

DRILLING

PRODUCT CATALOG



ALLIED MACHINE
& ENGINEERING

www.alliedmachine.com

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

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



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



Wohlhaupter GmbH is
registered to ISO
9001:2015 by QUACERT



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



Our Commitment to **YOU**



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

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

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

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

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

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



ALLIED MACHINE
& ENGINEERING



ALLIED MACHINE & ENGINEERING



SUPERION®

WOHLHAUPTER®

ThreadMills USA®

North America

Allied Machine

120 Deeds Drive
Dover, OH 44622
United States

Allied Machine

485 West 3rd Street
Dover, OH 44622
United States

ThreadMills USA®

4185 Crosstowne Ct #B
Evans, GA 30809
United States

Superion®

1285 S Patton St.
Xenia, OH 45385
United States

Europe

Allied Machine Europe

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

Wohlhaupter® GmbH

Maybachstrasse 4
72636 Frickenhausen
Germany

Asia

Wohlhaupter® India

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



LEADING HOLEMAKING SOLUTIONS WORLDWIDE

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

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

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



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

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

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

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

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

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

Patent Information

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

Table of Contents

Introduction	
Drilling Product Selection Guide	v - vi
A20	GEN3SYS® XT and XT Pro High Penetration Replaceable Insert A20: 1 - 88
A25	T-A® Pro Drilling System High Penetration Replaceable Insert A25: 1 - 66
A30	T-A® Drilling System Replaceable Insert A30: 1 - 148
A40	High Performance / Universal Replaceable Insert A40: 1 - 36
A50	APX™ Drill Large Diameter / Deep Hole A50: 1 - 34
A55	4TEX® Drill Indexable Carbide Insert A55: 1 - 38
A60	Revolution Drill® Large Diameter A60: 1 - 30
A70	Opening Drill® Large Diameter A70: 1 - 16
A93	BT-A Drill BTA (STS) Machining Solutions A93: 1 - 8



Drilling Overview Guide

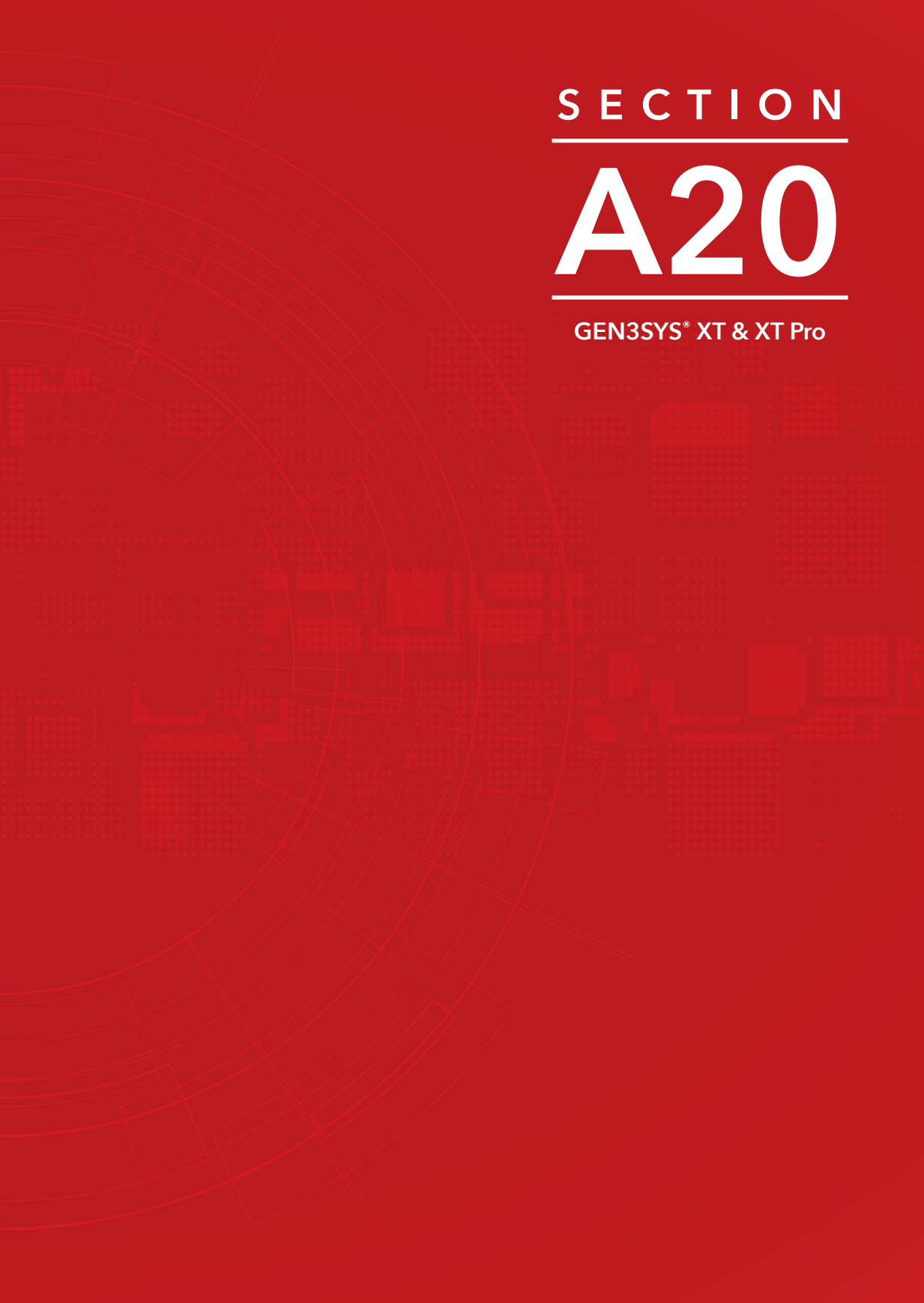
Product		Length-to-Diameter Ratio	Material					
			P	M	K	N	S	H
GEN3SYS® XT Pro	11.00 mm - 35.00 mm 0.4331" - 1.3780"	3xD, 5xD, 7xD, 10xD, 12xD	●	●	●	●		
GEN3SYS® XT	11.00 mm - 35.00 mm 0.4331" - 1.3780"	Stub, 3xD, 5xD, 7xD	●	●	●	●	●	○
T-A Pro®	9.50 mm - 47.80 mm 0.3739" - 1.8820"	Stub, 3xD, 5xD, 7xD, 10xD, 12xD, 15xD	●	●	●	●	●	
GEN2 T-A®	9.50 mm - 114.48 mm 0.3739" - 4.5070"	1xD to 28xD	●	●	●	●	●	
T-A®	9.50 mm - 114.48 mm 0.3739" - 4.5070"	1xD to 28xD	●	●	●	●	●	●
High Performance	24.60 mm - 127.00 mm 0.9688" - 5.0000"	—	●	●	●	●	●	
Universal	24.60 mm - 215.90 mm 0.9688" - 8.5000"	—	○	○	○	○	○	
APX™ Drill	33.00 mm - 101.60 mm 1.2991" - 4.0000"	3xD, 5xD, 8xD, 10xD	●	●	●	●	○	
4TEX® Drill	12.00 mm - 47.00 mm 0.4724" - 1.8504"	2xD, 3xD, 4xD	●	●	●	●	●	●
Revolution Drill®	47.63 mm - 101.60 mm 1.8750" - 4.0000"	1xD, 2.2xD, 2.5xD, 3.5xD, 4.5xD,	●	●	●	●		○
Opening Drill®	50.80 mm - 142.75 mm 2.0000" - 5.6200"	—	●	●	●	●		○
BT-A Drill	12.98 mm - 47.80 mm 0.5110" - 1.8820"	—	●	●	●	●	○	

● Best ● Better ○ Good

Drilling Overview Guide

General Purpose	Machining Application				Industry Specific
	High Penetration	Deep Hole	Large Diameter		
●	●	●			
●	●				
○	●	●	○		
●	○	●	●		
●	○	●	●		
●		◐	●		
●		◐	●		
◐		●	●		
●	◐				
○	◐		●		
○	◐		●		
	◐	●		●	

● Best ◐ Better ○ Good



SECTION

A20

GEN3SYS® XT & XT Pro

GEN3SYS® XT AND XT PRO

11.00 mm - 35.00 mm (0.4331" - 1.3780")



GEN3SYS® XT and XT Pro

The GEN3SYS XT and XT Pro replaceable insert high penetration 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.

The Next Generation of Drilling

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

Applicable Industries

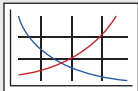
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Hydraulics
-  Marine
-  Oil and Gas
-  Renewable Energy/ Energy
-  Tool, Mold, and Die

Reference Icons

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



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



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



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

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



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

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

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

Table of Contents

Introduction Information

Case Studies

 XT Pro: P (steel) 4

 Competitive Test 5

 XT Pro: K (cast iron) 6

Drilling System Information

 GEN3SYS XT Pro 7

 GEN3SYS XT 8

Insert Comparison and Assembly Information 9

Holder Comparison and Overview 10

Product Nomenclature 11

Drill Series

11 Series: 11.00 mm - 11.99 mm (0.4331" - 0.4723") 13

12 Series: 12.00 mm - 12.99 mm (0.4724" - 0.5117") 17

13 Series: 13.00 mm - 13.99 mm (0.5118" - 0.5511") 21

14 Series: 14.00 mm - 14.99 mm (0.5512" - 0.5905") 25

15 Series: 15.00 mm - 15.99 mm (0.5906" - 0.6298") 29

16 Series: 16.00 mm - 16.99 mm (0.6299" - 0.6692") 33

17 Series: 17.00 mm - 17.99 mm (0.6693" - 0.7086") 37

18 Series: 18.00 mm - 19.99 mm (0.7087" - 0.7873") 41

20 Series: 20.00 mm - 21.99 mm (0.7874" - 0.8660") 45

22 Series: 22.00 mm - 23.99 mm (0.8661" - 0.9448") 49

24 Series: 24.00 mm - 25.99 mm (0.9449" - 1.0235") 53

26 Series: 26.00 mm - 28.99 mm (1.0236" - 1.1416") 57

29 Series: 29.00 mm - 31.99 mm (1.1417" - 1.2597") 61

29 Series: 29.00 mm - 31.99 mm (1.1417" - 1.2597") 63

32 Series: 32.00 mm - 35.00 mm (1.2598" - 1.3780") 65

Recommended Drilling Data

Metric (mm) 69

 GEN3SYS XT Pro 69

 GEN3SYS XT 73

Imperial (in) 77

 GEN3SYS XT Pro 77

 GEN3SYS XT 81

Technical Information

Technical Formulas 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.**



Case Studies

XT Pro: P (steel)

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.

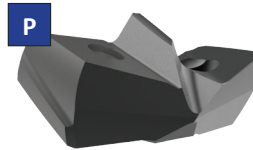
Bottom Line: *Doubled the tool life*

The PROOF is in the NUMBERS

Competitor Insert Tool Life
 (number of holes = 1,000)

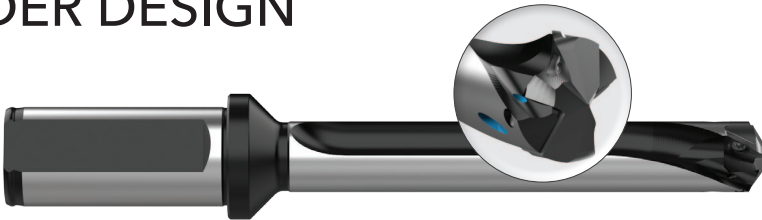


XT Pro Insert Tool Life
 (number of holes = 2,100)



2x
INCREASE
 in tool life

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.**



Case Studies

Competitive Test

TEST RESULTS

A20

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

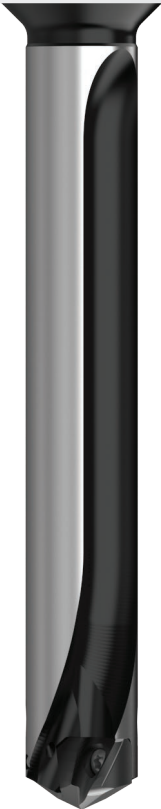
The Parameters:

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

The Results:

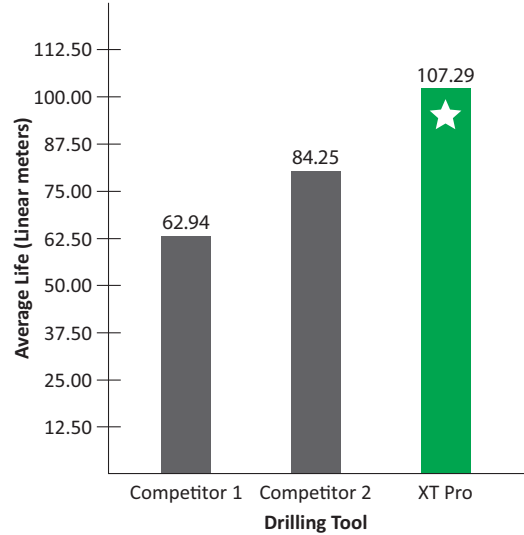
When run at the listed parameters, here is how the three different tooling solutions performed:

Competitor 1 = 2478 total linear inches
Competitor 2 = 3317 total linear inches
GEN3SYS XT Pro = 4224 total linear inches



Average Tool Life

Test Results Drilling in 4150 Steel





Case Studies

XT Pro: K (cast iron)

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.

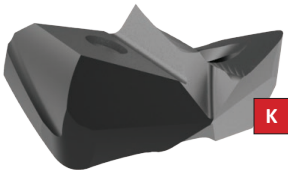
The tool ran at the following parameters:

- Hole Diameter = 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.

Bottom Line: 6x the tool life



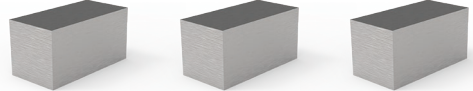
There's More to the Advantage Than Tool Life

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

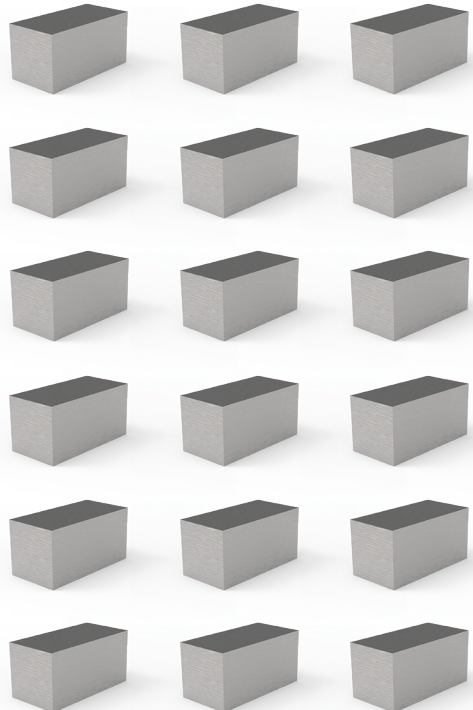
- Because only the insert needs changed when it reaches the end of its life, the XT Pro eliminates the need to re-establish tool lengths, which reduces setup times.
- Further benefit in setup is also seen as the tool only needs changed one time for every six of the customer's current method.
- Without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

The **PROOF** is in the **NUMBERS**

Competitor Tool Life
(number of holes = 65)



XT Pro Tool Life
(number of holes = 390)



INCREASE in
6x tool life

A20

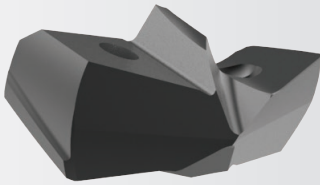


Drilling System Information

GEN3SYS XT Pro

A20

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

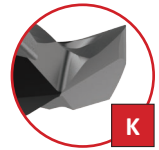
P - Steels

- 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.



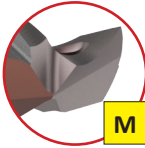
K - Cast Irons

- 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.



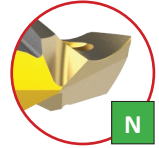
M - Stainless Steels*

- 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.

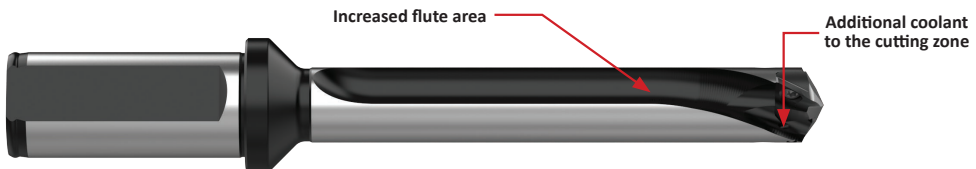


N - Nonferrous Materials

- Designed for applications in aluminum, 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.



*Available in 12-32 series only.



XT Pro Drill Holders

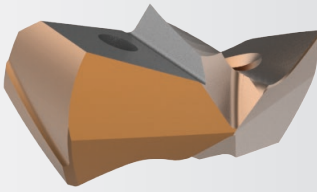
			3xD, 5xD, 7xD, 10xD, 12xD
Straight flutes	Enhanced coolant inlets improve the coolant flow	Provides increased insert life	Available in 3xD, 5xD, 7xD, 10xD, and 12xD



Drilling System Information

GEN3SYS XT

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

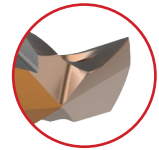
Standard Geometry

- Designed with corner and cutting edge enhancements to deliver more reliability, durability, and productivity.
- Increases penetration rates and tool life.
- Available in K35 (C1) or K20 (C2) carbide.



LR - Low Rake Geometry

- The toughest XT geometry available.
- Designed for harder steels and less than ideal machining applications.
- Available in K35 (C1) or K20 (C2) carbide.



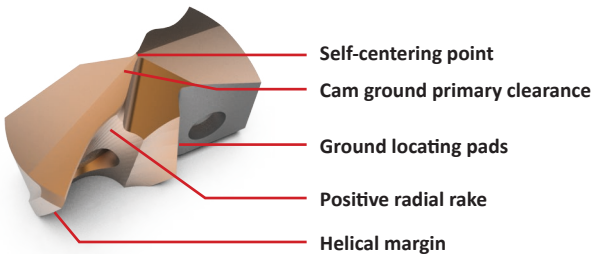
CI - Cast Iron Geometry

- Increases durability and tool life in ductile, nodular, and grey cast irons.
- Available in K20 (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 K20 (C2) carbide.



Coating	Features / Benefits
AM300®	- Increased heat resistance over AM200® coating. - Up to 20% increased tool life over AM200 coating. - Provides superior tool life at high penetration rates.



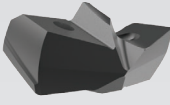
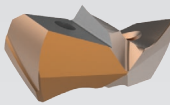
GEN3SYS Holders

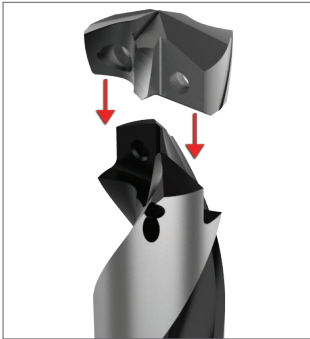
			Stub, 3xD, 5xD, 7xD
Straight flutes	Helical flutes	Drill / chamfer style	Available in stub, 3xD, 5xD, and 7xD



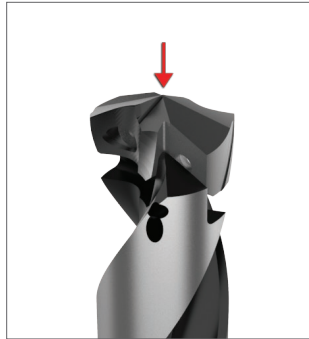
Insert Comparison and Assembly Information

A20

		 XT Pro Inserts	 XT Inserts
Recommended for increased productivity			
ISO-specific geometry/coating combination			
Connects with XT Pro holders			
Connects with GEN3SYS holders			



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.

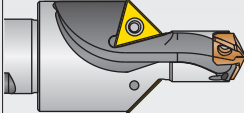
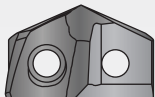
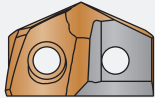


Step 3:
Apply a generous amount of E-Z Break® (provided in the packaging) onto the supplied TORX® Plus screws.

Tighten the TORX Plus screws to the recommended torque value specified in the catalog 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		☒	
Straight flute		☒	☒
Helical flute			☒
Drill/chamfer option			☒
Available in 12xD length	12XD	☒	
Connects with XT Pro inserts		☒	☒
Connects with XT inserts		☒	☒

XT Pro Holders



Straight Flute

GEN3SYS Holders



Straight Flute



Helical Flute



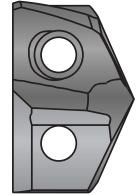
Drill/Chamfer



Product Nomenclature

GEN3SYS XT Pro Drill Inserts

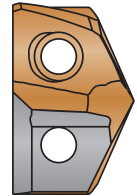
XT	P	11			—	11.00
	ISO Material	Series				Diameter (mm)
	P = Steel	11	16	24		For complete list of ranges by series, see table below.
	M = Stainless steel*	12	17	26		
	K = Cast iron	13	18	29		
N = Nonferrous	14	20	32			
		15	22			



*Available in 12-32 series only.

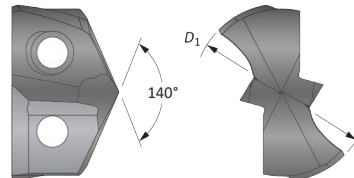
GEN3SYS XT Drill Inserts

7	C2	12			P	—	.484	CI
	Material	Series			Coating		Diameter	Geometry
	C1 = K35 (C1) C2 = K20 (C2)	11	16	24	P = AM300®		13 = Metric (mm) .515 = Decimal (in) 0017 = Fractional (in)	Blank = Standard CI = Cast iron LR = Low rake AS = Stainless steel
		12	17	26				
		13	18	29				
		14	20	32				
		15	22					



Reference Key

Symbol	Attribute
D_1	Insert diameter



Regrinding and Recoating

The GEN3SYS XT and XT Pro 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.

Series & Body Diameters

Series		11 Series	12 Series	13 Series	14 Series	15 Series	16 Series	17 Series
Insert Ø	mm	11.00 - 11.99	12.00 - 12.99	13.00 - 13.99	14.00 - 14.99	15.00 - 15.99	16.00 - 16.99	17.00 - 17.99
	inch	0.4331 - 0.4723	0.4724 - 0.5117	0.5118 - 0.5511	0.5512 - 0.5905	0.5906 - 0.6298	0.6299 - 0.6692	0.6693 - 0.7086
Holder								
Shank Ø	mm	16.00	20.00	20.00	20.00	20.00	20.00	20.00
	inch	0.625	0.750	0.750	0.750	0.750	0.750	0.750



Product Nomenclature

GEN3SYS XT and XT Pro Drill Holders

HXT	03	12	S	—	20	FM
Holder	Drill Length	Series	Flute		Shank Diameter	Shank Style
6 = XT standard	01 = Stub (XT standard only.)	11 22	S = Straight		Metric (mm)	FM = Flanged metric (with flat)
HXT = XT Pro	03 = 3xD	12 24	H = Helical		16 = 16 mm	063 = 0.625"
	05 = 5xD	13 26	C45 = Drill/Chamfer*		20 = 20 mm	075 = 0.750"
	07 = 7xD	14 29			25 = 25 mm	100 = 1.000"
	10 = 10xD ⚠ (XT Pro only.)	15 32	(Both helical and drill/ chamfer options available for XT standard only.)		32 = 32 mm	125 = 1.250"
	12 = 12xD ⚠ (11-26 series - XT Pro only.)	16	*Drill/chamfer is available in stub length only.		40 = 40 mm	150 = 1.500"
		17				
		18				
		20				

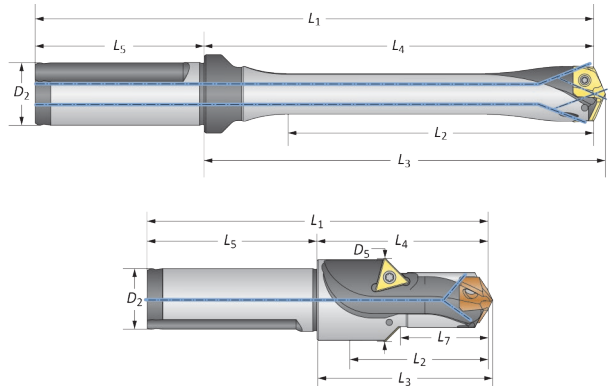
A20

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.

Reference Key

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	Shank length
L_7	Step length (drill/chamfer)
P_1	Rear pipe tap (GEN3SYS)



⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A20: 89** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

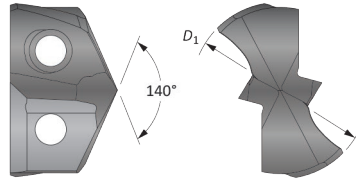
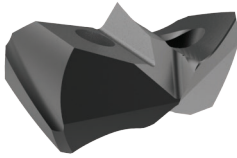
Series	18 Series	20 Series	22 Series	24 Series	26 Series	29 Series	32 Series
Insert Ø	mm	18.00 - 19.99	20.00 - 21.99	22.00 - 23.99	24.00 - 25.99	26.00 - 28.99	29.00 - 31.99
	inch	0.7087 - 0.7873	0.7874 - 0.8660	0.8661 - 0.9448	0.9449 - 1.0235	1.0236 - 1.1416	1.1417 - 1.2597
Holder							
Shank Ø	mm	25.00	25.00	25.00	25.00	32.00	32.00
	inch	1.000	1.000	1.000	1.000	1.250	1.250



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

GEN3SYS XT Pro Inserts

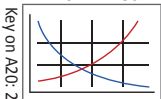
A20



Insert			Carbide		
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.

A20: 71 - 86



A20: 7 - 10



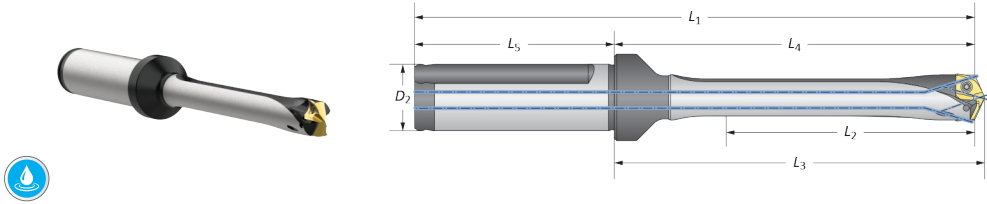
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	11.25 mm, steel, 11 series = use Part No. XTP11-11.25
Imperial:	0.4430", steel, 11 series = use Part No. XTP11-11.25



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

GEN3SYS XT Pro Holders



	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m	Straight	3xD	36.0	62.6	64.7	112.7	48.0	16		HXT0311S-16FM	HXT0311S-16CM
		5xD	60.0	86.6	88.6	136.7	48.0	16		HXT0511S-16FM	HXT0511S-16CM
		7xD	83.9	110.6	112.6	160.6	48.0	16		HXT0711S-16FM	HXT0711S-16CM
		10xD	119.9	146.6	148.6	196.6	48.0	16	⚠	HXT1011S-16FM	HXT1011S-16CM
		12xD	143.9	170.5	172.6	220.6	48.0	16	⚠	HXT1211S-16FM	HXT1211S-16CM
i	Straight	3xD	1.416	2.457	2.537	4.412	1.875	5/8		HXT0311S-063F	HXT0311S-063C
		5xD	2.361	3.401	3.481	5.356	1.875	5/8		HXT0511S-063F	HXT0511S-063C
		7xD	3.305	4.345	4.425	6.300	1.875	5/8		HXT0711S-063F	HXT0711S-063C
		10xD	4.721	5.761	5.841	7.716	1.875	5/8	⚠	HXT1011S-063F	HXT1011S-063C
		12xD	5.665	6.705	6.785	8.660	1.875	5/8	⚠	HXT1211S-063F	HXT1211S-063C

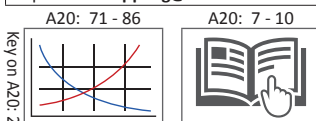
Connection Accessories

				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 catalog. 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: appeng@alliedmachine.com.



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

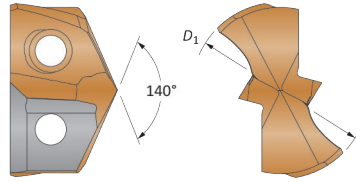
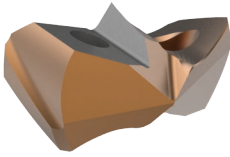
Screws sold in multiples of 10.



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

GEN3SYS XT Inserts

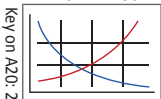
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	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: 71 - 86



A20: 7 - 10



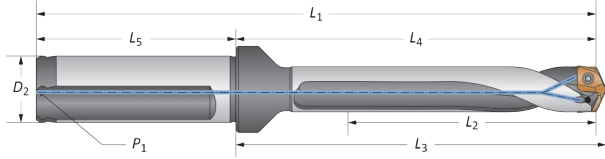
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	11.25 mm, C2, cast iron, 11 series = use Part No. 7C211P-11.25CI
Imperial:	0.4430", C2, stainless, 11 series = use Part No. 7C211P-.4430AS



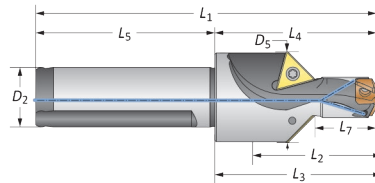
11 Series: 11.00 mm - 11.99 mm (0.4331" - 0.4723")

GEN3SYS Holders



A20

	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m		3xD	35.9	62.6	64.7	112.7	48.0	16	1/16 BSPT		60311S-16FM	—
		5xD	59.9	86.6	88.6	136.7	48.0	16	1/16 BSPT		60511S-16FM	—
		7xD	83.9	110.6	112.6	160.6	48.0	16	1/16 BSPT		60711S-16FM	—
		Stub	15.9	42.6	44.7	92.7	48.0	16	1/16 BSPT		60111H-16FM	—
		3xD	35.9	62.6	64.7	112.7	48.0	16	1/16 BSPT		60311H-16FM	60311H-16CM
		5xD	59.9	86.6	88.6	136.7	48.0	16	1/16 BSPT		60511H-16FM	60511H-16CM
		7xD	83.9	110.6	112.6	160.6	48.0	16	1/16 BSPT		60711H-16FM	60711H-16CM
i		3xD	1.414	2.457	2.537	4.412	1.875	5/8	1/16 NPT		60311S-063F	—
		5xD	2.358	3.401	3.481	5.356	1.875	5/8	1/16 NPT		60511S-063F	—
		7xD	3.302	4.345	4.425	6.300	1.875	5/8	1/16 NPT		60711S-063F	—
		Stub	0.623	1.666	1.746	3.621	1.875	5/8	1/16 NPT		60111H-063F	—
		3xD	1.414	2.457	2.537	4.412	1.875	5/8	1/16 NPT		60311H-063F	60311H-063C
		5xD	2.358	3.401	3.481	5.356	1.875	5/8	1/16 NPT		60511H-063F	60511H-063C
		7xD	3.302	4.345	4.425	6.300	1.875	5/8	1/16 NPT		60711H-063F	60711H-063C



Series		Step		Body				Shank		Part No.	 Chamfer Insert
		D_s	L_7	L_2	L_4	L_3	L_1	L_5	D_2		
	11	24.13	16.5	14.1	42.3	44.3	92.4	48.0	16	60111C45-16FM	TCMT-110204
	11	0.9500	0.650	0.554	1.666	1.746	3.621	1.875	5/8	60111C45-063F	TCMT-110204

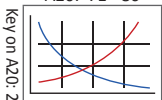
Connection Accessories

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

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

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

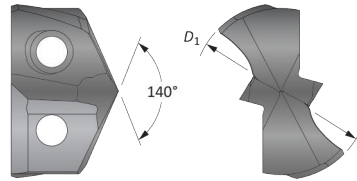
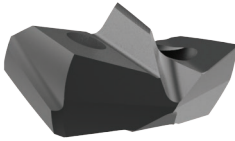
i = Imperial (in)

Screws sold in multiples of 10.

**12 Series: 12.00 mm - 12.99 mm (0.4724" - 0.5117")**

GEN3SYS XT Pro Inserts

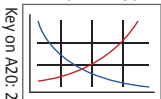
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10

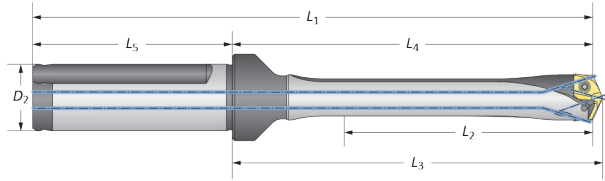
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	12.25 mm, steel, 12 series = use Part No. XTP12-12.25
Imperial:	0.4823", steel, 12 series = use Part No. XTP12-12.25



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

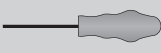
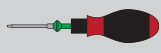
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	39.0	66.6	68.8	118.8	50.0	20		HXT0312S-20FM	HXT0312S-20CM
		5xD	64.9	92.6	94.8	144.8	50.0	20		HXT0512S-20FM	HXT0512S-20CM
		7xD	90.9	118.5	120.8	170.8	50.0	20		HXT0712S-20FM	HXT0712S-20CM
		10xD	129.9	157.5	159.7	209.7	50.0	20	⚠	HXT1012S-20FM	HXT1012S-20CM
		12xD	155.9	183.5	185.7	235.7	50.0	20	⚠	HXT1212S-20FM	HXT1212S-20CM
i		3xD	1.534	2.619	2.706	4.736	2.030	3/4		HXT0312S-075F	HXT0312S-075C
		5xD	2.557	3.642	3.729	5.759	2.030	3/4		HXT0512S-075F	HXT0512S-075C
		7xD	3.580	4.665	4.752	6.782	2.030	3/4		HXT0712S-075F	HXT0712S-075C
		10xD	5.114	6.200	6.287	8.317	2.030	3/4	⚠	HXT1012S-075F	HXT1012S-075C
		12xD	6.137	7.223	7.310	9.340	2.030	3/4	⚠	HXT1212S-075F	HXT1212S-075C

Connection Accessories

					Admissible Tightening Torque*
Insert Screws 7247-IP7-1	Nylon Locking Screws 7247N-IP7-1	Insert Driver 8IP-7	Preset Torque Hand Driver 8IP-7TL	Replacement Tips 8IP-7B	

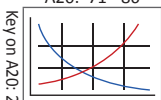
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



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

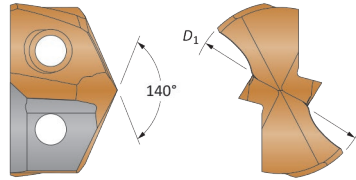
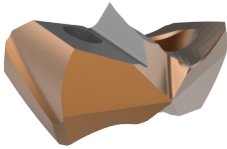
Screws sold in multiples of 10.



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

GEN3SYS XT Inserts

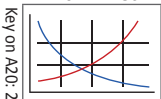
A20



Substrate	Insert			Carbide			
							
	D_1 mm	D_1 inch	Fractional Equivalent	Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	12.70	0.5000	1/2	7C112P-0016	7C112P-0016LR	—	—
	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.

A20: 71 - 86



A20: 7 - 10



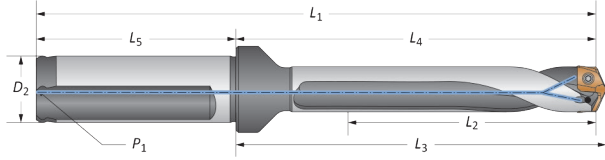
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	12.25 mm, C2, cast iron, 12 series = use Part No. 7C212P-12.25CI
Imperial:	0.4823", C2, stainless, 12 series = use Part No. 7C212P-.4823AS



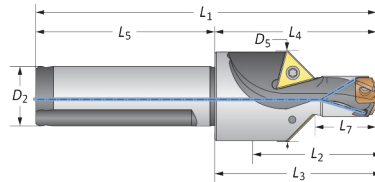
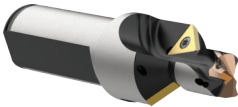
12 Series: 12.00 mm - 12.99 mm (0.4724" - 0.5117")

GEN3SYS Holders



A20

		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	39.0	66.6	68.8	118.8	50.0	20	1/8 BSPT	60312S-20FM	—
		5xD	65.0	92.6	94.8	144.8	50.0	20	1/8 BSPT	60512S-20FM	—
		7xD	91.0	118.5	120.8	170.8	50.0	20	1/8 BSPT	60712S-20FM	—
		Stub	15.7	43.2	45.4	95.5	50.0	20	1/8 BSPT	60112H-20FM	—
		3xD	39.0	66.6	68.8	118.8	50.0	20	1/8 BSPT	60312H-20FM	60312H-20CM
		5xD	65.0	92.6	94.8	144.8	50.0	20	1/8 BSPT	60512H-20FM	60512H-20CM
	7xD	91.0	118.5	120.8	170.8	50.0	20	1/8 BSPT	60712H-20FM	60712H-20CM	
i		3xD	1.535	2.619	2.706	4.736	2.030	3/4	1/8 NPT	60312S-075F	—
		5xD	2.558	3.642	3.729	5.759	2.030	3/4	1/8 NPT	60512S-075F	—
		7xD	3.581	4.665	4.752	6.782	2.030	3/4	1/8 NPT	60712S-075F	—
		Stub	0.618	1.702	1.789	3.819	2.030	3/4	1/8 NPT	60112H-075F	—
		3xD	1.535	2.619	2.706	4.736	2.030	3/4	1/8 NPT	60312H-075F	60312H-075C
		5xD	2.558	3.642	3.729	5.759	2.030	3/4	1/8 NPT	60512H-075F	60512H-075C
		7xD	3.581	4.665	4.752	6.782	2.030	3/4	1/8 NPT	60712H-075F	60712H-075C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	12	24.77	18.0	15.5	43.2	45.4	95.5	50.0	20	60112C45-20FM	TCMT-110204
i	12	0.9750	0.709	0.610	1.702	1.789	3.819	2.030	3/4	60112C45-075F	TCMT-110204

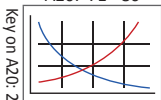
Connection Accessories

					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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

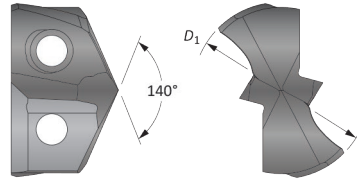
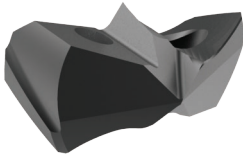
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

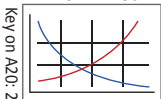
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



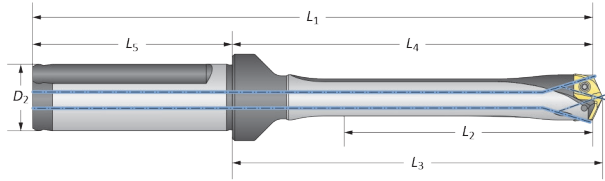
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.25 mm, steel, 13 series = use Part No. XTP13-13.25
Imperial:	0.5217", steel, 13 series = use Part No. XTP13-13.25



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

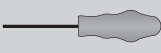
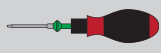
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	42.0	69.3	71.5	121.5	50.0	20		HXT0313S-20FM	HXT0313S-20CM
		5xD	70.0	97.3	99.5	149.5	50.0	20		HXT0513S-20FM	HXT0513S-20CM
		7xD	97.9	125.3	127.5	177.5	50.0	20		HXT0713S-20FM	HXT0713S-20CM
		10xD	139.9	167.3	169.5	219.5	50.0	20	⚠	HXT1013S-20FM	HXT1013S-20CM
		12xD	167.9	195.2	197.4	247.4	50.0	20	⚠	HXT1213S-20FM	HXT1213S-20CM
i		3xD	1.652	2.725	2.812	4.842	2.030	3/4		HXT0313S-075F	HXT0313S-075C
		5xD	2.754	3.827	3.914	5.944	2.030	3/4		HXT0513S-075F	HXT0513S-075C
		7xD	3.855	4.929	5.016	7.046	2.030	3/4		HXT0713S-075F	HXT0713S-075C
		10xD	5.508	6.582	6.669	8.699	2.030	3/4	⚠	HXT1013S-075F	HXT1013S-075C
		12xD	6.609	7.684	7.771	9.801	2.030	3/4	⚠	HXT1213S-075F	HXT1213S-075C

Connection Accessories

					Admissible Tightening Torque*
Insert Screws 7247-IP7-1	Nylon Locking Screws 7247N-IP7-1	Insert Driver 8IP-7	Preset Torque Hand Driver 8IP-7TL	Replacement Tips 8IP-7B	

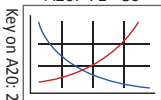
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



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

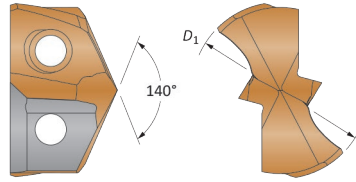
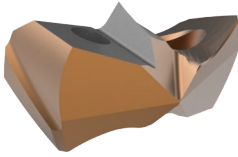
Screws sold in multiples of 10.



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

GEN3SYS XT Inserts

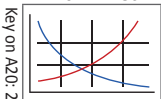
A20



Substrate	Insert			Carbide			
							
	D_1 mm	D_1 inch	Fractional Equivalent	Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	13.00	0.5118	—	7C113P-13	7C113P-13LR	—	—
	13.10	0.5156	33/64	7C113P-.515	7C113P-.515LR	—	—
	13.50	0.5313	17/32	7C113P-0017	7C113P-0017LR	—	—
	13.50	0.5315	—	7C113P-13.5	7C113P-13.5LR	—	—
K20 (C2)	13.89	0.5469	35/64	7C113P-.546	7C113P-.546LR	—	—
	13.00	0.5118	—	7C213P-13	7C213P-13LR	7C213P-13CI	7C213P-13AS
	13.10	0.5156	33/64	7C213P-.515	7C213P-.515LR	7C213P-.515CI	7C213P-.515AS
	13.50	0.5313	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.

A20: 71 - 86



A20: 7 - 10



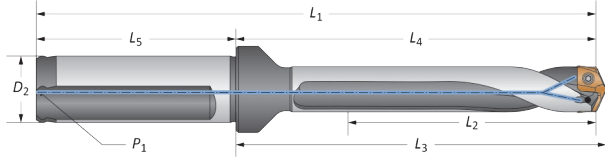
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.25 mm, C2, cast iron, 13 series = use Part No. 7C213P-13.25CI
Imperial:	0.5217", C2, stainless, 13 series = use Part No. 7C213P-.5217AS



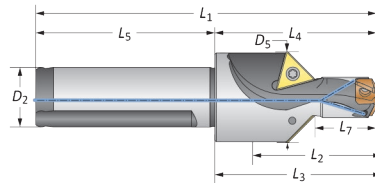
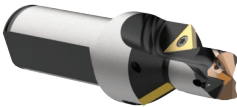
13 Series: 13.00 mm - 13.99 mm (0.5118" - 0.5511")

GEN3SYS Holders



A20

		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	42.0	69.3	71.5	121.5	50.0	20	1/8 BSPT	60313S-20FM	—
		5xD	70.0	97.3	99.5	149.5	50.0	20	1/8 BSPT	60513S-20FM	—
		7xD	98.0	125.3	127.5	177.5	50.0	20	1/8 BSPT	60713S-20FM	—
		Stub	15.7	43.0	45.2	95.2	50.0	20	1/8 BSPT	60113H-20FM	—
		3xD	42.0	69.3	71.5	121.5	50.0	20	1/8 BSPT	60313H-20FM	60313H-20CM
		5xD	70.0	97.3	99.5	149.5	50.0	20	1/8 BSPT	60513H-20FM	60513H-20CM
	7xD	98.0	125.3	127.5	177.5	50.0	20	1/8 BSPT	60713H-20FM	60713H-20CM	
i		3xD	1.653	2.725	2.812	4.842	2.030	3/4	1/8 NPT	60313S-075F	—
		5xD	2.755	3.827	3.914	5.944	2.030	3/4	1/8 NPT	60513S-075F	—
		7xD	3.857	4.929	5.016	7.046	2.030	3/4	1/8 NPT	60713S-075F	—
		Stub	0.619	1.691	1.778	3.808	2.030	3/4	1/8 NPT	60113H-075F	—
		3xD	1.653	2.725	2.812	4.842	2.030	3/4	1/8 NPT	60313H-075F	60313H-075C
		5xD	2.755	3.827	3.914	5.944	2.030	3/4	1/8 NPT	60513H-075F	60513H-075C
		7xD	3.857	4.929	5.016	7.046	2.030	3/4	1/8 NPT	60713H-075F	60713H-075C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	13	25.78	19.5	15.7	43.0	45.2	95.2	50.0	20	60113C45-20FM	TCMT-110204
i	13	1.0150	0.768	0.618	1.691	1.778	3.808	2.030	3/4	60113C45-075F	TCMT-110204

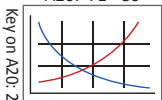
Connection Accessories

					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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

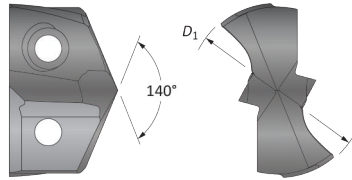
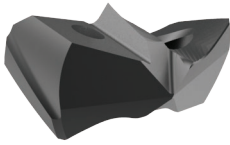
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

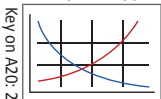
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



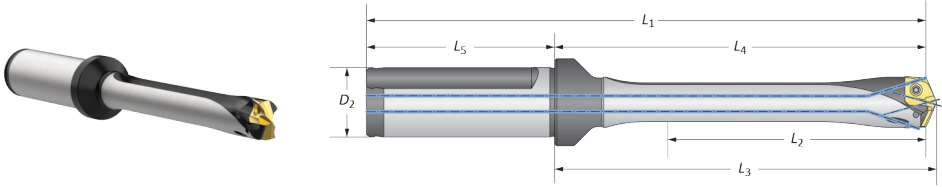
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	14.25 mm, steel, 14 series = use Part No. XTP14-14.25
Imperial:	0.5610", steel, 14 series = use Part No. XTP14-14.25



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

GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m	Straight	3xD	45.0	72.4	75.0	125.0	50.0	20		HXT0314S-20FM	HXT0314S-20CM
		5xD	74.9	102.4	104.9	154.9	50.0	20		HXT0514S-20FM	HXT0514S-20CM
		7xD	104.9	132.3	134.9	184.9	50.0	20		HXT0714S-20FM	HXT0714S-20CM
		10xD	149.9	177.2	179.8	229.8	50.0	20	⚠	HXT1014S-20FM	HXT1014S-20CM
		12xD	179.9	207.2	209.8	259.8	50.0	20	⚠	HXT1214S-20FM	HXT1214S-20CM
i	Straight	3xD	1.770	2.847	2.948	4.978	2.030	3/4		HXT0314S-075F	HXT0314S-075C
		5xD	2.950	4.028	4.129	6.159	2.030	3/4		HXT0514S-075F	HXT0514S-075C
		7xD	4.131	5.208	5.309	7.339	2.030	3/4		HXT0714S-075F	HXT0714S-075C
		10xD	5.901	6.979	7.080	9.110	2.030	3/4	⚠	HXT1014S-075F	HXT1014S-075C
		12xD	7.081	8.160	8.261	10.291	2.030	3/4	⚠	HXT1214S-075F	HXT1214S-075C

Connection Accessories

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

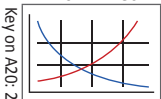
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

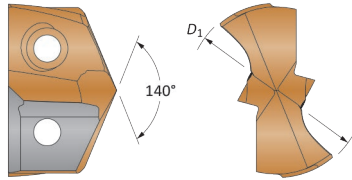
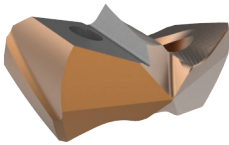
Screws sold in multiples of 10.



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

GEN3SYS XT Inserts

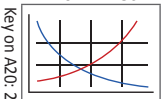
A20



Substrate	Insert			Carbide			
							
	D ₁ mm	D ₁ inch	Fractional Equivalent	Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	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.

A20: 71 - 86



A20: 7 - 10



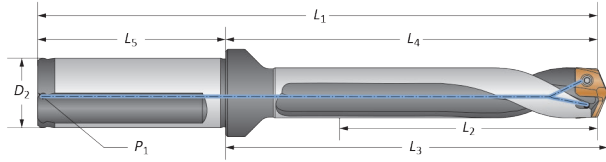
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	14.25 mm, C2, cast iron, 14 series = use Part No. 7C214P-14.25CI
Imperial:	0.5610", C2, stainless, 14 series = use Part No. 7C214P-.5610AS



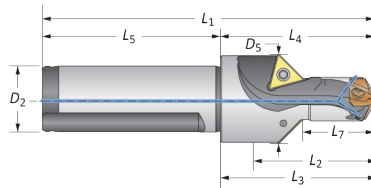
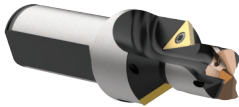
14 Series: 14.00 mm - 14.99 mm (0.5512" - 0.5905")

GEN3SYS Holders



A20

		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	45.0	72.4	75.0	125.0	50.0	20	1/8 BSPT	60314S-20FM	—
		5xD	75.0	102.4	104.9	154.9	50.0	20	1/8 BSPT	60514S-20FM	—
		7xD	105.0	132.4	134.9	184.9	50.0	20	1/8 BSPT	60714S-20FM	—
		Stub	17.3	44.6	47.2	97.2	50.0	20	1/8 BSPT	60114H-20FM	—
		3xD	45.0	72.4	75.0	125.0	50.0	20	1/8 BSPT	60314H-20FM	60314H-20CM
		5xD	75.0	102.4	104.9	154.9	50.0	20	1/8 BSPT	60514H-20FM	60514H-20CM
	7xD	105.0	132.4	134.9	184.9	50.0	20	1/8 BSPT	60714H-20FM	60714H-20CM	
i		3xD	1.772	2.847	2.948	4.978	2.030	3/4	1/8 NPT	60314S-075F	—
		5xD	2.952	4.027	4.128	6.158	2.030	3/4	1/8 NPT	60514S-075F	—
		7xD	4.133	5.208	5.309	7.339	2.030	3/4	1/8 NPT	60714S-075F	—
		Stub	0.681	1.756	1.857	3.887	2.030	3/4	1/8 NPT	60114H-075F	—
		3xD	1.772	2.847	2.948	4.978	2.030	3/4	1/8 NPT	60314H-075F	60314H-075C
		5xD	2.952	4.027	4.128	6.158	2.030	3/4	1/8 NPT	60514H-075F	60514H-075C
		7xD	4.133	5.208	5.309	7.339	2.030	3/4	1/8 NPT	60714H-075F	60714H-075C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	14	26.67	21.0	17.1	44.6	47.2	97.2	50.0	20	60114C45-20FM	TCMT-110204
i	14	1.0500	0.827	0.672	1.756	1.857	3.887	2.030	3/4	60114C45-075F	TCMT-110204

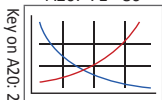
Connection Accessories

					Admissible Tightening Torque*
Insert Screws 7247-IP7-1	Nylon Locking Screws 7247N-IP7-1	Insert Driver 8IP-7	Preset Torque Hand Driver 8IP-7TL	Replacement Tips 8IP-7B	

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

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

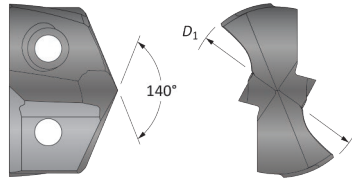
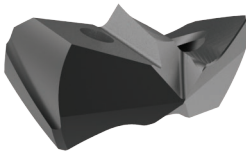
i = Imperial (in)

Screws sold in multiples of 10.

**15 Series: 15.00 mm - 15.99 mm (0.5906" - 0.6298")**

GEN3SYS XT Pro Inserts

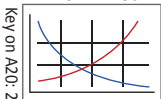
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10

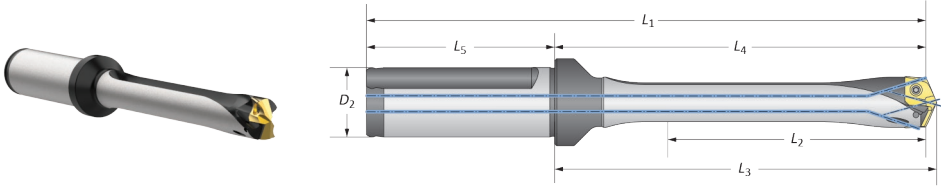
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	15.25 mm, steel, 15 series = use Part No. XTP15-15.25
Imperial:	0.6280", steel, 15 series = use Part No. XTP15-15.95



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

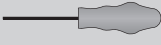
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	48.0	75.1	77.6	127.6	50.0	20		HXT0315S-20FM	HXT0315S-20CM
		5xD	79.9	107.0	109.6	159.6	50.0	20		HXT0515S-20FM	HXT0515S-20CM
		7xD	111.9	139.0	141.6	191.6	50.0	20		HXT0715S-20FM	HXT0715S-20CM
		10xD	159.9	187.0	189.6	239.6	50.0	20		HXT1015S-20FM	HXT1015S-20CM
		12xD	191.9	219.0	221.5	271.6	50.0	20		HXT1215S-20FM	HXT1215S-20CM
i		3xD	1.889	2.952	3.053	5.083	2.030	3/4		HXT0315S-075F	HXT0315S-075C
		5xD	3.148	4.211	4.312	6.342	2.030	3/4		HXT0515S-075F	HXT0515S-075C
		7xD	4.407	5.470	5.571	7.601	2.030	3/4		HXT0715S-075F	HXT0715S-075C
		10xD	6.296	7.359	7.460	9.490	2.030	3/4		HXT1015S-075F	HXT1015S-075C
		12xD	7.555	8.618	8.719	10.749	2.030	3/4		HXT1215S-075F	HXT1215S-075C

Connection Accessories

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

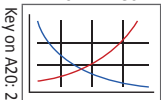
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



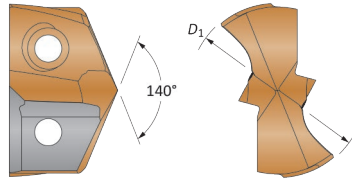
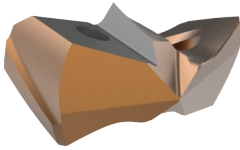
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

**15 Series: 15.00 mm - 15.99 mm (0.5906" - 0.6298")**

GEN3SYS XT Inserts

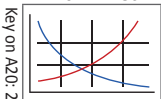
A20



Substrate	Insert			Carbide			
							
	D_1 mm	D_1 inch	Fractional Equivalent	Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	0.6102	—	7C115P-15.5	7C115P-15.5LR	—	—
	15.70	0.6180	—	7C115P-.618	7C115P-.618LR	—	—
K20 (C2)	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	0.6102	—	7C215P-15.5	7C215P-15.5LR	7C215P-15.5CI	7C215P-15.5AS
	15.70	0.6180	—	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: 71 - 86



A20: 7 - 10

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

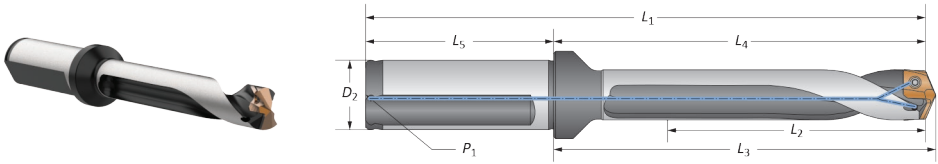
Metric:	15.95 mm, C2, cast iron, 15 series = use Part No. 7C215P-15.95CI
Imperial:	0.6280", C2, stainless, 15 series = use Part No. 7C215P-.6280AS



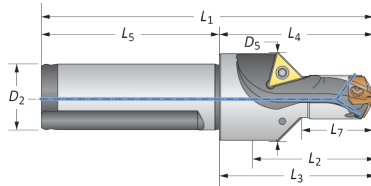
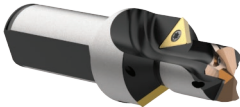
15 Series: 15.00 mm - 15.99 mm (0.5906" - 0.6298")

GEN3SYS Holders

A20



		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	48.0	75.1	77.6	127.6	50.0	20	1/8 BSPT	60315S-20FM	—
		5xD	80.0	107.0	109.6	159.6	50.0	20	1/8 BSPT	60515S-20FM	—
		7xD	112.0	139.0	141.6	191.6	50.0	20	1/8 BSPT	60715S-20FM	—
		Stub	17.3	44.3	46.8	96.9	50.0	20	1/8 BSPT	60115H-20FM	—
		3xD	48.0	75.1	77.6	127.6	50.0	20	1/8 BSPT	60315H-20FM	60315H-20CM
		5xD	80.0	107.0	109.6	159.6	50.0	20	1/8 BSPT	60515H-20FM	60515H-20CM
	7xD	112.0	139.0	141.6	191.6	50.0	20	1/8 BSPT	60715H-20FM	60715H-20CM	
i		3xD	1.890	2.952	3.053	5.083	2.030	3/4	1/8 NPT	60315S-075F	—
		5xD	3.149	4.211	4.312	6.342	2.030	3/4	1/8 NPT	60515S-075F	—
		7xD	4.408	5.470	5.571	7.601	2.030	3/4	1/8 NPT	60715S-075F	—
		Stub	0.681	1.743	1.844	3.874	2.030	3/4	1/8 NPT	60115H-075F	—
		3xD	1.890	2.952	3.053	5.083	2.030	3/4	1/8 NPT	60315H-075F	60315H-075C
		5xD	3.149	4.211	4.312	6.342	2.030	3/4	1/8 NPT	60515H-075F	60515H-075C
	7xD	4.408	5.470	5.571	7.601	2.030	3/4	1/8 NPT	60715H-075F	60715H-075C	



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	15	26.99	22.5	17.2	44.3	46.8	96.9	50.0	20	60115C45-20FM	TCMT-110204
i	15	1.0625	0.886	0.679	1.743	1.844	3.874	2.030	3/4	60115C45-075F	TCMT-110204

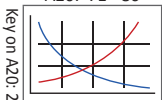
Connection Accessories

Insert Screws 7247-IP7-1	Nylon Locking Screws 7247N-IP7-1	Insert Driver 8IP-7	Preset Torque Hand Driver 8IP-7TL	Replacement Tips 8IP-7B	
					Admissible Tightening Torque*
					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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

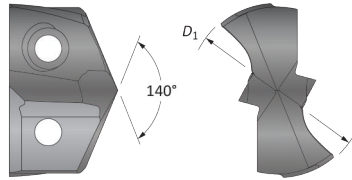
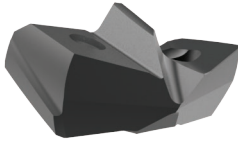
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

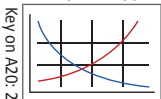
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



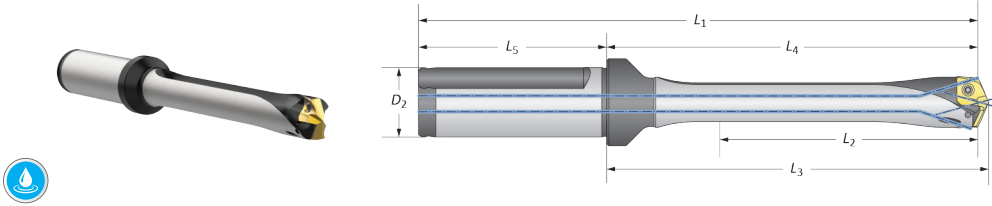
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	16.25 mm, steel, 16 series = use Part No. XTP16-16.25
Imperial:	0.6398", steel, 16 series = use Part No. XTP16-16.25



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

GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	51.0	81.3	84.2	134.2	50.0	20		HXT0316S-20FM	HXT0316S-20CM
		5xD	85.0	115.3	118.2	168.2	50.0	20		HXT0516S-20FM	HXT0516S-20CM
		7xD	118.9	149.3	152.2	202.2	50.0	20		HXT0716S-20FM	HXT0716S-20CM
		10xD	169.9	200.3	203.2	253.2	50.0	20	⚠	HXT1016S-20FM	HXT1016S-20CM
		12xD	203.9	234.3	237.2	287.2	50.0	20	⚠	HXT1216S-20FM	HXT1216S-20CM
i		3xD	2.007	3.200	3.314	5.344	2.030	3/4		HXT0316S-075F	HXT0316S-075C
		5xD	3.345	4.538	4.652	6.682	2.030	3/4		HXT0516S-075F	HXT0516S-075C
		7xD	4.682	5.876	5.990	8.020	2.030	3/4		HXT0716S-075F	HXT0716S-075C
		10xD	6.689	7.883	7.997	10.027	2.030	3/4	⚠	HXT1016S-075F	HXT1016S-075C
		12xD	8.027	9.221	9.335	11.365	2.030	3/4	⚠	HXT1216S-075F	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)

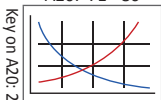
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

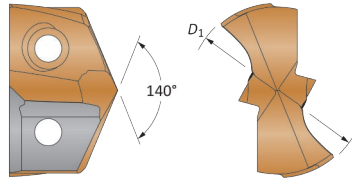
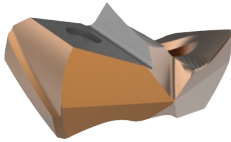
i = Imperial (in)

Screws sold in multiples of 10.

**16 Series: 16.00 mm - 16.99 mm (0.6299" - 0.6692")**

GEN3SYS XT Inserts

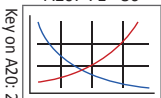
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	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.

A20: 71 - 86



A20: 7 - 10

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

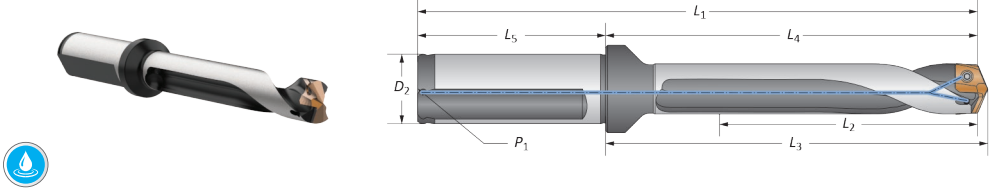
Metric:	16.25 mm, C2, cast iron, 16 series = use Part No. 7C216P-16.25CI
Imperial:	0.6398", C2, stainless, 16 series = use Part No. 7C216P-.6398AS



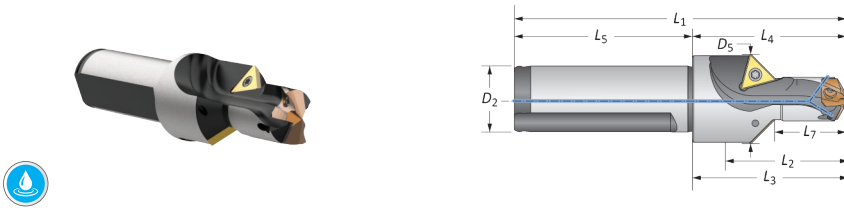
16 Series: 16.00 mm - 16.99 mm (0.6299" - 0.6692")

GEN3SYS Holders

A20



		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	51.0	81.3	84.2	134.2	50.0	20	1/8 BSPT	60316S-20FM	—
		5xD	85.0	115.3	118.2	168.2	50.0	20	1/8 BSPT	60516S-20FM	—
		7xD	118.9	149.3	152.2	202.2	50.0	20	1/8 BSPT	60716S-20FM	—
		Stub	20.5	50.8	53.7	103.7	50.0	20	1/8 BSPT	60116H-20FM	—
		3xD	51.0	81.3	84.2	134.2	50.0	20	1/8 BSPT	60316H-20FM	60316H-20CM
		5xD	85.0	115.3	118.2	168.2	50.0	20	1/8 BSPT	60516H-20FM	60516H-20CM
	7xD	118.9	149.3	152.2	202.2	50.0	20	1/8 BSPT	60716H-20FM	60716H-20CM	
i		3xD	2.007	3.200	3.314	5.344	2.030	3/4	1/8 NPT	60316S-075F	—
		5xD	3.345	4.538	4.652	6.682	2.030	3/4	1/8 NPT	60516S-075F	—
		7xD	4.682	5.876	5.990	8.020	2.030	3/4	1/8 NPT	60716S-075F	—
		Stub	0.806	2.000	2.114	4.144	2.030	3/4	1/8 NPT	60116H-075F	—
		3xD	2.007	3.200	3.314	5.344	2.030	3/4	1/8 NPT	60316H-075F	60316H-075C
		5xD	3.345	4.538	4.652	6.682	2.030	3/4	1/8 NPT	60516H-075F	60516H-075C
		7xD	4.682	5.876	5.990	8.020	2.030	3/4	1/8 NPT	60716H-075F	60716H-075C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D ₅	L ₇	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂			
m	16	26.99	24.0	20.2	50.8	53.7	103.7	50.0	20	60116C45-20FM	TCMT-110204
i	16	1.0625	0.945	0.797	2.000	2.114	4.144	2.030	3/4	60116C45-075F	TCMT-110204

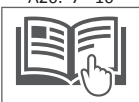
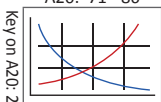
Connection Accessories

					Admissible Tightening Torque*
72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	

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

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

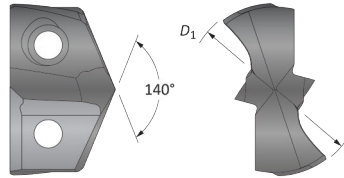
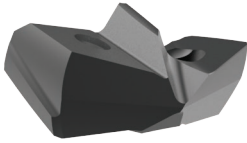
i = Imperial (in)

Screws sold in multiples of 10.

**17 Series: 17.00 mm - 17.99 mm (0.6693" - 0.7086")**

GEN3SYS XT Pro Inserts

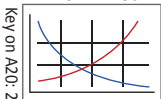
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10

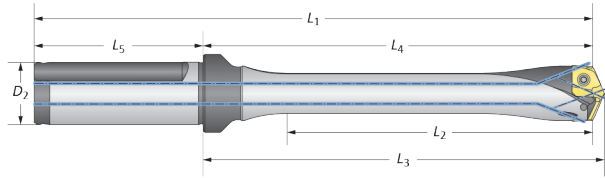
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	17.25 mm, steel, 17 series = use Part No. XTP17-17.25
Imperial:	0.6790", steel, 17 series = use Part No. XTP17-17.25



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

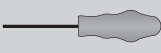
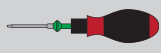
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	54.0	84.1	87.0	137.0	50.0	20		HXT0317S-20FM	HXT0317S-20CM
		5xD	89.9	120.0	122.9	172.9	50.0	20		HXT0517S-20FM	HXT0517S-20CM
		7xD	125.9	156.0	158.9	208.9	50.0	20		HXT0717S-20FM	HXT0717S-20CM
		10xD	179.9	210.0	212.9	262.9	50.0	20	⚠	HXT1017S-20FM	HXT1017S-20CM
		12xD	215.9	246.0	248.9	298.9	50.0	20	⚠	HXT1217S-20FM	HXT1217S-20CM
i		3xD	2.125	3.307	3.421	5.451	2.030	3/4		HXT0317S-075F	HXT0317S-075C
		5xD	3.541	4.724	4.838	6.868	2.030	3/4		HXT0517S-075F	HXT0517S-075C
		7xD	4.958	6.140	6.254	8.284	2.030	3/4		HXT0717S-075F	HXT0717S-075C
		10xD	7.083	8.265	8.379	10.409	2.030	3/4	⚠	HXT1017S-075F	HXT1017S-075C
		12xD	8.499	9.682	9.796	11.826	2.030	3/4	⚠	HXT1217S-075F	HXT1217S-075C

Connection Accessories

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

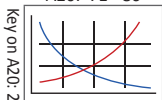
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

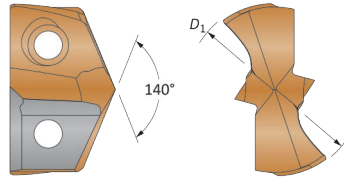
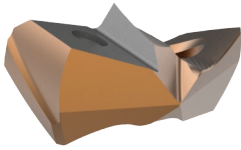
i = Imperial (in)

Screws sold in multiples of 10.

**17 Series: 17.00 mm - 17.99 mm (0.6693" - 0.7086")**

GEN3SYS XT Inserts

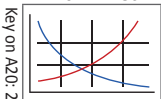
A20



Substrate	Insert			Carbide			
							
	D_1 mm	D_1 inch	Fractional Equivalent	Part No. Standard	Part No. Low Rate	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	17.86	0.7031	45/64	7C117P-.703	7C117P-.703LR	—	—
	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: 71 - 86



A20: 7 - 10

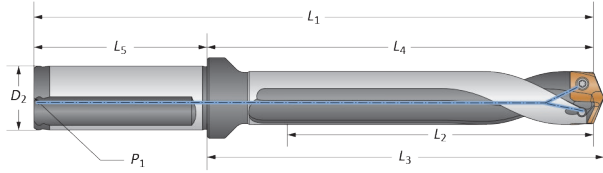
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	17.25 mm, C2, cast iron, 17 series = use Part No. 7C217P-17.25CI
Imperial:	0.6790", C2, stainless, 17 series = use Part No. 7C217P-.6790AS



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

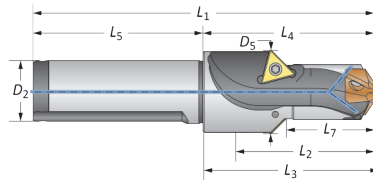
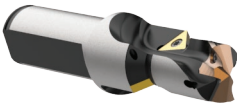
GEN3SYS Holders



A20



	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m	Straight	3xD	54.0	84.1	87.0	137.0	50.0	20	1/8 BSPT		60317S-20FM	—
		5xD	90.0	120.0	122.9	172.9	50.0	20	1/8 BSPT		60517S-20FM	—
		7xD	125.9	156.0	158.9	208.9	50.0	20	1/8 BSPT		60717S-20FM	—
	Helical	Stub	20.5	50.5	53.4	103.4	50.0	20	1/8 BSPT		60117H-20FM	—
		3xD	54.0	84.1	87.0	137.0	50.0	20	1/8 BSPT		60317H-20FM	60317H-20CM
		5xD	90.0	120.0	122.9	172.9	50.0	20	1/8 BSPT		60517H-20FM	60517H-20CM
i	Straight	3xD	2.126	3.307	3.421	5.451	2.030	3/4	1/8 NPT		60317S-075F	—
		5xD	3.542	4.723	4.837	6.867	2.030	3/4	1/8 NPT		60517S-075F	—
		7xD	4.959	6.140	6.254	8.284	2.030	3/4	1/8 NPT		60717S-075F	—
	Helical	Stub	0.806	1.987	2.101	4.131	2.030	3/4	1/8 NPT		60117H-075F	—
		3xD	2.126	3.307	3.421	5.451	2.030	3/4	1/8 NPT		60317H-075F	60317H-075C
		5xD	3.542	4.723	4.837	6.867	2.030	3/4	1/8 NPT		60517H-075F	60517H-075C
i	Straight	3xD	2.126	3.307	3.421	5.451	2.030	3/4	1/8 NPT		60317H-075F	60317H-075C
		5xD	3.542	4.723	4.837	6.867	2.030	3/4	1/8 NPT		60517H-075F	60517H-075C
		7xD	4.959	6.140	6.254	8.284	2.030	3/4	1/8 NPT		60717H-075F	60717H-075C
	Helical	Stub	0.806	1.987	2.101	4.131	2.030	3/4	1/8 NPT		60117H-075F	—
		3xD	2.126	3.307	3.421	5.451	2.030	3/4	1/8 NPT		60317H-075F	60317H-075C
		5xD	3.542	4.723	4.837	6.867	2.030	3/4	1/8 NPT		60517H-075F	60517H-075C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m 17	25.40	25.5	20.4	50.5	53.4	103.4	50.0	20		60117C45-20FM	TCMT-110204
i 17	1.0000	1.004	4.017	1.987	2.101	4.131	2.030	3/4		60117C45-075F	TCMT-110204

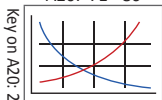
Connection Accessories

					Admissible Tightening Torque*
Insert Screws 72567-IP8-1	Nylon Locking Screws 72567N-IP8-1	Insert Driver 8IP-8	Preset Torque Hand Driver 8IP-8TL	Replacement Tips 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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

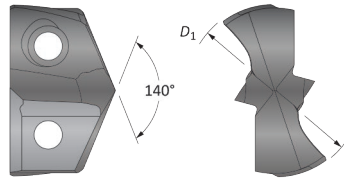
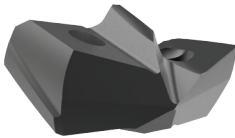
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

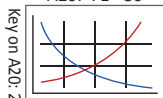
A20



Insert			Carbide			
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No. P	Part No. M	Part No. K	Part No. N
18.00	0.7087	—	XTP18-18.00	XTM18-18.00	XTK18-18.00	XTN18-18.00
18.10	0.7126	—	XTP18-18.10	XTM18-18.10	XTK18-18.10	XTN18-18.10
18.20	0.7165	—	XTP18-18.20	XTM18-18.20	XTK18-18.20	XTN18-18.20
18.26	0.7189	23/32	XTP18-18.26	XTM18-18.26	XTK18-18.26	XTN18-18.26
18.30	0.7205	—	XTP18-18.30	XTM18-18.30	XTK18-18.30	XTN18-18.30
18.40	0.7244	—	XTP18-18.40	XTM18-18.40	XTK18-18.40	XTN18-18.40
18.50	0.7283	—	XTP18-18.50	XTM18-18.50	XTK18-18.50	XTN18-18.50
18.60	0.7323	—	XTP18-18.60	XTM18-18.60	XTK18-18.60	XTN18-18.60
18.65	0.7343	47/64	XTP18-18.65	XTM18-18.65	XTK18-18.65	XTN18-18.65
18.70	0.7362	—	XTP18-18.70	XTM18-18.70	XTK18-18.70	XTN18-18.70
18.80	0.7402	—	XTP18-18.80	XTM18-18.80	XTK18-18.80	XTN18-18.80
18.90	0.7441	—	XTP18-18.90	XTM18-18.90	XTK18-18.90	XTN18-18.90
19.00	0.7480	—	XTP18-19.00	XTM18-19.00	XTK18-19.00	XTN18-19.00
19.05	0.7500	3/4	XTP18-19.05	XTM18-19.05	XTK18-19.05	XTN18-19.05
19.10	0.7520	—	XTP18-19.10	XTM18-19.10	XTK18-19.10	XTN18-19.10
19.20	0.7559	—	XTP18-19.20	XTM18-19.20	XTK18-19.20	XTN18-19.20
19.25	0.7579	—	XTP18-19.25	XTM18-19.25	XTK18-19.25	XTN18-19.25
19.30	0.7598	—	XTP18-19.30	XTM18-19.30	XTK18-19.30	XTN18-19.30
19.40	0.7638	—	XTP18-19.40	XTM18-19.40	XTK18-19.40	XTN18-19.40
19.45	0.7657	49/64	XTP18-19.45	XTM18-19.45	XTK18-19.45	XTN18-19.45
19.50	0.7677	—	XTP18-19.50	XTM18-19.50	XTK18-19.50	XTN18-19.50
19.60	0.7717	—	XTP18-19.60	XTM18-19.60	XTK18-19.60	XTN18-19.60
19.70	0.7756	—	XTP18-19.70	XTM18-19.70	XTK18-19.70	XTN18-19.70
19.80	0.7795	—	XTP18-19.80	XTM18-19.80	XTK18-19.80	XTN18-19.80
19.84	0.7811	25/32	XTP18-19.84	XTM18-19.84	XTK18-19.84	XTN18-19.84
19.90	0.7835	—	XTP18-19.90	XTM18-19.90	XTK18-19.90	XTN18-19.90

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



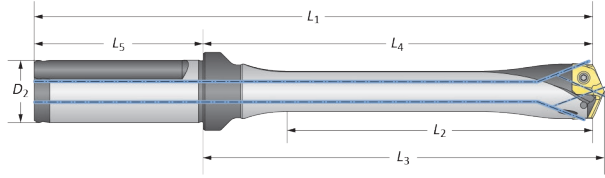
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	18.25 mm, steel, 18 series = use Part No. XTP18-18.25
Imperial:	0.7185", steel, 18 series = use Part No. XTP18-18.25



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

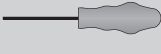
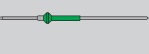
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	60.0	94.0	96.8	152.8	56.0	25		HXT0318S-25FM	HXT0318S-25CM
		5xD	100.0	134.0	136.8	192.8	56.0	25		HXT0518S-25FM	HXT0518S-25CM
		7xD	139.9	174.0	176.8	232.8	56.0	25		HXT0718S-25FM	HXT0718S-25CM
		10xD	199.9	233.9	236.7	292.7	56.0	25		 HXT1018S-25FM	 HXT1018S-25CM
		12xD	239.9	273.9	276.7	332.7	56.0	25		 HXT1218S-25FM	 HXT1218S-25CM
i		3xD	2.362	3.701	3.811	6.091	2.280	1		HXT0318S-100F	HXT0318S-100C
		5xD	3.936	5.275	5.385	7.665	2.280	1		HXT0518S-100F	HXT0518S-100C
		7xD	5.510	6.849	6.959	9.239	2.280	1		HXT0718S-100F	HXT0718S-100C
		10xD	7.871	9.210	9.320	11.600	2.280	1		 HXT1018S-100F	 HXT1018S-100C
		12xD	9.445	10.784	10.894	13.174	2.280	1		 HXT1218S-100F	 HXT1218S-100C

Connection Accessories

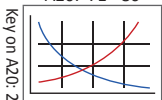
					Admissible Tightening Torque*
Insert Screws 7375-IP9-1	Nylon Locking Screws 7375N-IP9-1	Insert Driver 8IP-9	Preset Torque Hand Driver 8IP-9TL	Replacement Tips 8IP-9B	

*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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



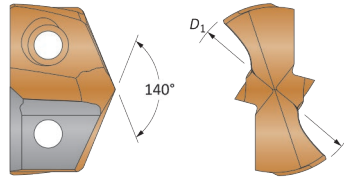
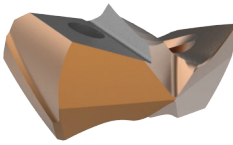
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

**18 Series: 18.00 mm - 19.99 mm (0.7087" - 0.7873")**

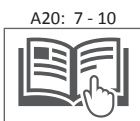
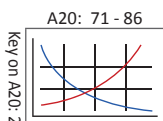
GEN3SYS XT Inserts

A20



Substrate	Insert			Carbide			
	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rate	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	19.85	0.7813	25/32	7C118P-0025	7C118P-0025LR	—	—
	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.



