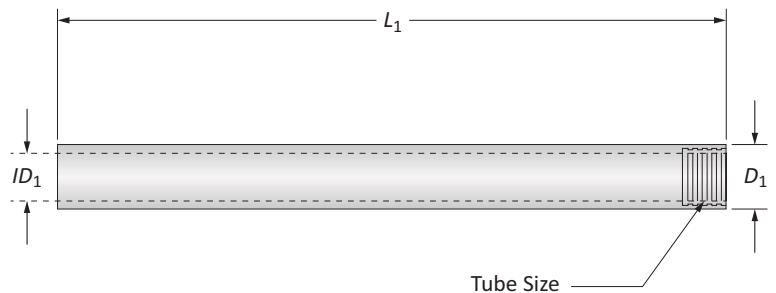
m = Metric (mm)
i = Imperial (in)

BT-A Drill Holders

2 Series | Diameter Range: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

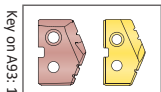


Tube Size	Holder				Part No.	 T-A® Insert	Wrench Flat (mm)	
	D_1	L_3	L_1	L_7				
m	803	24.41 - 26.41	78.5	111.5	33	BTA2-803-XX.XX	1C12H-XXXX-BT	21
	804	26.42 - 28.70	75.9	103.9	28	BTA2-804-XX.XX	1C12H-XXXX-BT	22
	805	28.71 - 31.01	75.4	111.4	36	BTA2-805-XX.XX	1C12H-XXXX-BT	25
	806	31.02 - 33.32	77.9	113.8	36	BTA2-806-XX.XX	1C12H-XXXX-BT	27
	807	33.33 - 35.06	77.9	113.8	36	BTA2-807-XX.XX	1C12H-XXXX-BT	30
i	803	0.9610 - 1.0399	3-3/32	4-25/64	1-19/64	BTA2-803-X.XXXX	1C12H-XXXX-BT	21
	804	1.0400 - 1.1299	3	4-3/32	1-7/64	BTA2-804-X.XXXX	1C12H-XXXX-BT	22
	805	1.1300 - 1.2209	2-31/32	4-25/64	1-27/64	BTA2-805-X.XXXX	1C12H-XXXX-BT	25
	806	1.2210 - 1.3119	3-1/16	4-31/64	1-27/64	BTA2-806-X.XXXX	1C12H-XXXX-BT	27
	807	1.3120 - 1.3809	3-1/16	4-31/64	1-27/64	BTA2-807-X.XXXX	1C12H-XXXX-BT	30



Tube Size	Tube			Part No.	
	D_1	ID_1	L_1		
m	803	22.00	14.00	1600	BTAT803-63
	803	22.00	14.00	2591	BTAT803-102
	804	24.00	15.50	1600	BTAT804-63
	804	24.00	15.50	2591	BTAT804-102
	805	26.00	17.00	1600	BTAT805-63
	805	26.00	17.00	2591	BTAT805-102
	806	28.00	18.50	2591	BTAT806-102
807	30.00	20.00	2591	BTAT807-102	
i	803	0.866	0.551	63	BTAT803-63
	803	0.866	0.551	102	BTAT803-102
	804	0.945	0.610	63	BTAT804-63
	804	0.945	0.610	102	BTAT804-102
	805	1.024	0.669	63	BTAT805-63
	805	1.024	0.669	102	BTAT805-102
	806	1.102	0.728	102	BTAT806-102
807	1.181	0.787	102	BTAT807-102	

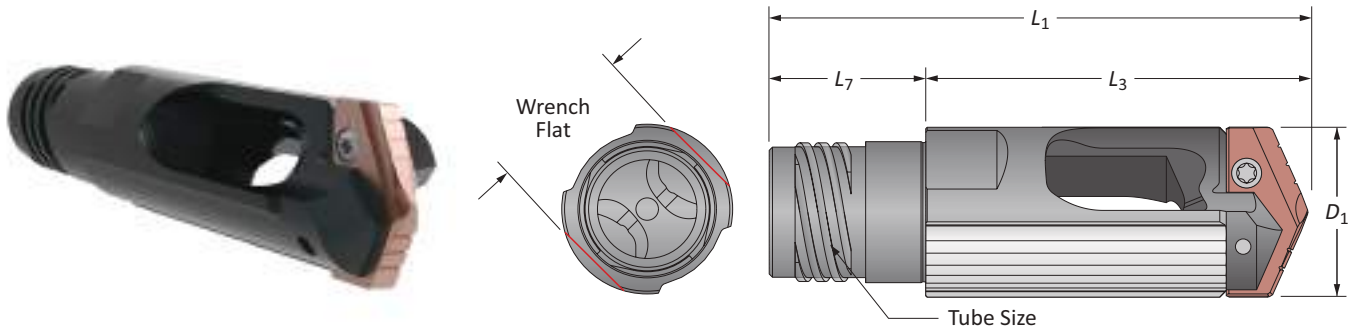
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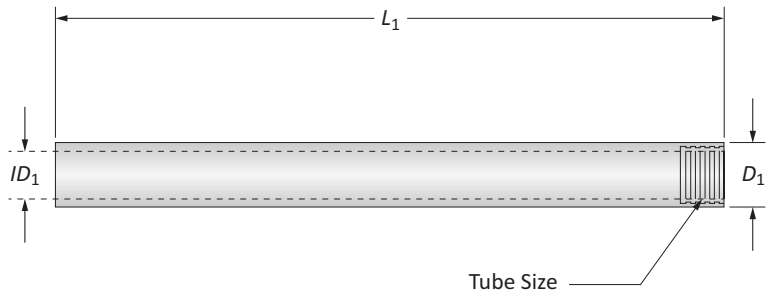
m = Metric (mm)
i = Imperial (in)

BT-A Drill Holders

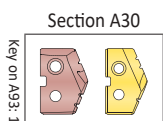
3 Series | Diameter Range: 34.37 mm - 47.82 mm (1.3530" - 1.8829")



Tube Size	Holder					Part No.	T-A® Insert	Wrench Flat (mm)
	D ₁	L ₃	L ₁	L ₇				
m	807	34.37 - 36.22	96.8	132.8	36	BTA3-807-XX.XX	1C13H-XXXX-BT	30
	808	36.23 - 39.62	100.0	144.4	44.5	BTA3-808-XX.XX	1C13H-XXXX-BT	32
	809	39.63 - 43.00	103.1	146.2	43	BTA3-809-XX.XX	1C13H-XXXX-BT	36
	810	43.01 - 47.01	101.9	144.9	43	BTA3-810-XX.XX	1C13H-XXXX-BT	41
	811	47.02 - 47.82	103.2	146.2	43	BTA3-811-XX.XX	1C13H-XXXX-BT	41
i	807	1.3530 - 1.4259	3-13/16	5-15/64	1-27/64	BTA3-807-X.XXXX	1C13H-XXXX-BT	30
	808	1.4260 - 1.5599	3-15/16	5-11/16	1-3/4	BTA3-808-X.XXXX	1C13H-XXXX-BT	32
	809	1.5600 - 1.6929	4-1/16	5-3/4	1-11/16	BTA3-809-X.XXXX	1C13H-XXXX-BT	36
	810	1.6930 - 1.8509	4-1/64	5-45/64	1-11/16	BTA3-810-X.XXXX	1C13H-XXXX-BT	41
	811	1.8510 - 1.8829	4-1/16	5-3/4	1-11/16	BTA3-811-X.XXXX	1C13H-XXXX-BT	41



Tube Size	Tube			Part No.	
	D ₁	ID ₁	L ₁		
m	807	30.00	20.00	2591	BTAT807-102
	808	33.00	23.00	2591	BTAT808-102
	809	36.00	25.00	2591	BTAT809-102
	810	39.00	28.00	2591	BTAT810-102
	811	43.00	31.00	2591	BTAT811-102
i	807	1.181	0.787	102	BTAT807-102
	808	1.299	0.906	102	BTAT808-102
	809	1.417	0.984	102	BTAT809-102
	810	1.535	1.102	102	BTAT810-102
	811	1.693	1.220	102	BTAT811-102



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

SECTION

E

Threading

Threading Solutions

Solid Carbide and Indexable Thread Mills | AccuThread® 856 | ThreadMills USA™



Any Thread, Any Time

Allied Machine's thread milling product line has developed into a comprehensive range of high-precision tooling that offers outstanding productivity with exceptional levels of tool life and thread accuracy. The thread mill range covers both solid carbide and indexable replaceable insert tools with an extensive range of thread forms.

Our thread milling product line has been specifically designed to provide customers with a wide range of options. This is achieved by offering two thread mill ranges within our product lineup: the low cost, general production ThreadMills USA range and the high performance, high productivity AccuThread range.

Online programmer available 24/7	Solid carbide and indexable insert styles	Large range of thread form options
----------------------------------	---	------------------------------------

Applicable Industries



Your safety and the safety of others is very important. This catalogue 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.

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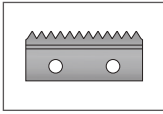
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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

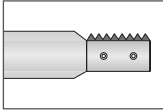
Threading Solutions Contents

Reference Icons

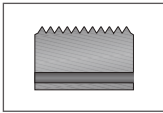
The following icons will appear throughout the catalogue to help you navigate between products.



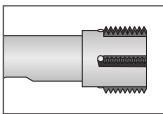
Bolt-in Style Inserts
Refers to the available bolt-in style thread mill insert options



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



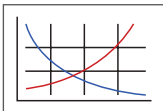
Pin Style Inserts
Refers to the available pin style thread mill insert options.



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



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



Recommended Cutting Data
Speed and feed recommendations for optimum and safe threading



Through Coolant Option
Indicates that the product is through coolant

Introduction Information

Thread Mills Overview and Online Tools	2 - 3
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Solid Carbide Thread Mills

Product Overview	4
Port and Thread Finishing Kits	5
Product Nomenclature	6 - 7
BSW Thread Form	8 - 9
BSPT Thread Form	10
BSPP Thread Form	11
NPT Thread Form	12 - 13
NPTF Thread Form	14 - 15
NPS Thread Form	16
NPSF Thread Form	17
UN Thread Form	18 - 25
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High Performance Threading Solutions

THREAD MILLING DONE *RIGHT*



Solid Carbide Thread Mills		Notes
AccuThread® 856 		<ul style="list-style-type: none"> 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™ 		<ul style="list-style-type: none"> Helical flute offers increased strength and rigidity when cutting forces are applied High quality for consistent, predictable production Through coolant options available  TiAlN coating improves tool life versus uncoated tools
AccuThread® T3 		<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> 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 <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Bolt-in Style</p> </div> <div style="text-align: center;">  <p>Pin Style</p> </div> </div>		<ul style="list-style-type: none"> 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

A DRILLING B BORING E THREADING X SPECIALS

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.

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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

<p>1</p> <p>Download and open Allied_Machine_Insta-Code.zip</p>	<p>2</p> <p>Click on setup.exe to install the program</p>	<p>3</p> <p>One click updates are available for online computers</p>
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 Supported on all Windows OS

www.alliedmachine.com/InstaCode

Solid Carbide Styles and Thread Forms

Straight BSW	Helical BSPP, NPS, NPSF, UN, ISO	Taper Helical BSPT, NPT, NPTF	Helical (3-Tooth Style) UN, ISO
 <p>AccuThread® 856</p>	 <p>AccuThread® 856</p>	 <p>AccuThread® 856</p>	 <p>AccuThread® T3</p>
 <p>ThreadMills USA™ (coolant and non-coolant)</p>	 <p>ThreadMills USA™ (coolant and non-coolant)</p>	 <p>ThreadMills USA™ (coolant and non-coolant)</p>	

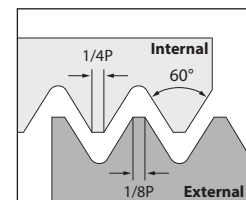
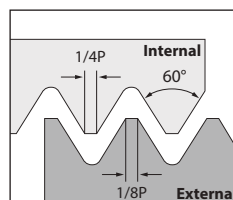
AccuThread® T3



- Left-Hand Cutting**
 The tool continues to climb mill while it moves from top to bottom
 - Advantage**
 Improves tool life and produces a precise thread form
- AM210® Coating**
 Multilayer PVD coating
 - Advantage**
 Improves cycle times and tool life
- 3 Cutting Teeth**
 The tool cuts minimal threads at once and reduces side deflection
 - Advantage**
 Cuts harder materials and produces deeper threads than a standard thread mill

Additional Information

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





Port and Thread Finishing Kits



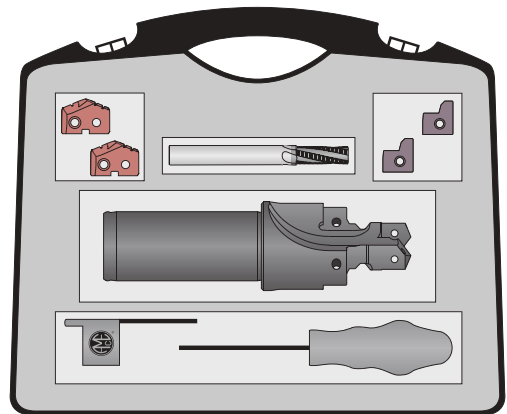
WE HAVE A KIT FOR THAT

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 Section A92 of our product catalogue for the complete list of Port and Thread Finishing Kits.



One Tool, FOUR Operations

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



NOTE: See Section A92 of our product catalogue for full AccuPort 432 product line information.

Product Nomenclature

AccuThread® 856 Solid Carbide Thread Mills

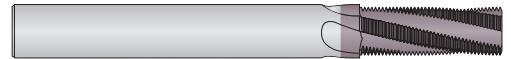
TM	U	K	0250	-	20	M
1	2	3	4		5	6



1. Thread Mill	2. Thread Class	3. Coating	4. Min Thread Diameter	5. Thread Pitch	6. 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	M = Metric Blank = Imperial

ThreadMills USA™ Solid Carbide Thread Mills

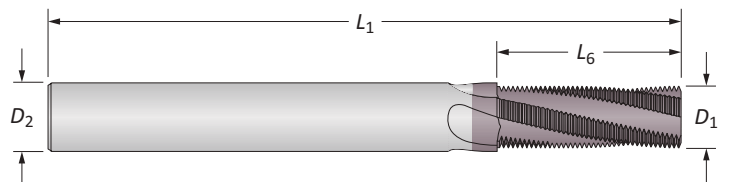
TM	250	20	CH	M
1	2	3	4	5



1. Thread Mill	2. Min Thread Diameter	3. Thread Pitch	4. Optional	5. Shank
TM = TiAlN TMFT = Uncoated HDTM = Heavy duty HDTMFT = Heavy duty uncoated	250 = 1/4 (Imperial) 08 = #8 (Number Drill) 45 = 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 NPT = All pipe threads will show thread form	M = Metric Blank = Imperial

Reference Key

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





Product Nomenclature

AccuThread® T3 Solid Carbide Thread Mills

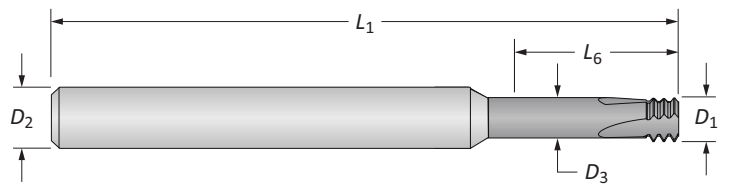
TM	073	64	M	-	3T	2X
1	2	3	4		5	6



1. Thread Mill	2. Min Thread Diameter	3. Pitch	4. Shank	5. Style	6. Depth to Diameter Ratio
TM = Standard	45 = M4.5 (Metric) 250 = 1/4 (Imperial)	20 = UN 20 TPI 075 = ISO 0.75	M = Metric Blank = Imperial	3T = 3 tooth	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



A

DRILLING

B

BORING

E

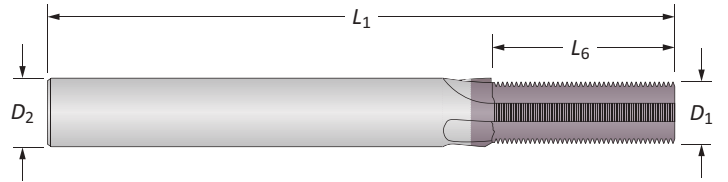
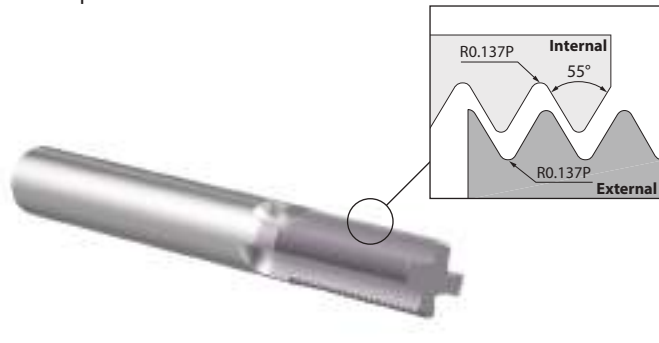
THREADING

X

SPECIALS

Solid Carbide Thread Mills

BSW | Non-Coolant



BSW | Non-Coolant

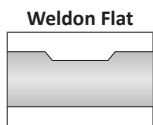
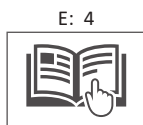
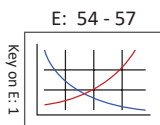
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA™	AccuThread® 856
m	20	1/4	3	4.50	6.00	10.16	58.00	TM20BSWM	TMBK0250-20M
	18	5/16	3	5.00	6.00	11.29	58.00	TM18BSWM	TMBK0312-18M
	16	3/8	5	7.00	8.00	14.29	64.00	TM16BSWM	TMBK0375-16M
	14	7/16	5	7.90	8.00	18.15	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
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	-

A DRILLING

B BORING

E THREADING

X SPECIALS



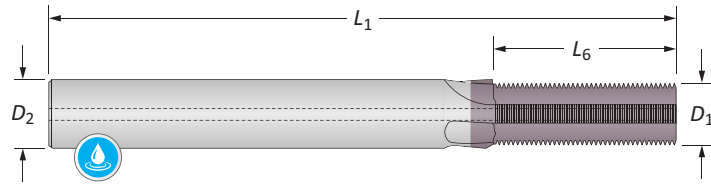
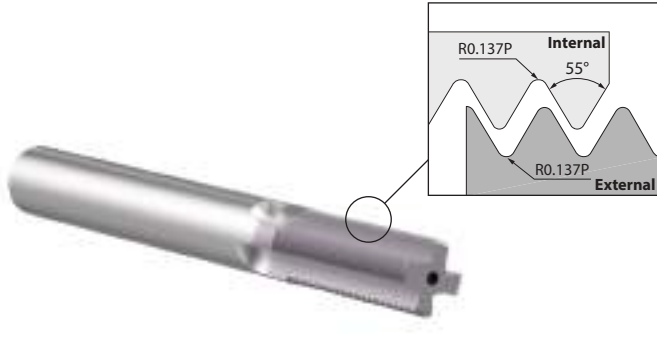
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

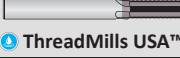


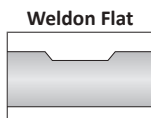
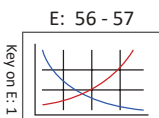
Solid Carbide Thread Mills

BSW | Through Coolant



BSW | Through Coolant

	TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill				Part No. 
				D_1	D_2	L_6	L_1	
m	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
i	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
	8	1	6	0.620	0.625	1.375	4.000	TM8BSWCH

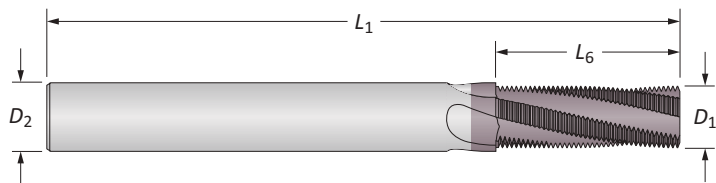
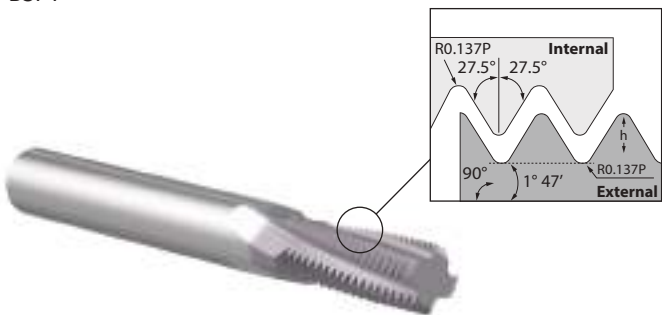


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

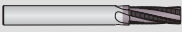
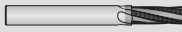
m = Metric (mm)
 i = Imperial (in)

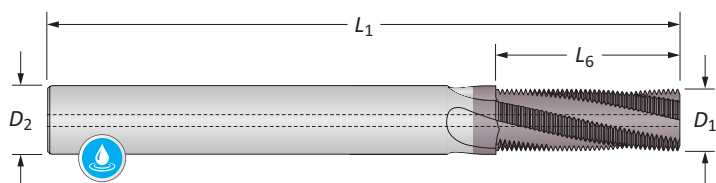
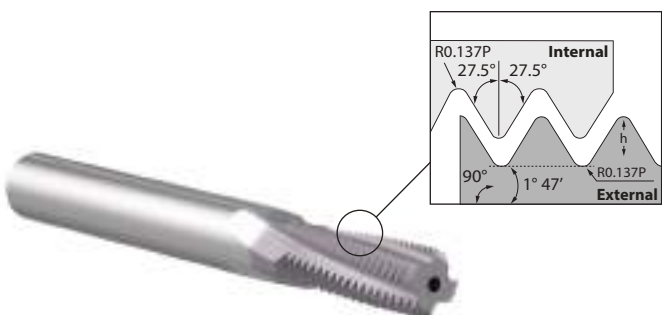
Solid Carbide Thread Mills

BSPT

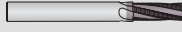


BSPT | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA™	 AccuThread® 856
Ⓜ	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
ⓘ	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	-



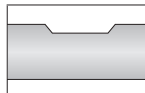
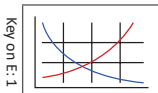
BSPT | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	 ThreadMills USA™
Ⓜ	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
ⓘ	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

E: 54 - 57

E: 4

Weldon Flat



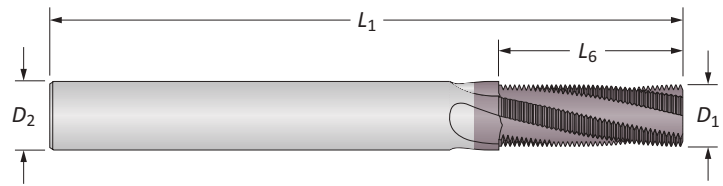
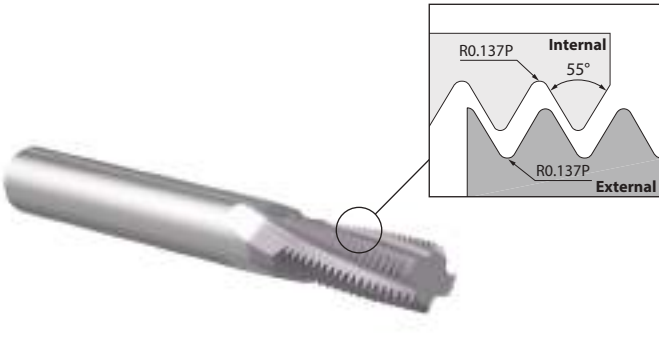
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)



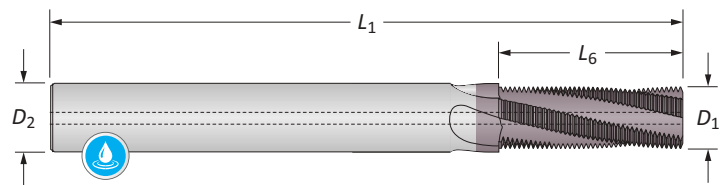
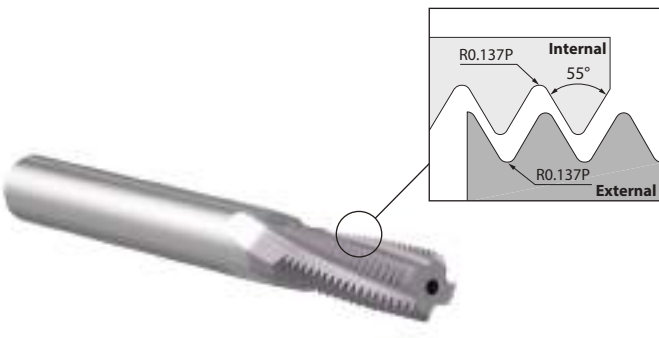
Solid Carbide Thread Mills

BSPP



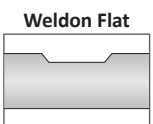
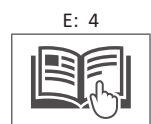
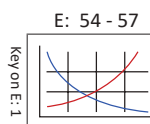
BSPP | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	ThreadMills USA™	AccuThread® 856
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
	19	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
	14	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
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	-



BSPP | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA™
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
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



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

A

DRILLING

B

BORING

E

THREADING

X

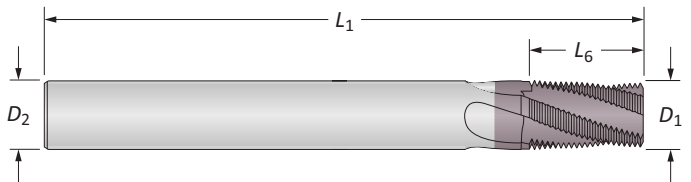
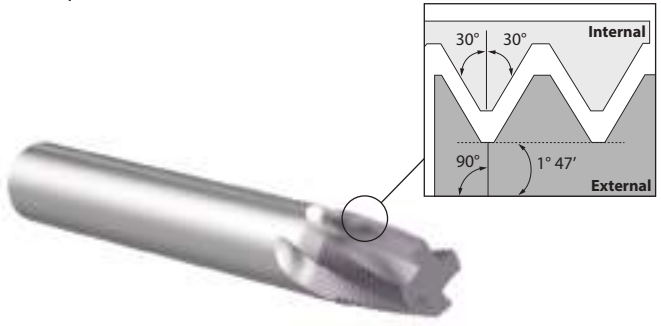
SPECIALS

Solid Carbide Thread Mills

NPT | Non-Coolant

A

DRILLING



NPT | Non-Coolant

B

BORING

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
	27	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
	18	1/4 and 3/8	4	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
	14	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
	11.5	1	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
	i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPT
27		1/8	4	0.300	0.312	0.482	3.000	HDTM27NPT	HDTMKNK0125-NPT
18		1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPT	TMNK0250-NPT
18		1/4 and 3/8	4	0.363	0.375	0.680	3.500	HDTM18NPT	HDTMKNK0250-NPT
14		1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPT	TMNK0500-NPT
14		3/4	4	0.620	0.625	1.000	4.000	HDTM14NPT	HDTMKNK0750-NPT
11.5		1	4	0.620	0.625	1.125	4.000	TM11NPT	TMNK1000-NPT
11.5		1	5	0.745	0.750	1.219	4.000	HDTM11NPT	HDTMKNK1000-NPT
8		2-1/2	4	0.745	0.750	1.500	5.000	TM8NPT	TMNK2500-NPT

E

THREADING

X

SPECIALS

E: 54 - 57

E: 4

Weldon Flat

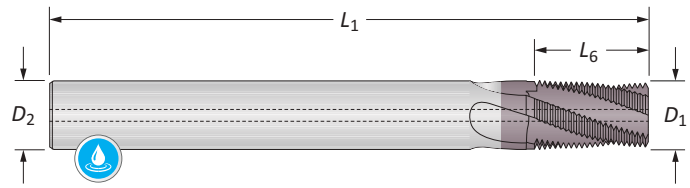
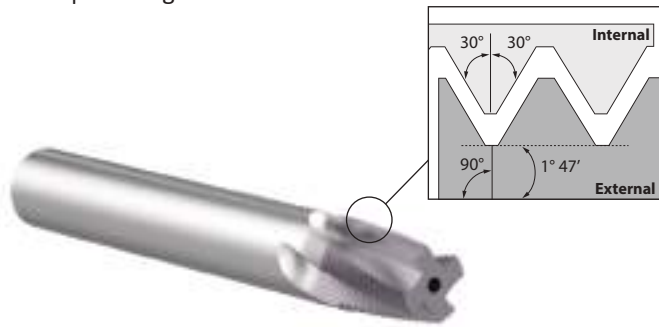
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWKNK0500-NPT**
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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




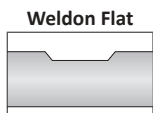
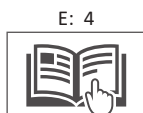
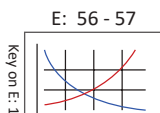
Solid Carbide Thread Mills

NPT | Through Coolant



NPT | Through Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No. 	
			D ₁	D ₂	L ₆	L ₁		
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTCHM
	27	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
	18	1/4 and 3/8	4	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
	14	3/4	4	15.75	16.00	25.40	93.00	HDTM14NPTCHM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTCHM
	11.5	1	5	18.92	20.00	30.95	105.00	HDTM11NPTCHM
8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTCHM	
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.375	TM27NPTCH
	27	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
	18	1/4 and 3/8	4	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
	14	3/4	4	0.620	0.625	1.000	4.000	HDTM14NPTCH
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTCH
	11	1	5	0.745	0.750	1.219	4.000	HDTM11NPTCH
8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTCH	



To order a thread mill with a Weldon flat, replace the leading TM designer with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

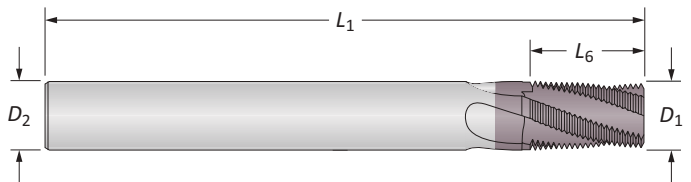
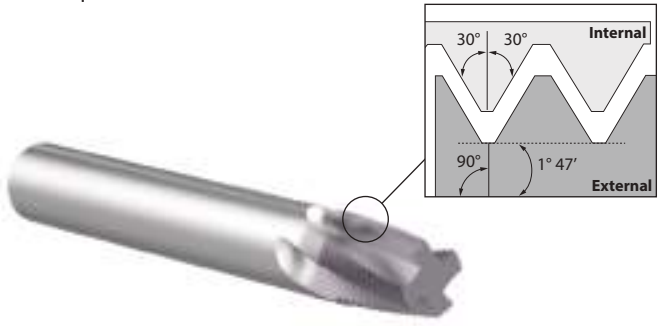
m = Metric (mm)
 i = Imperial (in)