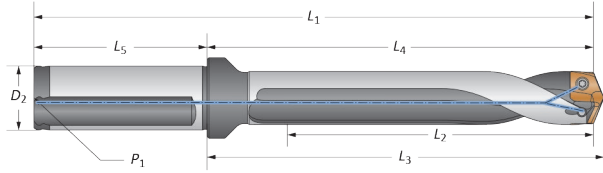
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	18.25 mm, C2, cast iron, 18 series = use Part No. 7C218P-18.25CI
Imperial:	0.7185", C2, stainless, 18 series = use Part No. 7C218P-.7185AS



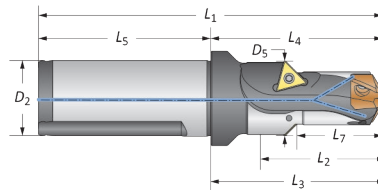
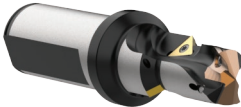
18 Series: 18.00 mm - 19.99 mm (0.7087" - 0.7873")

GEN3SYS Holders



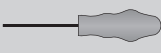
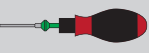
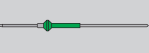
A20

		Body					Shank			Part No.	
Flute		Length	L_2	L_4	L_3	L_1	L_5	D_2	P_1	With Flat	Cylindrical
m		3xD	60.0	94.0	96.8	152.8	56.0	25	1/8 BSPT	60318S-25FM	—
		5xD	99.9	134.0	136.8	192.8	56.0	25	1/8 BSPT	60518S-25FM	—
		7xD	139.9	174.0	176.8	232.8	56.0	25	1/8 BSPT	60718S-25FM	—
		Stub	21.9	56.0	58.8	114.8	56.0	25	1/8 BSPT	60118H-25FM	—
		3xD	60.0	94.0	96.8	152.8	56.0	25	1/8 BSPT	60318H-25FM	60318H-25CM
		5xD	99.9	134.0	136.8	192.8	56.0	25	1/8 BSPT	60518H-25FM	60518H-25CM
	7xD	139.9	174.0	176.8	232.8	56.0	25	1/8 BSPT	60718H-25FM	60718H-25CM	
i		3xD	2.360	3.701	3.811	6.091	2.280	1	1/8 NPT	60318S-100F	—
		5xD	3.934	5.275	5.385	7.665	2.280	1	1/8 NPT	60518S-100F	—
		7xD	5.508	6.849	6.959	9.239	2.280	1	1/8 NPT	60718S-100F	—
		Stub	0.862	2.203	2.313	4.593	2.280	1	1/8 NPT	60118H-100F	—
		3xD	2.360	3.701	3.811	6.091	2.280	1	1/8 NPT	60318H-100F	60318H-100C
		5xD	3.934	5.275	5.385	7.665	2.280	1	1/8 NPT	60518H-100F	60518H-100C
		7xD	5.508	6.849	6.959	9.239	2.280	1	1/8 NPT	60718H-100F	60718H-100C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	18	25.15	27.0	21.8	56.0	58.8	114.8	56.0	25	60118C45-25FM	TCMT-110204
i	18	0.9900	1.063	0.857	2.203	2.313	4.593	2.280	1	60118C45-100F	TCMT-110204

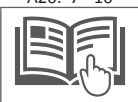
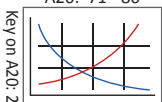
Connection Accessories

					Admissible Tightening Torque*
Insert Screws 7375-IP9-1	Nylon Locking Screws 7375N-IP9-1	Insert Driver 8IP-9	Preset Torque Hand Driver 8IP-9TL	Replacement Tips 8IP-9B	

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

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

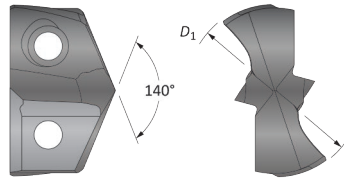
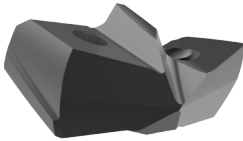
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

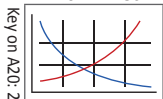
A20



Insert			Carbide			
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No. P	Part No. M	Part No. K	Part No. N
20.00	0.7874	—	XTP20-20.00	XTM20-20.00	XTK20-20.00	XTN20-20.00
20.10	0.7913	—	XTP20-20.10	XTM20-20.10	XTK20-20.10	XTN20-20.10
20.20	0.7953	—	XTP20-20.20	XTM20-20.20	XTK20-20.20	XTN20-20.20
20.24	0.7969	51/64	XTP20-20.24	XTM20-20.24	XTK20-20.24	XTN20-20.24
20.30	0.7992	—	XTP20-20.30	XTM20-20.30	XTK20-20.30	XTN20-20.30
20.40	0.8031	—	XTP20-20.40	XTM20-20.40	XTK20-20.40	XTN20-20.40
20.50	0.8071	—	XTP20-20.50	XTM20-20.50	XTK20-20.50	XTN20-20.50
20.60	0.8110	—	XTP20-20.60	XTM20-20.60	XTK20-20.60	XTN20-20.60
20.64	0.8126	13/16	XTP20-20.64	XTM20-20.64	XTK20-20.64	XTN20-20.64
20.70	0.8150	—	XTP20-20.70	XTM20-20.70	XTK20-20.70	XTN20-20.70
20.80	0.8189	—	XTP20-20.80	XTM20-20.80	XTK20-20.80	XTN20-20.80
20.90	0.8228	—	XTP20-20.90	XTM20-20.90	XTK20-20.90	XTN20-20.90
21.00	0.8268	—	XTP20-21.00	XTM20-21.00	XTK20-21.00	XTN20-21.00
21.10	0.8307	—	XTP20-21.10	XTM20-21.10	XTK20-21.10	XTN20-21.10
21.20	0.8346	—	XTP20-21.20	XTM20-21.20	XTK20-21.20	XTN20-21.20
21.30	0.8386	—	XTP20-21.30	XTM20-21.30	XTK20-21.30	XTN20-21.30
21.40	0.8425	—	XTP20-21.40	XTM20-21.40	XTK20-21.40	XTN20-21.40
21.43	0.8437	27/32	XTP20-21.43	XTM20-21.43	XTK20-21.43	XTN20-21.43
21.50	0.8465	—	XTP20-21.50	XTM20-21.50	XTK20-21.50	XTN20-21.50
21.60	0.8504	—	XTP20-21.60	XTM20-21.60	XTK20-21.60	XTN20-21.60
21.70	0.8543	—	XTP20-21.70	XTM20-21.70	XTK20-21.70	XTN20-21.70
21.80	0.8583	—	XTP20-21.80	XTM20-21.80	XTK20-21.80	XTN20-21.80
21.83	0.8594	55/64	XTP20-21.83	XTM20-21.83	XTK20-21.83	XTN20-21.83
21.90	0.8622	—	XTP20-21.90	XTM20-21.90	XTK20-21.90	XTN20-21.90

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



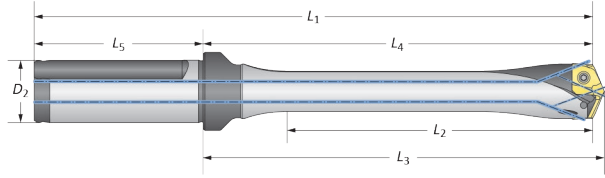
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	20.25 mm, steel, 20 series = use Part No. XTP20-20.25
Imperial:	0.7974", steel, 20 series = use Part No. XTP20-20.25



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

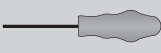
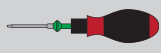
GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	66.0	100.1	102.9	158.9	56.0	25		HXT0320S-25FM	HXT0320S-25CM
		5xD	110.0	144.1	146.9	202.9	56.0	25		HXT0520S-25FM	HXT0520S-25CM
		7xD	153.9	188.1	190.9	246.9	56.0	25		HXT0720S-25FM	HXT0720S-25CM
		10xD	219.9	254.0	256.8	312.8	56.0	25	⚠	HXT1020S-25FM	HXT1020S-25CM
		12xD	263.9	298.0	300.8	356.8	56.0	25	⚠	HXT1220S-25FM	HXT1220S-25CM
i		3xD	2.597	3.941	4.051	6.331	2.280	1		HXT0320S-100F	HXT0320S-100C
		5xD	4.329	5.673	5.783	8.063	2.280	1		HXT0520S-100F	HXT0520S-100C
		7xD	6.060	7.404	7.514	9.794	2.280	1		HXT0720S-100F	HXT0720S-100C
		10xD	8.658	10.002	10.112	12.392	2.280	1	⚠	HXT1020S-100F	HXT1020S-100C
		12xD	10.389	11.733	11.843	14.123	2.280	1	⚠	HXT1220S-100F	HXT1220S-100C

Connection Accessories

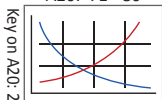
					Admissible Tightening Torque*
Insert Screws 7375-IP9-1	Nylon Locking Screws 7375N-IP9-1	Insert Driver 8IP-9	Preset Torque Hand Driver 8IP-9TL	Replacement Tips 8IP-9B	

*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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



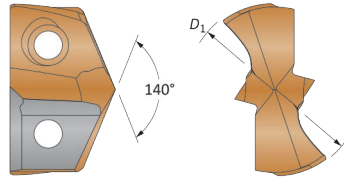
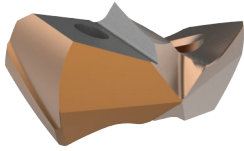
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

**20 Series: 20.00 mm - 21.99 mm (0.7874" - 0.8660")**

GEN3SYS XT Inserts

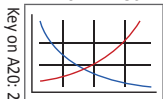
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	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: 71 - 86



A20: 7 - 10

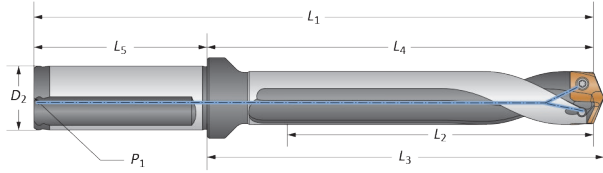
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	20.25 mm, C2, cast iron, 20 series = use Part No. 7C220P-20.25CI
Imperial:	0.7974", C2, stainless, 20 series = use Part No. 7C220P-.7974AS



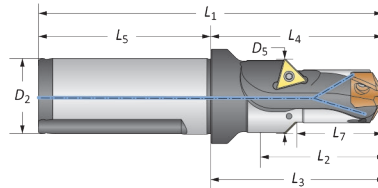
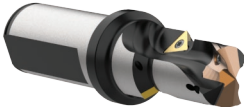
20 Series: 20.00 mm - 21.99 mm (0.7874" - 0.8660")

GEN3SYS Holders



A20

	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m	Straight	3xD	65.9	100.1	102.9	158.9	56.0	25	1/8 BSPT		60320S-25FM	—
		5xD	109.9	144.1	146.9	202.9	56.0	25	1/8 BSPT		60520S-25FM	—
		7xD	153.9	188.1	190.9	246.9	56.0	25	1/8 BSPT		60720S-25FM	—
	Helical	Stub	23.5	57.6	60.4	116.4	56.0	25	1/8 BSPT		60120H-25FM	—
		3xD	65.9	100.1	102.9	158.9	56.0	25	1/8 BSPT		60320H-25FM	60320H-25CM
		5xD	109.9	144.1	146.9	202.9	56.0	25	1/8 BSPT		60520H-25FM	60520H-25CM
i	Straight	7xD	153.9	188.1	190.9	246.9	56.0	25	1/8 BSPT		60720H-25FM	60720H-25CM
	Helical	3xD	2.596	3.941	4.051	6.331	2.280	1	1/8 NPT		60320S-100F	—
		5xD	4.327	5.672	5.782	8.062	2.280	1	1/8 NPT		60520S-100F	—
		7xD	6.058	7.404	7.514	9.794	2.280	1	1/8 NPT		60720S-100F	—
	Helical	Stub	0.924	2.269	2.379	4.659	2.280	1	1/8 NPT		60120H-100F	—
		3xD	2.596	3.941	4.051	6.331	2.280	1	1/8 NPT		60320H-100F	60320H-100C
		5xD	4.327	5.672	5.782	8.062	2.280	1	1/8 NPT		60520H-100F	60520H-100C
		7xD	6.058	7.404	7.514	9.794	2.280	1	1/8 NPT		60720H-100F	60720H-100C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	20	27.18	30.0	21.9	57.6	60.4	116.4	56.0	25	60120C45-25FM	TCMT-110204
i	20	1.0700	1.181	0.862	2.269	2.379	4.659	2.280	1	60120C45-100F	TCMT-110204

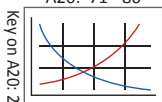
Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

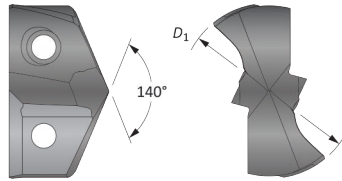
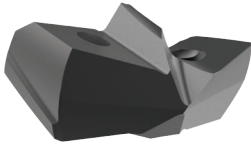
Screws sold in multiples of 10.



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

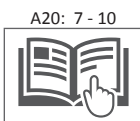
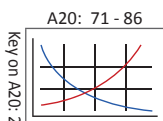
GEN3SYS XT Pro Inserts

A20



Insert			Carbide			
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No. P	Part No. M	Part No. K	Part No. N
22.00	0.8661	—	XTP22-22.00	XTM22-22.00	XTK22-22.00	XTN22-22.00
22.10	0.8701	—	XTP22-22.10	XTM22-22.10	XTK22-22.10	XTN22-22.10
22.20	0.8740	—	XTP22-22.20	XTM22-22.20	XTK22-22.20	XTN22-22.20
22.23	0.8752	7/8	XTP22-22.23	XTM22-22.23	XTK22-22.23	XTN22-22.23
22.30	0.8780	—	XTP22-22.30	XTM22-22.30	XTK22-22.30	XTN22-22.30
22.40	0.8819	—	XTP22-22.40	XTM22-22.40	XTK22-22.40	XTN22-22.40
22.50	0.8858	—	XTP22-22.50	XTM22-22.50	XTK22-22.50	XTN22-22.50
22.62	0.8906	57/64	XTP22-22.62	XTM22-22.62	XTK22-22.62	XTN22-22.62
22.70	0.8937	—	XTP22-22.70	XTM22-22.70	XTK22-22.70	XTN22-22.70
22.80	0.8976	—	XTP22-22.80	XTM22-22.80	XTK22-22.80	XTN22-22.80
22.90	0.9016	—	XTP22-22.90	XTM22-22.90	XTK22-22.90	XTN22-22.90
23.00	0.9055	—	XTP22-23.00	XTM22-23.00	XTK22-23.00	XTN22-23.00
23.02	0.9063	29/32	XTP22-23.02	XTM22-23.02	XTK22-23.02	XTN22-23.02
23.10	0.9094	—	XTP22-23.10	XTM22-23.10	XTK22-23.10	XTN22-23.10
23.20	0.9134	—	XTP22-23.20	XTM22-23.20	XTK22-23.20	XTN22-23.20
23.30	0.9173	—	XTP22-23.30	XTM22-23.30	XTK22-23.30	XTN22-23.30
23.42	0.9220	59/64	XTP22-23.42	XTM22-23.42	XTK22-23.42	XTN22-23.42
23.50	0.9252	—	XTP22-23.50	XTM22-23.50	XTK22-23.50	XTN22-23.50
23.60	0.9291	—	XTP22-23.60	XTM22-23.60	XTK22-23.60	XTN22-23.60
23.70	0.9331	—	XTP22-23.70	XTM22-23.70	XTK22-23.70	XTN22-23.70
23.81	0.9374	15/16	XTP22-23.81	XTM22-23.81	XTK22-23.81	XTN22-23.81
23.90	0.9409	—	XTP22-23.90	XTM22-23.90	XTK22-23.90	XTN22-23.90

Inserts sold in multiples of 1.



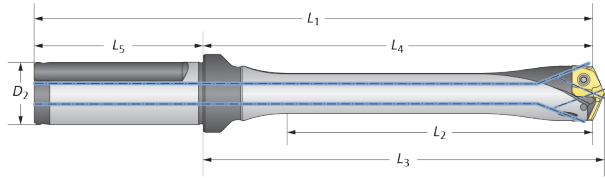
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	22.25 mm, steel, 22 series = use Part No. XTP22-22.25
Imperial:	0.8760", steel, 22 series = use Part No. XTP22-22.25



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

GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	72.0	105.3	108.3	164.3	56.0	25		HXT0322S-25FM	HXT0322S-25CM
		5xD	119.9	153.3	156.2	212.2	56.0	25		HXT0522S-25FM	HXT0522S-25CM
		7xD	167.9	201.3	204.2	260.2	56.0	25		HXT0722S-25FM	HXT0722S-25CM
		10xD	239.9	273.3	276.2	332.2	56.0	25	⚠	HXT1022S-25FM	HXT1022S-25CM
		12xD	287.9	321.2	324.2	380.2	56.0	25	⚠	HXT1222S-25FM	HXT1222S-25CM
i		3xD	2.833	4.147	4.262	6.542	2.280	1		HXT0322S-100F	HXT0322S-100C
		5xD	4.722	6.036	6.151	8.431	2.280	1		HXT0522S-100F	HXT0522S-100C
		7xD	6.611	7.925	8.040	10.320	2.280	1		HXT0722S-100F	HXT0722S-100C
		10xD	9.444	10.759	10.874	13.154	2.280	1	⚠	HXT1022S-100F	HXT1022S-100C
		12xD	11.334	12.648	12.763	15.043	2.280	1	⚠	HXT1222S-100F	HXT1222S-100C

Connection Accessories

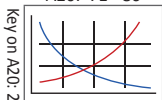
					Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

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

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

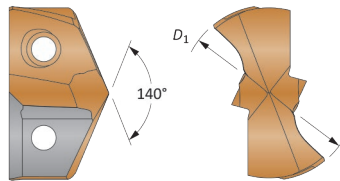
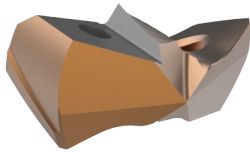
i = Imperial (in)

Screws sold in multiples of 10.

**22 Series: 22.00 mm - 23.99 mm (0.8661" - 0.9448")**

GEN3SYS XT Inserts

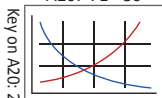
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	22.00	0.8661	—	7C122P-22	7C122P-22LR	—	—
	22.23	0.8750	7/8	7C122P-0028	7C122P-0028LR	—	—
	22.62	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	—	—
K20 (C2)	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
	22.62	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: 71 - 86



A20: 7 - 10

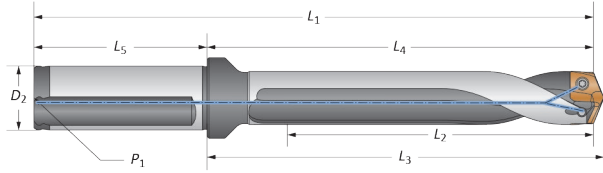
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	22.25 mm, C2, cast iron, 22 series = use Part No. 7C222P-22.25CI
Imperial:	0.8760", C2, stainless, 22 series = use Part No. 7C222P-.8760AS



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

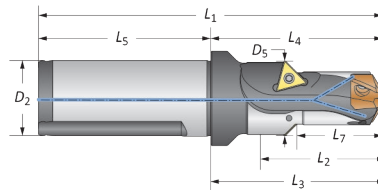
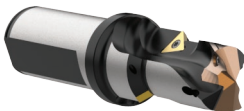
GEN3SYS Holders



A20



	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m	Straight	3xD	71.9	105.3	108.2	164.2	56.0	25	1/8 BSPT		60322S-25FM	—
		5xD	119.9	153.3	156.2	212.2	56.0	25	1/8 BSPT		60522S-25FM	—
		7xD	167.9	201.3	204.2	260.2	56.0	25	1/8 BSPT		60722S-25FM	—
	Helical	Stub	26.6	60.1	63.0	119.0	56.0	25	1/8 BSPT		60122H-25FM	—
		3xD	71.9	105.3	108.2	164.2	56.0	25	1/8 BSPT		60322H-25FM	60322H-25CM
		5xD	119.9	153.3	156.2	212.2	56.0	25	1/8 BSPT		60522H-25FM	60522H-25CM
i	Straight	7xD	167.9	201.3	204.2	260.2	56.0	25	1/8 BSPT		60722H-25FM	60722H-25CM
	Helical	3xD	2.831	4.147	4.261	6.541	2.280	1	1/8 NPT		60322S-100F	—
		5xD	4.720	6.036	6.150	8.430	2.280	1	1/8 NPT		60522S-100F	—
		7xD	6.609	7.925	8.039	10.319	2.280	1	1/8 NPT		60722S-100F	—
	Helical	Stub	1.049	2.365	2.479	4.759	2.280	1	1/8 NPT		60122H-100F	—
		3xD	2.831	4.147	4.261	6.541	2.280	1	1/8 NPT		60322H-100F	60322H-100C
		5xD	4.720	6.036	6.150	8.430	2.280	1	1/8 NPT		60522H-100F	60522H-100C
		7xD	6.609	7.925	8.039	10.319	2.280	1	1/8 NPT		60722H-100F	60722H-100C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	22	28.96	33.0	27.4	60.1	63.0	119.0	56.0	25	60122C45-25FM	TCMT-110204
i	22	1.1400	1.299	1.080	2.365	2.479	4.759	2.280	1	60122C45-100F	TCMT-110204

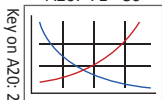
Connection Accessories

					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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

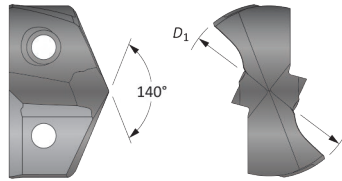
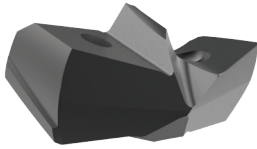
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

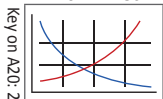
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



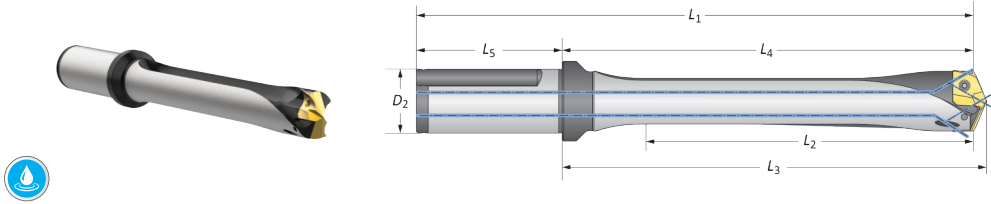
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	24.25 mm, steel, 24 series = use Part No. XTP24-24.25
Imperial:	0.9548", steel, 24 series = use Part No. XTP24-24.25



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

GEN3SYS XT Pro Holders



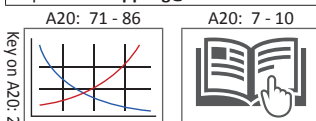
	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	78.0	113.8	116.8	172.8	56.0	25		HXT0324S-25FM	HXT0324S-25CM
		5xD	129.9	165.8	168.7	224.7	56.0	25		HXT0524S-25FM	HXT0524S-25CM
		7xD	181.9	217.8	220.7	276.7	56.0	25		HXT0724S-25FM	HXT0724S-25CM
		10xD	259.9	295.7	298.7	354.7	56.0	25	⚠	HXT1024S-25FM	HXT1024S-25CM
		12xD	311.9	347.7	350.6	406.7	56.0	25	⚠	HXT1224S-25FM	HXT1224S-25CM
i		3xD	3.070	4.482	4.597	6.877	2.280	1		HXT0324S-100F	HXT0324S-100C
		5xD	5.116	6.528	6.643	8.923	2.280	1		HXT0524S-100F	HXT0524S-100C
		7xD	7.163	8.574	8.689	10.969	2.280	1		HXT0724S-100F	HXT0724S-100C
		10xD	10.232	11.643	11.758	14.038	2.280	1	⚠	HXT1024S-100F	HXT1024S-100C
		12xD	12.279	13.689	13.804	16.084	2.280	1	⚠	HXT1224S-100F	HXT1224S-100C

Connection Accessories

					Admissible Tightening Torque*
Insert Screws 739-IP9-1	Nylon Locking Screws 739N-IP9-1	Insert Driver 8IP-9	Preset Torque Hand Driver 8IP-9TL	Replacement Tips 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 catalog. 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: appeng@alliedmachine.com.



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

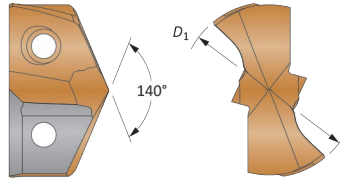
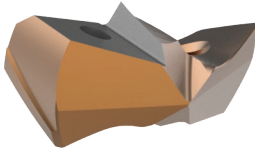
Screws sold in multiples of 10.



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

GEN3SYS XT Inserts

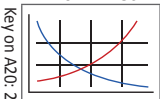
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	24.00	0.9449	—	7C124P-24	7C124P-24LR	—	—
	24.61	0.9688	31/32	7C124P-0031	7C124P-0031LR	—	—
	25.00	0.9843	—	7C124P-25	7C124P-25LR	—	—
	25.40	1.0000	1	7C124P-0100	7C124P-0100LR	—	—
	25.60	1.0080	—	7C124P-1.008	7C124P-1.008LR	—	—
K20 (C2)	25.80	1.0156	1-1/64	7C124P-1.015	7C124P-1.015LR	—	—
	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	—	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
	25.80	1.0156	1-1/64	7C224P-1.015	7C224P-1.015LR	7C224P-1.015CI	7C224P-1.015AS

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



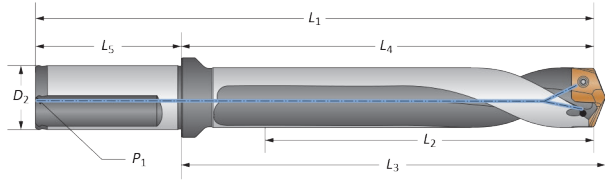
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	24.25 mm, C2, cast iron, 24 series = use Part No. 7C224P-24.25CI
Imperial:	0.9548", C2, stainless, 24 series = use Part No. 7C224P-.9548AS



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

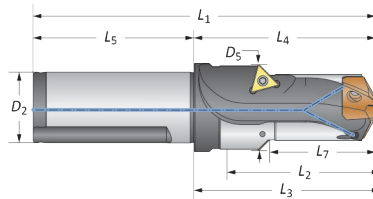
GEN3SYS Holders



A20



		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	80.2	113.8	116.3	172.3	56.0	25	1/8 BSPT	60324S-25FM	—
		5xD	132.2	165.8	168.2	224.2	56.0	25	1/8 BSPT	60524S-25FM	—
		7xD	184.1	217.8	220.2	276.2	56.0	25	1/8 BSPT	60724S-25FM	—
		Stub	30.5	64.2	66.6	122.6	56.0	25	1/8 BSPT	60124H-25FM	—
		3xD	80.2	113.8	116.3	172.3	56.0	25	1/8 BSPT	60324H-25FM	60324H-25CM
		5xD	132.2	165.8	168.2	224.2	56.0	25	1/8 BSPT	60524H-25FM	60524H-25CM
	7xD	184.1	217.8	220.2	276.2	56.0	25	1/8 BSPT	60724H-25FM	60724H-25CM	
i		3xD	3.156	4.482	4.577	6.857	2.280	1	1/8 NPT	60324S-100F	—
		5xD	5.203	6.528	6.623	8.903	2.280	1	1/8 NPT	60524S-100F	—
		7xD	7.249	8.574	8.669	10.949	2.280	1	1/8 NPT	60724S-100F	—
		Stub	1.200	2.526	2.621	4.901	2.280	1	1/8 NPT	60124H-100F	—
		3xD	3.156	4.482	4.577	6.857	2.280	1	1/8 NPT	60324H-100F	60324H-100C
		5xD	5.203	6.528	6.623	8.903	2.280	1	1/8 NPT	60524H-100F	60524H-100C
		7xD	7.249	8.574	8.669	10.949	2.280	1	1/8 NPT	60724H-100F	60724H-100C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	24	30.99	36.0	31.6	64.2	66.6	122.6	56.0	25	60124C4S-25FM	TCMT-110204
i	24	1.2200	1.417	1.243	2.526	2.621	4.901	2.280	1	60124C4S-100F	TCMT-110204

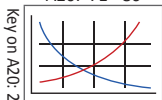
Connection Accessories

					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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

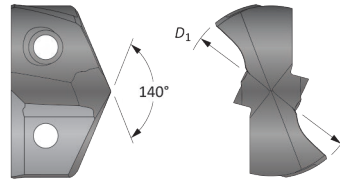
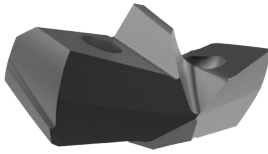
Screws sold in multiples of 10.



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

GEN3SYS XT Pro Inserts

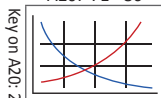
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10



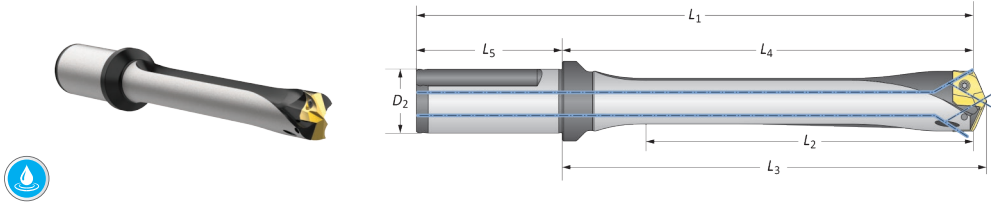
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	27.25 mm, steel, 26 series = use Part No. XTP26-27.25
Imperial:	1.0730", steel, 26 series = use Part No. XTP26-27.25



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

GEN3SYS XT Pro Holders



	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	87.0	128.1	130.9	190.9	60.0	32		HXT0326S-32FM	HXT0326S-32CM
		5xD	144.9	186.1	188.8	248.8	60.0	32		HXT0526S-32FM	HXT0526S-32CM
		7xD	202.9	244.0	246.8	306.8	60.0	32		HXT0726S-32FM	HXT0726S-32CM
		10xD	289.9	331.0	333.8	393.8	60.0	32		HXT1026S-32FM	HXT1026S-32CM
		12xD	347.9	389.0	391.8	451.8	60.0	32		HXT1226S-32FM	HXT1226S-32CM
i		3xD	3.425	5.064	5.174	7.454	2.280	1-1/4		HXT0326S-125F	HXT0326S-125C
		5xD	5.707	7.347	7.457	9.737	2.280	1-1/4		HXT0526S-125F	HXT0526S-125C
		7xD	7.990	9.630	9.740	12.020	2.280	1-1/4		HXT0726S-125F	HXT0726S-125C
		10xD	11.414	13.055	13.165	15.445	2.280	1-1/4		HXT1026S-125F	HXT1026S-125C
		12xD	13.697	15.338	15.448	17.728	2.280	1-1/4		HXT1226S-125F	HXT1226S-125C

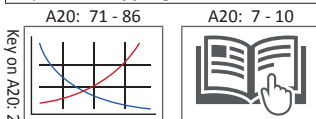
Connection Accessories

					Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
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 catalog. 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: appeng@alliedmachine.com.



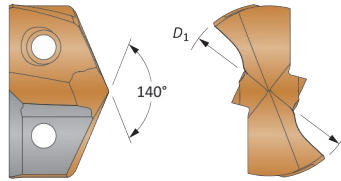
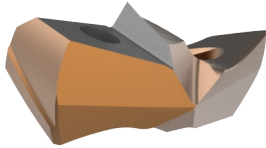
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

**26 Series: 26.00 mm - 28.99 mm (1.0236" - 1.1416")**

GEN3SYS XT Inserts

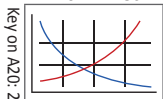
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
	28.18	1.1094	1-7/64	7C126P-1.109	7C126P-1.109LR	—	—
K20 (C2)	28.58	1.1250	1-1/8	7C126P-0104	7C126P-0104LR	—	—
	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
	28.18	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: 71 - 86



A20: 7 - 10

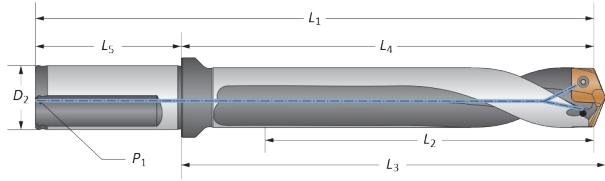
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	27.25 mm, C2, cast iron, 26 series = use Part No. 7C226P-27.25CI
Imperial:	1.0730", C2, stainless, 26 series = use Part No. 7C226P-1.0730AS



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

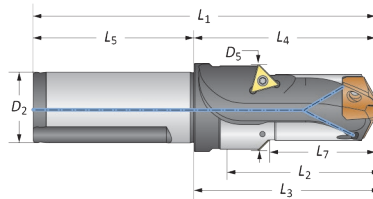
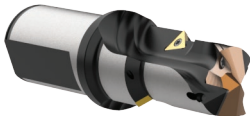
GEN3SYS Holders



A20



		Body					Shank			Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	With Flat	Cylindrical
m		3xD	91.9	128.1	131.1	191.1	60.0	32	1/4 BSPT	60326S-32FM	—
		5xD	149.9	186.1	189.1	249.1	60.0	32	1/4 BSPT	60526S-32FM	—
		7xD	207.9	244.0	247.1	307.1	60.0	32	1/4 BSPT	60726S-32FM	—
		Stub	36.3	72.9	76.0	136.0	60.0	32	1/4 BSPT	60126H-32FM	—
		3xD	91.9	128.1	131.1	191.1	60.0	32	1/4 BSPT	60326H-32FM	60326H-32CM
		5xD	149.9	186.1	189.1	249.1	60.0	32	1/4 BSPT	60526H-32FM	60526H-32CM
	7xD	207.9	244.0	247.1	307.1	60.0	32	1/4 BSPT	60726H-32FM	60726H-32CM	
i		3xD	3.620	5.064	5.184	7.464	2.280	1-1/4	1/4 NPT	60326S-125F	—
		5xD	5.903	7.347	7.467	9.747	2.280	1-1/4	1/4 NPT	60526S-125F	—
		7xD	8.185	9.630	9.750	12.030	2.280	1-1/4	1/4 NPT	60726S-125F	—
		Stub	1.428	2.872	2.992	5.272	2.280	1-1/4	1/4 NPT	60126H-125F	—
		3xD	3.620	5.064	5.184	7.464	2.280	1-1/4	1/4 NPT	60326H-125F	60326H-125C
		5xD	5.903	7.347	7.467	9.747	2.280	1-1/4	1/4 NPT	60526H-125F	60526H-125C
		7xD	8.185	9.630	9.750	12.030	2.280	1-1/4	1/4 NPT	60726H-125F	60726H-125C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	26	34.04	39.0	35.6	72.9	76.0	136.0	60.0	32	60126C45-32FM	TCMT-110204
i	26	1.3400	1.535	1.403	2.872	2.992	5.272	2.280	1-1/4	60126C45-125F	TCMT-110204

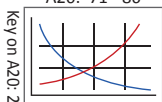
Connection Accessories

					Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

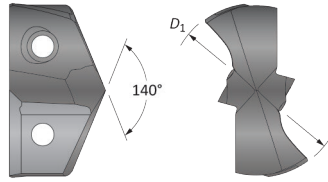
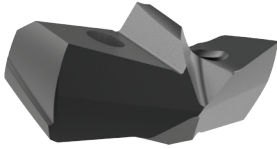
Screws sold in multiples of 10.



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

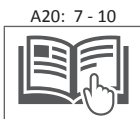
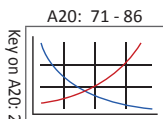
GEN3SYS XT Pro Inserts

A20



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

Inserts sold in multiples of 1.



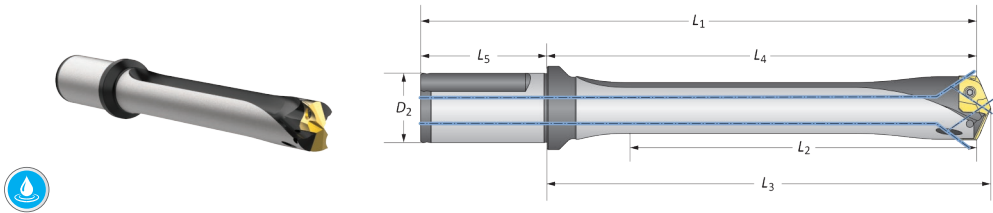
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	29.25 mm, steel, 29 series = use Part No. XTP29-29.25
Imperial:	1.1515", steel, 29 series = use Part No. XTP29-29.25



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

GEN3SYS XT Pro Holders



A20

	Flute	Length	Body					Shank		Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2		With Flat	Cylindrical
m		3xD	96.0	136.2	139.1	199.1	60.0	32		HXT0329S-32FM	HXT0329S-32CM
		5xD	159.9	200.1	203.1	263.1	60.0	32		HXT0529S-32FM	HXT0529S-32CM
		7xD	223.9	264.1	267.1	327.1	60.0	32		HXT0729S-32FM	HXT0729S-32CM
		10xD	319.9	360.1	363.0	423.0	60.0	32		HXT1029S-32FM	HXT1029S-32CM
i		3xD	3.778	5.382	5.499	7.779	2.280	1-1/4		HXT0329S-125F	HXT0329S-125C
		5xD	6.297	7.901	8.018	10.298	2.280	1-1/4		HXT0529S-125F	HXT0529S-125C
		7xD	8.816	10.420	10.537	12.817	2.280	1-1/4		HXT0729S-125F	HXT0729S-125C
		10xD	12.594	14.199	14.316	16.596	2.280	1-1/4		HXT1029S-125F	HXT1029S-125C

Connection Accessories

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

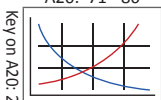
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



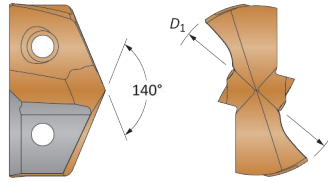
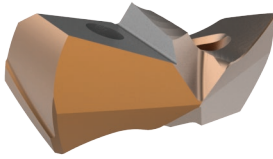
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

**29 Series: 29.00 mm - 31.99 mm (1.1417" - 1.2597")**

GEN3SYS XT Inserts

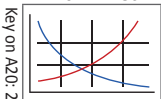
A20



Substrate	Insert			Carbide			
	D_1 mm	D_1 inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rake	Part No. Cast Iron	Part No. Stainless
K35 (C1)	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	—	—
K20 (C2)	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: 71 - 86



A20: 7 - 10

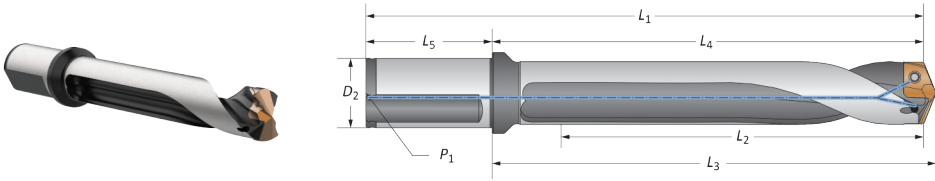
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	29.25 mm, C2, cast iron, 29 series = use Part No. 7C229P-29.25CI
Imperial:	1.1515", C2, stainless, 29 series = use Part No. 7C229P-1.1515AS



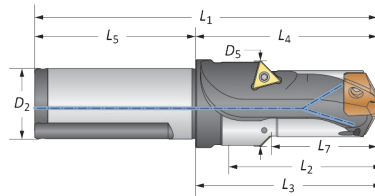
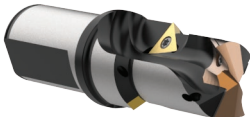
29 Series: 29.00 mm - 31.99 mm (1.1417" - 1.2597")

GEN3SYS Holders



A20

	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m	Straight	3xD	100.1	136.2	139.1	199.1	60.0	32	1/4 BSPT		60329S-32FM	—
		5xD	164.0	200.1	203.1	263.1	60.0	32	1/4 BSPT		60529S-32FM	—
		7xD	228.0	264.1	267.1	327.1	60.0	32	1/4 BSPT		60729S-32FM	—
	Helical	Stub	38.6	75.2	78.2	138.2	60.0	32	1/4 BSPT		60129H-32FM	—
		3xD	100.1	136.2	139.1	199.1	60.0	32	1/4 BSPT		60329H-32FM	60329H-32CM
		5xD	164.0	200.1	203.1	263.1	60.0	32	1/4 BSPT		60529H-32FM	60529H-32CM
i	Straight	7xD	228.0	264.1	267.1	327.1	60.0	32	1/4 BSPT		60729H-32FM	60729H-32CM
	Helical	3xD	3.939	5.382	5.499	7.779	2.280	1-1/4	1/4 NPT		60329S-125F	—
		5xD	6.458	7.901	8.018	10.298	2.280	1-1/4	1/4 NPT		60529S-125F	—
		7xD	8.977	10.420	10.537	12.817	2.280	1-1/4	1/4 NPT		60729S-125F	—
	Helical	Stub	1.518	2.961	3.078	5.358	2.280	1-1/4	1/4 NPT		60129H-125F	—
		3xD	3.939	5.382	5.499	7.779	2.280	1-1/4	1/4 NPT		60329H-125F	60329H-125C
		5xD	6.458	7.901	8.018	10.298	2.280	1-1/4	1/4 NPT		60529H-125F	60529H-125C
		7xD	8.977	10.420	10.537	12.817	2.280	1-1/4	1/4 NPT		60729H-125F	60729H-125C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_s	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	29	37.08	43.5	35.4	75.2	78.2	138.2	60.0	32	60129C45-32FM	TCMT-16T304
i	29	1.4600	1.713	1.393	2.961	3.078	5.358	2.280	1-1/4	60129C45-125F	TCMT-16T304

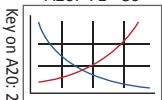
Connection Accessories

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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

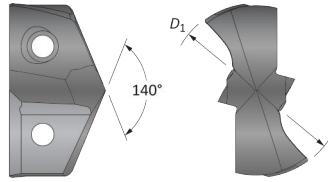
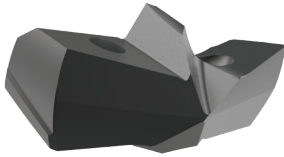
i = Imperial (in)

Screws sold in multiples of 10.

**32 Series: 32.00 mm - 35.00 mm (1.2598" - 1.3780")**

GEN3SYS XT Pro Inserts

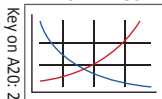
A20



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

Inserts sold in multiples of 1.

A20: 71 - 86



A20: 7 - 10

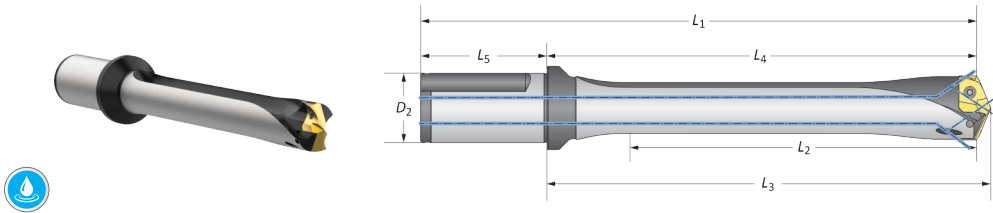
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	33.25 mm, steel, 32 series = use Part No. XTP32-33.25
Imperial:	1.3090", steel, 32 series = use Part No. XTP32-33.25



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

GEN3SYS XT Pro Holders



A20

		Body					Shank		Part No.	
Flute		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
		3xD	105.0	150.7	154.3	214.3	60.0	32	HXT0332S-32FM	HXT0332S-32CM
		5xD	175.0	220.8	224.3	284.3	60.0	32	HXT0532S-32FM	HXT0532S-32CM
		7xD	244.9	290.7	294.3	354.3	60.0	32	HXT0732S-32FM	HXT0732S-32CM
		10xD	349.9	395.7	399.3	459.3	60.0	32	 HXT1032S-32FM	 HXT1032S-32CM
		3xD	4.133	6.210	6.350	9.038	2.688	1-1/2	HXT0332S-150F	HXT0332S-150C
		5xD	6.888	8.966	9.106	11.794	2.688	1-1/2	HXT0532S-150F	HXT0532S-150C
		7xD	9.643	11.721	11.861	14.549	2.688	1-1/2	HXT0732S-150F	HXT0732S-150C
		10xD	13.776	15.855	15.995	18.683	2.688	1-1/2	 HXT1032S-150F	 HXT1032S-150C

Connection Accessories

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

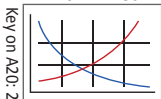
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

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 catalog. 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: appeng@alliedmachine.com.

A20: 71 - 86

A20: 7 - 10



= Metric (mm)
 = Imperial (in)

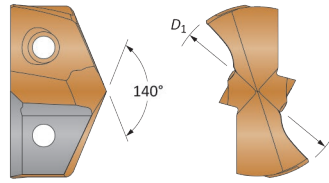
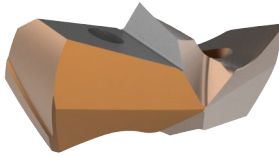
Screws sold in multiples of 10.



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

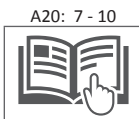
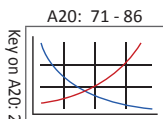
GEN3SYS XT Inserts

A20



Substrate	Insert			Carbide			
	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No. Standard	Part No. Low Rate	Part No. Cast Iron	Part No. Stainless
K35 (C1)	32.00	1.2598	—	7C132P-32	7C132P-32LR	—	—
	32.15	1.2657	—	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	—	—
K20 (C2)	32.00	1.2598	—	7C232P-32	7C232P-32LR	7C232P-32CI	7C232P-32AS
	32.15	1.2657	—	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.



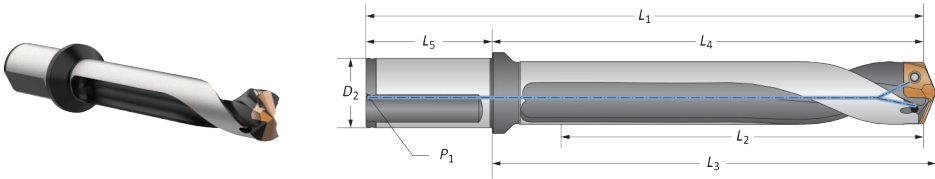
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	33.25 mm, C2, cast iron, 32 series = use Part No. 7C232P-33.25CI
Imperial:	1.3090", C2, stainless, 32 series = use Part No. 7C232P-1.3090AS



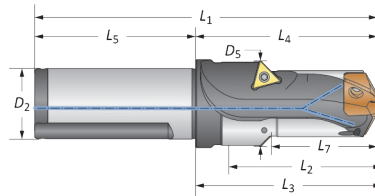
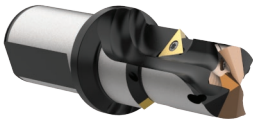
32 Series: 32.00 mm - 35.00 mm (1.2598" - 1.3780")

GEN3SYS Holders



A20

	Flute	Length	Body					Shank			Part No.	
			L_2	L_4	L_3	L_1	L_5	D_2	P_1		With Flat	Cylindrical
m	Straight	3xD	111.2	157.7	161.3	231.3	70.0	40	1/4 BSPT		60332S-40FM	—
		5xD	181.2	227.7	231.3	301.3	70.0	40	1/4 BSPT		60532S-40FM	—
		7xD	251.2	297.7	301.3	371.3	70.0	40	1/4 BSPT		60732S-40FM	—
	Helical	Stub	44.1	90.7	94.2	164.2	70.0	40	1/4 BSPT		60132H-40FM	—
		3xD	111.2	157.7	161.3	231.3	70.0	40	1/4 BSPT		60332H-40FM	60332H-40CM
		5xD	181.2	227.7	231.3	301.3	70.0	40	1/4 BSPT		60532H-40FM	60532H-40CM
i	Straight	7xD	251.2	297.7	301.3	371.3	70.0	40	1/4 BSPT		60732H-40FM	60732H-40CM
		3xD	4.377	6.210	6.350	9.038	2.688	1-1/2	1/4 NPT		60332S-150F	—
		5xD	7.133	8.965	9.105	11.793	2.688	1-1/2	1/4 NPT		60532S-150F	—
	Helical	Stub	1.737	3.570	3.710	6.398	2.688	1-1/2	1/4 NPT		60132H-150F	—
		3xD	4.377	6.210	6.350	9.038	2.688	1-1/2	1/4 NPT		60332H-150F	60332H-150C
		5xD	7.133	8.965	9.105	11.793	2.688	1-1/2	1/4 NPT		60532H-150F	60532H-150C
	Helical	7xD	9.888	11.721	11.861	14.549	2.688	1-1/2	1/4 NPT		60732H-150F	60732H-150C



Series	Step		Body					Shank		Part No.	Chamfer Insert
	D_5	L_7	L_2	L_4	L_3	L_1	L_5	D_2			
m	32	40.13	48.0	43.9	90.7	94.2	164.2	70.0	40	60132C45-40FM	TCMT-16T304
i	32	1.5800	1.890	1.727	3.570	3.710	6.398	2.688	1-1/2	60132C45-150F	TCMT-16T304

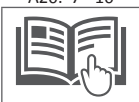
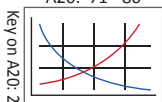
Connection Accessories

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.

A20: 71 - 86

A20: 7 - 10



m = Metric (mm)

i = Imperial (in)

Screws sold in multiples of 10.



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
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	107	0.18	0.20	0.23	0.25
		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
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	91	0.18	0.20	0.23	0.25
		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
	High-Strength Alloy 4340, 4330V, 300M, etc.	275 - 325	94	0.15	0.18	0.20	0.23
		325 - 375	85	0.15	0.15	0.18	0.20
		225 - 300	76	0.20	0.23	0.25	0.28
	Structural Steel A36, A285, A516, etc.	300 - 350	69	0.15	0.18	0.20	0.23
		350 - 400	61	0.13	0.18	0.18	0.20
		100 - 150	125	0.25	0.28	0.30	0.33
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	101	0.20	0.23	0.25	0.28
		250 - 350	93	0.18	0.20	0.23	0.25
M	Stainless Steel 400 Series 416, 420, etc.	150 - 200	81	0.15	0.18	0.18	0.20
		200 - 250	62	0.13	0.15	0.15	0.18
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	185 - 275	73	0.15	0.18	0.18	0.20
		275 - 350	56	0.13	0.15	0.15	0.18
	Super Duplex Stainless Steel	135 - 185	64	0.10	0.13	0.13	0.15

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 department: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Metric (mm)

GEN3SYS XT PRO									
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	0.25	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

A20

Coolant Recommendations

Series	Stub, 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



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
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
	Grey / White Iron	260 - 320	112	0.20	0.21	0.23	0.25
		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
N	Cast Aluminum	220 - 260	130	0.23	0.25	0.28	0.30
		260 - 320	116	0.23	0.25	0.28	0.30
	Wrought Aluminum	30	351	0.30	0.33	0.36	0.38
		180	262	0.28	0.30	0.33	0.36
	Aluminum Bronze	30	488	0.33	0.38	0.41	0.43
		180	351	0.30	0.36	0.38	0.41
	Brass	100 - 200	126	0.26	0.28	0.30	0.32
		200 - 250	103	0.22	0.24	0.26	0.28
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	230	0.29	0.30	0.33	0.36
		60	149	0.07	0.08	0.09	0.11
	Titanium Alloy	140 - 220	40	0.15	0.18	0.18	0.20
		220 - 310	30	0.13	0.15	0.15	0.18
	Aerospace Alloy S82	140 - 220	43	0.13	0.15	0.18	0.20
		220 - 310	34	0.10	0.13	0.15	0.18
H	Wear Plate Hardox®, AR400, T-1, etc.	185 - 275	50	0.10	0.10	0.12	0.14
		275 - 350	41	0.09	0.09	0.10	0.12
		400	50	0.13	0.13	0.15	0.17
	Hardened Steel	500	40	0.11	0.11	0.13	0.15
		600	27	0.10	0.10	0.11	0.13
		300 - 400	51	0.13	0.13	0.15	0.17

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 department: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Metric (mm)

GEN3SYS XT PRO									
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	0.46	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
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
0.19	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

A20

Coolant Recommendations

Series	Stub, 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



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
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
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	95	0.16	0.19	0.21	0.23
		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
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	81	0.16	0.19	0.21	0.23
		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
	High-Strength Alloy 4340, 4330V, 300M, etc.	275 - 325	87	0.14	0.16	0.19	0.21
		325 - 375	78	0.14	0.14	0.16	0.19
		225 - 300	70	0.19	0.21	0.23	0.26
		300 - 350	63	0.14	0.16	0.19	0.21
	Structural Steel A36, A285, A516, etc.	350 - 400	56	0.12	0.14	0.16	0.19
		100 - 150	108	0.23	0.26	0.28	0.30
		150 - 250	87	0.19	0.21	0.23	0.26
	Tool Steel H-13, H-21, A-4, S-3, etc.	250 - 350	81	0.16	0.19	0.21	0.23
		150 - 200	78	0.14	0.16	0.16	0.19
		200 - 250	59	0.12	0.14	0.14	0.16
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.

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: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Metric (mm)

GEN3SYS XT									
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
0.20	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

A20

Coolant Recommendations

Series	Stub, 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



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
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
		260 - 320	97	0.19	0.19	0.21	0.23
	Grey / White Iron	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
N	Cast Aluminum	30	300	0.28	0.30	0.33	0.35
		180	225	0.26	0.28	0.30	0.33
	Wrought Aluminum	30	425	0.30	0.35	0.37	0.40
		180	300	0.28	0.33	0.35	0.37
	Aluminum 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
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
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

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.

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: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Metric (mm)

GEN3SYS XT									
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	0.42	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
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
0.16	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

A20

Coolant Recommendations

Series	Stub, 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



Recommended Drilling Data | Imperial (in)

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
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	350	0.007	0.008	0.009	0.010
		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
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	300	0.007	0.008	0.009	0.010
		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
	High-Strength Alloy 4340, 4330V, 300M, etc.	275 - 325	310	0.006	0.007	0.008	0.009
		325 - 375	280	0.006	0.006	0.007	0.008
		225 - 300	250	0.008	0.009	0.010	0.011
		300 - 350	225	0.006	0.007	0.008	0.009
	Structural Steel A36, A285, A516, etc.	350 - 400	200	0.005	0.006	0.007	0.008
		100 - 150	410	0.010	0.011	0.012	0.013
		150 - 250	330	0.008	0.009	0.010	0.011
	Tool Steel H-13, H-21, A-4, S-3, etc.	250 - 350	305	0.007	0.008	0.009	0.010
		150 - 200	265	0.006	0.007	0.007	0.008
	M	200 - 250	205	0.005	0.006	0.006	0.007
		185 - 275	180	0.006	0.007	0.007	0.008
		275 - 350	150	0.005	0.006	0.006	0.007
		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

⚠ 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 department: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Imperial (in)

GEN3SYS XT PRO									
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
0.010	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	0.010	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

A20

Coolant Recommendations

Series	Stub, 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



Recommended Drilling Data | Imperial (in)

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"
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
N	Cast Aluminum	220 - 260	425	0.009	0.010	0.011	0.012
		260 - 320	380	0.009	0.010	0.011	0.012
	Wrought Aluminum	30	1150	0.012	0.013	0.014	0.015
		180	860	0.011	0.012	0.013	0.014
	Aluminum Bronze	30	1600	0.013	0.015	0.016	0.017
		180	1150	0.012	0.014	0.015	0.016
	Brass	100 - 200	415	0.010	0.011	0.012	0.012
		200 - 250	335	0.008	0.009	0.010	0.011
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	755	0.010	0.012	0.013	0.014
		60	490	0.003	0.003	0.003	0.004
	Titanium Alloy	140 - 220	130	0.006	0.007	0.007	0.008
		220 - 310	100	0.005	0.006	0.006	0.007
	Aerospace Alloy S82	140 - 220	140	0.005	0.006	0.007	0.008
		220 - 310	110	0.004	0.005	0.006	0.007
	Wear Plate Hardox®, AR400, T-1, etc.	185 - 275	165	0.004	0.004	0.005	0.005
		275 - 350	135	0.003	0.003	0.004	0.005
H	Hardened Steel	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

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 department: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Imperial (in)

GEN3SYS XT PRO									
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	0.018	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
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
0.007	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

A20

Coolant Recommendations

Series	Stub, 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



Recommended Drilling Data | Imperial (in)

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
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	310	0.006	0.007	0.008	0.009
		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
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	265	0.006	0.007	0.008	0.009
		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
	High-Strength Alloy 4340, 4330V, 300M, etc.	275 - 325	285	0.006	0.006	0.007	0.008
		325 - 375	255	0.006	0.006	0.006	0.007
		225 - 300	230	0.007	0.008	0.009	0.010
	Structural Steel A36, A285, A516, etc.	300 - 350	205	0.006	0.006	0.007	0.008
		350 - 400	185	0.005	0.006	0.006	0.007
		100 - 150	355	0.009	0.010	0.011	0.012
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	285	0.007	0.008	0.009	0.010
		250 - 350	265	0.006	0.007	0.008	0.009
M	Stainless Steel 400 Series 416, 420, etc.	150 - 200	255	0.006	0.006	0.006	0.007
		200 - 250	195	0.005	0.006	0.006	0.006
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	185 - 275	160	0.003	0.004	0.004	0.005
		135 - 185	220	0.004	0.005	0.005	0.006
	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.

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: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Imperial (in)

GEN3SYS XT									
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	0.015	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
0.008	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

A20

Coolant Recommendations

Series	Stub, 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



Recommended Drilling Data | Imperial (in)

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"
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
	Grey / White Iron	260 - 320	320	0.007	0.007	0.008	0.009
		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
N	Cast Aluminum	120 - 260	370	0.008	0.009	0.010	0.011
		260 - 320	335	0.008	0.009	0.010	0.011
	Wrought Aluminum	30	1000	0.011	0.012	0.013	0.014
		180	750	0.010	0.011	0.012	0.013
	Aluminum Bronze	30	1400	0.012	0.014	0.015	0.016
		180	1000	0.011	0.013	0.014	0.015
	Brass	100 - 200	360	0.009	0.010	0.011	0.011
		200 - 250	295	0.007	0.008	0.009	0.010
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	660	0.009	0.011	0.012	0.013
		60	425	0.003	0.003	0.003	0.004
	Titanium Alloy	140 - 220	120	0.006	0.006	0.006	0.007
		220 - 310	95	0.005	0.006	0.006	0.006
	Aerospace Alloy S82	140 - 220	140	0.005	0.006	0.006	0.007
		220 - 310	110	0.004	0.005	0.006	0.006
	Wear Plate Hardox®, AR400, T-1, etc.	185 - 275	145	0.004	0.004	0.005	0.005
		275 - 350	120	0.003	0.003	0.004	0.005
H	Hardened Steel	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

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.

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: appeng@alliedmachine.com.

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, and 12xD holder lengths, see adjustment example above.



Recommended Drilling Data | Imperial (in)

GEN3SYS XT									
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	0.017	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
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
0.006	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

A20

Coolant Recommendations

Series	Stub, 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



Technical Formulas

Formulas

1.	RPM	= (318.47 • m/min) / DIA
<i>where:</i> RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA = diameter of drill (mm)		
2.	mm/min	= RPM • mm/rev
<i>where:</i> 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
<i>where:</i> m/min = speed (m/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)		
4.	Thrust	= 154 • (mm/rev) • DIA • K_m
<i>where:</i> 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 • DIA³) / 218604.8
<i>where:</i> 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
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
Aluminum Alloy	–	1.52
Magnesium Alloy	–	1.10
High-Temperature Alloys	–	9.93
Titanium Alloy	–	4.96

Formulas

1.	RPM	= (3.82 • SFM) / DIA
<i>where:</i> RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = diameter of drill (inch)		
2.	IPM	= RPM • IPR
<i>where:</i> IPM = inches per minute (in/min) RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)		
3.	SFM	= RPM • 0.262 • DIA
<i>where:</i> SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)		
4.	Thrust	= 153,700 • IPR • DIA • K_m
<i>where:</i> 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 • DIA²
<i>where:</i> 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

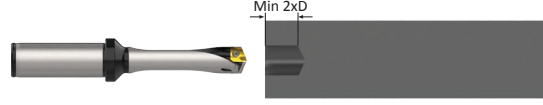
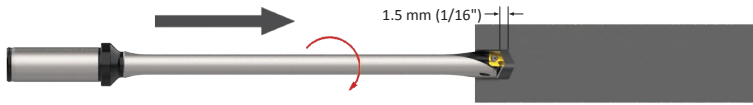
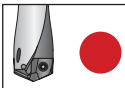
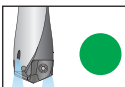
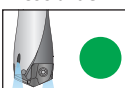
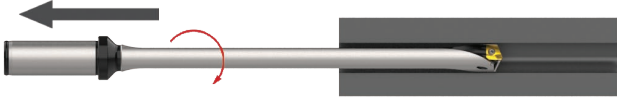
Type of Material	Hardness	K _m (lbs/in ²)
Plain Carbon and Alloy Steel	85 - 200 BHN	0.79
	200 - 275 BHN	0.94
	275 - 375 BHN	1.00
	375 - 425 BHN	1.15
Stainless Steels	135 - 275 BHN	0.94
	30 - 45 RC	1.08
Cast Iron	100 - 200 BHN	0.50
	200 - 300 BHN	1.08
Copper Alloy	20 - 80 RB	0.43
	80 - 100 RB	0.72
Aluminum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

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."



Deep Hole Drilling Guidelines

GEN3SYS XT Pro | 10xD and 12xD Holders

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. Utilize 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 
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 one second dwell is required to meet full speed before feeding.	 Coolant ON 
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 

⚠ 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 department: appeng@alliedmachine.com.



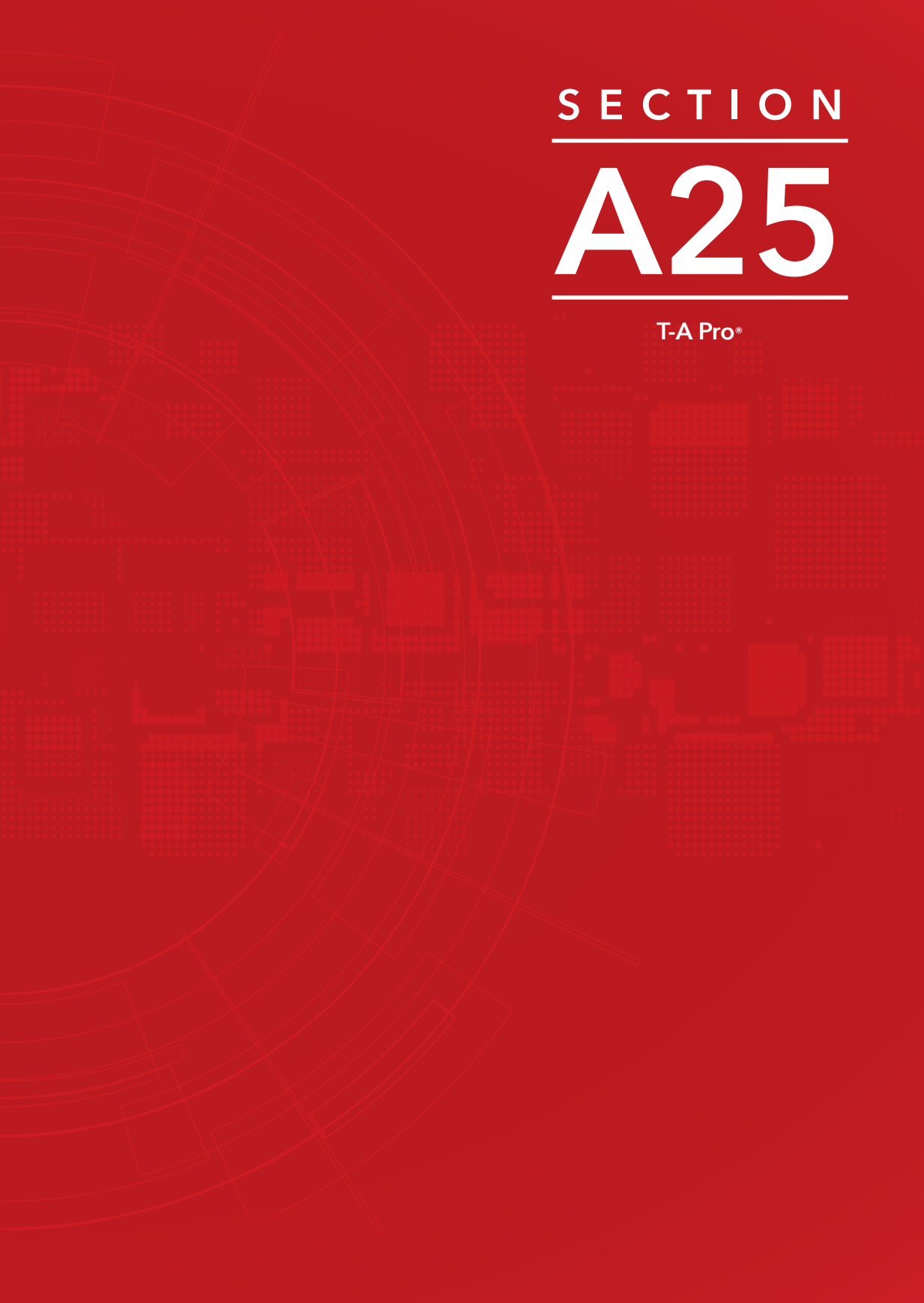
Troubleshooting Guide

A20

	Potential Problem																				
	Accelerated corner wear	Barber pole	Bell-mouthed 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			- Align spindle and turret or tailstock. - Repair spindle.	
Use of low rigidity machine tools			2	3	4		7		9	10			13	14						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 workpiece support			2		4		7			10	11				15		17			- Provide additional support for the workpiece. - 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	- 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		- 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	- Reduce speed. - Increase coolant pressure and volume. - Improve coolant condition by use of quality products and regular maintenance.	
Poor material microstructure or foreign particles (forgings and castings that have not been normalized or annealed, poorly prepared steel, flame cut parts, and sand casting)				4			6			10		12	13						18	- Compare performance of other tools for similar wear problems, which may indicate poor microstructure. Anneal or normalize parts to improve microstructure 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	- 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	- 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.	

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A20

The background of the entire page is a solid red color. Overlaid on this are several faint, light-red geometric patterns. On the left side, there are several concentric circles of varying radii. Across the entire page, there is a grid of small squares, some of which are slightly more prominent than others, creating a subtle texture.

SECTION

A25

T-A Pro®

T-A Pro® Drill

9.50 mm - 47.80 mm (0.3739" - 1.8820")



T-A Pro®

After 35 years of spade drilling success with our iconic T-A® (throwaway) 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 coolant-through system to allow penetration rates, which run at speeds faster than other high performance drills.

The best just got *better*

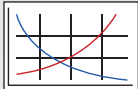
- ▶ Excellent chip control.
- ▶ Improves hole quality and surface finish.
- ▶ Provides maximum durability and stability.

Applicable Industries

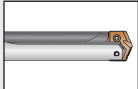
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Hydraulics
-  Marine
-  Oil and Gas
-  Renewable Energy/ Energy
-  Tool, Mold, and Die

Reference Icons

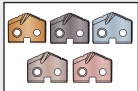
The following icons will appear throughout the catalog to help you navigate between products.



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



T-A Pro Holders
Range of holders that connect with the corresponding inserts.



T-A Pro Inserts
ISO-material special coated inserts that connect with the corresponding holders.



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

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



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

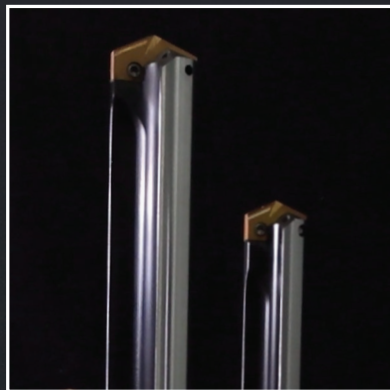
There are safety signal words also used in the catalog. Safety messages follow these words:

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

Table of Contents

Introduction Information	
Case Study	4
T-A Pro Drilling System Information	5
Insert Comparison & Assembly Information	6
Product Nomenclature	7
Drill Series	
Y Series: 9.50 mm - 11.09 mm (0.3739" - 0.4368")	
Replaceable Inserts	9
Holders	11
Z Series: 11.10 mm - 12.69 mm (0.4369" - 0.4998")	
Replaceable Inserts	13
Holders	15
0 Series: 12.70 mm - 17.64 mm (0.4999" - 0.6946")	
Replaceable Inserts	17
Holders	19
1 Series: 17.65 mm - 24.37 mm (0.6947" - 0.9596")	
Replaceable Inserts	21
Holders	25
2 Series: 24.38 mm - 35.04 mm (0.9597" - 1.3797")	
Replaceable Inserts	27
Holders	31
3 Series: 35.05 mm - 47.80 mm (1.3798" - 1.8820")	
Replaceable Inserts	33
Holders	39
T-A Pro Drill Chamfer Holders	
Overview & Formulas	41
Metric & Imperial Holders	42
Chamfer Inserts (Wohlhaupter® 146 Geometry)	42
Chamfer Thread Size & Pilot Insert	
Metric	43
Imperial	45
T-A Pro Form Inserts	
Countersink Specs.	47
Countersink and Chamfer Inserts	48
T-A Pro Kits: 12.70 mm - 35.04 mm (0.4999" - 1.3797")	
Inserts	49
Holders	50
Recommended Drilling Data	
Metric (mm)	
High-Speed Steel	51
Carbide	53
Form Inserts	55
Imperial (in)	
High-Speed Steel	57
Carbide	59
Form Inserts	61
Technical Information	
Technical Formulas	63
Deep Hole Drilling Guidelines	64
Troubleshooting Guide	65

T-A Pro[®]



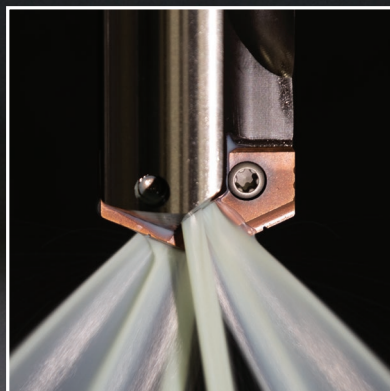
NEW HOLDER DESIGN

Optimized 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 (200 PSI).**



Case Study

T-A Pro® (P) STEEL GEOMETRY

A25

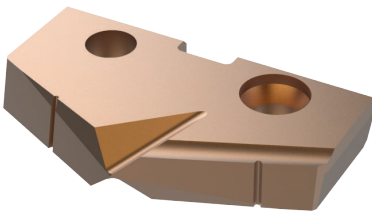


Mold Components | P20 Hi-hard

Hole Ø: 37.31 mm (1.4689")
Hole Depth: 165.10 mm (6.5000")

Holder, 5xD length: HTA3A05-150F
Insert, P (steel): TAP3-37.31

P - Steel



- ✓ 68% decrease in cycle time.
- ✓ 600% increase in tool life.
- ✓ 95% decrease in cost per hole.



RPM



SPEED



FEED IN



CYCLE TIME



TOOL LIFE

Competitor

590

68.58 m/min
(225 SFM)

0.06 mm/rev
(0.0025 IPR)

4 min 30 sec

2.54 m
(100")

Allied

470

54.86 m/min
(180 SFM)

0.254 mm/rev
(0.0100 IPR)

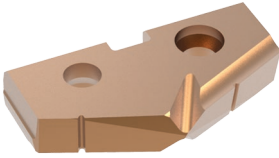
1 min 25 sec

17.78 m
(700")



T-A Pro Drilling System Information

A High Penetration Drilling Solution

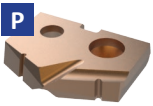


- ▶ Quick connectivity to existing T-A® holders for minimal setup times and immediate increase in productivity.
- ▶ Body diameter specific holders to maximize rigidity while drilling.
- ▶ Ease of insert selection with ISO geometries compared to T-A.
- ▶ Consistency of a spade with penetration rates of a high performance drill.

A25

INSERT GEOMETRIES

P



STEELS

- Designed to provide increased penetration rates and tool life in steel applications.
- Excellent chip control with superior geometry and edge.
- Increased heat resistance and improved tool life with Allied's multilayer AM300® coating.

M



Available in Z-3 series only.

STAINLESS STEEL

- Designed for all stainless steels and heat-resistant super alloy (HRSA) materials.
- Optimized geometry for improved chip formation while minimizing exit burr.
- Industry-leading tool life in stainless and HRSA materials with Allied's new AM460 coating.

K



CAST IRONS

- Uniquely designed for cast/nodular iron applications.
- Geometry that provides maximum tool life, reduced exit burr, and improved hole finish.
- Increased abrasion resistance and tool life with Allied's multilayer TiAlN coating.

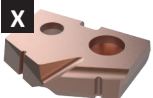
N



NONFERROUS

- Designed for applications in aluminum, brass, and copper.
- Geometry that yields excellent chip control in these softer materials.
- TiCN coating for versatility to run in a variety of materials while reducing buildup.

X

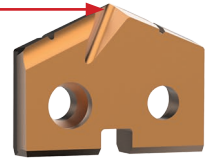


SUBSTRATE FROM HIGH-SPEED STEEL

- Multipurpose geometry engineered for a wide range of materials.
- Reliable tool life and high process repeatability in the most challenging applications.
- Excellent heat resistance and high lubricity for broad scope use with AM200® coating.

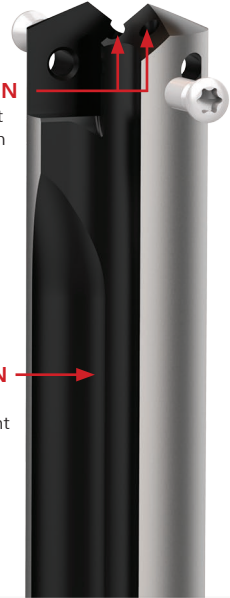
INSERT DESIGN

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



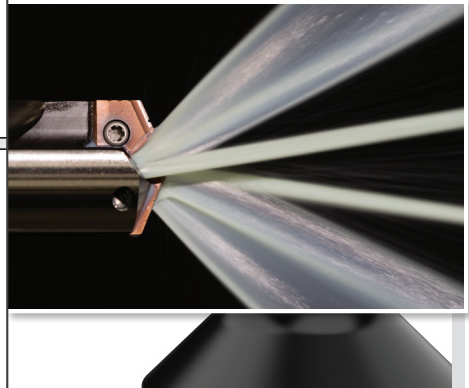
COOLANT DESIGN

Proprietary coolant outlet configuration provides superior cooling even in low-coolant applications.

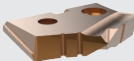
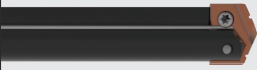


HOLDER DESIGN

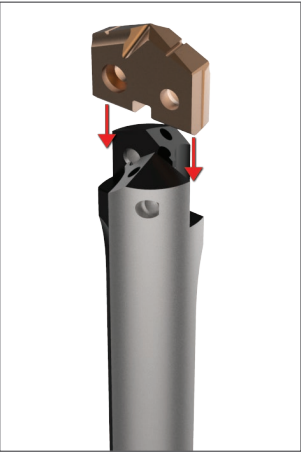
New flute design optimized to prevent chip packing from slowing you down.



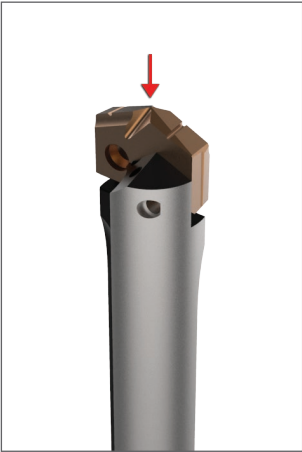
Insert Comparison & Assembly Information

		 T-A Pro® Inserts	 GEN2 T-A® Inserts	 T-A® Inserts
Recommended for increased productivity				
ISO-specific geometry/coating combination	P M K N			
Connects with T-A Pro holders				
Connects with T-A holders				

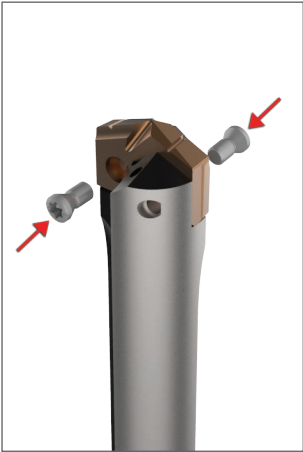
A25



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 catalog by series. A preset TORX driver is available to assure that the proper torque is applied.



Product Nomenclature

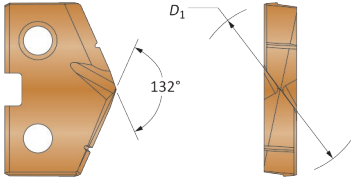
T-A Pro Drill Inserts

TA	P		0	—	15.00
	ISO Material / Geometry		Series		Diameter (mm)
	Standard T-A Pro Inserts: P = Steel M = Stainless steel* K = Cast iron N = Nonferrous X = High-speed steel	Form T-A Pro Inserts: CF = Carbide XF = High-speed steel	Y Z 0 1 2 3		Standard T-A Pro Inserts: For complete list of ranges by series, see table below. Form T-A Pro Inserts: 82DEG = 82° form angle 90DEG = 90° form angle 100DEG = 100° form angle

*Available in Z-3 series only.

Reference Key

Symbol	Attribute
D ₁	Insert diameter



Series & Body Diameters

Series		Y Series	Z Series	0 Series
Insert				
Insert Ø	mm	9.50 - 11.09	11.10 - 12.69	12.70 - 17.64
	inch	0.3739 - 0.4368	0.4369 - 0.4998	0.4999 - 0.6946
Holder				
Insert Ø min	A Body	9.50 mm (0.3739")	11.10 mm (0.4369")	12.70 mm (0.4999")
	B Body	10.32 mm (0.4062")	12.20 mm (0.4802")	14.00 mm (0.5510")
	C Body	—	—	15.08 mm (0.5936")
	D Body	—	—	16.50 mm (0.6495")
Shank Ø	mm	20.00	20.00	20.00
	inch	0.750	0.750	0.750

Product Nomenclature

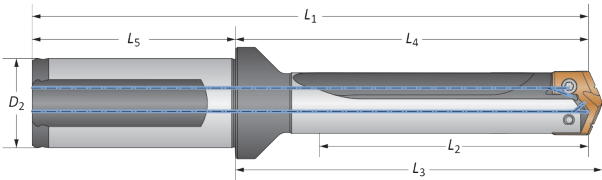
T-A Pro Holders

HTA	0	B	05	—	20	FM	
	Series	Body Diameter	Drill Length		Shank Diameter		Shank Style
	Y	A	01 = Stub		Metric (mm)	Imperial (inch)	FM = Flanged metric with flat
	Z	B	03 = 3xD		20 = 20 mm	075 = 0.750"	CM = Cylindrical metric (no flat)
	0	C	05 = 5xD		25 = 25 mm	100 = 1.000"	F = Flanged with flat
	1	D	07 = 7xD		32 = 32 mm	125 = 1.250"	C = Cylindrical (no flat)
	2		10 = 10xD ⚠		40 = 40 mm	150 = 1.500"	
	3		12 = 12xD ⚠				
			15 = 15xD ⚠				
			C45 = Drill/chamfer*				

* Drill and chamfer holders are available in A and C body diameters only.

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



1 Series	2 Series	3 Series
		
17.65 - 24.37	24.38 - 35.04	35.05 - 47.80
0.6947 - 0.9596	0.9597 - 1.3797	1.3798 - 1.8820
17.65 mm (0.6947")	24.38 mm (0.9597")	35.05 mm (1.3798")
19.05 mm (0.7499")	25.40 mm (0.9999")	37.80 mm (1.4880")
20.60 mm (0.8109")	28.50 mm (1.1219")	41.00 mm (1.6140")
22.90 mm (0.9014")	31.70 mm (1.2479")	44.40 mm (1.7479")
25.00	32.00	40.00
1.000	1.250	1.500

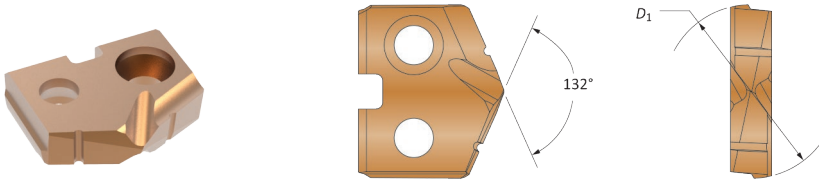

WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

**Y Series: 9.50 mm - 11.09 mm (0.3739" - 0.4368")**

Replaceable Inserts

A25



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

Inserts sold in multiples of 2.

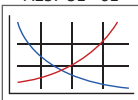
Sub Series Holders (A, B, C, D) - Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength.

NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

A Series Insert +
A Series HolderC Series Insert +
A Series HolderC Series Insert +
C Series HolderA Series Insert +
C Series Holder

A25: 11 - 12

A25: 51 - 61



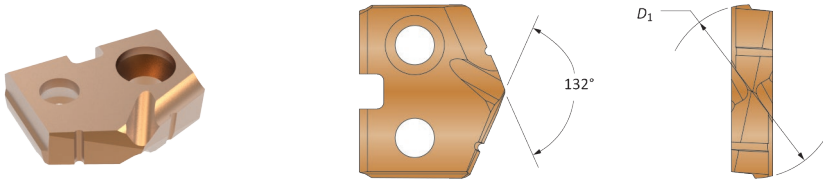
Sizes not shown are available upon request.

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 Series: 9.50 mm - 11.09 mm (0.3739" - 0.4368")

Replaceable Inserts



A25

Insert				Carbide			HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No.	Part No.	Part No.	Part No.
				P	K	N	X
Y-B	10.32	0.4063	13/32	TAPY-10.32	TAKY-10.32	TANY-10.32	TAXY-10.32
Y-B	10.40	0.4094	—	TAPY-10.40	TAKY-10.40	TANY-10.40	TAXY-10.40
Y-B	10.50	0.4134	—	TAPY-10.50	TAKY-10.50	TANY-10.50	TAXY-10.50
Y-B	10.60	0.4173	—	TAPY-10.60	TAKY-10.60	TANY-10.60	TAXY-10.60
Y-B	10.70	0.4213	—	TAPY-10.70	TAKY-10.70	TANY-10.70	TAXY-10.70
Y-B	10.72	0.4220	27/64	TAPY-10.72	TAKY-10.72	TANY-10.72	TAXY-10.72
Y-B	10.80	0.4252	—	TAPY-10.80	TAKY-10.80	TANY-10.80	TAXY-10.80
Y-B	10.90	0.4291	—	TAPY-10.90	TAKY-10.90	TANY-10.90	TAXY-10.90
Y-B	11.00	0.4331	—	TAPY-11.00	TAKY-11.00	TANY-11.00	TAXY-11.00

Inserts sold in multiples of 2.

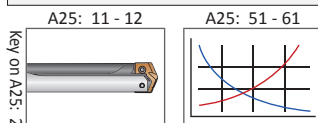
Sub Series Holders (A, B, C, D) - Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength.

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


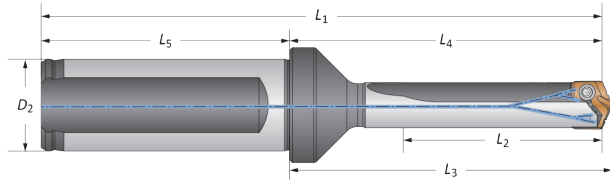
Sizes not shown are available upon request.
When ordering, please follow the example below:

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 Series: 9.50 mm - 11.09 mm (0.3739" - 0.4368")

Holders



A25

Metric Holders

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

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)

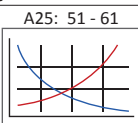
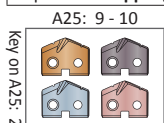
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Y Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



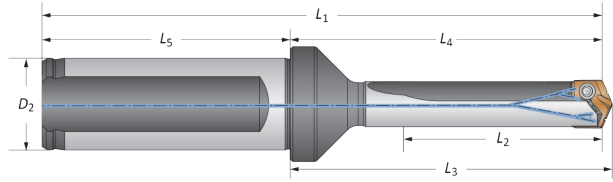
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



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

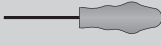
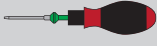
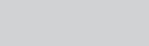
Holders



Imperial Holders

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

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)

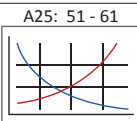
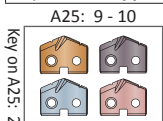
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Y Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



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

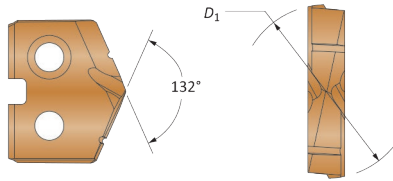
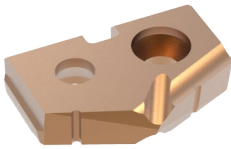
Screws sold in multiples of 10.



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

Replaceable Inserts

A25



Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
Z-A	11.11	0.4374	7/16	TAPZ-11.11	TAMZ-11.11	TAKZ-11.11	TANZ-11.11	TAXZ-11.11
Z-A	11.20	0.4409	—	TAPZ-11.20	TAMZ-11.20	TAKZ-11.20	TANZ-11.20	TAXZ-11.20
Z-A	11.30	0.4449	—	TAPZ-11.30	TAMZ-11.30	TAKZ-11.30	TANZ-11.30	TAXZ-11.30
Z-A	11.40	0.4488	—	TAPZ-11.40	TAMZ-11.40	TAKZ-11.40	TANZ-11.40	TAXZ-11.40
Z-A	11.50	0.4528	—	TAPZ-11.50	TAMZ-11.50	TAKZ-11.50	TANZ-11.50	TAXZ-11.50
Z-A	11.51	0.4531	29/64	TAPZ-11.51	TAMZ-11.51	TAKZ-11.51	TANZ-11.51	TAXZ-11.51
Z-A	11.60	0.4567	—	TAPZ-11.60	TAMZ-11.60	TAKZ-11.60	TANZ-11.60	TAXZ-11.60
Z-A	11.70	0.4606	—	TAPZ-11.70	TAMZ-11.70	TAKZ-11.70	TANZ-11.70	TAXZ-11.70
Z-A	11.80	0.4646	—	TAPZ-11.80	TAMZ-11.80	TAKZ-11.80	TANZ-11.80	TAXZ-11.80
Z-A	11.91	0.4689	15/32	TAPZ-11.91	TAMZ-11.91	TAKZ-11.91	TANZ-11.91	TAXZ-11.91
Z-A	12.00	0.4724	—	TAPZ-12.00	TAMZ-12.00	TAKZ-12.00	TANZ-12.00	TAXZ-12.00
Z-A	12.10	0.4764	—	TAPZ-12.10	TAMZ-12.10	TAKZ-12.10	TANZ-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



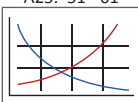
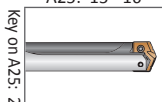
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 15 - 16

A25: 51 - 61



Sizes not shown are available upon request.

When ordering, please follow the example below:

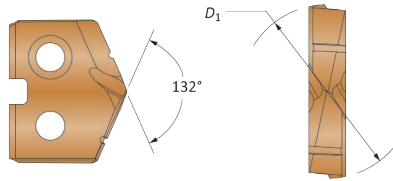
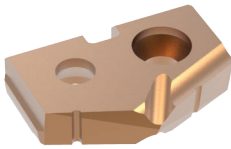
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D_1 mm	D_1 inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
Z-B	12.20	0.4803	—	P	M	K	N	X
Z-B	12.30	0.4843	31/64	TAPZ-12.20	TAMZ-12.20	TAKZ-12.20	TANZ-12.20	TAXZ-12.20
Z-B	12.40	0.4882	—	TAPZ-12.30	TAMZ-12.30	TAKZ-12.30	TANZ-12.30	TAXZ-12.30
Z-B	12.50	0.4921	—	TAPZ-12.40	TAMZ-12.40	TAKZ-12.40	TANZ-12.40	TAXZ-12.40
Z-B	12.60	0.4961	—	TAPZ-12.50	TAMZ-12.50	TAKZ-12.50	TANZ-12.50	TAXZ-12.50
Z-B	12.60	0.4961	—	TAPZ-12.60	TAMZ-12.60	TAKZ-12.60	TANZ-12.60	TAXZ-12.60

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



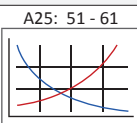
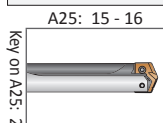
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



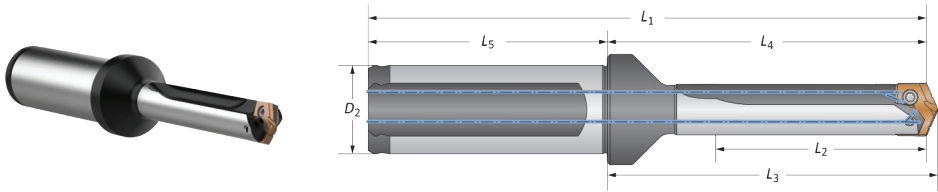
Sizes not shown are available upon request.
When ordering, please follow the example below:

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



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

Holders



A25



Metric Holders

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

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)

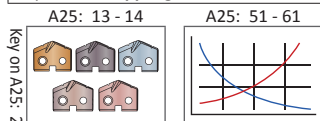
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Z Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 64 for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



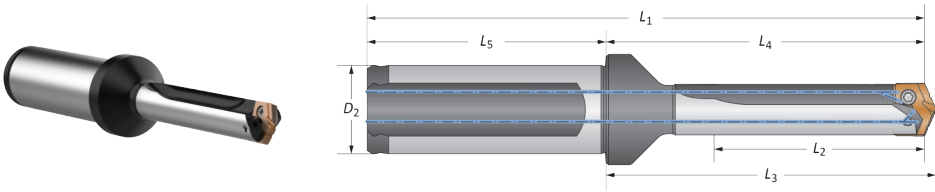
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



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

Holders



Imperial Holders

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

Connection Accessories

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

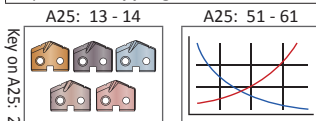
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Z Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



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

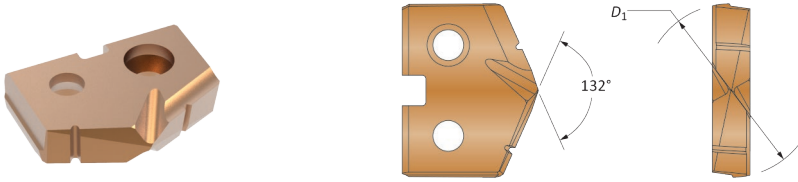
Screws sold in multiples of 10.



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

Replaceable Inserts

A25



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

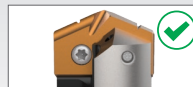
NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



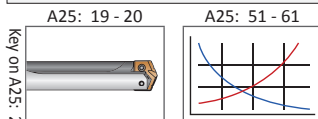
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



key on A25: 2

Sizes not shown are available upon request.

When ordering, please follow the example below:

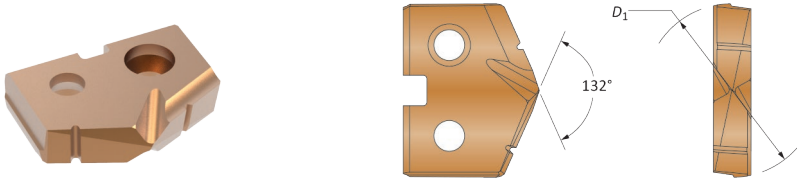
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
O-C	15.08	0.5937	19/32	TAP0-15.08	TAM0-15.08	TAK0-15.08	TAN0-15.08	TAX0-15.08
O-C	15.20	0.5984	—	TAP0-15.20	TAM0-15.20	TAK0-15.20	TAN0-15.20	TAX0-15.20
O-C	15.25	0.6004	—	TAP0-15.25	TAM0-15.25	TAK0-15.25	TAN0-15.25	TAX0-15.25
O-C	15.30	0.6024	—	TAP0-15.30	TAM0-15.30	TAK0-15.30	TAN0-15.30	TAX0-15.30
O-C	15.40	0.6063	—	TAP0-15.40	TAM0-15.40	TAK0-15.40	TAN0-15.40	TAX0-15.40
O-C	15.48	0.6094	39/64	TAP0-15.48	TAM0-15.48	TAK0-15.48	TAN0-15.48	TAX0-15.48
O-C	15.50	0.6102	—	TAP0-15.50	TAM0-15.50	TAK0-15.50	TAN0-15.50	TAX0-15.50
O-C	15.60	0.6142	—	TAP0-15.60	TAM0-15.60	TAK0-15.60	TAN0-15.60	TAX0-15.60
O-C	15.70	0.6181	—	TAP0-15.70	TAM0-15.70	TAK0-15.70	TAN0-15.70	TAX0-15.70
O-C	15.80	0.6220	—	TAP0-15.80	TAM0-15.80	TAK0-15.80	TAN0-15.80	TAX0-15.80
O-C	15.88	0.6252	5/8	TAP0-15.88	TAM0-15.88	TAK0-15.88	TAN0-15.88	TAX0-15.88
O-C	16.00	0.6299	—	TAP0-16.00	TAM0-16.00	TAK0-16.00	TAN0-16.00	TAX0-16.00
O-C	16.08	0.6331	—	TAP0-16.08	TAM0-16.08	TAK0-16.08	TAN0-16.08	TAX0-16.08
O-C	16.20	0.6378	—	TAP0-16.20	TAM0-16.20	TAK0-16.20	TAN0-16.20	TAX0-16.20
O-C	16.27	0.6406	41/64	TAP0-16.27	TAM0-16.27	TAK0-16.27	TAN0-16.27	TAX0-16.27
O-C	16.40	0.6457	—	TAP0-16.40	TAM0-16.40	TAK0-16.40	TAN0-16.40	TAX0-16.40
O-D	16.50	0.6496	—	TAP0-16.50	TAM0-16.50	TAK0-16.50	TAN0-16.50	TAX0-16.50
O-D	16.60	0.6535	—	TAP0-16.60	TAM0-16.60	TAK0-16.60	TAN0-16.60	TAX0-16.60
O-D	16.67	0.6563	21/32	TAP0-16.67	TAM0-16.67	TAK0-16.67	TAN0-16.67	TAX0-16.67
O-D	16.80	0.6614	—	TAP0-16.80	TAM0-16.80	TAK0-16.80	TAN0-16.80	TAX0-16.80
O-D	16.90	0.6654	—	TAP0-16.90	TAM0-16.90	TAK0-16.90	TAN0-16.90	TAX0-16.90
O-D	17.00	0.6693	—	TAP0-17.00	TAM0-17.00	TAK0-17.00	TAN0-17.00	TAX0-17.00
O-D	17.07	0.6720	43/64	TAP0-17.07	TAM0-17.07	TAK0-17.07	TAN0-17.07	TAX0-17.07
O-D	17.10	0.6732	—	TAP0-17.10	TAM0-17.10	TAK0-17.10	TAN0-17.10	TAX0-17.10
O-D	17.20	0.6772	—	TAP0-17.20	TAM0-17.20	TAK0-17.20	TAN0-17.20	TAX0-17.20
O-D	17.30	0.6811	—	TAP0-17.30	TAM0-17.30	TAK0-17.30	TAN0-17.30	TAX0-17.30
O-D	17.40	0.6850	—	TAP0-17.40	TAM0-17.40	TAK0-17.40	TAN0-17.40	TAX0-17.40
O-D	17.46	0.6874	11/16	TAP0-17.46	TAM0-17.46	TAK0-17.46	TAN0-17.46	TAX0-17.46
O-D	17.50	0.6890	—	TAP0-17.50	TAM0-17.50	TAK0-17.50	TAN0-17.50	TAX0-17.50
O-D	17.60	0.6929	—	TAP0-17.60	TAM0-17.60	TAK0-17.60	TAN0-17.60	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



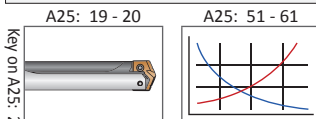
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Sizes not shown are available upon request.

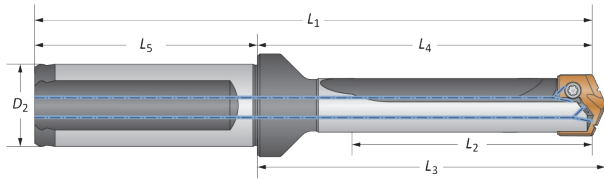
When ordering, please follow the example below:

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



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

Holders



A25

Metric Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	15.3	44.0	46.7	94.0	50.0	20	HTA0A01-20FM	HTA0A01-20CM
Stub	B	15.3	44.0	46.7	94.0	50.0	20	HTA0B01-20FM	HTA0B01-20CM
Stub	C	15.3	44.0	46.7	94.0	50.0	20	HTA0C01-20FM	HTA0C01-20CM
Stub	D	15.3	44.0	46.7	94.0	50.0	20	HTA0D01-20FM	HTA0D01-20CM
3xD	A	45.9	77.8	80.5	127.8	50.0	20	HTA0A03-20FM	HTA0A03-20CM
3xD	B	45.9	77.8	80.5	127.8	50.0	20	HTA0B03-20FM	HTA0B03-20CM
3xD	C	45.9	77.8	80.5	127.8	50.0	20	HTA0C03-20FM	HTA0C03-20CM
3xD	D	45.9	77.8	80.5	127.8	50.0	20	HTA0D03-20FM	HTA0D03-20CM
5xD	A	76.6	108.5	111.2	158.5	50.0	20	HTA0A05-20FM	HTA0A05-20CM
5xD	B	76.6	108.5	111.2	158.5	50.0	20	HTA0B05-20FM	HTA0B05-20CM
5xD	C	76.6	108.5	111.2	158.5	50.0	20	HTA0C05-20FM	HTA0C05-20CM
5xD	D	76.6	108.5	111.2	158.5	50.0	20	HTA0D05-20FM	HTA0D05-20CM
7xD	A	107.2	139.1	141.8	189.1	50.0	20	HTA0A07-20FM	HTA0A07-20CM
7xD	B	107.2	139.1	141.8	189.1	50.0	20	HTA0B07-20FM	HTA0B07-20CM
7xD	C	107.2	139.1	141.8	189.1	50.0	20	HTA0C07-20FM	HTA0C07-20CM
7xD	D	107.2	139.1	141.8	189.1	50.0	20	HTA0D07-20FM	HTA0D07-20CM
10xD	A	153.2	185.0	187.8	235.1	50.0	20	HTA0A10-20FM	HTA0A10-20CM
10xD	B	153.2	185.0	187.8	235.1	50.0	20	HTA0B10-20FM	HTA0B10-20CM
10xD	C	153.2	185.0	187.8	235.1	50.0	20	HTA0C10-20FM	HTA0C10-20CM
10xD	D	153.2	185.0	187.8	235.1	50.0	20	HTA0D10-20FM	HTA0D10-20CM
12xD	A	183.8	215.7	218.4	265.7	50.0	20	HTA0A12-20FM	HTA0A12-20CM
12xD	B	183.8	215.7	218.4	265.7	50.0	20	HTA0B12-20FM	HTA0B12-20CM
12xD	C	183.8	215.7	218.4	265.7	50.0	20	HTA0C12-20FM	HTA0C12-20CM
12xD	D	183.8	215.7	218.4	265.7	50.0	20	HTA0D12-20FM	HTA0D12-20CM
15xD	A	229.7	261.6	264.3	311.6	50.0	20	HTA0A15-20FM	HTA0A15-20CM
15xD	B	229.7	261.6	264.3	311.6	50.0	20	HTA0B15-20FM	HTA0B15-20CM
15xD	C	229.7	261.6	264.3	311.6	50.0	20	HTA0C15-20FM	HTA0C15-20CM
15xD	D	229.7	261.6	264.3	311.6	50.0	20	HTA0D15-20FM	HTA0D15-20CM

Connection Accessories

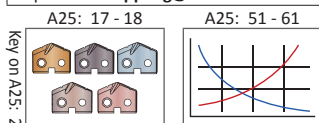
Insert Screws		Nylon Locking Screws		Insert Driver		Preset Torque Hand Driver		Replacement Tips		Admissible Tightening Torque*	
A/B	72556-IP8-1		72556N-IP8-1		8IP-8		8IP-8TL		8IP-8B	175 N-cm (15.5 in-lbs)	
C/D	72567-IP8-1		72567N-IP8-1		8IP-8		8IP-8TL		8IP-8B	175 N-cm (15.5 in-lbs)	

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

0 Series Holder Diameter Range

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



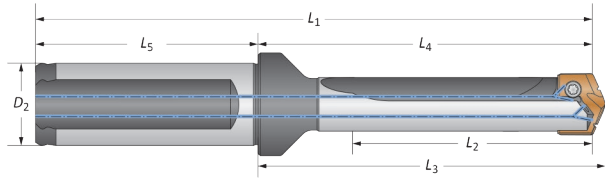
M = Metric (mm)
I = Imperial (in)

Screws sold in multiples of 10.



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

Holders



Imperial Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	0.603	1.731	1.838	3.761	2.030	3/4	HTA0A01-075F	HTA0A01-075C
Stub	B	0.603	1.731	1.838	3.761	2.030	3/4	HTA0B01-075F	HTA0B01-075C
Stub	C	0.603	1.731	1.838	3.761	2.030	3/4	HTA0C01-075F	HTA0C01-075C
Stub	D	0.603	1.731	1.838	3.761	2.030	3/4	HTA0D01-075F	HTA0D01-075C
3xD	A	1.809	3.064	3.171	5.094	2.030	3/4	HTA0A03-075F	HTA0A03-075C
3xD	B	1.809	3.064	3.171	5.094	2.030	3/4	HTA0B03-075F	HTA0B03-075C
3xD	C	1.809	3.064	3.171	5.094	2.030	3/4	HTA0C03-075F	HTA0C03-075C
3xD	D	1.809	3.064	3.171	5.094	2.030	3/4	HTA0D03-075F	HTA0D03-075C
5xD	A	3.015	4.270	4.377	6.300	2.030	3/4	HTA0A05-075F	HTA0A05-075C
5xD	B	3.015	4.270	4.377	6.300	2.030	3/4	HTA0B05-075F	HTA0B05-075C
5xD	C	3.015	4.270	4.377	6.300	2.030	3/4	HTA0C05-075F	HTA0C05-075C
5xD	D	3.015	4.270	4.377	6.300	2.030	3/4	HTA0D05-075F	HTA0D05-075C
7xD	A	4.221	5.476	5.583	7.506	2.030	3/4	HTA0A07-075F	HTA0A07-075C
7xD	B	4.221	5.476	5.583	7.506	2.030	3/4	HTA0B07-075F	HTA0B07-075C
7xD	C	4.221	5.476	5.583	7.506	2.030	3/4	HTA0C07-075F	HTA0C07-075C
7xD	D	4.221	5.476	5.583	7.506	2.030	3/4	HTA0D07-075F	HTA0D07-075C
10xD	A	6.030	7.285	7.392	9.315	2.030	3/4	HTA0A10-075F	HTA0A10-075C
10xD	B	6.030	7.285	7.392	9.315	2.030	3/4	HTA0B10-075F	HTA0B10-075C
10xD	C	6.030	7.285	7.392	9.315	2.030	3/4	HTA0C10-075F	HTA0C10-075C
10xD	D	6.030	7.285	7.392	9.315	2.030	3/4	HTA0D10-075F	HTA0D10-075C
12xD	A	7.236	8.491	8.598	10.521	2.030	3/4	HTA0A12-075F	HTA0A12-075C
12xD	B	7.236	8.491	8.598	10.521	2.030	3/4	HTA0B12-075F	HTA0B12-075C
12xD	C	7.236	8.491	8.598	10.521	2.030	3/4	HTA0C12-075F	HTA0C12-075C
12xD	D	7.236	8.491	8.598	10.521	2.030	3/4	HTA0D12-075F	HTA0D12-075C
15xD	A	9.045	10.300	10.407	12.330	2.030	3/4	HTA0A15-075F	HTA0A15-075C
15xD	B	9.045	10.300	10.407	12.330	2.030	3/4	HTA0B15-075F	HTA0B15-075C
15xD	C	9.045	10.300	10.407	12.330	2.030	3/4	HTA0C15-075F	HTA0C15-075C
15xD	D	9.045	10.300	10.407	12.330	2.030	3/4	HTA0D15-075F	HTA0D15-075C

Connection Accessories

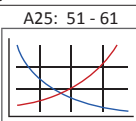
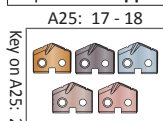
Insert Screws		Nylon Locking Screws		Insert Driver		Preset Torque Hand Driver		Replacement Tips		Admissible Tightening Torque*	
A/B	72556-IP8-1		72556N-IP8-1		8IP-8		8IP-8TL		8IP-8B		175 N-cm (15.5 in-lbs)
C/D	72567-IP8-1		72567N-IP8-1		8IP-8		8IP-8TL		8IP-8B		175 N-cm (15.5 in-lbs)

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

0 Series Holder Diameter Range

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

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



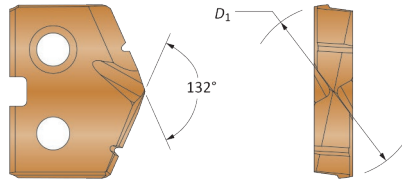
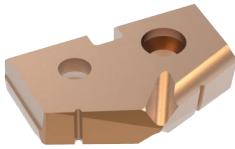
Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Screws sold in multiples of 10.



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

Replaceable Inserts



A25

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



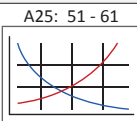
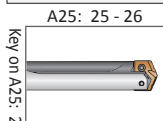
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Sizes not shown are available upon request.

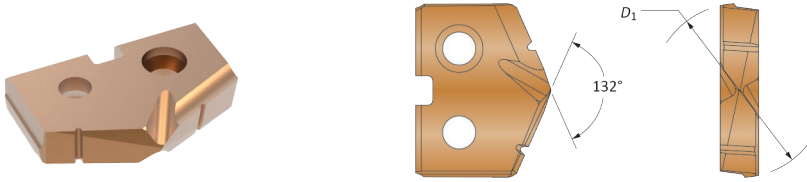
When ordering, please follow the example below:

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**

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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₂ inch	Fractional Equivalent	Part No.	Part No.	Part No.	Part No.	Part No.
1-B	19.05	0.7500	3/4	TAP1-19.05	TAM1-19.05	TAK1-19.05	TAN1-19.05	TAX1-19.05
1-B	19.10	0.7520	—	TAP1-19.10	TAM1-19.10	TAK1-19.10	TAN1-19.10	TAX1-19.10
1-B	19.20	0.7559	—	TAP1-19.20	TAM1-19.20	TAK1-19.20	TAN1-19.20	TAX1-19.20
1-B	19.25	0.7579	—	TAP1-19.25	TAM1-19.25	TAK1-19.25	TAN1-19.25	TAX1-19.25
1-B	19.30	0.7598	—	TAP1-19.30	TAM1-19.30	TAK1-19.30	TAN1-19.30	TAX1-19.30
1-B	19.40	0.7638	—	TAP1-19.40	TAM1-19.40	TAK1-19.40	TAN1-19.40	TAX1-19.40
1-B	19.45	0.7657	49/64	TAP1-19.45	TAM1-19.45	TAK1-19.45	TAN1-19.45	TAX1-19.45
1-B	19.50	0.7677	—	TAP1-19.50	TAM1-19.50	TAK1-19.50	TAN1-19.50	TAX1-19.50
1-B	19.60	0.7717	—	TAP1-19.60	TAM1-19.60	TAK1-19.60	TAN1-19.60	TAX1-19.60
1-B	19.70	0.7756	—	TAP1-19.70	TAM1-19.70	TAK1-19.70	TAN1-19.70	TAX1-19.70
1-B	19.80	0.7795	—	TAP1-19.80	TAM1-19.80	TAK1-19.80	TAN1-19.80	TAX1-19.80
1-B	19.84	0.7811	25/32	TAP1-19.84	TAM1-19.84	TAK1-19.84	TAN1-19.84	TAX1-19.84
1-B	19.90	0.7835	—	TAP1-19.90	TAM1-19.90	TAK1-19.90	TAN1-19.90	TAX1-19.90
1-B	20.00	0.7874	—	TAP1-20.00	TAM1-20.00	TAK1-20.00	TAN1-20.00	TAX1-20.00
1-B	20.10	0.7913	—	TAP1-20.10	TAM1-20.10	TAK1-20.10	TAN1-20.10	TAX1-20.10
1-B	20.20	0.7953	—	TAP1-20.20	TAM1-20.20	TAK1-20.20	TAN1-20.20	TAX1-20.20
1-B	20.24	0.7969	51/64	TAP1-20.24	TAM1-20.24	TAK1-20.24	TAN1-20.24	TAX1-20.24
1-B	20.30	0.7992	—	TAP1-20.30	TAM1-20.30	TAK1-20.30	TAN1-20.30	TAX1-20.30
1-B	20.40	0.8031	—	TAP1-20.40	TAM1-20.40	TAK1-20.40	TAN1-20.40	TAX1-20.40
1-B	20.50	0.8071	—	TAP1-20.50	TAM1-20.50	TAK1-20.50	TAN1-20.50	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

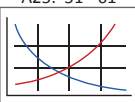
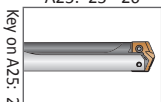
C Series Insert +
A Series Holder

C Series Insert +
C Series Holder

A Series Insert +
C Series Holder

A25: 25 - 26

A25: 51 - 61



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

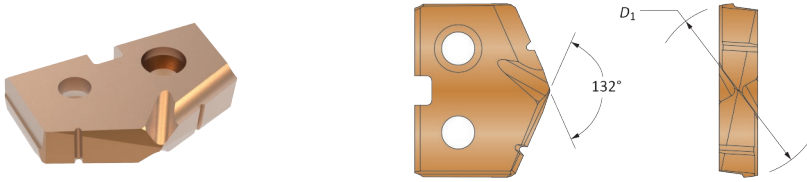
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



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

Replaceable Inserts

A25



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



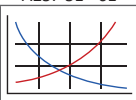
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 25 - 26

A25: 51 - 61



Sizes not shown are available upon request.

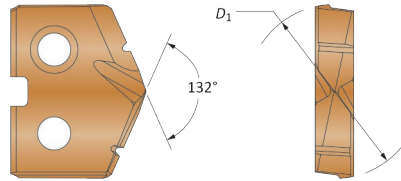
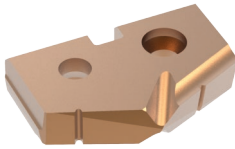
When ordering, please follow the example below:

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**

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

Replaceable Inserts



A25

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

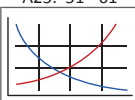
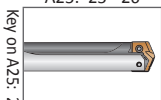
C Series Insert +
A Series Holder

C Series Insert +
C Series Holder

A Series Insert +
C Series Holder

A25: 25 - 26

A25: 51 - 61



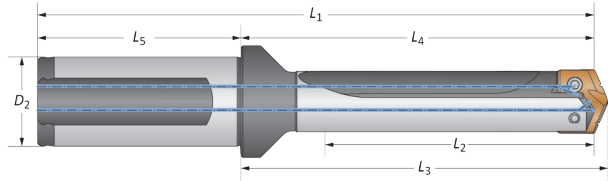
Sizes not shown are available upon request.
When ordering, please follow the example below:

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



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

Holder



A25

Metric Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	21.0	56.5	60.0	112.5	56.0	25	HTA1A01-25FM	HTA1A01-25CM
Stub	B	21.0	56.5	60.0	112.5	56.0	25	HTA1B01-25FM	HTA1B01-25CM
Stub	C	21.0	56.5	60.0	112.5	56.0	25	HTA1C01-25FM	HTA1C01-25CM
Stub	D	21.0	56.5	60.0	112.5	56.0	25	HTA1D01-25FM	HTA1D01-25CM
3xD	A	62.9	100.9	104.5	156.9	56.0	25	HTA1A03-25FM	HTA1A03-25CM
3xD	B	62.9	100.9	104.5	156.9	56.0	25	HTA1B03-25FM	HTA1B03-25CM
3xD	C	62.9	100.9	104.5	156.9	56.0	25	HTA1C03-25FM	HTA1C03-25CM
3xD	D	62.9	100.9	104.5	156.9	56.0	25	HTA1D03-25FM	HTA1D03-25CM
5xD	A	104.8	142.8	146.4	198.8	56.0	25	HTA1A05-25FM	HTA1A05-25CM
5xD	B	104.8	142.8	146.4	198.8	56.0	25	HTA1B05-25FM	HTA1B05-25CM
5xD	C	104.8	142.8	146.4	198.8	56.0	25	HTA1C05-25FM	HTA1C05-25CM
5xD	D	104.8	142.8	146.4	198.8	56.0	25	HTA1D05-25FM	HTA1D05-25CM
7xD	A	146.7	184.7	188.3	240.7	56.0	25	HTA1A07-25FM	HTA1A07-25CM
7xD	B	146.7	184.7	188.3	240.7	56.0	25	HTA1B07-25FM	HTA1B07-25CM
7xD	C	146.7	184.7	188.3	240.7	56.0	25	HTA1C07-25FM	HTA1C07-25CM
7xD	D	146.7	184.7	188.3	240.7	56.0	25	HTA1D07-25FM	HTA1D07-25CM
10xD	A	209.6	247.6	251.2	303.6	56.0	25	HTA1A10-25FM	HTA1A10-25CM
10xD	B	209.6	247.6	251.2	303.6	56.0	25	HTA1B10-25FM	HTA1B10-25CM
10xD	C	209.6	247.6	251.2	303.6	56.0	25	HTA1C10-25FM	HTA1C10-25CM
10xD	D	209.6	247.6	251.2	303.6	56.0	25	HTA1D10-25FM	HTA1D10-25CM
12xD	A	251.5	289.5	293.1	345.5	56.0	25	HTA1A12-25FM	HTA1A12-25CM
12xD	B	251.5	289.5	293.1	345.5	56.0	25	HTA1B12-25FM	HTA1B12-25CM
12xD	C	251.5	289.5	293.1	345.5	56.0	25	HTA1C12-25FM	HTA1C12-25CM
12xD	D	251.5	289.5	293.1	345.5	56.0	25	HTA1D12-25FM	HTA1D12-25CM
15xD	A	314.3	352.4	355.9	408.4	56.0	25	HTA1A15-25FM	HTA1A15-25CM
15xD	B	314.3	352.4	355.9	408.4	56.0	25	HTA1B15-25FM	HTA1B15-25CM
15xD	C	314.3	352.4	355.9	408.4	56.0	25	HTA1C15-25FM	HTA1C15-25CM
15xD	D	314.3	352.4	355.9	408.4	56.0	25	HTA1D15-25FM	HTA1D15-25CM

Connection Accessories

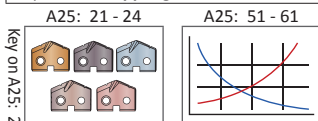
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B 7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
C/D 739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)

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

1 Series Holder Diameter Range

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



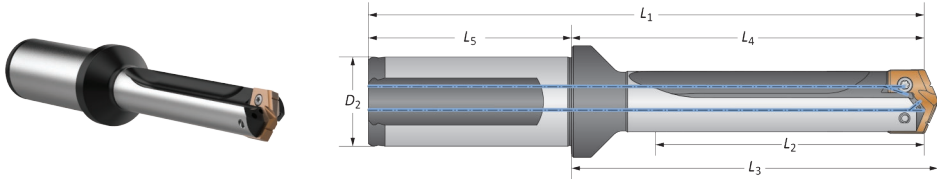
M = Metric (mm)
I = Imperial (in)

Screws sold in multiples of 10.



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

Holder



Imperial Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	0.825	2.224	2.364	4.504	2.280	1	HTA1A01-100F	HTA1A01-100C
Stub	B	0.825	2.224	2.364	4.504	2.280	1	HTA1B01-100F	HTA1B01-100C
Stub	C	0.825	2.224	2.364	4.504	2.280	1	HTA1C01-100F	HTA1C01-100C
Stub	D	0.825	2.224	2.364	4.504	2.280	1	HTA1D01-100F	HTA1D01-100C
3xD	A	2.475	3.973	4.113	6.253	2.280	1	HTA1A03-100F	HTA1A03-100C
3xD	B	2.475	3.973	4.113	6.253	2.280	1	HTA1B03-100F	HTA1B03-100C
3xD	C	2.475	3.973	4.113	6.253	2.280	1	HTA1C03-100F	HTA1C03-100C
3xD	D	2.475	3.973	4.113	6.253	2.280	1	HTA1D03-100F	HTA1D03-100C
5xD	A	4.125	5.623	5.763	7.903	2.280	1	HTA1A05-100F	HTA1A05-100C
5xD	B	4.125	5.623	5.763	7.903	2.280	1	HTA1B05-100F	HTA1B05-100C
5xD	C	4.125	5.623	5.763	7.903	2.280	1	HTA1C05-100F	HTA1C05-100C
5xD	D	4.125	5.623	5.763	7.903	2.280	1	HTA1D05-100F	HTA1D05-100C
7xD	A	5.775	7.273	7.413	9.553	2.280	1	HTA1A07-100F	HTA1A07-100C
7xD	B	5.775	7.273	7.413	9.553	2.280	1	HTA1B07-100F	HTA1B07-100C
7xD	C	5.775	7.273	7.413	9.553	2.280	1	HTA1C07-100F	HTA1C07-100C
7xD	D	5.775	7.273	7.413	9.553	2.280	1	HTA1D07-100F	HTA1D07-100C
10xD	A	8.250	9.748	9.888	12.028	2.280	1	HTA1A10-100F	HTA1A10-100C
10xD	B	8.250	9.748	9.888	12.028	2.280	1	HTA1B10-100F	HTA1B10-100C
10xD	C	8.250	9.748	9.888	12.028	2.280	1	HTA1C10-100F	HTA1C10-100C
10xD	D	8.250	9.748	9.888	12.028	2.280	1	HTA1D10-100F	HTA1D10-100C
12xD	A	9.900	11.398	11.538	13.678	2.280	1	HTA1A12-100F	HTA1A12-100C
12xD	B	9.900	11.398	11.538	13.678	2.280	1	HTA1B12-100F	HTA1B12-100C
12xD	C	9.900	11.398	11.538	13.678	2.280	1	HTA1C12-100F	HTA1C12-100C
12xD	D	9.900	11.398	11.538	13.678	2.280	1	HTA1D12-100F	HTA1D12-100C
15xD	A	12.375	13.873	14.013	16.153	2.280	1	HTA1A15-100F	HTA1A15-100C
15xD	B	12.375	13.873	14.013	16.153	2.280	1	HTA1B15-100F	HTA1B15-100C
15xD	C	12.375	13.873	14.013	16.153	2.280	1	HTA1C15-100F	HTA1C15-100C
15xD	D	12.375	13.873	14.013	16.153	2.280	1	HTA1D15-100F	HTA1D15-100C

Connection Accessories

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 Series Holder Diameter Range

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

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

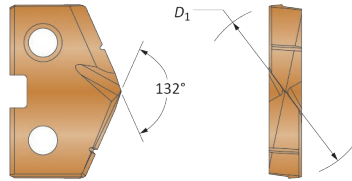
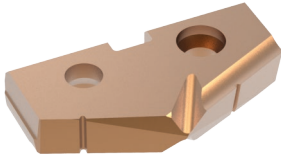


Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

Screws sold in multiples of 10.

**2 Series: 24.38 mm - 35.04 mm (0.9597" - 1.3797")**

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No. P	Part No. M	Part No. K	Part No. N	Part No. X
2-A	24.40	0.9606	—	TAP2-24.40	TAM2-24.40	TAK2-24.40	TAN2-24.40	TAX2-24.40
2-A	24.50	0.9646	—	TAP2-24.50	TAM2-24.50	TAK2-24.50	TAN2-24.50	TAX2-24.50
2-A	24.61	0.9689	31/32	TAP2-24.61	TAM2-24.61	TAK2-24.61	TAN2-24.61	TAX2-24.61
2-A	24.70	0.9724	—	TAP2-24.70	TAM2-24.70	TAK2-24.70	TAN2-24.70	TAX2-24.70
2-A	24.80	0.9764	—	TAP2-24.80	TAM2-24.80	TAK2-24.80	TAN2-24.80	TAX2-24.80
2-A	24.90	0.9803	—	TAP2-24.90	TAM2-24.90	TAK2-24.90	TAN2-24.90	TAX2-24.90
2-A	25.00	0.9843	63/64	TAP2-25.00	TAM2-25.00	TAK2-25.00	TAN2-25.00	TAX2-25.00
2-A	25.10	0.9882	—	TAP2-25.10	TAM2-25.10	TAK2-25.10	TAN2-25.10	TAX2-25.10
2-A	25.20	0.9921	—	TAP2-25.20	TAM2-25.20	TAK2-25.20	TAN2-25.20	TAX2-25.20
2-A	25.30	0.9961	—	TAP2-25.30	TAM2-25.30	TAK2-25.30	TAN2-25.30	TAX2-25.30
2-B	25.40	1.0000	1	TAP2-25.40	TAM2-25.40	TAK2-25.40	TAN2-25.40	TAX2-25.40
2-B	25.50	1.0039	—	TAP2-25.50	TAM2-25.50	TAK2-25.50	TAN2-25.50	TAX2-25.50
2-B	25.60	1.0079	—	TAP2-25.60	TAM2-25.60	TAK2-25.60	TAN2-25.60	TAX2-25.60
2-B	25.70	1.0118	—	TAP2-25.70	TAM2-25.70	TAK2-25.70	TAN2-25.70	TAX2-25.70
2-B	25.78	1.0150	—	TAP2-25.78	TAM2-25.78	TAK2-25.78	TAN2-25.78	TAX2-25.78
2-B	25.90	1.0197	—	TAP2-25.90	TAM2-25.90	TAK2-25.90	TAN2-25.90	TAX2-25.90
2-B	26.00	1.0236	—	TAP2-26.00	TAM2-26.00	TAK2-26.00	TAN2-26.00	TAX2-26.00
2-B	26.10	1.0276	—	TAP2-26.10	TAM2-26.10	TAK2-26.10	TAN2-26.10	TAX2-26.10
2-B	26.20	1.0315	1-1/32	TAP2-26.20	TAM2-26.20	TAK2-26.20	TAN2-26.20	TAX2-26.20
2-B	26.30	1.0354	—	TAP2-26.30	TAM2-26.30	TAK2-26.30	TAN2-26.30	TAX2-26.30
2-B	26.40	1.0394	—	TAP2-26.40	TAM2-26.40	TAK2-26.40	TAN2-26.40	TAX2-26.40
2-B	26.50	1.0433	—	TAP2-26.50	TAM2-26.50	TAK2-26.50	TAN2-26.50	TAX2-26.50
2-B	26.57	1.0461	—	TAP2-26.57	TAM2-26.57	TAK2-26.57	TAN2-26.57	TAX2-26.57
2-B	26.59	1.0469	1-3/64	TAP2-26.59	TAM2-26.59	TAK2-26.59	TAN2-26.59	TAX2-26.59
2-B	26.60	1.0472	—	TAP2-26.60	TAM2-26.60	TAK2-26.60	TAN2-26.60	TAX2-26.60
2-B	26.70	1.0512	—	TAP2-26.70	TAM2-26.70	TAK2-26.70	TAN2-26.70	TAX2-26.70
2-B	26.80	1.0551	—	TAP2-26.80	TAM2-26.80	TAK2-26.80	TAN2-26.80	TAX2-26.80
2-B	26.90	1.0591	—	TAP2-26.90	TAM2-26.90	TAK2-26.90	TAN2-26.90	TAX2-26.90
2-B	26.99	1.0626	1-1/16	TAP2-26.99	TAM2-26.99	TAK2-26.99	TAN2-26.99	TAX2-26.99
2-B	27.00	1.0630	—	TAP2-27.00	TAM2-27.00	TAK2-27.00	TAN2-27.00	TAX2-27.00

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.

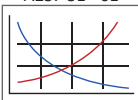
A Series Insert +
A Series HolderC Series Insert +
A Series HolderC Series Insert +
C Series HolderA Series Insert +
C Series Holder

A25: 31 - 32

A25: 51 - 61



key on A25: 2



Sizes not shown are available upon request.

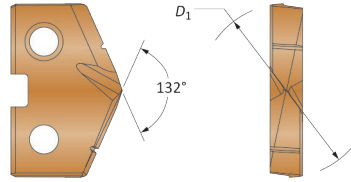
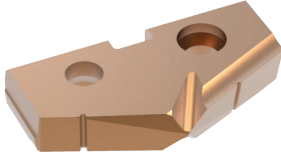
When ordering, please follow the example below:

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**



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
2-B	27.10	1.0669	—	TAP2-27.10	TAM2-27.10	TAK2-27.10	TAN2-27.10	TAX2-27.10
2-B	27.20	1.0709	—	TAP2-27.20	TAM2-27.20	TAK2-27.20	TAN2-27.20	TAX2-27.20
2-B	27.30	1.0748	—	TAP2-27.30	TAM2-27.30	TAK2-27.30	TAN2-27.30	TAX2-27.30
2-B	27.40	1.0787	—	TAP2-27.40	TAM2-27.40	TAK2-27.40	TAN2-27.40	TAX2-27.40
2-B	27.50	1.0827	—	TAP2-27.50	TAM2-27.50	TAK2-27.50	TAN2-27.50	TAX2-27.50
2-B	27.60	1.0866	—	TAP2-27.60	TAM2-27.60	TAK2-27.60	TAN2-27.60	TAX2-27.60
2-B	27.70	1.0906	—	TAP2-27.70	TAM2-27.70	TAK2-27.70	TAN2-27.70	TAX2-27.70
2-B	27.78	1.0937	1-3/32	TAP2-27.78	TAM2-27.78	TAK2-27.78	TAN2-27.78	TAX2-27.78
2-B	27.90	1.0984	—	TAP2-27.90	TAM2-27.90	TAK2-27.90	TAN2-27.90	TAX2-27.90
2-B	28.00	1.1024	—	TAP2-28.00	TAM2-28.00	TAK2-28.00	TAN2-28.00	TAX2-28.00
2-B	28.10	1.1063	—	TAP2-28.10	TAM2-28.10	TAK2-28.10	TAN2-28.10	TAX2-28.10
2-B	28.17	1.1091	1-7/64	TAP2-28.17	TAM2-28.17	TAK2-28.17	TAN2-28.17	TAX2-28.17
2-B	28.20	1.1102	—	TAP2-28.20	TAM2-28.20	TAK2-28.20	TAN2-28.20	TAX2-28.20
2-B	28.30	1.1142	—	TAP2-28.30	TAM2-28.30	TAK2-28.30	TAN2-28.30	TAX2-28.30
2-B	28.40	1.1181	—	TAP2-28.40	TAM2-28.40	TAK2-28.40	TAN2-28.40	TAX2-28.40
2-C	28.50	1.1220	—	TAP2-28.50	TAM2-28.50	TAK2-28.50	TAN2-28.50	TAX2-28.50
2-C	28.58	1.1252	1-1/8	TAP2-28.58	TAM2-28.58	TAK2-28.58	TAN2-28.58	TAX2-28.58
2-C	28.70	1.1299	—	TAP2-28.70	TAM2-28.70	TAK2-28.70	TAN2-28.70	TAX2-28.70
2-C	28.80	1.1339	—	TAP2-28.80	TAM2-28.80	TAK2-28.80	TAN2-28.80	TAX2-28.80
2-C	28.90	1.1378	—	TAP2-28.90	TAM2-28.90	TAK2-28.90	TAN2-28.90	TAX2-28.90
2-C	29.00	1.1417	—	TAP2-29.00	TAM2-29.00	TAK2-29.00	TAN2-29.00	TAX2-29.00
2-C	29.10	1.1457	—	TAP2-29.10	TAM2-29.10	TAK2-29.10	TAN2-29.10	TAX2-29.10
2-C	29.20	1.1496	—	TAP2-29.20	TAM2-29.20	TAK2-29.20	TAN2-29.20	TAX2-29.20
2-C	29.30	1.1535	—	TAP2-29.30	TAM2-29.30	TAK2-29.30	TAN2-29.30	TAX2-29.30
2-C	29.37	1.1563	1-5/32	TAP2-29.37	TAM2-29.37	TAK2-29.37	TAN2-29.37	TAX2-29.37
2-C	29.40	1.1575	—	TAP2-29.40	TAM2-29.40	TAK2-29.40	TAN2-29.40	TAX2-29.40
2-C	29.50	1.1614	—	TAP2-29.50	TAM2-29.50	TAK2-29.50	TAN2-29.50	TAX2-29.50
2-C	29.60	1.1654	—	TAP2-29.60	TAM2-29.60	TAK2-29.60	TAN2-29.60	TAX2-29.60
2-C	29.70	1.1693	—	TAP2-29.70	TAM2-29.70	TAK2-29.70	TAN2-29.70	TAX2-29.70
2-C	29.80	1.1732	—	TAP2-29.80	TAM2-29.80	TAK2-29.80	TAN2-29.80	TAX2-29.80

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



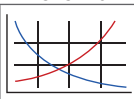
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 31 - 32

A25: 51 - 61



key on A25: 2

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

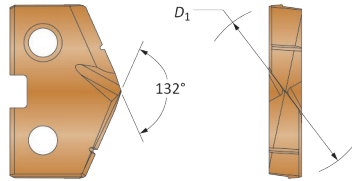
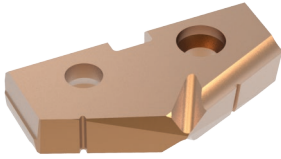
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



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

Replaceable Inserts

A25

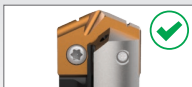


Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
2-C	29.90	1.1772	—	TAP2-29.90	TAM2-29.90	TAK2-29.90	TAN2-29.90	TAX2-29.90
2-C	30.00	1.1811	—	TAP2-30.00	TAM2-30.00	TAK2-30.00	TAN2-30.00	TAX2-30.00
2-C	30.10	1.1850	—	TAP2-30.10	TAM2-30.10	TAK2-30.10	TAN2-30.10	TAX2-30.10
2-C	30.16	1.1874	1-3/16	TAP2-30.16	TAM2-30.16	TAK2-30.16	TAN2-30.16	TAX2-30.16
2-C	30.20	1.1890	—	TAP2-30.20	TAM2-30.20	TAK2-30.20	TAN2-30.20	TAX2-30.20
2-C	30.30	1.1929	—	TAP2-30.30	TAM2-30.30	TAK2-30.30	TAN2-30.30	TAX2-30.30
2-C	30.40	1.1969	—	TAP2-30.40	TAM2-30.40	TAK2-30.40	TAN2-30.40	TAX2-30.40
2-C	30.50	1.2008	—	TAP2-30.50	TAM2-30.50	TAK2-30.50	TAN2-30.50	TAX2-30.50
2-C	30.60	1.2047	—	TAP2-30.60	TAM2-30.60	TAK2-30.60	TAN2-30.60	TAX2-30.60
2-C	30.70	1.2087	—	TAP2-30.70	TAM2-30.70	TAK2-30.70	TAN2-30.70	TAX2-30.70
2-C	30.80	1.2126	—	TAP2-30.80	TAM2-30.80	TAK2-30.80	TAN2-30.80	TAX2-30.80
2-C	30.90	1.2165	—	TAP2-30.90	TAM2-30.90	TAK2-30.90	TAN2-30.90	TAX2-30.90
2-C	30.96	1.2189	1-7/32	TAP2-30.96	TAM2-30.96	TAK2-30.96	TAN2-30.96	TAX2-30.96
2-C	31.00	1.2205	—	TAP2-31.00	TAM2-31.00	TAK2-31.00	TAN2-31.00	TAX2-31.00
2-C	31.10	1.2244	—	TAP2-31.10	TAM2-31.10	TAK2-31.10	TAN2-31.10	TAX2-31.10
2-C	31.20	1.2283	—	TAP2-31.20	TAM2-31.20	TAK2-31.20	TAN2-31.20	TAX2-31.20
2-C	31.30	1.2323	—	TAP2-31.30	TAM2-31.30	TAK2-31.30	TAN2-31.30	TAX2-31.30
2-C	31.40	1.2362	—	TAP2-31.40	TAM2-31.40	TAK2-31.40	TAN2-31.40	TAX2-31.40
2-C	31.50	1.2402	—	TAP2-31.50	TAM2-31.50	TAK2-31.50	TAN2-31.50	TAX2-31.50
2-C	31.60	1.2441	—	TAP2-31.60	TAM2-31.60	TAK2-31.60	TAN2-31.60	TAX2-31.60
2-D	31.70	1.2480	—	TAP2-31.70	TAM2-31.70	TAK2-31.70	TAN2-31.70	TAX2-31.70
2-D	31.75	1.2500	1-1/4	TAP2-31.75	TAM2-31.75	TAK2-31.75	TAN2-31.75	TAX2-31.75
2-D	31.80	1.2520	—	TAP2-31.80	TAM2-31.80	TAK2-31.80	TAN2-31.80	TAX2-31.80
2-D	31.90	1.2559	—	TAP2-31.90	TAM2-31.90	TAK2-31.90	TAN2-31.90	TAX2-31.90
2-D	32.00	1.2598	—	TAP2-32.00	TAM2-32.00	TAK2-32.00	TAN2-32.00	TAX2-32.00
2-D	32.10	1.2638	—	TAP2-32.10	TAM2-32.10	TAK2-32.10	TAN2-32.10	TAX2-32.10
2-D	32.15	1.2657	1-17/64	TAP2-32.15	TAM2-32.15	TAK2-32.15	TAN2-32.15	TAX2-32.15
2-D	32.20	1.2677	—	TAP2-32.20	TAM2-32.20	TAK2-32.20	TAN2-32.20	TAX2-32.20
2-D	32.30	1.2717	—	TAP2-32.30	TAM2-32.30	TAK2-32.30	TAN2-32.30	TAX2-32.30
2-D	32.40	1.2756	—	TAP2-32.40	TAM2-32.40	TAK2-32.40	TAN2-32.40	TAX2-32.40

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

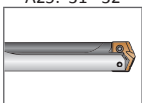


C Series Insert +
C Series Holder

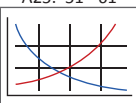


A Series Insert +
C Series Holder

key on A25: 2



A25: 51 - 61



Sizes not shown are available upon request.

When ordering, please follow the example below:

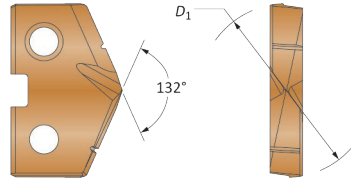
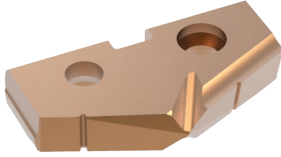
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
2-D	32.50	1.2795	—	TAP2-32.50	TAM2-32.50	TAK2-32.50	TAN2-32.50	TAX2-32.50
2-D	32.55	1.2815	1-9/32	TAP2-32.55	TAM2-32.55	TAK2-32.55	TAN2-32.55	TAX2-32.55
2-D	32.60	1.2835	—	TAP2-32.60	TAM2-32.60	TAK2-32.60	TAN2-32.60	TAX2-32.60
2-D	32.70	1.2874	—	TAP2-32.70	TAM2-32.70	TAK2-32.70	TAN2-32.70	TAX2-32.70
2-D	32.80	1.2913	—	TAP2-32.80	TAM2-32.80	TAK2-32.80	TAN2-32.80	TAX2-32.80
2-D	32.90	1.2953	—	TAP2-32.90	TAM2-32.90	TAK2-32.90	TAN2-32.90	TAX2-32.90
2-D	33.00	1.2992	—	TAP2-33.00	TAM2-33.00	TAK2-33.00	TAN2-33.00	TAX2-33.00
2-D	33.10	1.3031	—	TAP2-33.10	TAM2-33.10	TAK2-33.10	TAN2-33.10	TAX2-33.10
2-D	33.20	1.3071	—	TAP2-33.20	TAM2-33.20	TAK2-33.20	TAN2-33.20	TAX2-33.20
2-D	33.30	1.3110	—	TAP2-33.30	TAM2-33.30	TAK2-33.30	TAN2-33.30	TAX2-33.30
2-D	33.34	1.3126	1-5/16	TAP2-33.34	TAM2-33.34	TAK2-33.34	TAN2-33.34	TAX2-33.34
2-D	33.40	1.3150	—	TAP2-33.40	TAM2-33.40	TAK2-33.40	TAN2-33.40	TAX2-33.40
2-D	33.50	1.3189	—	TAP2-33.50	TAM2-33.50	TAK2-33.50	TAN2-33.50	TAX2-33.50
2-D	33.60	1.3228	—	TAP2-33.60	TAM2-33.60	TAK2-33.60	TAN2-33.60	TAX2-33.60
2-D	33.70	1.3268	—	TAP2-33.70	TAM2-33.70	TAK2-33.70	TAN2-33.70	TAX2-33.70
2-D	33.80	1.3307	—	TAP2-33.80	TAM2-33.80	TAK2-33.80	TAN2-33.80	TAX2-33.80
2-D	33.90	1.3346	—	TAP2-33.90	TAM2-33.90	TAK2-33.90	TAN2-33.90	TAX2-33.90
2-D	34.00	1.3386	—	TAP2-34.00	TAM2-34.00	TAK2-34.00	TAN2-34.00	TAX2-34.00
2-D	34.10	1.3425	—	TAP2-34.10	TAM2-34.10	TAK2-34.10	TAN2-34.10	TAX2-34.10
2-D	34.13	1.3437	1-11/32	TAP2-34.13	TAM2-34.13	TAK2-34.13	TAN2-34.13	TAX2-34.13
2-D	34.20	1.3465	—	TAP2-34.20	TAM2-34.20	TAK2-34.20	TAN2-34.20	TAX2-34.20
2-D	34.30	1.3504	—	TAP2-34.30	TAM2-34.30	TAK2-34.30	TAN2-34.30	TAX2-34.30
2-D	34.40	1.3543	—	TAP2-34.40	TAM2-34.40	TAK2-34.40	TAN2-34.40	TAX2-34.40
2-D	34.50	1.3583	—	TAP2-34.50	TAM2-34.50	TAK2-34.50	TAN2-34.50	TAX2-34.50
2-D	34.60	1.3622	—	TAP2-34.60	TAM2-34.60	TAK2-34.60	TAN2-34.60	TAX2-34.60
2-D	34.70	1.3661	—	TAP2-34.70	TAM2-34.70	TAK2-34.70	TAN2-34.70	TAX2-34.70
2-D	34.80	1.3701	—	TAP2-34.80	TAM2-34.80	TAK2-34.80	TAN2-34.80	TAX2-34.80
2-D	34.90	1.3740	—	TAP2-34.90	TAM2-34.90	TAK2-34.90	TAN2-34.90	TAX2-34.90
2-D	34.93	1.3752	1-3/8	TAP2-34.93	TAM2-34.93	TAK2-34.93	TAN2-34.93	TAX2-34.93
2-D	35.00	1.3780	—	TAP2-35.00	TAM2-35.00	TAK2-35.00	TAN2-35.00	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



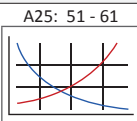
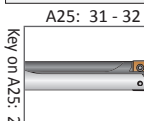
C Series Insert +
A Series Holder



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:

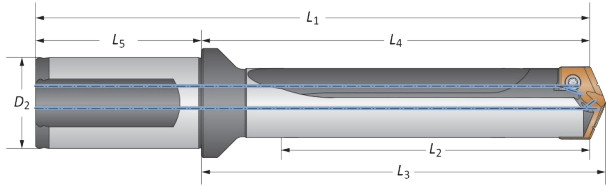
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Holders



A25

Metric Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	29.7	75.0	78.6	135.0	60.0	32	HTA2A01-32FM	HTA2A01-32CM
Stub	B	29.7	75.0	78.6	135.0	60.0	32	HTA2B01-32FM	HTA2B01-32CM
Stub	C	29.7	75.0	78.6	135.0	60.0	32	HTA2C01-32FM	HTA2C01-32CM
Stub	D	29.7	75.0	78.6	135.0	60.0	32	HTA2D01-32FM	HTA2D01-32CM
3xD	A	89.2	137.4	141.0	197.4	60.0	32	HTA2A03-32FM	HTA2A03-32CM
3xD	B	89.2	137.4	141.0	197.4	60.0	32	HTA2B03-32FM	HTA2B03-32CM
3xD	C	89.2	137.4	141.0	197.4	60.0	32	HTA2C03-32FM	HTA2C03-32CM
3xD	D	89.2	137.4	141.0	197.4	60.0	32	HTA2D03-32FM	HTA2D03-32CM
5xD	A	148.7	196.9	200.5	256.9	60.0	32	HTA2A05-32FM	HTA2A05-32CM
5xD	B	148.7	196.9	200.5	256.9	60.0	32	HTA2B05-32FM	HTA2B05-32CM
5xD	C	148.7	196.9	200.5	256.9	60.0	32	HTA2C05-32FM	HTA2C05-32CM
5xD	D	148.7	196.9	200.5	256.9	60.0	32	HTA2D05-32FM	HTA2D05-32CM
7xD	A	208.2	256.4	260.0	316.4	60.0	32	HTA2A07-32FM	HTA2A07-32CM
7xD	B	208.2	256.4	260.0	316.4	60.0	32	HTA2B07-32FM	HTA2B07-32CM
7xD	C	208.2	256.4	260.0	316.4	60.0	32	HTA2C07-32FM	HTA2C07-32CM
7xD	D	208.2	256.4	260.0	316.4	60.0	32	HTA2D07-32FM	HTA2D07-32CM
10xD	A	297.4	345.6	349.2	405.6	60.0	32	HTA2A10-32FM	HTA2A10-32CM
10xD	B	297.4	345.6	349.2	405.6	60.0	32	HTA2B10-32FM	HTA2B10-32CM
10xD	C	297.4	345.6	349.2	405.6	60.0	32	HTA2C10-32FM	HTA2C10-32CM
10xD	D	297.4	345.6	349.2	405.6	60.0	32	HTA2D10-32FM	HTA2D10-32CM
12xD	A	356.9	405.1	408.7	465.1	60.0	32	HTA2A12-32FM	HTA2A12-32CM
12xD	B	356.9	405.1	408.7	465.1	60.0	32	HTA2B12-32FM	HTA2B12-32CM
12xD	C	356.9	405.1	408.7	465.1	60.0	32	HTA2C12-32FM	HTA2C12-32CM
12xD	D	356.9	405.1	408.7	465.1	60.0	32	HTA2D12-32FM	HTA2D12-32CM
15xD	A	446.2	494.4	497.9	554.4	60.0	32	HTA2A15-32FM	HTA2A15-32CM
15xD	B	446.2	494.4	497.9	554.4	60.0	32	HTA2B15-32FM	HTA2B15-32CM
15xD	C	446.2	494.4	497.9	554.4	60.0	32	HTA2C15-32FM	HTA2C15-32CM
15xD	D	446.2	494.4	497.9	554.4	60.0	32	HTA2D15-32FM	HTA2D15-32CM

Connection Accessories

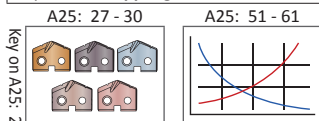
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	690 N-cm (61.0 in-lbs)

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

2 Series Holder Diameter Range

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

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



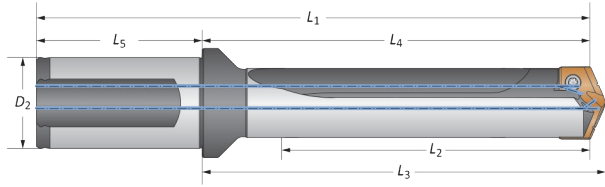
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



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

Holders



A25

Imperial Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	1.171	2.954	3.094	5.234	2.280	1-1/4	HTA2A01-125F	HTA2A01-125C
Stub	B	1.171	2.954	3.094	5.234	2.280	1-1/4	HTA2B01-125F	HTA2B01-125C
Stub	C	1.171	2.954	3.094	5.234	2.280	1-1/4	HTA2C01-125F	HTA2C01-125C
Stub	D	1.171	2.954	3.094	5.234	2.280	1-1/4	HTA2D01-125F	HTA2D01-125C
3xD	A	3.513	5.411	5.551	7.691	2.280	1-1/4	HTA2A03-125F	HTA2A03-125C
3xD	B	3.513	5.411	5.551	7.691	2.280	1-1/4	HTA2B03-125F	HTA2B03-125C
3xD	C	3.513	5.411	5.551	7.691	2.280	1-1/4	HTA2C03-125F	HTA2C03-125C
3xD	D	3.513	5.411	5.551	7.691	2.280	1-1/4	HTA2D03-125F	HTA2D03-125C
5xD	A	5.855	7.753	7.893	10.033	2.280	1-1/4	HTA2A05-125F	HTA2A05-125C
5xD	B	5.855	7.753	7.893	10.033	2.280	1-1/4	HTA2B05-125F	HTA2B05-125C
5xD	C	5.855	7.753	7.893	10.033	2.280	1-1/4	HTA2C05-125F	HTA2C05-125C
5xD	D	5.855	7.753	7.893	10.033	2.280	1-1/4	HTA2D05-125F	HTA2D05-125C
7xD	A	8.197	10.095	10.235	12.375	2.280	1-1/4	HTA2A07-125F	HTA2A07-125C
7xD	B	8.197	10.095	10.235	12.375	2.280	1-1/4	HTA2B07-125F	HTA2B07-125C
7xD	C	8.197	10.095	10.235	12.375	2.280	1-1/4	HTA2C07-125F	HTA2C07-125C
7xD	D	8.197	10.095	10.235	12.375	2.280	1-1/4	HTA2D07-125F	HTA2D07-125C
10xD	A	11.710	13.608	13.748	15.888	2.280	1-1/4	HTA2A10-125F	HTA2A10-125C
10xD	B	11.710	13.608	13.748	15.888	2.280	1-1/4	HTA2B10-125F	HTA2B10-125C
10xD	C	11.710	13.608	13.748	15.888	2.280	1-1/4	HTA2C10-125F	HTA2C10-125C
10xD	D	11.710	13.608	13.748	15.888	2.280	1-1/4	HTA2D10-125F	HTA2D10-125C
12xD	A	14.052	15.950	16.090	18.230	2.280	1-1/4	HTA2A12-125F	HTA2A12-125C
12xD	B	14.052	15.950	16.090	18.230	2.280	1-1/4	HTA2B12-125F	HTA2B12-125C
12xD	C	14.052	15.950	16.090	18.230	2.280	1-1/4	HTA2C12-125F	HTA2C12-125C
12xD	D	14.052	15.950	16.090	18.230	2.280	1-1/4	HTA2D12-125F	HTA2D12-125C
15xD	A	17.565	19.463	19.603	21.743	2.280	1-1/4	HTA2A15-125F	HTA2A15-125C
15xD	B	17.565	19.463	19.603	21.743	2.280	1-1/4	HTA2B15-125F	HTA2B15-125C
15xD	C	17.565	19.463	19.603	21.743	2.280	1-1/4	HTA2C15-125F	HTA2C15-125C
15xD	D	17.565	19.463	19.603	21.743	2.280	1-1/4	HTA2D15-125F	HTA2D15-125C

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)

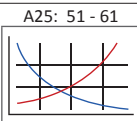
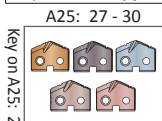
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

2 Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



= Metric (mm)

= Imperial (in)

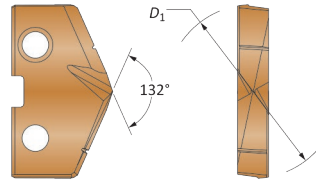
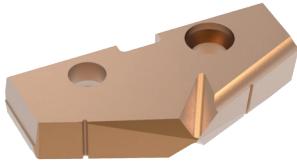
Screws sold in multiples of 10.