Solid Carbide Thread Mills

NPTF | Non-Coolant

A

DRILLING



B

BORING

NPTF | Non-Coolant

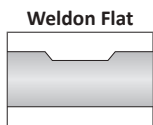
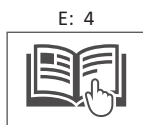
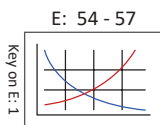
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	ThreadMills USA™	AccuThread® 856
M	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTFM	TMNK0063-NPTFM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTFM	TMNK0250-NPTFM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTFM	TMNK0500-NPTFM
	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
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

E

THREADING

X

SPECIALS



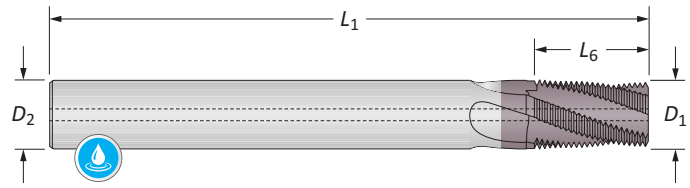
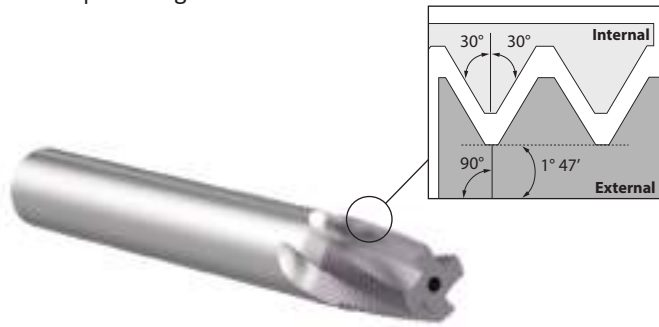
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWnk0500-NPT**
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



Solid Carbide Thread Mills

NPTF | Through Coolant



NPTF | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA™
Ⓜ	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
Ⓢ	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

A

DRILLING

B

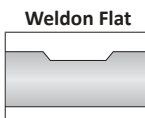
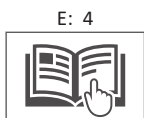
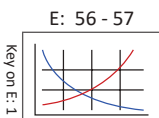
BORING

E

THREADING

X

SPECIALS

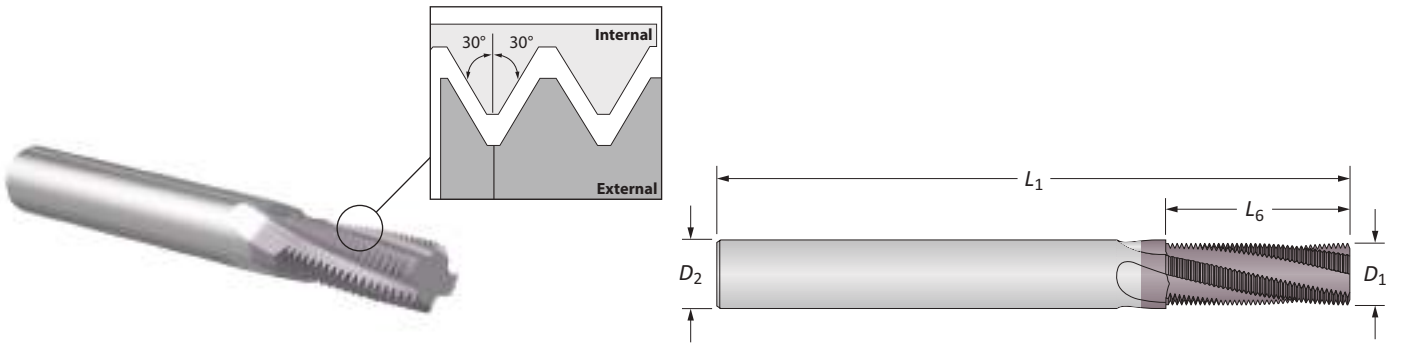


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

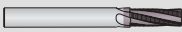
Ⓜ = Metric (mm)
 Ⓢ = Imperial (in)

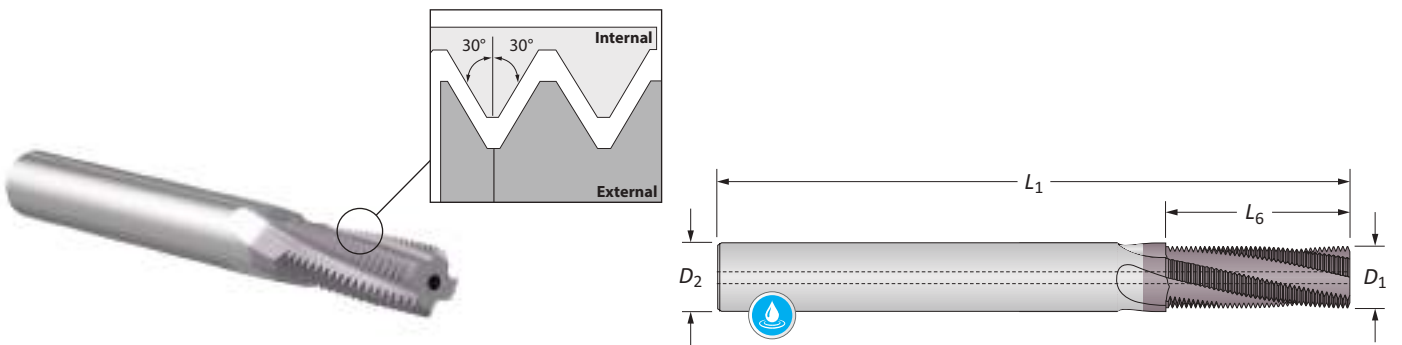
Solid Carbide Thread Mills

NPS

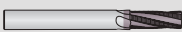


NPS | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	 ThreadMills USA™
E	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
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



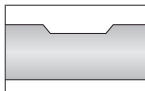
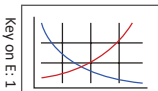
NPS | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	 ThreadMills USA™
E	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
I	27	1/8	3	0.245	0.250	0.630	2.375	TM27NPSCH
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	TM18NPSCH
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSCH
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSCH

E: 56 - 57

E: 4

Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designer with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

A DRILLING

B BORING

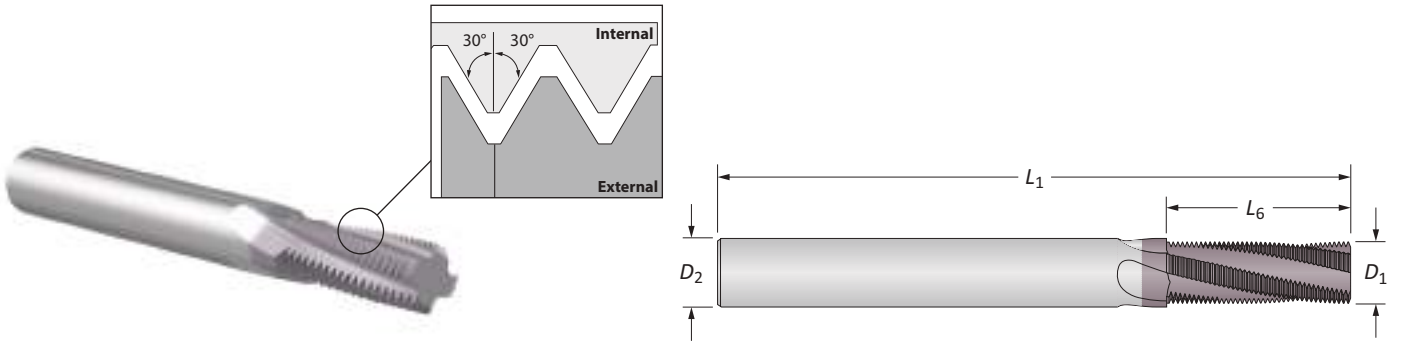
E THREADING

X SPECIALS



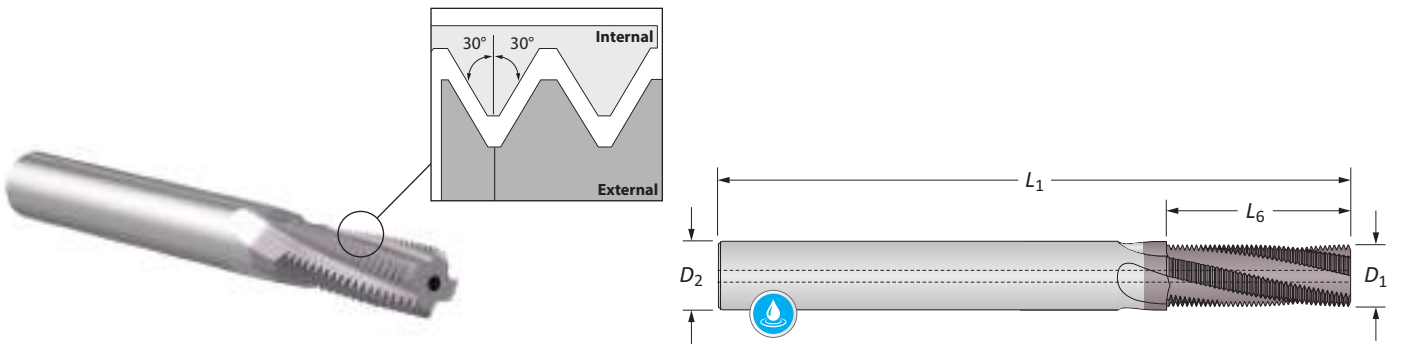
Solid Carbide Thread Mills

NPSF



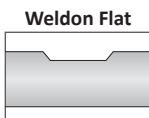
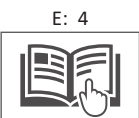
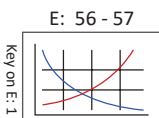
NPSF | Non-Coolant

	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	TM27NPSFM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSFM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSFM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSFM
I	27	1/8	3	0.245	0.250	0.630	2.500	TM27NPSF
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.500	TM18NPSF
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSF
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSF



NPSF | Through Coolant

	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	TM27NPSFCHM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSFCHM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSFCHM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSFCHM
I	27	1/8	3	0.245	0.250	0.630	2.375	TM27NPSFCH
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	TM18NPSFCH
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSFCH
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSFCH

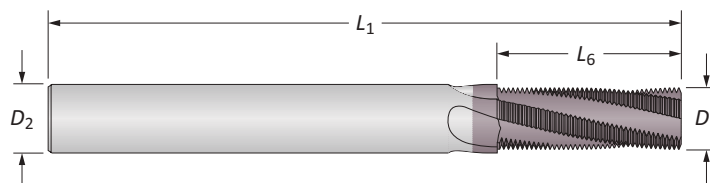
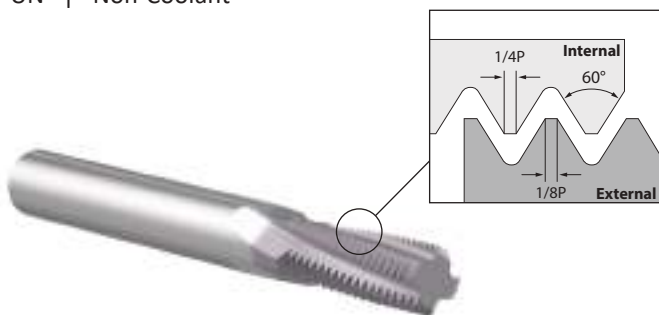


To order a thread mill with a Weldon flat, replace the leading TM designer with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

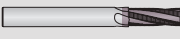
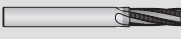
M = Metric (mm)
 I = Imperial (in)

Solid Carbide Thread Mills

UN | Non-Coolant

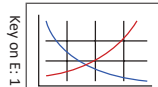


UN | Non-Coolant

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
32	#8	3	3.20	4.00	6.35	51.00	TM16432M	TMUK0008-32M
32	#10	3	3.80	4.00	7.95	51.00	TM19032M	TMUK0010-32M
32	#10	3	3.80	4.00	7.95	51.00	HDTM19032M	–
32	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
28	1/4	3	4.75	6.00	12.70	58.00	TM25028M	TMUK0250-28M
28	7/16	4	7.90	8.00	19.95	64.00	–	TMUK0438-28M
28	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
24	#10	3	3.70	4.00	8.50	51.00	HDTM19024M	–
24	5/16	3	5.95	6.00	16.00	58.00	TM31224M	TMUK0313-24M
24	3/8	4	7.25	8.00	19.00	64.00	TM37524M	TMUK0375-24M
24	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
20	1/4	3	4.95	6.00	12.70	58.00	HDTM25020M	–
20	7/16	4	8.75	10.00	22.85	73.00	TM43720M	TMUK0438-20M
20	1/2	6	9.40	10.00	25.40	84.00	TM50020M	–

*Straight fluted

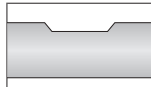
E: 54 - 57



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

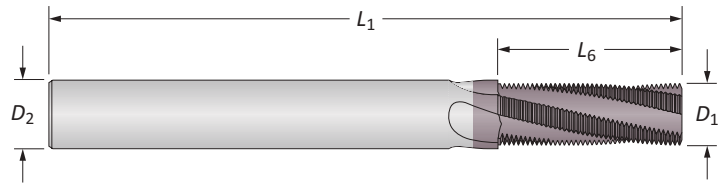
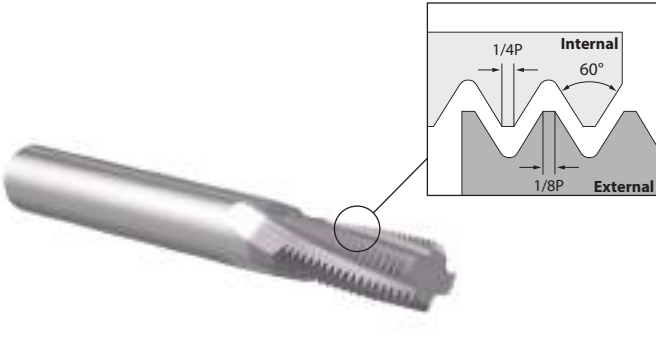
Example: Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWNK0500-NPT**
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)



Solid Carbide Thread Mills

UN | Non-Coolant (continued)



UN | Non-Coolant

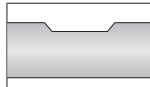
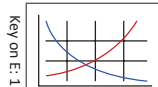
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D_1	D_2	L_6	L_1	ThreadMills USA™	AccuThread® 856
18	5/16	3	5.95	6.00	17.00	58.00	TM31218M	TMUK0313-18M
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218M	-
18	9/16	4	9.90	10.00	22.65	73.00	TM56218M	TMUK0563-18M
16	3/8	4	7.25	8.00	19.05	64.00	TM37516M	TMUK0375-16M
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516M	-
16	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
14	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
13	1/2	4	10.16	12.00	23.50	84.00	HDTM50013M	-
12	9/16	4	9.90	10.00	23.35	73.00	TM56212M	TMUK0563-12M
12	3/4	4	11.95	12.00	31.75	84.00	TM75012M	TMUK0750-12M
12	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	5/8	4	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
10	3/4	4	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
9	7/8	4	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
8	1	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



E: 54 - 57

E: 4

Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT

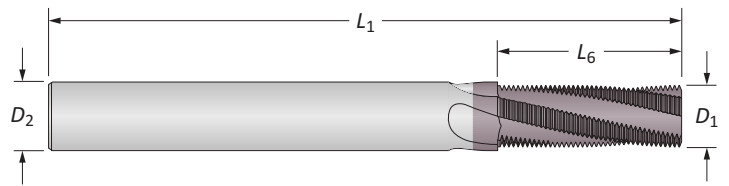
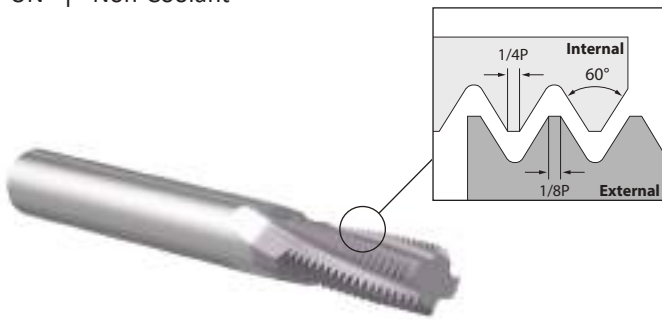
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)

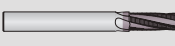
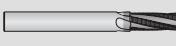
Ⓢ = Imperial (in)

Solid Carbide Thread Mills

UN | Non-Coolant

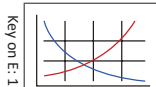


UN | Non-Coolant

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
32	#8	3	0.115	0.125	0.250	2.000	TM16432	TMUK0008-32
32	#10	3	0.120	0.125	0.312	2.000	TM19032	TMUK0010-32
32	#10	3	0.150	0.187	0.312	2.500	HDTM19032	–
32	1/2	6	0.370	0.375	1.000	3.500	TM50032	–
28	#10	3	0.120	0.125	0.312	2.000	TM19028	TMUK0010-28
28	1/4	3	0.180	0.187	0.500	2.500	TM25028	TMUK0250-28
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
24	#10	3	0.145	0.187	0.312	2.500	HDTM19024	–
24	5/16	3	0.235	0.250	0.625	2.500	TM31224	TMUK0313-24
24	3/8	4	0.285	0.312	0.750	3.000	TM37524	TMUK0375-24
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
20	1/4	3	0.195	0.250	0.500	2.500	HDTM25020	–
20	7/16	4	0.335	0.375	0.875	3.500	TM43720	TMUK0438-20
20	1/2	6	0.370	0.375	1.000	3.500	TM50020	–

*Straight fluted

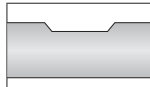
E: 54 - 57



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

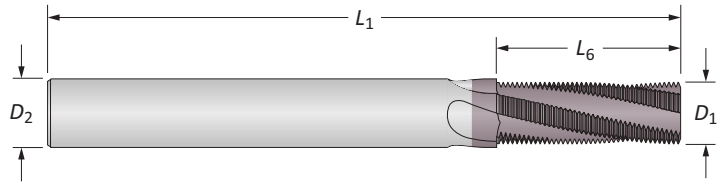
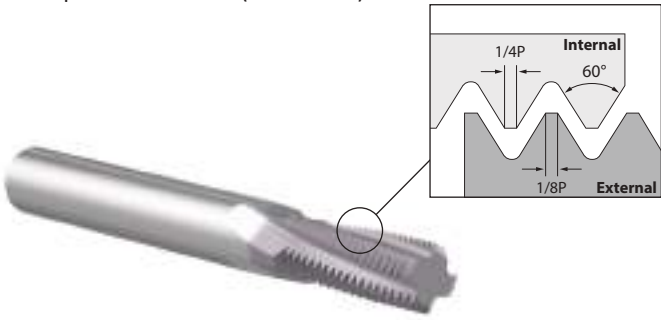
Example: Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWVKNK0500-NPT**
NOTE: Weldon flats have a minimum order quantity of 2 pieces

 = Metric (mm)
 = Imperial (in)



Solid Carbide Thread Mills

UN | Non-Coolant (continued)



UN | Non-Coolant

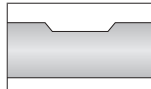
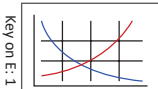
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D_1	D_2	L_6	L_1	ThreadMills USA™	AccuThread® 856
18	5/16	3	0.235	0.250	0.625	2.500	TM31218	TMUK0313-18
18	5/16	3	0.245	0.312	0.625	3.000	HDTM31218	-
18	9/16	4	0.370	0.375	0.875	3.500	TM56218	TMUK0563-18
16	3/8	4	0.285	0.312	0.750	3.000	TM37516	TMUK0375-16
16	3/8	4	0.300	0.375	0.750	3.500	HDTM37516	-
16	3/4	4	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
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
13	1/2	4	0.400	0.500	0.875	3.500	HDTM50013	-
12	9/16	4	0.370	0.375	0.875	3.500	TM56212	TMUK0563-12
12	3/4	4	0.495	0.500	1.250	3.500	TM75012	TMUK0750-12
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
11	5/8	4	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
10	3/4	4	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
9	7/8	4	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
8	1	6	0.745	0.750	2.000	4.500	TM10008-XL	TMUK1000-8XL
7	1-1/8	5	0.745	0.750	1.572	4.500	TM12507	-
6	1-3/8	5	0.745	0.750	1.500	4.500	TM13706	-

①

E: 54 - 57

E: 4

Weldon Flat

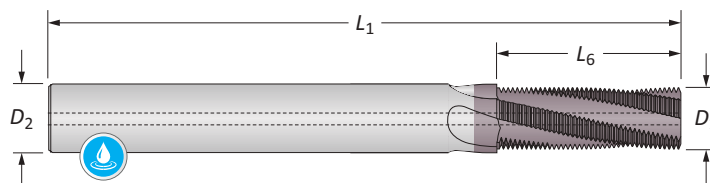


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

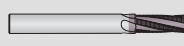
Ⓜ = Metric (mm)
 Ⓢ = Imperial (in)

Solid Carbide Thread Mills

UN | Through Coolant

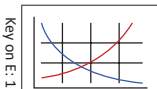


UN | Through Coolant

TPI (Pitch)	Min Thread \varnothing	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
32	#6	3	2.50	3.00	5.55	39.00	TM13832CHM
32	#8	3	3.20	4.00	6.35	51.00	TM16432CHM
32	#10	3	3.80	4.00	7.95	51.00	TM19032CHM
32	#10	3	3.80	4.00	7.95	51.00	HDTM19032CHM
32	1/2	6	9.40	10.00	25.40	84.00	TM50032CHM
28	#10	3	3.80	4.00	8.20	51.00	TM19028CHM
28	1/4	3	4.75	6.00	12.70	58.00	TM25028CHM
28	1/2	6	9.40	10.00	25.40	84.00	TM50028CHM
24	#10	3	3.68	4.00	8.50	51.00	TM19024CHM
24	#10	3	3.70	4.00	8.50	51.00	HDTM19024CHM
24	5/16	3	5.95	6.00	16.00	58.00	TM31224CHM
24	3/8	4	7.25	8.00	19.00	64.00	TM37524CHM
24	1/2	6	9.40	10.00	25.40	84.00	TM50024CHM
20	1/4	3	4.75	6.00	12.70	58.00	TM25020CHM
20	1/4	3	4.95	6.00	12.70	58.00	HDTM25020CHM
20	7/16	4	8.75	10.00	22.85	84.00	TM43720CHM
20	1/2	6	9.40	10.00	25.40	84.00	TM50020CHM

*Straight fluted

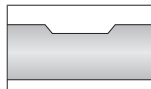
E: 56 - 57



E: 4



Weldon Flat



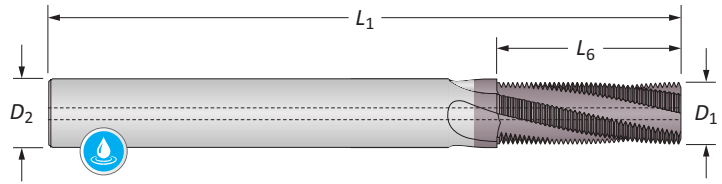
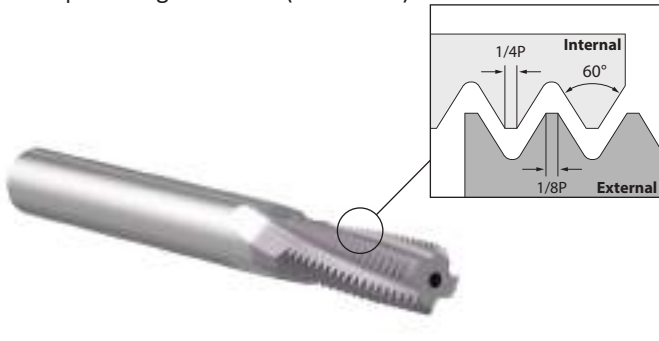
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

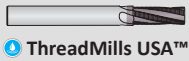


Solid Carbide Thread Mills

UN | Through Coolant (continued)



UN | Through Coolant

TPI (Pitch)	Min Thread \varnothing	Flutes	Thread Mill				Part No. 
			D_1	D_2	L_6	L_1	
18	5/16	3	5.95	6.00	17.00	58.00	TM31218CHM
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218CHM
18	9/16	4	9.90	10.00	22.65	84.00	TM56218CHM
16	3/8	4	7.25	8.00	19.05	64.00	TM37516CHM
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516CHM
16	3/4	4	11.95	12.00	31.75	84.00	TM75016CHM
14	7/16	4	7.75	8.00	20.00	64.00	TM43714CHM
14	7/8	4	11.95	12.00	32.70	84.00	TM87514CHM
13	1/2	4	9.40	10.00	23.50	84.00	TM50013CHM
13	1/2	4	10.16	12.00	23.50	84.00	HDTM50013CHM
12	9/16	4	9.90	10.00	23.35	84.00	TM56212CHM
12	3/4	4	11.95	12.00	31.75	84.00	TM75012CHM
12	1	6	18.92	20.00	38.10	105.00	TM10012CHM
11	5/8	4	11.95	12.00	32.40	84.00	TM62511CHM
11	5/8	4	11.95	12.00	37.00	100.00	TM62511CHM-XL
10	3/4	4	11.95	12.00	33.00	84.00	TM75010CHM
10	3/4	4	11.95	12.00	40.70	100.00	TM75010CHM-XL
9	7/8	4	15.75	16.00	36.75	93.00	TM87509CHM
9	7/8	4	15.75	16.00	45.20	100.00	TM87509CHM-XL
8	1	4	15.75	16.00	35.00	93.00	TM10008CHM
8	1	6	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

Ⓜ

A

DRILLING

B

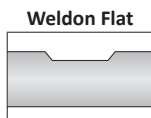
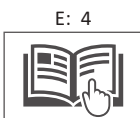
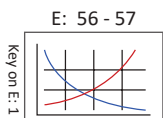
BORING

E

THREADING

X

SPECIALS

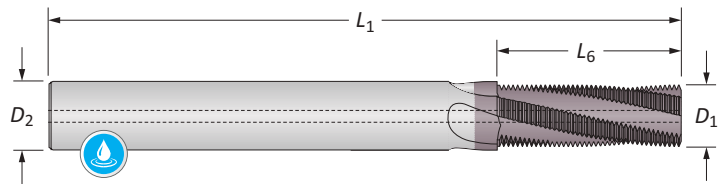
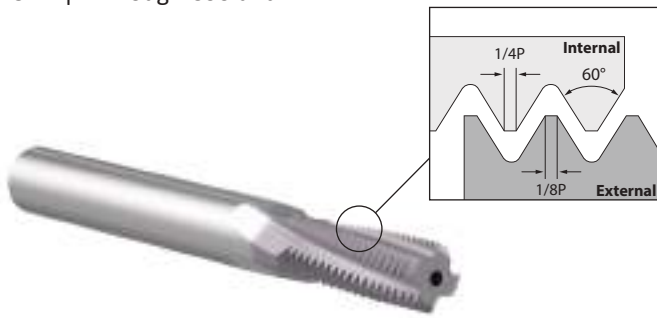


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

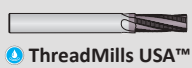
Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Solid Carbide Thread Mills

UN | Through Coolant

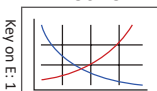


UN | Through Coolant

TPI (Pitch)	Min Thread \varnothing	Flutes	Thread Mill				Part No. 
			D_1	D_2	L_6	L_1	
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
32	#6	3	0.100	0.125	0.218	1.500	TM13832CH
32	#8	3	0.115	0.125	0.250	1.500	TM16432CH
32	#10	3	0.150	0.187	0.312	2.375	TM19032CH
32	#10	3	0.150	0.187	0.312	2.375	HDTM19032CH
32	1/2	6	0.370	0.375	1.000	3.500	TM50032CH
28	#10	3	0.120	0.125	0.312	1.500	TM19028CH
28	1/4	3	0.180	0.187	0.500	2.375	TM25028CH
28	1/2	6	0.370	0.375	1.000	3.500	TM50028CH
24	#10	3	0.145	0.187	0.312	2.375	TM19024CH
24	#10	3	0.145	0.187	0.312	2.375	HDTM19024CH
24	5/16	3	0.235	0.250	0.625	2.375	TM31224CH
24	3/8	4	0.285	0.312	0.750	3.000	TM37524CH
24	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
20	1/4	3	0.195	0.250	0.500	2.375	HDTM25020CH
20	7/16	4	0.335	0.375	0.875	3.000	TM43720CH
20	1/2	6	0.370	0.375	1.000	3.500	TM50020CH

*Straight fluted

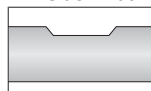
E: 56 - 57




E: 4



Weldon Flat



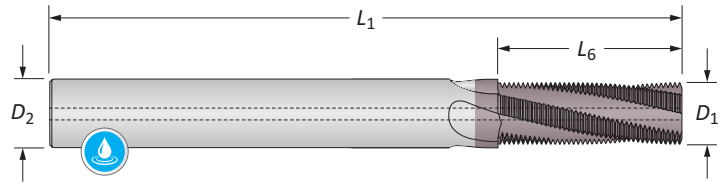
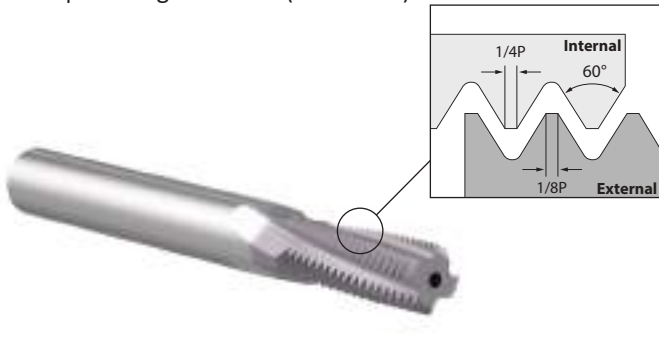
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

 = Metric (mm)
 = Imperial (in)

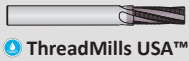


Solid Carbide Thread Mills

UN | Through Coolant (continued)