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

Replaceable Inserts

A25



Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-A	35.10	1.3819	—	TAP3-35.10	TAM3-35.10	TAK3-35.10	TAN3-35.10	TAX3-35.10
3-A	35.20	1.3858	—	TAP3-35.20	TAM3-35.20	TAK3-35.20	TAN3-35.20	TAX3-35.20
3-A	35.30	1.3898	—	TAP3-35.30	TAM3-35.30	TAK3-35.30	TAN3-35.30	TAX3-35.30
3-A	35.40	1.3937	—	TAP3-35.40	TAM3-35.40	TAK3-35.40	TAN3-35.40	TAX3-35.40
3-A	35.50	1.3976	—	TAP3-35.50	TAM3-35.50	TAK3-35.50	TAN3-35.50	TAX3-35.50
3-A	35.60	1.4016	—	TAP3-35.60	TAM3-35.60	TAK3-35.60	TAN3-35.60	TAX3-35.60
3-A	35.70	1.4055	—	TAP3-35.70	TAM3-35.70	TAK3-35.70	TAN3-35.70	TAX3-35.70
3-A	35.72	1.4063	1-13/32	TAP3-35.72	TAM3-35.72	TAK3-35.72	TAN3-35.72	TAX3-35.72
3-A	35.80	1.4094	—	TAP3-35.80	TAM3-35.80	TAK3-35.80	TAN3-35.80	TAX3-35.80
3-A	35.90	1.4134	—	TAP3-35.90	TAM3-35.90	TAK3-35.90	TAN3-35.90	TAX3-35.90
3-A	36.00	1.4173	—	TAP3-36.00	TAM3-36.00	TAK3-36.00	TAN3-36.00	TAX3-36.00
3-A	36.10	1.4213	—	TAP3-36.10	TAM3-36.10	TAK3-36.10	TAN3-36.10	TAX3-36.10
3-A	36.20	1.4252	—	TAP3-36.20	TAM3-36.20	TAK3-36.20	TAN3-36.20	TAX3-36.20
3-A	36.30	1.4291	—	TAP3-36.30	TAM3-36.30	TAK3-36.30	TAN3-36.30	TAX3-36.30
3-A	36.40	1.4331	—	TAP3-36.40	TAM3-36.40	TAK3-36.40	TAN3-36.40	TAX3-36.40
3-A	36.50	1.4370	—	TAP3-36.50	TAM3-36.50	TAK3-36.50	TAN3-36.50	TAX3-36.50
3-A	36.51	1.4374	1-7/16	TAP3-36.51	TAM3-36.51	TAK3-36.51	TAN3-36.51	TAX3-36.51
3-A	36.60	1.4409	—	TAP3-36.60	TAM3-36.60	TAK3-36.60	TAN3-36.60	TAX3-36.60
3-A	36.70	1.4449	—	TAP3-36.70	TAM3-36.70	TAK3-36.70	TAN3-36.70	TAX3-36.70
3-A	36.80	1.4488	—	TAP3-36.80	TAM3-36.80	TAK3-36.80	TAN3-36.80	TAX3-36.80
3-A	36.90	1.4528	—	TAP3-36.90	TAM3-36.90	TAK3-36.90	TAN3-36.90	TAX3-36.90
3-A	37.00	1.4567	—	TAP3-37.00	TAM3-37.00	TAK3-37.00	TAN3-37.00	TAX3-37.00
3-A	37.10	1.4606	—	TAP3-37.10	TAM3-37.10	TAK3-37.10	TAN3-37.10	TAX3-37.10
3-A	37.20	1.4646	—	TAP3-37.20	TAM3-37.20	TAK3-37.20	TAN3-37.20	TAX3-37.20

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.

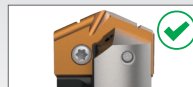
NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



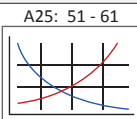
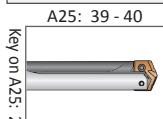
C Series Insert +
A Series Holder



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:

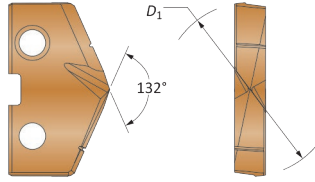
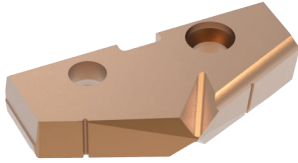
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-A	37.30	1.4685	—	TAP3-37.30	TAM3-37.30	TAK3-37.30	TAN3-37.30	TAX3-37.30
3-A	37.31	1.4689	1-15/32	TAP3-37.31	TAM3-37.31	TAK3-37.31	TAN3-37.31	TAX3-37.31
3-A	37.40	1.4724	—	TAP3-37.40	TAM3-37.40	TAK3-37.40	TAN3-37.40	TAX3-37.40
3-A	37.50	1.4764	—	TAP3-37.50	TAM3-37.50	TAK3-37.50	TAN3-37.50	TAX3-37.50
3-A	37.60	1.4803	—	TAP3-37.60	TAM3-37.60	TAK3-37.60	TAN3-37.60	TAX3-37.60
3-A	37.70	1.4843	1-31/64	TAP3-37.70	TAM3-37.70	TAK3-37.70	TAN3-37.70	TAX3-37.70
3-B	37.80	1.4882	—	TAP3-37.80	TAM3-37.80	TAK3-37.80	TAN3-37.80	TAX3-37.80
3-B	37.90	1.4921	—	TAP3-37.90	TAM3-37.90	TAK3-37.90	TAN3-37.90	TAX3-37.90
3-B	38.00	1.4961	—	TAP3-38.00	TAM3-38.00	TAK3-38.00	TAN3-38.00	TAX3-38.00
3-B	38.10	1.5000	1-1/2	TAP3-38.10	TAM3-38.10	TAK3-38.10	TAN3-38.10	TAX3-38.10
3-B	38.20	1.5039	—	TAP3-38.20	TAM3-38.20	TAK3-38.20	TAN3-38.20	TAX3-38.20
3-B	38.30	1.5079	—	TAP3-38.30	TAM3-38.30	TAK3-38.30	TAN3-38.30	TAX3-38.30
3-B	38.40	1.5118	—	TAP3-38.40	TAM3-38.40	TAK3-38.40	TAN3-38.40	TAX3-38.40
3-B	38.50	1.5157	1-33/64	TAP3-38.50	TAM3-38.50	TAK3-38.50	TAN3-38.50	TAX3-38.50
3-B	38.60	1.5197	—	TAP3-38.60	TAM3-38.60	TAK3-38.60	TAN3-38.60	TAX3-38.60
3-B	38.70	1.5236	—	TAP3-38.70	TAM3-38.70	TAK3-38.70	TAN3-38.70	TAX3-38.70
3-B	38.80	1.5276	—	TAP3-38.80	TAM3-38.80	TAK3-38.80	TAN3-38.80	TAX3-38.80
3-B	38.89	1.5311	1-17/32	TAP3-38.89	TAM3-38.89	TAK3-38.89	TAN3-38.89	TAX3-38.89
3-B	38.90	1.5315	—	TAP3-38.90	TAM3-38.90	TAK3-38.90	TAN3-38.90	TAX3-38.90
3-B	39.00	1.5354	—	TAP3-39.00	TAM3-39.00	TAK3-39.00	TAN3-39.00	TAX3-39.00
3-B	39.10	1.5394	—	TAP3-39.10	TAM3-39.10	TAK3-39.10	TAN3-39.10	TAX3-39.10
3-B	39.20	1.5433	—	TAP3-39.20	TAM3-39.20	TAK3-39.20	TAN3-39.20	TAX3-39.20
3-B	39.29	1.5469	1-35/64	TAP3-39.29	TAM3-39.29	TAK3-39.29	TAN3-39.29	TAX3-39.29
3-B	39.30	1.5472	—	TAP3-39.30	TAM3-39.30	TAK3-39.30	TAN3-39.30	TAX3-39.30

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



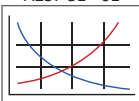
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 39 - 40

A25: 51 - 61



Sizes not shown are available upon request.

When ordering, please follow the example below:

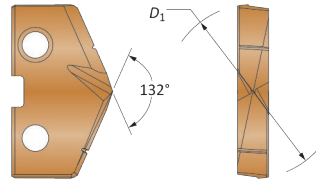
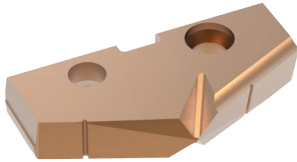
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-B	39.40	1.5512	—	TAP3-39.40	TAM3-39.40	TAK3-39.40	TAN3-39.40	TAX3-39.40
3-B	39.50	1.5551	—	TAP3-39.50	TAM3-39.50	TAK3-39.50	TAN3-39.50	TAX3-39.50
3-B	39.60	1.5591	—	TAP3-39.60	TAM3-39.60	TAK3-39.60	TAN3-39.60	TAX3-39.60
3-B	39.69	1.5626	1-9/16	TAP3-39.69	TAM3-39.69	TAK3-39.69	TAN3-39.69	TAX3-39.69
3-B	39.70	1.5630	—	TAP3-39.70	TAM3-39.70	TAK3-39.70	TAN3-39.70	TAX3-39.70
3-B	39.80	1.5669	—	TAP3-39.80	TAM3-39.80	TAK3-39.80	TAN3-39.80	TAX3-39.80
3-B	39.90	1.5709	—	TAP3-39.90	TAM3-39.90	TAK3-39.90	TAN3-39.90	TAX3-39.90
3-B	40.00	1.5748	—	TAP3-40.00	TAM3-40.00	TAK3-40.00	TAN3-40.00	TAX3-40.00
3-B	40.10	1.5787	—	TAP3-40.10	TAM3-40.10	TAK3-40.10	TAN3-40.10	TAX3-40.10
3-B	40.20	1.5827	—	TAP3-40.20	TAM3-40.20	TAK3-40.20	TAN3-40.20	TAX3-40.20
3-B	40.30	1.5866	—	TAP3-40.30	TAM3-40.30	TAK3-40.30	TAN3-40.30	TAX3-40.30
3-B	40.40	1.5906	—	TAP3-40.40	TAM3-40.40	TAK3-40.40	TAN3-40.40	TAX3-40.40
3-B	40.48	1.5937	1-19/32	TAP3-40.48	TAM3-40.48	TAK3-40.48	TAN3-40.48	TAX3-40.48
3-B	40.50	1.5945	—	TAP3-40.50	TAM3-40.50	TAK3-40.50	TAN3-40.50	TAX3-40.50
3-B	40.60	1.5984	—	TAP3-40.60	TAM3-40.60	TAK3-40.60	TAN3-40.60	TAX3-40.60
3-B	40.70	1.6024	—	TAP3-40.70	TAM3-40.70	TAK3-40.70	TAN3-40.70	TAX3-40.70
3-B	40.80	1.6063	—	TAP3-40.80	TAM3-40.80	TAK3-40.80	TAN3-40.80	TAX3-40.80
3-B	40.90	1.6102	—	TAP3-40.90	TAM3-40.90	TAK3-40.90	TAN3-40.90	TAX3-40.90
3-C	41.00	1.6142	—	TAP3-41.00	TAM3-41.00	TAK3-41.00	TAN3-41.00	TAX3-41.00
3-C	41.10	1.6181	—	TAP3-41.10	TAM3-41.10	TAK3-41.10	TAN3-41.10	TAX3-41.10
3-C	41.20	1.6220	—	TAP3-41.20	TAM3-41.20	TAK3-41.20	TAN3-41.20	TAX3-41.20
3-C	41.28	1.6252	1-5/8	TAP3-41.28	TAM3-41.28	TAK3-41.28	TAN3-41.28	TAX3-41.28
3-C	41.30	1.6260	—	TAP3-41.30	TAM3-41.30	TAK3-41.30	TAN3-41.30	TAX3-41.30
3-C	41.40	1.6299	—	TAP3-41.40	TAM3-41.40	TAK3-41.40	TAN3-41.40	TAX3-41.40

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.

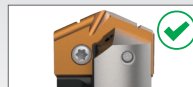
NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



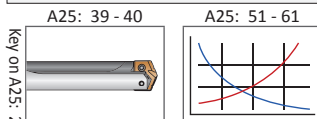
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

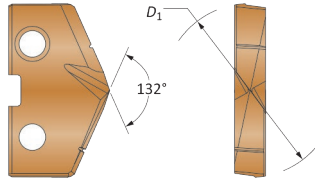
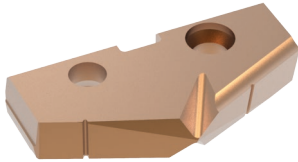


Sizes not shown are available upon request.
When ordering, please follow the example below:

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

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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D_1 mm	D_1 inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-C	41.50	1.6339	—	TAP3-41.50	TAM3-41.50	TAK3-41.50	TAN3-41.50	TAX3-41.50
3-C	41.60	1.6378	—	TAP3-41.60	TAM3-41.60	TAK3-41.60	TAN3-41.60	TAX3-41.60
3-C	41.70	1.6417	—	TAP3-41.70	TAM3-41.70	TAK3-41.70	TAN3-41.70	TAX3-41.70
3-C	41.80	1.6457	—	TAP3-41.80	TAM3-41.80	TAK3-41.80	TAN3-41.80	TAX3-41.80
3-C	41.90	1.6496	—	TAP3-41.90	TAM3-41.90	TAK3-41.90	TAN3-41.90	TAX3-41.90
3-C	42.00	1.6535	—	TAP3-42.00	TAM3-42.00	TAK3-42.00	TAN3-42.00	TAX3-42.00
3-C	42.07	1.6563	1-21/32	TAP3-42.07	TAM3-42.07	TAK3-42.07	TAN3-42.07	TAX3-42.07
3-C	42.10	1.6575	—	TAP3-42.10	TAM3-42.10	TAK3-42.10	TAN3-42.10	TAX3-42.10
3-C	42.20	1.6614	—	TAP3-42.20	TAM3-42.20	TAK3-42.20	TAN3-42.20	TAX3-42.20
3-C	42.30	1.6654	—	TAP3-42.30	TAM3-42.30	TAK3-42.30	TAN3-42.30	TAX3-42.30
3-C	42.40	1.6693	—	TAP3-42.40	TAM3-42.40	TAK3-42.40	TAN3-42.40	TAX3-42.40
3-C	42.50	1.6732	—	TAP3-42.50	TAM3-42.50	TAK3-42.50	TAN3-42.50	TAX3-42.50
3-C	42.60	1.6772	—	TAP3-42.60	TAM3-42.60	TAK3-42.60	TAN3-42.60	TAX3-42.60
3-C	42.70	1.6811	—	TAP3-42.70	TAM3-42.70	TAK3-42.70	TAN3-42.70	TAX3-42.70
3-C	42.80	1.6850	—	TAP3-42.80	TAM3-42.80	TAK3-42.80	TAN3-42.80	TAX3-42.80
3-C	42.86	1.6874	1-11/16	TAP3-42.86	TAM3-42.86	TAK3-42.86	TAN3-42.86	TAX3-42.86
3-C	42.90	1.6890	—	TAP3-42.90	TAM3-42.90	TAK3-42.90	TAN3-42.90	TAX3-42.90
3-C	43.00	1.6929	—	TAP3-43.00	TAM3-43.00	TAK3-43.00	TAN3-43.00	TAX3-43.00
3-C	43.10	1.6969	—	TAP3-43.10	TAM3-43.10	TAK3-43.10	TAN3-43.10	TAX3-43.10
3-C	43.20	1.7008	—	TAP3-43.20	TAM3-43.20	TAK3-43.20	TAN3-43.20	TAX3-43.20
3-C	43.30	1.7047	—	TAP3-43.30	TAM3-43.30	TAK3-43.30	TAN3-43.30	TAX3-43.30
3-C	43.40	1.7087	—	TAP3-43.40	TAM3-43.40	TAK3-43.40	TAN3-43.40	TAX3-43.40
3-C	43.50	1.7126	—	TAP3-43.50	TAM3-43.50	TAK3-43.50	TAN3-43.50	TAX3-43.50
3-C	43.60	1.7165	—	TAP3-43.60	TAM3-43.60	TAK3-43.60	TAN3-43.60	TAX3-43.60

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



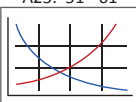
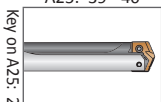
C Series Insert +
C Series Holder



A Series Insert +
C Series Holder

A25: 39 - 40

A25: 51 - 61



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

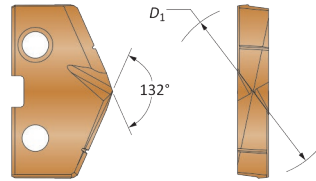
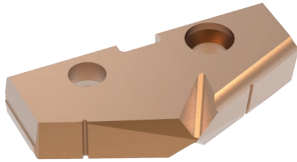
Metric:	13.16 mm, steel, 0 series = use Part No. TAP0-13.16
Imperial:	0.5180", steel, 0 series = use Part No. TAP0-13.16



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

Replaceable Inserts

A25



Insert				Carbide				HSS
Series	D ₁ mm	D ₁ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-C	43.66	1.7189	1-23/32	TAP3-43.66	TAM3-43.66	TAK3-43.66	TAN3-43.66	TAX3-43.66
3-C	43.70	1.7205	—	TAP3-43.70	TAM3-43.70	TAK3-43.70	TAN3-43.70	TAX3-43.70
3-C	43.80	1.7244	—	TAP3-43.80	TAM3-43.80	TAK3-43.80	TAN3-43.80	TAX3-43.80
3-C	43.90	1.7283	—	TAP3-43.90	TAM3-43.90	TAK3-43.90	TAN3-43.90	TAX3-43.90
3-C	44.00	1.7323	—	TAP3-44.00	TAM3-44.00	TAK3-44.00	TAN3-44.00	TAX3-44.00
3-C	44.10	1.7362	—	TAP3-44.10	TAM3-44.10	TAK3-44.10	TAN3-44.10	TAX3-44.10
3-C	44.20	1.7402	—	TAP3-44.20	TAM3-44.20	TAK3-44.20	TAN3-44.20	TAX3-44.20
3-C	44.30	1.7441	—	TAP3-44.30	TAM3-44.30	TAK3-44.30	TAN3-44.30	TAX3-44.30
3-D	44.40	1.7480	—	TAP3-44.40	TAM3-44.40	TAK3-44.40	TAN3-44.40	TAX3-44.40
3-D	44.45	1.7500	1-3/4	TAP3-44.45	TAM3-44.45	TAK3-44.45	TAN3-44.45	TAX3-44.45
3-D	44.50	1.7520	—	TAP3-44.50	TAM3-44.50	TAK3-44.50	TAN3-44.50	TAX3-44.50
3-D	44.60	1.7559	—	TAP3-44.60	TAM3-44.60	TAK3-44.60	TAN3-44.60	TAX3-44.60
3-D	44.70	1.7598	—	TAP3-44.70	TAM3-44.70	TAK3-44.70	TAN3-44.70	TAX3-44.70
3-D	44.80	1.7638	—	TAP3-44.80	TAM3-44.80	TAK3-44.80	TAN3-44.80	TAX3-44.80
3-D	44.90	1.7677	—	TAP3-44.90	TAM3-44.90	TAK3-44.90	TAN3-44.90	TAX3-44.90
3-D	45.00	1.7717	—	TAP3-45.00	TAM3-45.00	TAK3-45.00	TAN3-45.00	TAX3-45.00
3-D	45.10	1.7756	—	TAP3-45.10	TAM3-45.10	TAK3-45.10	TAN3-45.10	TAX3-45.10
3-D	45.20	1.7795	—	TAP3-45.20	TAM3-45.20	TAK3-45.20	TAN3-45.20	TAX3-45.20
3-D	45.24	1.7811	1-25/32	TAP3-45.24	TAM3-45.24	TAK3-45.24	TAN3-45.24	TAX3-45.24
3-D	45.30	1.7835	—	TAP3-45.30	TAM3-45.30	TAK3-45.30	TAN3-45.30	TAX3-45.30
3-D	45.40	1.7874	—	TAP3-45.40	TAM3-45.40	TAK3-45.40	TAN3-45.40	TAX3-45.40
3-D	45.50	1.7913	—	TAP3-45.50	TAM3-45.50	TAK3-45.50	TAN3-45.50	TAX3-45.50
3-D	45.60	1.7953	—	TAP3-45.60	TAM3-45.60	TAK3-45.60	TAN3-45.60	TAX3-45.60
3-D	45.64	1.7969	1-51/64	TAP3-45.64	TAM3-45.64	TAK3-45.64	TAN3-45.64	TAX3-45.64

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.

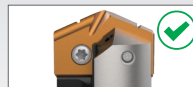
NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.



A Series Insert +
A Series Holder



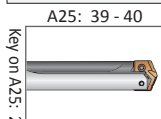
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder

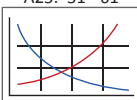


A Series Insert +
C Series Holder



A25: 39 - 40

A25: 51 - 61



Sizes not shown are available upon request.

When ordering, please follow the example below:

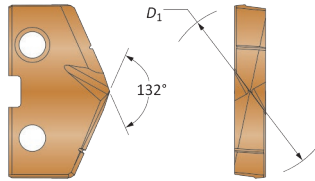
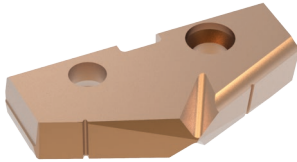
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Replaceable Inserts



A25

Insert				Carbide				HSS
Series	D ₁ mm	D ₂ inch	Fractional Equivalent					
				Part No.	Part No.	Part No.	Part No.	Part No.
				P	M	K	N	X
3-D	45.70	1.7992	—	TAP3-45.70	TAM3-45.70	TAK3-45.70	TAN3-45.70	TAX3-45.70
3-D	45.80	1.8031	—	TAP3-45.80	TAM3-45.80	TAK3-45.80	TAN3-45.80	TAX3-45.80
3-D	45.90	1.8071	—	TAP3-45.90	TAM3-45.90	TAK3-45.90	TAN3-45.90	TAX3-45.90
3-D	46.00	1.8110	—	TAP3-46.00	TAM3-46.00	TAK3-46.00	TAN3-46.00	TAX3-46.00
3-D	46.04	1.8126	1-13/16	TAP3-46.04	TAM3-46.04	TAK3-46.04	TAN3-46.04	TAX3-46.04
3-D	46.10	1.8150	—	TAP3-46.10	TAM3-46.10	TAK3-46.10	TAN3-46.10	TAX3-46.10
3-D	46.20	1.8189	—	TAP3-46.20	TAM3-46.20	TAK3-46.20	TAN3-46.20	TAX3-46.20
3-D	46.30	1.8228	—	TAP3-46.30	TAM3-46.30	TAK3-46.30	TAN3-46.30	TAX3-46.30
3-D	46.40	1.8268	—	TAP3-46.40	TAM3-46.40	TAK3-46.40	TAN3-46.40	TAX3-46.40
3-D	46.50	1.8307	—	TAP3-46.50	TAM3-46.50	TAK3-46.50	TAN3-46.50	TAX3-46.50
3-D	46.60	1.8346	—	TAP3-46.60	TAM3-46.60	TAK3-46.60	TAN3-46.60	TAX3-46.60
3-D	46.70	1.8386	—	TAP3-46.70	TAM3-46.70	TAK3-46.70	TAN3-46.70	TAX3-46.70
3-D	46.80	1.8425	—	TAP3-46.80	TAM3-46.80	TAK3-46.80	TAN3-46.80	TAX3-46.80
3-D	46.83	1.8437	1-27/32	TAP3-46.83	TAM3-46.83	TAK3-46.83	TAN3-46.83	TAX3-46.83
3-D	46.90	1.8465	—	TAP3-46.90	TAM3-46.90	TAK3-46.90	TAN3-46.90	TAX3-46.90
3-D	47.00	1.8504	—	TAP3-47.00	TAM3-47.00	TAK3-47.00	TAN3-47.00	TAX3-47.00
3-D	47.10	1.8543	—	TAP3-47.10	TAM3-47.10	TAK3-47.10	TAN3-47.10	TAX3-47.10
3-D	47.20	1.8583	—	TAP3-47.20	TAM3-47.20	TAK3-47.20	TAN3-47.20	TAX3-47.20
3-D	47.30	1.8622	—	TAP3-47.30	TAM3-47.30	TAK3-47.30	TAN3-47.30	TAX3-47.30
3-D	47.40	1.8661	—	TAP3-47.40	TAM3-47.40	TAK3-47.40	TAN3-47.40	TAX3-47.40
3-D	47.50	1.8701	—	TAP3-47.50	TAM3-47.50	TAK3-47.50	TAN3-47.50	TAX3-47.50
3-D	47.60	1.8740	—	TAP3-47.60	TAM3-47.60	TAK3-47.60	TAN3-47.60	TAX3-47.60
3-D	47.63	1.8752	1-7/8	TAP3-47.63	TAM3-47.63	TAK3-47.63	TAN3-47.63	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



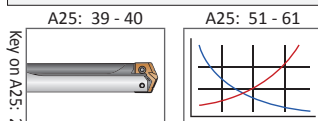
C Series Insert +
A Series Holder



C Series Insert +
C Series Holder



A Series Insert +
C Series Holder



Sizes not shown are available upon request.

When ordering, please follow the example below:

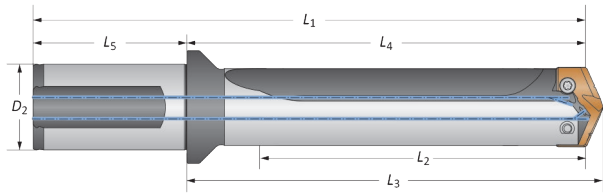
Metric: 13.16 mm, steel, 0 series = use Part No. **TAP0-13.16**

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



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

Holders



A25



Metric Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	41.1	92.3	97.1	162.3	70.0	40	HTA3A01-40FM	HTA3A01-40CM
Stub	B	41.1	92.3	97.1	162.3	70.0	40	HTA3B01-40FM	HTA3B01-40CM
Stub	C	41.1	92.3	97.1	162.3	70.0	40	HTA3C01-40FM	HTA3C01-40CM
Stub	D	41.1	92.3	97.1	162.3	70.0	40	HTA3D01-40FM	HTA3D01-40CM
3xD	A	123.3	180.1	184.8	250.1	70.0	40	HTA3A03-40FM	HTA3A03-40CM
3xD	B	123.3	180.1	184.8	250.1	70.0	40	HTA3B03-40FM	HTA3B03-40CM
3xD	C	123.3	180.1	184.8	250.1	70.0	40	HTA3C03-40FM	HTA3C03-40CM
3xD	D	123.3	180.1	184.8	250.1	70.0	40	HTA3D03-40FM	HTA3D03-40CM
5xD	A	205.5	262.3	267.0	332.3	70.0	40	HTA3A05-40FM	HTA3A05-40CM
5xD	B	205.5	262.3	267.0	332.3	70.0	40	HTA3B05-40FM	HTA3B05-40CM
5xD	C	205.5	262.3	267.0	332.3	70.0	40	HTA3C05-40FM	HTA3C05-40CM
5xD	D	205.5	262.3	267.0	332.3	70.0	40	HTA3D05-40FM	HTA3D05-40CM
7xD	A	287.7	344.4	349.2	414.5	70.0	40	HTA3A07-40FM	HTA3A07-40CM
7xD	B	287.7	344.4	349.2	414.5	70.0	40	HTA3B07-40FM	HTA3B07-40CM
7xD	C	287.7	344.4	349.2	414.5	70.0	40	HTA3C07-40FM	HTA3C07-40CM
7xD	D	287.7	344.4	349.2	414.5	70.0	40	HTA3D07-40FM	HTA3D07-40CM
10xD	A	411.0	467.7	472.5	537.7	70.0	40	HTA3A10-40FM	HTA3A10-40CM
10xD	B	411.0	467.7	472.5	537.7	70.0	40	HTA3B10-40FM	HTA3B10-40CM
10xD	C	411.0	467.7	472.5	537.7	70.0	40	HTA3C10-40FM	HTA3C10-40CM
10xD	D	411.0	467.7	472.5	537.7	70.0	40	HTA3D10-40FM	HTA3D10-40CM
12xD	A	493.2	549.9	554.7	619.9	70.0	40	HTA3A12-40FM	HTA3A12-40CM
12xD	B	493.2	549.9	554.7	619.9	70.0	40	HTA3B12-40FM	HTA3B12-40CM
12xD	C	493.2	549.9	554.7	619.9	70.0	40	HTA3C12-40FM	HTA3C12-40CM
12xD	D	493.2	549.9	554.7	619.9	70.0	40	HTA3D12-40FM	HTA3D12-40CM
15xD	A	616.5	673.2	678.0	743.2	70.0	40	HTA3A15-40FM	HTA3A15-40CM
15xD	B	616.5	673.2	678.0	743.2	70.0	40	HTA3B15-40FM	HTA3B15-40CM
15xD	C	616.5	673.2	678.0	743.2	70.0	40	HTA3C15-40FM	HTA3C15-40CM
15xD	D	616.5	673.2	678.0	743.2	70.0	40	HTA3D15-40FM	HTA3D15-40CM

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)

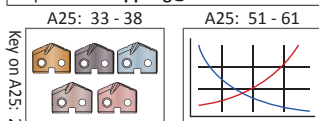
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

3 Series Holder Diameter Range

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

⚠ WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



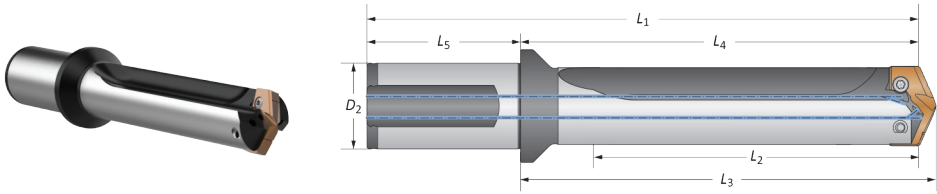
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



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

Holders



Imperial Holders

Length	Sub Series	Body				Shank		Part No.	
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	With Flat	Cylindrical
Stub	A	1.618	3.634	3.821	6.322	2.688	1-1/2	HTA3A01-150F	HTA3A01-150C
Stub	B	1.618	3.634	3.821	6.322	2.688	1-1/2	HTA3B01-150F	HTA3B01-150C
Stub	C	1.618	3.634	3.821	6.322	2.688	1-1/2	HTA3C01-150F	HTA3C01-150C
Stub	D	1.618	3.634	3.821	6.322	2.688	1-1/2	HTA3D01-150F	HTA3D01-150C
3xD	A	4.854	7.089	7.276	9.777	2.688	1-1/2	HTA3A03-150F	HTA3A03-150C
3xD	B	4.854	7.089	7.276	9.777	2.688	1-1/2	HTA3B03-150F	HTA3B03-150C
3xD	C	4.854	7.089	7.276	9.777	2.688	1-1/2	HTA3C03-150F	HTA3C03-150C
3xD	D	4.854	7.089	7.276	9.777	2.688	1-1/2	HTA3D03-150F	HTA3D03-150C
5xD	A	8.090	10.325	10.512	13.013	2.688	1-1/2	HTA3A05-150F	HTA3A05-150C
5xD	B	8.090	10.325	10.512	13.013	2.688	1-1/2	HTA3B05-150F	HTA3B05-150C
5xD	C	8.090	10.325	10.512	13.013	2.688	1-1/2	HTA3C05-150F	HTA3C05-150C
5xD	D	8.090	10.325	10.512	13.013	2.688	1-1/2	HTA3D05-150F	HTA3D05-150C
7xD	A	11.326	13.561	13.748	16.249	2.688	1-1/2	HTA3A07-150F	HTA3A07-150C
7xD	B	11.326	13.561	13.748	16.249	2.688	1-1/2	HTA3B07-150F	HTA3B07-150C
7xD	C	11.326	13.561	13.748	16.249	2.688	1-1/2	HTA3C07-150F	HTA3C07-150C
7xD	D	11.326	13.561	13.748	16.249	2.688	1-1/2	HTA3D07-150F	HTA3D07-150C
10xD	A	16.180	18.415	18.602	21.103	2.688	1-1/2	HTA3A10-150F	HTA3A10-150C
10xD	B	16.180	18.415	18.602	21.103	2.688	1-1/2	HTA3B10-150F	HTA3B10-150C
10xD	C	16.180	18.415	18.602	21.103	2.688	1-1/2	HTA3C10-150F	HTA3C10-150C
10xD	D	16.180	18.415	18.602	21.103	2.688	1-1/2	HTA3D10-150F	HTA3D10-150C
12xD	A	19.416	21.651	21.838	24.339	2.688	1-1/2	HTA3A12-150F	HTA3A12-150C
12xD	B	19.416	21.651	21.838	24.339	2.688	1-1/2	HTA3B12-150F	HTA3B12-150C
12xD	C	19.416	21.651	21.838	24.339	2.688	1-1/2	HTA3C12-150F	HTA3C12-150C
12xD	D	19.416	21.651	21.838	24.339	2.688	1-1/2	HTA3D12-150F	HTA3D12-150C
15xD	A	24.270	26.505	26.692	29.193	2.688	1-1/2	HTA3A15-150F	HTA3A15-150C
15xD	B	24.270	26.505	26.692	29.193	2.688	1-1/2	HTA3B15-150F	HTA3B15-150C
15xD	C	24.270	26.505	26.692	29.193	2.688	1-1/2	HTA3C15-150F	HTA3C15-150C
15xD	D	24.270	26.505	26.692	29.193	2.688	1-1/2	HTA3D15-150F	HTA3D15-150C

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)

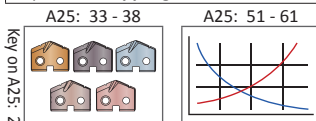
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

3 Series Holder Diameter Range

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

WARNING

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A25: 64** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.



T-A Pro Drill Chamfer Holders

Overview & Formulas

A25



DRILL CHAMFER HOLDERS

- Provides a 1.0 mm (0.040") x 45° (minimum) chamfer for various thread specifications.
- Chamfer/edge break the top of the hole to reduce secondary deburring.
- Flute length of the tool being a minimum 2xD offers ability to pre-drill for extended length holders from 10xD to 15xD.

CHAMFER SOLUTIONS **MADE EASY.**

Preselected diameters for standard thread sizes offer easy user selection.

- 1 Select your thread size from the selection guide.
- 2 Select insert ISO geometry based on material.
- 3 Select shank designation.
- 4 Specify chamfer size and calculate step length and Z-depth.

Unified Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (UNC)	7/16" - 14	11.10	TA#Y-9.50	HTAYAC45-XXXX
	1/2" - 13	12.70	TA#V-10.80	HTAVAC45-XXXX
	9/16" - 12	14.27	TA#Z-12.20	HTAZAC45-XXXX
	5/8" - 11	15.88	TA#O-13.50	HTAOAC45-XXXX
	3/4" - 10	19.05	TA#O-16.50	HTAOCC45-XXXX
	7/8" - 9	22.23	TA#1-19.50	HTA1AC45-XXXX
	1" - 8	25.40	TA#1-22.30	HTA1CC45-XXXX
	1-1/8" - 7	28.58	TA#2-25.00	HTA2AC45-XXXX
	1-1/4" - 7	31.75	TA#2-28.20	HTA2CC45-XXXX
	1-3/8" - 6	34.93	TA#2-31.00	HTA2CC45-XXXX
	1-1/2" - 6	38.10	TA#2-34.00	HTA2CC45-XXXX
	1-3/4" - 5	44.45	TA#3-39.50	HTA3AC45-XXXX
	2" - 4.5	50.80	TA#3-45.00	HTA3CC45-XXXX

- Denotes insert ISO code (P (steel), M (stainless steel), K (cast iron), N (nonferrous), X (high-speed steel substrate)).

Z-Depth

Drill & Chamfer for Threads

$$\text{Z-Depth} = \left(\frac{\text{Thread Major } \phi - D_{1 \min}}{2} \right) + (L_s) + (\text{Chamfer Size})$$

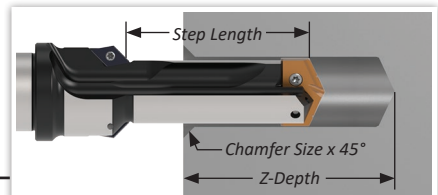
Drill and Chamfer for Edge Break

$$\text{Z-Depth} = \left(\frac{D_1 - D_{1 \min}}{2} \right) + (L_s) + (\text{Chamfer Size})$$

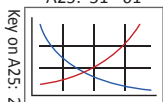
Step Length

$$\text{Step Length} = \left(\frac{D_1 - D_{1 \min}}{2} \right) + (L_s) - \left(\frac{D_1}{2(\tan(\text{Point Angle}/2))} \right)$$

NOTE: Standard point angle is 132°.



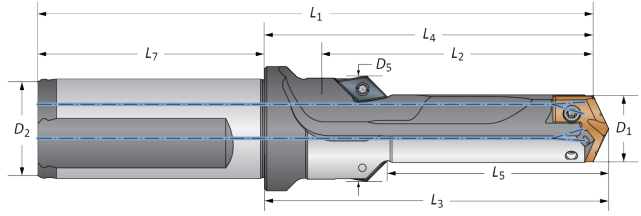
A25: 51 - 61





T-A Pro Drill Chamfer Holders

Metric & Imperial Holders



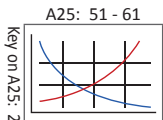
Series	Sub Series	D ₁ Range		Step		Body					Shank		Part No.	
		Min	Max	D ₅	L ₅	L ₂	L ₄	L ₃	L ₁	L ₇	D ₂		With Flat	Cylindrical
m	Y	A	9.50	11.09	18.7	31.8	44.6	59.3	61.3	109.3	50.0	20	HTAYAC45-20FM	HTAYAC45-20CM
	Z	A	11.10	12.69	20.3	38.1	50.0	65.1	67.1	115.1	50.0	20	HTAZAC45-20FM	HTAZAC45-20CM
	0	A	12.70	15.07	21.9	44.5	57.9	70.7	73.4	120.7	50.0	20	HTA0AC45-20FM	HTA0AC45-20CM
		C	15.08	17.64	24.3	50.8	61.9	76.3	79.0	126.3	50.0	20	HTA0CC45-20FM	HTA0CC45-20CM
	1	A	17.65	20.59	26.9	57.2	68.7	84.3	87.9	140.3	56.0	25	HTA1AC45-25FM	HTA1AC45-25CM
		C	20.60	24.37	29.9	63.5	74.4	90.0	93.6	146.1	56.0	25	HTA1CC45-25FM	HTA1CC45-25CM
	2	A	24.38	28.49	39.1	63.5	83.2	102.9	106.5	162.9	60.0	32	HTA2AC45-32FM	HTA2AC45-32CM
		C	28.50	35.04	43.2	82.6	99.8	120.3	123.9	180.3	60.0	32	HTA2CC45-32FM	HTA2CC45-32CM
	3	A	35.05	40.99	49.8	95.3	112.1	138.0	142.7	208.0	70.0	40	HTA3AC45-40FM	HTA3AC45-40CM
		C	41.00	47.80	55.7	108.0	123.7	152.0	156.7	222.0	70.0	40	HTA3CC45-40FM	HTA3CC45-40CM
i	Y	A	0.3739	0.4368	0.735	1.250	1.754	2.333	2.413	4.363	2.030	3/4	HTAYAC45-075F	HTAYAC45-075C
	Z	A	0.4369	0.4998	0.800	1.500	1.970	2.562	2.642	4.592	2.030	3/4	HTAZAC45-075F	HTAZAC45-075C
	0	A	0.4999	0.5935	0.864	1.750	2.278	2.782	2.889	4.812	2.030	3/4	HTA0AC45-075F	HTA0AC45-075C
		C	0.5936	0.6946	0.958	2.000	2.438	3.003	3.110	5.033	2.030	3/4	HTA0CC45-075F	HTA0CC45-075C
	1	A	0.6947	0.8108	1.060	2.250	2.705	3.320	3.460	5.600	2.280	1	HTA1AC45-100F	HTA1AC45-100C
		C	0.8109	0.9596	1.176	2.500	2.930	3.545	3.685	5.825	2.280	1	HTA1CC45-100F	HTA1CC45-100C
	2	A	0.9597	1.1218	1.540	2.500	3.277	4.051	4.191	6.331	2.280	1-1/4	HTA2AC45-125F	HTA2AC45-125C
		C	1.1219	1.3797	1.700	3.250	3.927	4.737	4.877	7.017	2.280	1-1/4	HTA2CC45-125F	HTA2CC45-125C
	3	A	1.3798	1.6139	1.960	3.750	4.412	5.432	5.619	8.120	2.688	1-1/2	HTA3AC45-150F	HTA3AC45-150C
		C	1.6140	1.8820	2.194	4.250	4.872	5.984	6.171	8.672	2.688	1-1/2	HTA3CC45-150F	HTA3CC45-150C

Chamfer Inserts (Wohlhaupter® 146 Geometry)

Y - 1 Series			2 - 3 Series			P	M	K	N	S	H
Part No.	TORX®	Driver	Part No.	TORX®	Driver						
397968WHC88	115676-1	8T-8	397591WHC88	115673-1	8T-15	●	●	—	●	●	—
397968WHC81	115676-1	8T-8	397591WHC81	115673-1	8T-15	●	—	●	—	—	●

● First Choice ● Second Choice

Pilot insert screws and drivers can be found on the respective series holder page.



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

Screws sold in multiples of 10.



Chamfer Thread Size & Pilot Insert

Metric

Unified Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (UNC)	7/16" - 14	11.10	TA#Y-9.50	HTAYAC45-XXXX
	1/2" - 13	12.70	TA#Y-10.80	
	9/16" - 12	14.27	TA#Z-12.20	
	5/8" - 11	15.88	TA#0-13.50	
	3/4" - 10	19.05	TA#0-16.50	HTA0CC45-XXXX
	7/8" - 9	22.23	TA#1-19.50	HTA1AC45-XXXX
	1" - 8	25.40	TA#1-22.30	HTA1CC45-XXXX
	1-1/8" - 7	28.58	TA#2-25.00	HTA2AC45-XXXX
	1-1/4" - 7	31.75	TA#2-28.20	
	1-3/8" - 6	34.93	TA#2-31.00	HTA2CC45-XXXX
	1-1/2" - 6	38.10	TA#2-34.00	
	1-3/4" - 5	44.45	TA#3-39.50	HTA3AC45-XXXX
	2" - 4.5	50.80	TA#3-45.00	HTA3CC45-XXXX
	7/16" - 20	11.10	TA#Y-9.90	HTAYAC45-XXXX
Fine (UNF)	1/2" - 20	12.70	TA#Z-11.50	HTAZAC45-XXXX
	9/16" - 18	14.27	TA#0-12.90	HTA0AC45-XXXX
	5/8" - 18	15.88	TA#0-14.50	HTA0CC45-XXXX
	3/4" - 16	19.05	TA#0-17.50	
	7/8" - 14	22.23	TA#1-20.50	HTA1AC45-XXXX
	1" - 12	25.40	TA#1-23.30	HTA1CC45-XXXX
	1-1/8" - 12	28.58	TA#2-26.50	HTA2AC45-XXXX
	1-1/4" - 12	31.75	TA#2-29.70	HTA2CC45-XXXX
	1-3/8" - 12	34.93	TA#2-32.90	
	1-1/2" - 12	38.10	TA#2-36.00	HTA3AC45-XXXX
Extra Fine (UNEF)	7/16" - 28	11.10	TA#Y-10.20	HTAYAC45-XXXX
	1/2" - 28	12.70	TA#Z-11.80	HTAZAC45-XXXX
	9/16" - 24	14.27	TA#0-13.30	HTA0AC45-XXXX
	5/8" - 24	15.88	TA#0-14.90	HTA1AC45-XXXX
	3/4" - 20	19.05	TA#1-17.80	
	7/8" - 20	22.23	TA#1-21.00	HTA1CC45-XXXX
	1" - 20	25.40	TA#1-24.20	HTA2AC45-XXXX
	1-1/8" - 18	28.58	TA#2-27.20	
	1-1/4" - 18	31.75	TA#2-30.40	HTA2CC45-XXXX
	1-3/8" - 18	34.93	TA#2-33.60	
	1-1/2" - 18	38.10	TA#2-36.70	HTA3AC45-XXXX

ISO Metric Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (MC)	M11 x 1.5	11.00	TA#Y-9.50	HTAYAC45-XXXX
	M12 x 1.75	12.00	TA#Y-10.30	
	M14 x 2	14.00	TA#Z-12.00	
	M16 x 2	16.00	TA#0-14.00	
	M18 x 2.5	18.00	TA#0-15.50	HTA0AC45-XXXX
	M20 x 2.5	20.00	TA#0-17.50	HTA0CC45-XXXX
	M22 x 2.5	22.00	TA#1-19.50	HTA1AC45-XXXX
	M24 x 3	24.00	TA#1-21.00	HTA1CC45-XXXX
	M27 x 3	27.00	TA#1-24.00	HTA2AC45-XXXX
	M30 x 3.5	30.00	TA#2-26.50	
	M33 x 3.5	33.00	TA#2-29.50	HTA2CC45-XXXX
	M36 x 4	36.00	TA#2-32.00	
	M39 x 4	39.00	TA#2-35.00	HTA3AC45-XXXX
	M42 x 4.5	42.00	TA#3-37.50	
	M45 x 4.5	45.00	TA#3-40.50	
	M48 x 5	48.00	TA#3-43.00	
	M52 x 5	52.00	TA#3-47.00	HTA3CC45-XXXX

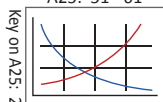
ISO Metric Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Fine (MF)	M11 x 1	11.00	TA#Y-10.00	HTAYAC45-XXXX
	M11 x 0.75	11.00	TA#Y-10.30	
	M12 x 1.5	12.00	TA#Y-10.50	
	M12 x 1.25	12.00	TA#Y-10.80	
	M12 x 1	12.00	TA#Y-11.00	HTAZAC45-XXXX
	M14 x 1.5	14.00	TA#Z-12.50	
	M14 x 1.25	14.00	TA#0-12.80	HTA0AC45-XXXX
	M14 x 1	14.00	TA#0-13.00	
	M16 x 1.5	16.00	TA#0-14.50	HTA0CC45-XXXX
	M16 x 1	16.00	TA#0-15.00	
	M18 x 2	18.00	TA#0-16.00	HTA1AC45-XXXX
	M18 x 1.5	18.00	TA#0-16.50	
	M18 x 1	18.00	TA#0-17.00	HTA1CC45-XXXX
	M20 x 2	20.00	TA#1-18.00	
	M20 x 1.5	20.00	TA#1-18.50	HTA2AC45-XXXX
	M20 x 1	20.00	TA#1-19.00	
	M22 x 2	22.00	TA#1-20.00	HTA2CC45-XXXX
	M22 x 1.5	22.00	TA#1-20.50	
	M22 x 1	22.00	TA#1-21.00	HTA3AC45-XXXX
	M24 x 2	24.00	TA#1-22.00	
Fine (MF)	M24 x 1.5	24.00	TA#1-22.50	HTA1CC45-XXXX
	M24 x 1	24.00	TA#1-23.00	
	M27 x 2	27.00	TA#2-25.50	HTA2AC45-XXXX
	M27 x 1.5	27.00	TA#2-25.00	
	M27 x 1	27.00	TA#2-26.00	HTA2CC45-XXXX
	M30 x 3	30.00	TA#2-27.00	
	M30 x 2	30.00	TA#2-28.00	HTA3AC45-XXXX
	M30 x 1.5	30.00	TA#2-28.50	
	M30 x 1	30.00	TA#2-29.00	HTA3CC45-XXXX
	M33 x 3	33.00	TA#2-30.00	
	M33 x 2	33.00	TA#2-31.00	HTA4AC45-XXXX
	M33 x 1.5	33.00	TA#2-31.50	
	M36 x 3	36.00	TA#2-33.00	HTA5AC45-XXXX
	M36 x 2	36.00	TA#2-34.00	
	M36 x 1.5	36.00	TA#2-34.50	HTA6AC45-XXXX
	M39 x 3	39.00	TA#3-36.00	
	M39 x 2	39.00	TA#3-37.00	HTA7AC45-XXXX
	M39 x 1.5	39.00	TA#3-37.50	
	M42 x 4	42.00	TA#3-38.00	HTA8AC45-XXXX
	M42 x 3	42.00	TA#3-39.00	
	M42 x 2	42.00	TA#3-40.00	HTA9AC45-XXXX
	M42 x 1.5	42.00	TA#3-40.50	
	M45 x 4	45.00	TA#3-41.00	HTA10AC45-XXXX
	M45 x 3	45.00	TA#3-42.00	
	M45 x 2	45.00	TA#3-43.00	HTA11AC45-XXXX
	M45 x 1.5	45.00	TA#3-43.50	
	M48 x 4	48.00	TA#3-44.00	HTA12AC45-XXXX
	M48 x 3	48.00	TA#3-45.00	
	M48 x 2	48.00	TA#3-46.00	HTA13AC45-XXXX
	M48 x 1.5	48.00	TA#3-46.50	

NOTE: All diameters listed are for cutting taps and thread mills.

- Denotes insert ISO code (P (steel), M (stainless steel), K (cast iron), N (nonferrous), X (high-speed steel substrate)).

A25: 51 - 61





Chamfer Thread Size & Pilot Insert

Metric

American National Standard Pipe Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Tapered without Reamer (NPT)	1/4" - 18	13.72	TA#Z-11.11	HTAZAC45-XXXX
	3/8" - 18	17.15	TA#0-14.60	HTA0AC45-XXXX
	1/2" - 14	21.34	TA#1-17.90	HTA1AC45-XXXX
	3/4" - 14	26.67	TA#1-23.30	HTA1CC45-XXXX
	1" - 11.5	33.40	TA#2-29.00	HTA2CC45-XXXX
Tapered with Reamer (NPT)	1-1/4" - 11.5	42.16	TA#3-37.70	HTA3AC45-XXXX
	1-1/2" - 11.5	48.26	TA#3-43.70	HTA3CC45-XXXX
	1/4" - 18	13.72	TA#Y-10.70	HTAYAC45-XXXX
	3/8" - 18	17.15	TA#0-14.20	HTA0AC45-XXXX
	1/2" - 14	21.34	TA#0-17.50	HTA0CC45-XXXX
Straight (NPS)	3/4" - 14	26.67	TA#1-22.90	HTA1CC45-XXXX
	1" - 11.5	33.40	TA#2-28.60	HTA2CC45-XXXX
	1-1/4" - 11.5	42.16	TA#3-37.30	HTA3AC45-XXXX
	1-1/2" - 11.5	48.26	TA#3-43.30	HTA3CC45-XXXX
	1/4" - 18	13.36	TA#Z-11.50	HTAZAC45-XXXX
	3/8" - 18	16.76	TA#0-15.00	HTA0AC45-XXXX
	1/2" - 14	20.90	TA#1-18.30	HTA1AC45-XXXX
	3/4" - 14	26.26	TA#1-23.70	HTA1CC45-XXXX
	1" - 11.5	32.84	TA#2-29.40	HTA2CC45-XXXX
	1-1/4" - 11.5	41.61	TA#3-38.10	HTA3AC45-XXXX
	1-1/2" - 11.5	47.68	TA#3-44.10	HTA3CC45-XXXX

British Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (BSW)	1/2" - 12	12.70	TA#Y-10.50	HTAYAC45-XXXX
	9/16" - 12	14.29	TA#Z-12.00	HTAZAC45-XXXX
	5/8" - 11	15.88	TA#0-13.40	HTA0AC45-XXXX
	11/16" - 11	17.46	TA#0-14.80	HTA0AC45-XXXX
	3/4" - 10	19.05	TA#0-16.40	HTA0CC45-XXXX
	7/8" - 9	22.23	TA#1-19.25	HTA1AC45-XXXX
	1" - 8	25.40	TA#1-22.00	HTA1CC45-XXXX
	1-1/8" - 7	28.58	TA#2-24.70	HTA2AC45-XXXX
	1-1/4" - 7	31.75	TA#2-27.50	HTA2AC45-XXXX
	1-3/8" - 6	34.93	TA#2-30.00	HTA2CC45-XXXX
	1-1/2" - 6	38.10	TA#2-33.50	HTA2CC45-XXXX
	1-3/4" - 5	44.45	TA#3-39.00	HTA3AC45-XXXX
	2" - 4.5	50.80	TA#3-44.50	HTA3CC45-XXXX
	1/2" - 16	12.70	TA#Y-11.00	HTAYAC45-XXXX
	9/16" - 16	14.29	TA#Z-12.60	HTAZAC45-XXXX
Fine (BSF)	5/8" - 14	15.88	TA#0-14.00	HTA0AC45-XXXX
	11/16" - 14	17.46	TA#0-15.50	HTA0CC45-XXXX
	3/4" - 12	19.05	TA#0-16.80	HTA0CC45-XXXX
	7/8" - 11	22.23	TA#1-19.80	HTA1AC45-XXXX
	1" - 10	25.40	TA#1-22.70	HTA1CC45-XXXX
	1-1/8" - 9	28.58	TA#2-25.50	HTA2AC45-XXXX
	1-1/4" - 9	31.75	TA#2-28.50	HTA2AC45-XXXX
	1-3/8" - 8	34.93	TA#2-31.50	HTA2CC45-XXXX
	1-1/2" - 8	38.10	TA#2-34.50	HTA2CC45-XXXX

British Standard Pipe Threads

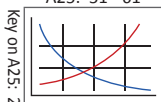
Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Rc Series without Reamer (BSPT)	1/4" - 19	13.16	TA#Y-11.00	HTAYAC45-XXXX
	3/8" - 19	16.66	TA#0-14.50	HTA0AC45-XXXX
	1/2" - 14	20.99	TA#1-18.10	HTA1AC45-XXXX
	3/4" - 14	26.44	TA#1-23.50	HTA1CC45-XXXX
	1" - 11	33.25	TA#2-29.60	HTA2CC45-XXXX
Rc Series with Reamer (BSPT)	1-1/4" - 11	41.91	TA#3-38.10	HTA3AC45-XXXX
	1-1/2" - 11	47.80	TA#3-44.00	HTA3CC45-XXXX
	1/4" - 19	13.16	TA#Y-10.60	HTAYAC45-XXXX
	3/8" - 19	16.66	TA#0-14.10	HTA0AC45-XXXX
	1/2" - 14	20.99	TA#1-17.70	HTA1AC45-XXXX
Rp Series (BSPT)	3/4" - 14	26.44	TA#1-23.10	HTA1CC45-XXXX
	1" - 11	33.25	TA#2-29.20	HTA2CC45-XXXX
	1-1/4" - 11	41.91	TA#3-37.70	HTA3AC45-XXXX
	1-1/2" - 11	47.80	TA#3-43.60	HTA3CC45-XXXX
	1/4" - 19	13.16	TA#Z-11.50	HTAZAC45-XXXX
	3/8" - 19	16.66	TA#0-15.00	HTA0AC45-XXXX
	1/2" - 14	20.96	TA#1-18.50	HTA1AC45-XXXX
	5/8" - 14	21.96	TA#1-20.50	HTA1AC45-XXXX
	3/4" - 14	26.44	TA#1-24.00	HTA1CC45-XXXX
	1" - 11	33.25	TA#2-30.30	HTA2CC45-XXXX
G Series (BSPP)	1-1/4" - 11	41.91	TA#3-39.00	HTA3AC45-XXXX
	1-1/2" - 11	47.80	TA#3-45.00	HTA3CC45-XXXX
	1/4" - 19	13.16	TA#Z-11.80	HTAZAC45-XXXX
	3/8" - 19	16.66	TA#0-15.25	HTA0CC45-XXXX
	1/2" - 14	20.96	TA#1-19.00	HTA1AC45-XXXX
	5/8" - 14	26.44	TA#1-21.00	HTA1CC45-XXXX
	3/4" - 14	26.44	TA#2-24.50	HTA2AC45-XXXX
	7/8" - 14	31.24	TA#2-28.20	HTA2AC45-XXXX
	1" - 11	33.25	TA#2-30.75	HTA2CC45-XXXX
	1-1/8" - 11	34.25	TA#3-35.50	HTA3AC45-XXXX
	1-1/4" - 11	41.91	TA#3-39.50	HTA3AC45-XXXX
	1-3/8" - 11	42.91	TA#3-41.90	HTA3CC45-XXXX
	1-1/2" - 11	47.80	TA#3-45.20	HTA3CC45-XXXX

A25

NOTE: All diameters listed are for cutting taps and thread mills.

- Denotes insert ISO code (P (steel), M (stainless steel), K (cast iron), N (nonferrous), X (high-speed steel substrate)).

A25: 51 - 61



Key on A25: 2



Chamfer Thread Size & Pilot Insert

Imperial

Unified Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (UNC)	7/16" - 14	0.4370	TA#Y-9.50	HTAYAC45-XXXX
	1/2" - 13	0.5000	TA#Y-10.72	HTAYAC45-XXXX
	9/16" - 12	0.5620	TA#Z-12.30	HTAZAC45-XXXX
	5/8" - 11	0.6250	TA#0-13.49	HTA0AC45-XXXX
	3/4" - 10	0.7500	TA#0-16.67	HTA0CC45-XXXX
	7/8" - 9	0.8750	TA#1-19.45	HTA1AC45-XXXX
	1" - 8	1.0000	TA#1-22.23	HTA1CC45-XXXX
	1-1/8" - 7	1.1250	TA#2-25.00	HTA2AC45-XXXX
	1-1/4" - 7	1.2500	TA#2-28.17	HTA2AC45-XXXX
	1-3/8" - 6	1.3750	TA#2-30.96	HTA2CC45-XXXX
	1-1/2" - 6	1.5000	TA#2-34.13	HTA2CC45-XXXX
	1-3/4" - 5	1.7500	TA#3-39.29	HTA3AC45-XXXX
	2" - 4.5	2.0000	TA#3-45.24	HTA3CC45-XXXX
	7/16" - 20	0.4370	TA#Y-9.92	HTAYAC45-XXXX
Fine (UNF)	1/2" - 20	0.5000	TA#Z-11.51	HTAZAC45-XXXX
	9/16" - 18	0.5620	TA#0-12.90	HTA0AC45-XXXX
	5/8" - 18	0.6250	TA#0-14.50	HTA0CC45-XXXX
	3/4" - 16	0.7500	TA#0-17.46	HTA0CC45-XXXX
	7/8" - 14	0.8750	TA#1-20.50	HTA1AC45-XXXX
	1" - 12	1.0000	TA#1-23.42	HTA1CC45-XXXX
	1-1/8" - 12	1.1250	TA#2-26.59	HTA2AC45-XXXX
	1-1/4" - 12	1.2500	TA#2-29.70	HTA2CC45-XXXX
	1-3/8" - 12	1.3750	TA#2-32.90	HTA2CC45-XXXX
	1-1/2" - 12	1.5000	TA#2-36.00	HTA3AC45-XXXX
Extra Fine (UNEF)	7/16" - 28	0.4370	TA#Y-10.20	HTAYAC45-XXXX
	1/2" - 28	0.5000	TA#Z-11.80	HTAZAC45-XXXX
	9/16" - 24	0.5620	TA#0-13.30	HTA0AC45-XXXX
	5/8" - 24	0.6250	TA#0-14.90	HTA0AC45-XXXX
	3/4" - 20	0.7500	TA#1-17.86	HTA1AC45-XXXX
	7/8" - 20	0.8750	TA#1-21.00	HTA1CC45-XXXX
	1" - 20	1.0000	TA#1-24.20	HTA1CC45-XXXX
	1-1/8" - 18	1.1250	TA#2-27.20	HTA2AC45-XXXX
	1-1/4" - 18	1.2500	TA#2-30.40	HTA2CC45-XXXX
	1-3/8" - 18	1.3750	TA#2-33.60	HTA2CC45-XXXX
	1-1/2" - 18	1.5000	TA#2-36.70	HTA3AC45-XXXX

ISO Metric Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (MC)	M11 x 1.5	0.4331	TA#Y-9.50	HTAYAC45-XXXX
	M12 x 1.75	0.4724	TA#Y-10.30	HTAYAC45-XXXX
	M14 x 2	0.5512	TA#Z-12.00	HTAZAC45-XXXX
	M16 x 2	0.6299	TA#0-14.00	HTA0AC45-XXXX
	M18 x 2.5	0.7087	TA#0-15.50	HTA0CC45-XXXX
	M20 x 2.5	0.7874	TA#0-17.50	HTA0CC45-XXXX
	M22 x 2.5	0.8661	TA#1-19.50	HTA1AC45-XXXX
	M24 x 3	0.9449	TA#1-21.00	HTA1CC45-XXXX
	M27 x 3	1.0630	TA#1-24.00	HTA1CC45-XXXX
	M30 x 3.5	1.1811	TA#2-26.50	HTA2AC45-XXXX
	M33 x 3.5	1.2992	TA#2-29.50	HTA2CC45-XXXX
	M36 x 4	1.4173	TA#2-32.00	HTA2CC45-XXXX
	M39 x 4	1.5354	TA#2-35.00	HTA2CC45-XXXX
	M42 x 4.5	1.6535	TA#3-37.50	HTA3AC45-XXXX
	M45 x 4.5	1.7717	TA#3-40.50	HTA3AC45-XXXX
	M48 x 5	1.8898	TA#3-43.00	HTA3CC45-XXXX
	M52 x 5	2.0472	TA#3-47.00	HTA3CC45-XXXX

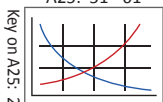
ISO Metric Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Fine (MF)	M11 x 1	0.4331	TA#Y-10.00	HTAYAC45-XXXX
	M11 x 0.75	0.4331	TA#Y-10.30	HTAYAC45-XXXX
	M12 x 1.5	0.4724	TA#Y-10.50	HTAYAC45-XXXX
	M12 x 1.25	0.4724	TA#Y-10.80	HTAYAC45-XXXX
	M12 x 1	0.4724	TA#Y-11.00	HTAYAC45-XXXX
	M14 x 1.5	0.5512	TA#Z-12.50	HTAZAC45-XXXX
	M14 x 1.25	0.5512	TA#0-12.80	HTAZAC45-XXXX
	M14 x 1	0.5512	TA#0-13.00	HTA0AC45-XXXX
	M16 x 1.5	0.6299	TA#0-14.50	HTA0AC45-XXXX
	M16 x 1	0.6299	TA#0-15.00	HTA0AC45-XXXX
	M18 x 2	0.7087	TA#0-16.00	HTA0CC45-XXXX
	M18 x 1.5	0.7087	TA#0-16.50	HTA0CC45-XXXX
	M18 x 1	0.7087	TA#0-17.00	HTA0CC45-XXXX
	M20 x 2	0.7874	TA#1-18.00	HTA1AC45-XXXX
	M20 x 1.5	0.7874	TA#1-18.50	HTA1AC45-XXXX
	M20 x 1	0.7874	TA#1-19.00	HTA1AC45-XXXX
	M22 x 2	0.8661	TA#1-20.00	HTA1AC45-XXXX
	M22 x 1.5	0.8661	TA#1-20.50	HTA1AC45-XXXX
	M22 x 1	0.8661	TA#1-21.00	HTA1AC45-XXXX
	M24 x 2	0.9449	TA#1-22.00	HTA1CC45-XXXX
Fine (MF)	M24 x 1.5	0.9449	TA#1-22.50	HTA1CC45-XXXX
	M24 x 1	0.9449	TA#1-23.00	HTA1CC45-XXXX
	M27 x 2	1.0630	TA#2-25.00	HTA2AC45-XXXX
	M27 x 1.5	1.0630	TA#2-25.50	HTA2AC45-XXXX
	M27 x 1	1.0630	TA#2-26.00	HTA2AC45-XXXX
	M30 x 3	1.1811	TA#2-27.00	HTA2AC45-XXXX
	M30 x 2	1.1811	TA#2-28.00	HTA2AC45-XXXX
	M30 x 1.5	1.1811	TA#2-28.50	HTA2AC45-XXXX
	M30 x 1	1.1811	TA#2-29.00	HTA2AC45-XXXX
	M33 x 3	1.2992	TA#2-30.00	HTA2CC45-XXXX
	M33 x 2	1.2992	TA#2-31.00	HTA2CC45-XXXX
	M33 x 1.5	1.2992	TA#2-31.50	HTA2CC45-XXXX
	M36 x 3	1.4173	TA#2-33.00	HTA2CC45-XXXX
	M36 x 2	1.4173	TA#2-34.00	HTA2CC45-XXXX
	M36 x 1.5	1.4173	TA#2-34.50	HTA2CC45-XXXX
	M39 x 3	1.5354	TA#3-36.00	HTA3AC45-XXXX
	M39 x 2	1.5354	TA#3-37.00	HTA3AC45-XXXX
	M39 x 1.5	1.5354	TA#3-37.50	HTA3AC45-XXXX
	M42 x 4	1.6535	TA#3-38.00	HTA3AC45-XXXX
	M42 x 3	1.6535	TA#3-39.00	HTA3AC45-XXXX
Fine (MF)	M42 x 2	1.6535	TA#3-40.00	HTA3AC45-XXXX
	M42 x 1.5	1.6535	TA#3-40.50	HTA3AC45-XXXX
	M45 x 4	1.7717	TA#3-41.00	HTA3CC45-XXXX
	M45 x 3	1.7717	TA#3-42.00	HTA3CC45-XXXX
	M45 x 2	1.7717	TA#3-43.00	HTA3CC45-XXXX
	M45 x 1.5	1.7717	TA#3-43.50	HTA3CC45-XXXX
	M48 x 4	1.8898	TA#3-44.00	HTA3CC45-XXXX
	M48 x 3	1.8898	TA#3-45.00	HTA3CC45-XXXX
	M48 x 2	1.8898	TA#3-46.00	HTA3CC45-XXXX
	M48 x 1.5	1.8898	TA#3-46.50	HTA3CC45-XXXX

NOTE: All diameters listed are for cutting taps and thread mills.

- Denotes insert ISO code (P (steel), M (stainless steel), K (cast iron), N (nonferrous), X (high-speed steel substrate)).

A25: 51 - 61





Chamfer Thread Size & Pilot Insert

Imperial

American National Standard Pipe Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Tapered without Reamer (NPT)	1/4" - 18	0.5400	TA#Z-11.11	HTAZAC45-XXXX
	3/8" - 18	0.6750	TA#0-14.68	HTA0AC45-XXXX
	1/2" - 14	0.8400	TA#1-17.86	HTA1AC45-XXXX
	3/4" - 14	1.0500	TA#1-23.02	HTA1CC45-XXXX
	1" - 11.5	1.3150	TA#2-28.97	HTA2CC45-XXXX
	1-1/4" - 11.5	1.6600	TA#3-37.70	HTA3AC45-XXXX
Tapered with Reamer (NPT)	1-1/2" - 11.5	1.9000	TA#3-43.66	HTA3CC45-XXXX
	1/4" - 18	0.5400	TA#Y-10.72	HTAYAC45-XXXX
	3/8" - 18	0.6750	TA#0-14.29	HTA0AC45-XXXX
	1/2" - 14	0.8400	TA#0-17.46	HTA0CC45-XXXX
	3/4" - 14	1.0500	TA#1-22.62	HTA1CC45-XXXX
	1" - 11.5	1.3150	TA#2-28.58	HTA2CC45-XXXX
Straight (NPS)	1-1/4" - 11.5	1.6600	TA#3-37.31	HTA3AC45-XXXX
	1-1/2" - 11.5	1.9000	TA#3-43.26	HTA3CC45-XXXX
	1/4" - 18	0.5260	TA#Z-11.51	HTAZAC45-XXXX
	3/8" - 18	0.6600	TA#0-15.08	HTA0CC45-XXXX
	1/2" - 14	0.8230	TA#1-18.26	HTA1AC45-XXXX
	3/4" - 14	1.0340	TA#1-23.42	HTA1CC45-XXXX
	1" - 11.5	1.2930	TA#2-29.37	HTA2CC45-XXXX
	1-1/4" - 11.5	1.6380	TA#3-38.10	HTA3AC45-XXXX
	1-1/2" - 11.5	1.8770	TA#3-44.05	HTA3CC45-XXXX

British Standard Threads

Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Coarse (BSW)	1/2" - 12	0.5000	TA#Y-10.32	HTAYAC45-XXXX
	9/16" - 12	0.5626	TA#Z-11.91	HTAZAC45-XXXX
	5/8" - 11	0.6252	TA#0-13.10	HTA0AC45-XXXX
	11/16" - 11	0.6874	TA#0-14.68	HTA0AC45-XXXX
	3/4" - 10	0.7500	TA#0-16.27	HTA0CC45-XXXX
	7/8" - 9	0.8752	TA#1-19.05	HTA1AC45-XXXX
	1" - 8	1.0000	TA#1-21.83	HTA1CC45-XXXX
	1-1/8" - 7	1.1252	TA#2-24.61	HTA2AC45-XXXX
	1-1/4" - 7	1.2500	TA#2-27.38	HTA2AC45-XXXX
	1-3/8" - 6	1.3752	TA#2-29.77	HTA2CC45-XXXX
	1-1/2" - 6	1.5000	TA#2-33.34	HTA2CC45-XXXX
	1-3/4" - 5	1.7500	TA#3-38.50	HTA3AC45-XXXX
	2" - 4.5	2.0000	TA#3-44.05	HTA3CC45-XXXX
	1/2" - 16	0.5000	TA#Z-11.11	HTAZAC45-XXXX
	9/16" - 16	0.5626	TA#0-12.70	HTA0AC45-XXXX
	5/8" - 14	0.6252	TA#0-13.89	HTA0AC45-XXXX
Fine (BSF)	11/16" - 14	0.6874	TA#0-15.48	HTA0CC45-XXXX
	3/4" - 12	0.7500	TA#0-16.67	HTA0CC45-XXXX
	7/8" - 11	0.8752	TA#1-19.45	HTA1AC45-XXXX
	1" - 10	1.0000	TA#1-22.62	HTA1CC45-XXXX
	1-1/8" - 9	1.1252	TA#2-25.40	HTA2AC45-XXXX
	1-1/4" - 9	1.2500	TA#2-28.58	HTA2AC45-XXXX
	1-3/8" - 8	1.3752	TA#2-31.35	HTA2CC45-XXXX
	1-1/2" - 8	1.5000	TA#2-34.58	HTA2CC45-XXXX

British Standard Pipe Threads

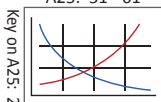
Series	Thread Size	Thread Major	Pilot Insert No.	Holder Part No.
Rc Series without Reamer (BSPT)	1/4" - 19	0.5181	TA#Z-11.11	HTAZAC45-XXXX
	3/8" - 19	0.6559	TA#0-14.68	HTA0AC45-XXXX
	1/2" - 14	0.8264	TA#1-18.26	HTA1AC45-XXXX
	3/4" - 14	1.0409	TA#1-23.81	HTA1CC45-XXXX
	1" - 11	1.3091	TA#2-29.77	HTA2CC45-XXXX
	1-1/4" - 11	1.6500	TA#3-38.50	HTA3AC45-XXXX
Rc Series with Reamer (BSPT)	1-1/2" - 11	1.8819	TA#3-44.45	HTA3CC45-XXXX
	1/4" - 19	0.5181	TA#Y-10.72	HTAYAC45-XXXX
	3/8" - 19	0.6559	TA#0-14.29	HTA0AC45-XXXX
	1/2" - 14	0.8264	TA#1-17.86	HTA1AC45-XXXX
	3/4" - 14	1.0409	TA#1-23.42	HTA1CC45-XXXX
	1" - 11	1.3091	TA#2-29.37	HTA2CC45-XXXX
Rp Series (BSPT)	1-1/4" - 11	1.6500	TA#3-38.10	HTA3AC45-XXXX
	1-1/2" - 11	1.8819	TA#3-44.05	HTA3CC45-XXXX
	1/4" - 19	0.5181	TA#Z-11.51	HTAZAC45-XXXX
	3/8" - 19	0.6559	TA#0-15.08	HTA0CC45-XXXX
	1/2" - 14	0.8252	TA#1-19.05	HTA1AC45-XXXX
	5/8" - 14	0.8646	TA#1-20.64	HTA1CC45-XXXX
G Series (BSPP)	3/4" - 14	1.0409	TA#1-21.03	HTA1CC45-XXXX
	1" - 11	1.3091	TA#2-30.56	HTA2CC45-XXXX
	1-1/4" - 11	1.6500	TA#3-39.29	HTA3AC45-XXXX
	1-1/2" - 11	1.8819	TA#3-45.24	HTA3CC45-XXXX
	1/4" - 19	0.5181	TA#Z-11.51	HTAZAC45-XXXX
	3/8" - 19	0.6559	TA#0-15.08	HTA0CC45-XXXX
	1/2" - 14	0.8252	TA#1-19.05	HTA1AC45-XXXX
	5/8" - 14	1.0409	TA#1-21.03	HTA1CC45-XXXX
	3/4" - 14	1.0409	TA#2-24.61	HTA2AC45-XXXX
	7/8" - 14	1.2299	TA#2-28.17	HTA2AC45-XXXX
	1" - 11	1.3091	TA#2-30.56	HTA2CC45-XXXX
	1-1/8" - 11	1.3484	TA#3-35.32	HTA3AC45-XXXX
	1-1/4" - 11	1.6500	TA#3-39.29	HTA3AC45-XXXX
	1-3/8" - 11	1.6894	TA#3-41.67	HTA3CC45-XXXX
	1-1/2" - 11	1.8819	TA#3-45.24	HTA3CC45-XXXX

A25

NOTE: All diameters listed are for cutting taps and thread mills.

- Denotes insert ISO code (P (steel), M (stainless steel), K (cast iron), N (nonferrous), X (high-speed steel substrate)).

A25: 51 - 61





T-A Pro Form Inserts

Countersink Specs

T-A Pro Drill Form Inserts

TA	C	F	0	—	90DEG
	Insert Substrate	Style	Series		Form Type
	C = Carbide X = High-speed steel (cobalt)	F = Form Insert	Y Z 0 1 2 3		82DEG = 82° form angle 90DEG = 90° form angle 100DEG = 100° form angle

A25

Metric Screw Countersinks

A ₁ (Form)	Insert			Metric Screw Sizes										
	Series	mm	D ₂ - D ₁ inch	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24
90°	Y	3.05 - 11.09	0.1200 - 0.4368											
	Z	3.05 - 12.69	0.1200 - 0.4998											
	0	6.22 - 17.64	0.2450 - 0.6946											
	1	10.29 - 24.37	0.4050 - 0.9596											
	2	12.70 - 35.04	0.5000 - 1.3797											
	3	15.88 - 47.80	0.6250 - 1.8820											

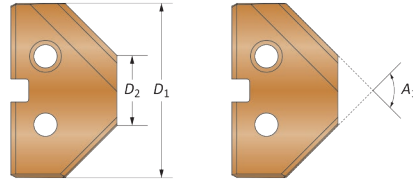
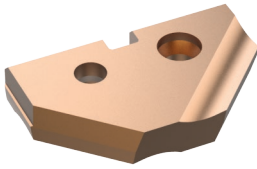
Imperial Screw Countersinks

A ₁ (Form)	Insert			Imperial Screw Sizes												
	Series	mm	D ₂ - D ₁ inch	#6	#8	#10	#12	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"
82°	Y	3.43 - 11.09	0.1350 - 0.4368													
	Z	3.43 - 12.69	0.1350 - 0.4998													
	0	6.22 - 17.64	0.2450 - 0.6946													
	1	9.53 - 24.37	0.3750 - 0.9596													
	2	14.22 - 35.04	0.5600 - 1.3797													
	3	15.88 - 47.80	0.6250 - 1.8820													
100°	Y	3.30 - 11.09	0.1300 - 0.4368													
	Z	3.30 - 12.69	0.1300 - 0.4998													
	0	6.10 - 17.64	0.2400 - 0.6946													
	1	8.89 - 24.37	0.3500 - 0.9596													
	2	12.70 - 35.04	0.5000 - 1.3797													
	3	15.88 - 47.80	0.6250 - 1.8820													



T-A Pro Form Inserts

Countersink and Chamfer Inserts



Countersink and Chamfer Form Inserts

A ₁ (Form)		Insert			Part No.		Stub Holders*
		Series	D ₂ - D ₁		Carbide	HSS	
Countersink	Chamfer		mm	inch	AM300®	AM200®	Part No.
	—	Y	3.43 - 11.09	0.1350 - 0.4368	TACFY-82DEG	TAXFY-82DEG	HTAYx01-xxxx
		Z	3.43 - 12.69	0.1350 - 0.4998	TACFZ-82DEG	TAXFZ-82DEG	HTAZx01-xxxx
		0	6.22 - 17.64	0.2450 - 0.6946	TACF0-82DEG	TAXF0-82DEG	HTA0x01-xxxx
		1	9.53 - 24.37	0.3750 - 0.9596	TACF1-82DEG	TAXF1-82DEG	HTA1x01-xxxx
		2	14.22 - 35.04	0.5600 - 1.3797	TACF2-82DEG	TAXF2-82DEG	HTA2x01-xxxx
		3	15.88 - 47.80	0.6250 - 1.8820	TACF3-82DEG	TAXF3-82DEG	HTA3x01-xxxx
		Y	3.05 - 11.09	0.1200 - 0.4368	TACFY-90DEG	TAXFY-90DEG	HTAYx01-xxxx
		Z	3.05 - 12.69	0.1200 - 0.4998	TACFZ-90DEG	TAXFZ-90DEG	HTAZx01-xxxx
		0	6.22 - 17.64	0.2450 - 0.6946	TACF0-90DEG	TAXF0-90DEG	HTA0x01-xxxx
		1	10.29 - 24.37	0.4050 - 0.9596	TACF1-90DEG	TAXF1-90DEG	HTA1x01-xxxx
	—	2	12.70 - 35.04	0.5000 - 1.3797	TACF2-90DEG	TAXF2-90DEG	HTA2x01-xxxx
		3	15.88 - 47.80	0.6250 - 1.8820	TACF3-90DEG	TAXF3-90DEG	HTA3x01-xxxx
		Y	3.30 - 11.09	0.1300 - 0.4368	TACFY-100DEG	TAXFY-100DEG	HTAYx01-xxxx
		Z	3.30 - 12.69	0.1300 - 0.4998	TACFZ-100DEG	TAXFZ-100DEG	HTAZx01-xxxx
		0	6.10 - 17.64	0.2400 - 0.6946	TACF0-100DEG	TAXF0-100DEG	HTA0x01-xxxx
		1	8.89 - 24.37	0.3500 - 0.9596	TACF1-100DEG	TAXF1-100DEG	HTA1x01-xxxx
		2	12.70 - 35.04	0.5000 - 1.3797	TACF2-100DEG	TAXF2-100DEG	HTA2x01-xxxx
		3	15.88 - 47.80	0.6250 - 1.8820	TACF3-100DEG	TAXF3-100DEG	HTA3x01-xxxx

NOTE: Only for use with stub holders.

*See holder nomenclature on page A25: 8 for holder body diameters (x) and shanks (xxxx).

Series Y-2: inserts sold in multiples of 2. | Series 3: inserts sold in multiples of 1.

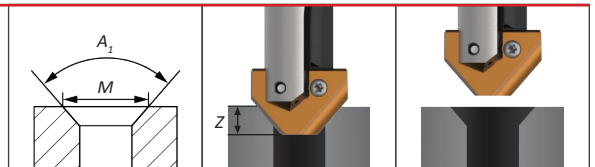
Countersink (82°, 90°, and 100°)

$$Z \text{ Depth (Z)} = \left(\frac{M - D_2}{2 \cdot (\tan(A_1 / 2))} \right)$$

M = Desired major diameter

D₂ = Insert diameter at touch off flat

A₁ = Included angle of insert



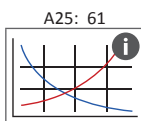
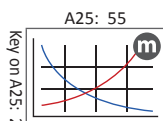
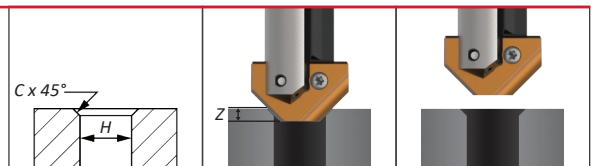
Chamfer (90°)

$$Z \text{ Depth (Z)} = \left(\frac{(H + (2 \cdot C)) - D_2}{2} \right)$$

H = Existing hole diameter

C = Radial chamfer size

D₂ = Insert diameter at touch off flat

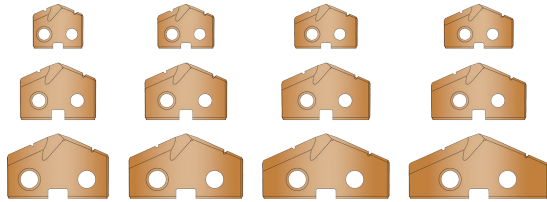


Key on A25: 2



T-A Pro Kits: 12.70 mm - 35.04 mm (0.4999" - 1.3797")

Inserts



A25

Metric Insert Kit

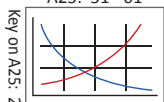
Series	Diameter			Qty	TAP-MET-KIT	TAM-MET-KIT	TAK-MET-KIT	TAN-MET-KIT	TAX-MET-KIT
	mm	inch	Fractional		P	M	K	N	X
0-A	13.00	0.5118	—	2	TAP0-13.00	TAM0-13.00	TAK0-13.00	TAN0-13.00	TAX0-13.00
0-B	14.00	0.5512	—	2	TAP0-14.00	TAM0-14.00	TAK0-14.00	TAN0-14.00	TAX0-14.00
0-C	16.00	0.6299	—	2	TAP0-16.00	TAM0-16.00	TAK0-16.00	TAN0-16.00	TAX0-16.00
0-D	17.50	0.6890	—	2	TAP0-17.50	TAM0-17.50	TAK0-17.50	TAN0-17.50	TAX0-17.50
1-A	18.00	0.7087	—	2	TAP1-18.00	TAM1-18.00	TAK1-18.00	TAN1-18.00	TAX1-18.00
1-B	20.00	0.7874	—	2	TAP1-20.00	TAM1-20.00	TAK1-20.00	TAN1-20.00	TAX1-20.00
1-C	22.00	0.8661	—	2	TAP1-22.00	TAM1-22.00	TAK1-22.00	TAN1-22.00	TAX1-22.00
1-D	24.00	0.9449	—	2	TAP1-24.00	TAM1-24.00	TAK1-24.00	TAN1-24.00	TAX1-24.00
2-A	25.00	0.9843	63/64	2	TAP2-25.00	TAM2-25.00	TAK2-25.00	TAN2-25.00	TAX2-25.00
2-C	30.00	1.1811	—	2	TAP2-30.00	TAM2-30.00	TAK2-30.00	TAN2-30.00	TAX2-30.00
2-D	32.00	1.2598	—	2	TAP2-32.00	TAM2-32.00	TAK2-32.00	TAN2-32.00	TAX2-32.00
2-D	35.00	1.3780	—	2	TAP2-35.00	TAM2-35.00	TAK2-35.00	TAN2-35.00	TAX2-35.00

Imperial Insert Kit

Series	Diameter			Qty	TAP-IMP-KIT	TAM-IMP-KIT	TAK-IMP-KIT	TAN-IMP-KIT	TAX-IMP-KIT
	mm	inch	Fractional		P	M	K	N	X
0-A	12.70	0.5000	1/2	2	TAP0-12.70	TAM0-12.70	TAK0-12.70	TAN0-12.70	TAX0-12.70
0-B	14.29	0.5626	9/16	2	TAP0-14.29	TAM0-14.29	TAK0-14.29	TAN0-14.29	TAX0-14.29
0-C	15.88	0.6252	5/8	2	TAP0-15.88	TAM0-15.88	TAK0-15.88	TAN0-15.88	TAX0-15.88
0-D	17.46	0.6874	11/16	2	TAP0-17.46	TAM0-17.46	TAK0-17.46	TAN0-17.46	TAX0-17.46
1-B	19.05	0.7500	3/4	2	TAP1-19.05	TAM1-19.05	TAK1-19.05	TAN1-19.05	TAX1-19.05
1-C	20.64	0.8126	13/16	2	TAP1-20.64	TAM1-20.64	TAK1-20.64	TAN1-20.64	TAX1-20.64
1-C	22.23	0.8752	7/8	2	TAP1-22.23	TAM1-22.23	TAK1-22.23	TAN1-22.23	TAX1-22.23
1-D	23.81	0.9374	15/16	2	TAP1-23.81	TAM1-23.81	TAK1-23.81	TAN1-23.81	TAX1-23.81
2-B	25.40	1.0000	1	2	TAP2-25.40	TAM2-25.40	TAK2-25.40	TAN2-25.40	TAX2-25.40
2-C	28.58	1.1252	1-1/8	2	TAP2-28.58	TAM2-28.58	TAK2-28.58	TAN2-28.58	TAX2-28.58
2-D	31.75	1.2500	1-1/4	2	TAP2-31.75	TAM2-31.75	TAK2-31.75	TAN2-31.75	TAX2-31.75
2-D	34.93	1.3752	1-3/8	2	TAP2-34.93	TAM2-34.93	TAK2-34.93	TAN2-34.93	TAX2-34.93



A25: 51 - 61



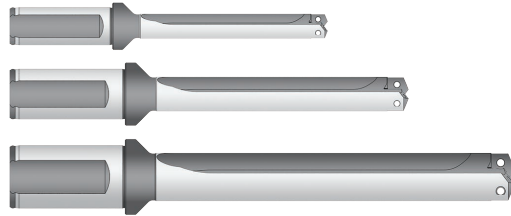
T-A PRO MATERIAL LIBRARY: SEE IT IN ACTION.

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



T-A Pro Kits: 12.70 mm - 35.04 mm (0.4999" - 1.3797")

Holders



A25

Metric 3xD Holder Kits

	Series	Length	Drill Depth	Shank Diameter	Qty
m	0-A	3xD	45.9	20	1
	1-A	3xD	62.9	25	1
	2-A	3xD	89.2	32	1

HTA03FM-KIT

Flanged with flat
HTA0A03-20FM
HTA1A03-25FM
HTA2A03-32FM

HTA03CM-KIT

Cylindrical (no flat)
HTA0A03-20CM
HTA1A03-25CM
HTA2A03-32CM

Metric 5xD Holder Kits

	Series	Length	Drill Depth	Shank Diameter	Qty
m	0-A	5xD	76.6	20	1
	1-A	5xD	104.8	25	1
	2-A	5xD	148.7	32	1

HTA05FM-KIT

Flanged with flat
HTA0A05-20FM
HTA1A05-25FM
HTA2A05-32FM

HTA05CM-KIT

Cylindrical (no flat)
HTA0A05-20CM
HTA1A05-25CM
HTA2A05-32CM

Imperial 3xD Holder Kits

	Series	Length	Drill Depth	Shank Diameter	Qty
i	0-A	3xD	1.809	0.750	1
	1-A	3xD	2.475	1.000	1
	2-A	3xD	3.513	1.250	1

HTA03F-KIT

Flanged with flat
HTA0A03-075F
HTA1A03-100F
HTA2A03-125F

HTA03C-KIT

Cylindrical (no flat)
HTA0A03-075C
HTA1A03-100C
HTA2A03-125C

Imperial 5xD Holder Kits

	Series	Length	Drill Depth	Shank Diameter	Qty
i	0-A	5xD	3.015	0.750	1
	1-A	5xD	4.125	1.000	1
	2-A	5xD	5.855	1.250	1

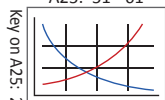
HTA05F-KIT

Flanged with flat
HTA0A05-075F
HTA1A05-100F
HTA2A05-125F

HTA05C-KIT

Cylindrical (no flat)
HTA0A05-075C
HTA1A05-100C
HTA2A05-125C

A25: 51 - 61



m = Metric (mm)

i = Imperial (in)



Recommended Drilling Data | Metric (mm)

T-A PRO | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter				
					Y / Z Series 9.50 mm - 12.69 mm	0 Series 12.70 mm - 17.64 mm	1 Series 17.65 mm - 24.37 mm	2 Series 24.38 mm - 35.04 mm	3 Series 35.05 mm - 47.80 mm
P	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
		225 - 275	X	80	0.13 ❖	0.20	0.25	0.36	0.46
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	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
		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
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	X	75	0.15	0.23	0.30	0.36	0.43
		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
	High-Strength Alloy 4340, 4330V, 300M, 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
	Structural Steel A36, A285, A516, 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
	Tool Steel H-13, H-21, A-4, S-3, 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
	M	200 - 250	X	35	0.10	0.15	0.20	0.25	0.30
		185 - 275	X	40	0.13 ❖	0.25	0.28	0.30	0.33
		416, 420, etc.	X	35	0.10 ❖	0.23	0.28	0.28	0.30
		135 - 185	X	40	0.13 ❖	0.18	0.20	0.23	0.30
		304, 316, 17-4PH, etc.	X	35	0.10 ❖	0.15	0.18	0.20	0.28
		275 - 350	X	30	0.08 ❖	0.10	0.15	0.20	0.25
		17-4, 13-8, 15-5	X	25	0.08 ❖	0.10	0.15	0.20	0.25
	Super Duplex Stainless Steel	350 - 425	X	25	0.08 ❖	0.10	0.15	0.20	0.25
		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

❖ 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.

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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Metric (mm)

T-A PRO | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter				
					Y / Z Series 9.50 mm - 12.69 mm	0 Series 12.70 mm - 17.64 mm	1 Series 17.65 mm - 24.37 mm	2 Series 24.38 mm - 35.04 mm	3 Series 35.05 mm - 47.80 mm
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 Aluminum	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 Aluminum	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
	Aluminum 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
m	Copper	60	X	100	0.05	0.08	0.15	0.20	0.25
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	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
	Titanium Alloy	140 - 220	X	20	0.08	0.18	0.20	0.25	0.30
		220 - 310	X	15	0.08	0.15	0.18	0.20	0.25
	Aerospace Alloy S82	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
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

❖ 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.

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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Metric (mm)

T-A PRO | CARBIDE

ISO	Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter				
					Y / Z Series 9.50 mm - 12.69 mm	0 Series 12.70 mm - 17.64 mm	1 Series 17.65 mm - 24.37 mm	2 Series 24.38 mm - 35.04 mm	3 Series 35.05 mm - 47.80 mm
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
		275 - 325	P	100	0.10	0.18	0.23	0.30	0.41
	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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	P	95	0.08	0.18	0.25	0.30	0.38
		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
	Structural Steel A36, A285, A516, etc.	350 - 400	P	90	0.08	0.15	0.20	0.28	0.33
		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
	Tool Steel H-13, H-21, A-4, S-3, etc.	250 - 350	P	85	0.10 ❖	0.20	0.25	0.30	0.36
		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
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

❖ 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.

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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Metric (mm)

T-A PRO | CARBIDE

ISO	Material	Hardness (BHN)	Insert Grade	Speed (m/min)	Feed Rate (mm/rev) by Diameter				
					Y / Z Series 9.50 mm - 12.69 mm	0 Series 12.70 mm - 17.64 mm	1 Series 17.65 mm - 24.37 mm	2 Series 24.38 mm - 35.04 mm	3 Series 35.05 mm - 47.80 mm
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 Aluminum	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 Aluminum	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
	Aluminum 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
m	Copper	60	N	130	0.05	0.08	0.15	0.20	0.25
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
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

❖ 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.

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: appeng@alliedmachine.com.

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.

**Recommended Drilling Data | Metric (mm)****T-A PRO FORM INSERTS | HIGH-SPEED STEEL**

ISO	Material		Y / Z Series	0 Series	1 Series	2 Series	3 Series
			9.50 mm - 12.69 mm	12.70 mm - 17.64 mm	17.65 mm - 24.37 mm	24.38 mm - 35.04 mm	35.05 mm - 47.80 mm
P	Low-Carbon Steel	m/min	45 - 70	45 - 70	45 - 70	60 - 75	60 - 75
		mm/rev	0.18 - 0.25	0.18 - 0.25	0.25 - 0.38	0.28 - 0.43	0.30 - 0.48
	Alloy Steel	m/min	40 - 65	40 - 65	40 - 65	45 - 70	45 - 70
		mm/rev	0.18 - 0.25	0.15 - 0.23	0.25 - 0.36	0.28 - 0.41	0.30 - 0.43
M	Stainless Steel	m/min	65 - 85	65 - 85	65 - 95	65 - 95	65 - 105
		mm/rev	0.18 - 0.25	0.18 - 0.25	0.20 - 0.36	0.20 - 0.36	0.25 - 0.41
K	Cast Iron	m/min	55 - 110	55 - 110	55 - 110	70 - 120	70 - 120
		mm/rev	0.20 - 0.30	0.20 - 0.30	0.20 - 0.48	0.23 - 0.48	0.33 - 0.53
N	Nonferrous	m/min	75 - 190	60 - 170	65 - 220	105 - 225	135 - 260
		mm/rev	0.18 - 0.25	0.18 - 0.25	0.25 - 0.38	0.28 - 0.43	0.30 - 0.48

T-A PRO FORM INSERTS | CARBIDE

ISO	Material		Y / Z Series	0 Series	1 Series	2 Series	3 Series
			9.50 mm - 12.69 mm	12.70 mm - 17.64 mm	17.65 mm - 24.37 mm	24.38 mm - 35.04 mm	35.05 mm - 47.80 mm
P	Low-Carbon Steel	m/min	60 - 115	60 - 115	60 - 115	75 - 120	75 - 120
		mm/rev	0.18 - 0.28	0.18 - 0.28	0.28 - 0.41	0.30 - 0.46	0.33 - 0.51
	Alloy Steel	m/min	60 - 105	60 - 105	60 - 105	70 - 115	70 - 115
		mm/rev	0.18 - 0.28	0.18 - 0.28	0.28 - 0.43	0.30 - 0.48	0.30 - 0.48
M	Stainless Steel	m/min	75 - 100	75 - 100	75 - 115	75 - 115	75 - 120
		mm/rev	0.18 - 0.25	0.18 - 0.25	0.20 - 0.36	0.20 - 0.36	0.25 - 0.41
K	Cast Iron	m/min	105 - 195	105 - 195	105 - 195	130 - 210	130 - 210
		mm/rev	0.23 - 0.33	0.23 - 0.33	0.23 - 0.51	0.25 - 0.51	0.36 - 0.56
N	Nonferrous	m/min	105 - 215	105 - 245	105 - 275	120 - 290	120 - 290
		mm/rev	0.18 - 0.28	0.18 - 0.28	0.28 - 0.41	0.30 - 0.46	0.33 - 0.51



Notes

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A25



Recommended Drilling Data | Imperial (in)

T-A PRO | HIGH-SPEED STEEL

ISO	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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	X	190	0.003	0.007	0.010	0.012	0.015
		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
	Structural Steel A36, A285, A516, etc.	350 - 400	X	90	0.003	0.006	0.008	0.011	0.013
		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
	Tool Steel H-13, H-21, A-4, S-3, etc.	250 - 350	X	175	0.004 ❖	0.008	0.009	0.010	0.014
		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
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	X	125	0.005 ❖	0.010	0.011	0.012	0.013
		275 - 350	X	110	0.004 ❖	0.009	0.010	0.011	0.012
	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

❖ 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)
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.
- 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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Imperial (in)

T-A PRO | HIGH-SPEED STEEL

ISO	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"
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 Aluminum	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 Aluminum	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
	Aluminum 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
S	Copper	60	X	320	0.002	0.003	0.006	0.008	0.010
	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
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

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

A25

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.
- 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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Imperial (in)

T-A PRO | CARBIDE

ISO	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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	P	310	0.003	0.007	0.010	0.012	0.015
		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
	Structural Steel A36, A285, A516, etc.	350 - 400	P	300	0.003	0.006	0.008	0.011	0.013
		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
	Tool Steel H-13, H-21, A-4, S-3, etc.	250 - 350	P	280	0.004 ❖	0.008	0.009	0.010	0.014
		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
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

❖ 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)
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.
 - 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: appeng@alliedmachine.com.

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.



Recommended Drilling Data | Imperial (in)

T-A PRO | CARBIDE

ISO	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"
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 Aluminum	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 Aluminum	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
	Aluminum 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
S	Copper	60	N	430	0.002	0.003	0.006	0.008	0.010
	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
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

❖ 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)
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.
- 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: appeng@alliedmachine.com.

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.

**Recommended Drilling Data | Imperial (in)****T-A PRO FORM INSERTS | HIGH-SPEED STEEL**

ISO	Material		Y / Z Series	0 Series	1 Series	2 Series	3 Series
			0.3739" - 0.4998"	0.4999" - 0.6946"	0.6947" - 0.9596"	0.9597" - 1.3797"	1.3798" - 1.8820"
P	Low-Carbon Steel	SFM	150 - 235	150 - 235	150 - 235	190 - 250	190 - 250
		IPR	0.007 - 0.01	0.007 - 0.01	0.01 - 0.015	0.011 - 0.017	0.012 - 0.019
	Alloy Steel	SFM	130 - 220	130 - 220	130 - 220	145 - 235	145 - 235
		IPR	0.007 - 0.010	0.006 - 0.009	0.01 - 0.014	0.011 - 0.016	0.012 - 0.017
M	Stainless Steel	SFM	215 - 275	215 - 275	215 - 315	215 - 315	215 - 340
		IPR	0.007 - 0.010	0.007 - 0.010	0.008 - 0.014	0.008 - 0.014	0.01 - 0.016
K	Cast Iron	SFM	180 - 365	180 - 365	180 - 365	225 - 390	225 - 390
		IPR	0.008 - 0.012	0.008 - 0.012	0.008 - 0.019	0.009 - 0.019	0.013 - 0.021
N	Nonferrous	SFM	250 - 625	195 - 565	220 - 715	350 - 745	450 - 850
		IPR	0.009 - 0.014	0.009 - 0.014	0.014 - 0.018	0.014 - 0.020	0.014 - 0.022

T-A PRO FORM INSERTS | CARBIDE

ISO	Material		Y / Z Series	0 Series	1 Series	2 Series	3 Series
			0.3739" - 0.4998"	0.4999" - 0.6946"	0.6947" - 0.9596"	0.9597" - 1.3797"	1.3798" - 1.8820"
P	Low-Carbon Steel	SFM	200 - 375	200 - 375	200 - 375	250 - 400	250 - 400
		IPR	0.007 - 0.011	0.007 - 0.011	0.011 - 0.016	0.012 - 0.018	0.013 - 0.02
	Alloy Steel	SFM	200 - 350	200 - 350	200 - 350	225 - 375	225 - 375
		IPR	0.007 - 0.011	0.007 - 0.011	0.011 - 0.017	0.012 - 0.019	0.012 - 0.019
M	Stainless Steel	SFM	250 - 325	250 - 325	250 - 375	250 - 375	250 - 400
		IPR	0.007 - 0.010	0.007 - 0.010	0.008 - 0.014	0.008 - 0.014	0.010 - 0.016
K	Cast Iron	SFM	340 - 645	340 - 645	340 - 645	430 - 685	430 - 685
		IPR	0.009 - 0.013	0.009 - 0.013	0.009 - 0.020	0.010 - 0.020	0.014 - 0.022
N	Nonferrous	SFM	350 - 700	350 - 800	350 - 900	400 - 950	400 - 950
		IPR	0.010 - 0.017	0.010 - 0.017	0.014 - 0.020	0.014 - 0.020	0.014 - 0.022

A25



Notes

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A25



Technical Formulas

A25

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 • DIA²
	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
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
Aluminum Alloy	–	0.22
Magnesium Alloy	–	0.16
High-Temperature Alloys	–	1.44
Titanium Alloy	–	0.72

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 • DIA²)/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)

Material Constants

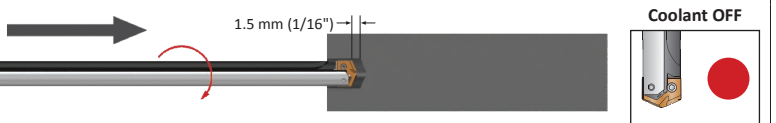
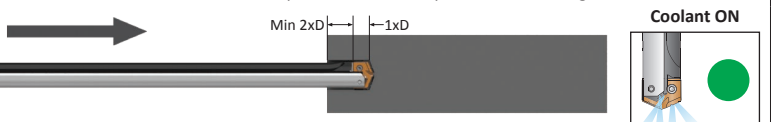
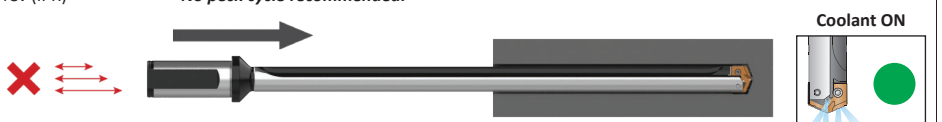
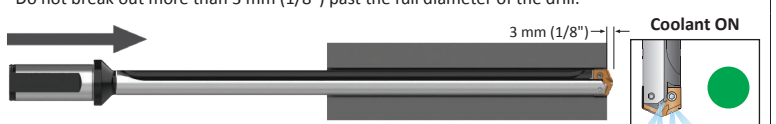
Type of Material	Hardness	K _m (kPa)
Plain Carbon and Alloy Steel	85 - 200 BHN	5.45
	200 - 275 BHN	6.48
	275 - 375 BHN	6.89
	375 - 425 BHN	7.93
Stainless Steels	135 - 275 BHN	6.48
	30 - 45 RC	7.45
Cast Iron	100 - 200 BHN	3.45
	200 - 300 BHN	7.45
Copper Alloy	20 - 80 RB	2.96
	80 - 100 RB	4.96
Aluminum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

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."



Deep Hole Drilling Guidelines

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

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. Utilize a pilot drill with the same or larger included point angle.	
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.	
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 one second dwell is required to meet full speed before feeding.	
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.	
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.	
6. Drill Retract ⚠️ 50 RPM max	Reduce speed to a maximum of 50 RPM before retracting from the hole.	

⚠️ 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: appeng@alliedmachine.com.



Troubleshooting Guide

A25

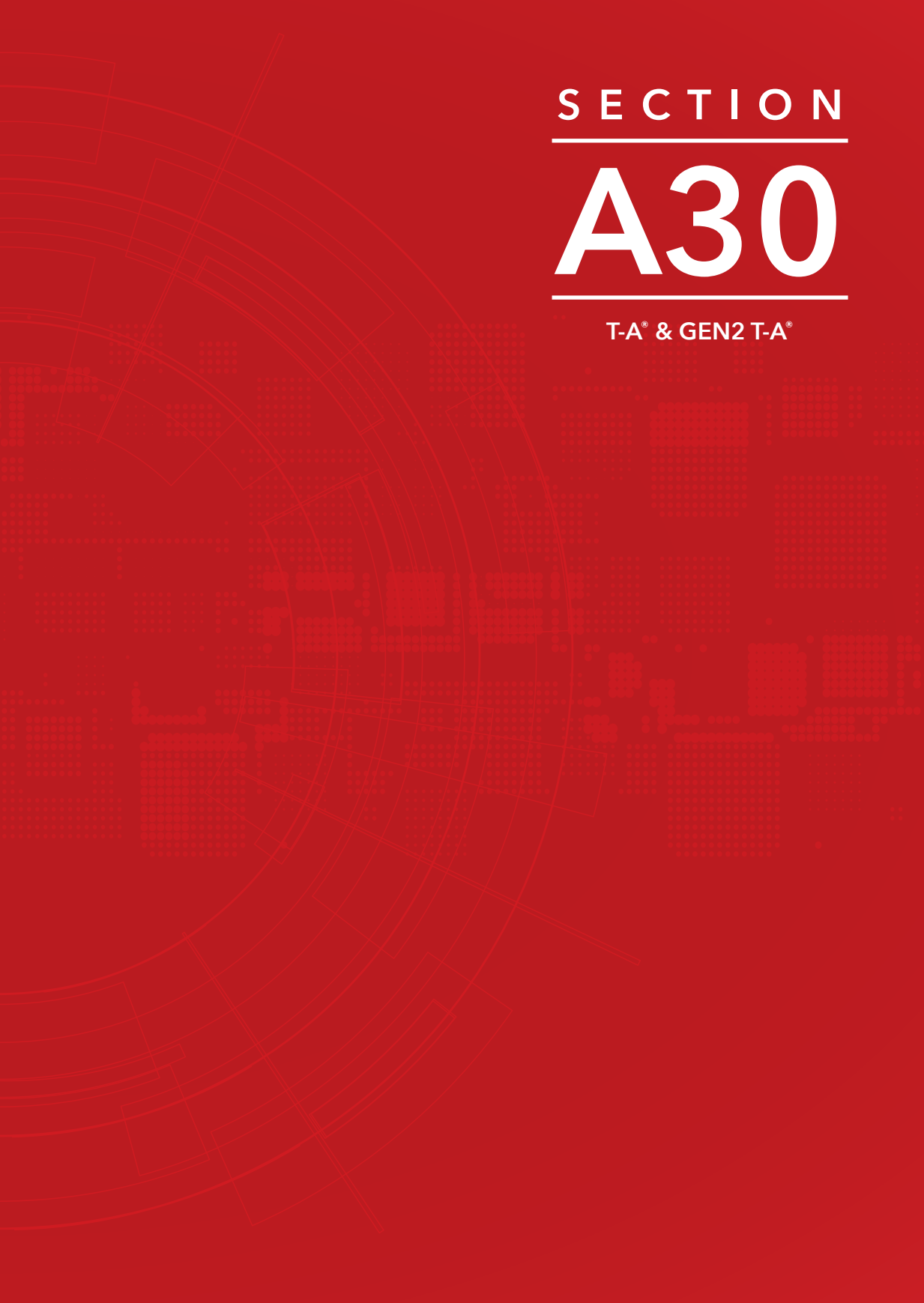
	Potential Problem																			
	Accelerated corner wear	Barber pole	Bell-mouthed hole	Insert chipping	Blue chips	Built-Up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of round	Holet out of position	Over-size 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			- Align spindle and turret or tailstock. - Repair spindle.
Use of low rigidity machine tools		2	3	4			7		9	10			13	14						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 workpiece support		2		4			7		10	11				15			17			- Provide additional support for the workpiece. - 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	- 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		- 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		- Reduce speed. - Increase coolant pressure and volume. - Improve coolant condition by use of quality products and regular maintenance.
Poor material microstructure or foreign particles (forgings and castings that have not been normalized or annealed, poorly prepared steel, flame cut parts, and sand casting)				4		6			10		12	13						18		- Compare performance of other tools for similar wear problems, which may indicate poor microstructure. Anneal or normalize parts to improve microstructure 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	- 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		- 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.



Notes

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or additional markings.

A25

The background of the entire page is a solid red color. Overlaid on this background is a complex geometric pattern. It consists of several concentric circles that are centered on the left side of the page. These circles are intersected by a series of straight lines that radiate from the center, creating a grid-like structure. The lines and circles are a lighter shade of red than the background, creating a subtle, technical-looking design.

SECTION

A30

T-A® & GEN2 T-A®

T-A® & GEN2 T-A®

9.50 mm - 114.48 mm (0.3740" - 4.5070")



T-A® Drilling System

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.

This is Not Yesterday's Spade Drill

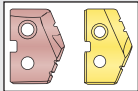
- ▶ Excellent hole size and finish.
- ▶ Optimizes chip evacuation.
- ▶ Wide range of geometry options available.

Applicable Industries

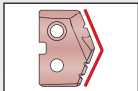
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Hydraulics
-  Marine
-  Oil and Gas
-  Renewable Energy/ Energy
-  Tool, Mold, and Die

Reference Icons

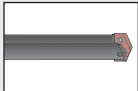
The following icons will appear throughout the catalog to help you navigate between products.



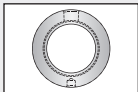
T-A Inserts
Range of inserts that connect with the corresponding holders.



Available Insert Geometries
Details for the different geometry options available for each T-A insert style.



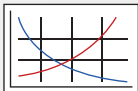
T-A Holders
Range of holders that connect with the corresponding inserts.



Rotary Coolant Adapter (RCA) Information
Detailed instructions and information regarding the corresponding part(s).



T-ACR 45 Chamfer Rings
Range of T-ACR 45 chamfer rings available for the corresponding holders.



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



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

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



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

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

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

Table of Contents

Introduction Information

T-A Drilling System Overview	
Replaceable Inserts	3
Insert Holders	7
Technical Details	9
Product Nomenclature	11

Drill Series

Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")	13
Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")	23
0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")	33
1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")	47
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")	61
3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")	79
4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")	89
5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")	97
7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")	103
Oversize: 110.00 mm - 200.00 mm (4.3307" - 7.8740")	105

Accessories

Rotary Coolant Adapters (RCA)	111
T-ACR 45 Chamfer Rings	112

Recommended Drilling Data

Metric (mm)	
GEN2 T-A	113
T-A	117
T-A Flat Bottom	121
T-A Diamond Coated	125
Imperial (in)	
GEN2 T-A	127
T-A	131
T-A Flat Bottom	135
T-A Diamond Coated	139

Technical Information

Coolant Recommendations	
Metric (mm)	141
Imperial (in)	143
Technical Formulas	145
Deep Hole Drilling Guidelines	146
Troubleshooting Guide	147



T-A Drilling System Overview

Replaceable Inserts

Series	Y Series		Z Series		O Series		1 Series		2 Series		3 Series	
T-A®												
Insert Ø	mm	9.50 - 11.09	11.10 - 12.97		12.98 - 17.67		17.53 - 24.40		24.41 - 35.06		34.37 - 47.82	
	inch	0.3740 - 0.4369	0.4370 - 0.5109		0.5110 - 0.6959		0.6900 - 0.9609		0.9610 - 1.3809		1.3530 - 1.8829	
Half Series Insert Ø min					0.6094" (15.48 mm)		0.8594" (21.83 mm)		1.1875" (30.16 mm)			
Series	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A
HSS Substrates	SC PC	SC	SC PC	SC	SC PC	SC	HSS SC PC	SC	HSS SC PC	SC	SC	HSS SC PC
Carbide Substrates	K20 (C2) K10 (C3) P40 (C5) N2	K35 (C1) K20 (C2)	K20 (C2) K10 (C3) P40 (C5) N2	K35 (C1) K20 (C2)	K20 (C2) K10 (C3) P40 (C5) N2	K35 (C1) K20 (C2)	K20 (C2) K10 (C3) P40 (C5) N2	K35 (C1) K20 (C2)	K20 (C2) K10 (C3) P40 (C5) N2	K35 (C1) K20 (C2)	K20 (C2) P40 (C5)	—
Coatings	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN	AM200® TiN

SC = Super Cobalt PC = Premium Cobalt

A30

Coatings

**AM300®**

- 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.

**AM200®**

- Increased heat resistance over TiN, TiCN, and TiAlN with improved wear capabilities.
- Over 20% increase in tool life compared to TiAlN coating.
- Color: copper/bronze.

**TiN**

- General purpose coating.
- Improved tool life over noncoated inserts.
- Excellent choice for aluminum.
- Color: gold/yellow.

**TiAlN**

- Excellent choice for wear resistance over high surface speeds.
- Excellent oxidation resistance.
- Maximum working temperature 800°C.
- Color: violet/grey.

**TiCN**

- Excellent choice for wear resistance over low surface speeds.
- High hardness/wear resistance.
- Maximum working temperature 400°C.
- Color: blue/grey.

T-A Drilling System Overview

Replaceable Inserts

4 Series		5 Series		6 Series		7 Series		8 Series	
									
46.99 - 65.30		62.38 - 76.22		76.23 - 89.09		89.10 - 101.62		101.63 - 114.48	
1.8500 - 2.5709		2.4560 - 3.0009		3.0010 - 3.5079		3.5080 - 4.0009		4.0010 - 4.5070	
									
T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A	T-A	GEN2 T-A
SC	HSS SC	HSS SC	HSS SC	HSS SC	HSS SC	HSS SC	HSS SC	HSS SC	HSS SC
-	-	-	-	-	-	-	-	-	-
TiN	AM200® TiN	TiN	AM200® TiN	TiN	AM200® TiN	TiN	AM200® TiN	TiN	AM200® TiN

A30

Substrate 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 aluminum 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) 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) 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 aluminum, SG/nodular cast iron, grey/white iron, aluminum bronze, brass, copper, and certain stainless steels.	Carbide K35 (C1) (T-A / GEN2 T-A) Excellent for drilling free-machining steels, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.	Carbide N2 (T-A) 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.



T-A Drilling System Overview

Replaceable Inserts

There's a Geometry for That.

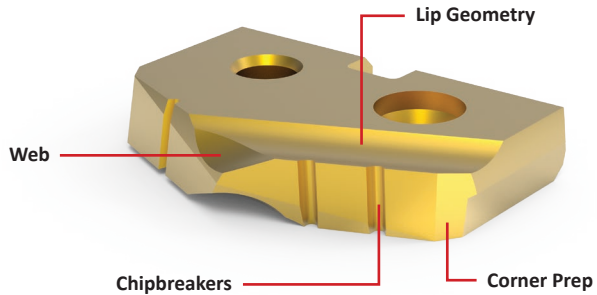
Allied Machine knows there isn't a one-size-fits-all solution when it comes to holmaking. To better accommodate the countless holes our customers drill, we have developed multiple geometry options with new geometries in development at all times.

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.

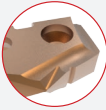
1.330.343.4283

1.800.321.5537 (toll free)

appeng@alliedmachine.com

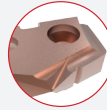


GEN2 T-A®



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.



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).

T-A®



Standard

- Offers excellent penetration rates and tool life.
- Smooth breakout on through holes.
- Increases drill stability and chip formation.
- Ideally suited for low-to-high rigidity machining applications.



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.



Cam Point (-CP)

- Helical cam ground point.
- Improves drill stability and centering characteristics.
- Reduces bellmouthing when using longer holders.
- Target materials: steels, cast/forged steels, cast iron.



Notch Point® (-NP)

- Reduces bellmouthing and leadoff.
- 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 > 200 BHN (700 N/mm²).
- 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).



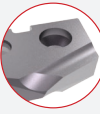
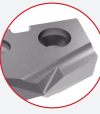
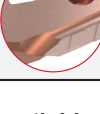
High Rake (-HR)

- 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).



T-A Drilling System Overview

Replaceable Inserts

T-A®	
 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 Notch Point® (-RN) - Combination of high rake and Notch Point geometries. - Reduces bellmouthing and leadoff. - 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.
 Aluminum (-AN) - First choice for machining aluminum. - 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 specialized 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).	 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 (-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).	 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).
 Double Wide Chip Splitters (-DW) - Efficient cutting with reduced power consumption. - Confident chip control in challenging applications. - Improved heat management for consistent performance.	

A30

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.

		-AN	-BT	-BR	-CI	-CN	-CP	-CR	-DW	-FB	-FN	-HE	-HI	-HR	-IN	-NC	-NP	-RN	-SK	-SP	-SW	-TC	-WC
GEN2 T-A®	Y - 2 Series											●											
	3 - 4 Series			●	●			●				●	●	●		●			●				●
	5 - 8 Series			●				●					●	●		●			●				●
T-A®	High-Speed Steel	Y - 2 Series	●		●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
		3 Series			●	●	●		●	●	●		●	●	●	●	●	●	●	●	●	●	●
		4 Series			●	●		●		●	●		●	●		●			●			●	●
		5 - 8 Series			●			●	●				●	●		●			●			●	●
	Carbide	Y - Z Series	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●			●	●
		0 - 2 Series	●	●	●	●	●	●		●	●		●	●	●	●	●	●	●			●	●
		3 Series		●	●	●		●					●	●	●	●	●	●	●			●	●

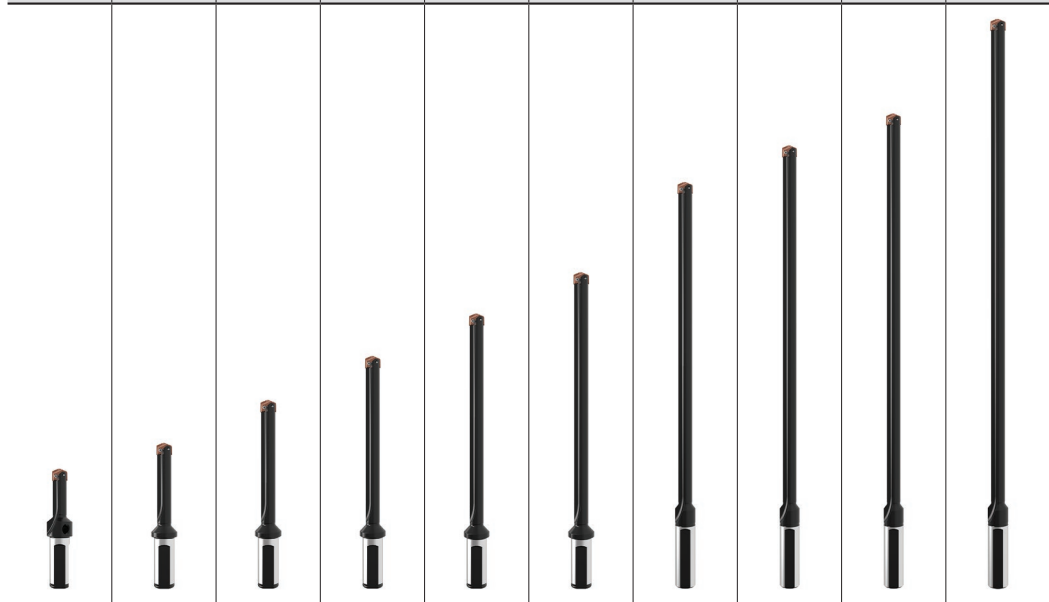


T-A Drilling System Overview

Insert Holders

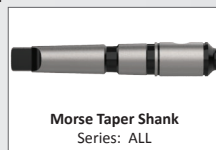
Holder Length Options (for use with both T-A GEN2 and T-A inserts)

Stub	Short	Intermediate	Standard	Standard Plus 	Extended 	Long 	Long Plus 	XL 	3XL 
Y - 3*	All	All	All	Y - 2^	0 - 3	0 - 2	0	All	All



* straight flute flanged shank only. ^ helical flute flanged shank only.

Shank Options



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

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 catalog. 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: appeng@alliedmachine.com.

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or other markings.

A30



T-A Drilling System Overview

Technical Details

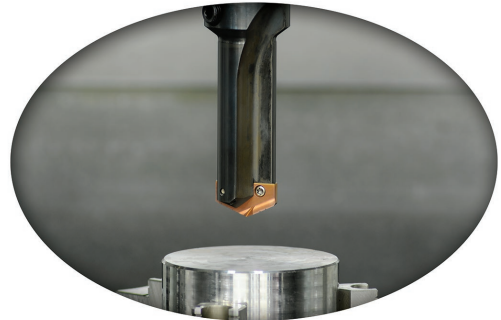
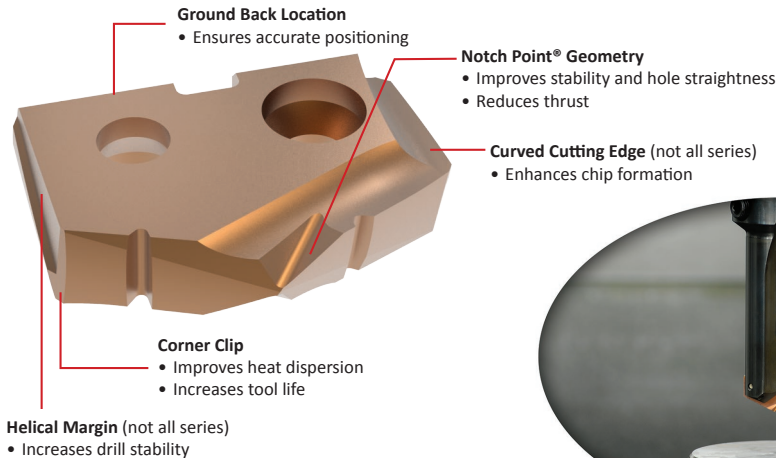
Next Level Solutions: GEN2 T-A®

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. And when you push the known boundaries, the unknown becomes the next level.

After all, everything begins as unknown.

	AM300® Coating • Provides superior tool life at high penetration rates. • Improves heat resistance over AM200® coating. • Increases tool life up to 20% over AM200 coating.
	AM200® Coating • Improves heat resistance over TiN, TiCN, and TiAlN with improved wear capabilities. • Increases penetration rates. • Increases tool life more than 20% over TiAlN coating.

A30



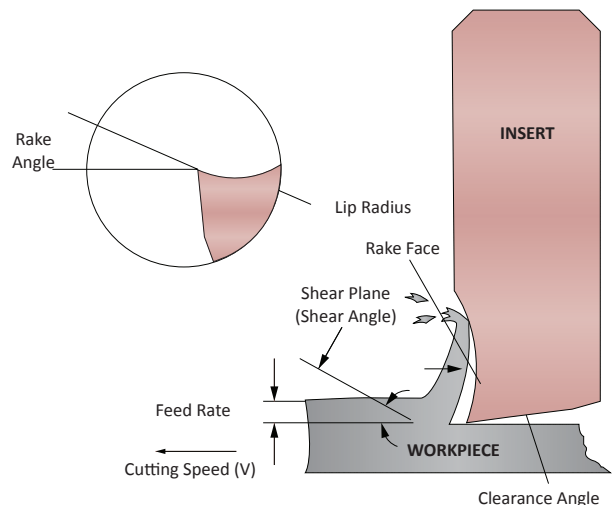
Improving Chip Formation

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.





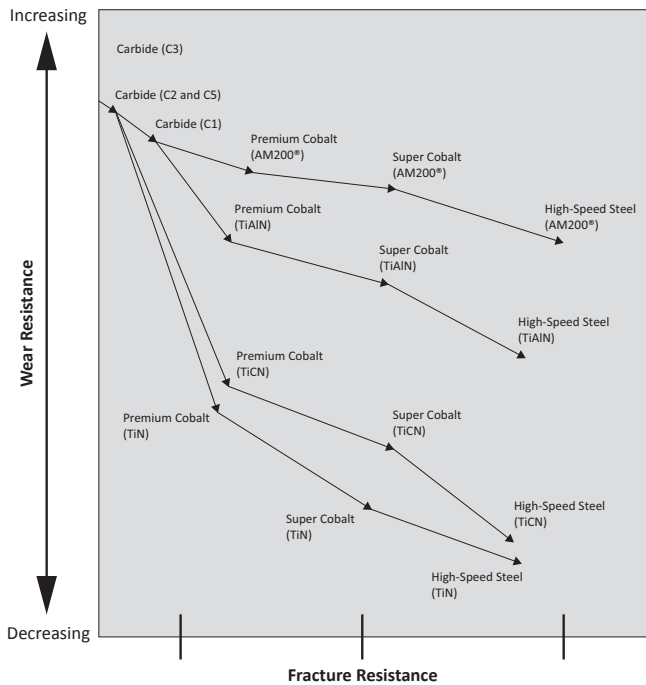
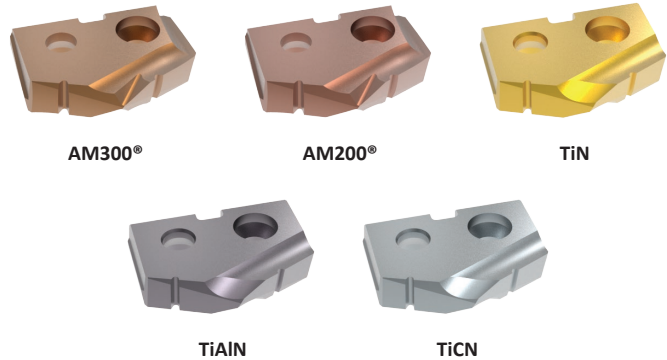
T-A Drilling System Overview

Technical Details

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 center 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.





Product Nomenclature

T-A Drill Inserts

4	5		3	H	—	0115	-TC
Insert	Material		Series	Coating		Diameter	Geometry
1 = T-A® 4 = GEN2 T-A®	3 = HSS 5 = Super cobalt 8 = Premium cobalt	C1 = K35 (C1) carbide C2 = K20 (C2) carbide C3 = K10 (C3) carbide C5 = P40 (C5) carbide	Y 4 Z 5 0 6 1 7 2 8 3	P = AM300® H = AM200® A = TiAlN N = TiCN T = TiN		13 = Metric (mm) .515 = Decimal (in) 0017 = Fractional (in)	Blank = Standard -TC = Tiny Chip See pgs. 5 - 6 for a complete list of geometries.

Ordering Instructions

► Standard Items:

All orders are processed through Allied Machine's computerized order entry and invoicing system. Please specify the correct item number as well as a full description of the desired item(s) so we can process your order accurately and efficiently. Incorrect item numbers and/or descriptions will cause unnecessary delays and possible returns that are subject to a 10% restocking charge. Your assistance is critical if we are to achieve our goal of processing orders and shipping in-stock items error free within 24 hours.

► Nonstandard Sizes and Geometries:

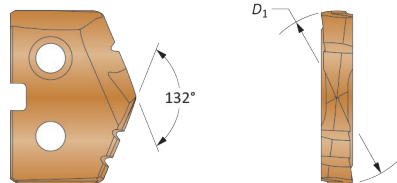
Nonstandard diameter Substitute the required diameter in place of the standard diameter.
Ex: Standard item number **132T-0101**
Nonstandard diameter with standard geometry (inch) **132T-1.0200** (Note: 4 decimal places)
Nonstandard diameter with standard geometry (metric) **132T-34.20** (Note: 2 decimal places)

Special geometry Add the special geometry code at the end of the standard item number.
Ex: Standard item number **132T-0101**
Standard diameter with special geometry (inch) **132T-0101-SK**

Nonstandard diameter with special geometry Replace the standard diameter and add the special geometry code.
Ex: Standard item number **132T-0101**
Nonstandard diameter with special geometry (inch) **132T-1.0200-SK** (Note: 4 decimal places)

Reference Key

Symbol	Attribute
D_1	Insert diameter





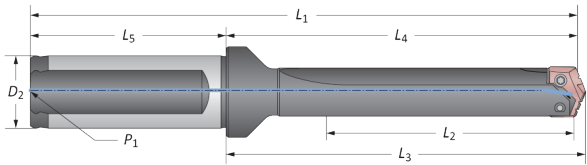
Product Nomenclature

T-A Drill Holders

2	30	20	S	—	004	I
Drill Length		Series	Flute		Shank Designator	Shank Code
10 = Stub		Y0 = Y	S = Straight		Metric	I = Imperial Morse taper
20 = Short		Z0 = Z	H = Helical		Imperial	M = Metric Morse taper
30 = Intermediate		00 = 0			Morse Taper	L = Lathe shank
40 = Standard		05 = 0.5			16 = 16 mm	F = Flanged shank
45 = Standard Plus ⚠		10 = 1			063 = 0.625"	FM = Flanged metric shank
50 = Extended ⚠		15 = 1.5			20 = 20 mm	ER = ER collet (Y - 0)
60 = Long ⚠		20 = 2			075 = 0.750"	
65 = Long Plus ⚠		25 = 2.5			25 = 25 mm	
70 = XL ⚠		30 = 3			100 = 1.000"	
90 = 3XL ⚠		40 = 4			32 = 32 mm	
		50 = 5/6			125 = 1.250"	
		70 = 7/8			40 = 40 mm	
					50 = 50 mm	
					150 = 1.500"	
					175 = 1.750"	
					200 = 2.000"	
					300 = 3.000"	

Reference Key

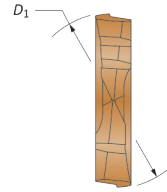
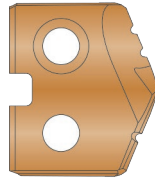
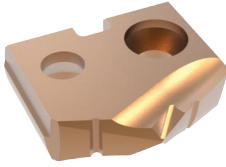
Symbol	Attribute
D_2	Shank diameter
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_4	Holder length
L_5	Shank length
P_1	Rear pipe tap
P_2	Side pipe tap
RCA	Corresponding RCA item number
MT	Morse taper size
ER	ER collet size



A30

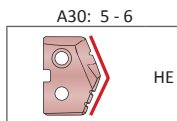
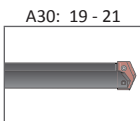
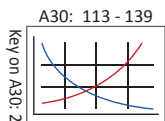
**Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")**

GEN2 T-A® Drill Inserts



A30

Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
D_1 mm	D_1 inch	Fractional Equivalent	 Part No.	 Part No.	 Part No.
			AM200®	AM300®	AM300®
9.50	0.3740	—	45YH-9.5	4C1YP-9.5	4C2YP-9.5
9.53	0.3750	3/8	45YH-0012	4C1YP-0012	4C2YP-0012
9.80	0.3860	—	45YH-.386	4C1YP-.386	4C2YP-.386
9.92	0.3906	25/64	45YH-.390	4C1YP-.390	4C2YP-.390
10.00	0.3937	—	45YH-10	4C1YP-10	4C2YP-10
10.20	0.4016	—	45YH-10.2	4C1YP-10.2	4C2YP-10.2
10.32	0.4063	13/32	45YH-0013	4C1YP-0013	4C2YP-0013
10.50	0.4134	—	45YH-10.5	4C1YP-10.5	4C2YP-10.5
10.72	0.4219	27/64	45YH-.421	4C1YP-.421	4C2YP-.421
10.80	0.4252	—	45YH-10.8	4C1YP-10.8	4C2YP-10.8
11.00	0.4331	—	45YH-11	4C1YP-11	4C2YP-11

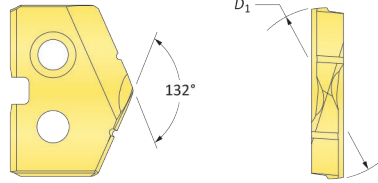


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



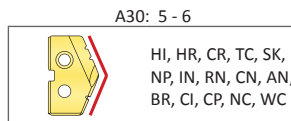
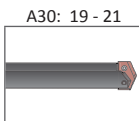
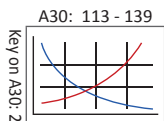
Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

T-A® Drill Inserts



Insert			HSS: Super Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
9.50	0.3740	—	15YT-9.5	15YA-9.5	15YN-9.5
9.53	0.3750	3/8	15YT-0012	15YA-0012	15YN-0012
9.80	0.3860	—	15YT-.386	15YA-.386	15YN-.386
9.92	0.3906	25/64	15YT-.390	15YA-.390	15YN-.390
10.00	0.3937	—	15YT-10	15YA-10	15YN-10
10.20	0.4016	—	15YT-10.2	15YA-10.2	15YN-10.2
10.32	0.4063	13/32	15YT-0013	15YA-0013	15YN-0013
10.50	0.4134	—	15YT-10.5	15YA-10.5	15YN-10.5
10.72	0.4219	27/64	15YT-.421	15YA-.421	15YN-.421
10.80	0.4252	—	15YT-10.8	15YA-10.8	15YN-10.8
11.00	0.4331	—	15YT-11	15YA-11	15YN-11

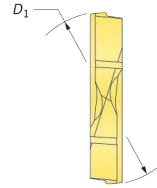
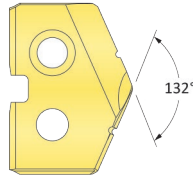
Insert			HSS: Premium Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
9.50	0.3740	—	18YT-9.5	18YA-9.5	18YN-9.5
9.53	0.3750	3/8	18YT-0012	18YA-0012	18YN-0012
9.80	0.3860	—	18YT-.386	18YA-.386	18YN-.386
9.92	0.3906	25/64	18YT-.390	18YA-.390	18YN-.390
10.00	0.3937	—	18YT-10	18YA-10	18YN-10
10.20	0.4016	—	18YT-10.2	18YA-10.2	18YN-10.2
10.32	0.4063	13/32	18YT-0013	18YA-0013	18YN-0013
10.50	0.4134	—	18YT-10.5	18YA-10.5	18YN-10.5
10.72	0.4219	27/64	18YT-.421	18YA-.421	18YN-.421
10.80	0.4252	—	18YT-10.8	18YA-10.8	18YN-10.8
11.00	0.4331	—	18YT-11	18YA-11	18YN-11



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

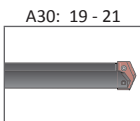
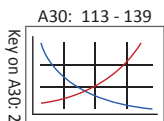
**Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")**

T-A® Drill Inserts



A30

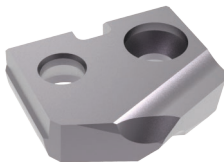
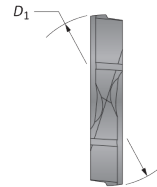
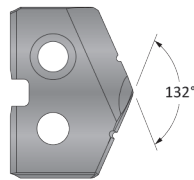
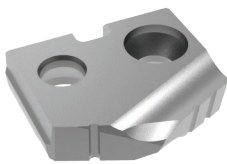
Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	TiAlN	TiN	TiAlN
9.50	0.3740	—	1C5YT-9.5	1C5YA-9.5	1C2YT-9.5	1C2YA-9.5
9.53	0.3750	3/8	1C5YT-0012	1C5YA-0012	1C2YT-0012	1C2YA-0012
9.80	0.3860	—	1C5YT-.386	1C5YA-.386	1C2YT-.386	1C2YA-.386
9.92	0.3906	25/64	1C5YT-.390	1C5YA-.390	1C2YT-.390	1C2YA-.390
10.00	0.3937	—	1C5YT-10	1C5YA-10	1C2YT-10	1C2YA-10
10.20	0.4016	—	1C5YT-10.2	1C5YA-10.2	1C2YT-10.2	1C2YA-10.2
10.32	0.4063	13/32	1C5YT-0013	1C5YA-0013	1C2YT-0013	1C2YA-0013
10.50	0.4134	—	1C5YT-10.5	1C5YA-10.5	1C2YT-10.5	1C2YA-10.5
10.72	0.4219	27/64	1C5YT-.421	1C5YA-.421	1C2YT-.421	1C2YA-.421
10.80	0.4252	—	1C5YT-10.8	1C5YA-10.8	1C2YT-10.8	1C2YA-10.8
11.00	0.4331	—	1C5YT-11	1C5YA-11	1C2YT-11	1C2YA-11



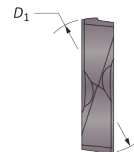
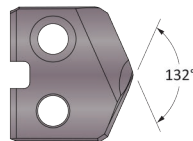
Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

T-A® Drill Inserts



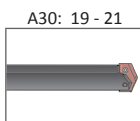
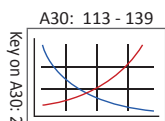
Cast Iron Geometry



A30

Insert			Carbide: N2	Cast Iron Geometry
				
			Part No.	Part No.
D ₁ mm	D ₁ inch	Fractional Equivalent	Diamond Film*	TiAlN
9.50	0.3740	—	1N2YD-9.5	1C3YA-9.5-CI
9.53	0.3750	3/8	1N2YD-0012	1C3YA-0012-CI
9.80	0.3860	—	1N2YD-.386	1C3YA-.386-CI
9.92	0.3906	25/64	1N2YD-.390	1C3YA-.390-CI
10.00	0.3937	—	1N2YD-10	1C3YA-10-CI
10.20	0.4016	—	1N2YD-10.2	1C3YA-10.2-CI
10.32	0.4063	13/32	1N2YD-0013	1C3YA-0013-CI
10.50	0.4134	—	1N2YD-10.5	1C3YA-10.5-CI
10.72	0.4219	27/64	1N2YD-.421	1C3YA-.421-CI
10.80	0.4252	—	1N2YD-10.8	1C3YA-10.8-CI
11.00	0.4331	—	1N2YD-11	1C3YA-11-CI

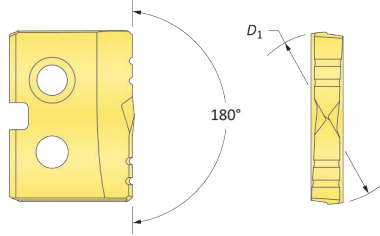
*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

**Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")**

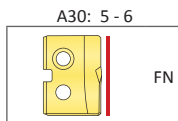
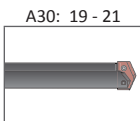
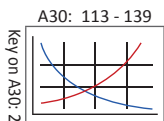
T-A® Drill Inserts



A30

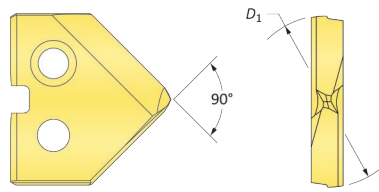
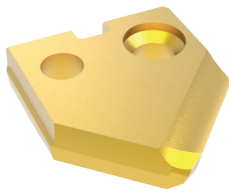
Insert			Flat Bottom Geometry	
			HSS: Super Cobalt	Carbide: K20 (C2)
D ₁ mm	D ₁ inch	Fractional Equivalent	 Part No.	 Part No.
			TiN	TiN*
9.50	0.3740	—	15YT-9.5-FB	15YT-9.5-FB
9.53	0.3750	3/8	15YT-0012-FB	15YT-0012-FB
9.80	0.3860	—	15YT-.386-FB	15YT-.386-FB
9.92	0.3906	25/64	15YT-.390-FB	15YT-.390-FB
10.00	0.3937	—	15YT-10-FB	15YT-10-FB
10.20	0.4016	—	15YT-10.2-FB	15YT-10.2-FB
10.32	0.4063	13/32	15YT-0013-FB	15YT-0013-FB
10.50	0.4134	—	15YT-10.5-FB	15YT-10.5-FB
10.72	0.4219	27/64	15YT-.421-FB	15YT-.421-FB
10.80	0.4252	—	15YT-10.8-FB	15YT-10.8-FB
11.00	0.4331	—	15YT-11-FB	15YT-11-FB

* Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.



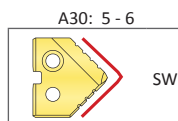
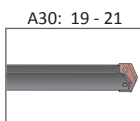
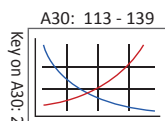
Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

T-A® Drill Inserts



Insert			90° Spot & Chamfer Geometry		
			HSS: Super Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
9.50	0.3740	—	15YT-9.5-SP	15YA-9.5-SP	15YN-9.5-SP
9.53	0.3750	3/8	15YT-0012-SP	15YA-0012-SP	15YN-0012-SP
9.80	0.3860	—	15YT-.386-SP	15YA-.386-SP	15YN-.386-SP
9.92	0.3906	25/64	15YT-.390-SP	15YA-.390-SP	15YN-.390-SP
10.00	0.3937	—	15YT-10-SP	15YA-10-SP	15YN-10-SP
10.20	0.4016	—	15YT-10.2-SP	15YA-10.2-SP	15YN-10.2-SP
10.32	0.4063	13/32	15YT-0013-SP	15YA-0013-SP	15YN-0013-SP
10.50	0.4134	—	15YT-10.5-SP	15YA-10.5-SP	15YN-10.5-SP
10.72	0.4219	27/64	15YT-.421-SP	15YA-.421-SP	15YN-.421-SP
10.80	0.4252	—	15YT-10.8-SP	15YA-10.8-SP	15YN-10.8-SP
11.00	0.4331	—	15YT-11-SP	15YA-11-SP	15YN-11-SP

A30

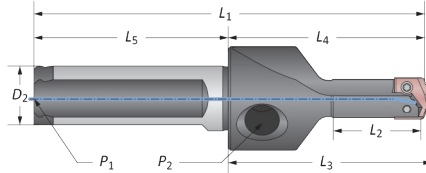
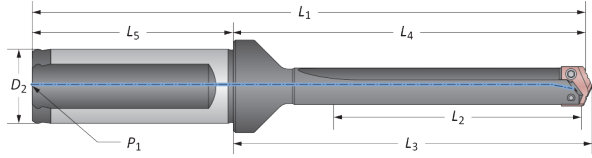


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

T-A® Drill Holders



Stub Length

A30

Flange Shank Holders

Flute		Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
 m		Stub	21.9	47.6	49.9	95.6	48.0	16	1/16 BSPT	210Y0S-16FM
		Short	28.9	61.1	63.4	111.1	50.0	20	1/8 BSPT	220Y0S-20FM
		Standard	57.6	89.7	92.0	139.7	50.0	20	1/8 BSPT	240Y0S-20FM
		Extended	108.4	140.5	142.8	190.5	50.0	20	1/8 BSPT	250Y0S-20FM
		XL	219.4	251.6	253.9	301.6	50.0	20	1/8 BSPT	270Y0S-20FM
		3XL	287.6	319.9	322.1	369.9	50.0	20	1/8 BSPT	290Y0S-20FM
		Standard	72.6	89.7	92.0	139.7	50.0	20	1/8 BSPT	240Y0H-20FM
		Standard Plus	98.3	115.4	117.7	165.4	50.0	20	1/8 BSPT	245Y0H-20FM
		Extended	123.4	140.5	142.8	190.5	50.0	20	1/8 BSPT	250Y0H-20FM
 i		Stub	0.861	1.875	1.965	3.750	1.875	5/8	1/16 NPT	210Y0S-063F
		Short	1.141	2.406	2.496	4.436	2.030	3/4	1/8 NPT	220Y0S-075F
		Standard	2.266	3.531	3.621	5.561	2.030	3/4	1/8 NPT	240Y0S-075F
		Extended	4.266	5.531	5.621	7.561	2.030	3/4	1/8 NPT	250Y0S-075F
		Standard	2.860	3.531	3.621	5.561	2.030	3/4	1/8 NPT	240Y0H-075F
		Standard Plus	3.872	4.543	4.633	6.573	2.030	3/4	1/8 NPT	245Y0H-075F
		Extended	4.860	5.531	5.621	7.561	2.030	3/4	1/8 NPT	250Y0H-075F

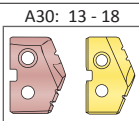
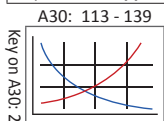
NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

Connection Accessories

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

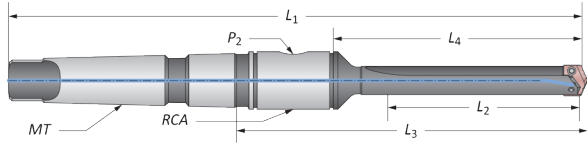
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

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 catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

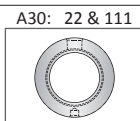
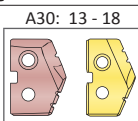
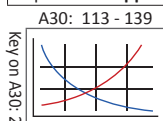


		Body					Shank			
Flute		Length	L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	Part No.
m		Short	27.3	51.6	88.0	160.3	#2 MT ISO	1/16 BSPT	2T-2SRM	220Y0S-002M
		Standard	69.1	80.2	116.6	188.9	#2 MT ISO	1/16 BSPT	2T-2SRM	240Y0H-002M
		Extended	119.9	131.0	167.4	239.7	#2 MT ISO	1/16 BSPT	2T-2SRM	⚠ 250Y0H-002M
i		Short	1.075	2.031	3.464	6.312	#2 MT	1/16 NPT	2T-2SR	220Y0S-002I
		Standard	2.200	3.156	4.589	7.437	#2 MT	1/16 NPT	2T-2SR	240Y0S-002I
		Extended	4.200	5.156	6.589	9.437	#2 MT	1/16 NPT	2T-2SR	⚠ 250Y0S-002I
			Standard	2.719	3.156	4.589	7.437	#2 MT	1/16 NPT	2T-2SR
		Extended	4.719	5.156	6.589	9.437	#2 MT	1/16 NPT	2T-2SR	⚠ 250Y0H-002I

A30

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

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 catalog. 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: appeng@alliedmachine.com.



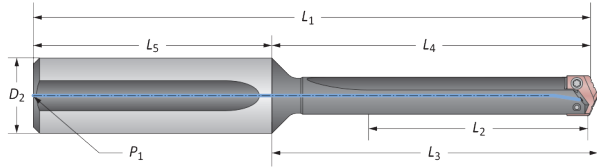
i = Imperial (in)

A30: 20



Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

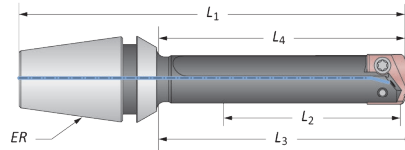
T-A® Drill Holders



Straight Shank Holders

Flute		Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
	Straight	Short	1.080	2.031	2.121	4.406	2.375	3/4	1/8 NPT	220Y0S-075L
		Standard	2.205	3.156	3.246	5.531	2.375	3/4	1/8 NPT	240Y0S-075L
		Extended	4.205	5.156	5.246	7.531	2.375	3/4	1/8 NPT	 250Y0S-075L
		XL	8.580	9.531	9.621	11.906	2.375	3/4	1/8 NPT	 270Y0S-075L
		3XL	11.267	12.218	12.308	14.593	2.375	3/4	1/8 NPT	 290Y0S-075L

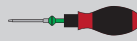
A30



ER Collet Holders

Flute	L_2	L_4	L_3	L_1	ER	Part No.	Collet Nut without Retaining Ring
	42.5	48.5	50.8	75.8	ER-16	210Y0S-16ER	ER-16N
	42.5	48.5	50.8	79.8	ER-20	210Y0S-20ER	ER-20N

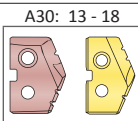
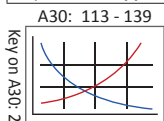
Connection Accessories

					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 catalog. 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: appeng@alliedmachine.com.

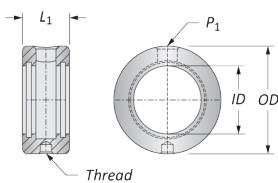


 = Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.

Y Series: 9.50 mm - 11.09 mm (0.3740" - 0.4369")

T-A® Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

			Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
ID	OD	L ₁				Kit Part No.*	Replacements
 19.1	44.5	22.2	M8 x 1.25	1/8 BSPT	 2T-2SRM	2T1-2SR	2T1-2OR-10
 0.750	1.750	0.875	5/16" - 18	1/8 NPT	 2T-2SR	2T1-2SR	2T1-2OR-10

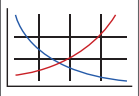
*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
 Refer to page A30: 111 for proper RCA assembly and safety information. RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling.

A30

 **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 through our Application Engineering department: appeng@alliedmachine.com

A30: 113 - 139

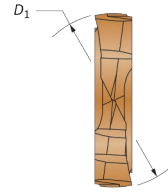
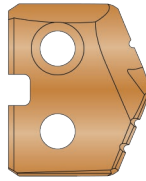
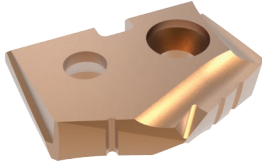


 = Metric (mm)
 = Imperial (in)
O-rings sold in packs of 10.

A30: 22

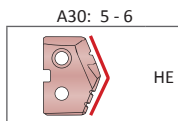
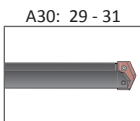
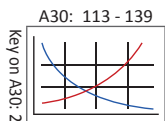
**Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")**

GEN2 T-A® Drill Inserts



A30

Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
D_1 mm	D_1 inch	Fractional Equivalent	 Part No.	 Part No.	 Part No.
			AM200®	AM300®	AM300®
11.11	0.4375	7/16	45ZH-0014	4C1ZP-0014	4C2ZP-0014
11.46	0.4510	—	45ZH-.451	4C1ZP-.451	4C2ZP-.451
11.50	0.4528	—	45ZH-11.5	4C1ZP-11.5	4C2ZP-11.5
11.51	0.4531	29/64	45ZH-.453	4C1ZP-.453	4C2ZP-.453
11.91	0.4688	15/32	45ZH-0015	4C1ZP-0015	4C2ZP-0015
12.00	0.4724	—	45ZH-12	4C1ZP-12	4C2ZP-12
12.30	0.4844	31/64	45ZH-.484	4C1ZP-.484	4C2ZP-.484
12.50	0.4921	—	45ZH-12.5	4C1ZP-12.5	4C2ZP-12.5
12.70	0.5000	1/2	45ZH-0016	4C1ZP-0016	4C2ZP-0016
12.85	0.5060	—	45ZH-.506	4C1ZP-.506	4C2ZP-.506
12.95	0.5100	—	45ZH-.510	4C1ZP-.510	4C2ZP-.510

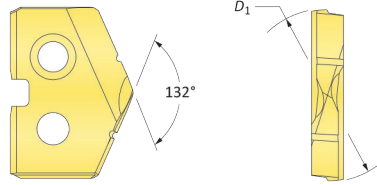


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

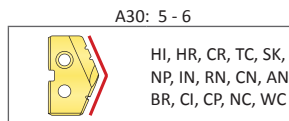
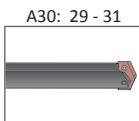
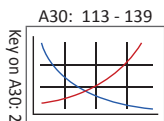
T-A® Drill Inserts



Insert			HSS: Super Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
11.11	0.4375	7/16	15ZT-0014	15ZA-0014	15ZN-0014
11.46	0.4510	—	15ZT-.451	15ZA-.451	15ZN-.451
11.50	0.4528	—	15ZT-11.5	15ZA-11.5	15ZN-11.5
11.51	0.4531	29/64	15ZT-.453	15ZA-.453	15ZN-.453
11.91	0.4688	15/32	15ZT-0015	15ZA-0015	15ZN-0015
12.00	0.4724	—	15ZT-12	15ZA-12	15ZN-12
12.30	0.4844	31/64	15ZT-.484	15ZA-.484	15ZN-.484
12.50	0.4921	—	15ZT-12.5	15ZA-12.5	15ZN-12.5
12.70	0.5000	1/2	15ZT-0016	15ZA-0016	15ZN-0016
12.85	0.5060	—	15ZT-.506	15ZA-.506	15ZN-.506
12.95	0.5100	—	15ZT-.510	15ZA-.510	15ZN-.510

A30

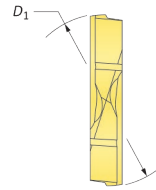
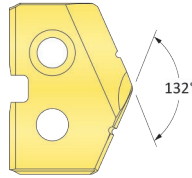
Insert			HSS: Premium Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
11.11	0.4375	7/16	18ZT-0014	18ZA-0014	18ZN-0014
11.46	0.4510	—	18ZT-.451	18ZA-.451	18ZN-.451
11.50	0.4528	—	18ZT-11.5	18ZA-11.5	18ZN-11.5
11.51	0.4531	29/64	18ZT-.453	18ZA-.453	18ZN-.453
11.91	0.4688	15/32	18ZT-0015	18ZA-0015	18ZN-0015
12.00	0.4724	—	18ZT-12	18ZA-12	18ZN-12
12.30	0.4844	31/64	18ZT-.484	18ZA-.484	18ZN-.484
12.50	0.4921	—	18ZT-12.5	18ZA-12.5	18ZN-12.5
12.70	0.5000	1/2	18ZT-0016	18ZA-0016	18ZN-0016
12.85	0.5060	—	18ZT-.506	18ZA-.506	18ZN-.506
12.95	0.5100	—	18ZT-.510	18ZA-.510	18ZN-.510



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

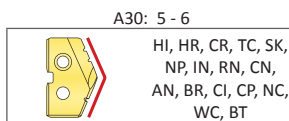
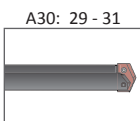
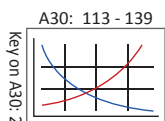
**Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")**

T-A® Drill Inserts



A30

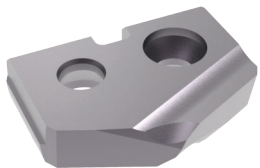
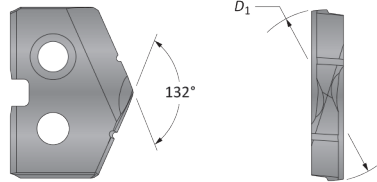
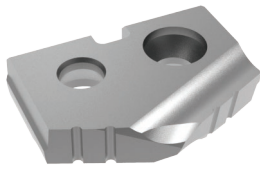
Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	TiAlN	TiN	TiAlN
11.11	0.4375	7/16	1C5ZT-0014	1C5ZA-0014	1C2ZT-0014	1C2ZA-0014
11.46	0.4510	—	1C5ZT-.451	1C5ZA-.451	1C2ZT-.451	1C2ZA-.451
11.50	0.4528	—	1C5ZT-11.5	1C5ZA-11.5	1C2ZT-11.5	1C2ZA-11.5
11.51	0.4531	29/64	1C5ZT-.453	1C5ZA-.453	1C2ZT-.453	1C2ZA-.453
11.91	0.4688	15/32	1C5ZT-0015	1C5ZA-0015	1C2ZT-0015	1C2ZA-0015
12.00	0.4724	—	1C5ZT-12	1C5ZA-12	1C2ZT-12	1C2ZA-12
12.30	0.4844	31/64	1C5ZT-.484	1C5ZA-.484	1C2ZT-.484	1C2ZA-.484
12.50	0.4921	—	1C5ZT-12.5	1C5ZA-12.5	1C2ZT-12.5	1C2ZA-12.5
12.70	0.5000	1/2	1C5ZT-0016	1C5ZA-0016	1C2ZT-0016	1C2ZA-0016
12.85	0.5060	—	1C5ZT-.506	1C5ZA-.506	1C2ZT-.506	1C2ZA-.506
12.95	0.5100	—	1C5ZT-.510	1C5ZA-.510	1C2ZT-.510	1C2ZA-.510



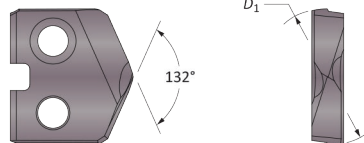
Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

T-A® Drill Inserts



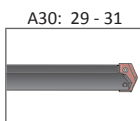
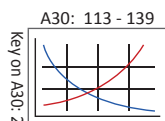
Cast Iron Geometry



A30

Insert			Carbide: N2	Cast Iron Geometry
				Carbide: K10 (C3)
			Part No.	Part No.
D_1 mm	D_1 inch	Fractional Equivalent	Diamond Film	TiAlN
11.11	0.4375	7/16	1N2ZD-0014	1C3ZA-0014-CI
11.46	0.4510	—	1N2ZD-.451	1C3ZA-.451-CI
11.50	0.4528	—	1N2ZD-11.5	1C3ZA-11.5-CI
11.51	0.4531	29/64	1N2ZD-.453	1C3ZA-.453-CI
11.91	0.4688	15/32	1N2ZD-0015	1C3ZA-0015-CI
12.00	0.4724	—	1N2ZD-12	1C3ZA-12-CI
12.30	0.4844	31/64	1N2ZD-.484	1C3ZA-.484-CI
12.50	0.4921	—	1N2ZD-12.5	1C3ZA-12.5-CI
12.70	0.5000	1/2	1N2ZD-0016	1C3ZA-0016-CI
12.85	0.5060	—	1N2ZD-.506	1C3ZA-.506-CI
12.95	0.5100	—	1N2ZD-.510	1C3ZA-.510-CI

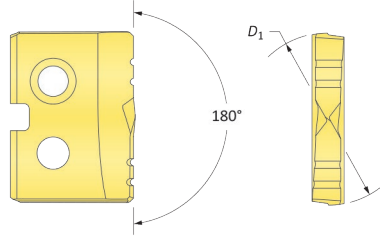
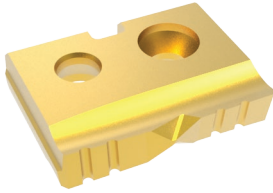
*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

**Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")**

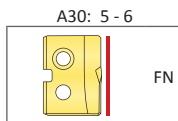
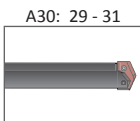
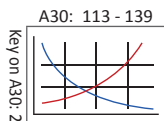
T-A® Drill Inserts



A30

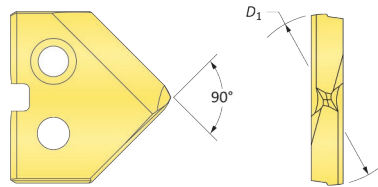
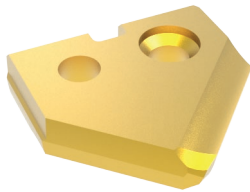
Insert			Flat Bottom Geometry	
			HSS: Super Cobalt	Carbide: K20 (C2)
D ₁ mm	D ₁ inch	Fractional Equivalent	 Part No.	 Part No.
			TiN	TiN*
11.11	0.4375	7/16	15ZT-0014-FB	1C2ZT-0014-FB
11.46	0.4510	—	15ZT-.451-FB	1C2ZT-.451-FB
11.50	0.4528	—	15ZT-11.5-FB	1C2ZT-11.5-FB
11.51	0.4531	29/64	15ZT-.453-FB	1C2ZT-.453-FB
11.91	0.4688	15/32	15ZT-0015-FB	1C2ZT-0015-FB
12.00	0.4724	—	15ZT-12-FB	1C2ZT-12-FB
12.30	0.4844	31/64	15ZT-.484-FB	1C2ZT-.484-FB
12.50	0.4921	—	15ZT-12.5-FB	1C2ZT-12.5-FB
12.70	0.5000	1/2	15ZT-0016-FB	1C2ZT-0016-FB
12.85	0.5060	—	15ZT-.506-FB	1C2ZT-.506-FB
12.95	0.5100	—	15ZT-.510-FB	1C2ZT-.510-FB

*Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.