UN | Through Coolant

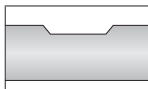
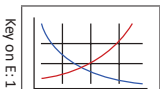
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No. 
			D ₁	D ₂	L ₆	L ₁	
18	5/16	3	0.235	0.250	0.625	2.375	TM31218CH
18	5/16	3	0.245	0.312	0.625	3.000	HDTM31218CH
18	9/16	4	0.370	0.375	0.875	3.000	TM56218CH
16	3/8	4	0.285	0.312	0.750	3.000	TM37516CH
16	3/8	4	0.300	0.375	0.750	3.000	HDTM37516CH
16	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
14	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
13	1/2	4	0.400	0.500	0.875	3.500	HDTM50013CH
12	9/16	4	0.370	0.375	0.875	3.500	TM56212CH
12	3/4	4	0.495	0.500	1.250	3.500	TM75012CH
12	1	6	0.745	0.750	1.500	4.000	TM10012CH
11	5/8	4	0.470	0.500	1.250	3.500	TM62511CH
11	5/8	4	0.470	0.500	1.455	3.500	TM62511CH-XL
10	3/4	4	0.495	0.500	1.250	3.500	TM75010CH
10	3/4	4	0.495	0.500	1.600	4.000	TM75010CH-XL
9	7/8	4	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
8	1	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

①

E: 56 - 57

E: 4

Weldon Flat

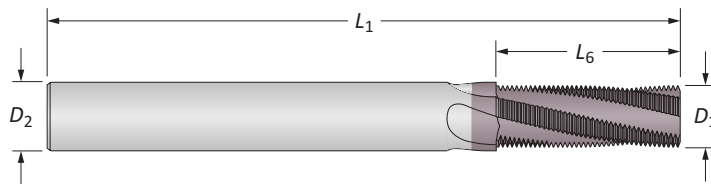
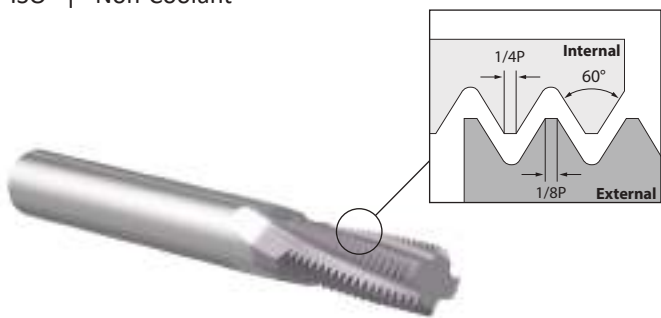


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

Solid Carbide Thread Mills

ISO | Non-Coolant

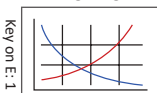


ISO | Non-Coolant

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
0.45	M2.5	3*	1.50	3.00	3.60	39.00	TM25045M	TMMK0250-045M
0.50	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
0.50	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
0.75	M6	3	4.60	6.00	12.00	58.00	TM60075M	TMMK0600-075M
0.75	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
1.00	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
1.50	M14	4	10.90	12.00	27.00	84.00	TM14150M	TMMK1400-150M
1.50	M18	4	11.90	12.00	31.50	84.00	TM18150M	TMMK1800-150M
1.50	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
2.00	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

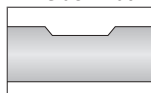
E: 54 - 57



E: 4



Weldon Flat



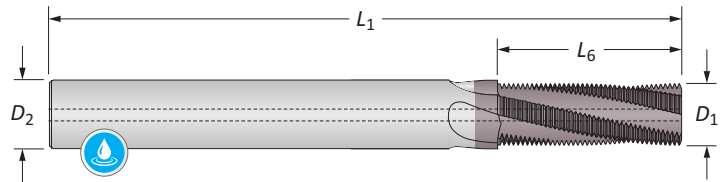
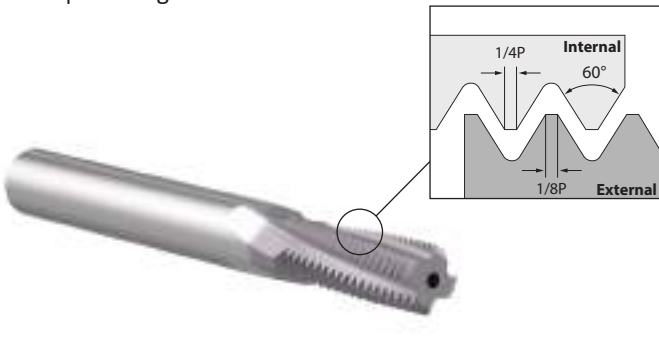
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)



Solid Carbide Thread Mills

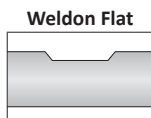
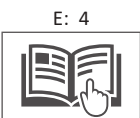
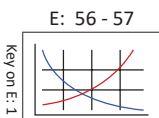
ISO | Through Coolant



ISO | Through Coolant

Pitch	Min Thread ϕ	Flutes	Thread Mill				Part No.
			D_1	D_2	L_6	L_1	
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
0.50	M6	3	4.60	6.00	12.00	58.00	TM60050CHM
0.50	M10	4	7.95	8.00	15.00	64.00	TM10050CHM
0.70	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
0.75	M6	3	4.60	6.00	12.00	58.00	TM60075CHM
0.75	M10	4	7.95	8.00	15.00	64.00	TM10075CHM
0.80	M5	3	3.60	4.00	8.00	51.00	TM50080CHM
1.00	M6	3	4.60	6.00	12.00	58.00	TM60100CHM
1.00	M12	4	9.40	10.00	20.00	84.00	TM12100CHM
1.25	M8	3	5.90	6.00	16.25	58.00	TM80125CHM
1.50	M10	4	7.40	8.00	19.50	64.00	TM10150CHM
1.50	M14	4	10.90	12.00	27.00	84.00	TM14150CHM
1.50	M18	4	11.90	12.00	31.50	84.00	TM18150CHM
1.50	M20	5	15.75	16.00	36.00	93.00	TM20150CHM
1.75	M12	4	9.40	10.00	22.71	84.00	TM12175CHM
2.00	M14	4	10.90	12.00	28.00	84.00	TM14200CHM
2.00	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



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)
 ⓘ = Imperial (in)

A

DRILLING

B

BORING

E

THREADING

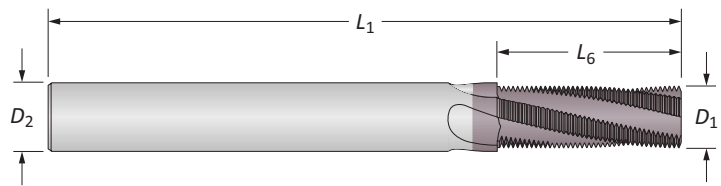
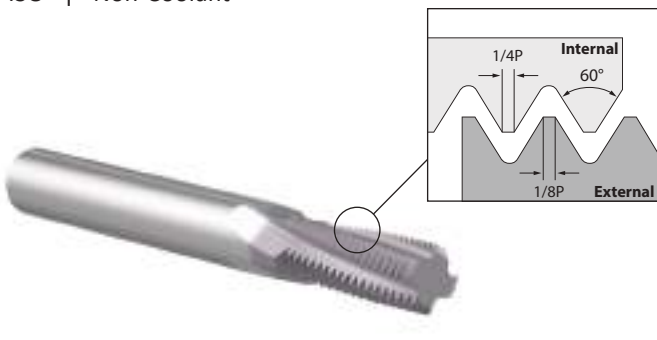
X

SPECIALS

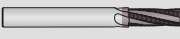
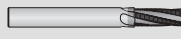


Solid Carbide Thread Mills

ISO | Non-Coolant

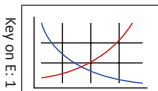


ISO | Non-Coolant

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	–
0.45	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	–
0.50	M6	3	0.181	0.187	0.473	2.500	TM60050	–
0.50	M10	4	0.310	0.312	0.591	3.000	TM10050	–
0.70	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
0.75	M8	3	0.235	0.250	0.625	2.500	TM80075	TMMK0800-075
0.75	M10	4	0.310	0.312	0.591	3.000	TM10075	–
0.80	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
1.00	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
1.50	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
1.50	M18	4	0.490	0.500	1.250	3.500	TM18150	TMMK1800-150
1.50	M20	5	0.620	0.625	1.418	4.000	TM20150	–
1.75	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	–
2.00	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

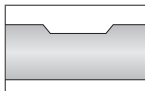
E: 54 - 57



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

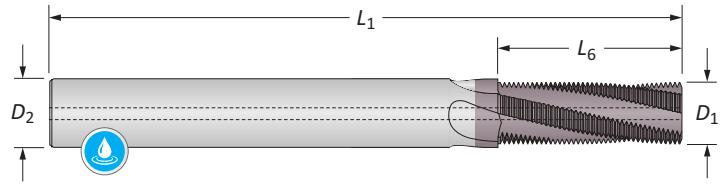
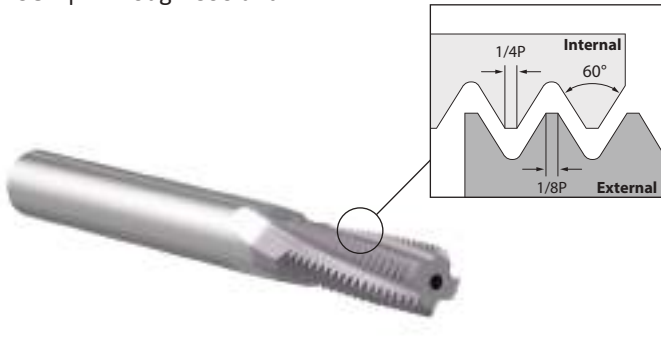
Ⓜ = Metric (mm)

Ⓢ = Imperial (in)



Solid Carbide Thread Mills

ISO | Through Coolant



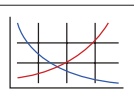
ISO | Through Coolant

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
0.50	M6	3	0.181	0.187	0.473	2.375	TM60050CH
0.50	M10	4	0.310	0.312	0.591	3.000	TM10050CH
0.70	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
0.75	M8	3	0.235	0.250	0.625	2.375	TM80075CH
0.75	M10	4	0.310	0.312	0.591	3.000	TM10075CH
0.80	M5	3	0.120	0.125	0.312	1.500	TM50080CH
1.00	M6	3	0.170	0.187	0.500	2.375	TM60100CH
1.00	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
1.50	M14	4	0.370	0.375	0.875	3.000	TM14150CH
1.50	M18	4	0.490	0.500	1.250	3.500	TM18150CH
1.50	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
2.00	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

Key on E: 1

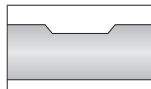
E: 56 - 57



E: 4



Weldon Flat

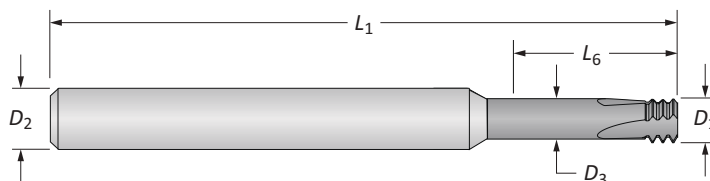
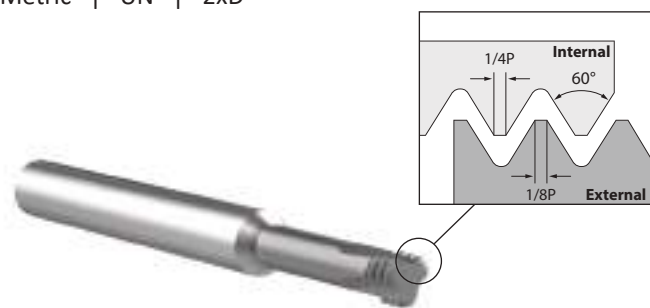


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

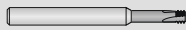
Ⓜ = Metric (mm)
 Ⓢ = Imperial (in)

Solid Carbide Thread Mills

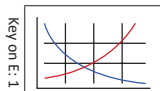
Metric | UN | 2xD



UN | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No.  AccuThread® T3
			D_1	D_3	D_2	L_6	L_1	
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
32	#8	3	3.20	2.21	6.00	9.40	63.00	TM16432M-3T2X
32	#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
24	5/16	3	6.60	5.30	8.00	17.02	64.00	TM31224M-3T2X
^m 20	1/4	3	4.75	3.18	6.00	13.97	63.00	TM25020M-3T2X
20	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
16	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
14	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
12	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

E: 58 - 59



E: 4

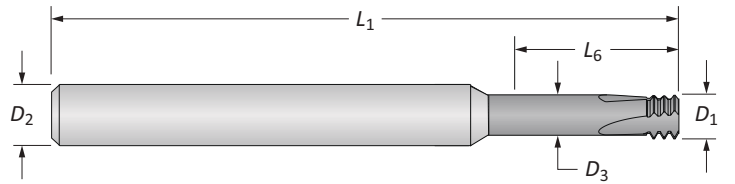
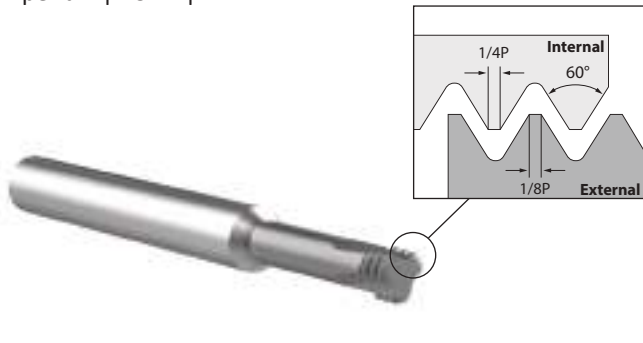


^m = Metric (mm)
ⁱ = Imperial (in)

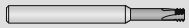


Solid Carbide Thread Mills

Imperial | UN | 2xD



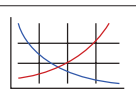
UN | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No.  AccuThread® T3
			D ₁	D ₃	D ₂	L ₆	L ₁	
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
32	#8	3	0.126	0.087	0.250	0.370	2.500	TM16432-3T2X
32	#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
24	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
20	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
16	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
14	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
12	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

①

Key on E: 1

E: 58 - 59



E: 4

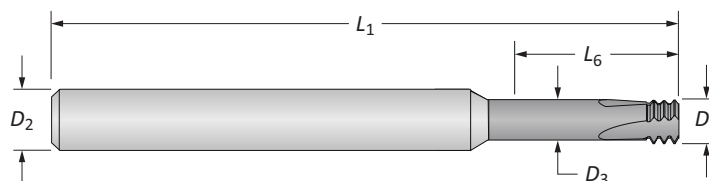
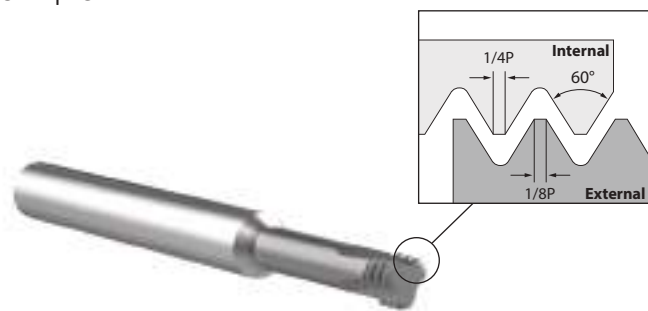


Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

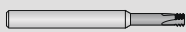


Solid Carbide Thread Mills

UN | 3xD



UN | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No. 
			D_1	D_3	D_2	L_6	L_1	
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
32	#8	3	3.20	2.21	6.00	12.45	63.00	TM16432M-3T3X
32	#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
24	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
18	5/16	3	5.94	4.21	6.00	23.11	63.00	TM31218M-3T3X
16	3/4	4	11.94	9.88	12.00	57.15	88.90	TM75016M-3T3X
14	7/8	4	15.75	13.42	16.00	66.68	100.00	TM87514M-3T3X
12	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
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
32	#8	3	0.126	0.087	0.250	0.490	2.500	TM16432-3T3X
32	#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
24	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
18	5/16	3	0.236	0.168	0.250	0.910	2.500	TM31218-3T3X
16	3/4	4	0.495	0.414	0.500	2.250	4.000	TM75016-3T3X
14	7/8	4	0.620	0.528	0.625	2.625	4.000	TM87514-3T3X
12	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

B

BORING

E

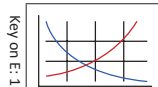
THREADING

X

SPECIALS

E: 58 - 59

E: 4

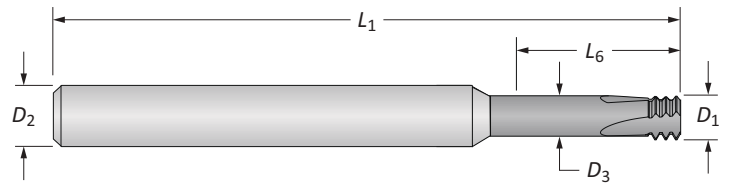
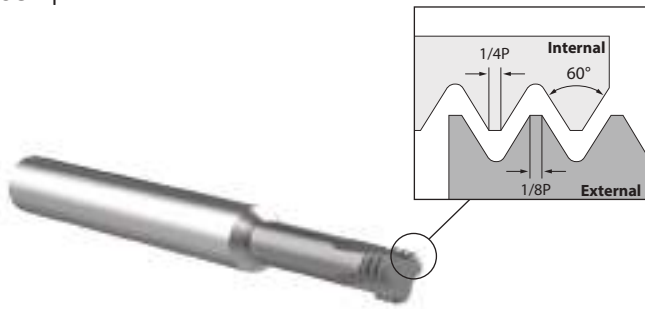


Ⓜ = Metric (mm)
 ⓘ = Imperial (in)



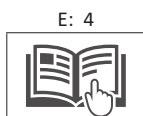
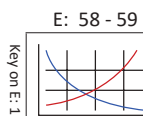
Solid Carbide Thread Mills

ISO | 2xD



ISO | Non-Coolant

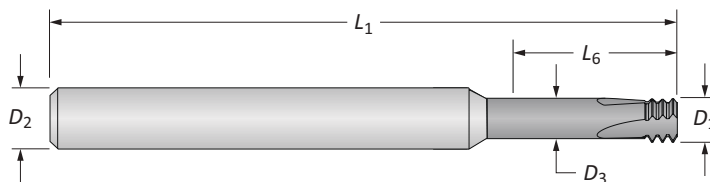
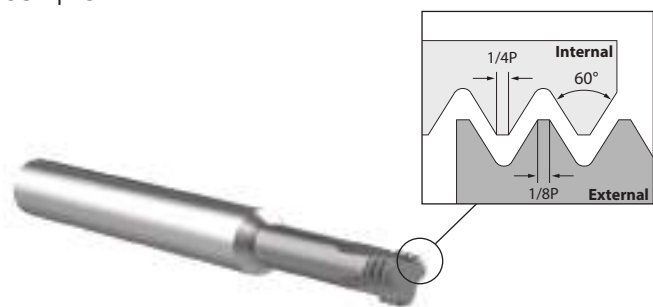
Pitch	Min Thread Ø	Flutes	Thread Mill					Part No.
			D ₁	D ₃	D ₂	L ₆	L ₁	
								AccuThread® T3
0.35	M1.8	3	1.35	0.84	6.00	4.32	63.00	TM18035M-3T2X
0.40	M2	3	1.55	1.04	6.00	4.60	63.00	TM20040M-3T2X
0.45	M2.5	3	1.96	1.38	6.00	5.60	63.00	TM25045M-3T2X
0.50	M3	3	2.36	1.73	6.00	6.60	63.00	TM30050M-3T2X
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
m 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
1.50	M14	4	9.40	7.45	10.00	27.94	88.90	TM14150M-3T2X
1.50	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
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
i 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
1.50	M14	4	0.370	0.293	0.375	1.100	3.500	TM14150-3T2X
1.50	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



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

Solid Carbide Thread Mills

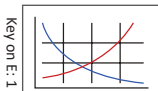
ISO | 3xD



ISO | Non-Coolant

Pitch	Min Thread Ø	Flutes	Thread Mill					Part No.
			D_1	D_3	D_2	L_6	L_1	
								AccuThread® T3
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
0.80	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
1.50	M14	4	9.40	7.45	10.00	41.91	88.90	TM14150M-3T3X
1.50	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
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
0.80	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
1.50	M14	4	0.370	0.293	0.375	1.650	3.500	TM14150-3T3X
1.50	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

E: 58 - 59



E: 4



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

Indexable Insert Thread Mills Overview

A
DRILLING



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

B
BORING

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 Nm (1.1 ft-lbs).

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

E
THREADING



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

X
SPECIALS

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 Nm (1.1 ft-lbs).

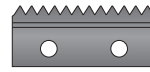
Step 5:
Following the order from step three, tighten each screw to 3.5 Nm (2.6 ft-lbs).



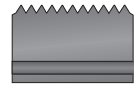
Product Nomenclature

AccuThread® 856 Indexable Inserts

TP	075	K	UN	32	I
1	2	3	4	5	6



Bolt-in Style

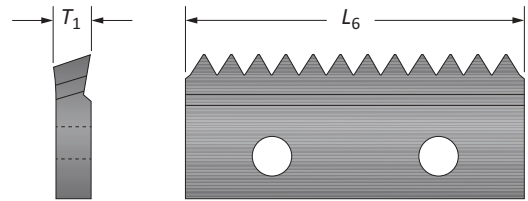


Pin Style

1. Insert Style TP = Bolt-in TN = Pin style	2. Insert Length 075 = 3/4 100 = 1.00 150 = 1.50	3. Coating K = AM210® A = TiAlN U = Uncoated	4. Thread Class UN = UN BSPT = BSPT UNJ = UNJ M = ISO NPT = NPT FA = Full ACME NPTF = NPTF AP = API Round BSPP = BSPP	5. Thread Pitch 20 = UN 1.0 = ISO	6. Thread Style I = Internal E = External
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Indexable Inserts

Symbol	Attribute
L_6	Length of insert
T_1	Insert thickness



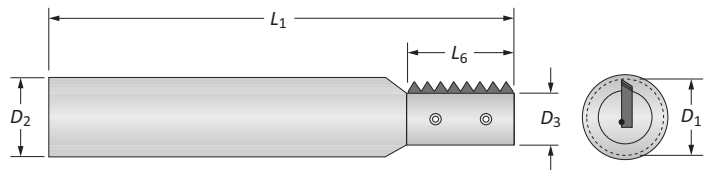
AccuThread® 856 Indexable Insert Holders

THT	0400	1F	075	M
1	2	3	4	5

1. Holder Style	
Bolt-in Style	Pin Style
THT = Tapered Head	THP = Weldon Positive Rake
THN = Straight Head	TNR = Weldon Neutral Rake
	TSN = Shell Mill Positive Rake
	TSR = Shell Mill Neutral Rake

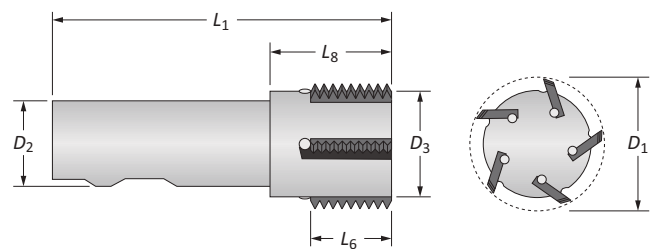
2. Cutter Diameter	3. Shank Designation
0400 = 0.400	1F = 1 flute 6F = 6 flutes 2F = 2 flutes 7F = 7 flutes 3F = 3 flutes 8F = 8 flutes 5F = 5 flutes

4. Length of Insert	5. Shank Designation
075 = 3/4 100 = 1.00 150 = 1.50	M = Metric Blank = Imperial



Bolt-in Style Holders

Symbol	Attribute	Symbol	Attribute
D_1	Maximum cutter diameter	L_1	Overall length
D_2	Shank diameter	L_6	Length of insert
D_3	Pilot diameter		



Pin Style Holders

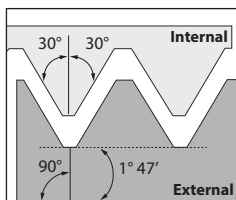
Symbol	Attribute	Symbol	Attribute
D_1	Cutter diameter	D_5	Bore diameter (Shell Mill)
D_1^*	Oversized cutter diameter	L_1	Overall length
D_2	Shank diameter	L_6	Length of insert
D_3	Pilot diameter	L_8	Flute length
D_4	Body diameter (Shell Mill)	T_2	Slot width (Shell Mill)

AccuThread® 856 Thread Mill Inserts

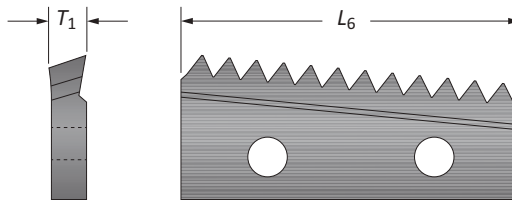
Bolt-in Style | NPT / NPTF

A

DRILLING



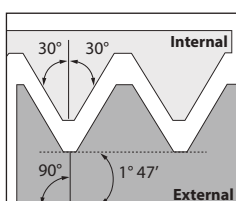
NPT
Internal / External



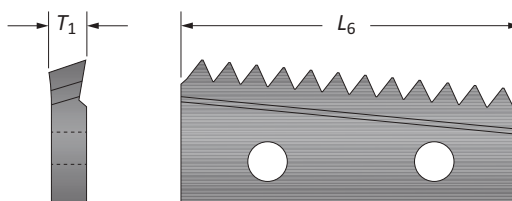
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	NPT Internal/External
18	19.05	0.750	2.03	0.080	TP075K-NPT18
14	25.40	1.000	3.56	0.140	TP100K-NPT14

B

BORING



NPTF
Internal / External



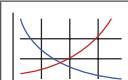
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	NPTF Internal/External
18	19.05	0.750	2.03	0.080	TP075K-NPTF18
14	25.40	1.000	3.56	0.140	TP100K-NPTF14


E

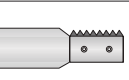
THREADING

X

SPECIALS

E: 60 - 63  Key on E: 1

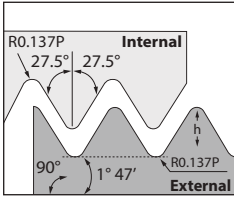
E: 36 

E: 43 

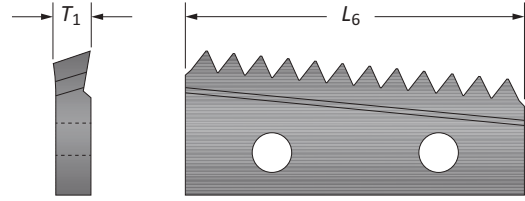
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

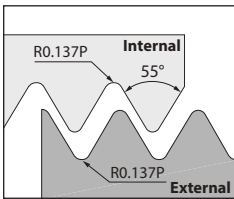
Bolt-in Style | BSPT / BSPP



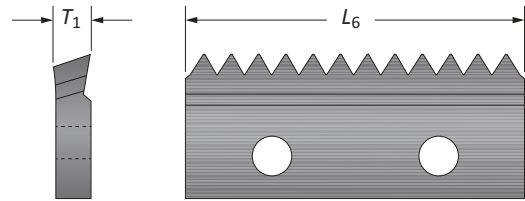
BSPT
Internal / External



TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	BSPT Internal/External
19	19.05	0.750	2.03	0.080	TP075K-BSPT19
19	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.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	BSPP Internal/External
19	19.05	0.750	2.03	0.080	TP075K-BSPP19
19	25.40	1.000	3.56	0.140	TP100K-BSPP19
14	25.40	1.000	3.56	0.140	TP100K-BSPP14

A

DRILLING

B

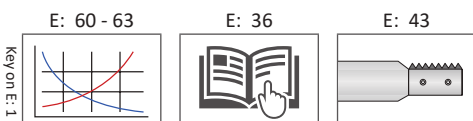
BORING

E

THREADING

X

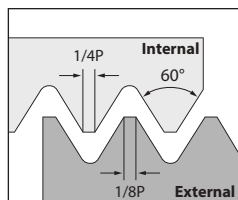
SPECIALS



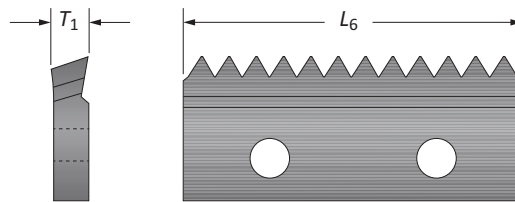
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

Bolt-in Style | UN

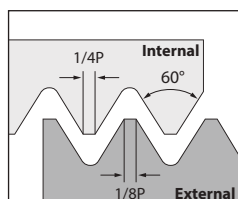


UN
Internal

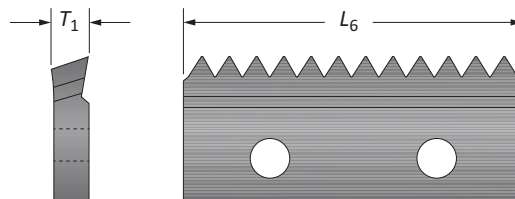


TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	UN Internal
32	19.05	0.750	2.03	0.080	TP075K-UN32I
32	25.40	1.000	3.56	0.140	TP100K-UN32I
24	19.05	0.750	2.03	0.080	TP075K-UN24I
24	25.40	1.000	3.56	0.140	TP100K-UN24I
20	19.05	0.750	2.03	0.080	TP075K-UN20I
20	25.40	1.000	3.56	0.140	TP100K-UN20I
18	19.05	0.750	2.03	0.080	TP075K-UN18I
18	25.40	1.000	3.56	0.140	TP100K-UN18I
16	19.05	0.750	2.03	0.080	TP075K-UN16I
16	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*

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

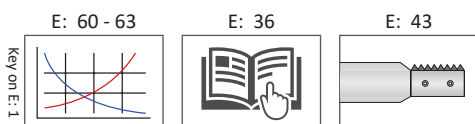


UN
External



TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	UN External
32	19.05	0.750	2.03	0.080	TP075K-UN32E
32	25.40	1.000	3.56	0.140	TP100K-UN32E
24	19.05	0.750	2.03	0.080	TP075K-UN24E
24	25.40	1.000	3.56	0.140	TP100K-UN24E
20	19.05	0.750	2.03	0.080	TP075K-UN20E
20	25.40	1.000	3.56	0.140	TP100K-UN20E
18	19.05	0.750	2.03	0.080	TP075K-UN18E
18	25.40	1.000	3.56	0.140	TP100K-UN18E
16	19.05	0.750	2.03	0.080	TP075K-UN16E
16	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*	25.40	1.000	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.



Inserts sold in quantities of 2

A DRILLING

B BORING

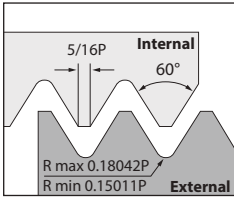
E THREADING

X SPECIALS

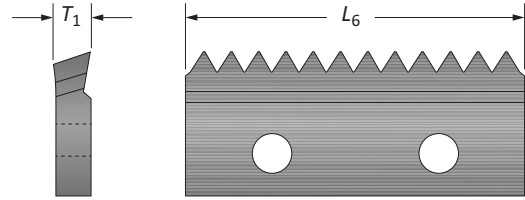


AccuThread® 856 Thread Mill Inserts

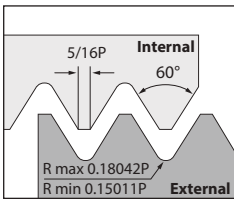
Bolt-in Style | UNJ



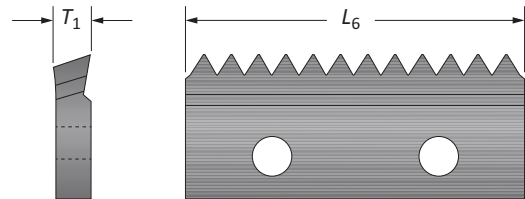
UNJ
Internal



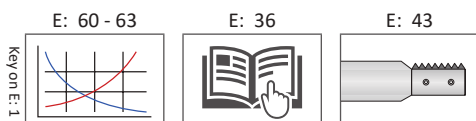
TPI (Pitch)	Insert				Part No.
	L ₆ mm	L ₆ inch	T ₁ mm	T ₁ inch	UNJ Internal
32	19.05	0.750	2.03	0.080	TP075K-UNJ32I
32	25.40	1.000	3.56	0.140	TP100K-UNJ32I
24	19.05	0.750	2.03	0.080	TP075K-UNJ24I
24	25.40	1.000	3.56	0.140	TP100K-UNJ24I
20	19.05	0.750	2.03	0.080	TP075K-UNJ20I
20	25.40	1.000	3.56	0.140	TP100K-UNJ20I
18	19.05	0.750	2.03	0.080	TP075K-UNJ18I
18	25.40	1.000	3.56	0.140	TP100K-UNJ18I
16	19.05	0.750	2.03	0.080	TP075K-UNJ16I
16	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



UNJ
External



TPI (Pitch)	Insert				Part No.
	L ₆ mm	L ₆ inch	T ₁ mm	T ₁ inch	UNJ External
32	19.05	0.750	2.03	0.080	TP075K-UNJ32E
32	25.40	1.000	3.56	0.140	TP100K-UNJ32E
24	19.05	0.750	2.03	0.080	TP075K-UNJ24E
24	25.40	1.000	3.56	0.140	TP100K-UNJ24E
20	19.05	0.750	2.03	0.080	TP075K-UNJ20E
20	25.40	1.000	3.56	0.140	TP100K-UNJ20E
18	19.05	0.750	2.03	0.080	TP075K-UNJ18E
18	25.40	1.000	3.56	0.140	TP100K-UNJ18E
16	19.05	0.750	2.03	0.080	TP075K-UNJ16E
16	25.40	1.000	3.56	0.140	TP100K-UNJ16E
12	25.40	1.000	3.56	0.140	TP100K-UNJ12E



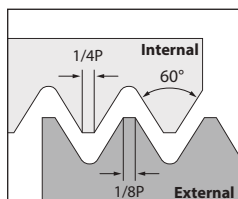
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

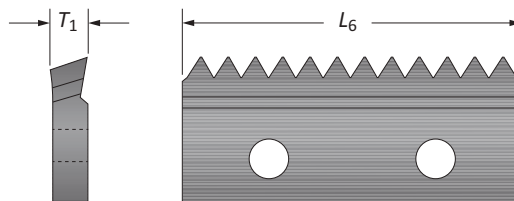
Bolt-in Style | ISO

A

DRILLING



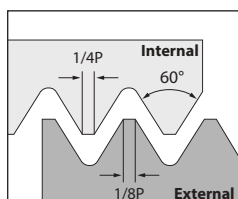
ISO
Internal



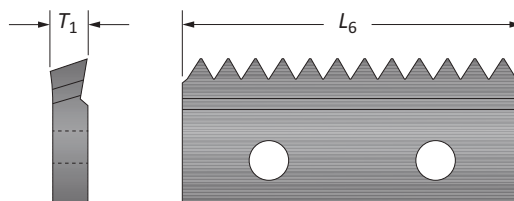
Pitch	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	ISO Internal
0.5	19.05	0.5	2.03	0.080	TP075K-M0.5I
1.0	19.05	1.0	2.03	0.080	TP075K-M1.0I
1.0	24.40	1.0	3.56	0.140	TP100K-M1.0I
1.25	19.05	1.25	2.03	0.080	TP075K-M1.25I
1.5	19.05	1.5	2.03	0.080	TP075K-M1.5I
1.5	25.40	1.5	3.56	0.140	TP100K-M1.5I
2.0	25.40	2.0	3.56	0.140	TP100K-M2.0I

B

BORING



ISO
External



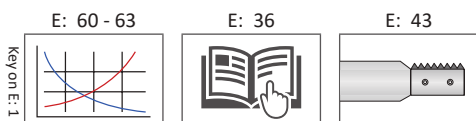
Pitch	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	ISO External
1.0	19.05	1.5	2.03	0.080	TP100K-M1.0E
1.5	25.40	1.5	3.56	0.140	TP100K-M1.5E
2.0	25.40	2.0	3.56	0.140	TP100K-M2.0E

E

THREADING

X

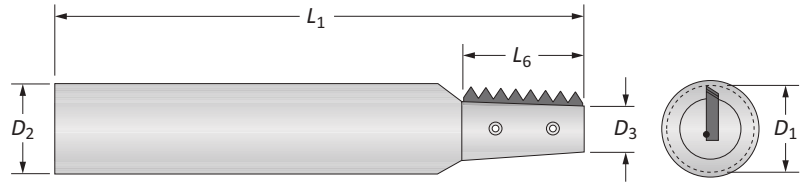
SPECIALS



Inserts sold in quantities of 2

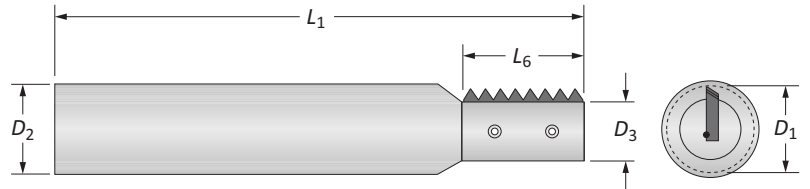
AccuThread® 856 Thread Mill Insert Holders

Bolt-in Style



Tapered Insert Holders | NPT / NPTF / BSPT

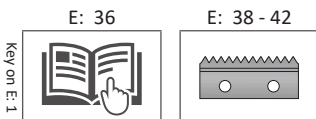
	Holder					Flutes	Part No.	Inserts	Screw	Wrench
	D ₁	D ₃	D ₂	L ₆	L ₁					
m	10.16	5.82	13.00	19.05	76.20	1	THT-0400-1F075M	TP075K...	TMS-250	8T-8
	16.74	9.65	13.00	25.40	76.20	1	THT-0659-1F100M	TP100K...	TMS-45	8T-9
i	0.400	0.229	0.500	0.750	3.000	1	THT-0400-1F075	TP075K...	TMS-250	8T-8
	0.659	0.379	0.500	1.000	3.000	1	THT-0659-1F100	TP100K...	TMS-45	8T-9



Straight Insert Holders | BSPP / UN / UNJ / ISO

	Holder					Flutes	Part No.	Inserts	Screw	Wrench
	D ₁	D ₃	D ₂	L ₆	L ₁					
m	10.01	6.35	13.00	19.05	76.20	1	THN-0394-1F075M	TP075K...	TMS-250	8T-8
	15.88	11.58	25.00	25.40	88.90	1	THN-0625-1F100M	TP100K...	TMS-40	8T-9
i	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	*SEE NOTE	TMS-40	8T-9
	0.625	0.454	0.750	1.000	3.500	1	THN-0625-1F100	TP100K...	TMS-40	8T-9

*NOTE: Only UN/UNJ 10 TPI inserts can be used in this holder. Please refer to inserts on pages E: 38-39.



E: 36

E: 38 - 42

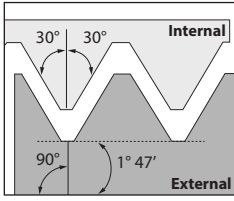
m = Metric (mm)
i = Imperial (in)

AccuThread® 856 Thread Mill Inserts

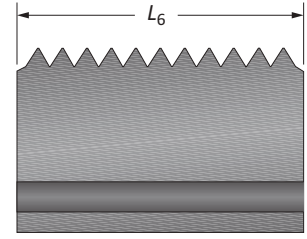
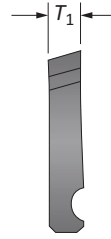
Pin Style | NPT / NPTF / BSPT

A

DRILLING



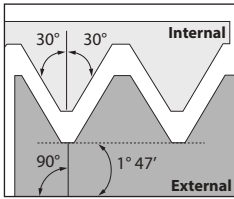
NPT
Internal / External



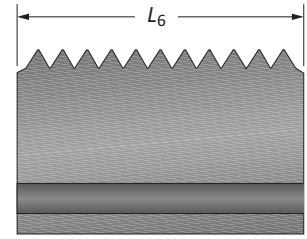
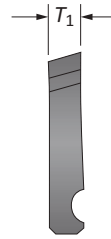
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	NPT Internal/External
11.5	38.10	1.500	3.56	0.140	TN150K-NPT11.5
8	38.10	1.500	3.56	0.140	TN150K-NPT8

B

BORING



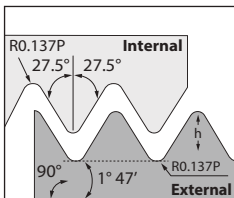
NPTF
Internal / External



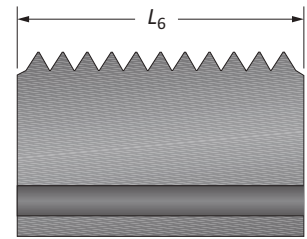
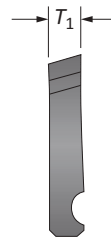
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	NPTF Internal/External
11.5	38.10	1.500	3.56	0.140	TN150K-NPTF11.5
8	38.10	1.500	3.56	0.140	TN150K-NPTF8

E

THREADING



BSPT
Internal / External



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

X

SPECIALS

Key on E: 1

E: 60 - 63

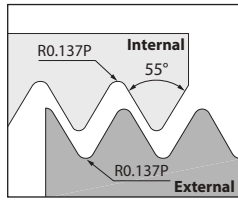
E: 36

E: 50 - 51

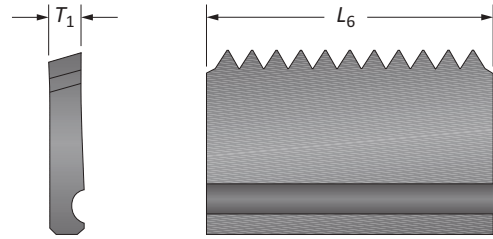
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

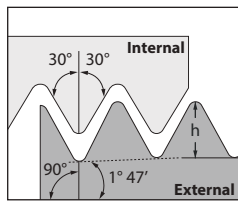
Pin Style | BSPP / API-ROUND / ACME



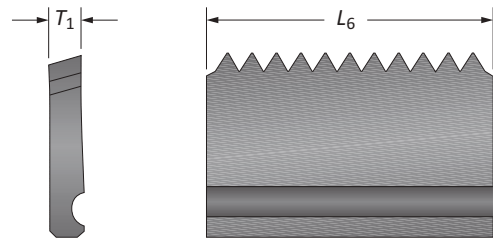
BSPP
Internal / External



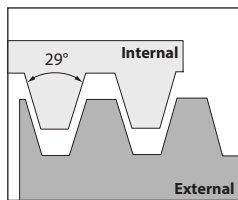
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	BSPP Internal/External
11	38.10	1.500	3.56	0.140	TN150K-BSPP11



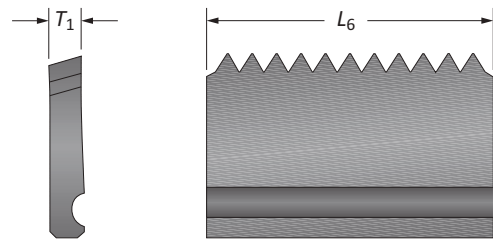
API-ROUND
Internal / External



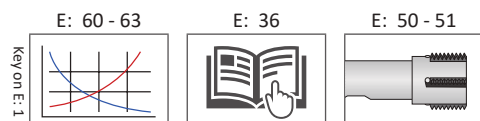
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	API-ROUND Internal/External
10	38.10	1.500	3.56	0.140	TN150K-AP10
8	38.10	1.500	3.56	0.140	TN150K-AP8



ACME
Full Profile



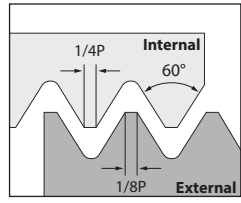
TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	ACME Full Profile
12	25.40	1.000	3.56	0.140	TN100K-FA12
12	38.10	1.500	3.56	0.140	TN150K-FA12
10	25.40	1.000	3.56	0.140	TN100K-FA10
10	38.10	1.500	3.56	0.140	TN150K-FA10
8	25.40	1.000	3.56	0.140	TN100K-FA8
8	38.10	1.500	3.56	0.140	TN150K-FA8
6	38.10	1.500	3.56	0.140	TN150K-FA6
5	38.10	1.500	3.56	0.140	TN150K-FA5



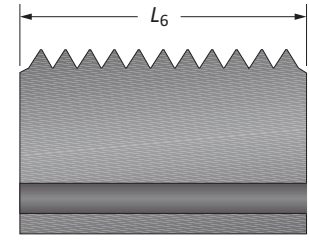
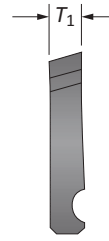
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

Pin Style | UN



UN
Internal



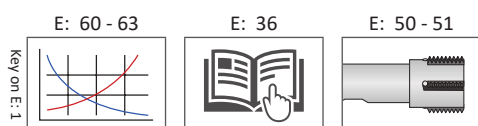
TPI (Pitch)	Insert				Part No.
	L ₆ mm	L ₆ inch	T ₁ mm	T ₁ inch	UN Internal
32	25.40	1.000	3.56	0.140	TN100K-UN32I
24	25.40	1.000	3.56	0.140	TN100K-UN24I
24	38.10	1.500	3.56	0.140	TN150K-UN24I
20	25.40	1.000	3.56	0.140	TN100K-UN20I
20	38.10	1.500	3.56	0.140	TN150K-UN20I
18	25.40	1.000	3.56	0.140	TN100K-UN18I
18	38.10	1.500	3.56	0.140	TN150K-UN18I
16	25.40	1.000	3.56	0.140	TN100K-UN16I
16	38.10	1.500	3.56	0.140	TN150K-UN16I
14	38.10	1.500	3.56	0.140	TN150K-UN14I
12	25.40	1.000	3.56	0.140	TN100K-UN12I
12	38.10	1.500	3.56	0.140	TN150K-UN12I
10	25.40	1.000	3.56	0.140	TN100K-UN10I
10	38.10	1.500	3.56	0.140	TN150K-UN10I
8	25.40	1.000	3.56	0.140	TN100K-UN8I
8	38.10	1.500	3.56	0.140	TN150K-UN8I
7	25.40	1.000	3.56	0.140	TN100K-UN7I
7	38.10	1.500	3.56	0.140	TN150K-UN7I
6	38.10	1.500	3.56	0.140	TN150K-UN6I

A
DRILLING

B
BORING

E
THREADING

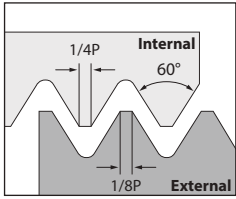
X
SPECIALS



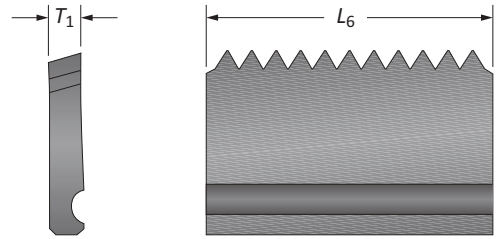
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

Pin Style | UN



UN
External



TPI (Pitch)	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	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
20	38.10	1.500	3.56	0.140	TN150K-UN20E
18	25.40	1.000	3.56	0.140	TN100K-UN18E
18	38.10	1.500	3.56	0.140	TN150K-UN18E
16	25.40	1.000	3.56	0.140	TN100K-UN16E
16	38.10	1.500	3.56	0.140	TN150K-UN16E
12	25.40	1.000	3.56	0.140	TN100K-UN12E
12	38.10	1.500	3.56	0.140	TN150K-UN12E
10	25.40	1.000	3.56	0.140	TN100K-UN10E
10	38.10	1.500	3.56	0.140	TN150K-UN10E
8	25.40	1.000	3.56	0.140	TN100K-UN8E
8	38.10	1.500	3.56	0.140	TN150K-UN8E
6	38.10	1.500	3.56	0.140	TN150K-UN6E

A

DRILLING

B

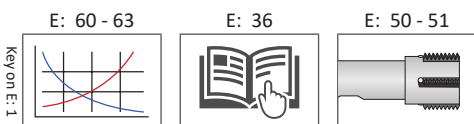
BORING

E

THREADING

X

SPECIALS



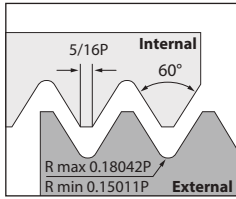
Inserts sold in quantities of 2

AccuThread® 856 Thread Mill Inserts

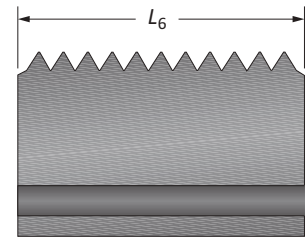
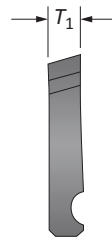
Pin Style | UNJ

A

DRILLING



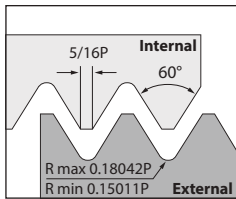
UNJ Internal



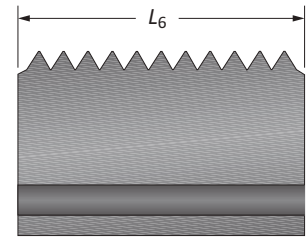
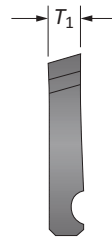
TPI (Pitch)	Insert				Part No. UNJ Internal
	L ₆ mm	L ₆ inch	T ₁ mm	T ₁ inch	
32	25.40	1.000	3.56	0.140	TN100K-UNJ32I
24	25.40	1.000	3.56	0.140	TN100K-UNJ24I
24	38.10	1.500	3.56	0.140	TN150K-UNJ24I
20	25.40	1.000	3.56	0.140	TN100K-UNJ20I
20	38.10	1.500	3.56	0.140	TN150K-UNJ20I
18	25.40	1.000	3.56	0.140	TN100K-UNJ18I
18	38.10	1.500	3.56	0.140	TN150K-UNJ18I
16	25.40	1.000	3.56	0.140	TN100K-UNJ16I
16	38.10	1.500	3.56	0.140	TN150K-UNJ16I
12	25.40	1.000	3.56	0.140	TN100K-UNJ12I
12	38.10	1.500	3.56	0.140	TN150K-UNJ12I
8	38.10	1.500	3.56	0.140	TN150K-UNJ8I

B

BORING



UNJ External



TPI (Pitch)	Insert				Part No. UNJ External
	L ₆ mm	L ₆ inch	T ₁ mm	T ₁ inch	
32	25.40	1.000	3.56	0.140	TN100K-UNJ32E
24	25.40	1.000	3.56	0.140	TN100K-UNJ24E
24	38.10	1.500	3.56	0.140	TN150K-UNJ24E
20	25.40	1.000	3.56	0.140	TN100K-UNJ20E
20	38.10	1.500	3.56	0.140	TN150K-UNJ20E
18	25.40	1.000	3.56	0.140	TN100K-UNJ18E
18	38.10	1.500	3.56	0.140	TN150K-UNJ18E
16	25.40	1.000	3.56	0.140	TN100K-UNJ16E
16	38.10	1.500	3.56	0.140	TN150K-UNJ16E
12	25.40	1.000	3.56	0.140	TN100K-UNJ12E
12	38.10	1.500	3.56	0.140	TN150K-UNJ12E
8	38.10	1.500	3.56	0.140	TN150K-UNJ8E

E

THREADING

X

SPECIALS

Key on E: 1

E: 60 - 63

E: 36

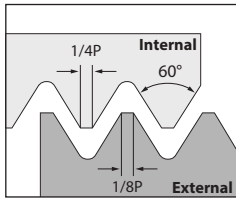
E: 50 - 51

Inserts sold in quantities of 2

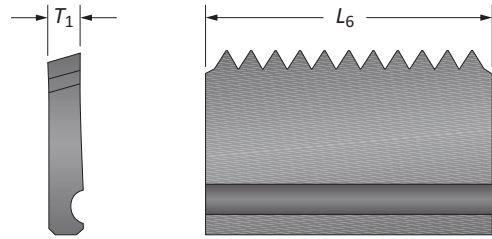


AccuThread® 856 Thread Mill Inserts

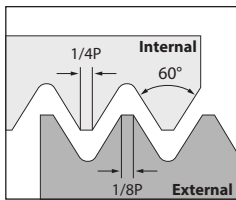
Pin Style | ISO



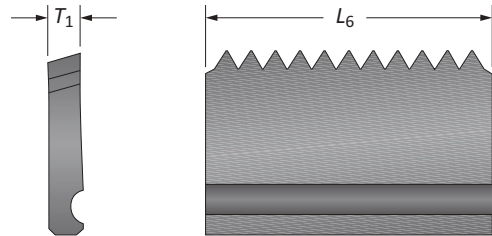
ISO
Internal



Pitch	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	ISO Internal
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



ISO
External



Pitch	Insert				Part No.
	L_6 mm	L_6 inch	T_1 mm	T_1 inch	ISO External
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

E: 60 - 63 E: 36 E: 50 - 51

Key on E: 1

Inserts sold in quantities of 2

IDX

AMEC THREADING | Solid Carbide and Indexable Thread Mills

AccuThread® Pin Style Holders

Weldon Shank

Positive Rake

	D ₁		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	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
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

	D ₁		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D ₃	L ₈	L ₆	L ₁	D ₂							
m	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
i	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:

Key on E: 1
E: 36

E: 44 - 49

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)

E: 50

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A
DRILLING

B

BORING

E

THREADING

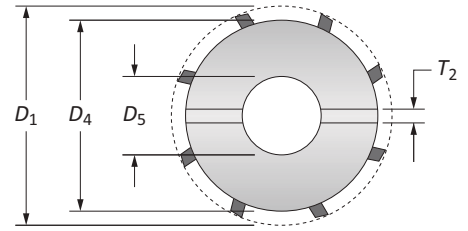
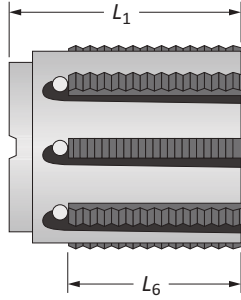
X

SPECIALS



AccuThread® Pin Style Holders

Shell Mill



Positive Rake

	D ₁		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	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
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

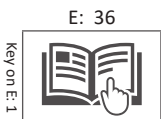
*See note at bottom of page

Neutral Rake

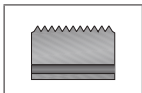
	D ₁		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D ₄	D ₅	L ₆	L ₁	T ₂						
m	56.31	59.66	50.80	22.00	38.10	57.15	10.00	6	TSR-2217-6F150M	TN150K...	TMSS-2	3/32	TMP-2
i	2.217	2.349	2.000	0.750	1.500	2.250	0.312	6	TSR-2217-6F150	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page

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



E: 36



E: 44 - 49

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)

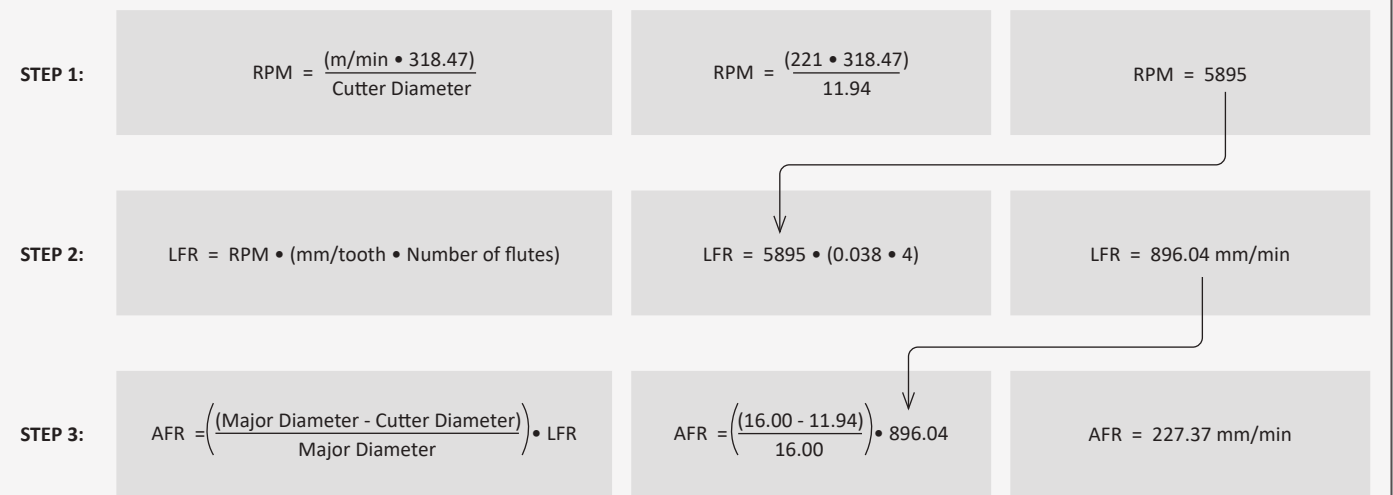
Thread Mill Pre-Drill Information

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



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 or 0.003" probable mean oversize.