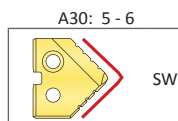
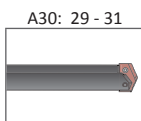
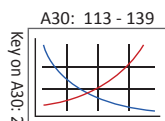
Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

T-A® Drill Inserts



Insert			90° Spot & Chamfer Geometry		
			HSS: Super Cobalt		
D_1 mm	D_1 inch	Fractional Equivalent			
			Part No.	Part No.	Part No.
			TiN	TiAlN	TiCN
11.11	0.4375	7/16	15ZT-0014-SP	15ZA-0014-SP	15ZN-0014-SP
11.46	0.4510	—	15ZT-.451-SP	15ZA-.451-SP	15ZN-.451-SP
11.50	0.4528	—	15ZT-11.5-SP	15ZA-11.5-SP	15ZN-11.5-SP
11.51	0.4531	29/64	15ZT-.453-SP	15ZA-.453-SP	15ZN-.453-SP
11.91	0.4688	15/32	15ZT-0015-SP	15ZA-0015-SP	15ZN-0015-SP
12.00	0.4724	—	15ZT-12-SP	15ZA-12-SP	15ZN-12-SP
12.30	0.4844	31/64	15ZT-.484-SP	15ZA-.484-SP	15ZN-.484-SP
12.50	0.4921	—	15ZT-12.5-SP	15ZA-12.5-SP	15ZN-12.5-SP
12.70	0.5000	1/2	15ZT-0016-SP	15ZA-0016-SP	15ZN-0016-SP
12.85	0.5060	—	15ZT-.506-SP	15ZA-.506-SP	15ZN-.506-SP
12.95	0.5100	—	15ZT-.510-SP	15ZA-.510-SP	15ZN-.510-SP

A30

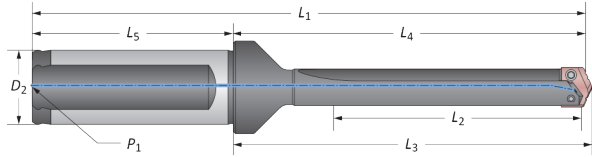


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

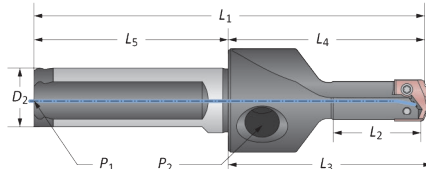


Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

T-A® Drill Holders



Stub Length



Flange Shank Holders

Flute		Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
		Stub	20.4	45.6	47.9	93.6	48.0	16	1/16 BSPT	210Z0S-16FM
		Short	29.1	61.1	63.4	111.1	50.0	20	1/8 BSPT	220Z0S-20FM
		Standard	57.6	89.7	92.0	139.7	50.0	20	1/8 BSPT	240Z0S-20FM
		Extended	108.4	140.5	142.8	190.5	50.0	20	1/8 BSPT	250Z0S-20FM
		XL	219.6	251.6	253.9	301.6	50.0	20	1/8 BSPT	270Z0S-20FM
		3XL	287.9	319.9	322.1	369.9	50.0	20	1/8 BSPT	290Z0S-20FM
		Standard	73.0	89.7	92.0	139.7	50.0	20	1/8 BSPT	240Z0H-20FM
		Standard Plus	98.7	115.4	117.7	165.4	50.0	20	1/8 BSPT	245Z0H-20FM
		Extended	123.8	140.5	142.8	190.5	50.0	20	1/8 BSPT	250Z0H-20FM
		Long	192.7	209.4	211.7	259.4	50.0	20	1/8 BSPT	260Z0H-20FM
		Stub	0.805	1.797	1.887	3.672	1.875	5/8	1/16 NPT	210Z0S-063F
		Short	1.142	2.406	2.496	4.436	2.030	3/4	1/8 NPT	220Z0S-075F
		Standard	2.267	3.531	3.621	5.561	2.030	3/4	1/8 NPT	240Z0S-075F
		Extended	4.267	5.531	5.621	7.561	2.030	3/4	1/8 NPT	250Z0S-075F
		Standard	2.874	3.531	3.621	5.561	2.030	3/4	1/8 NPT	240Z0H-075F
		Standard Plus	3.886	4.543	4.633	6.573	2.030	3/4	1/8 NPT	245Z0H-075F
		Extended	4.874	5.531	5.621	7.561	2.030	3/4	1/8 NPT	250Z0H-075F
		Long	7.586	8.244	8.334	10.274	2.030	3/4	1/8 NPT	260Z0H-075F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

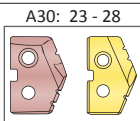
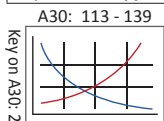
Connection Accessories

					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.

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 catalog. 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: appeng@alliedmachine.com.



= Metric (mm)

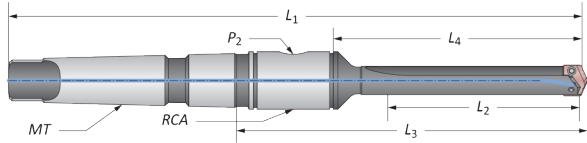
= Imperial (in)

Screws sold in multiples of 10.



Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

T-A® Drill Holders



Taper Shank Holders

	Flute	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	
m	Straight	Short	27.3	51.6	88.0	160.3	#2 MT ISO	1/16 BSPT	2T-2SRM	220Z0S-002M
		Standard	69.4	80.2	116.6	188.9	#2 MT ISO	1/16 BSPT	2T-2SRM	240Z0H-002M
	Helical	Extended	120.2	131.0	167.4	239.7	#2 MT ISO	1/16 BSPT	2T-2SRM	250Z0H-002M
i	Straight	Short	1.074	2.031	3.464	6.312	#2 MT	1/16 NPT	2T-2SR	220Z0S-002I
		Standard	2.199	3.156	4.589	7.437	#2 MT	1/16 NPT	2T-2SR	240Z0S-002I
	Helical	Extended	4.199	5.156	6.589	9.437	#2 MT	1/16 NPT	2T-2SR	250Z0S-002I
		Standard	2.733	3.156	4.589	7.437	#2 MT	1/16 NPT	2T-2SR	240Z0H-002I
		Extended	4.733	5.156	6.589	9.437	#2 MT	1/16 NPT	2T-2SR	250Z0H-002I

*MT ISO 296 type BEK.

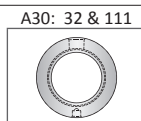
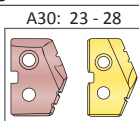
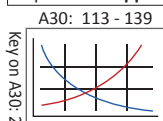
A30

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



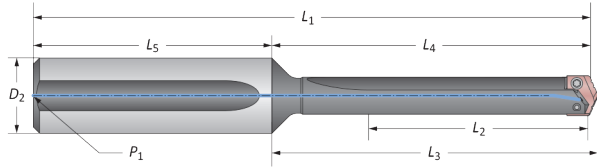
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

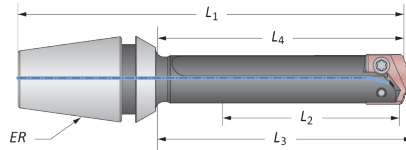
T-A® Drill Holders



Straight Shank Holders

		Body					Shank			
Flute		Length	L_2	L_4	L_3	L_1	L_5	D_2	P_1	Part No.
	 Straight	Short	1.079	2.031	2.121	4.406	2.375	3/4	1/8 NPT	220Z0S-075L
		Standard	2.204	3.156	3.246	5.531	2.375	3/4	1/8 NPT	240Z0S-075L
		Extended	4.204	5.156	5.246	7.531	2.375	3/4	1/8 NPT	 250Z0S-075L
		XL	8.579	9.531	9.621	11.906	2.375	3/4	1/8 NPT	 270Z0S-075L
		3XL	11.266	12.218	12.308	14.593	2.375	3/4	1/8 NPT	 290Z0S-075L

A30



ER Collet Holders

Flute	L_2	L_4	L_3	L_1	ER	Part No.	Collet Nut without Retaining Ring
	42.1	48.5	50.8	75.8	ER-16	210Z0S-16ER	ER-16N
	42.1	48.5	50.8	79.8	ER-20	210Z0S-20ER	ER-20N

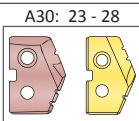
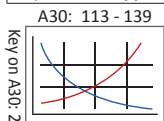
Connection Accessories

					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.

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 catalog. 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: appeng@alliedmachine.com.

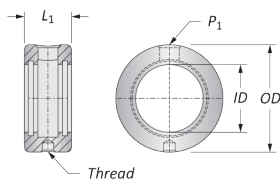


 = Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.

Z Series: 11.10 mm - 12.97 mm (0.4370" - 0.5109")

T-A Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

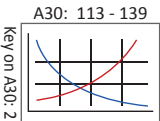
			RCA O-Rings					
	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	Kit Part No.*	Replacements
	19.1	44.5	22.2	M8 x 1.25	1/8 BSPT	 2T-2SRM	2T1-2SR	2T1-2OR-10
	0.750	1.750	0.875	5/16" - 18	1/8 NPT	 2T-2SR	2T1-2SR	2T1-2OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
 Refer to page A30: 111 for proper RCA assembly and safety information. 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.

A30

 **WARNING**

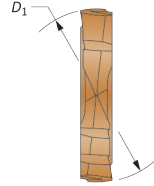
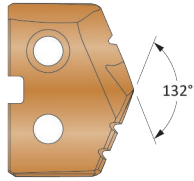
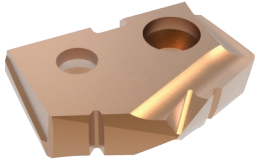
RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications through our Application Engineering department: appeng@alliedmachine.com





0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

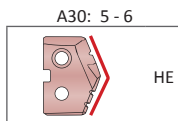
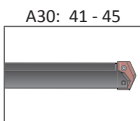
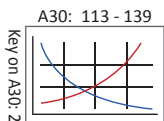
GEN2 T-A® Drill Inserts



A30

Series	Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
	D_1 mm	D_1 inch	Fractional Equivalent			
				Part No. AM200®	Part No. AM300®	Part No. AM300®
0	13.00	0.5118	—	450H-13	4C20P-13	4C10P-13
	13.10	0.5156	33/64	450H-.515	4C20P-.515	4C10P-.515
	13.50	0.5313	17/32	450H-0017	4C20P-0017	4C10P-0017
	13.50	0.5315	—	450H-13.5	4C20P-13.5	4C10P-13.5
	13.89	0.5469	35/64	450H-.546	4C20P-.546	4C10P-.546
	14.00	0.5512	—	450H-14	4C20P-14	4C10P-14
	14.29	0.5625	9/16	450H-0018	4C20P-0018	4C10P-0018
	14.50	0.5709	—	450H-14.5	4C20P-14.5	4C10P-14.5
	14.68	0.5781	37/64	450H-.578	4C20P-.578	4C10P-.578
	15.00	0.5906	—	450H-15	4C20P-15	4C10P-15
0.5	15.08	0.5938	19/32	450H-0019	4C20P-0019	4C10P-0019
	15.48	0.6094	39/64	450H-.609	4C20P-.609	4C10P-.609
	15.50	0.6102	—	450H-15.5	4C20P-15.5	4C10P-15.5
	15.88	0.6250	5/8	450H-0020	4C20P-0020	4C10P-0020
	16.00	0.6299	—	450H-16	4C20P-16	4C10P-16
	16.27	0.6406	41/64	450H-.640	4C20P-.640	4C10P-.640
	16.50	0.6496	—	450H-16.5	4C20P-16.5	4C10P-16.5
	16.67	0.6563	21/32	450H-0021	4C20P-0021	4C10P-0021
	17.00	0.6693	—	450H-17	4C20P-17	4C10P-17
	17.07	0.6719	43/64	450H-.671	4C20P-.671	4C10P-.671
	17.46	0.6875	11/16	450H-0022	4C20P-0022	4C10P-0022
	17.50	0.6890	—	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.

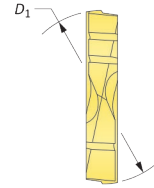
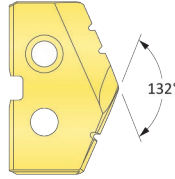


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

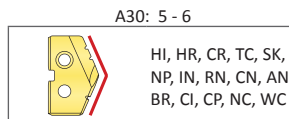
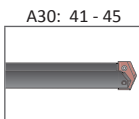
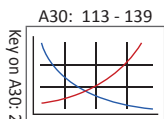
T-A® Drill Inserts



Series	Insert			HSS: Super Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
0	13.00	0.5118	—	150T-13	150A-13	150N-13
	13.10	0.5156	33/64	150T-.515	150A-.515	150N-.515
	13.50	0.5313	17/32	150T-0017	150A-0017	150N-0017
	13.50	0.5315	—	150T-13.5	150A-13.5	150N-13.5
	13.89	0.5469	35/64	150T-.546	150A-.546	150N-.546
	14.00	0.5512	—	150T-14	150A-14	150N-14
	14.29	0.5625	9/16	150T-0018	150A-0018	150N-0018
	14.50	0.5709	—	150T-14.5	150A-14.5	150N-14.5
	14.68	0.5781	37/64	150T-.578	150A-.578	150N-.578
	15.00	0.5906	—	150T-15	150A-15	150N-15
0.5	15.08	0.5938	19/32	150T-0019	150A-0019	150N-0019
	15.48	0.6094	39/64	150T-.609	150A-.609	150N-.609
	15.50	0.6102	—	150T-15.5	150A-15.5	150N-15.5
	15.88	0.6250	5/8	150T-0020	150A-0020	150N-0020
	16.00	0.6299	—	150T-16	150A-16	150N-16
	16.27	0.6406	41/64	150T-.640	150A-.640	150N-.640
	16.50	0.6496	—	150T-16.5	150A-16.5	150N-16.5
	16.67	0.6563	21/32	150T-0021	150A-0021	150N-0021
	17.00	0.6693	—	150T-17	150A-17	150N-17
	17.07	0.6719	43/64	150T-.671	150A-.671	150N-.671
	17.46	0.6875	11/16	150T-0022	150A-0022	150N-0022
	17.50	0.6890	—	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.

A30

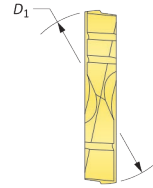
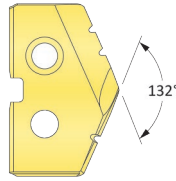


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

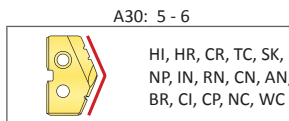
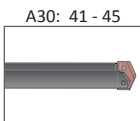
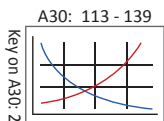
T-A® Drill Inserts



A30

Series	Insert			HSS: Premium Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
0	13.00	0.5118	—	180T-13	180A-13	180N-13
	13.10	0.5156	33/64	180T-.515	180A-.515	180N-.515
	13.50	0.5313	17/32	180T-0017	180A-0017	180N-0017
	13.50	0.5315	—	180T-13.5	180A-13.5	180N-13.5
	13.89	0.5469	35/64	180T-.546	180A-.546	180N-.546
	14.00	0.5512	—	180T-14	180A-14	180N-14
	14.29	0.5625	9/16	180T-0018	180A-0018	180N-0018
	14.50	0.5709	—	180T-14.5	180A-14.5	180N-14.5
	14.68	0.5781	37/64	180T-.578	180A-.578	180N-.578
	15.00	0.5906	—	180T-15	180A-15	180N-15
0.5	15.08	0.5938	19/32	180T-0019	180A-0019	180N-0019
	15.48	0.6094	39/64	180T-.609	180A-.609	180N-.609
	15.50	0.6102	—	180T-15.5	180A-15.5	180N-15.5
	15.88	0.6250	5/8	180T-0020	180A-0020	180N-0020
	16.00	0.6299	—	180T-16	180A-16	180N-16
	16.27	0.6406	41/64	180T-.640	180A-.640	180N-.640
	16.50	0.6496	—	180T-16.5	180A-16.5	180N-16.5
	16.67	0.6563	21/32	180T-0021	180A-0021	180N-0021
	17.00	0.6693	—	180T-17	180A-17	180N-17
	17.07	0.6719	43/64	180T-.671	180A-.671	180N-.671
	17.46	0.6875	11/16	180T-0022	180A-0022	180N-0022
	17.50	0.6890	—	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.



A30: 5 - 6

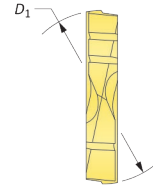
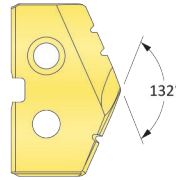
HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

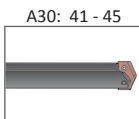
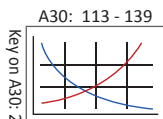
T-A® Drill Inserts



Series	Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No.	Part No.	Part No.	Part No.
0	13.00	0.5118	—	1C50T-13	1C50A-13	1C20T-13	1C20A-13
	13.10	0.5156	33/64	1C50T-.515	1C50A-.515	1C20T-.515	1C20A-.515
	13.50	0.5313	17/32	1C50T-0017	1C50A-0017	1C20T-0017	1C20A-0017
	13.50	0.5315	—	1C50T-13.5	1C50A-13.5	1C20T-13.5	1C20A-13.5
	13.89	0.5469	35/64	1C50T-.546	1C50A-.546	1C20T-.546	1C20A-.546
	14.00	0.5512	—	1C50T-14	1C50A-14	1C20T-14	1C20A-14
	14.29	0.5625	9/16	1C50T-0018	1C50A-0018	1C20T-0018	1C20A-0018
	14.50	0.5709	—	1C50T-14.5	1C50A-14.5	1C20T-14.5	1C20A-14.5
	14.68	0.5781	37/64	1C50T-.578	1C50A-.578	1C20T-.578	1C20A-.578
	15.00	0.5906	—	1C50T-15	1C50A-15	1C20T-15	1C20A-15
0.5	15.08	0.5938	19/32	1C50T-0019	1C50A-0019	1C20T-0019	1C20A-0019
	15.48	0.6094	39/64	1C50T-.609	1C50A-.609	1C20T-.609	1C20A-.609
	15.50	0.6102	—	1C50T-15.5	1C50A-15.5	1C20T-15.5	1C20A-15.5
	15.88	0.6250	5/8	1C50T-0020	1C50A-0020	1C20T-0020	1C20A-0020
	16.00	0.6299	—	1C50T-16	1C50A-16	1C20T-16	1C20A-16
	16.27	0.6406	41/64	1C50T-.640	1C50A-.640	1C20T-.640	1C20A-.640
	16.50	0.6496	—	1C50T-16.5	1C50A-16.5	1C20T-16.5	1C20A-16.5
	16.67	0.6563	21/32	1C50T-0021	1C50A-0021	1C20T-0021	1C20A-0021
	17.00	0.6693	—	1C50T-17	1C50A-17	1C20T-17	1C20A-17
	17.07	0.6719	43/64	1C50T-.671	1C50A-.671	1C20T-.671	1C20A-.671
	17.46	0.6875	11/16	1C50T-0022	1C50A-0022	1C20T-0022	1C20A-0022
	17.50	0.6890	—	1C50T-17.5	1C50A-17.5	1C20T-17.5	1C20A-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.

A30

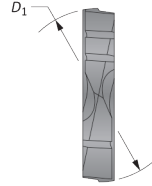
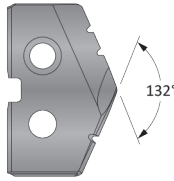
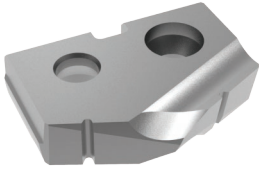


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

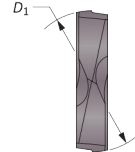
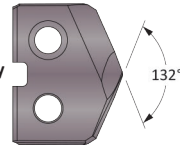
**0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")**

T-A® Drill Inserts

A30



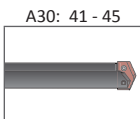
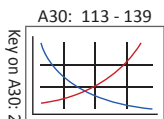
Cast Iron Geometry



Series	Insert			Carbide: N2	Cast Iron Geometry
	D ₁ mm	D ₁ inch	Fractional Equivalent		
				Part No. Diamond Film*	Part No. TiAlN
0	13.00	0.5118	—	1N20D-13	1C30A-13-CI
	13.10	0.5156	33/64	1N20D-.515	1C30A-.515-CI
	13.50	0.5313	17/32	1N20D-0017	1C30A-0017-CI
	13.50	0.5315	—	1N20D-13.5	1C30A-13.5-CI
	13.89	0.5469	35/64	1N20D-.546	1C30A-.546-CI
	14.00	0.5512	—	1N20D-14	1C30A-14-CI
	14.29	0.5625	9/16	1N20D-0018	1C30A-0018-CI
	14.50	0.5709	—	1N20D-14.5	1C30A-14.5-CI
	14.68	0.5781	37/64	1N20D-.578	1C30A-.578-CI
	15.00	0.5906	—	1N20D-15	1C30A-15-CI
0.5	15.08	0.5938	19/32	1N20D-0019	1C30A-0019-CI
	15.48	0.6094	39/64	1N20D-.609	1C30A-.609-CI
	15.50	0.6102	—	1N20D-15.5	1C30A-15.5-CI
	15.88	0.6250	5/8	1N20D-0020	1C30A-0020-CI
	16.00	0.6299	—	1N20D-16	1C30A-16-CI
	16.27	0.6406	41/64	1N20D-.640	1C30A-.640-CI
	16.50	0.6496	—	1N20D-16.5	1C30A-16.5-CI
	16.67	0.6563	21/32	1N20D-0021	1C30A-0021-CI
	17.00	0.6693	—	1N20D-17	1C30A-17-CI
	17.07	0.6719	43/64	1N20D-.671	1C30A-.671-CI
	17.46	0.6875	11/16	1N20D-0022	1C30A-0022-CI
	17.50	0.6890	—	1N20D-17.5	1C30A-17.5-CI

*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.

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.

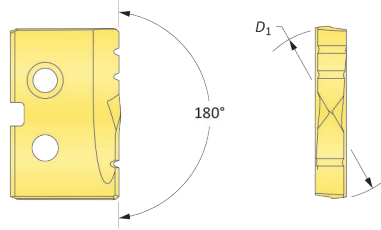
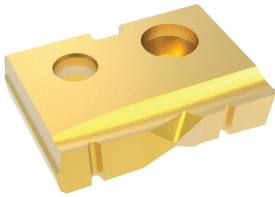


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

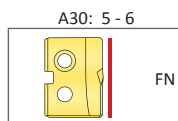
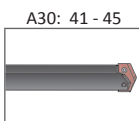
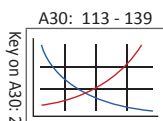
T-A® Drill Inserts



Series	Insert			Flat Bottom Geometry	
				HSS: Super Cobalt	Carbide: K20 (C2)
				Part No.	Part No.
	D_1 mm	D_1 inch	Fractional Equivalent	TiN	TiN*
0	13.00	0.5118	—	150T-13-FB	1C20T-13-FB
	13.10	0.5156	33/64	150T-.515-FB	1C20T-.515-FB
	13.50	0.5313	17/32	150T-0017-FB	1C20T-0017-FB
	13.50	0.5315	—	150T-13.5-FB	1C20T-13.5-FB
	13.89	0.5469	35/64	150T-.546-FB	1C20T-.546-FB
	14.00	0.5512	—	150T-14-FB	1C20T-14-FB
	14.29	0.5625	9/16	150T-0018-FB	1C20T-0018-FB
	14.50	0.5709	—	150T-14.5-FB	1C20T-14.5-FB
	14.68	0.5781	37/64	150T-.578-FB	1C20T-.578-FB
	15.00	0.5906	—	150T-15-FB	1C20T-15-FB
0.5	15.08	0.5938	19/32	150T-0019-FB	1C20T-0019-FB
	15.48	0.6094	39/64	150T-.609-FB	1C20T-.609-FB
	15.50	0.6102	—	150T-15.5-FB	1C20T-15.5-FB
	15.88	0.6250	5/8	150T-0020-FB	1C20T-0020-FB
	16.00	0.6299	—	150T-16-FB	1C20T-16-FB
	16.27	0.6406	41/64	150T-.640-FB	1C20T-.640-FB
	16.50	0.6496	—	150T-16.5-FB	1C20T-16.5-FB
	16.67	0.6563	21/32	150T-0021-FB	1C20T-0021-FB
	17.00	0.6693	—	150T-17-FB	1C20T-17-FB
	17.07	0.6719	43/64	150T-.671-FB	1C20T-.671-FB
	17.46	0.6875	11/16	150T-0022-FB	1C20T-0022-FB
	17.50	0.6890	—	150T-17.5-FB	1C20T-17.5-FB

*Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.

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.

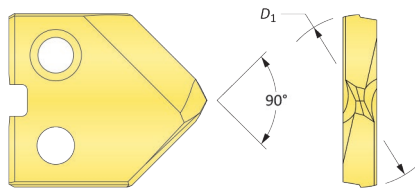
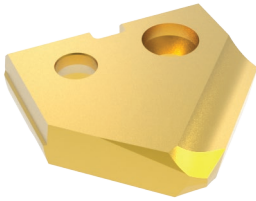


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

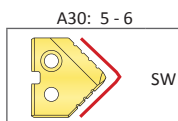
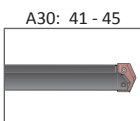
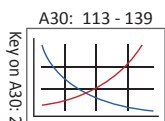
T-A® Drill Inserts



A30

Series	Insert			90° Spot & Chamfer Geometry		
	D ₁ mm	D ₁ inch	Fractional Equivalent	HSS: Super Cobalt		
				 Part No.	 Part No.	 Part No.
0	13.00	0.5118	—	150T-13-SP	150A-13-SP	150N-13-SP
	13.10	0.5156	33/64	150T-.515-SP	150A-.515-SP	150N-.515-SP
	13.50	0.5313	17/32	150T-0017-SP	150A-0017-SP	150N-0017-SP
	13.50	0.5315	—	150T-13.5-SP	150A-13.5-SP	150N-13.5-SP
	13.89	0.5469	35/64	150T-.546-SP	150A-.546-SP	150N-.546-SP
	14.00	0.5512	—	150T-14-SP	150A-14-SP	150N-14-SP
	14.29	0.5625	9/16	150T-0018-SP	150A-0018-SP	150N-0018-SP
	14.50	0.5709	—	150T-14.5-SP	150A-14.5-SP	150N-14.5-SP
	14.68	0.5781	37/64	150T-.578-SP	150A-.578-SP	150N-.578-SP
	15.00	0.5906	—	150T-15-SP	150A-15-SP	150N-15-SP
0.5	15.08	0.5938	19/32	150T-0019-SP	150A-0019-SP	150N-0019-SP
	15.48	0.6094	39/64	150T-.609-SP	150A-.609-SP	150N-.609-SP
	15.50	0.6102	—	150T-15.5-SP	150A-15.5-SP	150N-15.5-SP
	15.88	0.6250	5/8	150T-0020-SP	150A-0020-SP	150N-0020-SP
	16.00	0.6299	—	150T-16-SP	150A-16-SP	150N-16-SP
	16.27	0.6406	41/64	150T-.640-SP	150A-.640-SP	150N-.640-SP
	16.50	0.6496	—	150T-16.5-SP	150A-16.5-SP	150N-16.5-SP
	16.67	0.6563	21/32	150T-0021-SP	150A-0021-SP	150N-0021-SP
	17.00	0.6693	—	150T-17-SP	150A-17-SP	150N-17-SP
	17.07	0.6719	43/64	150T-.671-SP	150A-.671-SP	150N-.671-SP
	17.46	0.6875	11/16	150T-0022-SP	150A-0022-SP	150N-0022-SP
	17.50	0.6890	—	150T-17.5-SP	150A-17.5-SP	150N-17.5-SP

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
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



Notes

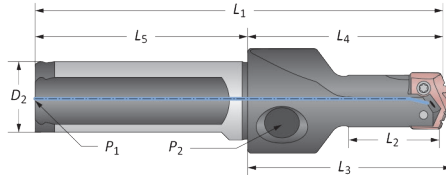
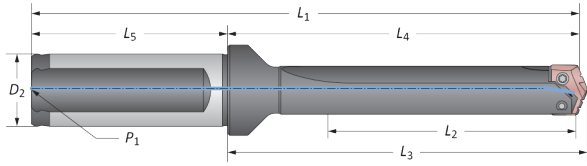
This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A30



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

T-A® Drill Holders



Stub Length

A30

Metric Flange Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
 Straight	0	Stub	23.1	47.6	50.3	97.6	50.0	20	1/8 BSPT	21000S-20FM
		Short	30.9	63.5	66.2	113.5	50.0	20	1/8 BSPT	22000S-20FM
		Standard	59.6	92.1	94.8	142.1	50.0	20	1/8 BSPT	24000S-20FM
		Extended	110.4	142.9	145.6	192.9	50.0	20	1/8 BSPT	25000S-20FM
		XL	291.3	323.9	326.6	373.9	50.0	20	1/8 BSPT	27000S-20FM
	0.5	3XL	383.3	415.9	418.6	465.9	50.0	20	1/8 BSPT	29000S-20FM
		Stub	24.0	47.6	50.3	97.6	50.0	20	1/8 BSPT	21005S-20FM
		Short	29.6	63.5	66.2	113.5	50.0	20	1/8 BSPT	22005S-20FM
		Standard	58.9	92.1	94.8	142.1	50.0	20	1/8 BSPT	24005S-20FM
		Extended	109.7	142.9	145.6	192.9	50.0	20	1/8 BSPT	25005S-20FM
 Helical	0	Standard	75.9	92.1	94.8	142.1	50.0	20	1/8 BSPT	24000H-20FM
		Standard Plus	101.4	117.6	120.3	167.6	50.0	20	1/8 BSPT	24500H-20FM
		Extended	126.7	142.9	145.6	192.9	50.0	20	1/8 BSPT	25000H-20FM
		Long	190.2	206.4	209.1	256.4	50.0	20	1/8 BSPT	26000H-20FM
		Long Plus	252.4	268.6	271.3	318.6	50.0	20	1/8 BSPT	26500H-20FM
	0.5	Standard	77.1	92.1	94.8	142.1	50.0	20	1/8 BSPT	24005H-20FM
		Extended	127.9	142.9	145.6	192.9	50.0	20	1/8 BSPT	25005H-20FM
		Long	191.4	206.4	209.1	256.4	50.0	20	1/8 BSPT	26005H-20FM

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P₂).

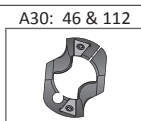
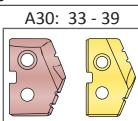
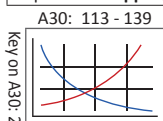
NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

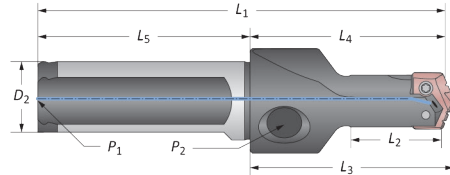
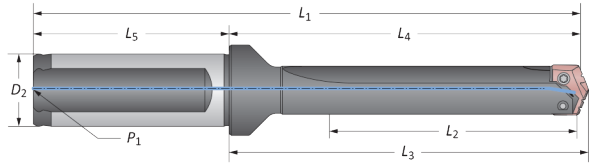


0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

T-A® Drill Holders



Stub Length



A30

Imperial Flange Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
Straight	0	Stub	0.910	1.875	1.982	3.905	2.030	3/4	1/8 NPT	21000S-075F
		Short	1.220	2.500	2.607	4.530	2.030	3/4	1/8 NPT	22000S-075F
		Standard	2.345	3.625	3.732	5.655	2.030	3/4	1/8 NPT	24000S-075F
		Extended	4.345	5.625	5.732	7.655	2.030	3/4	1/8 NPT	25000S-075F
	0.5	Stub	0.945	1.875	1.982	3.905	2.030	3/4	1/8 NPT	21005S-075F
		Short	1.195	2.500	2.607	4.530	2.030	3/4	1/8 NPT	22005S-075F
		Standard	2.320	3.625	3.732	5.655	2.030	3/4	1/8 NPT	24005S-075F
		Extended	4.320	5.625	5.732	7.655	2.030	3/4	1/8 NPT	25005S-075F
Helical	0	Standard	2.987	3.625	3.732	5.655	2.030	3/4	1/8 NPT	24000H-075F
		Standard Plus	3.992	4.630	4.737	6.660	2.030	3/4	1/8 NPT	24500H-075F
		Extended	4.987	5.625	5.732	7.655	2.030	3/4	1/8 NPT	25000H-075F
		Long	7.487	8.125	8.232	10.155	2.030	3/4	1/8 NPT	26000H-075F
	0.5	Long Plus	9.937	10.575	10.682	12.605	2.030	3/4	1/8 NPT	26500H-075F
		Standard	3.034	3.625	3.732	5.655	2.030	3/4	1/8 NPT	24005H-075F
		Extended	5.034	5.625	5.732	7.655	2.030	3/4	1/8 NPT	25005H-075F
		Long	7.534	8.125	8.232	10.155	2.030	3/4	1/8 NPT	26005H-075F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P₂).

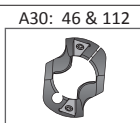
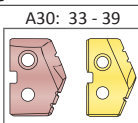
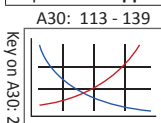
NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



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

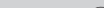
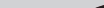
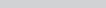
Screws sold in multiples of 10.

Metric Taper Shank Holders

Flute		Series	Body					Shank			Part No.
		Length	L_2	L_4	L_3	L_1	MT^*	P_2	RCA		
	Straight	0	Short	30.8	55.6	92.4	164.3	#2 MT ISO	1/16 BSPT	2T-2SRM	22000S-002M
		0.5	Short	30.2	55.6	92.4	164.3	#2 MT ISO	1/16 BSPT	2T-2SRM	22005S-002M
	Helical	0	Standard	73.9	84.2	121.0	192.9	#2 MT ISO	1/16 BSPT	2T-2SRM	24000H-002M
			Extended	124.7	135.0	171.8	243.7	#2 MT ISO	1/16 BSPT	2T-2SRM	 25000H-002M
			Long	188.2	198.5	235.3	307.2	#2 MT ISO	1/16 BSPT	2T-2SRM	 26000H-002M
		0.5	Standard	75.1	84.2	121.0	192.9	#2 MT ISO	1/16 BSPT	2T-2SRM	24005H-002M
			Extended	125.9	135.0	171.8	243.7	#2 MT ISO	1/16 BSPT	2T-2SRM	 25005H-002M
			Long	189.4	198.5	235.3	307.2	#2 MT ISO	1/16 BSPT	2T-2SRM	 26005H-002M

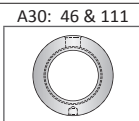
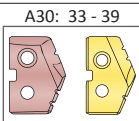
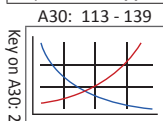
NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts **ONLY** fit into 0 series holders. See page A30: 7 for visual.

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.

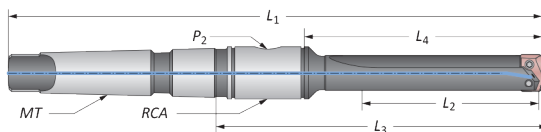
WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A30: 146** for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

T-A® Drill Holders



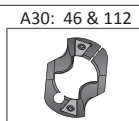
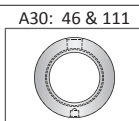
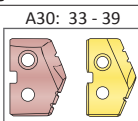
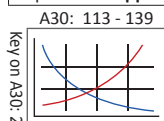
Flute		Series	Body					Shank			Part No.
			Length	L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
i	Straight	0	Short	1.213	2.188	3.638	6.469	#2 MT	1/16 NPT	2T-2SR	22000S-002I
			Standard	2.338	3.313	4.763	7.594	#2 MT	1/16 NPT	2T-2SR	24000S-002I
		0.5	Extended	4.338	5.313	6.763	9.594	#2 MT	1/16 NPT	2T-2SR	25000S-002I
			Short	1.188	2.188	3.638	6.469	#2 MT	1/16 NPT	2T-2SR	22005S-002I
	Helical	0	Standard	2.313	3.313	4.763	7.594	#2 MT	1/16 NPT	2T-2SR	24005S-002I
			Extended	4.313	5.313	6.763	9.594	#2 MT	1/16 NPT	2T-2SR	25005S-002I
0.5		Standard	2.909	3.313	4.763	7.594	#2 MT	1/16 NPT	2T-2SR	24000H-002I	
		Extended	4.909	5.313	6.763	9.594	#2 MT	1/16 NPT	2T-2SR	25000H-002I	
	0	Long	7.409	7.813	9.263	12.094	#2 MT	1/16 NPT	2T-2SR	26000H-002I	
		0.5	Standard	2.956	3.313	4.763	7.594	#2 MT	1/16 NPT	2T-2SR	24005H-002I
			Extended	4.956	5.313	6.763	9.594	#2 MT	1/16 NPT	2T-2SR	25005H-002I
			Long	7.456	7.813	9.263	12.094	#2 MT	1/16 NPT	2T-2SR	26005H-002I

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.

						Admissible Tightening Torque*
Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
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.

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 catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

www.alliedmachine.com | 1.330.343.4283

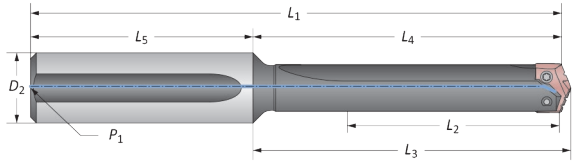
A30: 44

A30



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

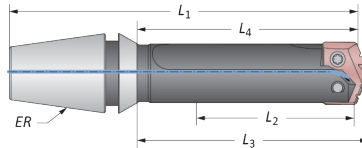
T-A® Drill Holders



Straight Shank Holders

Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
	0	Short	1.218	2.188	2.295	4.563	2.375	3/4	1/8 NPT	22000S-075L
		Standard	2.343	3.313	3.420	5.688	2.375	3/4	1/8 NPT	24000S-075L
		Extended	4.343	5.313	5.420	7.688	2.375	3/4	1/8 NPT	25000S-075L
		Long	6.843	7.813	7.920	10.188	2.375	3/4	1/8 NPT	26000S-075L
		XL	11.468	12.438	12.545	14.813	2.375	3/4	1/8 NPT	27000S-075L
		3XL	15.093	16.063	16.170	18.438	2.375	3/4	1/8 NPT	29000S-075L
	0.5	Short	1.194	2.188	2.295	4.563	2.375	3/4	1/8 NPT	22005S-075L
		Standard	2.319	3.313	3.420	5.688	2.375	3/4	1/8 NPT	24005S-075L
		Extended	4.319	5.313	5.420	7.688	2.375	3/4	1/8 NPT	25005S-075L
		Long	6.819	7.813	7.920	10.188	2.375	3/4	1/8 NPT	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 Holders

Series	L ₂	L ₄	L ₃	L ₁	ER	Part No.	Collet Nut without Retaining Ring
	41.2	48.1	50.8	75.3	ER-16	21000S-16ER	ER-16N
	41.2	48.1	50.8	79.3	ER-20	21000S-20ER	ER-20N

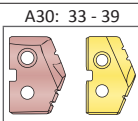
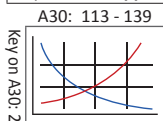
NOTE: 0.5 series inserts fit into both 0 and 0.5 series holders. However, 0 series inserts ONLY fit into 0 series holders. See page A30: 7 for visual.

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



= Metric (mm)

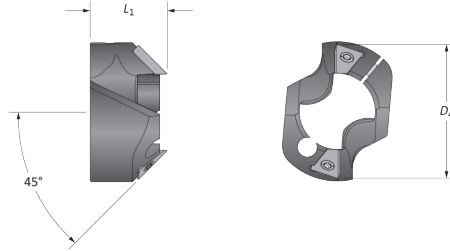
= Imperial (in)

Screws sold in multiples of 10.



0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")

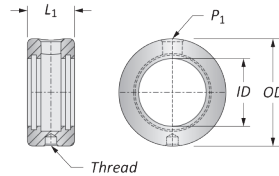
T-A® Drill Accessories



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	1.148	0.676	T-ACR-45-0	T-ACRI-45-B-CSA	7255-IP8-1	8IP-8	7375-IP9-1	8IP-9

A30



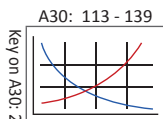
Rotary Coolant Adapter (RCA) and Accessories

	ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
							Kit Part No.*	Replacements
	19.1	44.5	22.2	M8 x 1.25	1/8 BSPT	2T-2SRM	2T1-2SR	2T1-2OR-10
	0.750	1.750	0.875	5/16" - 18	1/8 NPT	2T-2SR	2T1-2SR	2T1-2OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.

Refer to page A30: 111 for proper RCA assembly and safety information.

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 through our Application Engineering department: appeng@alliedmachine.com



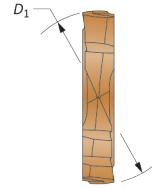
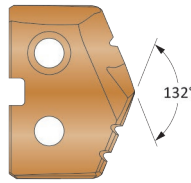
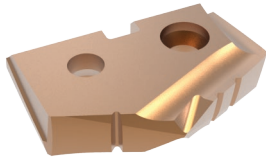
= Metric (mm)
 = Imperial (in)

Chamfer ring inserts sold separately.
Screws sold in multiples of 10.
O-rings sold in packs of 10.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

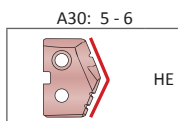
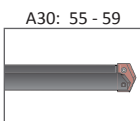
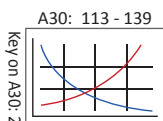
GEN2 T-A® Drill Inserts



A30

Series	Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
1	17.86	0.7031	45/64	AM200®	AM300®	AM300®
	18.00	0.7087	—	451H-.703	4C21P-.703	4C11P-.703
	18.26	0.7188	23/32	451H-18	4C21P-18	4C11P-18
	18.50	0.7283	—	451H-0023	4C21P-0023	4C11P-0023
	18.65	0.7344	47/64	451H-18.5	4C21P-18.5	4C11P-18.5
	19.00	0.7480	—	451H-.734	4C21P-.734	4C11P-.734
	19.05	0.7500	3/4	451H-19	4C21P-19	4C11P-19
	19.45	0.7656	49/64	451H-0024	4C21P-0024	4C11P-0024
	19.50	0.7677	—	451H-.765	4C21P-.765	4C11P-.765
	19.85	0.7813	25/32	451H-19.5	4C21P-19.5	4C11P-19.5
	20.00	0.7874	—	451H-0025	4C21P-0025	4C11P-0025
	20.24	0.7969	51/64	451H-20	4C21P-20	4C11P-20
	20.35	0.8010	—	451H-.796	4C21P-.796	4C11P-.796
	20.50	0.8071	—	451H-.801	4C21P-.801	4C11P-.801
	20.64	0.8125	13/16	451H-20.5	4C21P-20.5	4C11P-20.5
	21.00	0.8268	—	451H-0026	4C21P-0026	4C11P-0026
	21.43	0.8438	27/32	451H-21	4C21P-21	4C11P-21
	21.50	0.8465	—	451H-0027	4C21P-0027	4C11P-0027
1.5	21.83	0.8594	55/64	451H-21.5	4C21P-21.5	4C11P-21.5
	21.83	0.8594	55/64	451H-.859	4C21P-.859	4C11P-.859
	22.00	0.8661	—	451H-22	4C21P-22	4C11P-22
	22.23	0.8750	7/8	451H-0028	4C21P-0028	4C11P-0028
	22.50	0.8858	—	451H-22.5	4C21P-22.5	4C11P-22.5
	22.62	0.8906	57/64	451H-.890	4C21P-.890	4C11P-.890
	23.00	0.9055	—	451H-0029	4C21P-0029	4C11P-0029
	23.02	0.9063	29/32	451H-23	4C21P-23	4C11P-23
	23.42	0.9219	59/64	451H-0029	4C21P-0029	4C11P-0029
	23.50	0.9252	—	451H-.921	4C21P-.921	4C11P-.921
	23.81	0.9375	15/16	451H-23.5	4C21P-23.5	4C11P-23.5
	24.00	0.9449	—	451H-0030	4C21P-0030	4C11P-0030
	24.00	0.9449	—	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.

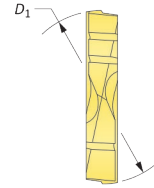
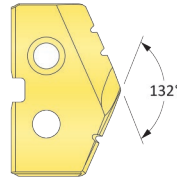
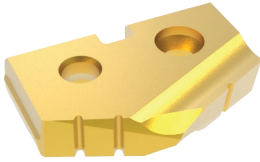


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



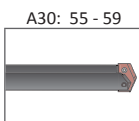
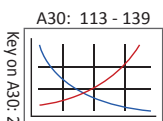
1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Inserts



Series	Insert			HSS: High-Speed Steel		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TIN	TiAIN	TiCN
1	17.86	0.7031	45/64	131T-.703	131A-.703	131N-.703
	18.00	0.7087	—	131T-18	131A-18	131N-18
	18.26	0.7188	23/32	131T-0023	131A-0023	131N-0023
	18.50	0.7283	—	131T-18.5	131A-18.5	131N-18.5
	18.65	0.7344	47/64	131T-.734	131A-.734	131N-.734
	19.00	0.7480	—	131T-19	131A-19	131N-19
	19.05	0.7500	3/4	131T-0024	131A-0024	131N-0024
	19.45	0.7656	49/64	131T-.765	131A-.765	131N-.765
	19.50	0.7677	—	131T-19.5	131A-19.5	131N-19.5
	19.85	0.7813	25/32	131T-0025	131A-0025	131N-0025
	20.00	0.7874	—	131T-20	131A-20	131N-20
	20.24	0.7969	51/64	131T-.796	131A-.796	131N-.796
	20.35	0.8010	—	131T-.801	131A-.801	131N-.801
	20.50	0.8071	—	131T-20.5	131A-20.5	131N-20.5
	20.64	0.8125	13/16	131T-0026	131A-0026	131N-0026
	21.00	0.8268	—	131T-21	131A-21	131N-21
	21.43	0.8438	27/32	131T-0027	131A-0027	131N-0027
	21.50	0.8465	—	131T-21.5	131A-21.5	131N-21.5
1.5	21.83	0.8594	55/64	131T-.859	131A-.859	131N-.859
	22.00	0.8661	—	131T-22	131A-22	131N-22
	22.23	0.8750	7/8	131T-0028	131A-0028	131N-0028
	22.50	0.8858	—	131T-22.5	131A-22.5	131N-22.5
	22.62	0.8906	57/64	131T-.890	131A-.890	131N-.890
	23.00	0.9055	—	131T-23	131A-23	131N-23
	23.02	0.9063	29/32	131T-0029	131A-0029	131N-0029
	23.42	0.9219	59/64	131T-.921	131A-.921	131N-.921
	23.50	0.9252	—	131T-23.5	131A-23.5	131N-23.5
	23.81	0.9375	15/16	131T-0030	131A-0030	131N-0030
	24.00	0.9449	—	131T-24	131A-24	131N-24

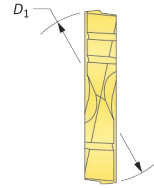
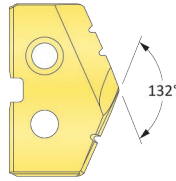
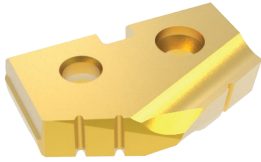
NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

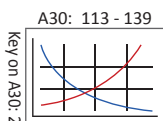
**1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")**

T-A® Drill Inserts

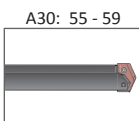


A30

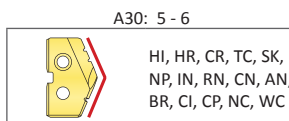
Series	Insert			HSS: Super Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
1	17.86	0.7031	45/64	151T-.703	151A-.703	151N-.703
	18.00	0.7087	—	151T-18	151A-18	151N-18
	18.26	0.7188	23/32	151T-0023	151A-0023	151N-0023
	18.50	0.7283	—	151T-18.5	151A-18.5	151N-18.5
	18.65	0.7344	47/64	151T-.734	151A-.734	151N-.734
	19.00	0.7480	—	151T-19	151A-19	151N-19
	19.05	0.7500	3/4	151T-0024	151A-0024	151N-0024
	19.45	0.7656	49/64	151T-.765	151A-.765	151N-.765
	19.50	0.7677	—	151T-19.5	151A-19.5	151N-19.5
	19.85	0.7813	25/32	151T-0025	151A-0025	151N-0025
	20.00	0.7874	—	151T-20	151A-20	151N-20
	20.24	0.7969	51/64	151T-.796	151A-.796	151N-.796
	20.35	0.8010	—	151T-.801	151A-.801	151N-.801
	20.50	0.8071	—	151T-20.5	151A-20.5	151N-20.5
	20.64	0.8125	13/16	151T-0026	151A-0026	151N-0026
	21.00	0.8268	—	151T-21	151A-21	151N-21
	21.43	0.8438	27/32	151T-0027	151A-0027	151N-0027
	21.50	0.8465	—	151T-21.5	151A-21.5	151N-21.5
1.5	21.83	0.8594	55/64	151T-.859	151A-.859	151N-.859
	22.00	0.8661	—	151T-22	151A-22	151N-22
	22.23	0.8750	7/8	151T-0028	151A-0028	151N-0028
	22.50	0.8858	—	151T-22.5	151A-22.5	151N-22.5
	22.62	0.8906	57/64	151T-.890	151A-.890	151N-.890
	23.00	0.9055	—	151T-23	151A-23	151N-23
	23.02	0.9063	29/32	151T-0029	151A-0029	151N-0029
	23.42	0.9219	59/64	151T-.921	151A-.921	151N-.921
	23.50	0.9252	—	151T-23.5	151A-23.5	151N-23.5
	23.81	0.9375	15/16	151T-0030	151A-0030	151N-0030
	24.00	0.9449	—	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.

A30: 113 - 139



A30: 55 - 59



A30: 5 - 6

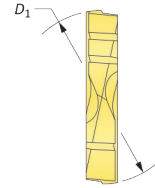
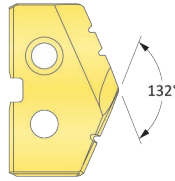
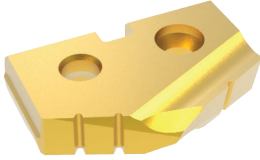
HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



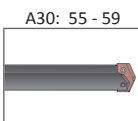
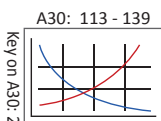
1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Inserts



Series	Insert			HSS: Premium Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
1	17.86	0.7031	45/64	181T-.703	181A-.703	181N-.703
	18.00	0.7087	—	181T-18	181A-18	181N-18
	18.26	0.7188	23/32	181T-0023	181A-0023	181N-0023
	18.50	0.7283	—	181T-18.5	181A-18.5	181N-18.5
	18.65	0.7344	47/64	181T-.734	181A-.734	181N-.734
	19.00	0.7480	—	181T-19	181A-19	181N-19
	19.05	0.7500	3/4	181T-0024	181A-0024	181N-0024
	19.45	0.7656	49/64	181T-.765	181A-.765	181N-.765
	19.50	0.7677	—	181T-19.5	181A-19.5	181N-19.5
	19.85	0.7813	25/32	181T-0025	181A-0025	181N-0025
	20.00	0.7874	—	181T-20	181A-20	181N-20
	20.24	0.7969	51/64	181T-.796	181A-.796	181N-.796
	20.35	0.8010	—	181T-801	181A-801	181N-801
	20.50	0.8071	—	181T-20.5	181A-20.5	181N-20.5
	20.64	0.8125	13/16	181T-0026	181A-0026	181N-0026
	21.00	0.8268	—	181T-21	181A-21	181N-21
	21.43	0.8438	27/32	181T-0027	181A-0027	181N-0027
	21.50	0.8465	—	181T-21.5	181A-21.5	181N-21.5
1.5	21.83	0.8594	55/64	181T-.859	181A-.859	181N-.859
	22.00	0.8661	—	181T-22	181A-22	181N-22
	22.23	0.8750	7/8	181T-0028	181A-0028	181N-0028
	22.50	0.8858	—	181T-22.5	181A-22.5	181N-22.5
	22.62	0.8906	57/64	181T-.890	181A-.890	181N-.890
	23.00	0.9055	—	181T-23	181A-23	181N-23
	23.02	0.9063	29/32	181T-0029	181A-0029	181N-0029
	23.42	0.9219	59/64	181T-.921	181A-.921	181N-.921
	23.50	0.9252	—	181T-23.5	181A-23.5	181N-23.5
	23.81	0.9375	15/16	181T-0030	181A-0030	181N-0030
	24.00	0.9449	—	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.

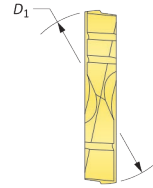
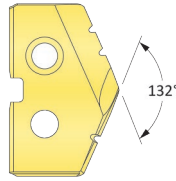
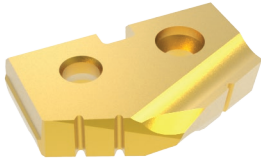


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

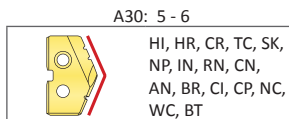
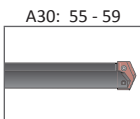
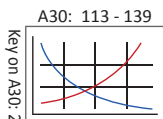
T-A® Drill Inserts



A30

Series	Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No.	Part No.	Part No.	Part No.
				TiN	TiAlN	TiN	TiAlN
1	17.86	0.7031	45/64	1C51T-.703	1C51A-.703	1C21T-.703	1C21A-.703
	18.00	0.7087	—	1C51T-18	1C51A-18	1C21T-18	1C21A-18
	18.26	0.7188	23/32	1C51T-0023	1C51A-0023	1C21T-0023	1C21A-0023
	18.50	0.7283	—	1C51T-18.5	1C51A-18.5	1C21T-18.5	1C21A-18.5
	18.65	0.7344	47/64	1C51T-.734	1C51A-.734	1C21T-.734	1C21A-.734
	19.00	0.7480	—	1C51T-19	1C51A-19	1C21T-19	1C21A-19
	19.05	0.7500	3/4	1C51T-0024	1C51A-0024	1C21T-0024	1C21A-0024
	19.45	0.7656	49/64	1C51T-.765	1C51A-.765	1C21T-.765	1C21A-.765
	19.50	0.7677	—	1C51T-19.5	1C51A-19.5	1C21T-19.5	1C21A-19.5
	19.85	0.7813	25/32	1C51T-0025	1C51A-0025	1C21T-0025	1C21A-0025
	20.00	0.7874	—	1C51T-20	1C51A-20	1C21T-20	1C21A-20
	20.24	0.7969	51/64	1C51T-.796	1C51A-.796	1C21T-.796	1C21A-.796
	20.35	0.8010	—	1C51T-.801	1C51A-.801	1C21T-.801	1C21A-.801
	20.50	0.8071	—	1C51T-20.5	1C51A-20.5	1C21T-20.5	1C21A-20.5
	20.64	0.8125	13/16	1C51T-0026	1C51A-0026	1C21T-0026	1C21A-0026
	21.00	0.8268	—	1C51T-21	1C51A-21	1C21T-21	1C21A-21
	21.43	0.8438	27/32	1C51T-0027	1C51A-0027	1C21T-0027	1C21A-0027
	21.50	0.8465	—	1C51T-21.5	1C51A-21.5	1C21T-21.5	1C21A-21.5
1.5	21.83	0.8594	55/64	1C51T-.859	1C51A-.859	1C21T-.859	1C21A-.859
	22.00	0.8661	—	1C51T-22	1C51A-22	1C21T-22	1C21A-22
	22.23	0.8750	7/8	1C51T-0028	1C51A-0028	1C21T-0028	1C21A-0028
	22.50	0.8858	—	1C51T-22.5	1C51A-22.5	1C21T-22.5	1C21A-22.5
	22.62	0.8906	57/64	1C51T-.890	1C51A-.890	1C21T-.890	1C21A-.890
	23.00	0.9055	—	1C51T-23	1C51A-23	1C21T-23	1C21A-23
	23.02	0.9063	29/32	1C51T-0029	1C51A-0029	1C21T-0029	1C21A-0029
	23.42	0.9219	59/64	1C51T-.921	1C51A-.921	1C21T-.921	1C21A-.921
	23.50	0.9252	—	1C51T-23.5	1C51A-23.5	1C21T-23.5	1C21A-23.5
	23.81	0.9375	15/16	1C51T-0030	1C51A-0030	1C21T-0030	1C21A-0030
	24.00	0.9449	—	1C51T-24	1C51A-24	1C21T-24	1C21A-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.

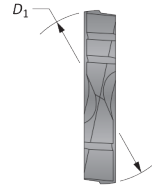
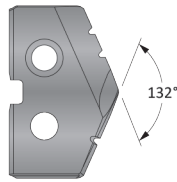
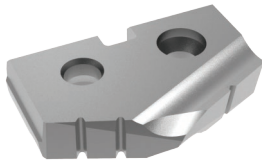


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

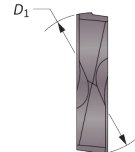
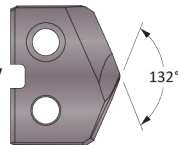


1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Inserts



Cast Iron Geometry

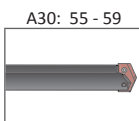
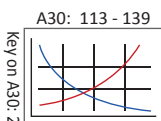


A30

Series	Insert			Carbide: N2	Cast Iron Geometry
	D ₁ mm	D ₁ inch	Fractional Equivalent	 Part No.	 Part No.
				Diamond Film*	TiAlN
1	17.86	0.7031	45/64	1N21D-.703	1C31A-.703-CI
	18.00	0.7087	—	1N21D-18	1C31A-18-CI
	18.26	0.7188	23/32	1N21D-0023	1C31A-0023-CI
	18.50	0.7283	—	1N21D-18.5	1C31A-18.5-CI
	18.65	0.7344	47/64	1N21D-.734	1C31A-.734-CI
	19.00	0.7480	—	1N21D-19	1C31A-19-CI
	19.05	0.7500	3/4	1N21D-0024	1C31A-0024-CI
	19.45	0.7656	49/64	1N21D-.765	1C31A-.765-CI
	19.50	0.7677	—	1N21D-19.5	1C31A-19.5-CI
	19.85	0.7813	25/32	1N21D-0025	1C31A-0025-CI
	20.00	0.7874	—	1N21D-20	1C31A-20-CI
	20.24	0.7969	51/64	1N21D-.796	1C31A-.796-CI
	20.35	0.8010	—	1N21D-.801	1C31A-.801-CI
	20.50	0.8071	—	1N21D-20.5	1C31A-20.5-CI
	20.64	0.8125	13/16	1N21D-0026	1C31A-0026-CI
	21.00	0.8268	—	1N21D-21	1C31A-21-CI
	21.43	0.8438	27/32	1N21D-0027	1C31A-0027-CI
	21.50	0.8465	—	1N21D-21.5	1C31A-21.5-CI
1.5	21.83	0.8594	55/64	1N21D-.859	1C31A-.859-CI
	22.00	0.8661	—	1N21D-22	1C31A-22-CI
	22.23	0.8750	7/8	1N21D-0028	1C31A-0028-CI
	22.50	0.8858	—	1N21D-22.5	1C31A-22.5-CI
	22.62	0.8906	57/64	1N21D-.890	1C31A-.890-CI
	23.00	0.9055	—	1N21D-23	1C31A-23-CI
	23.02	0.9063	29/32	1N21D-0029	1C31A-0029-CI
	23.42	0.9219	59/64	1N21D-.921	1C31A-.921-CI
	23.50	0.9252	—	1N21D-23.5	1C31A-23.5-CI
	23.81	0.9375	15/16	1N21D-0030	1C31A-0030-CI
	24.00	0.9449	—	1N21D-24	1C31A-24-CI

*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.

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.

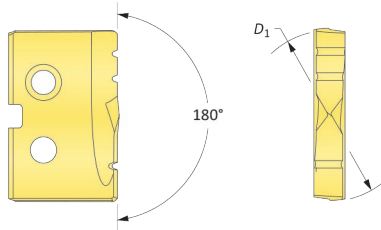
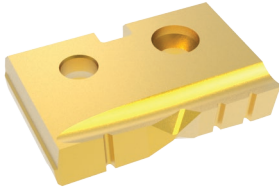


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Inserts

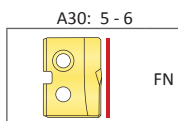
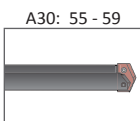
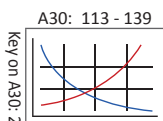


A30

Series	Insert			Flat Bottom Geometry	
				HSS: Super Cobalt	Carbide: K20 (C2)
				Part No.	Part No.
	D ₁ mm	D ₁ inch	Fractional Equivalent	TiN	TiN*
1	17.86	0.7031	45/64	151T-703-FB	1C21T-703-FB
	18.00	0.7087	—	151T-18-FB	1C21T-18-FB
	18.26	0.7188	23/32	151T-0023-FB	1C21T-0023-FB
	18.50	0.7283	—	151T-18.5-FB	1C21T-18.5-FB
	18.65	0.7344	47/64	151T-.734-FB	1C21T-.734-FB
	19.00	0.7480	—	151T-19-FB	1C21T-19-FB
	19.05	0.7500	3/4	151T-0024-FB	1C21T-0024-FB
	19.45	0.7656	49/64	151T-.765-FB	1C21T-.765-FB
	19.50	0.7677	—	151T-19.5-FB	1C21T-19.5-FB
	19.85	0.7813	25/32	151T-0025-FB	1C21T-0025-FB
	20.00	0.7874	—	151T-20-FB	1C21T-20-FB
	20.24	0.7969	51/64	151T-.796-FB	1C21T-.796-FB
	20.35	0.8010	—	151T-.801-FB	1C21T-.801-FB
	20.50	0.8071	—	151T-20.5-FB	1C21T-20.5-FB
	20.64	0.8125	13/16	151T-0026-FB	1C21T-0026-FB
	21.00	0.8268	—	151T-21-FB	1C21T-21-FB
	21.43	0.8438	27/32	151T-0027-FB	1C21T-0027-FB
	21.50	0.8465	—	151T-21.5-FB	1C21T-21.5-FB
1.5	21.83	0.8594	55/64	151T-.859-FB	1C21T-.859-FB
	22.00	0.8661	—	151T-22-FB	1C21T-22-FB
	22.23	0.8750	7/8	151T-0028-FB	1C21T-0028-FB
	22.50	0.8858	—	151T-22.5-FB	1C21T-22.5-FB
	22.62	0.8906	57/64	151T-.890-FB	1C21T-.890-FB
	23.00	0.9055	—	151T-23-FB	1C21T-23-FB
	23.02	0.9063	29/32	151T-0029-FB	1C21T-0029-FB
	23.42	0.9219	59/64	151T-.921-FB	1C21T-.921-FB
	23.50	0.9252	—	151T-23.5-FB	1C21T-23.5-FB
	23.81	0.9375	15/16	151T-0030-FB	1C21T-0030-FB
	24.00	0.9449	—	151T-24-FB	1C21T-24-FB

*Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.

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.

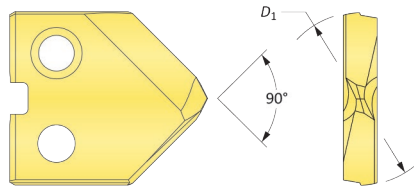
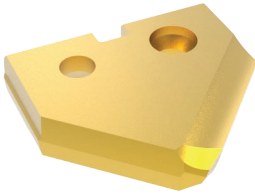


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



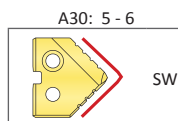
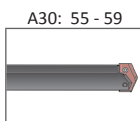
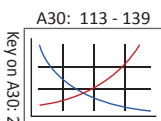
1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Inserts



Series	Insert			90° Spot & Chamfer Geometry		
	D ₁ mm	D ₁ inch	Fractional Equivalent	HSS: Super Cobalt		
				Part No.	Part No.	Part No.
				TIN	TiAIN	TiCN
1	17.86	0.7031	45/64	151T-.703-SP	151A-.703-SP	151N-.703-SP
	18.00	0.7087	—	151T-18-SP	151A-18-SP	151N-18-SP
	18.26	0.7188	23/32	151T-0023-SP	151A-0023-SP	151N-0023-SP
	18.50	0.7283	—	151T-18.5-SP	151A-18.5-SP	151N-18.5-SP
	18.65	0.7344	47/64	151T-.734-SP	151A-.734-SP	151N-.734-SP
	19.00	0.7480	—	151T-19-SP	151A-19-SP	151N-19-SP
	19.05	0.7500	3/4	151T-0024-SP	151A-0024-SP	151N-0024-SP
	19.45	0.7656	49/64	151T-.765-SP	151A-.765-SP	151N-.765-SP
	19.50	0.7677	—	151T-19.5-SP	151A-19.5-SP	151N-19.5-SP
	19.85	0.7813	25/32	151T-0025-SP	151A-0025-SP	151N-0025-SP
	20.00	0.7874	—	151T-20-SP	151A-20-SP	151N-20-SP
	20.24	0.7969	51/64	151T-.796-SP	151A-.796-SP	151N-.796-SP
	20.35	0.8010	—	151T-.801-SP	151A-.801-SP	151N-.801-SP
	20.50	0.8071	—	151T-20.5-SP	151A-20.5-SP	151N-20.5-SP
	20.64	0.8125	13/16	151T-0026-SP	151A-0026-SP	151N-0026-SP
	21.00	0.8268	—	151T-21-SP	151A-21-SP	151N-21-SP
	21.43	0.8438	27/32	151T-0027-SP	151A-0027-SP	151N-0027-SP
	21.50	0.8465	—	151T-21.5-SP	151A-21.5-SP	151N-21.5-SP
1.5	21.83	0.8594	55/64	151T-.859-SP	151A-.859-SP	151N-.859-SP
	22.00	0.8661	—	151T-22-SP	151A-22-SP	151N-22-SP
	22.23	0.8750	7/8	151T-0028-SP	151A-0028-SP	151N-0028-SP
	22.50	0.8858	—	151T-22.5-SP	151A-22.5-SP	151N-22.5-SP
	22.62	0.8906	57/64	151T-.890-SP	151A-.890-SP	151N-.890-SP
	23.00	0.9055	—	151T-23-SP	151A-23-SP	151N-23-SP
	23.02	0.9063	29/32	151T-0029-SP	151A-0029-SP	151N-0029-SP
	23.42	0.9219	59/64	151T-.921-SP	151A-.921-SP	151N-.921-SP
	23.50	0.9252	—	151T-23.5-SP	151A-23.5-SP	151N-23.5-SP
	23.81	0.9375	15/16	151T-0030-SP	151A-0030-SP	151N-0030-SP
	24.00	0.9449	—	151T-24-SP	151A-24-SP	151N-24-SP

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
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

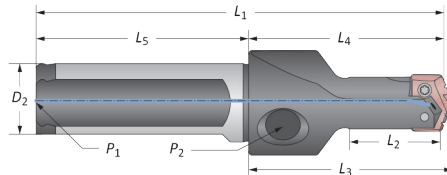
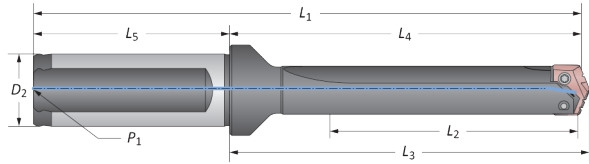


1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

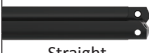
T-A® Drill Holders



Stub Length



Metric Flange Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
	1	Stub	50.6	75.8	79.3	131.8	56.0	25	1/8 BSPT	21010S-25FM
		Short	66.8	107.2	110.7	163.2	56.0	25	1/8 BSPT	22010S-25FM
		Intermediate	114.8	154.8	158.3	210.8	56.0	25	1/8 BSPT	23010S-25FM
		Standard	165.6	205.6	209.1	261.6	56.0	25	1/8 BSPT	24010S-25FM
		Extended	267.2	307.2	310.7	363.2	56.0	25	1/8 BSPT	25010S-25FM
	1.5	XL	454.2	494.5	498.1	550.5	56.0	25	1/8 BSPT	27010S-25FM
		3XL	562.1	602.5	606.0	658.5	56.0	25	1/8 BSPT	29010S-25FM
		Stub	64.9	88.5	92.0	144.5	56.0	25	1/8 BSPT	21015S-25FM
		Short	66.1	107.2	110.7	163.2	56.0	25	1/8 BSPT	22015S-25FM
		Intermediate	113.8	154.8	158.3	210.8	56.0	25	1/8 BSPT	23015S-25FM
	1	Standard	164.6	205.6	209.1	261.6	56.0	25	1/8 BSPT	24015S-25FM
		Extended	266.2	307.2	310.7	363.2	56.0	25	1/8 BSPT	25015S-25FM
		Intermediate	132.8	154.8	158.3	210.8	56.0	25	1/8 BSPT	23010H-25FM
		Standard	183.6	205.6	209.1	261.6	56.0	25	1/8 BSPT	24010H-25FM
		Standard Plus	234.3	256.3	259.9	312.3	56.0	25	1/8 BSPT	24510H-25FM
	1.5	Extended	285.2	307.2	310.7	363.2	56.0	25	1/8 BSPT	25010H-25FM
		Long	380.3	402.3	405.9	458.3	56.0	25	1/8 BSPT	26010H-25FM
		Intermediate	134.4	154.8	158.3	210.8	56.0	25	1/8 BSPT	23015H-25FM
		Standard	185.2	205.6	209.1	261.6	56.0	25	1/8 BSPT	24015H-25FM
		Extended	286.8	307.2	310.7	363.2	56.0	25	1/8 BSPT	25015H-25FM

NOTE: Stub length holders have a 3.175 mm (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.

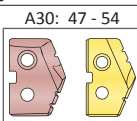
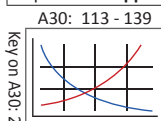
Connection Accessories

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.

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 catalog. 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: appeng@alliedmachine.com.



 = Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.

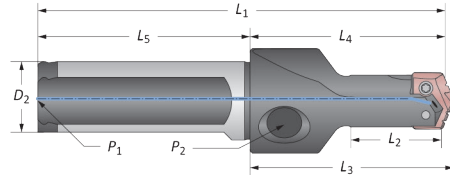
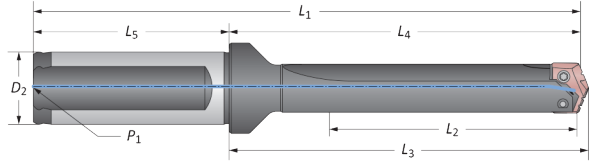


1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Holders



Stub Length



A30

Imperial Flange Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
 Straight	1	Stub	1.992	2.984	3.124	5.264	2.280	1	1/8 NPT	21010S-100F
		Short	2.643	4.219	4.359	6.499	2.280	1	1/8 NPT	22010S-100F
		Intermediate	4.518	6.094	6.234	8.374	2.280	1	1/8 NPT	23010S-100F
		Standard	6.518	8.094	8.234	10.374	2.280	1	1/8 NPT	24010S-100F
		Extended	10.518	12.094	12.234	14.374	2.280	1	1/8 NPT	⬇️ 25010S-100F
	1.5	Stub	2.554	3.484	3.624	5.764	2.280	1	1/8 NPT	21015S-100F
		Short	2.607	4.219	4.359	6.499	2.280	1	1/8 NPT	22015S-100F
		Intermediate	4.482	6.094	6.234	8.374	2.280	1	1/8 NPT	23015S-100F
		Standard	6.482	8.094	8.234	10.374	2.280	1	1/8 NPT	24015S-100F
		Extended	10.482	12.094	12.234	14.374	2.280	1	1/8 NPT	⬇️ 25015S-100F
 Helical	1	Intermediate	5.229	6.094	6.234	8.374	2.280	1	1/8 NPT	23010H-100F
		Standard	7.229	8.094	8.234	10.374	2.280	1	1/8 NPT	24010H-100F
		Standard Plus	9.226	10.091	10.231	12.371	2.280	1	1/8 NPT	⬇️ 24510H-100F
		Extended	11.229	12.094	12.234	14.374	2.280	1	1/8 NPT	⬇️ 25010H-100F
		Long	14.974	15.839	15.979	18.119	2.280	1	1/8 NPT	⬇️ 26010H-100F
	1.5	Intermediate	5.291	6.094	6.234	8.374	2.280	1	1/8 NPT	23015H-100F
		Standard	7.291	8.094	8.234	10.374	2.280	1	1/8 NPT	24015H-100F
		Extended	11.291	12.094	12.234	14.374	2.280	1	1/8 NPT	⬇️ 25015H-100F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

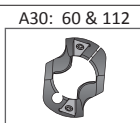
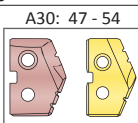
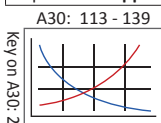
NOTE: 1.5 series inserts fit into both 1 and 1.5 series holders. However, 1 series inserts ONLY fit into 1 series holders. See page A30: 7 for visual.

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.

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 catalog. 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: appeng@alliedmachine.com.



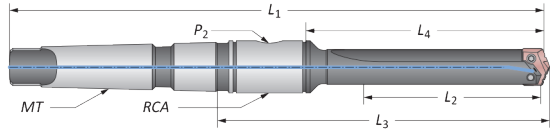
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Holders



Metric Taper Shank Holders

Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	
Straight	1	Short	66.8	98.4	142.4	232.6	#3 MT ISO	1/8 BSPT	2T-3SRM	22010S-003M
	1.5	Short	63.0	98.4	142.4	232.6	#3 MT ISO	1/8 BSPT	2T-3SRM	22015S-003M
Helical	1	Intermediate	133.0	149.2	193.2	283.4	#3 MT ISO	1/8 BSPT	2T-3SRM	23010H-003M
		Standard	183.8	200.0	244.0	334.2	#3 MT ISO	1/8 BSPT	2T-3SRM	24010H-003M
		Extended	285.4	301.6	345.6	435.8	#3 MT ISO	1/8 BSPT	2T-3SRM	25010H-003M
	1.5	Intermediate	132.6	149.2	193.2	283.4	#3 MT ISO	1/8 BSPT	2T-3SRM	23015H-003M
		Standard	183.4	200.0	244.0	334.2	#3 MT ISO	1/8 BSPT	2T-3SRM	24015H-003M
		Extended	285.0	301.6	345.6	435.8	#3 MT ISO	1/8 BSPT	2T-3SRM	25015H-003M

*MT 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.

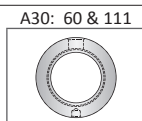
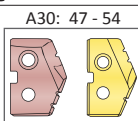
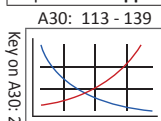
A30

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.

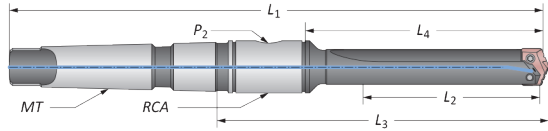


m = Metric (mm)
i = Imperial (in)
 Screws sold in multiples of 10.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Holders



Imperial Taper Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
Straight	1	Short	2.631	3.875	5.608	9.156	#3 MT	1/8 NPT	2T-3SR	22010S-003I
		Short	2.631	3.875	5.671	10.156	#4 MT	1/8 NPT	2T-3SR	22010S-004I
		Intermediate	4.631	5.875	7.608	11.156	#3 MT	1/8 NPT	2T-3SR	23010S-003I
		Standard	6.631	7.875	9.608	13.156	#3 MT	1/8 NPT	2T-3SR	24010S-003I
		Standard	6.631	7.875	9.671	14.156	#4 MT	1/8 NPT	2T-3SR	24010S-004I
	1.5	Extended	10.631	11.875	13.608	17.156	#3 MT	1/8 NPT	2T-3SR	25010S-003I
		Short	2.482	3.875	5.608	9.156	#3 MT	1/8 NPT	2T-3SR	22015S-003I
		Short	2.483	3.875	5.671	10.156	#4 MT	1/8 NPT	2T-3SR	22015S-004I
		Intermediate	4.482	5.875	7.608	11.156	#3 MT	1/8 NPT	2T-3SR	23015S-003I
		Standard	6.482	7.875	9.608	13.156	#3 MT	1/8 NPT	2T-3SR	24015S-003I
Helical	1	Standard	6.483	7.875	9.671	14.156	#4 MT	1/8 NPT	2T-3SR	24015S-004I
		Extended	10.482	11.875	13.608	17.156	#3 MT	1/8 NPT	2T-3SR	25015S-003I
		Intermediate	5.236	5.875	7.608	11.156	#3 MT	1/8 NPT	2T-3SR	23010H-003I
		Standard	7.236	7.875	9.608	13.156	#3 MT	1/8 NPT	2T-3SR	24010H-003I
		Standard	7.236	7.875	9.671	14.156	#4 MT	1/8 NPT	2T-3SR	24010H-004I
	1.5	Extended	11.236	11.875	13.608	17.156	#3 MT	1/8 NPT	2T-3SR	25010H-003I
		Intermediate	5.219	5.875	7.608	11.156	#3 MT	1/8 NPT	2T-3SR	23015H-003I
		Standard	7.219	7.875	9.608	13.156	#3 MT	1/8 NPT	2T-3SR	24015H-003I
		Standard	7.219	7.875	9.671	14.156	#4 MT	1/8 NPT	2T-3SR	24015H-004I
		Extended	11.219	11.875	13.608	17.156	#3 MT	1/8 NPT	2T-3SR	25015H-003I

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.

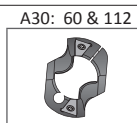
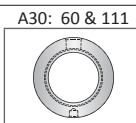
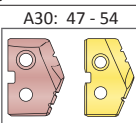
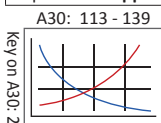
Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



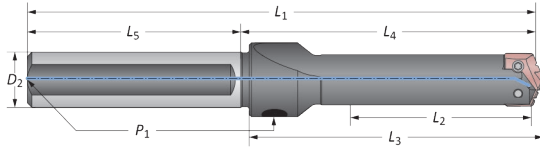
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

T-A® Drill Holders



Straight Shank Holders

Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
 Straight	1	Short	2.619	3.875	4.015	6.875	3.000	3/4	1/8 NPT	22010S-075L
		Short	2.647	3.875	4.015	6.875	3.000	1	1/8 NPT	22010S-100L
		Intermediate	4.647	5.875	6.015	8.875	3.000	1	1/8 NPT	23010S-100L
		Standard	6.619	7.875	8.015	10.875	3.000	3/4	1/8 NPT	24010S-075L
		Standard	6.647	7.875	8.015	10.875	3.000	1	1/8 NPT	24010S-100L
		Extended	10.647	11.875	12.015	14.875	3.000	1	1/8 NPT	25010S-100L
	1.5	XL	18.022	19.250	19.390	22.250	3.000	1	1/8 NPT	27010S-100L
		3XL	22.272	23.500	23.640	26.500	3.000	1	1/8 NPT	29010S-100L
		Short	2.649	3.875	4.015	6.875	3.000	3/4	1/8 NPT	22015S-075L
		Short	2.661	3.875	4.015	6.875	3.000	1	1/8 NPT	22015S-100L
		Intermediate	4.661	5.875	6.015	8.875	3.000	1	1/8 NPT	23015S-100L
		Standard	6.649	7.875	8.015	10.875	3.000	3/4	1/8 NPT	24015S-075L
		Standard	6.661	7.875	8.015	10.875	3.000	1	1/8 NPT	24015S-100L
		Extended	10.661	11.875	12.015	14.875	3.000	1	1/8 NPT	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.

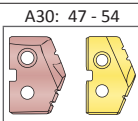
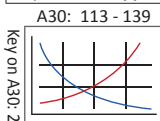
Connection Accessories

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.

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 catalog. 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: appeng@alliedmachine.com.



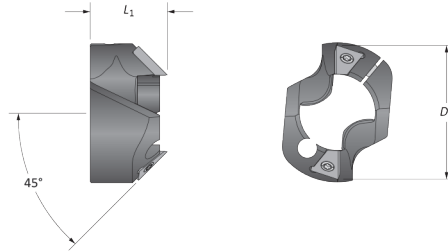
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")

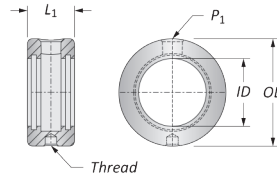
T-A® Drill Accessories



T-ACR 45 Chamfer Rings

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 - 0.8540	1.330	0.797	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	1.493	0.891	T-ACR-45-1.5	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15

A30



Rotary Coolant Adapters (RCA) and Accessories

	ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
							Kit Part No.*	Replacements
m	25.4	54.0	28.6	M8 x 1.25	1/8 BSPT	2T-3SRM	2T1-3SR	2T1-3OR-10
i	1.000	2.125	1.125	5/16" - 18	1/8 NPT	2T-3SR	2T1-3SR	2T1-3OR-10

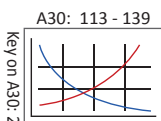
*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.

⚠ Refer to page A30: 111 for proper RCA assembly and safety information.

⚠ 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 through our Application Engineering department: appeng@alliedmachine.com



m = Metric (mm)

i = Imperial (in)

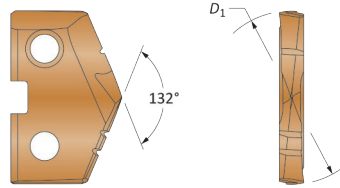
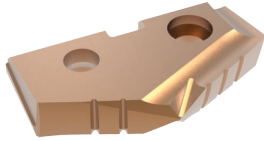
Chamfer ring inserts sold separately.

Screws sold in multiples of 10.

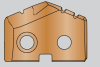
O-rings sold in packs of 10.

**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

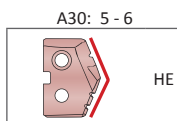
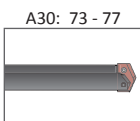
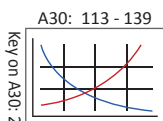
GEN2 T-A® Drill Inserts



A30

Series	Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
2	24.50	0.9646	—	AM200®	AM300®	AM300®
	24.61	0.9688	31/32	452H-24.5	4C22P-24.5	4C12P-24.5
	24.79	0.9760	—	452H-0031	4C22P-0031	4C12P-0031
	25.00	0.9843	63/64	452H-.976	4C22P-.976	4C12P-.976
	25.40	1.0000	1	452H-25	4C22P-25	4C12P-25
	25.50	1.0039	—	452H-0100	4C22P-0100	4C12P-0100
	25.80	1.0156	1-1/64	452H-25.5	4C22P-25.5	4C12P-25.5
	26.00	1.0236	—	452H-1.015	4C22P-1.015	4C12P-1.015
	26.20	1.0313	1-1/32	452H-26	4C22P-26	4C12P-26
	26.50	1.0433	—	452H-0101	4C22P-0101	4C12P-0101
	26.59	1.0469	1-3/64	452H-26.5	4C22P-26.5	4C12P-26.5
	26.99	1.0625	1-1/16	452H-0102	4C22P-0102	4C12P-0102
	27.00	1.0630	—	452H-1.046	4C22P-1.046	4C12P-1.046
	27.50	1.0827	—	452H-0102	4C22P-0102	4C12P-0102
	27.78	1.0938	1-3/32	452H-27	4C22P-27	4C12P-27
	28.00	1.1024	—	452H-27.5	4C22P-27.5	4C12P-27.5
	28.18	1.1094	1-7/64	452H-0103	4C22P-0103	4C12P-0103
	28.50	1.1220	—	452H-28	4C22P-28	4C12P-28
	28.58	1.1250	1-1/8	452H-1.109	4C22P-1.109	4C12P-1.109
	29.00	1.1417	—	452H-28.5	4C22P-28.5	4C12P-28.5
	29.37	1.1563	1-5/32	452H-0104	4C22P-0104	4C12P-0104
	29.50	1.1614	—	452H-29	4C22P-29	4C12P-29
	30.00	1.1811	—	452H-0105	4C22P-0105	4C12P-0105
				452H-29.5	4C22P-29.5	4C12P-29.5
				452H-30	4C22P-30	4C12P-30

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.

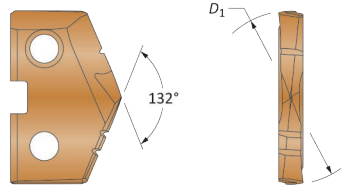
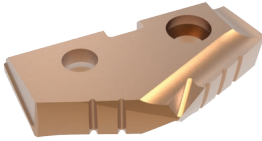


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



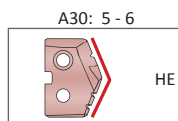
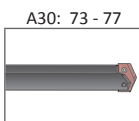
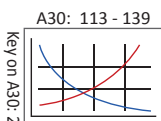
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

GEN2 T-A® Drill Inserts



Series	Insert			HSS: Super Cobalt	Carbide: K35 (C1)	Carbide: K20 (C2)
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No. AM200®	Part No. AM300®	Part No. AM300®
2.5	30.16	1.1875	1-3/16	452H-0106	4C22P-0106	4C12P-0106
	30.50	1.2008	—	452H-30.5	4C22P-30.5	4C12P-30.5
	30.96	1.2188	1-7/32	452H-0107	4C22P-0107	4C12P-0107
	31.00	1.2205	—	452H-31	4C22P-31	4C12P-31
	31.14	1.2260	—	452H-1.226	4C22P-1.226	4C12P-1.226
	31.27	1.2310	—	452H-1.231	4C22P-1.231	4C12P-1.231
	31.35	1.2344	1-15/64	452H-1.234	4C22P-1.234	4C12P-1.234
	31.50	1.2402	—	452H-31.5	4C22P-31.5	4C12P-31.5
	31.75	1.2500	1-1/4	452H-0108	4C22P-0108	4C12P-0108
	32.00	1.2598	—	452H-32	4C22P-32	4C12P-32
	32.50	1.2795	—	452H-32.5	4C22P-32.5	4C12P-32.5
	32.55	1.2813	1-9/32	452H-0109	4C22P-0109	4C12P-0109
	33.00	1.2992	—	452H-33	4C22P-33	4C12P-33
	33.34	1.3125	1-5/16	452H-0110	4C22P-0110	4C12P-0110
	33.50	1.3189	—	452H-33.5	4C22P-33.5	4C12P-33.5
	34.00	1.3386	—	452H-34	4C22P-34	4C12P-34
	34.13	1.3438	1-11/32	452H-0111	4C22P-0111	4C12P-0111
	34.50	1.3583	—	452H-34.5	4C22P-34.5	4C12P-34.5
	34.93	1.3750	1-3/8	452H-0112	4C22P-0112	4C12P-0112
	35.00	1.3780	—	452H-35	4C22P-35	4C12P-35

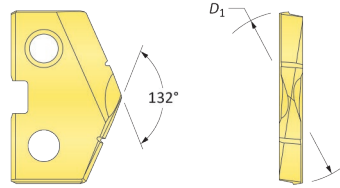
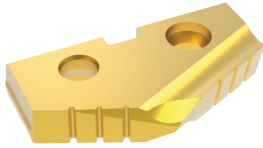
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

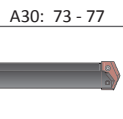
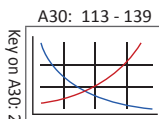
**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

T-A® Drill Inserts



A30

Series	Insert			HSS: High-Speed Steel		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
2	24.50	0.9646	—	132T-24.5	132A-24.5	132N-24.5
	24.61	0.9688	31/32	132T-0031	132A-0031	132N-0031
	24.79	0.9760	—	132T-.976	132A-.976	132N-.976
	25.00	0.9843	63/64	132T-25	132A-25	132N-25
	25.40	1.0000	1	132T-0100	132A-0100	132N-0100
	25.50	1.0039	—	132T-25.5	132A-25.5	132N-25.5
	25.80	1.0156	1-1/64	132T-1.015	132A-1.015	132N-1.015
	26.00	1.0236	—	132T-26	132A-26	132N-26
	26.20	1.0313	1-1/32	132T-0101	132A-0101	132N-0101
	26.50	1.0433	—	132T-26.5	132A-26.5	132N-26.5
	26.59	1.0469	1-3/64	132T-1.046	132A-1.046	132N-1.046
	26.99	1.0625	1-1/16	132T-0102	132A-0102	132N-0102
	27.00	1.0630	—	132T-27	132A-27	132N-27
	27.50	1.0827	—	132T-27.5	132A-27.5	132N-27.5
	27.78	1.0938	1-3/32	132T-0103	132A-0103	132N-0103
	28.00	1.1024	—	132T-28	132A-28	132N-28
	28.18	1.1094	1-7/64	132T-1.109	132A-1.109	132N-1.109
	28.50	1.1220	—	132T-28.5	132A-28.5	132N-28.5
	28.58	1.1250	1-1/8	132T-0104	132A-0104	132N-0104
	29.00	1.1417	—	132T-29	132A-29	132N-29
	29.37	1.1563	1-5/32	132T-0105	132A-0105	132N-0105
	29.50	1.1614	—	132T-29.5	132A-29.5	132N-29.5
	30.00	1.1811	—	132T-30	132A-30	132N-30
	30.16	1.1875	1-3/16	132T-0106	132A-0106	132N-0106
	30.50	1.2008	—	132T-30.5	132A-30.5	132N-30.5
	30.96	1.2188	1-7/32	132T-0107	132A-0107	132N-0107
	31.00	1.2205	—	132T-31	132A-31	132N-31
	31.14	1.2260	—	132T-1.226	132A-1.226	132N-1.226
	31.27	1.2310	—	132T-1.231	132A-1.231	132N-1.231
	31.35	1.2344	1-15/64	132T-1.234	132A-1.234	132N-1.234
	31.50	1.2402	—	132T-31.5	132A-31.5	132N-31.5
	31.75	1.2500	1-1/4	132T-0108	132A-0108	132N-0108
2.5	32.00	1.2598	—	132T-32	132A-32	132N-32
	32.50	1.2795	—	132T-32.5	132A-32.5	132N-32.5
	32.55	1.2813	1-9/32	132T-0109	132A-0109	132N-0109
	33.00	1.2992	—	132T-33	132A-33	132N-33
	33.34	1.3125	1-5/16	132T-0110	132A-0110	132N-0110
	33.50	1.3189	—	132T-33.5	132A-33.5	132N-33.5
	34.00	1.3386	—	132T-34	132A-34	132N-34
	34.13	1.3438	1-11/32	132T-0111	132A-0111	132N-0111
	34.50	1.3583	—	132T-34.5	132A-34.5	132N-34.5
	34.93	1.3750	1-3/8	132T-0112	132A-0112	132N-0112
	35.00	1.3780	—	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.

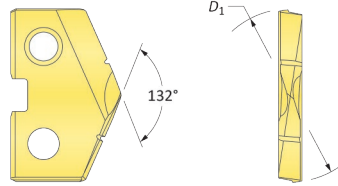
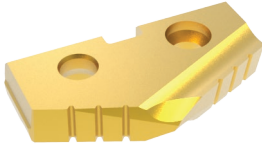
HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



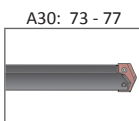
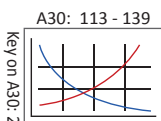
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Inserts



Series	Insert			HSS: Super Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TIN	TiAIN	TiCN
2	24.50	0.9646	—	152T-24.5	152A-24.5	152N-24.5
	24.61	0.9688	31/32	152T-0031	152A-0031	152N-0031
	24.79	0.9760	—	152T-.976	152A-.976	152N-.976
	25.00	0.9843	63/64	152T-25	152A-25	152N-25
	25.40	1.0000	1	152T-0100	152A-0100	152N-0100
	25.50	1.0039	—	152T-25.5	152A-25.5	152N-25.5
	25.80	1.0156	1-1/64	152T-1.015	152A-1.015	152N-1.015
	26.00	1.0236	—	152T-26	152A-26	152N-26
	26.20	1.0313	1-1/32	152T-0101	152A-0101	152N-0101
	26.50	1.0433	—	152T-26.5	152A-26.5	152N-26.5
	26.59	1.0469	1-3/64	152T-1.046	152A-1.046	152N-1.046
	26.99	1.0625	1-1/16	152T-0102	152A-0102	152N-0102
	27.00	1.0630	—	152T-27	152A-27	152N-27
	27.50	1.0827	—	152T-27.5	152A-27.5	152N-27.5
	27.78	1.0938	1-3/32	152T-0103	152A-0103	152N-0103
	28.00	1.1024	—	152T-28	152A-28	152N-28
	28.18	1.1094	1-7/64	152T-1.109	152A-1.109	152N-1.109
	28.50	1.1220	—	152T-28.5	152A-28.5	152N-28.5
	28.58	1.1250	1-1/8	152T-0104	152A-0104	152N-0104
	29.00	1.1417	—	152T-29	152A-29	152N-29
	29.37	1.1563	1-5/32	152T-0105	152A-0105	152N-0105
	29.50	1.1614	—	152T-29.5	152A-29.5	152N-29.5
	30.00	1.1811	—	152T-30	152A-30	152N-30
2.5	30.16	1.1875	1-3/16	152T-0106	152A-0106	152N-0106
	30.50	1.2008	—	152T-30.5	152A-30.5	152N-30.5
	30.96	1.2188	1-7/32	152T-0107	152A-0107	152N-0107
	31.00	1.2205	—	152T-31	152A-31	152N-31
	31.14	1.2260	—	152T-1.226	152A-1.226	152N-1.226
	31.27	1.2310	—	152T-1.231	152A-1.231	152N-1.231
	31.35	1.2344	1-15/64	152T-1.234	152A-1.234	152N-1.234
	31.50	1.2402	—	152T-31.5	152A-31.5	152N-31.5
	31.75	1.2500	1-1/4	152T-0108	152A-0108	152N-0108
	32.00	1.2598	—	152T-32	152A-32	152N-32
	32.50	1.2795	—	152T-32.5	152A-32.5	152N-32.5
	32.55	1.2813	1-9/32	152T-0109	152A-0109	152N-0109
	33.00	1.2992	—	152T-33	152A-33	152N-33
	33.34	1.3125	1-5/16	152T-0110	152A-0110	152N-0110
	33.50	1.3189	—	152T-33.5	152A-33.5	152N-33.5
	34.00	1.3386	—	152T-34	152A-34	152N-34
	34.13	1.3438	1-11/32	152T-0111	152A-0111	152N-0111
	34.50	1.3583	—	152T-34.5	152A-34.5	152N-34.5
	34.93	1.3750	1-3/8	152T-0112	152A-0112	152N-0112
	35.00	1.3780	—	152T-35	152A-35	152N-35

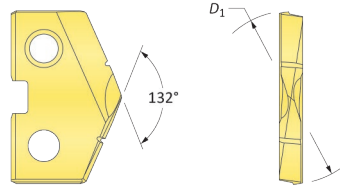
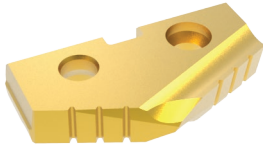
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

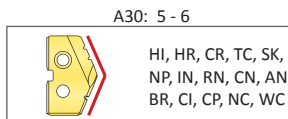
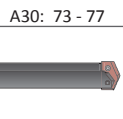
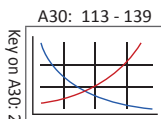
**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

T-A® Drill Inserts



A30

Series	Insert			HSS: Premium Cobalt		
	D ₁ mm	D ₁ inch	Fractional Equivalent			
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
2	24.50	0.9646	—	182T-24.5	182A-24.5	182N-24.5
	24.61	0.9688	31/32	182T-0031	182A-0031	182N-0031
	24.79	0.9760	—	182T-.976	182A-.976	182N-.976
	25.00	0.9843	63/64	182T-25	182A-25	182N-25
	25.40	1.0000	1	182T-0100	182A-0100	182N-0100
	25.50	1.0039	—	182T-25.5	182A-25.5	182N-25.5
	25.80	1.0156	1-1/64	182T-1.015	182A-1.015	182N-1.015
	26.00	1.0236	—	182T-26	182A-26	182N-26
	26.20	1.0313	1-1/32	182T-0101	182A-0101	182N-0101
	26.50	1.0433	—	182T-26.5	182A-26.5	182N-26.5
	26.59	1.0469	1-3/64	182T-1.046	182A-1.046	182N-1.046
	26.99	1.0625	1-1/16	182T-0102	182A-0102	182N-0102
	27.00	1.0630	—	182T-27	182A-27	182N-27
	27.50	1.0827	—	182T-27.5	182A-27.5	182N-27.5
	27.78	1.0938	1-3/32	182T-0103	182A-0103	182N-0103
	28.00	1.1024	—	182T-28	182A-28	182N-28
	28.18	1.1094	1-7/64	182T-1.109	182A-1.109	182N-1.109
	28.50	1.1220	—	182T-28.5	182A-28.5	182N-28.5
	28.58	1.1250	1-1/8	182T-0104	182A-0104	182N-0104
	29.00	1.1417	—	182T-29	182A-29	182N-29
	29.37	1.1563	1-5/32	182T-0105	182A-0105	182N-0105
	29.50	1.1614	—	182T-29.5	182A-29.5	182N-29.5
	30.00	1.1811	—	182T-30	182A-30	182N-30
	30.16	1.1875	1-3/16	182T-0106	182A-0106	182N-0106
	30.50	1.2008	—	182T-30.5	182A-30.5	182N-30.5
	30.96	1.2188	1-7/32	182T-0107	182A-0107	182N-0107
	31.00	1.2205	—	182T-31	182A-31	182N-31
	31.14	1.2260	—	182T-1.226	182A-1.226	182N-1.226
	31.27	1.2310	—	182T-1.231	182A-1.231	182N-1.231
	31.35	1.2344	1-15/64	182T-1.234	182A-1.234	182N-1.234
	31.50	1.2402	—	182T-31.5	182A-31.5	182N-31.5
	31.75	1.2500	1-1/4	182T-0108	182A-0108	182N-0108
2.5	32.00	1.2598	—	182T-32	182A-32	182N-32
	32.50	1.2795	—	182T-32.5	182A-32.5	182N-32.5
	32.55	1.2813	1-9/32	182T-0109	182A-0109	182N-0109
	33.00	1.2992	—	182T-33	182A-33	182N-33
	33.34	1.3125	1-5/16	182T-0110	182A-0110	182N-0110
	33.50	1.3189	—	182T-33.5	182A-33.5	182N-33.5
	34.00	1.3386	—	182T-34	182A-34	182N-34
	34.13	1.3438	1-11/32	182T-0111	182A-0111	182N-0111
	34.50	1.3583	—	182T-34.5	182A-34.5	182N-34.5
	34.93	1.3750	1-3/8	182T-0112	182A-0112	182N-0112
	35.00	1.3780	—	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.

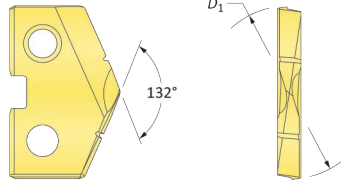
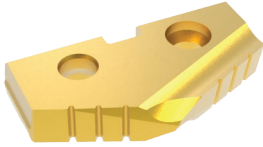
HI, HR, CR, TC, SK,
NP, IN, RN, CN, AN,
BR, CI, CP, NC, WC

Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



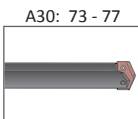
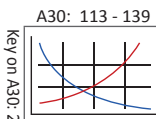
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Inserts



Series	Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
	D ₁ mm	D ₁ inch	Fractional Equivalent				
				Part No.	Part No.	Part No.	Part No.
				TIN	TiAIN	TIN	TiAIN
2	24.50	0.9646	—	1C52T-24.5	1C52A-24.5	1C22T-24.5	1C22A-24.5
	24.61	0.9688	31/32	1C52T-0031	1C52A-0031	1C22T-0031	1C22A-0031
	24.79	0.9760	—	1C52T-.976	1C52A-.976	1C22T-.976	1C22A-.976
	25.00	0.9843	63/64	1C52T-25	1C52A-25	1C22T-25	1C22A-25
	25.40	1.0000	1	1C52T-0100	1C52A-0100	1C22T-0100	1C22A-0100
	25.50	1.0039	—	1C52T-25.5	1C52A-25.5	1C22T-25.5	1C22A-25.5
	25.80	1.0156	1-1/64	1C52T-1.015	1C52A-1.015	1C22T-1.015	1C22A-1.015
	26.00	1.0236	—	1C52T-26	1C52A-26	1C22T-26	1C22A-26
	26.20	1.0313	1-1/32	1C52T-0101	1C52A-0101	1C22T-0101	1C22A-0101
	26.50	1.0433	—	1C52T-26.5	1C52A-26.5	1C22T-26.5	1C22A-26.5
	26.59	1.0469	1-3/64	1C52T-1.046	1C52A-1.046	1C22T-1.046	1C22A-1.046
	26.99	1.0625	1-1/16	1C52T-0102	1C52A-0102	1C22T-0102	1C22A-0102
	27.00	1.0630	—	1C52T-27	1C52A-27	1C22T-27	1C22A-27
	27.50	1.0827	—	1C52T-27.5	1C52A-27.5	1C22T-27.5	1C22A-27.5
	27.78	1.0938	1-3/32	1C52T-0103	1C52A-0103	1C22T-0103	1C22A-0103
	28.00	1.1024	—	1C52T-28	1C52A-28	1C22T-28	1C22A-28
	28.18	1.1094	1-7/64	1C52T-1.109	1C52A-1.109	1C22T-1.109	1C22A-1.109
	28.50	1.1220	—	1C52T-28.5	1C52A-28.5	1C22T-28.5	1C22A-28.5
	28.58	1.1250	1-1/8	1C52T-0104	1C52A-0104	1C22T-0104	1C22A-0104
	29.00	1.1417	—	1C52T-29	1C52A-29	1C22T-29	1C22A-29
	29.37	1.1563	1-5/32	1C52T-0105	1C52A-0105	1C22T-0105	1C22A-0105
	29.50	1.1614	—	1C52T-29.5	1C52A-29.5	1C22T-29.5	1C22A-29.5
	30.00	1.1811	—	1C52T-30	1C52A-30	1C22T-30	1C22A-30
	30.16	1.1875	1-3/16	1C52T-0106	1C52A-0106	1C22T-0106	1C22A-0106
	30.50	1.2008	—	1C52T-30.5	1C52A-30.5	1C22T-30.5	1C22A-30.5
	30.96	1.2188	1-7/32	1C52T-0107	1C52A-0107	1C22T-0107	1C22A-0107
	31.00	1.2205	—	1C52T-31	1C52A-31	1C22T-31	1C22A-31
	31.14	1.2260	—	1C52T-1.226	1C52A-1.226	1C22T-1.226	1C22A-1.226
	31.27	1.2310	—	1C52T-1.231	1C52A-1.231	1C22T-1.231	1C22A-1.231
	31.35	1.2344	1-15/64	1C52T-1.234	1C52A-1.234	1C22T-1.234	1C22A-1.234
	31.50	1.2402	—	1C52T-31.5	1C52A-31.5	1C22T-31.5	1C22A-31.5
	31.75	1.2500	1-1/4	1C52T-0108	1C52A-0108	1C22T-0108	1C22A-0108
2.5	32.00	1.2598	—	1C52T-32	1C52A-32	1C22T-32	1C22A-32
	32.50	1.2795	—	1C52T-32.5	1C52A-32.5	1C22T-32.5	1C22A-32.5
	32.55	1.2813	1-9/32	1C52T-0109	1C52A-0109	1C22T-0109	1C22A-0109
	33.00	1.2992	—	1C52T-33	1C52A-33	1C22T-33	1C22A-33
	33.34	1.3125	1-5/16	1C52T-0110	1C52A-0110	1C22T-0110	1C22A-0110
	33.50	1.3189	—	1C52T-33.5	1C52A-33.5	1C22T-33.5	1C22A-33.5
	34.00	1.3386	—	1C52T-34	1C52A-34	1C22T-34	1C22A-34
	34.13	1.3438	1-11/32	1C52T-0111	1C52A-0111	1C22T-0111	1C22A-0111
	34.50	1.3583	—	1C52T-34.5	1C52A-34.5	1C22T-34.5	1C22A-34.5
	34.93	1.3750	1-3/8	1C52T-0112	1C52A-0112	1C22T-0112	1C22A-0112
	35.00	1.3780	—	1C52T-35	1C52A-35	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
nonstocked standards.
Process fees apply.

Inserts sold in quantities of 2.

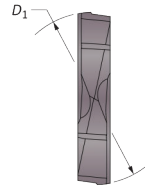
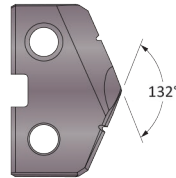
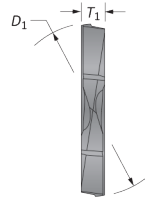
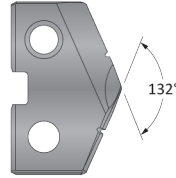
**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

T-A® Drill Inserts

A30



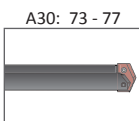
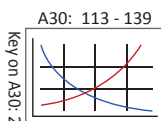
Cast Iron Geometry



Series	Insert			Carbide: N2	Cast Iron Geometry
	D ₁ mm	D ₁ inch	Fractional Equivalent		
				Part No. Diamond Film*	Part No. TiAlN
2	24.50	0.9646	—	1N22D-24.5	1C32A-24.5-CI
	24.61	0.9688	31/32	1N22D-0031	1C32A-0031-CI
	24.79	0.9760	—	1N22D-.976	1C32A-.976-CI
	25.00	0.9843	63/64	1N22D-25	1C32A-25-CI
	25.40	1.0000	1	1N22D-0100	1C32A-0100-CI
	25.50	1.0039	—	1N22D-25.5	1C32A-25.5-CI
	25.80	1.0156	1-1/64	1N22D-1.015	1C32A-1.015-CI
	26.00	1.0236	—	1N22D-26	1C32A-26-CI
	26.20	1.0313	1-1/32	1N22D-0101	1C32A-0101-CI
	26.50	1.0433	—	1N22D-26.5	1C32A-26.5-CI
	26.59	1.0469	1-3/64	1N22D-1.046	1C32A-1.046-CI
	26.99	1.0625	1-1/16	1N22D-0102	1C32A-0102-CI
	27.00	1.0630	—	1N22D-27	1C32A-27-CI
	27.50	1.0827	—	1N22D-27.5	1C32A-27.5-CI
	27.78	1.0938	1-3/32	1N22D-0103	1C32A-0103-CI
	28.00	1.1024	—	1N22D-28	1C32A-28-CI
	28.18	1.1094	1-7/64	1N22D-1.109	1C32A-1.109-CI
	28.50	1.1220	—	1N22D-28.5	1C32A-28.5-CI
	28.58	1.1250	1-1/8	1N22D-0104	1C32A-0104-CI
	29.00	1.1417	—	1N22D-29	1C32A-29-CI
	29.37	1.1563	1-5/32	1N22D-0105	1C32A-0105-CI
	29.50	1.1614	—	1N22D-29.5	1C32A-29.5-CI
	30.00	1.1811	—	1N22D-30	1C32A-30-CI

*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.

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
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

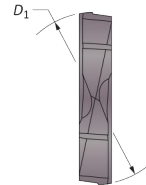
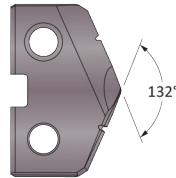
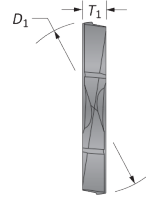
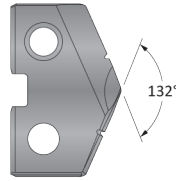


2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Inserts



Cast Iron Geometry

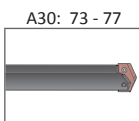
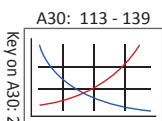


A30

Series	Insert			Carbide: N2	Cast Iron Geometry
	D ₁ mm	D ₁ inch	Fractional Equivalent		
				Part No.	Part No.
				Diamond Film*	TiAlN
2.5	30.16	1.1875	1-3/16	1N22D-0106	1C32A-0106-CI
	30.50	1.2008	—	1N22D-30.5	1C32A-30.5-CI
	30.96	1.2188	1-7/32	1N22D-0107	1C32A-0107-CI
	31.00	1.2205	—	1N22D-31	1C32A-31-CI
	31.14	1.2260	—	1N22D-1.226	1C32A-1.226-CI
	31.27	1.2310	—	1N22D-1.231	1C32A-1.231-CI
	31.35	1.2344	1-15/64	1N22D-1.234	1C32A-1.234-CI
	31.50	1.2402	—	1N22D-31.5	1C32A-31.5-CI
	31.75	1.2500	1-1/4	1N22D-0108	1C32A-0108-CI
	32.00	1.2598	—	1N22D-32	1C32A-32-CI
	32.50	1.2795	—	1N22D-32.5	1C32A-32.5-CI
	32.55	1.2813	1-9/32	1N22D-0109	1C32A-0109-CI
	33.00	1.2992	—	1N22D-33	1C32A-33-CI
	33.34	1.3125	1-5/16	1N22D-0110	1C32A-0110-CI
	33.50	1.3189	—	1N22D-33.5	1C32A-33.5-CI
	34.00	1.3386	—	1N22D-34	1C32A-34-CI
	34.13	1.3438	1-11/32	1N22D-0111	1C32A-0111-CI
	34.50	1.3583	—	1N22D-34.5	1C32A-34.5-CI
	34.93	1.3750	1-3/8	1N22D-0112	1C32A-0112-CI
	35.00	1.3780	—	1N22D-35	1C32A-35-CI

*Diamond film coated items are nonstocked standard and only available in standard geometry. For additional geometries, please contact Application Engineering. Process fees apply.

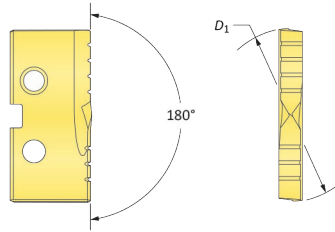
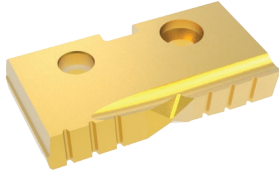
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

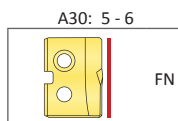
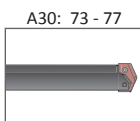
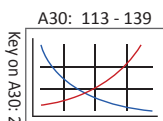
**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

T-A® Drill Inserts



A30

Series	Insert			Flat Bottom Geometry	
	D ₁ mm	D ₁ inch	Fractional Equivalent	HSS: Super Cobalt	Carbide: K20 (C2)
				 Part No. TiN	 Part No. TiN
2	24.50	0.9646	—	152T-24.5-FB	1C22T-24.5-FB
	24.61	0.9688	31/32	152T-0031-FB	1C22T-0031-FB
	24.79	0.9760	—	152T-.976-FB	1C22T-.976-FB
	25.00	0.9843	63/64	152T-25-FB	1C22T-25-FB
	25.40	1.0000	1	152T-0100-FB	1C22T-0100-FB
	25.50	1.0039	—	152T-25.5-FB	1C22T-25.5-FB
	25.80	1.0156	1-1/64	152T-1.015-FB	1C22T-1.015-FB
	26.00	1.0236	—	152T-26-FB	1C22T-26-FB
	26.20	1.0313	1-1/32	152T-0101-FB	1C22T-0101-FB
	26.50	1.0433	—	152T-26.5-FB	1C22T-26.5-FB
	26.59	1.0469	1-3/64	152T-1.046-FB	1C22T-1.046-FB
	26.99	1.0625	1-1/16	152T-0102-FB	1C22T-0102-FB
	27.00	1.0630	—	152T-27-FB	1C22T-27-FB
	27.50	1.0827	—	152T-27.5-FB	1C22T-27.5-FB
	27.78	1.0938	1-3/32	152T-0103-FB	1C22T-0103-FB
	28.00	1.1024	—	152T-28-FB	1C22T-28-FB
	28.18	1.1094	1-7/64	152T-1.109-FB	1C22T-1.109-FB
	28.50	1.1220	—	152T-28.5-FB	1C22T-28.5-FB
	28.58	1.1250	1-1/8	152T-0104-FB	1C22T-0104-FB
	29.00	1.1417	—	152T-29-FB	1C22T-29-FB
	29.37	1.1563	1-5/32	152T-0105-FB	1C22T-0105-FB
	29.50	1.1614	—	152T-29.5-FB	1C22T-29.5-FB
	30.00	1.1811	—	152T-30-FB	1C22T-30-FB

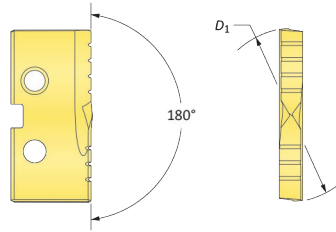
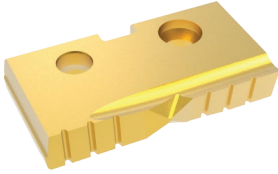
NOTE: *Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.**NOTE:** 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

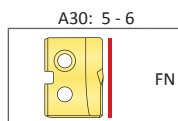
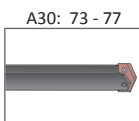
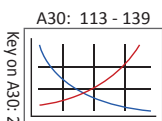
T-A® Drill Inserts



Series	Insert			Flat Bottom Geometry	
	D ₁ mm	D ₁ inch	Fractional Equivalent	HSS: Super Cobalt	Carbide: K20 (C2)
				Part No.	Part No.
2.5	30.16	1.1875	1-3/16	152T-0106-FB	1C22T-0106-FB
	30.50	1.2008	—	152T-30.5-FB	1C22T-30.5-FB
	30.96	1.2188	1-7/32	152T-0107-FB	1C22T-0107-FB
	31.00	1.2205	—	152T-31-FB	1C22T-31-FB
	31.14	1.2260	—	152T-1.226-FB	1C22T-1.226-FB
	31.27	1.2310	—	152T-1.231-FB	1C22T-1.231-FB
	31.35	1.2344	1-15/64	152T-1.234-FB	1C22T-1.234-FB
	31.50	1.2402	—	152T-31.5-FB	1C22T-31.5-FB
	31.75	1.2500	1-1/4	152T-0108-FB	1C22T-0108-FB
	32.00	1.2598	—	152T-32-FB	1C22T-32-FB
	32.50	1.2795	—	152T-32.5-FB	1C22T-32.5-FB
	32.55	1.2813	1-9/32	152T-0109-FB	1C22T-0109-FB
	33.00	1.2992	—	152T-33-FB	1C22T-33-FB
	33.34	1.3125	1-5/16	152T-0110-FB	1C22T-0110-FB
	33.50	1.3189	—	152T-33.5-FB	1C22T-33.5-FB
	34.00	1.3386	—	152T-34-FB	1C22T-34-FB
	34.13	1.3438	1-11/32	152T-0111-FB	1C22T-0111-FB
	34.50	1.3583	—	152T-34.5-FB	1C22T-34.5-FB
	34.93	1.3750	1-3/8	152T-0112-FB	1C22T-0112-FB
	35.00	1.3780	—	152T-35-FB	1C22T-35-FB

NOTE: *Carbide: K20 (C2) inserts with flat bottom geometry are nonstocked standard items. Process fees apply.

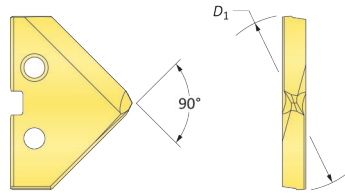
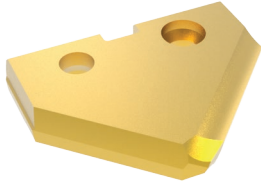
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

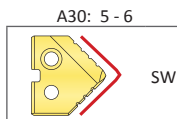
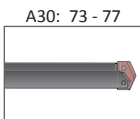
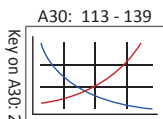
T-A® Drill Inserts



A30

Series	Insert			90° Spot & Chamfer Geometry		
	D_1 mm	D_1 inch	Fractional Equivalent	HSS: Super Cobalt		
						
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
2	24.50	0.9646	—	152T-24.5-SP	152A-24.5-SP	152N-24.5-SP
	24.61	0.9688	31/32	152T-0031-SP	152A-0031-SP	152N-0031-SP
	24.79	0.9760	—	152T-.976-SP	152A-.976-SP	152N-.976-SP
	25.00	0.9843	63/64	152T-25-SP	152A-25-SP	152N-25-SP
	25.40	1.0000	1	152T-0100-SP	152A-0100-SP	152N-0100-SP
	25.50	1.0039	—	152T-25.5-SP	152A-25.5-SP	152N-25.5-SP
	25.80	1.0156	1-1/64	152T-1.015-SP	152A-1.015-SP	152N-1.015-SP
	26.00	1.0236	—	152T-26-SP	152A-26-SP	152N-26-SP
	26.20	1.0313	1-1/32	152T-0101-SP	152A-0101-SP	152N-0101-SP
	26.50	1.0433	—	152T-26.5-SP	152A-26.5-SP	152N-26.5-SP
	26.59	1.0469	1-3/64	152T-1.046-SP	152A-1.046-SP	152N-1.046-SP
	26.99	1.0625	1-1/16	152T-0102-SP	152A-0102-SP	152N-0102-SP
	27.00	1.0630	—	152T-27-SP	152A-27-SP	152N-27-SP
	27.50	1.0827	—	152T-27.5-SP	152A-27.5-SP	152N-27.5-SP
	27.78	1.0938	1-3/32	152T-0103-SP	152A-0103-SP	152N-0103-SP
	28.00	1.1024	—	152T-28-SP	152A-28-SP	152N-28-SP
	28.18	1.1094	1-7/64	152T-1.109-SP	152A-1.109-SP	152N-1.109-SP
	28.50	1.1220	—	152T-28.5-SP	152A-28.5-SP	152N-28.5-SP
	28.58	1.1250	1-1/8	152T-0104-SP	152A-0104-SP	152N-0104-SP
	29.00	1.1417	—	152T-29-SP	152A-29-SP	152N-29-SP
	29.37	1.1563	1-5/32	152T-0105-SP	152A-0105-SP	152N-0105-SP
	29.50	1.1614	—	152T-29.5-SP	152A-29.5-SP	152N-29.5-SP
	30.00	1.1811	—	152T-30-SP	152A-30-SP	152N-30-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.

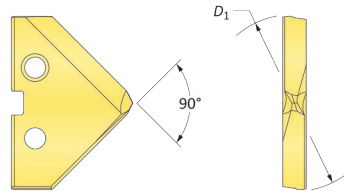
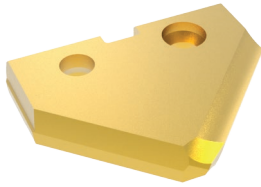


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

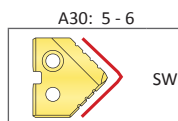
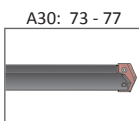
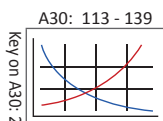
T-A® Drill Inserts



Series	Insert			90° Spot & Chamfer Geometry		
	D_1 mm	D_1 inch	Fractional Equivalent	HSS: Super Cobalt		
						
				Part No.	Part No.	Part No.
				TiN	TiAlN	TiCN
2.5	30.16	1.1875	1-3/16	152T-0106-SP	152A-0106-SP	152N-0106-SP
	30.50	1.2008	—	152T-30.5-SP	152A-30.5-SP	152N-30.5-SP
	30.96	1.2188	1-7/32	152T-0107-SP	152A-0107-SP	152N-0107-SP
	31.00	1.2205	—	152T-31-SP	152A-31-SP	152N-31-SP
	31.27	1.2310	—	152T-1.226-SP	152A-1.226-SP	152N-1.226-SP
	31.35	1.2344	1-15/64	152T-1.231-SP	152A-1.231-SP	152N-1.231-SP
	31.35	1.2344	1-15/64	152T-1.234-SP	152A-1.234-SP	152N-1.234-SP
	31.50	1.2402	—	152T-31.5-SP	152A-31.5-SP	152N-31.5-SP
	31.75	1.2500	1-1/4	152T-0108-SP	152A-0108-SP	152N-0108-SP
	32.00	1.2598	—	152T-32-SP	152A-32-SP	152N-32-SP
	32.50	1.2795	—	152T-32.5-SP	152A-32.5-SP	152N-32.5-SP
	32.55	1.2813	1-9/32	152T-0109-SP	152A-0109-SP	152N-0109-SP
	33.00	1.2992	—	152T-33-SP	152A-33-SP	152N-33-SP
	33.34	1.3125	1-5/16	152T-0110-SP	152A-0110-SP	152N-0110-SP
	33.50	1.3189	—	152T-33.5-SP	152A-33.5-SP	152N-33.5-SP
	34.00	1.3386	—	152T-34-SP	152A-34-SP	152N-34-SP
	34.13	1.3438	1-11/32	152T-0111-SP	152A-0111-SP	152N-0111-SP
	34.50	1.3583	—	152T-34.5-SP	152A-34.5-SP	152N-34.5-SP
	34.93	1.3750	1-3/8	152T-0112-SP	152A-0112-SP	152N-0112-SP
	35.00	1.3780	—	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



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.



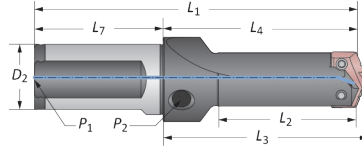
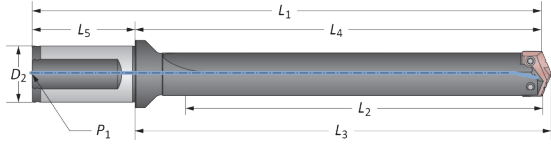
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Holders



A30

Stub Length



Metric Flange Shank Holders

Flute	Series	Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
Straight	2	Stub	63.5	88.5	92.0	148.5	60.0	32	1/4 BSPT	21020S-32FM
		Short	86.1	128.6	132.2	188.6	60.0	32	1/4 BSPT	22020S-32FM
		Intermediate	136.9	179.4	183.0	239.4	60.0	32	1/4 BSPT	23020S-32FM
		Standard	187.7	230.2	233.8	290.2	60.0	32	1/4 BSPT	24020S-32FM
		Extended	289.3	331.8	335.4	391.8	60.0	32	1/4 BSPT	25020S-32FM
	2.5	XL	511.6	554.1	557.6	614.0	60.0	32	1/4 BSPT	27020S-32FM
		3XL	692.6	735.0	738.6	795.0	60.0	32	1/4 BSPT	29020S-32FM
		Stub	100.6	123.4	127.0	183.4	60.0	32	1/4 BSPT	21025S-32FM
		Short	84.7	128.6	132.2	188.6	60.0	32	1/4 BSPT	22025S-32FM
		Intermediate	135.5	179.4	183.0	239.4	60.0	32	1/4 BSPT	23025S-32FM
Helical	2	Standard	186.3	230.2	233.8	290.2	60.0	32	1/4 BSPT	24025S-32FM
		Extended	287.9	331.8	335.4	391.8	60.0	32	1/4 BSPT	25025S-32FM
		Intermediate	154.8	179.4	183.0	239.4	60.0	32	1/4 BSPT	23020H-32FM
		Standard	205.6	230.2	233.8	290.2	60.0	32	1/4 BSPT	24020H-32FM
		Standard Plus	256.3	280.9	284.5	340.9	60.0	32	1/4 BSPT	24520H-32FM
	2.5	Extended	307.2	331.8	335.4	391.8	60.0	32	1/4 BSPT	25020H-32FM
		Long	428.3	452.9	456.5	512.9	60.0	32	1/4 BSPT	26020H-32FM
		Intermediate	156.8	179.4	183.0	239.4	60.0	32	1/4 BSPT	23025H-32FM
		Standard	207.6	230.2	233.8	290.2	60.0	32	1/4 BSPT	24025H-32FM
		Extended	309.2	331.8	335.4	391.8	60.0	32	1/4 BSPT	25025H-32FM

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P₂).

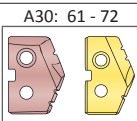
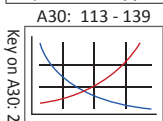
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

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.

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 catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

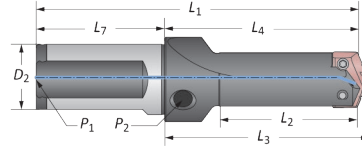
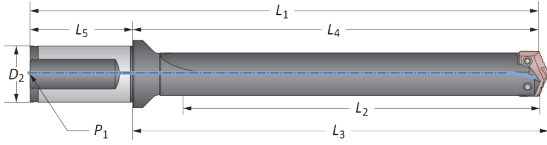


2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Holders



Stub Length



A30

Imperial Flange Shank Holders

Flute		Series	Body					Shank			Part No.
			Length	L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
	2	Stub	2.500	3.484	3.624	5.764	2.280	1-1/4	1/4 NPT	21020S-125F	
		Short	3.391	5.063	5.203	7.343	2.280	1-1/4	1/4 NPT	22020S-125F	
		Intermediate	5.391	7.063	7.203	9.343	2.280	1-1/4	1/4 NPT	23020S-125F	
		Standard	7.391	9.063	9.203	11.343	2.280	1-1/4	1/4 NPT	24020S-125F	
	Extended	11.391	13.063	13.203	15.343	2.280	1-1/4	1/4 NPT	25020S-125F		
	2.5	Stub	3.959	4.859	4.999	7.139	2.280	1-1/4	1/4 NPT	21025S-125F	
		Short	3.334	5.063	5.203	7.343	2.280	1-1/4	1/4 NPT	22025S-125F	
		Intermediate	5.334	7.063	7.203	9.343	2.280	1-1/4	1/4 NPT	23025S-125F	
		Standard	7.334	9.063	9.203	11.343	2.280	1-1/4	1/4 NPT	24025S-125F	
	Extended	11.334	13.063	13.203	15.343	2.280	1-1/4	1/4 NPT	25025S-125F		
	2	Intermediate	6.093	7.063	7.203	9.343	2.280	1-1/4	1/4 NPT	23020H-125F	
		Standard	8.093	9.063	9.203	11.343	2.280	1-1/4	1/4 NPT	24020H-125F	
		Standard Plus	10.089	11.059	11.199	13.339	2.280	1-1/4	1/4 NPT	24520H-125F	
		Extended	12.093	13.063	13.203	15.343	2.280	1-1/4	1/4 NPT	25020H-125F	
		Long	16.861	17.831	17.971	20.111	2.280	1-1/4	1/4 NPT	26020H-125F	
	2.5	Intermediate	6.172	7.063	7.203	9.343	2.280	1-1/4	1/4 NPT	23025H-125F	
		Standard	8.172	9.063	9.203	11.343	2.280	1-1/4	1/4 NPT	24025H-125F	
		Extended	12.172	13.063	13.203	15.343	2.280	1-1/4	1/4 NPT	25025H-125F	

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

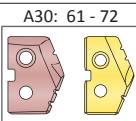
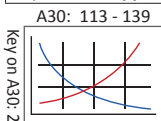
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

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.

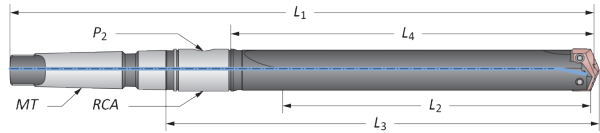
WARNING

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 catalog. 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: appeng@alliedmachine.com.

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

Screws sold in multiples of 10.

**2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")**

T-A® Drill Holders

**Metric Taper Shank Holders**

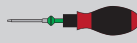
Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	
Straight	2	Short	82.0	114.3	159.9	273.8	#4 MT ISO	1/8 BSPT	2T-3SRM	22020S-004M
	2.5	Short	76.5	114.3	167.1	281.0	#4 MT ISO	1/4 BSPT	2T-4SRM	22025S-004M
Helical	2	Intermediate	148.6	165.1	210.7	324.6	#4 MT ISO	1/8 BSPT	2T-3SRM	23020H-004M
		Standard	199.4	215.9	261.5	375.4	#4 MT ISO	1/8 BSPT	2T-3SRM	24020H-004M
		Extended	301.0	317.5	363.1	477.0	#4 MT ISO	1/8 BSPT	2T-3SRM	25020H-004M
	2.5	Intermediate	146.8	165.1	217.9	331.8	#4 MT ISO	1/4 BSPT	2T-4SRM	23025H-004M
		Standard	197.6	215.9	268.7	382.6	#4 MT ISO	1/4 BSPT	2T-4SRM	24025H-004M
		Extended	299.2	317.5	370.3	484.2	#4 MT ISO	1/4 BSPT	2T-4SRM	25025H-004M

*MT 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.

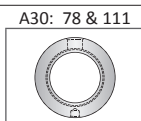
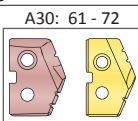
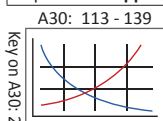
A30

Connection Accessories

					Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	
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 **A30: 146** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



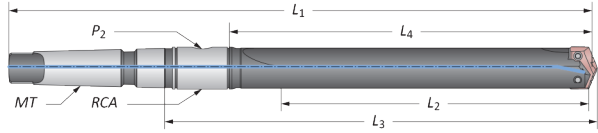
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Holders



Imperial Taper Shank Holders

Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	MT	P ₂	RCA	
Straight	2	Short	3.229	4.500	6.233	9.781	#3 MT	1/8 NPT	2T-3SR	22020S-003I
		Short	3.229	4.500	6.296	10.781	#4 MT	1/8 NPT	2T-3SR	22020S-004I
		Intermediate	5.229	6.500	8.296	12.781	#4 MT	1/8 NPT	2T-3SR	23020S-004I
		Standard	7.229	8.500	10.233	13.781	#3 MT	1/8 NPT	2T-3SR	24020S-003I
		Standard	7.229	8.500	10.296	14.781	#4 MT	1/8 NPT	2T-3SR	24020S-004I
	2.5	Extended	11.229	12.500	14.296	18.781	#4 MT	1/8 NPT	2T-3SR	25020S-004I
		Short	3.380	4.500	6.233	9.781	#3 MT	1/8 NPT	2T-3SR	22025S-003I
		Short	3.013	4.500	6.577	11.062	#4 MT	1/4 NPT	2T-4SR	22025S-004I
		Intermediate	5.013	6.500	8.577	13.062	#4 MT	1/4 NPT	2T-4SR	23025S-004I
		Standard	7.380	8.500	10.233	13.781	#3 MT	1/8 NPT	2T-3SR	24025S-003I
Helical	2	Standard	7.013	8.500	10.577	15.062	#4 MT	1/4 NPT	2T-4SR	24025S-004I
		Extended	11.013	12.500	14.577	19.062	#4 MT	1/4 NPT	2T-4SR	25025S-004I
		Intermediate	5.850	6.500	8.296	12.781	#4 MT	1/8 NPT	2T-3SR	23020H-004I
		Standard	7.850	8.500	10.233	13.781	#3 MT	1/8 NPT	2T-3SR	24020H-003I
		Standard	7.850	8.500	10.296	14.781	#4 MT	1/8 NPT	2T-3SR	24020H-004I
	2.5	Extended	11.850	12.500	14.296	18.781	#4 MT	1/8 NPT	2T-3SR	25020H-004I
		Intermediate	5.781	6.500	8.577	13.062	#4 MT	1/4 NPT	2T-4SR	23025H-004I
		Standard	8.016	8.500	10.233	13.781	#3 MT	1/8 NPT	2T-3SR	24025H-003I
		Standard	7.781	8.500	10.577	15.062	#4 MT	1/4 NPT	2T-4SR	24025H-004I
		Extended	11.781	12.500	14.577	19.062	#4 MT	1/4 NPT	2T-4SR	25025H-004I

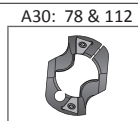
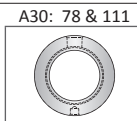
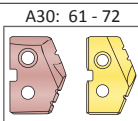
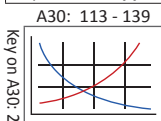
NOTE: 2.5 series inserts fit into both 2 and 2.5 series holders. However, 2 series inserts ONLY fit into 2 series holders. See page A30: 7 for visual.

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



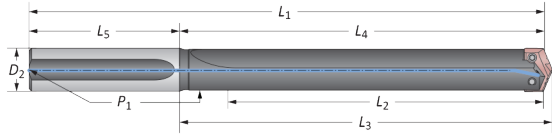
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

T-A® Drill Holders



Straight Shank Holders

Flute	Series	Length	Body				Shank			Part No.
			L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
Straight	2	Short	3.226	4.500	4.640	8.000	3.5000	1	1/8 NPT	22020S-100L
		Short	3.119	4.500	4.640	8.000	3.5000	1-1/4	1/8 NPT	22020S-125L
		Intermediate	5.119	6.500	6.640	10.000	3.5000	1-1/4	1/8 NPT	23020S-125L
		Standard	7.226	8.500	8.640	12.000	3.5000	1	1/8 NPT	24020S-100L
		Standard	7.119	8.500	8.640	12.000	3.5000	1-1/4	1/8 NPT	24020S-125L
		Extended	11.119	12.500	12.640	16.000	3.5000	1-1/4	1/8 NPT	25020S-125L
		XL	19.869	21.250	21.390	24.750	3.5000	1-1/4	1/8 NPT	27020S-125L
		3XL	26.994	28.375	28.515	31.875	3.5000	1-1/4	1/8 NPT	29020S-125L
	2.5	Short	3.395	4.500	4.640	8.000	3.5000	1	1/8 NPT	22025S-100L
		Short	3.015	4.500	4.640	8.000	3.5000	1-1/4	1/8 NPT	22025S-125L
		Intermediate	5.015	6.500	6.640	10.000	3.5000	1-1/4	1/8 NPT	23025S-125L
		Standard	7.395	8.500	8.640	12.000	3.5000	1	1/8 NPT	24025S-100L
		Standard	7.015	8.500	8.640	12.000	3.5000	1-1/4	1/8 NPT	24025S-125L
		Extended	11.015	12.500	12.640	16.000	3.5000	1-1/4	1/8 NPT	25025S-125L
		Extended	11.015	12.500	12.640	16.000	3.5000	1-1/4	1/8 NPT	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.

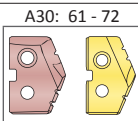
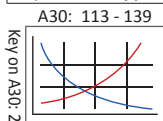
Connection Accessories

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 A30: 146 for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



m = Metric (mm)

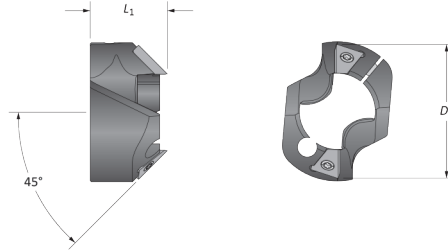
i = Imperial (in)

Screws sold in multiples of 10.



2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")

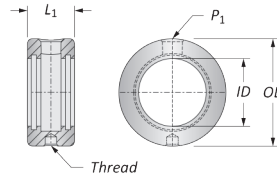
T-A® Drill Accessories



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	1.598	1.000	T-ACR-45-2	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7514-IP20-1	8IP-20

A30



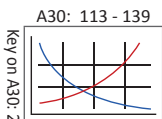
Rotary Coolant Adapter (RCA) and Accessories

	ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
							Kit Part No.*	Replacements
	25.4	54.0	28.6	M8 x 1.25	1/8 BSPT	2T-3SRM	2T1-3SR	2T1-3OR-10
	31.8	63.5	34.9	M10 x 1.50	1/4 BSPT	2T-4SRM	2T1-4SR	2T1-4OR-10
	1.000	2.125	1.125	5/16" - 18	1/8 NPT	2T-3SR	2T1-3SR	2T1-3OR-10
	1.250	2.500	1.375	3/8" - 16	1/4 NPT	2T-4SR	2T1-4SR	2T1-4OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.

Refer to page A30: 111 for proper RCA assembly and safety information.

⚠ 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 through our Application Engineering department: appeng@alliedmachine.com

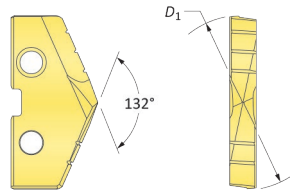
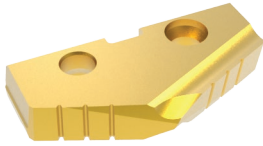


= Metric (mm)
 = Imperial (in)

Chamfer ring inserts sold separately.
Screws sold in multiples of 10.
O-rings sold in packs of 10.

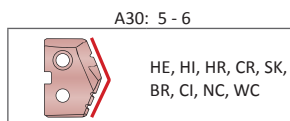
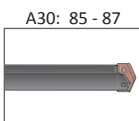
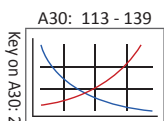
**3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")**

GEN2 T-A® Drill Inserts



A30

Insert			HSS: High-Speed Steel
D ₁ mm	D ₁ inch	Fractional Equivalent	
			Part No.
			TiN
35.72	1.4063	1-13/32	433T-0113
36.00	1.4173	—	433T-36
36.51	1.4375	1-7/16	433T-0114
37.00	1.4567	—	433T-37
37.31	1.4688	1-15/32	433T-0115
38.00	1.4961	—	433T-38
38.10	1.5000	1-1/2	433T-0116
38.90	1.5313	1-17/32	433T-0117
39.00	1.5354	—	433T-39
39.29	1.5470	—	433T-1.547
39.69	1.5625	1-9/16	433T-0118
40.00	1.5748	—	433T-40
40.48	1.5938	1-19/32	433T-0119
41.00	1.6142	—	433T-41
41.28	1.6250	1-5/8	433T-0120
42.00	1.6535	—	433T-42
42.07	1.6563	1-21/32	433T-0121
42.86	1.6875	1-11/16	433T-0122
43.00	1.6929	—	433T-43
43.66	1.7188	1-23/32	433T-0123
44.00	1.7323	—	433T-44
44.45	1.7500	1-3/4	433T-0124
45.00	1.7717	—	433T-45
45.25	1.7813	1-25/32	433T-0125
45.50	1.7913	—	433T-45.5
45.64	1.7970	—	433T-1.797
46.00	1.8110	—	433T-46
46.04	1.8125	1-13/16	433T-0126
46.83	1.8438	1-27/32	433T-0127
47.00	1.8504	—	433T-47
47.63	1.8750	1-7/8	433T-0128

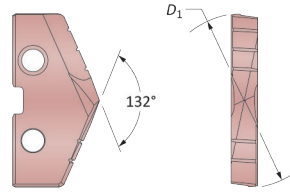
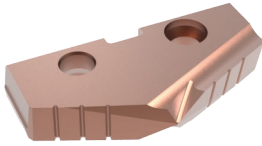


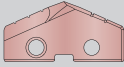
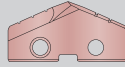
Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.



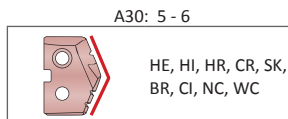
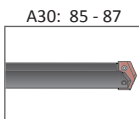
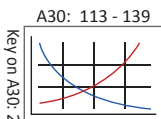
3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")

GEN2 T-A® Drill Inserts



Insert			HSS: Super Cobalt		HSS: Premium Cobalt	
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			AM200®	TiN	AM200®	TiN
35.72	1.4063	1-13/32	453H-0113	453T-0113	483H-0113	483T-0113
36.00	1.4173	—	453H-36	453T-36	483H-36	483T-36
36.51	1.4375	1-7/16	453H-0114	453T-0114	483H-0114	483T-0114
37.00	1.4567	—	453H-37	453T-37	483H-37	483T-37
37.31	1.4688	1-15/32	453H-0115	453T-0115	483H-0115	483T-0115
38.00	1.4961	—	453H-38	453T-38	483H-38	483T-38
38.10	1.5000	1-1/2	453H-0116	453T-0116	483H-0116	483T-0116
38.90	1.5313	1-17/32	453H-0117	453T-0117	483H-0117	483T-0117
39.00	1.5354	—	453H-39	453T-39	483H-39	483T-39
39.29	1.5470	—	453H-1.547	453T-1.547	483H-1.547	483T-1.547
39.69	1.5625	1-9/16	453H-0118	453T-0118	483H-0118	483T-0118
40.00	1.5748	—	453H-40	453T-40	483H-40	483T-40
40.48	1.5938	1-19/32	453H-0119	453T-0119	483H-0119	483T-0119
41.00	1.6142	—	453H-41	453T-41	483H-41	483T-41
41.28	1.6250	1-5/8	453H-0120	453T-0120	483H-0120	483T-0120
42.00	1.6535	—	453H-42	453T-42	483H-42	483T-42
42.07	1.6563	1-21/32	453H-0121	453T-0121	483H-0121	483T-0121
42.86	1.6875	1-11/16	453H-0122	453T-0122	483H-0122	483T-0122
43.00	1.6929	—	453H-43	453T-43	483H-43	483T-43
43.66	1.7188	1-23/32	453H-0123	453T-0123	483H-0123	483T-0123
44.00	1.7323	—	453H-44	453T-44	483H-44	483T-44
44.45	1.7500	1-3/4	453H-0124	453T-0124	483H-0124	483T-0124
45.00	1.7717	—	453H-45	453T-45	483H-45	483T-45
45.25	1.7813	1-25/32	453H-0125	453T-0125	483H-0125	483T-0125
45.50	1.7913	—	453H-45.5	453T-45.5	483H-45.5	483T-45.5
45.64	1.7970	—	453H-1.797	453T-1.797	483H-1.797	483T-1.797
46.00	1.8110	—	453H-46	453T-46	483H-46	483T-46
46.04	1.8125	1-13/16	453H-0126	453T-0126	483H-0126	483T-0126
46.83	1.8438	1-27/32	453H-0127	453T-0127	483H-0127	483T-0127
47.00	1.8504	—	453H-47	453T-47	483H-47	483T-47
47.63	1.8750	1-7/8	453H-0128	453T-0128	483H-0128	483T-0128

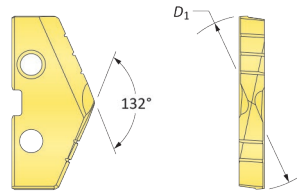
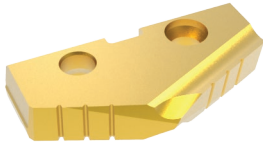
A30



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

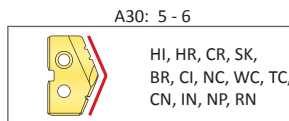
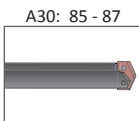
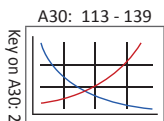
**3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")**

T-A® Drill Inserts



A30

Insert			HSS: Super Cobalt
D ₁ mm	D ₁ inch	Fractional Equivalent	
			Part No.
			TiN
35.72	1.4063	1-13/32	153T-0113
36.00	1.4173	—	153T-36
36.51	1.4375	1-7/16	153T-0114
37.00	1.4567	—	153T-37
37.31	1.4688	1-15/32	153T-0115
38.00	1.4961	—	153T-38
38.10	1.5000	1-1/2	153T-0116
38.90	1.5313	1-17/32	153T-0117
39.00	1.5354	—	153T-39
39.29	1.5470	—	153T-1.547
39.69	1.5625	1-9/16	153T-0118
40.00	1.5748	—	153T-40
40.48	1.5938	1-19/32	153T-0119
41.00	1.6142	—	153T-41
41.28	1.6250	1-5/8	153T-0120
42.00	1.6535	—	153T-42
42.07	1.6563	1-21/32	153T-0121
42.86	1.6875	1-11/16	153T-0122
43.00	1.6929	—	153T-43
43.66	1.7188	1-23/32	153T-0123
44.00	1.7323	—	153T-44
44.45	1.7500	1-3/4	153T-0124
45.00	1.7717	—	153T-45
45.25	1.7813	1-25/32	153T-0125
45.50	1.7913	—	153T-45.5
45.64	1.7970	—	153T-1.797
46.00	1.8110	—	153T-46
46.04	1.8125	1-13/16	153T-0126
46.83	1.8438	1-27/32	153T-0127
47.00	1.8504	—	153T-47
47.63	1.8750	1-7/8	153T-0128

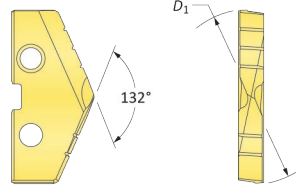
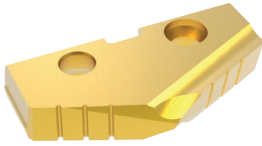


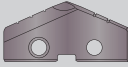
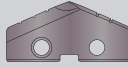
Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.



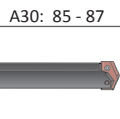
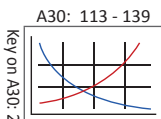
3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")

T-A® Drill Inserts



Insert			Carbide: P40 (C5)		Carbide: K20 (C2)	
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
TiN	TiAlN	TiN	TiAlN	TiN	TiAlN	TiN
35.72	1.4063	1-13/32	1C53T-0113	1C53A-0113	1C23T-0113	1C23A-0113
36.00	1.4173	—	1C53T-36	1C53A-36	1C23T-36	1C23A-36
36.51	1.4375	1-7/16	1C53T-0114	1C53A-0114	1C23T-0114	1C23A-0114
37.00	1.4567	—	1C53T-37	1C53A-37	1C23T-37	1C23A-37
37.31	1.4688	1-15/32	1C53T-0115	1C53A-0115	1C23T-0115	1C23A-0115
38.00	1.4961	—	1C53T-38	1C53A-38	1C23T-38	1C23A-38
38.10	1.5000	1-1/2	1C53T-0116	1C53A-0116	1C23T-0116	1C23A-0116
38.90	1.5313	1-17/32	1C53T-0117	1C53A-0117	1C23T-0117	1C23A-0117
39.00	1.5354	—	1C53T-39	1C53A-39	1C23T-39	1C23A-39
39.29	1.5470	—	1C53T-1.547	1C53A-1.547	1C23T-1.547	1C23A-1.547
39.69	1.5625	1-9/16	1C53T-0118	1C53A-0118	1C23T-0118	1C23A-0118
40.00	1.5748	—	1C53T-40	1C53A-40	1C23T-40	1C23A-40
40.48	1.5938	1-19/32	1C53T-0119	1C53A-0119	1C23T-0119	1C23A-0119
41.00	1.6142	—	1C53T-41	1C53A-41	1C23T-41	1C23A-41
41.28	1.6250	1-5/8	1C53T-0120	1C53A-0120	1C23T-0120	1C23A-0120
42.00	1.6535	—	1C53T-42	1C53A-42	1C23T-42	1C23A-42
42.07	1.6563	1-21/32	1C53T-0121	1C53A-0121	1C23T-0121	1C23A-0121
42.86	1.6875	1-11/16	1C53T-0122	1C53A-0122	1C23T-0122	1C23A-0122
43.00	1.6929	—	1C53T-43	1C53A-43	1C23T-43	1C23A-43
43.66	1.7188	1-23/32	1C53T-0123	1C53A-0123	1C23T-0123	1C23A-0123
44.00	1.7323	—	1C53T-44	1C53A-44	1C23T-44	1C23A-44
44.45	1.7500	1-3/4	1C53T-0124	1C53A-0124	1C23T-0124	1C23A-0124
45.00	1.7717	—	1C53T-45	1C53A-45	1C23T-45	1C23A-45
45.25	1.7813	1-25/32	1C53T-0125	1C53A-0125	1C23T-0125	1C23A-0125
45.50	1.7913	—	1C53T-45.5	1C53A-45.5	1C23T-45.5	1C23A-45.5
45.64	1.7970	—	1C53T-1.797	1C53A-1.797	1C23T-1.797	1C23A-1.797
46.00	1.8110	—	1C53T-46	1C53A-46	1C23T-46	1C23A-46
46.04	1.8125	1-13/16	1C53T-0126	1C53A-0126	1C23T-0126	1C23A-0126
46.83	1.8438	1-27/32	1C53T-0127	1C53A-0127	1C23T-0127	1C23A-0127
47.00	1.8504	—	1C53T-47	1C53A-47	1C23T-47	1C23A-47
47.63	1.8750	1-7/8	1C53T-0128	1C53A-0128	1C23T-0128	1C23A-0128

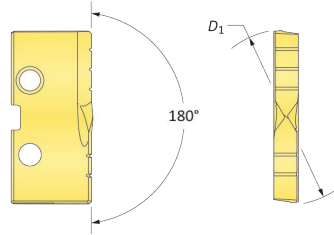
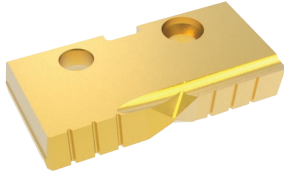
A30



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

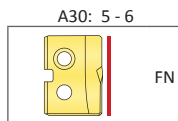
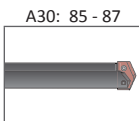
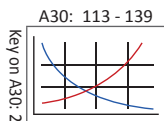
**3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")**

T-A® Drill Inserts



A30

Insert			Flat Bottom Geometry
D ₁ mm	D ₁ inch	Fractional Equivalent	HSS: Super Cobalt
			Part No.
			TiN
35.72	1.4063	1-13/32	153T-0113-FB
36.00	1.4173	—	153T-36-FB
36.51	1.4375	1-7/16	153T-0114-FB
37.00	1.4567	—	153T-37-FB
37.31	1.4688	1-15/32	153T-0115-FB
38.00	1.4961	—	153T-38-FB
38.10	1.5000	1-1/2	153T-0116-FB
38.90	1.5313	1-17/32	153T-0117-FB
39.00	1.5354	—	153T-39-FB
39.29	1.5470	—	153T-1.547-FB
39.69	1.5625	1-9/16	153T-0118-FB
40.00	1.5748	—	153T-40-FB
40.48	1.5938	1-19/32	153T-0119-FB
41.00	1.6142	—	153T-41-FB
41.28	1.6250	1-5/8	153T-0120-FB
42.00	1.6535	—	153T-42-FB
42.07	1.6563	1-21/32	153T-0121-FB
42.86	1.6875	1-11/16	153T-0122-FB
43.00	1.6929	—	153T-43-FB
43.66	1.7188	1-23/32	153T-0123-FB
44.00	1.7323	—	153T-44-FB
44.45	1.7500	1-3/4	153T-0124-FB
45.00	1.7717	—	153T-45-FB
45.25	1.7813	1-25/32	153T-0125-FB
45.50	1.7913	—	153T-45.5-FB
45.64	1.7970	—	153T-1.797-FB
46.00	1.8110	—	153T-46-FB
46.04	1.8125	1-13/16	153T-0126-FB
46.83	1.8438	1-27/32	153T-0127-FB
47.00	1.8504	—	153T-47-FB
47.63	1.8750	1-7/8	153T-0128-FB

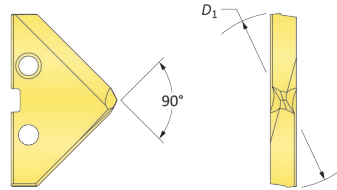
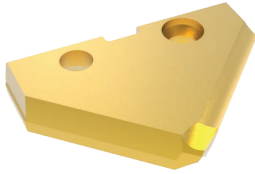


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.