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

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

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

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

NPT / NPTF / BSPT / API			
Pitch Size	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

ISO			
Pitch Size	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

UN / UNJ / BSPP / BSW / NPS / NPSF			
Pitch Size	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

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

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS



Recommended Cutting Data | Metric (mm)

Solid Carbide | AccuThread® 856

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 mm	3.19 mm	4.77 mm	6.36 mm	7.95 mm	9.54 mm	12.71 mm	15.89 mm
					3.18 mm	4.76 mm	6.35 mm	7.94 mm	9.53 mm	12.70 mm	15.88 mm	19.05 mm
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	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 1010, 1040, 1050, 1527, 1140	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
	Alloy Steel 4140, 5140, 8640	225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		275 - 325	Average	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		325 - 375	Difficult	114	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	High-Strength Alloy 4340, 4330V, 300M	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
		350 - 400	Difficult	107	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
Structural Steel A36, A285, A516	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	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	37	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
		220 - 310	Difficult	27	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
M	Stainless Steel 303, 416, 420	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	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	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 Aluminium 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 Aluminium** up to 10% silicon	120	Easy	191	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Brass	30 - 125	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

Recommended Cutting Data | Imperial (inch)

Solid Carbide | AccuThread® 856

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 0.625"	0.626" - 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	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 1010, 1040, 1050, 1527, 1140	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
		225 - 275	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640	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
		225 - 275	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M	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	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	
S	High-Temp Alloy Hastelloy B, Inconel 600	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
M	Stainless Steel 303, 416, 420	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	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	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 Aluminium 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 Aluminium** up to 10% silicon Brass	120	Easy	625	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Recommended Cutting Data | Metric (mm)

Solid Carbide | ThreadMills USA™

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 mm - 3.18 mm	3.19 mm - 4.76 mm	4.77 mm - 6.35 mm	6.36 mm - 7.94 mm	7.95 mm - 9.53 mm	9.54 mm - 12.70 mm	12.71 mm - 15.88 mm	15.89 mm - 19.05 mm
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	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 1010, 1040, 1050, 1527, 1140	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
	Alloy Steel 4140, 5140, 8640	225 - 275	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		275 - 325	Average	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
	High-Strength Alloy 4340, 4330V, 300M	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
		350 - 400	Difficult	76	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
Structural Steel A36, A285, A516	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	
S	High-Temp Alloy Hastelloy B, Inconel 600	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
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	130	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		185 - 275	Difficult	122	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4	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	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	
R	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
S	Wrought Aluminium 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 Aluminium** 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

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

Recommended Cutting Data | Imperial (inch)

Solid Carbide | ThreadMills USA™

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 0.625"	0.626" - 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	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 1010, 1040, 1050, 1527, 1140	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
		225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640	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
		225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M	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
		350 - 400	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Structural Steel A36, A285, A516	100 - 150	Average	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 250	Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
250 - 350		Difficult	300	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
S	High-Temp Alloy Hastelloy B, Inconel 600	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
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	425	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		185 - 275	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Stainless Steel PH 17-4	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
	Tool Steel H-13, H21, A-4	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	
K	Cast Iron Grey, Ductile, Nodular	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
		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
N	Wrought Aluminium 6061 T6	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
	Cast Aluminium** up to 10% silicon Brass	120	Easy	500	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Recommended Cutting Data | Metric (mm)

Solid Carbide | AccuThread® T3

ISO	Material	Hardness (BHN)	Speed (m/min)	Chipload per Tooth (mm/tooth) by Cutter Diameter						
				1.40 mm - 3.17 mm	3.18 mm - 4.77 mm	4.78 mm - 6.35 mm	6.36 mm - 7.92 mm	7.93 mm - 9.52 mm	9.53 mm - 12.70 mm	12.71 mm - 19.05 mm
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
175 - 225		60	0.020	0.025	0.030	0.040	0.050	0.065	0.080	
High-Strength Alloy 4340, 4330V, 300M, 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	
	325 - 375	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080	
Structural Steel A36, A285, A516, etc.	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	
	350 - 400	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	100 - 150	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090	
	150 - 250	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090	
	250 - 350	45	0.020	0.025	0.035	0.045	0.050	0.075	0.090	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	150 - 200	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		200 - 250	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	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
		275 - 350	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
M	Stainless Steel 416, 420, 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
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	185 - 275	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		275 - 350	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
	Super Duplex Stainless Steel	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	
H	Hardened Steels	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	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
		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 Aluminium	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 Aluminium	30	150	0.025	0.030	0.045	0.050	0.075	0.100	0.120
		180	135	0.025	0.030	0.045	0.050	0.075	0.100	0.120
Brass	30 - 180	75	0.025	0.030	0.045	0.050	0.075	0.100	0.120	
	30 - 100	150	0.025	0.030	0.045	0.050	0.075	0.100	0.120	

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

Recommended Cutting Data | Imperial (inch)

Solid Carbide | AccuThread® T3

ISO	Material	Hardness (BHN)	Speed (SFM)	Chipload per Tooth (IPT) by Cutter Diameter						
				0.055" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 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
		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
	High-Strength Alloy 4340, 4330V, 300M, etc.	300 - 350	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		350 - 400	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
	Structural Steel A36, A285, A516, etc.	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
250 - 350		150	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031	
	200 - 250	125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031	
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
275 - 350	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025		
M	Stainless Steel 416, 420, etc.	185 - 275	225	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
		275 - 350	200	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	125	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
		185 - 275	75	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
	Super Duplex Stainless Steel	135 - 185	125	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
185 - 275	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025		
H	Hardened Steels	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
K	Cast Iron Grey, Ductile, Nodular	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
		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
N	Wrought Aluminium	30	500	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
		180	450	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
	Cast Aluminium	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	0.0048

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

A
DRILLING
B
BORING
E
THREADING
X
SPECIALS

Recommended Cutting Data | Metric (mm)

Indexable | AccuThread® 856 | Positive Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter						
					1 flute		1 and 2 flutes	3 flutes	5 flutes	7 flutes	8 flutes
					9.53 mm - 12.70 mm	12.71 mm - 19.05 mm	19.06 mm - 25.40 mm	25.41 mm - 38.10 mm	38.11 mm - 50.80 mm	50.81 mm - 69.85 mm	69.86 mm - 88.90 mm
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	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
		225 - 275	Average	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	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
		275 - 325	Average	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064
	Alloy Steel 4140, 5140, 8640	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
		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
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		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
	Structural Steel A36, A285, A516	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	
250 - 350		Difficult	137	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
S	High-Temp Alloy Hastelloy B, Inconel 600	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
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	160	0.013	0.018	0.023	0.038	0.051	0.064	0.076
		185 - 275	Difficult	152	0.013	0.018	0.023	0.038	0.051	0.064	0.076
	Stainless Steel PH 17-4	185 - 275	Difficult	91	0.013	0.018	0.023	0.038	0.051	0.064	0.076
		275 - 325	Difficult	46	0.013	0.018	0.023	0.038	0.051	0.064	0.076
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	175	0.020	0.025	0.030	0.038	0.051	0.064	0.076
200 - 250		Difficult	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
K	Cast Iron Grey, Ductile, Nodular	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
		260 - 320	Average	145	0.020	0.030	0.038	0.051	0.076	0.102	0.127
N	Wrought Aluminium 6061 T6	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
	Cast Aluminium** up to 10% silicon	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

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

Recommended Cutting Data | Imperial (inch)

Indexable | AccuThread® 856 | Positive Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter						
					1 flute		1 and 2 flutes	3 flutes	5 flutes	7 flutes	8 flutes
					0.375" - 0.500"	0.501" - 0.750"	0.751" - 1.000"	1.001" - 1.500"	1.501" - 2.000"	2.001" - 2.750"	2.751" - 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	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 1010, 1040, 1050, 1527, 1140	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	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	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	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	
S	High-Temp Alloy Hastelloy B, Inconel 600	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
M	Stainless Steel 303, 416, 420	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	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	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 Aluminium 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 Aluminium** 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

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

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SPECIALS

Recommended Cutting Data | Metric (mm)

Indexable | AccuThread® 856 | Neutral Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter		
					3 flutes 25.41 mm - 38.09 mm	5 flutes 38.10 mm - 50.77 mm	6 flutes 50.78 mm - 69.85 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	233	0.032	0.043	0.054
		150 - 200	Easy	181	0.032	0.043	0.054
		200 - 250	Easy	129	0.032	0.043	0.054
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	233	0.032	0.043	0.054
		125 - 175	Average	181	0.032	0.043	0.054
		175 - 225	Average	156	0.032	0.043	0.054
		225 - 275	Average	129	0.032	0.043	0.054
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	149	0.026	0.032	0.043
		175 - 225	Average	129	0.026	0.032	0.043
		225 - 275	Average	116	0.026	0.032	0.043
		275 - 325	Average	104	0.026	0.032	0.043
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	149	0.026	0.032	0.043
		175 - 225	Average	129	0.026	0.032	0.043
		225 - 275	Average	116	0.026	0.032	0.043
		275 - 325	Difficult	104	0.026	0.032	0.043
325 - 375		Difficult	97	0.026	0.032	0.043	
High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	116	0.026	0.032	0.043	
	300 - 350	Difficult	104	0.026	0.032	0.043	
	350 - 400	Difficult	91	0.026	0.032	0.043	
Structural Steel A36, A285, A516	100 - 150	Average	156	0.032	0.043	0.054	
	150 - 250	Average	129	0.032	0.043	0.054	
	250 - 350	Difficult	116	0.032	0.043	0.054	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	-	-	-	
		220 - 310	Difficult	-	-	-	
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	-	-	-	
		185 - 275	Difficult	-	-	-	
	Stainless Steel PH 17-4	185 - 275	Difficult	-	-	-	
		275 - 325	Difficult	-	-	-	
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	-	-	-	
200 - 250		Difficult	-	-	-		
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	175	0.043	0.065	0.087
		150 - 200	Easy	162	0.043	0.065	0.087
		200 - 220	Easy	149	0.043	0.065	0.087
		220 - 260	Average	129	0.043	0.065	0.087
		260 - 320	Average	123	0.043	0.065	0.087
N	Wrought Aluminium 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminium** up to 10% silicon	120	Easy	-	-	-	
	Brass	30 - 125	Easy	-	-	-	

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

Recommended Cutting Data | Imperial (inch)

Indexable | AccuThread® 856 | Neutral Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter		
					3 flutes	5 flutes	6 flutes
					1.000" - 1.499"	1.500" - 1.999"	2.000" - 2.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	765	0.0013	0.0017	0.0021
		150 - 200	Easy	595	0.0013	0.0017	0.0021
		200 - 250	Easy	425	0.0013	0.0017	0.0021
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	765	0.0013	0.0017	0.0021
		125 - 175	Average	595	0.0013	0.0017	0.0021
		175 - 225	Average	510	0.0013	0.0017	0.0021
		225 - 275	Average	425	0.0013	0.0017	0.0021
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	490	0.0010	0.0013	0.0017
		175 - 225	Average	425	0.0010	0.0013	0.0017
		225 - 275	Average	380	0.0010	0.0013	0.0017
		275 - 325	Average	340	0.0010	0.0013	0.0017
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	490	0.0010	0.0013	0.0017
		175 - 225	Average	425	0.0010	0.0013	0.0017
		225 - 275	Average	380	0.0010	0.0013	0.0017
		275 - 325	Difficult	340	0.0010	0.0013	0.0017
		325 - 375	Difficult	320	0.0010	0.0013	0.0017
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	390	0.0010	0.0013	0.0017
		300 - 350	Difficult	340	0.0010	0.0013	0.0017
		350 - 400	Difficult	300	0.0010	0.0013	0.0017
	Structural Steel A36, A285, A516	100 - 150	Average	510	0.0013	0.0017	0.0021
		150 - 250	Average	425	0.0013	0.0017	0.0021
250 - 350		Difficult	390	0.0013	0.0017	0.0021	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	-	-	-	
		220 - 310	Difficult	-	-	-	
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	-	-	-	
		185 - 275	Difficult	-	-	-	
	Stainless Steel PH 17-4	185 - 275	Difficult	-	-	-	
		275 - 325	Difficult	-	-	-	
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	-	-	-	
200 - 250		Difficult	-	-	-		
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	575	0.0017	0.0026	0.0034
		150 - 200	Easy	525	0.0017	0.0026	0.0034
		200 - 220	Easy	490	0.0017	0.0026	0.0034
		220 - 260	Average	425	0.0017	0.0026	0.0034
		260 - 320	Average	400	0.0017	0.0026	0.0034
N	Wrought Aluminium 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminium** up to 10% silicon	120	Easy	-	-	-	
	Brass	30 - 125	Easy	-	-	-	

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

*Refer to recommended pass chart on page E: 53 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminium applications

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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 6 basic steps

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

visit www.alliedmachine.com

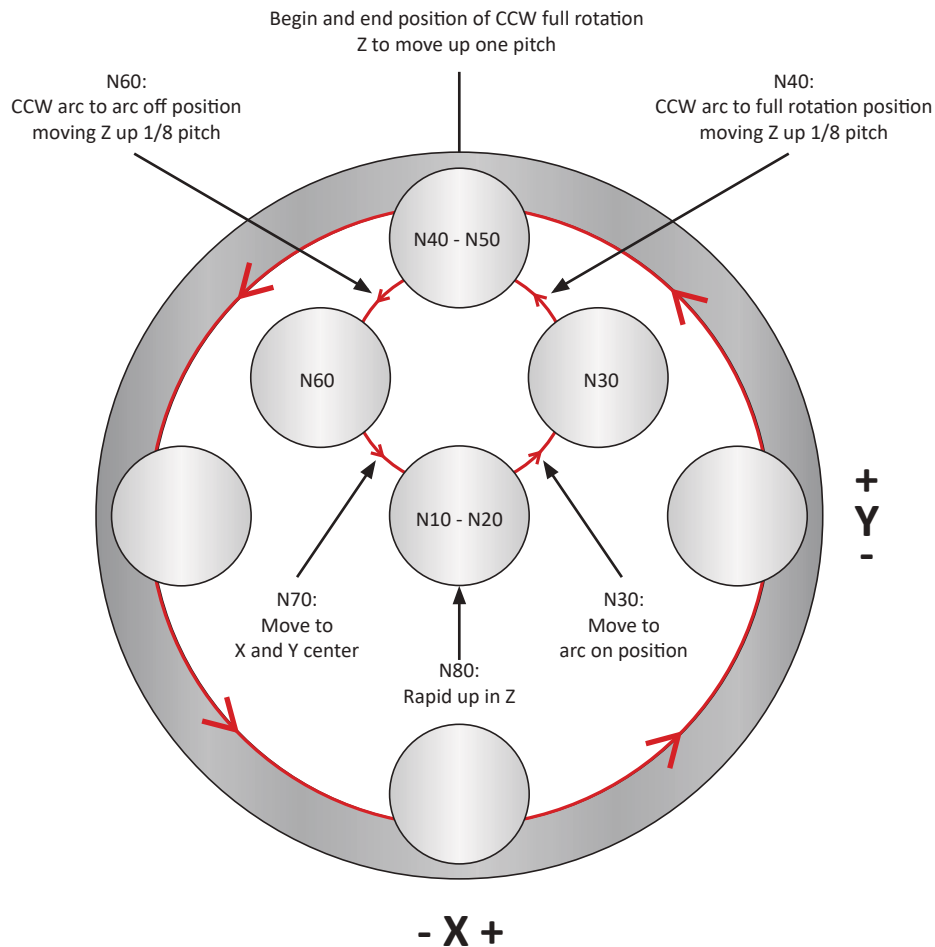
The following are examples of how to calculate and program a M16x2 right hand thread that will be 10 mm deep produced in one pass

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
Cutter diameter	11.94 mm
Length of thread	10.00 mm

Feed rate for thread milling	227.37 mm/min
Z axis depth for full thread	10.25 mm
Z axis for arc on/off	0.25 mm

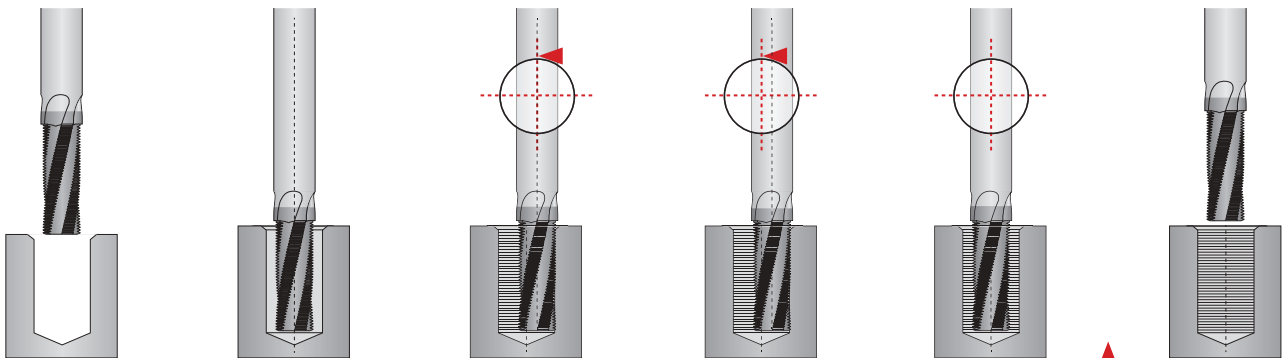
Arc on/off value	1.015 mm
Full rotation value	2.030 mm
Pitch value	2.00 mm





Thread Mill Programming Guide

			5895	M03				
1	N10	S	Turn on spindle in the clockwise direction.					
2	N20	G91	G01	Z -10.250	F 1136.25			
3	N30	G41	X 1.015	Y 1.015	D1	F 681.75		
	N40	G03	X -1.015	Y 1.015	Z 0.250	I -1.015	J 0.000	F 227.37
4	N50	G03	X 0.000	Y 0.000	Z 2.000	I 0.000	J -2.030	
	N60	G03	X -1.015	Y -1.015	Z 0.250	I 0.000	J -1.015	F 909.00
5	N70	G40	G01	X 1.015	Y -1.015	F 1136.25		
	N80	G00	Z 7.750					
6	N90	G90	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).					



Step 1 N10	Step 2 N20	Step 3 N30 - N40	Step 4 N50	Step 5 N60 - N70	Step 6 N80 - N90
<ul style="list-style-type: none"> Preparatory commands Positioning above hole center and at hole level in Z In absolute position mode 	<ul style="list-style-type: none"> Change to incremental Feed to bottom of hole Z axis depth for full thread 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> One complete CCW rotation at full arc rotation value while moving Z up 1 pitch value 	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Rapid up in Z

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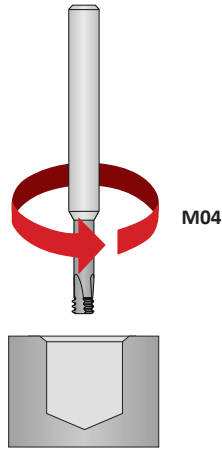
Technical Information

AccuThread® T3

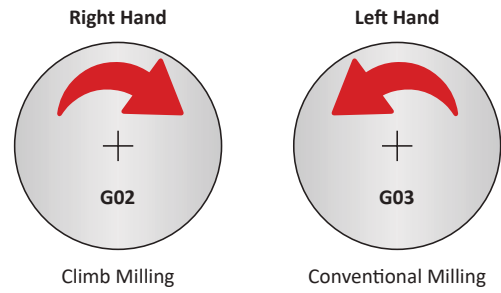
A DRILLING

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.

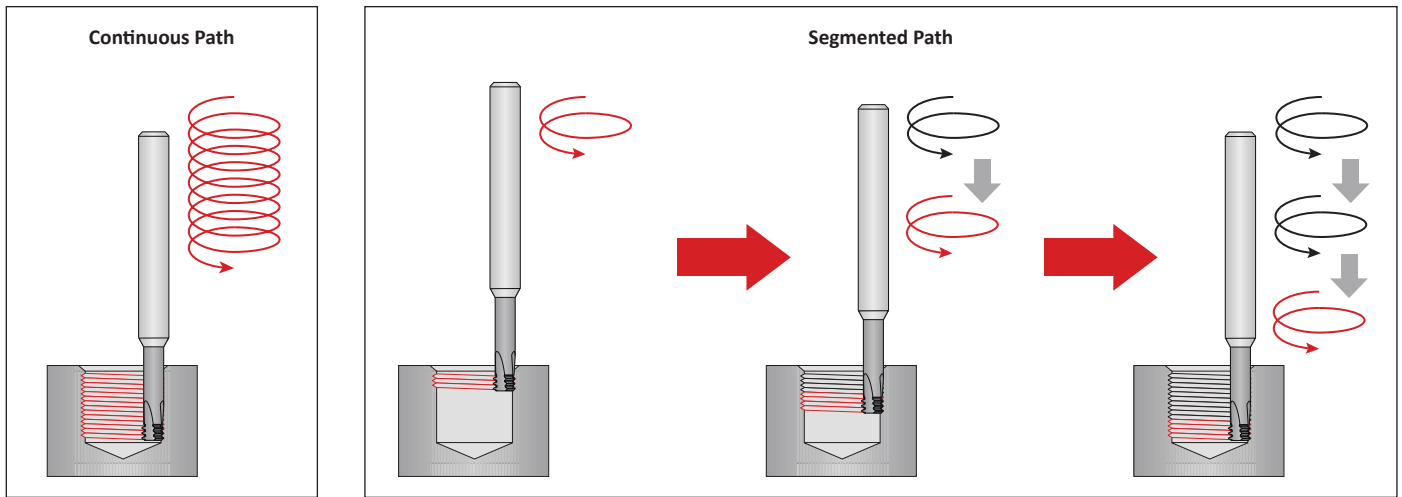


Direction of Helical Interpolation



B

Programming Z-Axis Cutting Path

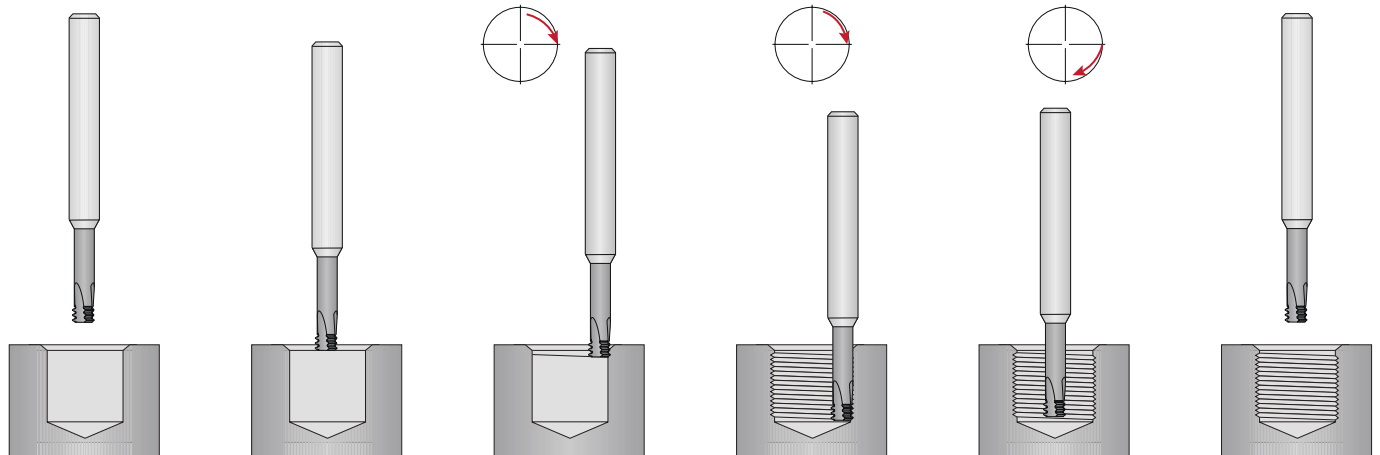


BORING

E

THREADING

Start Point Center Location Arc Entrance Thread Milling Arc Exit End Point



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SPECIALS



Thread Mill Troubleshooting Guide

		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	Control not accepting the program
Causes												
Catalogue	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 catalogue to ensure proper tool selection.
2. Verify the correct speed was selected from the catalogue speed and feed chart.
3. Verify the correct feed rate was selected from the catalogue 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 ufficiotecnico@febametal.com.

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SPECIALS

SECTION

X

Special Tooling Solutions

Special Tooling Solutions

Superion® | Insta-Quote® | Engineered Specials



Specialty is Our Specialty

When it comes to designing and developing special solutions for customers, Allied Machine is the top choice. Our engineers see applications in ways many others don't, and that ability allows us to win situations that haven't been won before.

If you have a particularly unique or difficult application, give us a call. Most of our tooling can be tweaked as specials, and we can create entirely new concepts if alterations to standard products won't do the trick.

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. Safety messages follow these words.

WARNING

WARNING (shown above) 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.

special
solutions



Special Tooling Solutions Contents

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Special Tooling Options

Special Tooling is Our Specialty

Allied Machine offers three methods for obtaining special tooling to solve any application problem you encounter: Superior®, Insta-Quote®, and Engineered Specials. We know standard tooling can't be the answer for everyone, and that's why we specialise in developing unique tooling to fit your needs.

Many of our products can be altered as specials. In fact, many of our standard items are results of frequently requested special features. Many times, one special design can end up solving problems for multiple customers across a variety of industries. Our specials capabilities truly set us apart from our competition.

Our Application Engineering team and Field Sales Engineers are trained and highly skilled to develop unique solutions that you won't find anywhere else. If you need special tooling, give us a call.



SUPERION®

Solid Carbide Specials

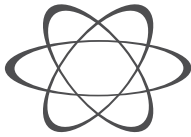


Advanced Capabilities

With the addition of the Superior solid carbide products, Allied Machine can now provide made-to-order special tooling to better help customers achieve optimal performance and productivity in their holemaking applications. Give us a call today and see the new solutions we can provide.

Made-to-Order Solid Carbide Specials

- PCD Tooling
- Burnishing Drills
- Solid Carbide Drills
- Step Drills / PCD Step Reamers



Insta-Quote®

Insta-Quote is an online custom tool designer. The program is available 24/7 and guides you through the steps as you create a special tool designed to meet the requirements of your application.

Products Available:

- T-A® Inserts
- T-A® Holders
- GEN3SYS® XT Holders
- ALVAN® Reamers



See pages X: 6 - 13



Engineered Specials

When the requirements of your application fall outside the limitations of Insta-Quote, your special tooling becomes an Engineered Special. These are tool designs that our engineers get to create and develop specifically for you.

Reasons to Call:

- Many standard products can be specially engineered
- Allied Machine specials can save you time and increase tool life
- Our engineers have the skills and knowledge to create designs that meet the challenge



See pages X: 14 - 21

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SPECIALS

Industry Solutions

Every Industry Needs Some Special Attention

Many specific industry applications can be tricky, and processes can change drastically from one sector to the next. Allied's Field Sales Engineers and Application Engineers work together to develop breakthrough solutions that help customers master processes that before seemed impossible to improve.

You know your parts. You know your materials. You know what works and what doesn't. All you need to do is let us know what you're dealing with, and we'll take it from there. Whether you're machining the wings of an airplane or the engine block in a new car, we'll develop the right design to solve the problem you're facing.

For more industry examples, see Allied Machine's case studies at www.alliedmachine.com/RealLifeResults.



Automotive
Engine Block



Aerospace
Central Fuselage Wing Box



Heavy Machinery
Track Links



Oil and Gas
Heat Exchanger

COMPLEX SOLUTIONS



INNOVATIVE SOLUTIONS



LONG SOLUTIONS



EVERY PROBLEM
HAS A
SOLUTION

Superion®

Solid Carbide and PCD Tooling Solutions

A

WHAT IS SUPERION?

Superion capabilities provide cutting-edge solutions in both solid carbide and PCD tooling.

DRILLING

WHY SHOULD YOU USE SUPERION?

- State-of-the-art manufacturing automation allows for high repeatability and consistency, regardless of the quantity you need.
- Superion provides application-specific solutions tailored to meet your toughest demands.
- Superion tooling excels in difficult and unique material applications.
- Our goal is to provide you a quality solution to exceed your need on a schedule that satisfies.



B

WHEN SHOULD YOU USE SUPERION?

- When finish is critical and dimensions are tight, Superion will deliver a tool to maintain your tolerances.
- When your tooling budget requires regrinds and the ability to remanufacture, Superion tackles your needs.
- If you're dealing with CFRP or other unique materials, Superion tooling is the right solution.

BORING

AEROSPACE / Landing Gear Components



DRILL BURNISH TOOLS

Reduce cycle time, increase throughput, and increase profitability by combining roughing and finishing operations using our burnishing geometry for applications in which surface finish and hole tolerance are critical.

E

AUTOMOTIVE / Crankshafts



COMBINATION TOOLS

Combine multiple steps and various profile features to improve throughput. Combination tools reduce cost per hole and increase profit potential.

THREADING

HEAVY EQUIPMENT / Manifolds



SOLID CARBIDE TOOLS WITH COOLANT

Solid carbide solutions optimise the manufacturing of manifolds. Most port specs call for at least three steps, and combining these features can reduce costs and increase throughput.

X

AUTOMOTIVE / Transmission Components



SOLID CARBIDE STEP TOOLS

You can rely on Superion's state-of-the-art manufacturing facility, built specifically to satisfy the customer's needs. Whether it's 10 drills or 1,000 drills, Superion will provide consistent and effective solutions to your production needs.

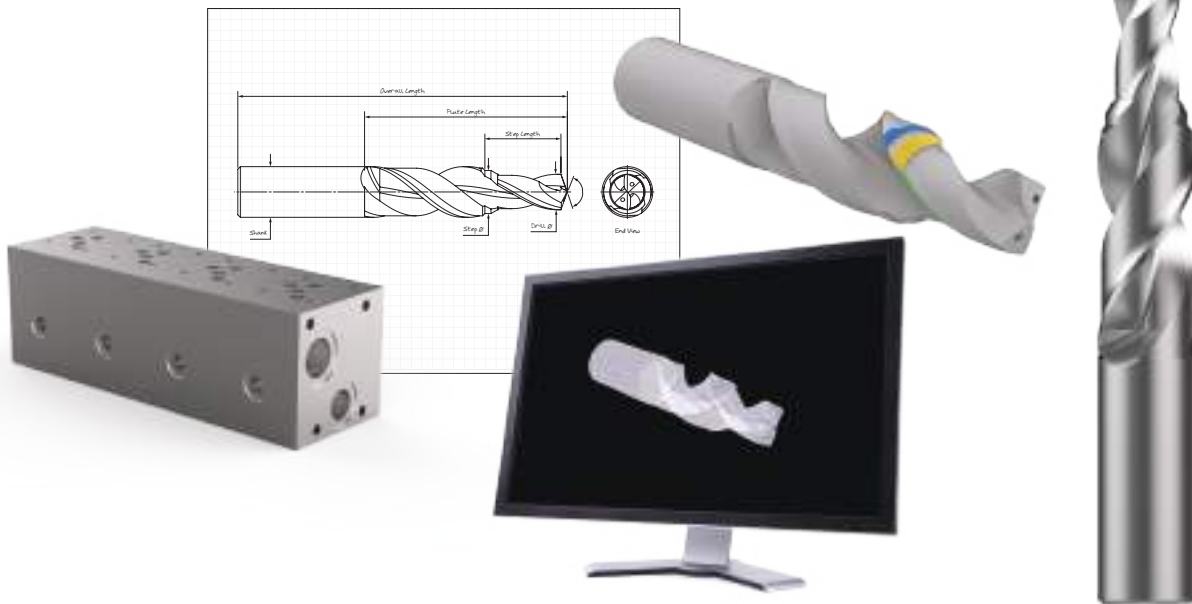
SPECIALS

Superion®

Solid Carbide and PCD Tooling Solutions

From Concept to Reality

Allied's team of engineers is ready to assist you with your application. We'll gather all the information we need about your application and turn your concept into reality. Give us a call today, and we will collaborate with you and listen to your needs, formulate a concept, develop the model, and build the solution.

**The Challenge of CFRP Materials**

Carbon fiber material is ideal for industries that require components with high strength and rigidity without increasing weight. In other words, these products need to be really strong and sturdy but also really light. For example, the aerospace industry revolves around aerodynamics, which is why carbon fiber is utilised to increase the quality of aerospace components without increasing the weight.

Many other metals are composed of uniform properties that are the same in every direction. Carbon fiber, on the other hand, is made of fabrics that are specifically positioned in different directions. This configuration increases the strength and rigidity of the material, but it also makes carbon fiber much more difficult to drill.

Results When Drilling Aerospace-Grade Carbon Fiber

Holes drilled with CVD drill insert



Holes drilled with PCD tooling

Just Look at That!

These images tell the whole story. Check out the holes drilled by the PCD tooling versus the CVD insert. Notice the excessive delamination on the first group of holes. The PCD tooling avoids most delamination, resulting in an excellent hole in the difficult-to-drill carbon fiber material.

Carbon fiber has high strength that causes:

- Wear on the cutting tool
- Splintering/fraying of the hole

As you can see, the first test experienced these problems. The PCD tooling, however, successfully drilled clean holes.

Insta-Quote®

Design Your Custom Tooling

Insta-Quote®

Design your custom tooling and receive a drawing and quote...all within *minutes*.

iq.alliedmachine.com



Design Your Own Solutions

Insta-Quote is an online program that allows you to design and quote your own tooling in a matter of minutes. After you log in, Insta-Quote will guide you through the steps to gather all the necessary information and generate the solution you need. Within the system, you can choose from the following tools to design:

- T-A® Inserts
- T-A® Holders
- GEN3SYS® XT Holders

Along with designing these products as specials, Insta-Quote can also help you create your item number for ALVAN® Reamers. Because reamer item numbers do not follow the same method as Allied Machine's standard products, you must build your reamer item numbers. Insta-Quote can do that for you.

- Replaceable Head Style
- Monobloc Style
- Cutting Ring Style



Design anytime from anywhere.
Available online 24/7.



A
DRILLING

B
BORING

F
THREADING

X
SPECIALS

Insta-Quote®

User Guide



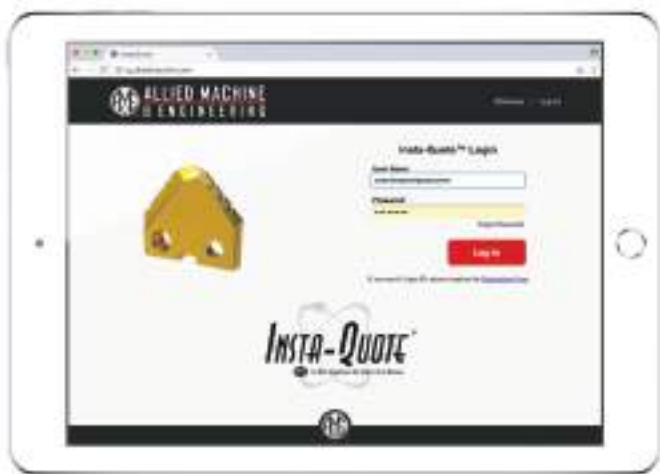
Where Do I Find Insta-Quote?

There are two ways to get to the Insta-Quote program. You can visit the Allied Machine homepage (www.alliedmachine.com) and click on the Insta-Quote icon under the quick links menu (☰)

Or you can simply go to iq.alliedmachine.com to access Insta-Quote directly.



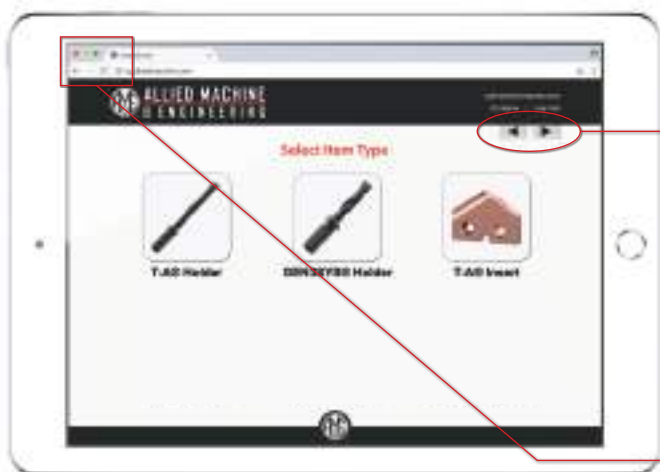
OR iq.alliedmachine.com



1 Log In
Fill in "User Name" and "Password" and click the login button. If you do not have a login, just click the "Registration Form" option beneath the login button and submit your registration.



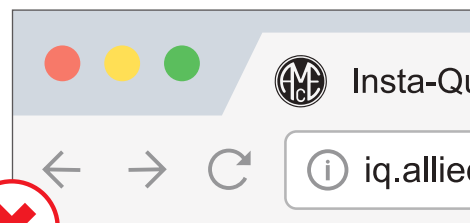
2 Select Activity
On this screen, you can choose to create a new tool, edit a previous tool, update your quote, or copy a previous item.



3 Select Tool Type
Choose the type of special tool you would like to create. The options include T-A® inserts, T-A® holders, GEN3SYS® holders, replaceable head reamers, monobloc reamers, and cutting ring reamers.



IMPORTANT:
The right and left arrows will navigate you through each step. **DO NOT** use the web browser's back and forward buttons; doing so may result in loss of progress.



Do not use the web browser's back and forward arrows

Insta-Quote®

User Guide

What Is My Item Number?

As soon as you select the type of product you want to design, Insta-Quote automatically generates the item number for your tool. The item number will appear at the top left-hand side of your screen.

170209-547

Year Month Day Reference No.

First Part of the Item Number:

This represents the date you began designing your tool (ex. 170209 = February 9, 2017).

Second Part of the Item Number:

This is the reference number for that specific item. If you begin designing another tool on the same day, the first part of the new item number would be the same, but the reference number would be unique to that new item.



4 Shank Selection

Select the shank type you require and then click the right arrow button ► to proceed.



5 Shank Options

After choosing the shank type, you will be provided with additional shank options (if applicable). Once your selections are made, click the right arrow button ► to proceed.



6 Select Body Style

Choose the holder style you need, and then click the right arrow button ► to proceed.



7 Body Options

After choosing the holder style, you will be provided with additional holder options (if applicable). Once your selections are made, click the right arrow button ► to proceed.



8 Coolant Options

On this screen you will select your coolant options. When finished, click the right arrow button ► to proceed.

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

Insta-Quote®

User Guide



9 **Contact Information**
Complete the contact details and select a language for the drawing. Click the "Quote Item" button to proceed.

10 **Quote Your Item**
Once you have selected "Quote Item," a box will appear that you know the estimated time remaining before your quote and drawing are created (typical wait time is less than 1 minute).
NOTE: Your pop-up blocker must be disabled in order to view the downloaded files.

ALLIED MACHINE & ENGINEERING
120 Deeds Drive, Dover, OH 44622
Phone: 330-343-4283 | Fax: 330-602-3400
www.alliedmch.com

AMEC Rep:
Harold Staley
Phone: 330-343-4283
Fax: 330-602-3400
Email:

Quote Number: N-012345-678910
Item Number: 170210-523 Rev. 0

Customer Item Reference:
Customer: ABC Company
456 Holmaking Dr.
Dover, OH 44622
USA
Email: joe@abc.com
Phone: 330-343-4283
Fax: 330-602-3400

DESCRIPTION	QTY	LIST PRICE EACH (U.S. \$)	SCHEM
#2 Series T-A Helix Holder With 1.000" Drill Diameter, 5.800" Helical Flute, 4.00" Drill Depth, 1.000" Dia By 2.281" Long Flanged Shank With No Flat With Through Shank Coolant, Per AMECH 170210-523 Rev. 0	1	\$0.00	
	2	\$0.00	
	3	\$0.00	
	4-5	\$0.00	
	6-9	\$0.00	
	10-14	\$0.00	
	15-24	\$0.00	
	25-49	\$0.00	
	50+	\$0.00	

Price Class: ABC

For additional opportunities to lower cost, please review AMEC's Blanket Release Order Policy (BRO Policy 081618 Rev. 3).

This quotation is being offered based on the information that has been provided to AMEC. The price and manufacturability is subject to change. This quotation is being offered based on the information that has been provided to AMEC. The price and manufacturability is subject to change. Responses longer than 2 days will impact item. Please respond within two days. AMEC delivers allow 2 days for drawing review. Responses longer than 2 days will impact item.

Order Quantity	Allowable Quantity Variance	Shipment Table
1-9	+0-0	10-49
		50-149
		150-249
		+0-3

Order Quantity Variance Amount

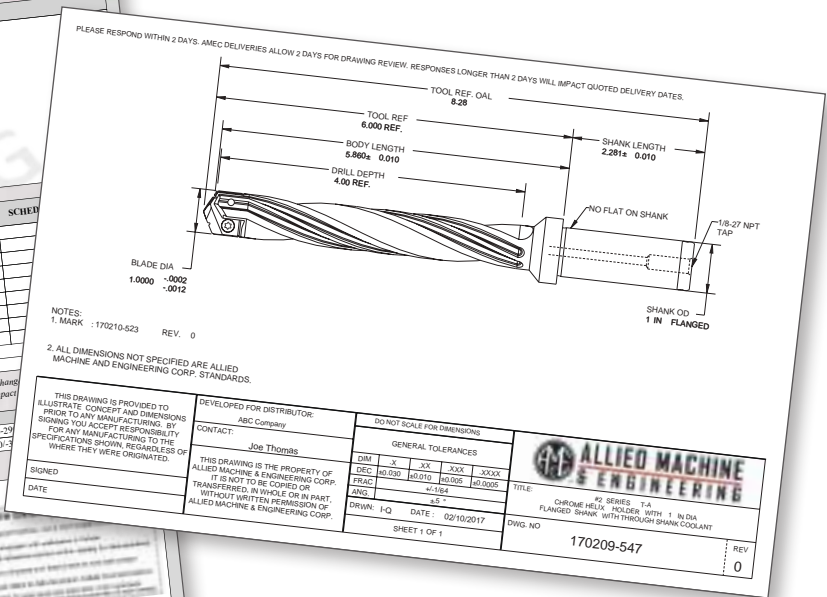
*Deviations with approval by the customer

This Document will serve as an official response. Please notify us if additional copies should be mailed.

- This quote is valid until 12/31/2023 unless you send a specific notification to the contrary.
- Scheduled lead time is based on availability of material at time of order. You will be notified within 3 business days of receipt of order if a lead time change is required.
- Scheduled lead time starts upon receipt of order as well as customer approved AMEC drawing when appropriate.
- All special order cancellations are subject to a minimum of 10% cancellation charge. AMEC reserves the right to increase the cancellation charge as deemed necessary to cover costs associated with items being cancelled.

ALLIED MACHINE & ENGINEERING CORP
This quote prepared by: Insta-Quote®

05/12/2022 | Page 1 of 1



The drawing contains all relevant dimensions. It must be signed before manufacturing can begin.
NOTE: The drawing is a generic representation and is not to scale.

Insta-Quote® Custom Tooling

T-A® Inserts

A
DRILLING



Special Angle



Double Angle



Spur Point

B



Spot and Chamfer



Step Insert



Flat Bottom

BORING



Ball Nose

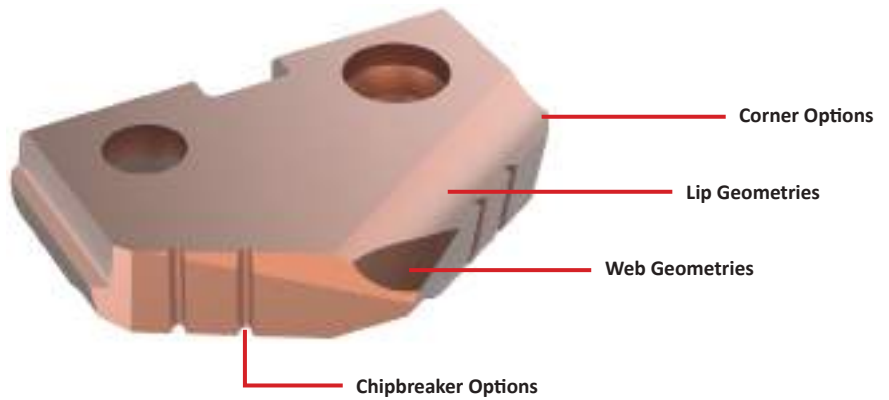
Insta-Quote® 



E

Additional Features

Insta-Quote provides multiple options to enhance different areas of the insert. If you have questions about which options would most benefit your application, just give us a call. We'll be happy to provide in-depth explanations about how certain options can optimise your results.







THREADING

X

SPECIALS

Substrate Options
HSS: HSS, Super Cobalt, Premium Cobalt
Carbide: C1, C2, C3, C5

Coating Options			
AM200® 	TiN 	TiAlN 	TiCN 

Insta-Quote® Custom Tooling

T-A® Holders



Chrome Helix



Chrome Bushing



 Guided Holder



One Step ICS



Two Step ICS



Three Step ICS



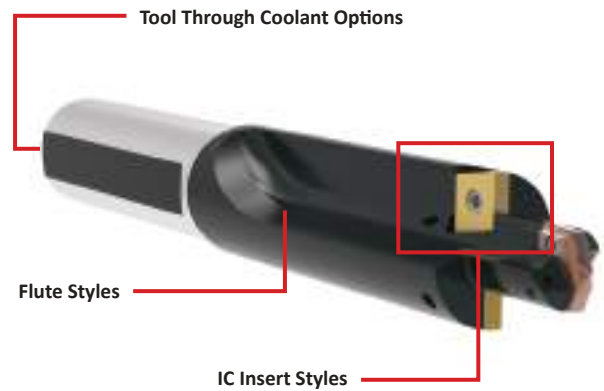
 Special Length

Insta-Quote® 



Additional Features

Insta-Quote provides multiple options to enhance different parts of the holder. If you have questions about which options would most benefit your application, just give us a call. We'll be happy to provide in-depth explanations about how certain options can optimise your results.



WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page X: 26 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Insta-Quote® Custom Tooling

GEN3SYS® XT Holders

A

DRILLING



Chrome Helix



Chrome Bushing



⚠ Special Length

B

BORING



One Step ICS



Two Step ICS



Three Step ICS

Insta-Quote® 

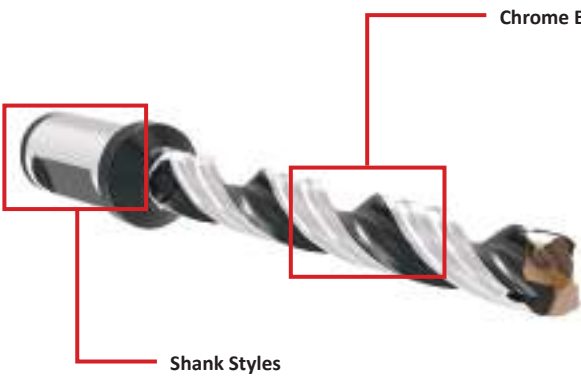


Additional Features

Insta-Quote provides multiple options to enhance different parts of the holder. If you have questions about which options would most benefit your application, just give us a call. We'll be happy to provide in-depth explanations about how certain options can optimise your results.

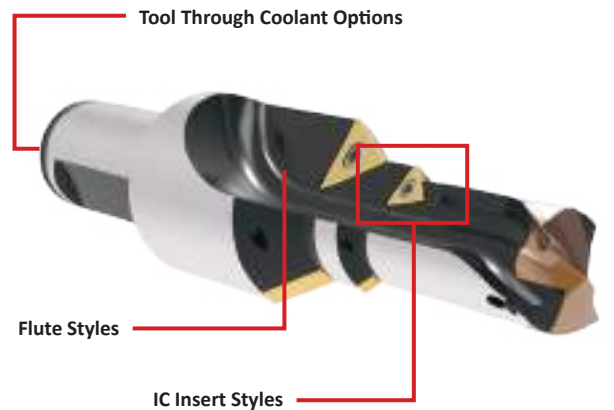
F

THREADING



Chrome Bearing Areas

Shank Styles



Tool Through Coolant Options

Flute Styles

IC Insert Styles

Where are the Inserts?

Though Insta-Quote incorporates special designs for GEN3SYS XT holders, it does not include options for designing special GEN3SYS XT inserts. GEN3SYS XT holders utilise standard GEN3SYS XT inserts, which can be found in Section A20 of the product catalogue.

If you need a special insert or would simply like to discuss options for designing one to fit your application, please contact us, and we can create a special design as an engineered special.



Engineered Special
GEN3SYS XT insert designed for specific aerospace application

X

SPECIALS

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page X: 26 for deep hole drilling guidelines in this section of the catalogue. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Insta-Quote® Custom Tooling

ALVAN® Reamers

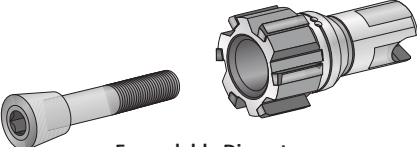
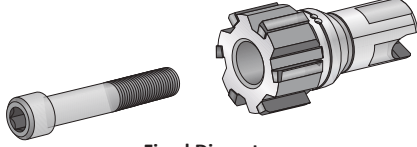
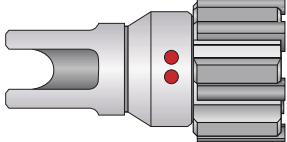
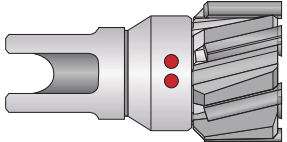




Use Insta-Quote to Build Your Part Numbers

Insta-Quote can help you find or build the ALVAN® Reamer item numbers you need along with the price and delivery of the items. It can also give you the recondition item and delivery. Just follow the steps, and Insta-Quote will guide you through the process.

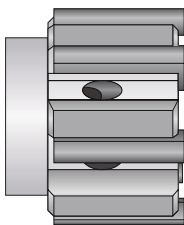
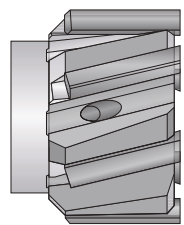




Insta-Quote® 



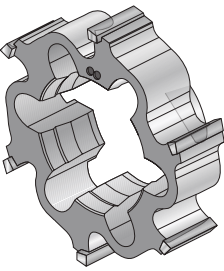
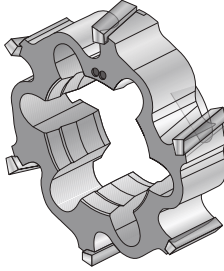




Replaceable Head Style

Diameter Options	Flute Options	Coating Options
 <p>Expandable Diameter</p>  <p>Fixed Diameter</p>	<p>Straight Flute</p>  <p>Left-Hand Helical Flute</p> 	<p>Uncoated</p>  <p>TiN</p>  <p>TiAlN</p>  <p>TiCN</p> 

Monobloc Style

Flute Options	Coating Options
 <p>Straight Flute</p>  <p>Left-Hand Helical Flute</p>	<p>Uncoated</p>  <p>TiN</p>  <p>TiAlN</p>  <p>TiCN</p> 

Cutting Ring Style

Flute Options	Coating Options
 <p>Straight Flute</p>  <p>Left-Hand Helical Flute</p>	<p>Uncoated</p>  <p>TiN</p>  <p>TiAlN</p>  <p>TiCN</p> 

Engineered Specials

Insert Designs

A

DRILLING

OUR SOLUTION

T-A® PCD Drill Insert

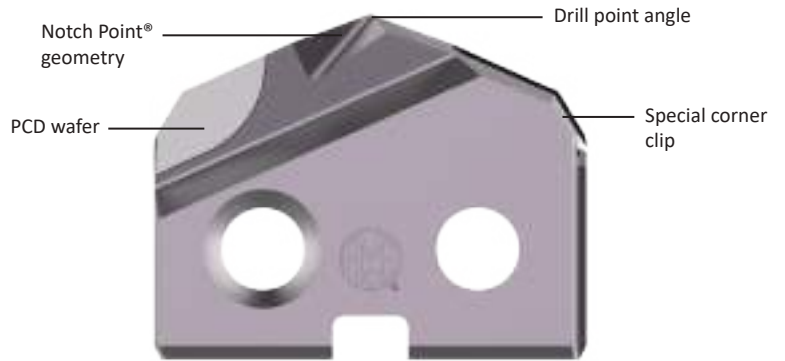


- C3 carbide substrate increases tool life
- PCD tip is specifically designed for carbon reinforced polymer (CFRP) material
- Notch Point® geometry, special corner clip, and drill point angle help minimise delamination upon exiting the hole

Polycrystalline Diamond Insert

What allows the polycrystalline diamond (PCD) insert to generate such high success in aerospace carbon fiber is the sharp cutting edge that provides clearance cutting and reduces delamination. The PCD wafers improve the wear resistance.

While other tools encounter massive tearing when exiting the hole in carbon fiber, the PCD insert geometry, along with precise OD corner prep and Notch Point® technology, encounters minimal delamination. This produces a near-perfect, tight tolerance and smooth hole.



B

BORING

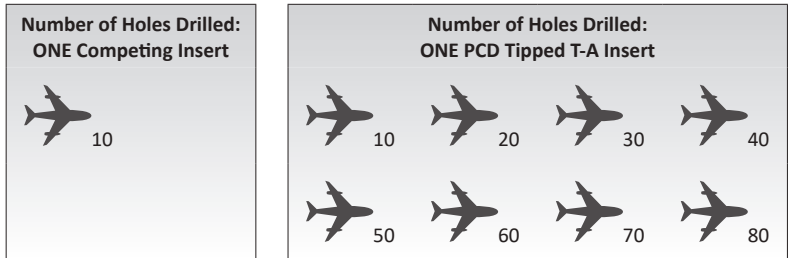
YOUR ADVANTAGE

Take control of carbon fiber reinforced polymer applications. The T-A PCD drill insert can provide the hole quality you need to produce successful quality parts and reduce scrap.

The Proof is in the Numbers

See the following results from a customer who was experiencing difficulty when drilling CFRP material:

INCREASED **700%**
tool life by



F

THREADING

Infinite Solutions

Though Insta-Quote® and i-Form are incredible special tooling systems, some applications require a deeper level of engineering to accomplish the optimal results. No matter what the application may be, Allied Machine engineers have the knowledge, experience, and expertise to design and develop a special product to exceed your expectations.

Engineered Specials are not limited to T-A® or GEN3SYS® XT products. In fact, Engineered Specials can be created for most products offered by Allied Machine, including APX™ Drill, Opening Drill®, ASC 320®, AccuThread® 856, Wohlhaupter® boring products, and many other product families.



Back Chamfer without Chip Breakers



Back Chamfer with Chip Breakers



Non-Center Cutting and Chamfer



Special Inverted Coring Geometry



Flat Bottom with Pilot, Corner Radius, and Chamfer



Multiple Step



Special Step



Special Point



Special Counterbore Step



Special Corner Radius

X

SPECIALS

Engineered Specials

Featured Design | GEN3SYS® XT Vacuum Drill



The GEN3SYS XT Vacuum Drill allows you to reap the productivity benefits of the GEN3SYS XT outside of a fixed-position machine tool. The Vacuum Drill technology attaches to a hose to remove material that flows up through the internal flute of the drill. This versatile ability allows the drilling process to move from location to location, performing operations on large components.

The design of the GEN3SYS XT insert increases penetration rates, which can lower your production time and decrease operation costs. Available in multiple material-specific geometries, the GEN3SYS XT has a solution for most applications.

OUR SOLUTION

GEN3SYS® XT Vacuum Drill



- Spent coolant and chips are evacuated through an internal flute
- Guided body diameter to run through a drill bushing
- Replaceable tip for quick and easy insert change

YOUR ADVANTAGE

The sealed vacuum system lets you move your drilling operations outside the confines of a machine, allowing you to increase productivity on massive components.


MATERIAL TIPS

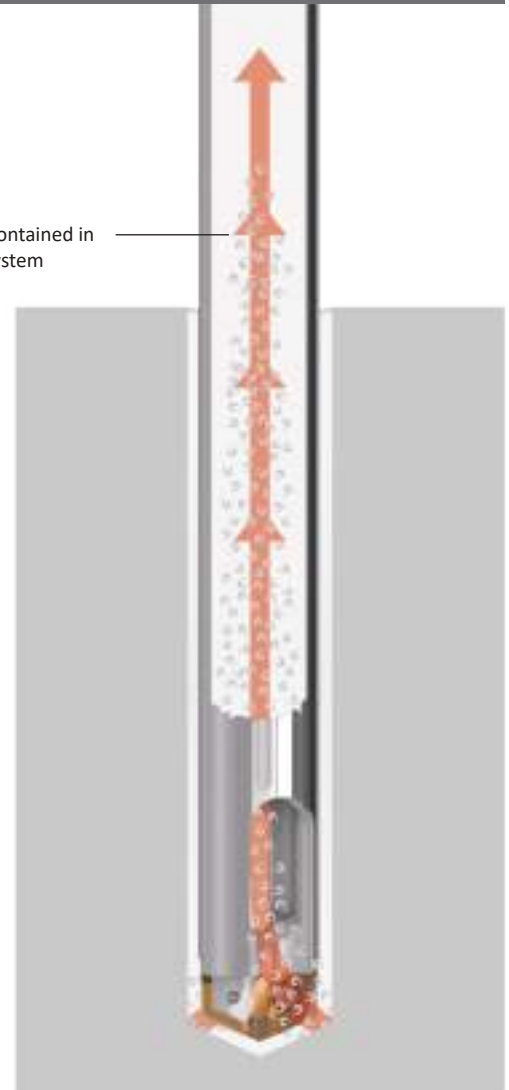
Drilling in CFRP (Carbon Fiber Reinforced Polymer)


- These applications are run with the vacuum only (no coolant)
- Can be run with or without a micro peck cycle

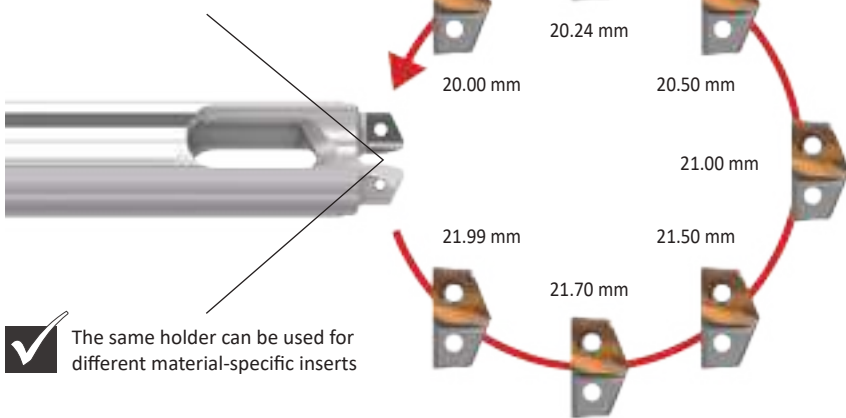
Drilling in Metal


- These applications are run with the vacuum and coolant or mist
- Recommended to be run with a micro peck cycle

 Materials remain contained in a sealed vacuum system



 The same holder can be used for a range of diameters



 The same holder can be used for different material-specific inserts

Engineered Specials

Featured Design | Guided T-A®

A

DRILLING



Guided T-A Highlights

- Two adjustable Torx® PLUS screw pins allow for diameter adjustment to reduce TIR (Total Indicator Runout)
- Provides improved tool life and hole finish
- Guided wear pads improve hole straightness
- Through coolant design with multiple coolant outlets along the drill holder provides stability in deep hole drilling applications and also improves chip evacuation



Industry Application
Automotive



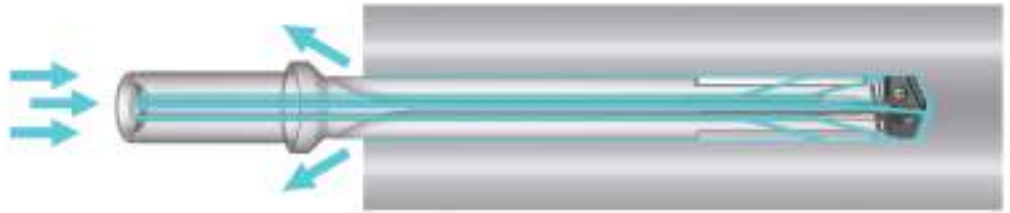
Industry Application
Aerospace

B

BORING

Triple Coolant Outlets

- Additional coolant outlets help keep the holder straight and precise
- Longer holders experience and maintain increased stability in deeper holes



F

THREADING



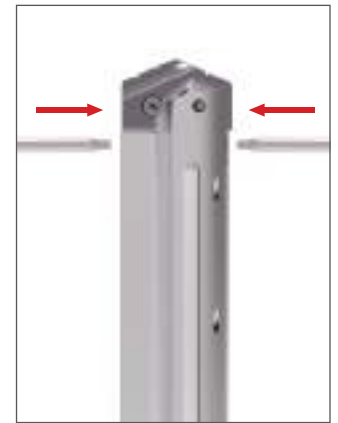
Locate the two adjustable Torx® PLUS screws (one on each side).



Loosen each screw.



Adjust insert position.



Tighten each screw.

The Proof is in the Numbers

The following results came from a real-life application that utilised the Guided T-A. The customer was experiencing a high scrap rate and needed to find a solution to eliminate the problem.



Number of Holes Drilled: ONE Competing Insert & Holder		
80	160	240
320		

In this application, Allied Machine:

- Eliminated **£212,000** in scrap per year
- Optimised the chip formation
- Enhanced the chip evacuation
- Provided excellent surface finish

INCREASED tool life by
280%

Number of Holes Drilled: ONE Allied Machine Special Insert & Holder		
80	160	240
320	400	480
560	640	720
800	880	960
1040	1120	1220

X

SPECIALS

Engineered Specials

Success Stories

Real-Life Results

Below are five brief success stories. Each one provides an overview of specific situations when our special tooling achieved top-quality performance for our customers. For more in-depth case studies, go to www.alliedmachine.com/RealLifeResults.



Industry Application
Oil & Gas

Special AccuPort 432® Port Contour Cutter
Hydraulic Manifolds

- Eliminated multiple tools in the process
- Eliminated regrinds
- Improved performance in cross hole applications



Industry Application
Heavy Equipment

Special T-A® Holder & Insert
Axle Shafts

- 100% increase in tool life
- Reduction in setup costs
- Eliminated scrap that was caused by setup issues



Industry Application
Firearms

i-Form Drill
Barrel Nut

- Eliminated three tools in the process
- Reduced cycle time by 25%
- Improved chip formation



Industry Application
Automotive

T-A® Rim Drill
Aluminium Wheels

- 50% increase in penetration rates
- 50% increase in tool life
- Eliminated regrinds



Industry Application
Aerospace

Special Carbide Clad T-A® Holder with Diamond Coated Insert
Carbon Fiber Landing Arm

- Eliminated delamination of carbon fiber
- 7x more tool life
- Special shank threads directly into drill unit for easy tool change



A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

Engineered Specials

i-Form Custom Indexable Drill / Form Tool System

Any Way You Want It

What if you could utilise complex forms that only seem to be available as brazed or solid carbide tools? Allied Machine's i-Form custom indexable drill/form tool system allows for complex designs with a replaceable cutting edge. This will reduce setup times and eliminate regrinds, allowing you to increase your productivity and reduce costs. Don't settle for being good when the possibility of being great is right in front of you.

This is just a small sample of what you can do.



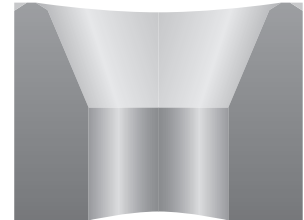
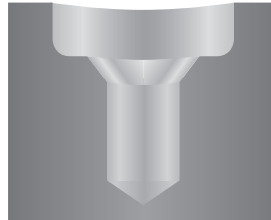
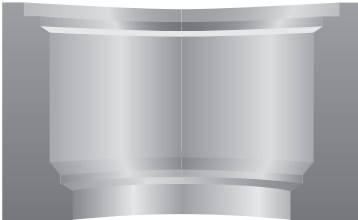
**i-Form Holder
with i-Form Inserts**



**Lug Hole T-A® Drill
with i-Form Inserts**



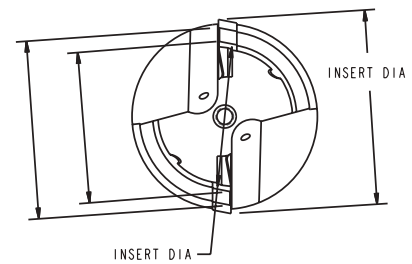
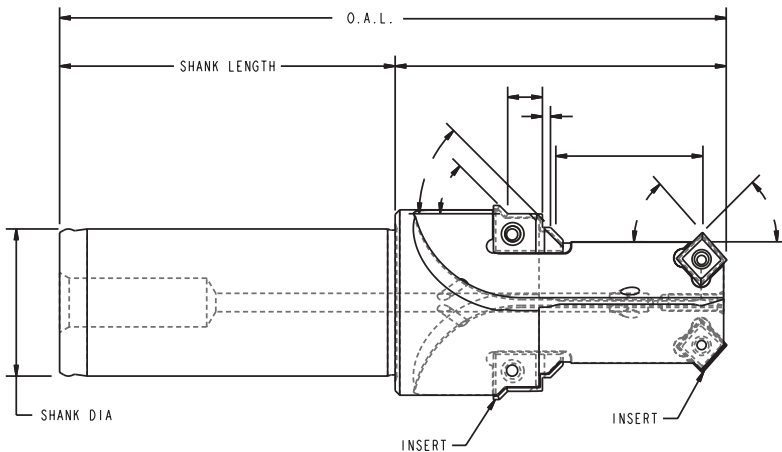
**i-Form Drill for Facing Operations
with ID-OD Chamfer**



Design Complex Forms for ANY Hole Style

i-Form allows you to design complex forms for any style hole with increased productivity. The i-Form product line - both pilot inserts and form inserts - creates custom engineered forms that provide complex designs with replaceable cutting edges and improved consistency, all while outperforming brazed and solid carbide tooling. i-Form tools will increase your productivity, minimise setup times, and eliminate regrind tool float and inconsistency.

- Holders have through coolant capabilities
- Holders can utilise standard inserts, Insta-Quote® inserts, and/or special insert designs



Engineered Specials

i-Form Custom Indexable Drill / Form Tool System



GEN3SYS® XT Pilot Insert
with i-Form Inserts



GEN3SYS® XT Pilot Insert
with i-Form Inserts



GEN3SYS® XT Back Chamfer Insert
with ISO Inserts



T-A® Flat Bottom Form Drill
with i-Form Inserts



T-A® ICS Drill
with i-Form Inserts



T-A® Pilot Insert
with i-Form Inserts



Square QDSI 34™ Inserts
with i-Form Inserts



3 Flute IC Drill
with i-Form Inserts



i-Form Holder
with i-Form Inserts



AccuPort 432® Drill
with Special T-A® Form Insert



T-A® 2 Step IC Drill
with i-Form Inserts



Special Core Drill
with i-Form Inserts

A

DRILLING

B

BORING

E

THREADING

X

SPECIALS



Engineered Specials

Special Designs | T-A® Products

A

DRILLING



**T-A IC Drill
with Back Chamfer Insert**



T-A 1 Step Stub Length



T-A IC Drill

B

BORING



T-A 2 Step IC Drill



**T-A Counterbore Tool
with Micro Adjustable Cartridge**



**T-A Form Drill
with Adjustable Cartridge**



**T-A Multiple Step Drill
with Adjustable Cartridge**



**T-A Large Diameter
Multiple Step IC Drill**



T-A Deburr Drill

E

THREADING



**T-A IC Drill
with Customer Defined Shank**



**T-A Deep Hole Drill
with Customer Defined Design**



**T-A Chrome Bearing Drill
with Customer Defined Shank**

X

SPECIALS



**T-A 1 Step IC Drill
with Flat Bottom Insert**



T-A Form Drill



**T-A Drill
with Special Holder and Insert Design**

Engineered Specials

Special Designs | Other Products



**Special BT-A Drill
with Internal Thread**



Special BT-A Drill



Special BT-A Drill



**APX™ Drill
with Carbide Clad Guides**



**APX™ Drill
with 1 Step Design**



**APX™ Drill
with HSK Shank**



**Opening Drill®
with Special Diameter**



**Special Core Drill
with 2 Step Design**



**ICS Drill
with Adjustable Cartridge**



**Superion® Solid Carbide
with AM200® Coating**



**AccuThread® 856
with Through Coolant**



**AccuPort 432®
Special Length**



**ALVAN® Ring Style Reamer
with Special Length**



**GEN3SYS® XT
with Morse Taper Shank**



**GEN3SYS® XT
with IC Inserts and Special Body**

A

DRILLING

B

BORING

E

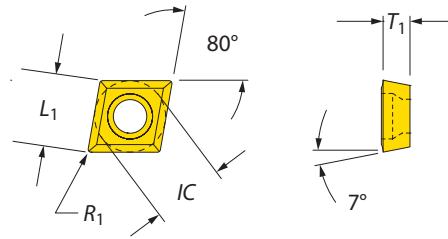
THREADING

X




SPECIALS

QDSI 34™ Inserts

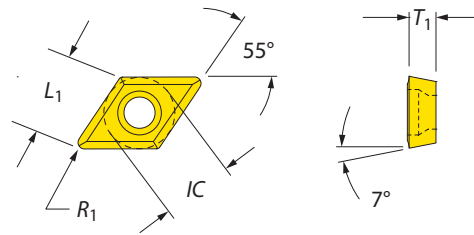
80° Diamond | 55° Diamond






80° Diamond Inserts

Metric (mm)				Imperial (inch)					ANSI Designation		
IC	L ₁	T ₁	R ₁	IC	L ₁	T ₁	R ₁				
6.35	6.32	2.39	0.20	0.250	0.249	0.094	0.008	CCGT-060202	CCGT 2(1.5)0.5	7256-IP8-1	8IP-8
6.35	6.28	2.39	0.40	0.250	0.247	0.094	0.016	CCMT-060204	CCMT 2(1.5)1	7256-IP8-1	8IP-8
6.35	6.21	2.39	0.79	0.250	0.244	0.094	0.031	CCMT-060208	CCMT 2(1.5)2	7256-IP8-1	8IP-8
6.35	6.21	3.96	0.79	0.250	0.244	0.156	0.031	CCGT-06T308	CCGT 2(2.5)2	7256-IP8-1	8IP-8
9.53	9.49	3.96	0.20	0.375	0.374	0.156	0.008	CCGT-09T302	CCGT 3(2.5)0.5	7359-IP15-1	8IP-15
9.53	9.46	3.96	0.40	0.375	0.372	0.156	0.016	CCMT-09T304	CCMT 3(2.5)1	7359-IP15-1	8IP-15
9.53	9.39	3.96	0.79	0.375	0.369	0.156	0.031	CCMT-09T308	CCMT 3(2.5)2	7359-IP15-1	8IP-15
12.70	12.63	4.76	0.40	0.500	0.497	0.188	0.016	CCMT-120404	CCMT 431	745105-IP20-1	8IP-20
12.70	12.56	4.76	0.79	0.500	0.494	0.188	0.031	CCMT-120408	CCMT 432	745105-IP20-1	8IP-20

NOTE: QDSI 34 inserts are utilised only in special ICS holders. Speeds and feeds for QDSI 34 inserts are determined by drill insert.



55° Diamond Inserts

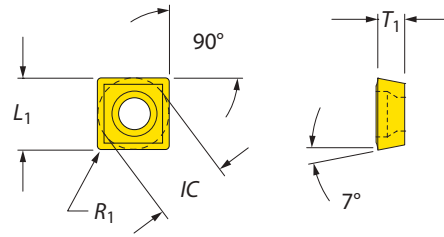
Metric (mm)				Imperial (inch)					ANSI Designation		
IC	L ₁	T ₁	R ₁	IC	L ₁	T ₁	R ₁				
6.35	6.18	2.39	0.008	0.250	0.243	0.094	0.008	DCGT-070202	DCGT 2(1.5)0.5	7256-IP8-1	8IP-8
6.35	6.01	2.39	0.016	0.250	0.237	0.094	0.016	DCMT-070204	DCMT 2(1.5)1	7256-IP8-1	8IP-8
6.35	5.67	2.39	0.031	0.250	0.223	0.094	0.031	DCMT-070208	DCMT 2(1.5)2	7256-IP8-1	8IP-8
9.53	9.19	3.96	0.016	0.375	0.362	0.156	0.016	DCMT-11T304	DCMT 3(2.5)1	7359-IP15-1	8IP-15
9.53	8.85	3.96	0.031	0.375	0.348	0.156	0.031	DCMT-11T308	DCMT 3(2.5)2	7359-IP15-1	8IP-15

NOTE: QDSI 34 inserts are utilised only in special ICS holders. Speeds and feeds for QDSI 34 inserts are determined by drill insert.






QDSI 34™ Inserts

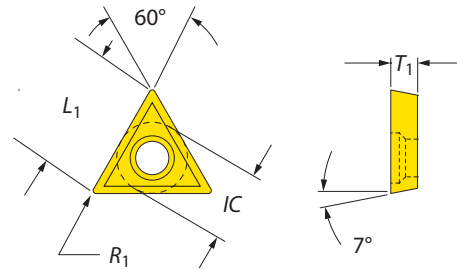
Square | 60° Triangle






Square Inserts

Metric (mm)				Imperial (inch)					ANSI Designation		
IC	L ₁	T ₁	R ₁	IC	L ₁	T ₁	R ₁				
9.53	9.53	3.96	0.40	0.375	0.375	0.156	0.016	SCMT-09T304	SCMT 3(2.5)1	7359-IP15-1	8IP-15

NOTE: QDSI 34 inserts are utilised only in special ICS holders. Speeds and feeds for QDSI 34 inserts are determined by drill insert.



60° Triangle Inserts

Metric (mm)				Imperial (inch)					ANSI Designation		
IC	L ₁	T ₁	R ₁	IC	L ₁	T ₁	R ₁				
3.97	6.58	1.98	0.20	0.156	0.259	0.078	0.008	TCGT-06T102	TCGT 1.2(1.2)0.5	724-IP6-1	8IP-6
3.97	6.29	1.98	0.40	0.156	0.248	0.078	0.016	TCGT-06T104	TCGT 1.2(1.2)1	724-IP6-1	8IP-6
3.97	5.71	1.98	0.79	0.156	0.225	0.078	0.031	TCGT-06T108	TCGT 1.2(1.2)2	724-IP6-1	8IP-6
5.65	9.33	2.39	0.20	0.219	0.367	0.094	0.008	TCGT-090202	TCGT 1.8(1.5)0.5	7225-IP7-1	8IP-7
5.65	9.04	2.39	0.40	0.219	0.356	0.094	0.016	TCGT-090204	TCGT 1.8(1.5)1	7225-IP7-1	8IP-7
5.65	8.46	2.39	0.79	0.219	0.333	0.094	0.031	TCGT-090208	TCGT 1.8(1.5)2	7225-IP7-1	8IP-7
6.35	10.71	2.39	0.20	0.250	0.422	0.094	0.008	TCGT-110202	TCGT 2(1.5)0.5	7256-IP8-1	8IP-8
6.35	10.42	2.39	0.40	0.250	0.410	0.094	0.016	TCMT-110204	TCMT 2(1.5)1	7256-IP8-1	8IP-8
6.35	9.84	2.39	0.79	0.250	0.387	0.094	0.031	TCMT-110208	TCMT 2(1.5)2	7256-IP8-1	8IP-8
9.53	15.92	3.96	0.40	0.375	0.627	0.156	0.016	TCMT-16T304	TCMT 3(2.5)1	7359-IP15-1	8IP-15
9.53	15.34	3.96	0.79	0.375	0.604	0.156	0.031	TCMT-16T308	TCMT 3(2.5)2	7359-IP15-1	8IP-15
12.70	20.83	4.76	0.79	0.500	0.820	0.188	0.031	TCGT-220408	TCGT 432	745105-IP20-1	8IP-20

NOTE: QDSI 34 inserts are utilised only in special ICS holders. Speeds and feeds for QDSI 34 inserts are determined by drill insert.

Special Tooling

Complete Your Design

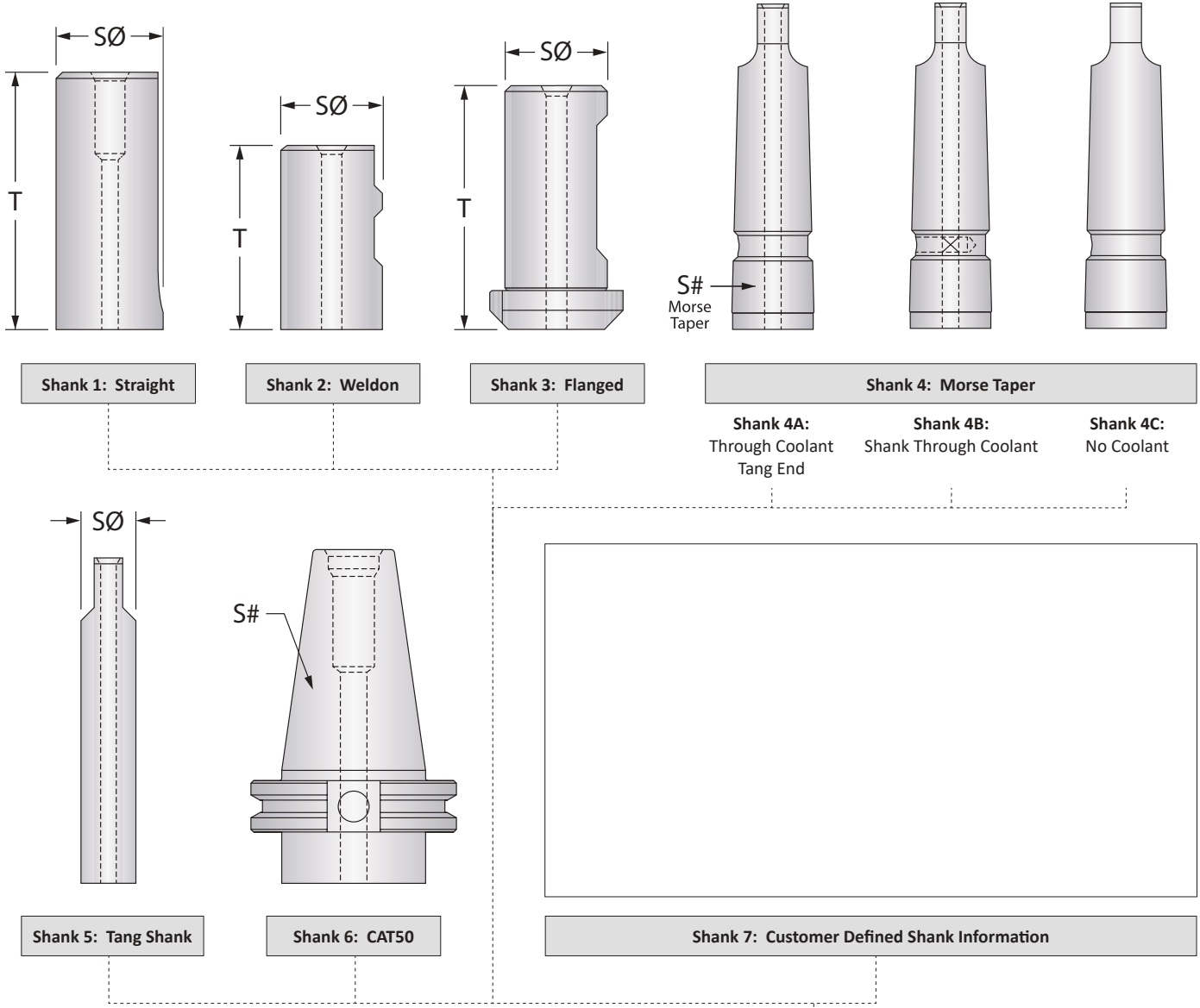
A
B
BORING
F
THREADING
X
SPECIALS

Show Us What You Need

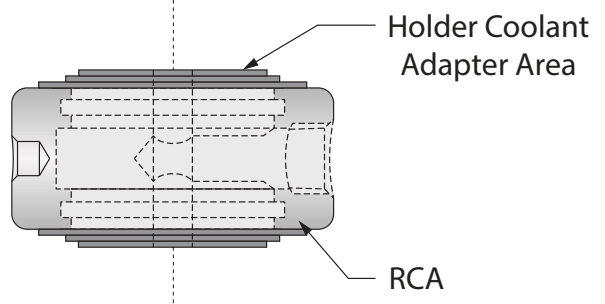
These pages have been included so you can assist us with defining your special tooling requirements.

- Select a Shank (1 - 6), or define Shank 7
- Indicate if the shank will be used with or without a Rotary Coolant Adapter (RCA)

We ask that you define your hole profile and offer an example of a tool form to help us with the design process. Tools 1 - 5 cover only a small portion of our capabilities, so feel free to use your imagination. Please scan these pages, record your information in the boxes on the next page, and email the information for our quickest response.



Shank	SØ	S#	T	RCA
4A (EXAMPLE)	-	4MT	-	YES / NO
				YES / NO
				YES / NO
				YES / NO



Special Tooling

Complete Your Design

Tool 1

- Carbide Clad
- Chrome Plate
- Helical Flute
- Straight Flute

Tool 2

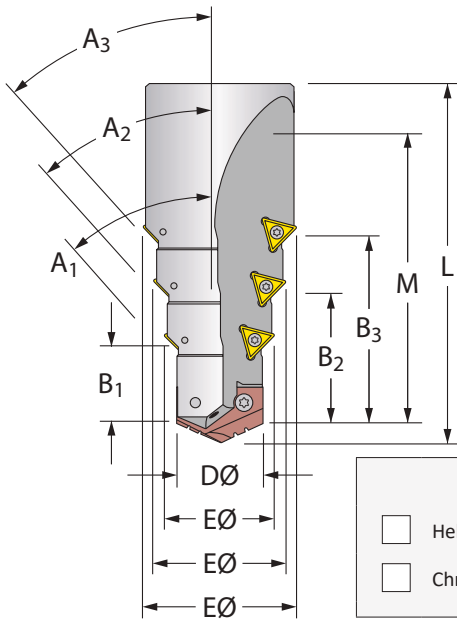
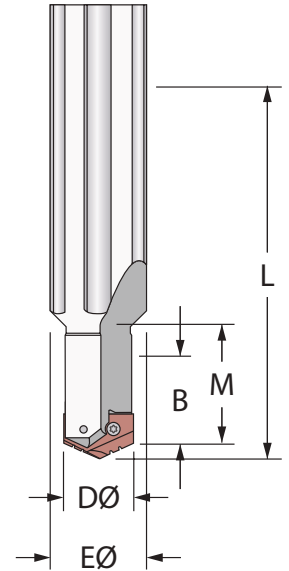
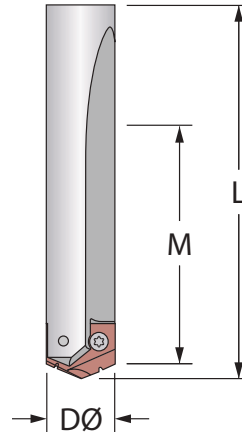
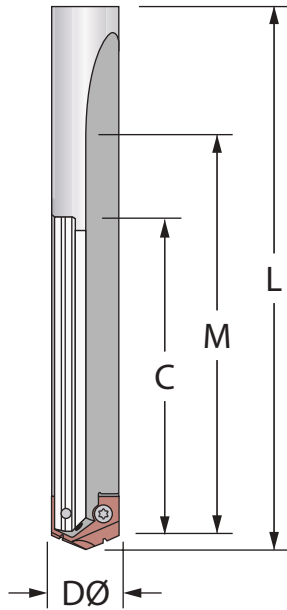
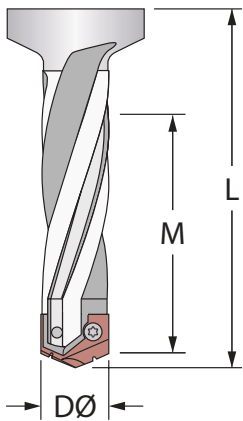
- Helical Pilot
- Chrome Pilot

Tool 3

- Helical Flute
- Straight Flute

Tool 4

- Helical Pilot
- Chrome Pilot



Tool 5

- Helical Pilot
- Chrome Pilot

Hole Profile

Please email your design to:
 Application Engineering Department
 E: ufficiotecnico@febametal.com

Item	Tool	A ₁	A ₂	A ₃	B ₁	B ₂	B ₃	C	D Ø	E Ø	F Ø	G	L	M
EXAMPLE	5	30°	-	-	1.00	-	-	0.25	0.620	1.25	-	-	4.50	3.00

Name:		Company:	
Email:	Phone:	Distributor (if known):	
Customer Signature:			Date:

Please be sure to include shank and coolant information from the previous page when sending tool designs

A
DRILLING
B
BORING
F
THREADING
X
SPECIALS

Deep Hole Drilling Guidelines

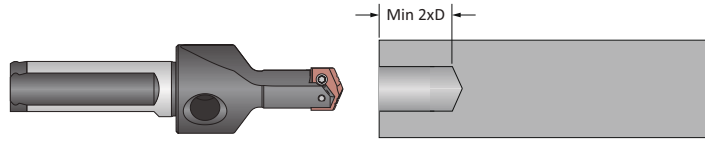
For Lengths Greater Than 9xD (including Extended, Long, XL, 3XL, and Special Length)

A

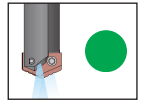
DRILLING

- 1. Pilot Hole**
100 % RPM
100% mm/rev (IPR)

Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum. Utilise a pilot drill with the same or larger included point angle.



Coolant ON

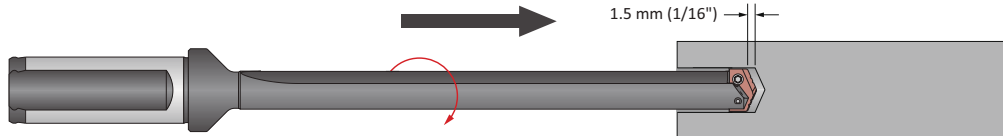


B

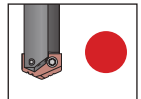
BORING

- 2. Feed-in**
50 RPM max
300 mm/min (12 IPM)

Feed the longer drill within 1.5 mm (1/16") short of the established pilot hole bottom at a maximum of 50 RPM and 300 mm/min (12 IPM) feed rate.

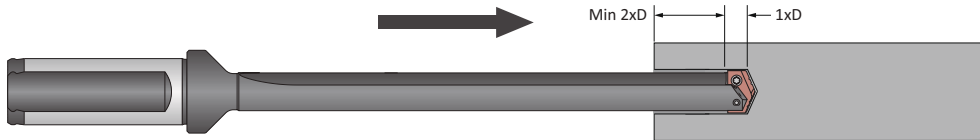


Coolant OFF

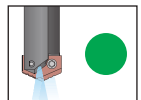


- 3. Deep Hole Transition Drilling**
50 % RPM
75% mm/rev (IPR)

Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of 1 second dwell is required to meet full speed before feeding.



Coolant ON

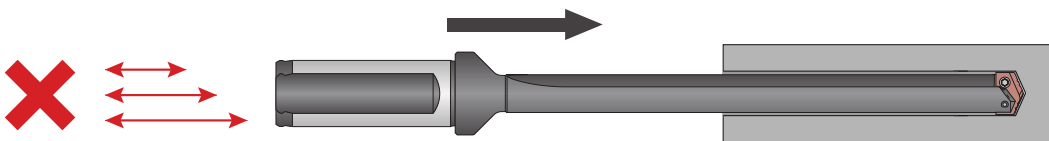


F

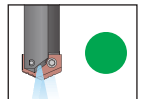
THREADING

- 4. Deep Hole Drilling - Blind**
100% RPM
100% mm/rev (IPR)

Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts. **No peck cycle recommended.**

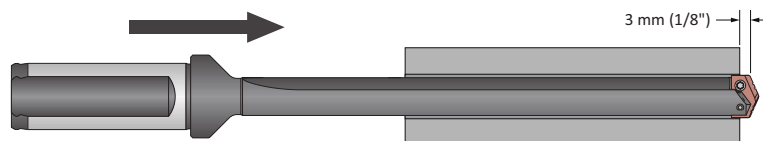


Coolant ON

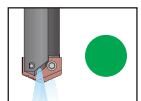


- 5. Deep Hole Drilling - at Breakout**
50% RPM
75% mm/rev (IPR)

For through holes only:
Reduce speed by 50% and feed by 25% prior to breakout. Do not breakout more than 3 mm (1/8") past the full diameter of the drill.

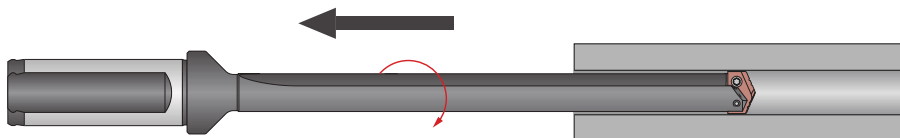


Coolant ON

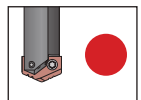


- 6. Drill Retract**
50 RPM max

Reduce speed to a maximum of 50 RPM before retracting from the hole.



Coolant OFF



X

SPECIALS

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Product Code Glossary

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Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA
Free-Machining Steel		96MnPB28	S250Pb	1.0718	F.2112 - 11SMnPb28	1914	12L13
	210M15	10S20	10F1	1.0721	F.2121 - 10 S 20		1108
		10SPb20	10PbF2	1.0722	F.2122 - 10 SPb 20		11L08
	210A15	15S20		1.0723	F.210F	1922	
	240M07 EN 1B	9SMn36	S300	1.0736	F.2113 - 12 SMn 35		1215
Low Carbon Steel		9MnPb36	S300Pb	1.0737	F.2114 - 12 SMnPb 35	1926	12L14
	045M10	C10	AF34C10/XC10	1.0301			1010
	080M15;040A15	C15	AF37C12/XC18	1.0401	F.111	1350	1015
	050A20/055M15-EN2C	C22	AF42C20/XC25	1.0402	F.112	1450	1020
	070M26	C25	AF50C30	1.0406	F.221		1025
	220M07	9S20		1.0711			1212
	230M07	9SMn28	S250	1.0715	F.2111-11SMn28	1912	1213
	040A10	Ck10	XC10	1.1121	F.1510 - C 10 k	1265	1010
	120M19	20Mn5	20M5	1.1133	F.1515 - 20Mn 6		1022/1518
	080M15 EN32C	Ck15	XC15/C15E	1.1141	F.1511 - C 16 k	1370	1015
	050A20	Ck22	XC25/C22E	1.1151	F.1120 - C 25 k		10201023
	070M26	Ck25	XC25/C25E	1.1158	F.1120 - C 25 k		1025
		14Ni6	15N6/15Ni6	1.5622	F.2641 - 15 Ni 6		A350-LF5
	655M13/A12 EN 36A	14NiCr14	12NC15	1.5752			3310/9314
	523M15	15Cr3	12C3	1.7015			5015
Medium Carbon Steel	060A35	C35	AF55C35/XC38	1.0501	F.113	1550	1035
	080M46	C45	AF65C45/C45	1.0503	F.114	1650	1045
		C40	AF60C40/C40	1.0511	F.114.A		1040
	070M55	C55	C55	1.0535		1655	1055
	080A62-EN 43D	C60	AF70C55/C60	1.0601	F.115		1060
	212M36 EN 8M	35S20	35MF6	1.0726	F.210G	1957	1140
	212M44	45S20	45MF4	1.0727		1973	1146
	250A53 EN 45	51Si7	51S7	1.0903	F.1450 - 50 Si 7	2090	9255
	250A53	55Si7	55S7	1.0904	F.1440 - 56 Si 7	2085	9255
	250A58	60Si7	60S7	1.0909	F.1441 - 60 Si 7		9260
	250A61	60SiCr7	60SC7	1.0961	F.1442 - 60 SiCr 8		9262
	120M36/150M28	30Mn5	35M5/30Mn5	1.1165	F.1203 - 36 Mn5		1330
		34Mn5	35M5/34Mn5	1.1166	F.8211 - 30 Mn5		1536
	150M36 EN 15	36Mn5	40M5/36Mn5	1.1167	F.1203 - 36 Mn5	2120	1335
	150M 28 EN 14A	28Mn6	20M5/28Mn6	1.117			1330
	080M36	Cm35	XC32/C35R	1.118	F.1135 - C 35 K-1	1572	1035
	060A40/080A40	Ck40	XC42H1/C40E	1.1186			1040
	080M46/060A47	Ck45	XC42H1/C45/XC45	1.1191	F.1140 - C 45 k	1672	1045
	080M46	Cm45	XC42H1/C45R	1.1201	F.1145 - C 45 k	1660	1045
	060A57/070M55	Ck55	XC55H1/C55E	1.1203	F.1150 - C 55 k		1055
	080M50	Ck50	XC48H1/C50E	1.1206			1050
	060A52	Cf53	XC48H1TS	1.1213		1674	1050
	060A62	Ck60	XC60/C60E/2C60	1.1221	F.511/F.512	1665/1678	1060
	060A67	Ck67	XC68	1.1231		1770	1070
		38Cr2	38C2/38Cr5	1.7003	38 Cr 3		
Alloy Steel	060A78	Ck75	XC75/C75E/XC90	1.1248/1269	F.513/514/515	1774/1778	1080/1078/1086
	060A96	Ck101	XC100	1.1274		1870	1095
	708A37/708M40	35CrMo4/47CrMo4	34CD4/35CrMo4/42CD4	1.233		2234/2244	4135/4142
	640A35/640M40 EN111A	36NiCr6/40NiCr6	35NC6	1.571/5711			3135/3140
		36NiCr10	30NC11	1.5736			3435
	805M20/805A20 EN 362	21NiCrMo2	20NCD2	1.6523/43	F.1522 - 20 NiCrMo 2	2506	8620/8720
	311-Type 7	40NiCrMo22	40NCD2	1.6546	F.1204 - 40 NiCrMo2		8740
	820A16	17CrNiMo8	18NCD6	1.6587	F.1560 - 14 NiCrMo13		
	832M13	14NiCrMo134	16NCD13	1.6657	F.1569 - 14 NiCrMo 131		
		46Cr2	42C2/46Cr2	1.7006			5045/5046
	530A30	28Cr4		1.703			5130
	530A32 EN18B	34Cr4	32C4/34Cr4	1.7033	F.8221 - 35 Cr 4/F.224		5132
	530A36	37Cr4	38C4/37Cr4	1.7034	F.1201 - 38 Cr 4		5135
	530M40/530A40 EN 18	41Cr4	42C4/41Cr4	1.7035	F.1202 - 42 Cr4		5140
	530A40	42Cr4	42C4TS	1.7045	F.1202 - 42 Cr 4	2245	5140
	527M17	16MnCr5	16MC5	1.7131	F.1515 - 16 MnCr 5	2511	5115
		20MnCr5	20MC5	1.7147	F.150.D		5120
	527A60 EN 48	55Cr3	55C3	1.7176	F.1431 - 55 Cr3	2253	5155
1717CDS110	25CrMo4	25CD4/25CrMo4	1.7218	F.8330 - AM 25 CrMo4	2225	4130	
708A37 EN19B	34CrMo4	35CD4/34CrMo4	1.722	F.8231 - AM 34 CrMo4	2234	4135/4137	
708M40 EN 19A	42CrMo4	42CD4/42CrMo4	1.7225	F.8232 - 42 CrMo4	2244	4140/4142	
708A47	50CrMo4	50CrMo4	1.7228			4150	
735A50 EN 47	50CrV4	50CV4/51CrV4	1.8159	F.1430 - 51 CrV4	2230	6150	
High-Strength Alloy Steel	905M31	34CrAlMo5	30CAD6.12	1.8507	F.1741 - 34 CrAlMo5		A355C.D
	905M39 EN 41B	41CrAlMo7	40CAD6.12	1.8509	F.1740 - 41 CrAlMo7	2940	A355C.A
	653M31	31NiCr14	18NC13	1.5755	F.123		
	816M40 EN 110	36CrNiMo4	40NCD3/36CrNiMo4	1.6511	F.1280 - 35 NiCrMo4		9840
	817M40	40NiCrMo73		1.6562			4340
	823M30	30CrNiMo8	30CND8/30CrNiMo8	1.658			

Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA
High-Strength Alloy Steel	817M40 EN 24	34CrNiMo8	35NCD6/34CrNiMo6	1.6582	F.1272 – 40 NiCrMo 7	2541	4340
	830M31	32NiCrMo145	35NCD14	1.6746	F.1262 – 32 NiCrMo 12		
	835M30	30NiCrMo166	35NCD16	1.6747	F.1260 – 32 NiCrMo 16		
	722M24 EN 40B	31CrMoV139	30CD12	1.8515	F.1712 – 31 CrMo 12	2240	
	897M39 EN 40C	39CrMoV139		1.8523			
Structural Steel	4360-40C	RSt37-2	E24-2NE/S235JRG2	1.0038		1312	A570 (36)
	4360-43B	St44-2	E28-2/S275JR	1.0044	A 430B	1412	A570 (40)
	4360-50B	St50-2	A50-2/E295	1.005		2172	A570 (50)
	4360-55E	St60-2/St70-2	A60-2/E335-A70-2/E360	1.006/1.007			
	4360-40C/D-1449-37C	St37-3	E24-3;-4/S235J2G3	1.0116	A360 C;D	1313	A284/A573/A611
	1449 – 2/3/4CR	St12	DC01	1.033	AP 00		A366/1012/A619
	1449 2CR; 3CR	St13		1.0333	AP 02		1008
	1449 1CR; 2CR	St14	DC04	1.0338	AP 04		A620
	1501Gr.161-360/400	H I	A37CP;AP/P235GH	1.0345	A 37 RC I;RA II	1330	A516Gr.65;-55
	3CR	RRSt13	DC03	1.0347			A619
	161-400;	H II	A42CP;AP/P265GH	1.0425	A42 RC 1	1430	
		19Mn6	A52CP;AP/P335GH	1.0473	A 47 RB II	2101/2102	A537
		17Mn4	A48CP;AP/P295GH	1.0481	A 47 RC1; RA II		A516 (70)
		StE355	E355R/FP/S355N	1.0562	AE 355 KG;DD	2132	A633 (C)
	4360-50B;50C;50D	St52-3	E36-3;E36-4/S355J2G3	1.057	A 510 C;D	2132	
	1501-240	15Mo3	15D3/15Mo3	1.5415	F.2601 – 16 Mo 3	2912	A204 (A)
	1503-245-420	16Mo5		1.5423	F.2602 – 16 Mo 5		4520
	1501-503-690	10Ni14	12N14/12Ni14	1.5637	F.152		A350-LF3
		13NiCr6	10NC6	1.5713			3115
		14NiCr10	14NC11	1.5732	F.1540 – 15 NiCr 11		3415
	620Gr.27;31	13CrMo44	15CD3.05	1.7335	F.2631 – 14 CrMo 4 5	2216	A182-F11;F12
	620Gr.27	16CrMo44	15CD4.5	1.7337		2216	A387 (12)
	622Gr.31;45	10CrMo910	12CD9.10/10CrMo9-10	1.738	TU.H	2218	A182F22
	660/440	14MoV63		1.7715	F.2621 – 13 MoCrV6		
	4360-55E	StE420	E420RIFP/S420N	1.8902	AE 420 KG		A633Gr.E
	StE460	E460RIFP/S460N	1.8905	AE 460 KG		A633Gr.E	
P	Grade2A	G-X260NiCr42		0.962			A532IBNiCr-LC
	Grade2B	G-X330NiCr42		0.9625			A532IANiCr-HC
	Grade2C;D;E	G-X300CrNiSi952		0.963			A532IDNi-HiCr
	Grade3A;B	G-X300CrMoNi152		0.964			
	Grade3C	G-X260CrMoNi202		0.9645			A532IID20%CrMo-LC
	Grade3D	G-X260Cr27		0.965			A532IIIA25%Cr
	Grade3E	G-X300CrMo271		0.9655			A532IIIA25%Cr
		C80W1	Y190;Y180	1.1525			W108
		C105W1	Y1105	1.1545		1880	W110
		C105W2		1.1645	F.5117 C102		
		C125W	Y2120	1.1663	F.5123 C120		W112
		C135W	Y2140	1.1673			
	BW1A/BW1B	C75W/C80W1		1.175/1.625	F.1507 C80		W1
	BL3	100Cr6	Y100C6	1.2067	F.5230 100 Cr6		L3
	BD3	X210Cr12	Z200C12	1.208	F.5212 X210 Cr12		D3
		115CrV3		1.221			L2
	BH11	X38CrMoV51	Z38CDV5	1.2343	F.5317 X37 CrMoV5		H11
	BH13	X40CrMoV51	Z40CDV5	1.2344	F.5318 X40 CrMoV5	2242	H13
	BA2	X100CrMoV51	Z100CDV5	1.2363	F.5227 X100 CrMoV5	2260	A2
	BH10	X32CrMoV33	Z32DCV28	1.2365	F.5313 CrMoV 12		H10
	BD2	X155CrVMo121	Z160CDV12	1.2379			D2
		105WCr6	105WC13	1.2419	F.5233 105 WCr5		
		X210CrW12		1.2436	F.5213 X210 CrW12	2312	
	BO1	100MnCrW4		1.251	F.5220 95 MnCrW5	2140	O1
	BS1	45WCrV7		1.2542	F.5241 45 WCrSi 8	2710	S1
		60WCrV7	55WC20	1.255			
		X30WCrV53	Z32WCV5	1.2567			
	BH21	X30WCrV93	Z30WCV9	1.2581	F.5323 X30 WCrV9		H21
		X165CrMoV12		1.2601	F.5211 X160 CrMoV12	2310	
	BH12	X37CrMoW51	Z35CWDV5	1.2606			H12
		55NiCrMoV6	55NCDV7	1.2713	F.528		L6
	BW2	100V1	Y1105V	1.2833			W210
	BO2	90MnCrV8	90MV8	1.2842			2
	BT15	S12-1-4-5		1.3202	F.5563 12-1-5-5		T15
		S10-4-3-10	Z130WKCDV10-10-04-03	1.3207	F.553 10-4-3-10		
	S6-5-2-5	Z85WDKCV06-05-05-04-02	1.3243	F.5613 6-5-2-5	2723		
	S7-4-2-5	Z110WKCDV07-05-04-04-02	1.3246	F.5613 6-5-2-5		M41	
BT42	S2-10-1-8	Z110DKCWW09-08-04-02-01	1.3247	F.5615 7-4-2-5		M42	
BM34	S2-9-2-8		1.3249	F.5611 2-9-2-8		M33/M34	
BT4	S18-1-2-5	Z80WKCV18-05-04-01	1.3255	F.5530 18-1-1-5		T4	
BT5	S18-1-2-10		1.3265	F.5540 18-0-2-10		T5	
	SC6-5-2	Z90WDCV06-05-04-03	1.3342			M3	
BM2	S6-5-2	Z85WDCV06-05-04-02	1.3343	F.5603 6-5-2	2722	M2	

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SPECIALS

Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA
P Tool Steels		S6-5-3	Z130WDCV06-05-04-04	1.3344	F.5605 6-5-3		M3Class2
	BM1	S2-9-1	Z85DCWV08-04-02-01	1.3346			H41/M1
		S2-9-2	Z100DCWV09-04-02-02	1.3348	F.5607 2-9-2	2782	M7
	BT1	S18-0-1	Z80WCV18-04-01	1.3355	F.5520 18-0-1		T1
		X120Mn12	Z120M12/Z120Mn12	1.3401	F.82551-AM-X 120 Mn 12		A128(A)
	534A99	100Cr6	100C6	1.3505	F.1310 – 100 Cr 6	2258	52100
S High-Temp Alloy	NA17	X12NiCrSi3616	Z12NCS37.18	1.4864	F.3313-X 12 CrNi 36-16		330
	330C40	G-X40NiCrSi3818		1.4865			
	NA15(H)	X10NiCrAlTi3320	Z8NC3221	1.4876	F.3545-X 9NiCr 33-21		B163
	3072-76/NA13	NiCu30Fe	NU30	2.436			4544/SB127/164
	3072-76/NA18/3146	NiCu30Al		2.4375			4676
		NiCr17Mo17FeW	NC 17 DWY	2.4602			5388 C
	HR5/203-4/703-B	NiCr20Ti	NC 20 T	2.463		MH-05	
	HR 401HR601/736B	NiCr20TiAl	NC 20 TA	2.4631		MH-07	
	HR 3/5007	NiCo20Cr15MoAlTi	NCKD 20 ATV	2.4634		MH-14	
		NiCo15Cr15MoAlTi	NCKD 20 AT	2.4636			687
	HR 10	NiCr20Co19MoTi	NCK 20 D	2.465			
		NiCr15MoTi	Z8 NCDT 42	2.4662		MH-16	5660C
	HR 6/204	NiCr22Fe18Mo	Nc 22 FeD	2.4665		MH-03	5536E
	HR 8	NiCr19Fe19NbMo	NC 19 FeNb	2.4668		MH-06	
	HR 505	NiCr16FeTi	NC 15 Fe TNb	2.4669			5542G
	HC 203	G-NiCr13Al6MoNb	NC 13 AD	2.467		MH-31	5391A
	HC 204	NiCo15Cr10MoAlTi	NK 15 CAT	2.4674			
		NiCo10W10Cr9AlTi		2.4676			
	3072-76	NiCr15Fe	NC 15 Fe	2.4816			5540
		NiCr22Mo9Nb	NC 22 FeDNB	2.4856			5581
3072-76	NiCr21Mo	NC 21 FeDU	2.4858				
	NiCr19Co11MoTi	NC 19 KDT	2.4973				
	NiCr18Co18MoAlTi	NCK 19 DAT	2.4983			684	
HR 207/5047	NiFe33Cr17Mo	NW 11 AC					
Titanium Alloy	TA.1	Ti99,8	T-35	3.7024/25	St37-3	Ti-PO1	
	TA.21-24/52-55/58	TiCu2	T-U2	3.7124	A360 C,D	Ti-P11	
	TA.43/44	TiAl6Zr5Mo0,5Si0,2	T-A6ZD	3.7154	A360 C,D	Ti-P67	
	TA.45-51/57	TiAl4Mo4Sn2Si0,5	T-A4DE	3.7184	A360 C,D	Ti-P68	
	TA-2/34/5	Ti99,7	T-40	3.7034/35	A360 C,D	Ti-PO2	4941/42/51/4902
	TA-6/7/8/9	Ti99,5	T-60	3.7064/65	A360 C,D	Ti-PO4	4901/21
	TA.10-13/28/56	TiAl6V4	T-A6V	3.7164/65	A360 C,D	Ti-P63	491128/35/54/65/67
DTD5023/5283		T-50		A360 C,D		4900	

Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA
M Stainless Steels	403S17	X6Cr13	Z6013/Z6Cr13	1.4	F.3110-X6 Cr 13	2301	403
	403S17	X7Cr14	Z3014	1.4001	F.8401-AM-X12 Cr 13	2301	410S
	405S17	X6CrAl13	Z6CA13/Z6CrAl13	1.4002	F.3111-X6 CrAl13	2302	405
	416S21	X12CrS13	Z12CF13/Z12CrS13	1.4005	F.3411-X12 CrS 13	2380	416
	410S21 ENEN56A	X10Cr13	Z12C13/Z12Cr13	1.4006	F.3401-X12 Cr 13	2302	410/CA-15
	430S1 EN 60	X6Cr17	Z8C17/Z6Cr17	1.4016	F.3113-X8 Cr17	2320	430
	420S37	X20Cr13	Z20C13/Z20Cr13	1.4021	F.3402-X20 Cr 13	2303	420
	420S45	X30Cr13	Z20C13/Z20Cr13	1.4028	F.3403-X30 Cr 13	2304	
		X38Cr13	Z40C14/Z40Cr14	1.4031	F.3404-X40 Cr 13	2304	
	420S45 EN 56D	X46Cr13	Z40C14/Z40Cr14	1.4034	F.3405-X46 Cr 13		
	431S29 EN 57	X20CrNi172	Z15CN16.02	1.4057	F.3427-X15 CrNi16	2321	431
		X12CrMoS17	Z10CF17	1.4104	F.3117-X10 CrS17	2383	430F
	434S17	X6CrMo17	Z8CD17.01	1.4113		2325	434
		X105CrMo17	Z100CD17	1.4125			440C
	304S15 EN 58E	X5CrNi1810	Z6CN18.09	1.4301	F.3451-X5 CrNi18-10	2332	304/304H
	305S19	X5CrNi1812	Z8CN18.12	1.4303	F.3513-X8CrNi.18-12		308;305
	303S21 EN 58M	X10CrNiS189	Z10CNF18.09	1.4305	F.3508-X10CrNiS18-09	2346	303
	304S12/S11/C12	G-X2CrNi189/1911	Z2CN18.10/Z3CN19.10m	1.4306	F.3503-X 2CrNi19-10	2333/52	304L
	304C15	G-X6CrNi189	Z6CN18.10M	1.4308		2333	CF-8
	301S21	X12CrNi177	Z12CN17.07	1.431	F.3517-X12CrNi17 07		301
	304S62	X2CrNiN1810	Z2CN18.10Az	1.4311		2371	304LN
	302C25	G-X10CrNi188	Z10CN18.9M	1.4312			
	425C11	G-X5CrNi134	Z4CND13.4M	1.4313		2385	CA6-NM
	316S16/S31 EN 58J	X5CrNiMo17122	Z6CND17.11	1.4401	F.3543-X5CrNiMo17-12/03	2347	316/316L
	316S11/S12	X2CrNiMo17132	Z2CND18.13	1.4404	F.3533-X 2CrNiMo17 12-03	2348	316L
	316S61	2CrNiMoN17122	Z2CND17.12Az	1.4406			316LN
	316C16	G-X6CrNiMo1810		1.4408	F.8414-AM-X7 CrNiMo20 10	2343	CF-8M
	316S62	X2CrNiMo17133	Z2CND17.13Az	1.4429		2375	316LN
	316S11/S12	X2CrNiMo18143	Z2CND17.13	1.4435	F.3533-Z 2 CrNiMo 17-12-03	2353	316L
	316S16	X5CrNiMo17133	Z6CND17.12	1.4436	F.3534-X 6 CrNiMo 17-12-03	2343	316
	317S12	X2CrNiMo18164	Z2CND19.15	1.4438		2367	317L
	317S16	X5CrNiMo1713		1.4449			317
	347C17	G-X5CrNiNb189	Z6NNb18.10M	1.4452			
		X8CrNiMo275		1.446	F.3309-X 8CrNiMo27-05	2324	329
		X6CrTi17	Z8CT17	1.451	F.3114-X8CrTi17		XM8/430Ti
	409S19	X5CrTi12	Z6CT12	1.4512			409
	321S12/S31 EN 58B	X6CrNiTi1810	Z6CNT18.10	1.4541	F.3553-X 7 CrNiTi 18-11	2337	321
		X5CrNiCuNb1714	Z6CNU17.04	1.4542			630
	347S17/S18	X5CrNiNb1810		1.4546			348
	347S17/S31 EN 58F	X6CrNiNb1810	Z6CNNb18.10	1.455	F.3552-X 7 CrNiNb 18-11	2338	347
	320S31/S17 EN58J	X6CrNiMoTi17122	Z6CNDT17.12	1.4571	F.3552-X 6 CrNiMoTi17-12-03	2350	403
	320S33	X10CrNiMoTi1812		1.4573			410S
	318S17	X6CrNiMoNb17122	Z6CNDNb17.12/19.13	1.458			405
	401S45 EN52	X45CrSi93	Z45CS9	1.4718	F.3220-X 4 CrSi 09-03		416
	403S17	X10CrAl13	Z10C13	1.4724	F.13152-X 10 CrAl13		410/CA-15
		X40CrSiMo102	Z40CSD10	1.4731	F.3221-X 40 CrSiMo 10-02		405
	430S15	X10CrAl18	Z10CAS18	1.4742	F.3153-X 10 CrAl 18		416
	443S65 EN 59	X80CrNiSi20	Z80CSN20.02	1.4747	F.3222-X 80CrSiNi20-02		410/CA-15
		X10CrAl24	Z10CAS24	1.4762	F.3154-X 10 CrAl24		420
	309S24	X15CrNiS2012	Z15CNS20.12	1.4828			405
309S24	X7CrNi2314	Z15CN24.13	1.4833			416	
309C30	G-X40CrNiSi2520		1.4837			410/CA-15	
	X15CrNiSi2520	Z15CNS25.20	1.4841	F.3310-X15 CrNiSi 25-20		431	
310S24	X12CrNi2521	Z12CN25.20	1.4845	F.331	2361	405	
310C40	G-X40CrNiSi2520		1.4848	F.8452-AM-X 40 CrNi 25 20		416	
349S54	X53CrMnNiN219	Z5CMN21.09	1.4871	F.3217-X 53 CrMnIn 21-09		410/CA-15	
331S40	X45CrNiW189	Z35CNWS14.14	1.4873	F.3211-X45 CrNiSiW 28-09		304/304H	
321S20	X12CrNiTi189	T6CNT18.12(B)	1.4878	F.3523-X 6CrNiTi 18 11	2337	308;305	
1501-509;510	X8Ni9	Z8N9	1.5662	F.2645 - X 8 Ni 09		303	
	12Ni19	Z18N5	1.568			304L	
H Hardened Steels	HARDOX 400/500/600						

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SPECIALS

Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA
SG/Nodular Cast Iron	420/12	GGG-40	FGS-400-12	0.704		0717-02	60-40-18
	370/17	GGG-40.3	FGS370-17	0.7043		0717-15	
	500/7	GGG-50	FGS500-7	0.705		0727-02	65-45-12
	600/3	GGG-60	FGS 600-3	0.706		0732-03	80-55-06
	700/2	GGG-70	FGS 700-2	0.707		0737-01	100-70-03
	800/2	GGG-80	FGS 800-2	0.708			120-90-02
	W 340/3	GTW-35-04	MB 35-7	0.8035			
	W 410/4	GTW-40-05	MB 40-10	0.804			
		GTW-45-07		0.8045			
	B 340/12	GTS-35-10	MN 35-10	0.8135		SIS 08 15-00	32510
	P 440/7	GTS-45-06	MP 50-5	0.8145		SIS 08 54-00	
	P 540/5	GTS-55-04	MP 60-3	0.8155		SIS 08 56-00	
		GTS-65-02		0.8165		SIS 08 62-03	
P 690/2	GTS 70-02	MP 70-2	0.817		SIS 08 62-03	70 003	
Grey/White Cast Iron	Grade 260	GG25	Ft25D/FGL250	0.6025	FG 25	0125-00	A48-40B
		GG10	Ft10D/FGL100	0.601	FG 10	0110-00	A48-20B
	Grade 150	GG15	Ft15D/FGL150	0.6015	FG 15	0115-00	A48-25B
	Grade 220	GG20	Ft20D-FGL200	0.602	FG20	0120-00	A48-30B
	Grade 300	GG30	Ft30D/FGL300	0.603	FG 30	0130-00	A48-45B
	Grade 350	GG35	Ft35D/FGL350	0.6035	FG35	0135-00	A48-50B
Grade 400	GG40	Ft40D/FGL400	0.604		0140-00	A48-60B	
Cast Aluminium	LM4-LM22	G-ALSi6Cu4	A-S5U	3.2151	L-2660	4230	3,192
	LM24	G-ALSi8Cu3	A-S9U3	3.2161	L-2630	4252	3,801
	DTD716B	G-ALSi5Mg	A-S4G	3.2341			
	2L99/LM25	G-ALSi7Mg	A-S7G0,3	3.2371		4244	A356.2
		G-ALSi9Mg	A7-S10G	3.2373		4253	
	LM9	G-ALSi10Mg	A-S10G	3.2381	L-2560	4253	A360
	LM20	G-ALSi12Cu	A-S12U	3.2583	L-2530	4260	4,131
	LM5	G-ALMg5	A-G6	3.3561			5,141
	LM6	G-ALSi12	A-S13	3.3581	L-2520	4261	A413
	LM10	G-ALMg10	A-G10-Y4	3.3591	L-2310		520
	ALSi17Cu4					390	
LM28/LM29	ALSi18-25CuNiMg					393	
Wrought Aluminium	1C	Al99	A4	3.0205	L-3001	144010	1200
	1B	Al99,5	A5	3.0255	L-3051	144007	1050A
	1E	E-Al	A5/L	3.0257	L-3052	144008	1350A
		Al99,7	A7	3.0275	L-3071	144005	1070A
	1A	Al99,8	A8	3.0285	L-3081	144004	1080A
	1	Al99,98R	A99	3.0385			1199
	N31	AlMn0,5Mg0,5		3.0505			3105
		AlMn1Mg0,5	A-M1G0,5	3.0525			3005
	N4	AlMnMg1	A-M1G	3.0526	L-3820		3004
		AlFeSi	A-FeS	3.0915			8011A
	H15	AlCuSiMn	A-U4SG	3.1255	L-3130	144338	2014
	3L86/HR13	AlCu2,5Mg0,5	A-U2G	3.1305	L-3180		2117
	H14	AlCuMg1	A-U4G	3.1325	L-3120		2017A
	2L98	AlCuMg2	A-U4G1	3.1355	L-3140		2024
		AlCuMgPb	A-U4Pb	3.1645	L-3121	144335	2003
	FC1	AlCuBiPb	A-U5PbBi	3.1655	L-3182	144355	2011
	91E	E-ALMgSi		3.2305	L-3431		6101B
	BTR6	Al99,85MGS1	A85-GS	3.2307			6463
	H30	Al-Si1 Mg	A-SGMO,7	3.2315	L-3451	144212	6181
	H9	AlMGSi0,5		3.3206	L-3441	144103	6060
	BTRE6	E-ALMGSi0,5	A-GS/L	3.3207		144102	6101C
	N41	AlMg1	A-G0,6	3.3315	L-3350	144106	5005A
	3L44	AlMg1,5	A-G1,5	3.3316	L-3380		5050B
		AlMg4,5		3.3345			5082
	N5Mg3,5	AlMg2,5	A-G2,5C	3.3523	L-3360	144120	5052
	N4	AlMg2Mn0,3	A-G2M	3.3525			5251
		AlMg3	A-G3M	3.3535	L-3390	144133	5754
	N51	AlMg2,7Mn	A-G2,5MC	3.3537			5454
	N8	AlMg4,5Mn	5083	3.3547	L-3321	144140	5083
	N6	AlMg5		3.3555	L-3320	144146	5056A
H17	AlZn4,5Mg1	A-Z5G	3.4335	L-3741	144425	7020	
	AlZnMgCu0,5	A-Z5Gu0,6	3.4345			7022	
2L95	AlZnMgCu1,5	A-Z5GU	3.4365	L-3710		7075	

Material Cross Reference

Material Class	UK	DIN	French	German	Spanish	Swedish	USA	
Bronze		CuAl5As	CuAl6	2.0918			C 60 800	
		CuAl8	CuAl8	2.092			C 61 000	
	CA 106	CuAl8Fe3	CuAl7Fe2	2.0932			C 61 400	
	CA 105	CuAl10Fe3Mn2	CuAl9Fe3Mn2	2.0936			C 62 300	
	AB 1	CuA/10Fe	CuAl9Fe3	2.094			C 95 200	
	Aluminium-Bronze	AB 1	G-FeA/BzF50	CuAl9Fe3	2.094			B 505
			CuAl9Mn2	CuAl9Mn2	2.096			
	Tin Bronze	CA 104	CuA/10Ni5Fe4	CuAl9Ni5Fe3Mn	2.0966			C 63 200
		AB 2	G-NiABzF50	CuAl9Ni5Fe	2.097			C 95 800
			CuAl11NiFe5	CuAl11Ni5Fe5	2.0978			
	LB5	G-CuPb20Sn	CuPb20Sn5	2.1188			C 94100	
Brass	CZ 125/101	CuZn5	CuZn5	2.022/2.032			C 21000/34500	
	PCB 3	G-CuZn37Pb	CuZn40-Y30	2.034			C 85700	
	CZ 109/CZ130	CuZn40/44Pb2	CuZn40/44Pb2	2.036/2.041			C 28000/38500	
	CZ 110	CuZn20Al2	CuZn22Al2	2.046			C 68700	
	CZ 111	CuZn28Sn1		2.047			C 44300	
	CZ 112	CuZn38Sn1		2.053			C 46400	
	CZ 114	CuZn40Al2		2.055			C 67400	
	PCB1, DCB 3	G-CuZn38Al		2.0591			C 86400	
	HTB 1	G-CuZn35Al1	CuZn40-Y30	2.0592			C 86400	
		G-CuZn34Al2		2.0596			C 86200	
HTB 3	G-CuZn25Al5		2.0598			C 86300		
G1	G-CuSn10Zn		2.105			C 90500		
Brass	Pb2	G-CuSn12	CuSn12	2.1052			C 90800	
	CT2	G-CuSn12Ni		2.106			C 91700	
	CT1	G-CuSn10		2.1086			C 90250	
		G-CuSn7ZnPb	CuSn7Pb6Zn4	2.109			C 93200	
	LG4	G-CuSn6ZnNi		2.1093			C 92410	
	LG2	G-CuSn5ZnPb/RG5	CuPb5Sn5Zn5	2.1096			C 83600	
	LB2	G-CuPb10Sn	CuPb10Sn10	2.1176			C 93700	
	LB1	G-CuPb15Sn		2.1182			C 93800	
CC 102	CuCrZr		2.1293			C 18100		
Copper Copper/ Nickel Alloys		G-CuNi10		2.0815			C 96200	
	CN 105	CuNi25	CiNi25	2.083			C 71300	
	CN 2	G-CuNi30		2.0835			C 96400	
		CuNi44Mn1	CuNi44	2.0842			C 72150	
	CN 102	CuNi10Fe1Mn	CuNi10Fe1Mn	2.0872			C 70600	
	CN 107	CuNi30Mn1Fe	CuNi30Mn1Fe	2.0882			C 71500	
	CB 101	CuBe1,7	CuBe1,7	2.1245			C 17000	
		CuBe2	CuBe1,9	2.1247			C 17200	
	C112	CuCo2Be		2.1285			C 17500	
		CuFe2P		2.131			C 19400	
		CuNi9Sn2					C 72500	
	CN 108	CuNi30Fe2Mn2	CuNi30Fe2Mn2				C 71640	
	Cu-OF C 103/110	OF-Cu	Cu-c1/C2	2.004			OF	
	Cu-ETP-2 C 101	E-Cu57	Cu-a1/A2	2.006			C 11000	
	Cu-ETP-2 C 101	E-Cu58	Cu-a1	2.0065			C 11000	
		Se-Cu		2.007			C 10300	
		SW-Cu	Cu-b2	2.0076			C 1200	
Cu-DHP C 106	SF-Cu	Cu-b1	2.009			C 12200		
	Cu-Ag 0,1P		2.1191			C 10700		
CuAg-4	Cu-AG 0,1		2.1203			C 11600		

A

DRILLING

B

BORING

F

THREADING

X

SPECIALS

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A
DRILLING
B
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THREADING
X
SPECIALS

Drilling Guaranteed Application Form

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

CONTACT DETAILS

Trial P.O. No.* Date* Proposed Test Date*
 Favoured Distributor* Distributor Contact*
 Customer Name* Industry Contact Name*

APPLICATION INFORMATION

ATTENTION: The following Information is required to enable the best combination of tooling to be recommended. Please complete all that apply.

Material Type* Specification* Material Hardness Kg BRN RC N/mm²

Material Condition Flat Stock Round Stock Tubular Stock Plate
 Stacked Plate Hot Rolled Cold Rolled Casting Forging

Hole Diameter mm Inch Hole Depth Through Hole Blind Hole

Drilled Hole Tolerance Req'd Drilled Hole RMS Finished Req'd μInch μMetre

MACHINE SETUP

Machine Type Machining Centre Lathe Boring Mill
 Multi-spindle Auto Multi-spindle Drill Transfer Line
 Gantry Machine Dial Index Machine Radial Arm
 Gun Drilling Machine Pedestal Drill Other:

Machine Tool Builder* Model

Machine Tool Control* CNC NC Manual Other

Spindle Orientation* Vertical Horizontal Other

Machine Shank Required MAS BT DIN69871 HSK Spindle Taper Size 40 50 63 100 Other

Tool* Stationary Revolves

Available Power* KW HP Available Feed Trust Newtons Lbs

Available Speed* RPM M/min Variable Fixed

Preferred Shank Type* Flanged Morse Taper RCA Lathe Diameter mm Inch

Coolant Type* Cutting Oil Water Soluble Oil Air Mist Air Dry

Coolant Pressure* Bar PSI

Coolant Flow Rate* L/min GPM Coolant Supply Through Tool External

CURRENT DRILL INFORMATION

Drill Manufacturer Part Number

Drill Type Twist Brazed Indexable Insert Gun Drill
 Removable Tip Other

Tool Grade HSS Carbide Ceramic Other

Tool Coating Uncoated TiN TiCN TiAlN Other

Current Speed RPM M/min Current Feed Rate mm/rev mm/min

Average Number of Holes Drilled New After Regrind?

Reason(s) for Tool change Wear Fracture Chipping
 Losing Hole Tolerance Losing Chip Control Burr
 Other Chatter New Application

What criteria defines a successful test* Decreased Cycle Time Better Chip Control Safer Process
 Longer Tool Life Reduced Cost per Hole Other

Current Annual Usage €/: Current Tools per Annum?

*Required fields where applicable

FOR OFFICE USE ONLY

Application Engineer:

Number:

Status:

engineering.eu@alliedmachine.com

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

CONTACT DETAILS

Trial P.O. No.* Date* Proposed Test Date*
 Favoured Distributor* Distributor Contact*
 Customer Name* Industry Contact Name*

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: _____ mm/in	Tolerance: _____	Material: _____ (4150, A36, cast iron, etc.)
Pre-existing Diameter: _____ mm/in	Depth of Cut: _____ mm/in	Hardness: _____ (Rc, BHN, Kg)
Required Finish: _____ μm	<input type="checkbox"/> Blind <input type="checkbox"/> Through Hole	State: _____ (Casting, hot rolled, forging)

MACHINE INFORMATION

Machine Type: _____ (Lathe, screw machine, machine center, etc.)	Builder: _____ (Haas, Mori Seiki, etc.)	Model #: _____
Shank Required: _____ (DIN50, Morse taper, etc.)		Power: _____ KW/HP
Rigidity: <input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Poor	Orientation: <input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal	Tool Rotating: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Thrust: _____ kN
		Max RPM: _____ RPM

COOLANT INFORMATION

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

REQUESTED TOOLING

QTY	Item Number

QTY	Item Number

QTY	Item Number

FOR OFFICE USE ONLY

Application Engineer:

Number:

Status:

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