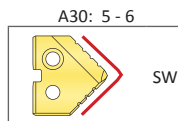
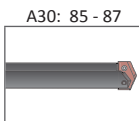
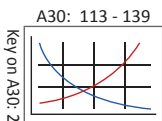
3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")

T-A® Drill Inserts



Insert			90° Spot & Chamfer Geometry		
			HSS: Super Cobalt		
					
			Part No.	Part No.	Part No.
D ₁ mm	D ₁ inch	Fractional Equivalent	TiN	TiAlN	TiCN
35.72	1.4063	1-13/32	153T-0113-SP	153A-0113-SP	153N-0113-SP
36.00	1.4173	—	153T-36-SP	153A-36-SP	153N-36-SP
36.51	1.4375	1-7/16	153T-0114-SP	153A-0114-SP	153N-0114-SP
37.00	1.4567	—	153T-37-SP	153A-37-SP	153N-37-SP
37.31	1.4688	1-15/32	153T-0115-SP	153A-0115-SP	153N-0115-SP
38.00	1.4961	—	153T-38-SP	153A-38-SP	153N-38-SP
38.10	1.5000	1-1/2	153T-0116-SP	153A-0116-SP	153N-0116-SP
38.90	1.5313	1-17/32	153T-0117-SP	153A-0117-SP	153N-0117-SP
39.00	1.5354	—	153T-39-SP	153A-39-SP	153N-39-SP
39.29	1.5470	—	153T-1.547-SP	153A-1.547-SP	153N-1.547-SP
39.69	1.5625	1-9/16	153T-0118-SP	153A-0118-SP	153N-0118-SP
40.00	1.5748	—	153T-40-SP	153A-40-SP	153N-40-SP
40.48	1.5938	1-19/32	153T-0119-SP	153A-0119-SP	153N-0119-SP
41.00	1.6142	—	153T-41-SP	153A-41-SP	153N-41-SP
41.28	1.6250	1-5/8	153T-0120-SP	153A-0120-SP	153N-0120-SP
42.00	1.6535	—	153T-42-SP	153A-42-SP	153N-42-SP
42.07	1.6563	1-21/32	153T-0121-SP	153A-0121-SP	153N-0121-SP
42.86	1.6875	1-11/16	153T-0122-SP	153A-0122-SP	153N-0122-SP
43.00	1.6929	—	153T-43-SP	153A-43-SP	153N-43-SP
43.66	1.7188	1-23/32	153T-0123-SP	153A-0123-SP	153N-0123-SP
44.00	1.7323	—	153T-44-SP	153A-44-SP	153N-44-SP
44.45	1.7500	1-3/4	153T-0124-SP	153A-0124-SP	153N-0124-SP
45.00	1.7717	—	153T-45-SP	153A-45-SP	153N-45-SP
45.25	1.7813	1-25/32	153T-0125-SP	153A-0125-SP	153N-0125-SP
45.50	1.7913	—	153T-45.5-SP	153A-45.5-SP	153N-45.5-SP
45.64	1.7970	—	153T-1.797-SP	153A-1.797-SP	153N-1.797-SP
46.00	1.8110	—	153T-46-SP	153A-46-SP	153N-46-SP
46.04	1.8125	1-13/16	153T-0126-SP	153A-0126-SP	153N-0126-SP
46.83	1.8438	1-27/32	153T-0127-SP	153A-0127-SP	153N-0127-SP
47.00	1.8504	—	153T-47-SP	153A-47-SP	153N-47-SP
47.63	1.8750	1-7/8	153T-0128-SP	153A-0128-SP	153N-0128-SP

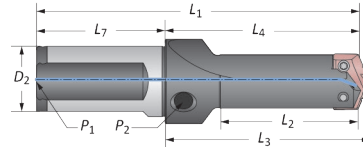
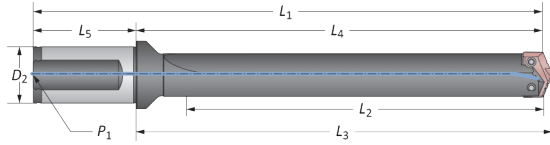
A30



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

**3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")**

T-A® Drill Holders

**A30****Flange Shank Holders**

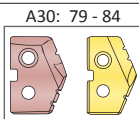
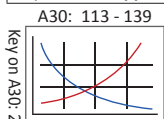
Flute		Body					Shank			Part No.
		Length	L_2	L_4	L_3	L_1	L_5	D_2	P_1	
 Straight	Stub	97.7	125.0	129.8	195.0	70.0	40	1/4 BSPT	21030S-40FM	
	Short	114.6	173.1	177.8	243.1	70.0	40	1/4 BSPT	22030S-40FM	
	Intermediate	159.1	217.5	222.3	287.5	70.0	40	1/4 BSPT	23030S-40FM	
	Standard	203.5	262.0	266.7	332.0	70.0	40	1/4 BSPT	24030S-40FM	
	Extended	343.2	401.7	406.4	471.7	70.0	40	1/4 BSPT	25030S-40FM	
	XL	552.8	611.2	616.0	681.2	70.0	40	1/4 BSPT	27030S-40FM	
	3XL	781.4	839.8	844.6	909.8	70.0	40	1/4 BSPT	29030S-40FM	
	Intermediate	185.7	217.5	222.3	287.5	70.0	40	1/4 BSPT	23030H-40FM	
Helical	Standard	230.2	262.0	266.7	332.0	70.0	40	1/4 BSPT	24030H-40FM	
 Straight	Stub	3.846	4.922	5.109	7.610	2.688	1-1/2	1/4 NPT	21030S-150F	
	Short	4.512	6.813	7.000	9.501	2.688	1-1/2	1/4 NPT	22030S-150F	
	Intermediate	6.262	8.563	8.750	11.251	2.688	1-1/2	1/4 NPT	23030S-150F	
	Standard	8.012	10.313	10.500	13.001	2.688	1-1/2	1/4 NPT	24030S-150F	
	Intermediate	7.312	8.563	8.750	11.251	2.688	1-1/2	1/4 NPT	23030H-150F	
	Standard	9.062	10.313	10.500	13.001	2.688	1-1/2	1/4 NPT	24030H-150F	
Helical										

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).**Connection Accessories**

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

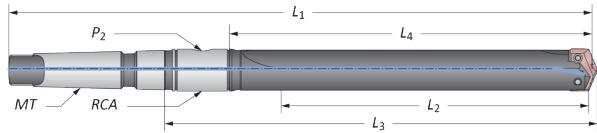
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.**⚠ WARNING**

Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A30: 146** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

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

Screws sold in multiples of 10.

T-A[®] Drill Holders



Taper Shank Holders

		Body					Shank			
Flute		Length	L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	Part No.
		Short	110.0	152.4	206.3	319.1	#4 MT ISO	1/4 BSPT	2T-4SRM	22030S-004M
		Extended	338.6	381.0	434.9	547.7	#4 MT ISO	1/4 BSPT	2T-4SRM	 25030S-004M
		XL	548.1	590.6	644.5	757.2	#4 MT ISO	1/4 BSPT	2T-4SRM	 27030S-004M
		3XL	776.7	819.2	873.1	985.8	#4 MT ISO	1/4 BSPT	2T-4SRM	 29030S-004M
		Intermediate	179.8	196.9	250.8	363.5	#4 MT ISO	1/4 BSPT	2T-4SRM	23030H-004M
		Standard	224.3	241.3	295.2	408.0	#4 MT ISO	1/4 BSPT	2T-4SRM	24030H-004M
		Short	4.391	6.000	8.124	12.562	#4 MT	1/4 NPT	2T-4SR	22030S-004I
		Short	4.048	6.000	8.124	13.812	#5 MT	1/4 NPT	2T-5SR	22030S-005I
		Intermediate	6.141	7.750	9.874	14.312	#4 MT	1/4 NPT	2T-4SR	23030S-004I
		Standard	7.891	9.500	11.624	16.062	#4 MT	1/4 NPT	2T-4SR	24030S-004I
		Standard	7.548	9.500	11.624	17.312	#5 MT	1/4 NPT	2T-5SR	24030S-005I
		Extended	13.391	15.000	17.124	21.562	#4 MT	1/4 NPT	2T-4SR	 25030S-004I
		XL	21.641	23.250	25.374	29.812	#4 MT	1/4 NPT	2T-4SR	 27030S-004I
		3XL	30.641	32.250	34.374	38.812	#4 MT	1/4 NPT	2T-4SR	 29030S-004I

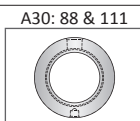
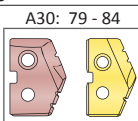
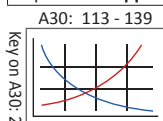
*MT ISO 296 type BEK.

Connection Accessories

			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 **A30: 146** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



Ⓜ = Metric (mm)

i = Imperial (in)

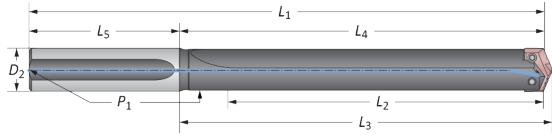
Screws sold in multiples of 10.

A30: 86



3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")

T-A® Drill Holders



Straight Shank Holders

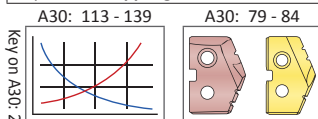
Flute	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	L_5	D_2	P_1	
Straight	Short	4.320	6.000	6.187	10.000	4.000	1-1/4	1/4 NPT	22030S-125L
	Short	3.838	6.000	6.187	10.000	4.000	1-1/2	1/4 NPT	22030S-150L
	Intermediate	5.798	7.750	7.937	11.750	4.000	1-1/2	1/4 NPT	23030S-150L
	Standard	7.820	9.500	9.687	13.500	4.000	1-1/4	1/4 NPT	24030S-125L
	Standard	7.548	9.500	9.687	13.500	4.000	1-1/2	1/4 NPT	24030S-150L
	Extended	13.320	15.000	15.187	19.000	4.000	1-1/4	1/4 NPT	25030S-125L
	XL	21.088	23.250	23.437	27.250	4.000	1-1/2	1/4 NPT	27030S-150L
	3XL	30.088	32.250	32.437	36.250	4.000	1-1/2	1/4 NPT	29030S-150L

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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



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

Screws sold in multiples of 10.

3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")

T-A Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

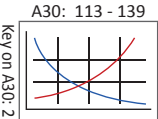
			Driving Rod Thread	P ₁	RCA O-Rings			
ID	OD	L ₁			Part No.	Kit Part No.*	Replacements	
	31.8	63.5	34.9	M10 x 1.50	1/4 BSPT	 2T-4SRM	2T1-4SR	2T1-4OR-10
	44.5	76.2	34.9	M10 x 1.50	1/4 BSPT	 2T-5SRM	2T1-5SR	2T1-5OR-10
	1.250	2.500	1.375	3/8" - 16	1/4 NPT	 2T-4SR	2T1-4SR	2T1-4OR-10
	1.750	3.000	1.375	3/8" - 16	1/4 NPT	 2T-5SR	2T1-5SR	2T1-5OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
 Refer to page A30: 111 for proper RCA assembly and safety information.

A30

 **WARNING**

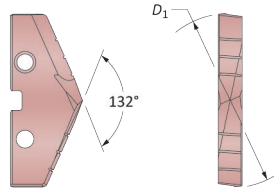
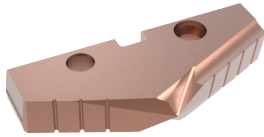
RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications through our Application Engineering department: appeng@alliedmachine.com



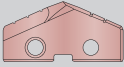


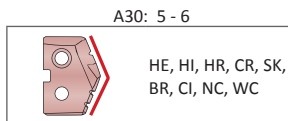
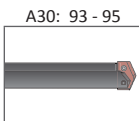
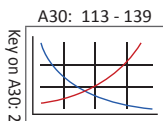
4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")

GEN2 T-A® Drill Inserts



A30

Insert			HSS: High-Speed Steel	HSS: Super Cobalt	
D ₁ mm	D ₁ inch	Fractional Equivalent	 Part No.	 Part No.	 Part No.
			TIN	AM200®	TIN
48.00	1.8898	—	434T-48	454H-48	454T-48
48.42	1.9063	1-29/32	434T-0129	454H-0129	454T-0129
49.00	1.9291	—	434T-49	454H-49	454T-49
49.21	1.9375	1-15/16	434T-0130	454H-0130	454T-0130
50.00	1.9685	—	434T-50	454H-50	454T-50
50.01	1.9688	1-31/32	434T-0131	454H-0131	454T-0131
50.80	2.0000	2	434T-0200	454H-0200	454T-0200
51.00	2.0079	—	434T-51	454H-51	454T-51
51.60	2.0313	2-1/32	434T-0201	454H-0201	454T-0201
52.00	2.0472	2-3/64	434T-52	454H-52	454T-52
52.39	2.0625	2-1/16	434T-0202	454H-0202	454T-0202
53.00	2.0866	—	434T-53	454H-53	454T-53
53.18	2.0938	2-3/32	434T-0203	454H-0203	454T-0203
53.98	2.1250	2-1/8	434T-0204	454H-0204	454T-0204
54.00	2.1260	—	434T-54	454H-54	454T-54
54.77	2.1563	2-5/32	434T-0205	454H-0205	454T-0205
55.00	2.1654	—	434T-55	454H-55	454T-55
55.56	2.1875	2-3/16	434T-0206	454H-0206	454T-0206
56.00	2.2047	—	434T-56	454H-56	454T-56
56.36	2.2188	2-7/32	434T-0207	454H-0207	454T-0207
57.00	2.2441	—	434T-57	454H-57	454T-57
57.15	2.2500	2-1/4	434T-0208	454H-0208	454T-0208
57.95	2.2813	2-9/32	434T-0209	454H-0209	454T-0209
58.00	2.2835	—	434T-58	454H-58	454T-58
58.74	2.3125	2-5/16	434T-0210	454H-0210	454T-0210
59.00	2.3228	—	434T-59	454H-59	454T-59
59.53	2.3438	2-11/32	434T-0211	454H-0211	454T-0211
60.00	2.3622	—	434T-60	454H-60	454T-60
60.33	2.3750	2-3/8	434T-0212	454H-0212	454T-0212
61.00	2.4016	—	434T-61	454H-61	454T-61
61.12	2.4063	2-13/32	434T-0213	454H-0213	454T-0213
61.91	2.4375	2-7/16	434T-0214	454H-0214	454T-0214
62.00	2.4409	—	434T-62	454H-62	454T-62
62.71	2.4688	2-15/32	434T-0215	454H-0215	454T-0215
63.00	2.4803	—	434T-63	454H-63	454T-63
63.50	2.5000	2-1/2	434T-0216	454H-0216	454T-0216
64.00	2.5197	—	434T-64	454H-64	454T-64
64.30	2.5313	2-17/32	434T-0217	454H-0217	454T-0217
65.00	2.5591	—	434T-65	454H-65	454T-65
65.09	2.5625	2-9/16	434T-0218	454H-0218	454T-0218

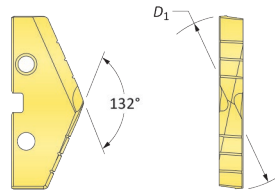
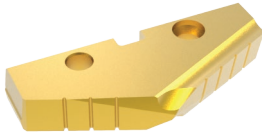


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.



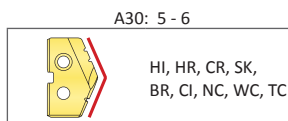
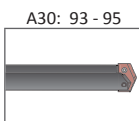
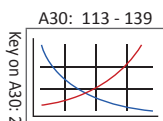
4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")

T-A® Drill Inserts



Insert			HSS: Super Cobalt
D_1 mm	D_1 inch	Fractional Equivalent	Part No.
48.00	1.8898	—	154T-48
48.42	1.9063	1-29/32	154T-0129
49.00	1.9291	—	154T-49
49.21	1.9375	1-15/16	154T-0130
50.00	1.9685	—	154T-50
50.01	1.9688	1-31/32	154T-0131
50.80	2.0000	2	154T-0200
51.00	2.0079	—	154T-51
51.60	2.0313	2-1/32	154T-0201
52.00	2.0472	2-3/64	154T-52
52.39	2.0625	2-1/16	154T-0202
53.00	2.0866	—	154T-53
53.18	2.0938	2-3/32	154T-0203
53.98	2.1250	2-1/8	154T-0204
54.00	2.1260	—	154T-54
54.77	2.1563	2-5/32	154T-0205
55.00	2.1654	—	154T-55
55.56	2.1875	2-3/16	154T-0206
56.00	2.2047	—	154T-56
56.36	2.2188	2-7/32	154T-0207
57.00	2.2441	—	154T-57
57.15	2.2500	2-1/4	154T-0208
57.95	2.2813	2-9/32	154T-0209
58.00	2.2835	—	154T-58
58.74	2.3125	2-5/16	154T-0210
59.00	2.3228	—	154T-59
59.53	2.3438	2-11/32	154T-0211
60.00	2.3622	—	154T-60
60.33	2.3750	2-3/8	154T-0212
61.00	2.4016	—	154T-61
61.12	2.4063	2-13/32	154T-0213
61.91	2.4375	2-7/16	154T-0214
62.00	2.4409	—	154T-62
62.71	2.4688	2-15/32	154T-0215
63.00	2.4803	—	154T-63
63.50	2.5000	2-1/2	154T-0216
64.00	2.5197	—	154T-64
64.30	2.5313	2-17/32	154T-0217
65.00	2.5591	—	154T-65
65.09	2.5625	2-9/16	154T-0218

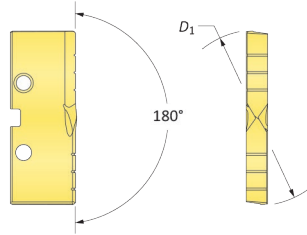
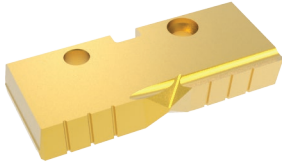
A30



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

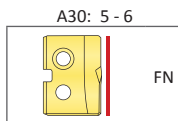
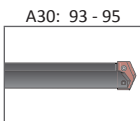
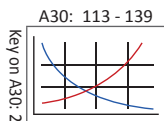
**4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")**

T-A® Drill Inserts



A30

Insert			Flat Bottom Geometry
			HSS: Super Cobalt
			
			Part No.
D ₁ mm	D ₁ inch	Fractional Equivalent	TiN
48.00	1.8898	—	154T-48-FB
48.42	1.9063	1-29/32	154T-0129-FB
49.00	1.9291	—	154T-49-FB
49.21	1.9375	1-15/16	154T-0130-FB
50.00	1.9685	—	154T-50-FB
50.01	1.9688	1-31/32	154T-0131-FB
50.80	2.0000	2	154T-0200-FB
51.00	2.0079	—	154T-51-FB
51.60	2.0313	2-1/32	154T-0201-FB
52.00	2.0472	2-3/64	154T-52-FB
52.39	2.0625	2-1/16	154T-0202-FB
53.00	2.0866	—	154T-53-FB
53.18	2.0938	2-3/32	154T-0203-FB
53.98	2.1250	2-1/8	154T-0204-FB
54.00	2.1260	—	154T-54-FB
54.77	2.1563	2-5/32	154T-0205-FB
55.00	2.1654	—	154T-55-FB
55.56	2.1875	2-3/16	154T-0206-FB
56.00	2.2047	—	154T-56-FB
56.36	2.2188	2-7/32	154T-0207-FB
57.00	2.2441	—	154T-57-FB
57.15	2.2500	2-1/4	154T-0208-FB
57.95	2.2813	2-9/32	154T-0209-FB
58.00	2.2835	—	154T-58-FB
58.74	2.3125	2-5/16	154T-0210-FB
59.00	2.3228	—	154T-59-FB
59.53	2.3438	2-11/32	154T-0211-FB
60.00	2.3622	—	154T-60-FB
60.33	2.3750	2-3/8	154T-0212-FB
61.00	2.4016	—	154T-61-FB
61.12	2.4063	2-13/32	154T-0213-FB
61.91	2.4375	2-7/16	154T-0214-FB
62.00	2.4409	—	154T-62-FB
62.71	2.4688	2-15/32	154T-0215-FB
63.00	2.4803	—	154T-63-FB
63.50	2.5000	2-1/2	154T-0216-FB
64.00	2.5197	—	154T-64-FB
64.30	2.5313	2-17/32	154T-0217-FB
65.00	2.5591	—	154T-65-FB
65.09	2.5625	2-9/16	154T-0218-FB



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.



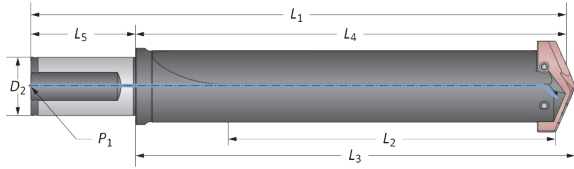
Notes

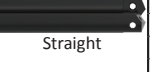
This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A30

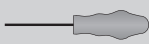
**4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")**

T-A® Drill Holders

**Flange Shank Holders**

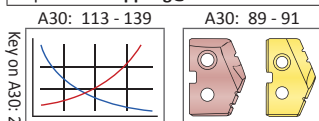
Flute	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	L ₅	D ₂	P ₁	
	Short	121.9	179.4	184.2	249.4	70.0	40	1/4 BSPT	22040S-40FM
	Standard	223.5	281.0	285.8	351.0	70.0	40	1/4 BSPT	24040S-40FM
	Extended	414.0	471.5	476.3	541.5	70.0	40	1/4 BSPT	 25040S-40FM
	XL	617.2	674.7	679.5	744.7	70.0	40	1/4 BSPT	 27040S-40FM
	3XL	871.2	928.7	933.5	998.7	70.0	40	1/4 BSPT	 29040S-40FM
	Standard	252.7	281.0	285.8	351.0	70.0	40	1/4 BSPT	24040H-40FM
	Short	4.798	7.063	7.250	9.751	2.688	1-1/2	1/4 NPT	22040S-150F
	Standard	8.798	11.063	11.250	13.751	2.688	1-1/2	1/4 NPT	24040S-150F
	Standard	9.949	11.063	11.250	13.751	2.688	1-1/2	1/4 NPT	24040H-150F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P₂).**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.**⚠ 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 catalog. 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: appeng@alliedmachine.com.

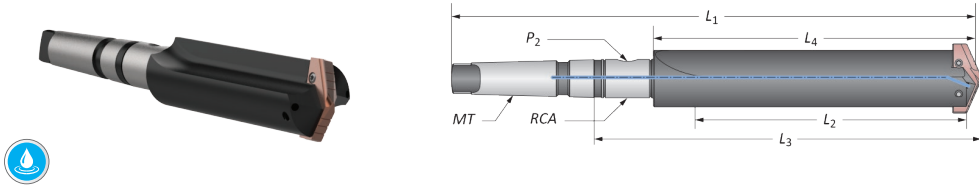


m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")

T-A® Drill Holders



Taper Shank Holders

Flute		Body					Shank			Part No.
		Length	L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	
	 Straight	Short	117.3	165.1	219.0	363.5	#5 MT ISO	1/4 BSPT	2T-5SRM	22040S-005M
		Extended	409.4	457.2	511.1	655.6	#5 MT ISO	1/4 BSPT	2T-5SRM	 25040S-005M
		XL	622.1	660.4	714.3	858.8	#5 MT ISO	1/4 BSPT	2T-5SRM	 27040S-005M
		3XL	876.1	914.4	968.3	1112.8	#5 MT ISO	1/4 BSPT	2T-5SRM	 29040S-005M
	 Helical	Standard	246.3	266.7	320.6	465.1	#5 MT ISO	1/4 BSPT	2T-5SRM	24040H-005M
	 Straight	Short	5.139	6.500	8.624	13.062	#4 MT	1/4 NPT	2T-4SR	22040S-004I
		Short	4.537	6.500	8.624	14.312	#5 MT	1/4 NPT	2T-5SR	22040S-005I
		Standard	9.139	10.500	12.624	17.062	#4 MT	1/4 NPT	2T-4SR	24040S-004I
		Standard	8.537	10.500	12.624	18.312	#5 MT	1/4 NPT	2T-5SR	24040S-005I
		Extended	16.037	18.000	20.124	25.812	#5 MT	1/4 NPT	2T-5SR	 25040S-005I
		XL	24.037	26.000	28.124	33.812	#5 MT	1/4 NPT	2T-5SR	 27040S-005I
		3XL	34.037	36.000	38.124	43.812	#5 MT	1/4 NPT	2T-5SR	29040S-005I

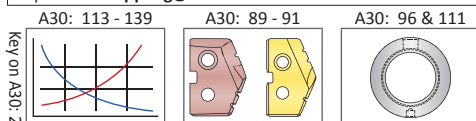
*MT ISO 296 type BEK.

Connection Accessories

			Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	
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 **A30: 146** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

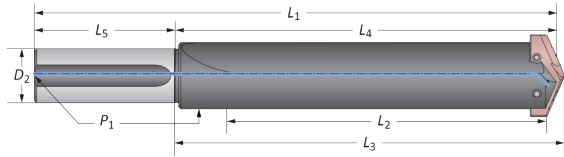


Key on A30: 2

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

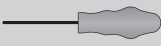
**4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")**

T-A® Drill Holders

**Straight Shank Holders**

Flute	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	L_5	D_2	P_1	
 Straight	Short	4.320	6.000	6.187	10.000	4.000	1-1/4	1/4 NPT	22030S-125L
	Short	3.838	6.000	6.187	10.000	4.000	1-1/2	1/4 NPT	22030S-150L
	Intermediate	5.798	7.750	7.937	11.750	4.000	1-1/2	1/4 NPT	23030S-150L
	Standard	7.820	9.500	9.687	13.500	4.000	1-1/4	1/4 NPT	24030S-125L
	Standard	7.548	9.500	9.687	13.500	4.000	1-1/2	1/4 NPT	24030S-150L
	Extended	13.320	15.000	15.187	19.000	4.000	1-1/4	1/4 NPT	 25030S-125L
	XL	21.088	23.250	23.437	27.250	4.000	1-1/2	1/4 NPT	 27030S-150L
	3XL	30.088	32.250	32.437	36.250	4.000	1-1/2	1/4 NPT	 29030S-150L

Connection Accessories

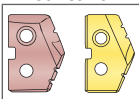
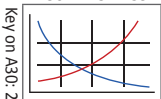
			Admissible Tightening Torque*
Insert Screws	Nylon Locking Screws	Insert Driver	
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-lbs)

*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 **A30: 146** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

A30: 113 - 139

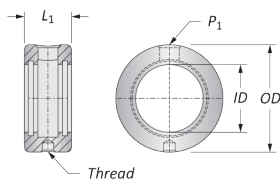
A30: 89 - 91

 = Metric (mm) = Imperial (in)

Screws sold in multiples of 10.

4 Series: 46.99 mm - 65.30 mm (1.8500" - 2.5709")

T-A Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

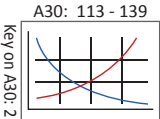
RCA O-Rings								
	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	Kit Part No.*	Replacements
m	31.8	63.5	34.9	M10 x 1.50	1/4 BSPT	⚠ 2T-4SRM	2T1-4SR	2T1-4OR-10
	44.5	76.2	34.9	M10 x 1.50	1/4 BSPT	⚠ 2T-5SRM	2T1-5SR	2T1-5OR-10
i	1.250	2.500	1.375	3/8" - 16	1/4 NPT	⚠ 2T-4SR	2T1-4SR	2T1-4OR-10
	1.750	3.000	1.375	3/8" - 16	1/4 NPT	⚠ 2T-5SR	2T1-5SR	2T1-5OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
⚠ Refer to page A30: 111 for proper RCA assembly and safety information. 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.

A30

⚠ 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 through our Application Engineering department: appeng@alliedmachine.com



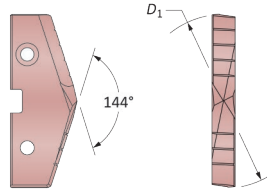
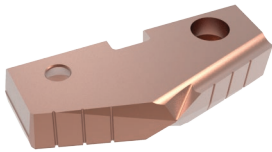
m = Metric (mm)
i = Imperial (in)
O-rings sold in packs of 10.
A30: 96



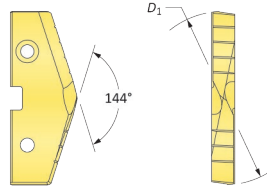
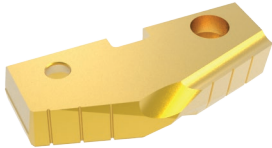
5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")

5 Series Replaceable Inserts

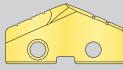
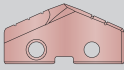
GEN2 T-A



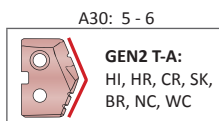
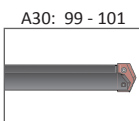
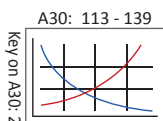
T-A



A30

Insert			GEN2 T-A Inserts		T-A Inserts	
			HSS: High-Speed Steel	HSS: Super Cobalt	HSS: High-Speed Steel	HSS: Super Cobalt
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	AM200®	TiN	TiN*
63.50	2.5000	2-1/2	435T-0216	455H-0216	135T-0216	155T-0216
64.00	2.5197	—	435T-64	455H-64	135T-64	155T-64
64.30	2.5313	2-17/32	435T-0217	455H-0217	135T-0217	155T-0217
65.09	2.5625	2-9/16	435T-0218	455H-0218	135T-0218	155T-0218
65.88	2.5938	2-19/32	435T-0219	455H-0219	135T-0219	155T-0219
66.00	2.5984	—	435T-66	455H-66	135T-66	155T-66
66.68	2.6250	2-5/8	435T-0220	455H-0220	135T-0220	155T-0220
67.47	2.6563	2-21/32	435T-0221	455H-0221	135T-0221	155T-0221
68.00	2.6772	—	435T-68	455H-68	135T-68	155T-68
68.26	2.6875	2-11/16	435T-0222	455H-0222	135T-0222	155T-0222
69.06	2.7188	2-23/32	435T-0223	455H-0223	135T-0223	155T-0223
69.85	2.7500	2-3/4	435T-0224	455H-0224	135T-0224	155T-0224
70.00	2.7559	—	435T-70	455H-70	135T-70	155T-70
70.65	2.7813	2-25/32	435T-0225	455H-0225	135T-0225	155T-0225
71.44	2.8125	2-13/16	435T-0226	455H-0226	135T-0226	155T-0226
72.00	2.8346	—	435T-72	455H-72	135T-72	155T-72
72.23	2.8438	2-27/32	435T-0227	455H-0227	135T-0227	155T-0227
73.03	2.8750	2-7/8	435T-0228	455H-0228	135T-0228	155T-0228
73.82	2.9063	2-29/32	435T-0229	455H-0229	135T-0229	155T-0229
74.00	2.9134	—	435T-74	455H-74	135T-74	155T-74
74.61	2.9375	2-15/16	435T-0230	455H-0230	135T-0230	155T-0230
75.41	2.9688	2-31/32	435T-0231	455H-0231	135T-0231	155T-0231
76.00	2.9921	—	435T-76	455H-76	135T-76	155T-76
76.20	3.0000	3	435T-0300	455H-0300	135T-0300	155T-0300

*Super cobalt T-A inserts with TiN are available as nonstocked standards. Process fees apply.

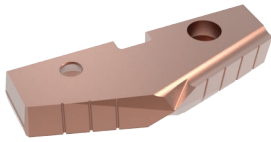


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

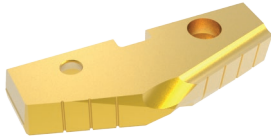
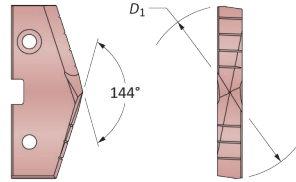


5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")

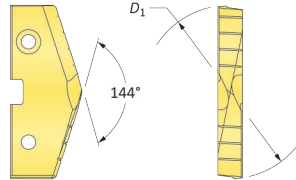
6 Series Replaceable Inserts
(for use with 5 series holders)



GEN2 T-A



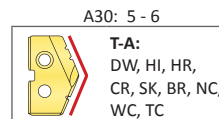
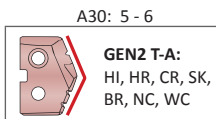
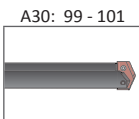
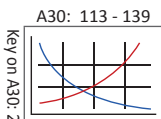
T-A



A30

Insert			GEN2 T-A Inserts		T-A Inserts	
			HSS: High-Speed Steel	HSS: Super Cobalt	HSS: High-Speed Steel	HSS: Super Cobalt
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	AM200®	TiN	TiN*
77.00	3.0313	3-1/32	436T-0301	456H-0301	136T-0301	156T-0301
77.79	3.0625	3-1/16	436T-0302	456H-0302	136T-0302	156T-0302
78.00	3.0709	—	436T-78	456H-78	136T-78	156T-78
78.58	3.0938	3-3/32	436T-0303	456H-0303	136T-0303	156T-0303
79.38	3.1250	3-1/8	436T-0304	456H-0304	136T-0304	156T-0304
80.00	3.1496	—	436T-80	456H-80	136T-80	156T-80
80.17	3.1563	3-5/32	436T-0305	456H-0305	136T-0305	156T-0305
80.96	3.1875	3-3/16	436T-0306	456H-0306	136T-0306	156T-0306
81.76	3.2188	3-7/32	436T-0307	456H-0307	136T-0307	156T-0307
82.00	3.2283	—	436T-82	456H-82	136T-82	156T-82
82.55	3.2500	3-1/4	436T-0308	456H-0308	136T-0308	156T-0308
83.35	3.2813	3-9/32	436T-0309	456H-0309	136T-0309	156T-0309
84.00	3.3071	—	436T-84	456H-84	136T-84	156T-84
84.14	3.3125	3-5/16	436T-0310	456H-0310	136T-0310	156T-0310
84.93	3.3438	3-11/32	436T-0311	456H-0311	136T-0311	156T-0311
85.73	3.3750	3-3/8	436T-0312	456H-0312	136T-0312	156T-0312
86.00	3.3858	—	436T-86	456H-86	136T-86	156T-86
86.52	3.4063	3-13/32	436T-0313	456H-0313	136T-0313	156T-0313
87.31	3.4375	3-7/16	436T-0314	456H-0314	136T-0314	156T-0314
88.00	3.4646	—	436T-88	456H-88	136T-88	156T-88
88.11	3.4688	3-15/32	436T-0315	456H-0315	136T-0315	156T-0315
88.90	3.5000	3-1/2	436T-0316	456H-0316	136T-0316	156T-0316

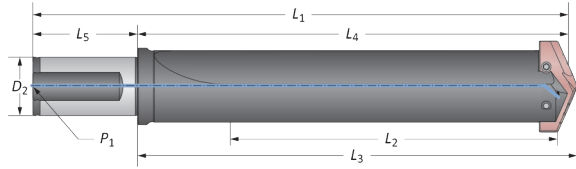
*Super cobalt T-A inserts with TiN are available as nonstocked standards. Process fees apply.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 2.

**5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")**

T-A® Drill Holders

**Flange Shank Holders**

Flute		Body					Shank			Part No.
		Length	L_2	L_4	L_3	L_1	L_5	D_2	P_1	
m		Short	165.7	215.9	222.3	295.9	80.0	50	1/2 BSPT	22050S-50FM
	Straight	Extended	457.8	508.0	514.4	588.0	80.0	50	1/2 BSPT	⚠ 25050S-50FM
		Standard	277.3	317.5	323.9	397.5	80.0	50	1/2 BSPT	24050H-50FM
i		Short	6.523	8.500	8.750	13.000	4.500	2	1/2 NPT	22050S-200F
	Straight	Extended	18.023	20.000	20.250	24.500	4.500	2	1/2 NPT	⚠ 25050S-200F
		Standard	10.918	12.500	12.750	17.000	4.500	2	1/2 NPT	24050H-200F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

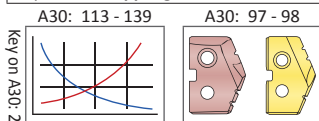
A30

Connection Accessories

Insert Screws	Insert Driver	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.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



A30: 99

www.alliedmachine.com | 1.330.343.4283

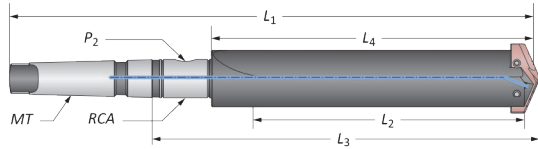
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")

T-A® Drill Holders



Taper Shank Holders

Flute	Length	Body				Shank			Part No.
		L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	
	Straight	Short	163.5	215.9	287.3	430.2	#5 MT ISO	1/2 BSPT	22050S-005M
		Extended	455.6	508.0	579.4	722.3	#5 MT ISO	1/2 BSPT	25050S-005M
		XL	652.4	704.9	776.3	919.1	#5 MT ISO	1/2 BSPT	27050S-005M
		3XL	881.0	933.5	1004.9	1147.7	#5 MT ISO	1/2 BSPT	29050S-005M
	Helical	Standard	286.3	317.5	388.9	531.8	#5 MT ISO	1/2 BSPT	24050H-005M
		Short	6.438	8.500	11.312	16.937	#5 MT	1/2 NPT	22050S-005I
		Standard	10.438	12.500	15.312	20.937	#5 MT	1/2 NPT	24050S-005I
		Extended	17.938	20.000	22.812	28.437	#5 MT	1/2 NPT	25050S-005I
	Straight	XL	25.688	27.750	30.562	36.187	#5 MT	1/2 NPT	27050S-005I
		3XL	34.688	36.750	39.562	45.187	#5 MT	1/2 NPT	29050S-005I

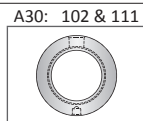
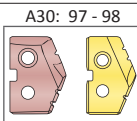
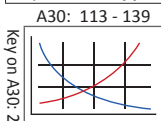
*MT ISO 296 type BEK.

Connection Accessories

		Admissible Tightening Torque*
Insert Screws	Insert Driver	
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.

⚠ WARNING

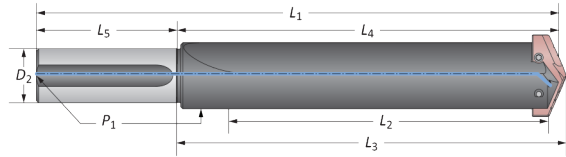
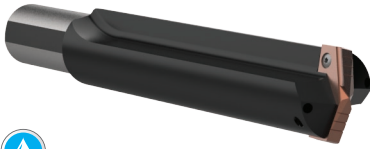
Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page **A30: 146** for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department: appeng@alliedmachine.com.

 = Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.



5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")

T-A® Drill Holders



Straight Shank Holders

Flute	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	L_5	D_2	P_1	
Straight	Short	6.353	8.500	8.750	12.500	4.000	2	1/2 NPT	22050S-200L
	Standard	10.353	12.500	12.750	16.500	4.000	2	1/2 NPT	24050S-200L
	Extended	17.850	20.000	20.250	24.000	4.000	2	1/2 NPT	25050S-200L
	XL	25.603	27.750	28.000	31.750	4.000	2	1/2 NPT	27050S-200L
	3XL	34.603	36.750	37.000	40.750	4.000	2	1/2 NPT	29050S-200L

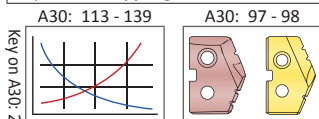
A30

Connection Accessories

		
Insert Screws	Insert Driver	Admissible Tightening Torque*
7619-IP25-1	8IP-25	1750 N-cm (155.0 in-lbs)

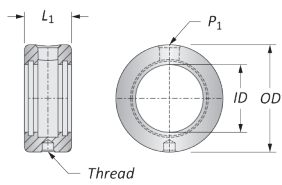
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



5/6 Series: 62.38 mm - 89.09 mm (2.4560" - 3.5079")

T-A Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

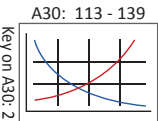
	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
							Kit Part No.*	Replacements
	57.2	95.3	44.5	M10 x 1.50	1/2 BSPT	 2T-6SRM	2T1-6SR	2T1-6OR-10
	2.250	3.750	1.750	1/2" - 13	1/2 NPT	 2T-6SR	2T1-6SR	2T1-6OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
 Refer to page A30: 111 for proper RCA assembly and safety information.

A30

 **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 through our Application Engineering department: appeng@alliedmachine.com



 = Metric (mm)
 = Imperial (in)

O-rings sold in packs of 10.

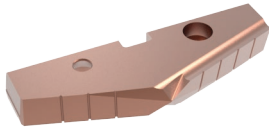
A30: 102



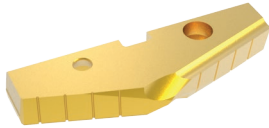
7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")

7 Series Replaceable Inserts

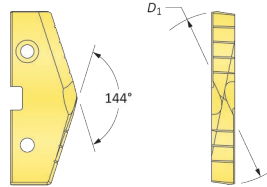
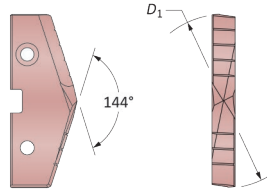
A30

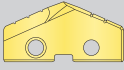
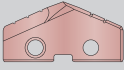
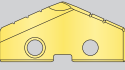
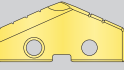


GEN2 T-A

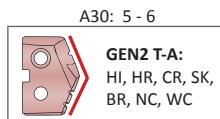
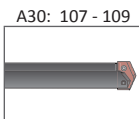
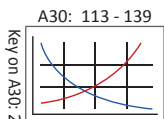


T-A



Insert			GEN2 T-A Inserts		T-A Inserts	
			HSS: High-Speed Steel	HSS: Super Cobalt	HSS: High-Speed Steel	HSS: Super Cobalt
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	AM200®	TiN	TiN*
89.70	3.5313	3-17/32	437T-0317	457H-0317	137T-0317	157T-0317
90.00	3.5433	—	437T-90	457H-90	137T-90	157T-90
90.49	3.5625	3-9/16	437T-0318	457H-0318	137T-0318	157T-0318
91.28	3.5938	3-19/32	437T-0319	457H-0319	137T-0319	157T-0319
92.00	3.6220	—	437T-92	457H-92	137T-92	157T-92
92.08	3.6250	3-5/8	437T-0320	457H-0320	137T-0320	157T-0320
92.87	3.6563	3-21/32	437T-0321	457H-0321	137T-0321	157T-0321
93.66	3.6875	3-11/16	437T-0322	457H-0322	137T-0322	157T-0322
94.00	3.7008	—	437T-94	457H-94	137T-94	157T-94
94.46	3.7188	3-23/32	437T-0323	457H-0323	137T-0323	157T-0323
95.25	3.7500	3-3/4	437T-0324	457H-0324	137T-0324	157T-0324
96.00	3.7795	—	437T-96	457H-96	137T-96	157T-96
96.05	3.7813	3-25/32	437T-0325	457H-0325	137T-0325	157T-0325
96.84	3.8125	3-13/16	437T-0326	457H-0326	137T-0326	157T-0326
97.63	3.8438	3-27/32	437T-0327	457H-0327	137T-0327	157T-0327
98.00	3.8583	—	437T-98	457H-98	137T-98	157T-98
98.43	3.8750	3-7/8	437T-0328	457H-0328	137T-0328	157T-0328
99.22	3.9063	3-29/32	437T-0329	457H-0329	137T-0329	157T-0329
100.00	3.9370	—	437T-100	457H-100	137T-100	157T-100
100.01	3.9375	3-15/16	437T-0330	457H-0330	137T-0330	157T-0330
100.81	3.9688	3-31/32	437T-0331	457H-0331	137T-0331	157T-0331
101.60	4.0000	4	437T-0400	457H-0400	137T-0400	157T-0400

*Super cobalt T-A inserts with TiN are available as nonstocked standards. Process fees apply.

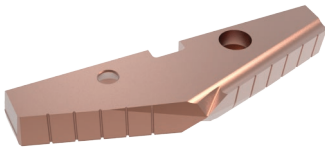


Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

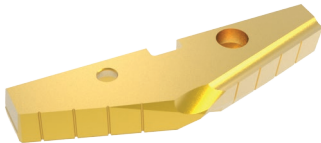
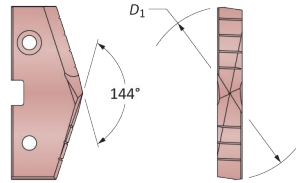


7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")

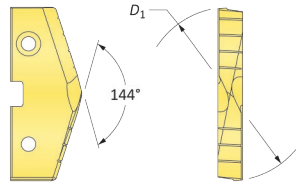
8 Series Replaceable Inserts
(for use with 7 series holders)



GEN2 T-A



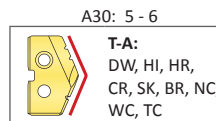
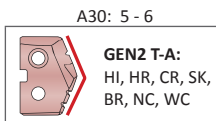
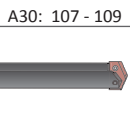
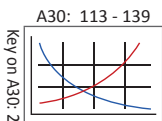
T-A



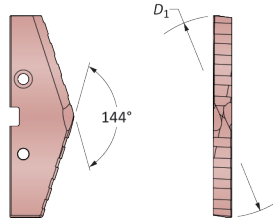
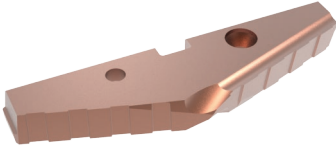
A30

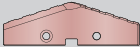
Insert			GEN2 T-A Inserts		T-A Inserts	
			HSS: High-Speed Steel	HSS: Super Cobalt	HSS: High-Speed Steel	HSS: Super Cobalt
D ₁ mm	D ₁ inch	Fractional Equivalent				
			Part No.	Part No.	Part No.	Part No.
			TiN	AM200®	TiN	TiN*
102.00	4.0157	4-1/64	438T-102	458H-102	138T-102	158T-102
103.19	4.0625	4-1/16	438T-0402	458H-0402	138T-0402	158T-0402
104.00	4.0945	—	438T-104	458H-104	138T-104	158T-104
104.78	4.1250	4-1/8	438T-0404	458H-0404	138T-0404	158T-0404
106.00	4.1732	—	438T-106	458H-106	138T-106	158T-106
106.36	4.1875	4-3/16	438T-0406	458H-0406	138T-0406	158T-0406
107.95	4.2500	4-1/4	438T-0408	458H-0408	138T-0408	158T-0408
108.00	4.2520	—	438T-108	458H-108	138T-108	158T-108
109.54	4.3125	4-5/16	438T-0410	458H-0410	138T-0410	158T-0410
110.00	4.3307	—	438T-110	458H-110	138T-110	158T-110
111.13	4.3750	4-3/8	438T-0412	458H-0412	138T-0412	158T-0412
112.00	4.4094	—	438T-112	458H-112	138T-112	158T-112
112.71	4.4375	4-7/16	438T-0414	458H-0414	138T-0414	158T-0414
114.00	4.4882	—	438T-114	458H-114	138T-114	158T-114
114.30	4.5000	4-1/2	438T-0416	458H-0416	138T-0416	158T-0416

*Super cobalt T-A inserts with TiN are available as nonstocked standards. Process fees apply.



Coatings not listed above
can be supplied as
nonstocked standards.
Process fees apply.
Inserts sold in quantities of 1.

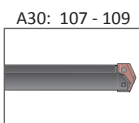
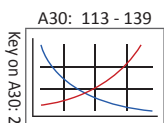
**Override: 110.00 mm - 152.40 mm (4.3307" - 6.0000")****8 Series Replaceable Inserts**
(for use with 7 series holders)**A30**

Insert			Double Wide Chip Splitter
			HSS: Super Cobalt
			
			Part No.
D_1 mm	D_1 inch	Fractional Equivalent	AM200®
110.00	4.3307	—	158H-110-DW
114.30	4.5000	4-1/2	158H-0416-DW
115.00	4.5276	—	158H-115-DW
120.00	4.7244	—	158H-120-DW
120.65	4.7500	4-3/4	158H-0424-DW
125.00	4.9213	—	158H-125-DW
127.00	5.0000	5	158H-0500-DW
130.00	5.1181	—	158H-130-DW
133.35	5.2500	5-1/4	158H-0508-DW
135.00	5.3150	—	158H-135-DW
139.70	5.5000	5-1/2	158H-0516-DW
140.00	5.5118	—	158H-140-DW
145.00	5.7087	—	158H-145-DW
146.05	5.7500	5-3/4	158H-0524-DW
150.00	5.9055	—	158H-150-DW
152.40	6.0000	6	158H-0600-DW

Diameters available up to 200.00 mm (7.8740") upon request.

NOTE: 120.00 mm (4.7244") maximum for stainless steel applications.

Minimum order quantity of 1.





Notes

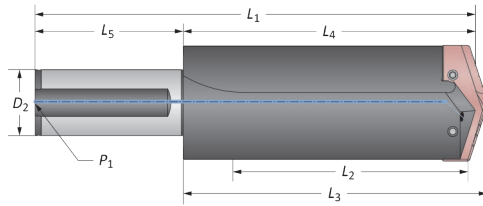
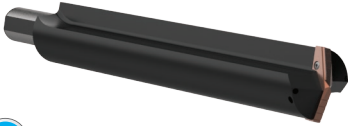
This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A30



7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")

T-A® Drill Holders



Flange Shank Holders

Flute	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	L_5	D_2	P_1	
	Short	178.9	225.4	231.8	305.4	80.0	50	1/2 BSPT	22070S-50FM
	Extended	558.4	606.9	613.3	686.9	80.0	50	1/2 BSPT	25070S-50FM
	Standard	283.5	327.0	333.4	407.0	80.0	50	1/2 BSPT	24070H-50FM
	Short	6.042	8.875	9.125	13.375	4.500	2	1/2 NPT	22070S-200F
	Extended	21.986	23.894	24.144	28.394	4.500	2	1/2 NPT	25070S-200F
	Standard	11.161	12.875	13.125	17.375	4.500	2	1/2 NPT	24070H-200F

NOTE: Stub length holders have a 3.175 mm (1/8") side pipe tap (P_2).

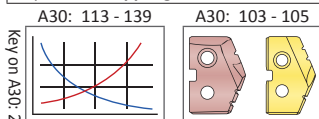
A30

Connection Accessories

Insert Screws	Insert Driver	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.

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 catalog. 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: appeng@alliedmachine.com.

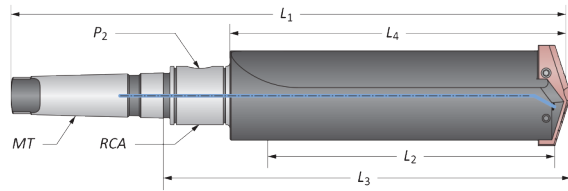
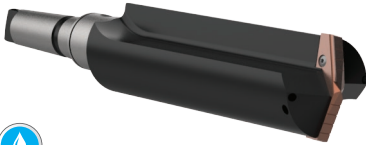


Key on A30: 2

= Metric (mm)
 = Imperial (in)

Screws sold in multiples of 10.

T-A® Drill Holders



Taper Shank Holders

		Body					Shank			
Flute		Length	L ₂	L ₄	L ₃	L ₁	MT*	P ₂	RCA	Part No.
H	Straight	Short	177.2	225.4	296.8	439.7	#5 MT ISO	1/2 BSPT	2T-6SRM	22070S-005M
		Extended	561.3	609.6	681.0	823.9	#5 MT ISO	1/2 BSPT	2T-6SRM	25070S-005M
		XL	691.5	739.8	811.2	954.1	#5 MT ISO	1/2 BSPT	2T-6SRM	27070S-005M
		3XL	945.5	993.8	1065.2	1208.1	#5 MT ISO	1/2 BSPT	2T-6SRM	29070S-005M
	Helical	Standard	290.5	327.0	398.4	541.3	#5 MT ISO	1/2 BSPT	2T-6SRM	24070H-005M
I	Straight	Short	6.979	8.875	11.687	17.312	#5 MT	1/2 NPT	2T-6SR	22070S-005I
		Standard	10.979	12.875	15.687	21.312	#5 MT	1/2 NPT	2T-6SR	24070S-005I
		Extended	22.104	24.000	26.812	32.437	#5 MT	1/2 NPT	2T-6SR	25070S-005I
		XL	27.229	29.125	31.937	37.562	#5 MT	1/2 NPT	2T-6SR	27070S-005I
		3XL	37.229	39.125	41.937	47.562	#5 MT	1/2 NPT	2T-6SR	29070S-005I

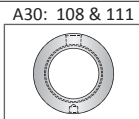
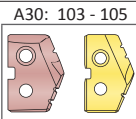
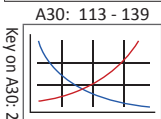
*MT ISO 296 type BEK.

Connection Accessories

Insert Screws	Insert Driver	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.

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 catalog. 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: appeng@alliedmachine.com.



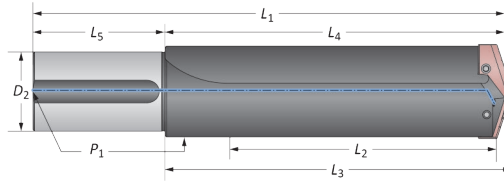
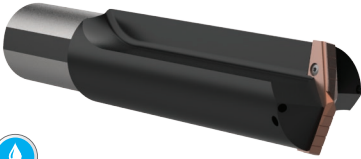
m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.



7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")

T-A® Drill Holders



Straight Shank Holders

Flute	Length	Body				Shank			Part No.
		L_2	L_4	L_3	L_1	L_5	D_2	P_1	
Straight	Short	6.217	8.875	9.125	13.875	5.000	3	1/2 NPT	22070S-300L
	Standard	10.217	12.875	13.125	17.875	5.000	3	1/2 NPT	24070S-300L
	Extended	21.342	24.000	24.250	29.000	5.000	3	1/2 NPT	25070S-300L
	XL	26.467	29.125	29.375	34.125	5.000	3	1/2 NPT	27070S-300L
	3XL	36.467	39.125	39.375	44.125	5.000	3	1/2 NPT	29070S-300L

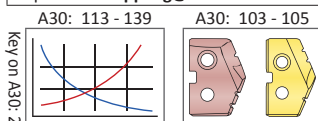
A30

Connection Accessories

		
Insert Screws	Insert Driver	Admissible Tightening Torque*
7619-IP25-1	8IP-25	1750 N-cm (155.0 in-lbs)

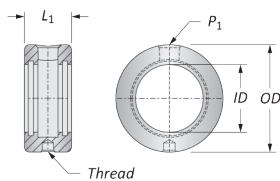
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

⚠ 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 catalog. 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: appeng@alliedmachine.com.



7/8 Series: 89.10 mm - 114.48 mm (3.5080" - 4.5070")

T-A Drill Accessories



Rotary Coolant Adapter (RCA) and Accessories

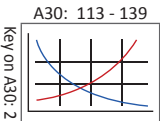
	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
							Kit Part No.*	Replacements
	57.2	95.3	44.5	M10 x 1.50	1/2 BSPT	 2T-6SRM	2T1-6SR	2T1-6OR-10
	2.250	3.750	1.750	1/2" - 13	1/2 NPT	 2T-6SR	2T1-6SR	2T1-6OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.
 Refer to page A30: 111 for proper RCA assembly and safety information.

A30

 **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 through our Application Engineering department: appeng@alliedmachine.com



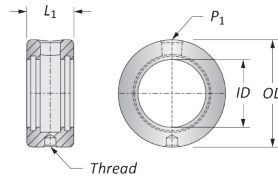
 = Metric (mm)
 = Imperial (in)
O-rings sold in packs of 10.

A30: 110



Rotary Coolant Adapters (RCA)

Morse Taper Shanks



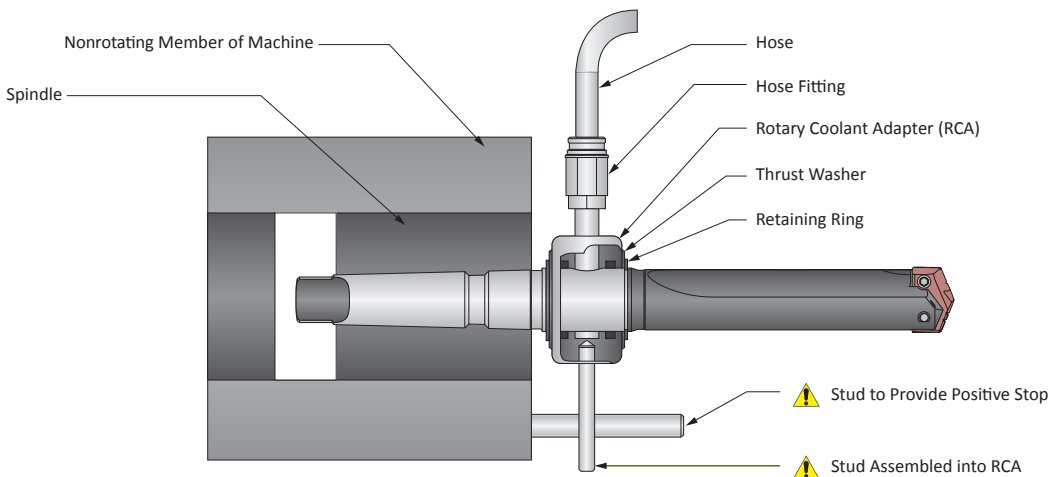
A30

	Holder Series	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	Max Recommended RPM	RCA O-Rings	
									Kit Part No.*	Replacements
i	Y, Z, 0	0.750	1.750	0.875	5/16" - 18	1/8 NPT	⚠ 2T-2SR	3500	2T1-2SR	2T1-2OR-10
	1, 2	1.000	2.125	1.125	5/16" - 18	1/8 NPT	⚠ 2T-3SR	2500	2T1-3SR	2T1-3OR-10
	2, 3, 4	1.250	2.500	1.375	3/8" - 16	1/4 NPT	⚠ 2T-4SR	2000	2T1-4SR	2T1-4OR-10
	3, 4	1.750	3.000	1.375	3/8" - 16	1/4 NPT	⚠ 2T-5SR	1500	2T1-5SR	2T1-5OR-10
	5, 7	2.250	3.750	1.750	1/2" - 13	1/2 NPT	⚠ 2T-6SR	1100	2T1-6SR	2T1-6OR-10
iii	Y, Z, 0	19.1	44.5	22.2	M8 x 1.25	1/8 BSPT	⚠ 2T-2SRM	3500	2T1-2SR	2T1-2OR-10
	1, 2	25.4	54.0	28.6	M8 x 1.25	1/8 BSPT	⚠ 2T-3SRM	2500	2T1-3SR	2T1-3OR-10
	2, 3, 4	31.8	63.5	34.9	M10 x 1.50	1/4 BSPT	⚠ 2T-4SRM	2000	2T1-4SR	2T1-4OR-10
	3, 4	44.5	76.2	34.9	M10 x 1.50	1/4 BSPT	⚠ 2T-5SRM	1500	2T1-5SR	2T1-5OR-10
	5, 7	57.2	95.3	44.5	M10 x 1.50	1/2 BSPT	⚠ 2T-6SRM	1100	2T1-6SR	2T1-6OR-10

*RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.

NOTE: Max recommended pressure is 600 PSI (42 bar).

NOTE: Recommendations above are based on water and oil based coolants.

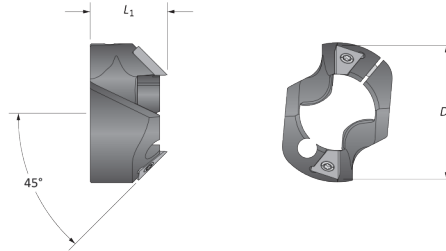


⚠ WARNING RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury.

To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications through our Application Engineering department: appeng@alliedmachine.com

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	0.5118 - 0.6890	1.148	0.676	T-ACR-45-0	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7375-IP9-1	8IP-9
1	0.6900 - 0.8540	1.330	0.797	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	1.493	0.891	T-ACR-45-1.5	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15
2	0.9610 - 1.3800	1.598	1.000	T-ACR-45-2	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7514-IP20-1	8IP-20

A30



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.

**Recommended Drilling Data | Metric (mm)****GEN2 T-A | HIGH-SPEED STEEL**

ISO	Material	Hardness (BHN)	HSS Grade	Speed (m/min)		Feed Rate (mm/rev) by Diameter	
				TiN	AM200®	Y/Z Series 9.50 mm - 12.97 mm	O Series 12.98 mm - 17.67 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, S-3, etc.	150 - 200	SC	24	38	0.10	0.18
		200 - 250	SC, PC	18	32	0.10	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
K	SG / Nodular Cast Iron	185 - 275	SC, PC	15	22	0.08 ❖	0.15
		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
N	Cast Aluminum	260 - 320	SC, PC	27	47	0.13	0.18
		30	HSS	183	—	0.23	0.38
	Wrought Aluminum	180	HSS	91	—	0.20	0.33
		30	HSS	183	280	0.12	0.33
	Aluminum Bronze	180	HSS	91	200	0.12	0.18
		100 - 200	SC	52	82	0.15	0.24
	Brass	200 - 250	SC	40	65	0.12	0.18
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	HSS	91	144	0.18	0.27
		60	SC	40	58	0.07 ❖	0.10
	Titanium Alloy	140 - 220	SC, PC	9	13	0.10 ❖	0.18
		220 - 310	PC	8	12	0.10 ❖	0.15
	Aerospace Alloy S82	140 - 220	SC, PC	11	16	0.10 ❖	0.18
H	Wear Plate Hardox®, AR400, T-1, etc.	220 - 310	PC	10	15	0.08 ❖	0.15
		185 - 275	SC, PC	23	35	0.15 ❖	0.20
		275 - 350	SC, PC	18	31	0.13 ❖	0.18
	Hardened Steel	400	SC, PC	14	21	0.08 ❖	0.15
		500	PC	10	14	0.05 ❖	0.12
		600	N/A	—	—	—	—

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data		•	Adjustment Value	=	Recommendation for Deep Holes
Speed	50 m/min	•	0.75	=	37.5 m/min
Feed	0.20 mm/rev	•	0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

GEN2 T-A | HIGH-SPEED STEEL

Feed Rate (mm/rev) by Diameter				
1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm	3 Series 34.37 mm - 47.82 mm	4 Series 46.99 mm - 65.30 mm	5 - 8 Series 62.38 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	0.36	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
0.41	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
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
0.20	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

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

GEN2 T-A | CARBIDE

A30

ISO Material		Hardness (BHN)	Carbide Grade	Speed (m/min) AM300®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	K35 (C1)	146
		150 - 200	K35 (C1)	126
		200 - 250	K35 (C1)	119
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	K35 (C1)	137
		125 - 175	K35 (C1)	119
		175 - 225	K35 (C1)	108
		225 - 275	K35 (C1)	95
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	K35 (C1)	119
		175 - 225	K35 (C1)	108
		225 - 275	K35 (C1)	95
		275 - 325	K35 (C1)	80
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	K35 (C1)	115
		175 - 225	K35 (C1)	105
		225 - 275	K35 (C1)	95
		275 - 325	K35 (C1)	87
		325 - 375	K35 (C1)	78
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	K35 (C1)	70
		300 - 350	K35 (C1)	63
		350 - 400	K35 (C1)	56
	Structural Steel A36, A285, A516, etc.	100 - 150	K35 (C1)	108
		150 - 250	K35 (C1)	87
		250 - 350	K35 (C1)	80
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	K35 (C1)	78
		200 - 250	K35 (C1)	59
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	73
		275 - 350	K20 (C2)	56
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	73
		185 - 275	K20 (C2)	56
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	38
K	SG / Nodular Cast Iron	185 - 275	K20 (C2)	30
		120 - 150	K20 (C2)	152
		150 - 200	K20 (C2)	146
		200 - 220	K20 (C2)	131
		220 - 260	K20 (C2)	113
N	Cast Aluminum	260 - 320	K20 (C2)	102
		30	K20 (C2)	300
	Wrought Aluminum	180	K20 (C2)	225
		30	K20 (C2)	426
	Aluminum Bronze	180	K20 (C2)	300
		100 - 200	K20 (C2)	110
	Brass	200 - 250	K20 (C2)	90
		100	K20 (C2)	200
S	Copper	60	K20 (C2)	130
		140 - 220	K20 (C2)	37
	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	220 - 310	K20 (C2)	29
		140 - 220	K20 (C2)	42
	Titanium Alloy	220 - 310	K20 (C2)	33
		185 - 275	K20 (C2)	73
H	Wear Plate Hardox®, AR400, T-1, etc.	275 - 350	K20 (C2)	56
		400	K20 (C2)	45
		500	K20 (C2)	37
	Hardened Steel	600	K20 (C2)	30
		300 - 400	K35 (C1)	47
		400 - 500	K35 (C1)	37

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data		•	Adjustment Value	=	Recommendation for Deep Holes
Speed	50 m/min	•	0.75	=	37.5 m/min
Feed	0.20 mm/rev	•	0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

GEN2 T-A | CARBIDE

Feed Rate (mm/rev) by Diameter			
Y/Z Series 9.50 mm - 12.97 mm	0 Series 12.98 mm - 17.67 mm	1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm
0.20	0.30	0.41	0.48
0.18	0.28	0.38	0.43
0.15	0.25	0.36	0.41
0.20 ❖	0.25	0.36	0.46
0.18 ❖	0.25	0.36	0.43
0.15 ❖	0.23	0.33	0.41
0.13 ❖	0.23	0.33	0.41
0.18	0.25	0.36	0.43
0.15	0.23	0.33	0.41
0.15	0.23	0.33	0.41
0.13	0.20	0.30	0.38
0.18	0.25	0.36	0.43
0.15	0.23	0.33	0.43
0.15	0.23	0.33	0.41
0.13	0.20	0.30	0.38
0.10	0.18	0.28	0.36
0.15 ❖	0.23	0.28	0.33
0.13 ❖	0.20	0.25	0.30
0.10 ❖	0.18	0.23	0.28
0.20 ❖	0.28	0.38	0.43
0.15 ❖	0.25	0.33	0.38
0.13 ❖	0.23	0.30	0.33
0.10	0.18	0.25	0.30
0.10	0.18	0.25	0.30
0.18 ❖	0.23	0.30	0.36
0.15 ❖	0.20	0.28	0.30
0.14 ❖	0.18	0.24	0.29
0.12 ❖	0.16	0.22	0.24
0.12 ❖	0.17	0.22	0.26
0.10 ❖	0.15	0.18	0.22
0.20	0.30	0.38	0.48
0.18	0.28	0.33	0.43
0.15	0.23	0.30	0.38
0.13	0.20	0.28	0.33
0.13	0.18	0.25	0.28
0.23	0.38	0.46	0.58
0.20	0.33	0.40	0.50
0.12	0.33	0.40	0.50
0.12	0.18	0.30	0.35
0.15	0.24	0.30	0.38
0.12	0.18	0.23	0.28
0.18	0.27	0.33	0.45
0.07 ❖	0.10	0.18	0.26
0.10 ❖	0.18	0.23	0.28
0.10 ❖	0.15	0.20	0.25
0.10 ❖	0.18	0.21	0.27
0.08 ❖	0.15	0.18	0.23
0.12 ❖	0.16	0.18	0.22
0.10 ❖	0.14	0.16	0.19
0.07 ❖	0.12	0.20	0.25
0.05 ❖	0.10	0.15	0.20
0.04 ❖	0.08	0.12	0.16
0.10	0.18	0.23	0.27
0.06 ❖	0.12	0.18	0.24

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

T-A | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	HSS Grade	Speed (m/min)			Feed Rate (mm/rev) by Diameter		
				TiN	TiAlN	TiCN	Y/Z Series 9.50 mm - 12.97 mm	O Series 12.98 mm - 17.67 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, S-3, etc.	150 - 200	SC	24	34	32	0.10	0.15
			200 - 250	SC, PC	18	27	26	0.10	0.15
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	
K	SG / Nodular 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 Aluminum	30	HSS	183	259	229	0.20	0.33	
		180	HSS	91	137	122	0.20	0.33	
	Wrought Aluminum	30	HSS	183	259	229	0.10	0.15	
		180	HSS	91	137	122	0.20	0.33	
	Aluminum 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	
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		
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	N/A	—	—	—	—	—	
	Hardened Steel	300 - 400	PC	15	29	21	0.08 ❖	0.15	
400 - 500		PC	11	14	12	0.05 ❖	0.13		

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data • Adjustment Value = Recommendation for Deep Holes		
	Speed	50 m/min • 0.75	= 37.5 m/min
Feed	0.20 mm/rev • 0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

T-A | HIGH-SPEED STEEL

Feed Rate (mm/rev) by Diameter				
1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm	3 Series 34.37 mm - 47.82 mm	4 Series 46.99 mm - 65.30 mm	5 - 8 Series 62.38 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	0.36	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
0.41	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
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
0.20	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

NOTE: For diameters over 114.48 mm please reach out to our application engineering department.

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

T-A | CARBIDE

		Hardness (BHN)	Carbide Grade	Speed (m/min)			
ISO	Material			TiN	TiAlN	TiCN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	P40 (C5)	96	128	115	
		150 - 200	P40 (C5)	85	110	100	
		200 - 250	P40 (C5)	79	104	90	
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	P40 (C5)	91	119	110	
		125 - 175	P40 (C5)	79	104	90	
		175 - 225	P40 (C5)	73	95	82	
		225 - 275	P40 (C5)	64	83	75	
		Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	P40 (C5)	79	104	90
			175 - 225	P40 (C5)	73	95	84
	225 - 275		P40 (C5)	67	83	72	
		275 - 325	P40 (C5)	55	70	62	
		Alloy Steel 4140, 5140, 8640, etc.	125 - 175	P40 (C5)	76	99	87
			175 - 225	P40 (C5)	70	92	80
	225 - 275		P40 (C5)	64	83	72	
	275 - 325		P40 (C5)	61	76	68	
		325 - 375	P40 (C5)	52	67	60	
		High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	P40 (C5)	49	61	55
			300 - 350	P40 (C5)	43	55	49
	350 - 400		P40 (C5)	37	49	43	
	Structural Steel A36, A285, A516, etc.	100 - 150	P40 (C5)	73	95	84	
		150 - 250	P40 (C5)	61	76	68	
		250 - 350	P40 (C5)	55	70	62	
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	P40 (C5)	49	67	58	
		200 - 250	P40 (C5)	37	52	45	
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	49	64	57	
		275 - 350	K20 (C2)	37	49	43	
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	49	64	57	
		185 - 275	K20 (C2)	37	49	43	
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	25	33	29	
	185 - 275	K20 (C2)	19	25	22		
K	SG / Nodular Cast Iron	120 - 150	K20 (C2), C3 (K10)	98	141	127	
		150 - 200	K20 (C2), C3 (K10)	82	122	102	
		200 - 220	K20 (C2), C3 (K10)	73	110	93	
		220 - 260	K20 (C2), C3 (K10)	64	95	79	
		260 - 320	K20 (C2), C3 (K10)	55	83	69	
N	Cast Aluminum	30	K20 (C2)	366	460	410	
		180	K20 (C2)	244	306	275	
	Wrought Aluminum	30	K20 (C2)	366	460	410	
		180	K20 (C2)	244	306	275	
	Aluminum Bronze	100 - 200	K20 (C2)	85	110	100	
		200 - 250	K20 (C2)	64	94	79	
Brass	100	K20 (C2)	130	184	160		
Copper	60	K20 (C2)	80	120	100		
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	K20 (C2)	24	32	28	
		220 - 310	K20 (C2)	18	26	22	
	Titanium Alloy	140 - 220	K20 (C2)	30	38	32	
		220 - 310	K20 (C2)	24	33	28	
	Aerospace Alloy S82	185 - 275	K20 (C2)	49	64	57	
275 - 350		K20 (C2)	37	49	43		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	P40 (C5)	23	35	30	
		500	P40 (C5)	15	26	21	
		600	P40 (C5)	11	22	16	
	Hardened Steel	300 - 400	P40 (C5)	34	43	39	
400 - 500		P40 (C5)	20	25	23		

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data		•	Adjustment Value	=	Recommendation for Deep Holes
Speed	50 m/min	•	0.75	=	37.5 m/min
Feed	0.20 mm/rev	•	0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

T-A | CARBIDE

Feed Rate (mm/rev) by Diameter				
Y/Z Series 9.50 mm - 12.97 mm	0 Series 12.98 mm - 17.67 mm	1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm	3 Series 34.37 mm - 47.82 mm
0.20	0.30	0.38	0.45	0.53
0.18	0.28	0.35	0.40	0.48
0.15	0.25	0.33	0.38	0.43
0.20 ❖	0.25	0.33	0.43	0.48
0.18 ❖	0.25	0.33	0.40	0.45
0.15 ❖	0.23	0.30	0.38	0.43
0.13 ❖	0.23	0.30	0.38	0.43
0.18	0.25	0.33	0.40	0.45
0.15	0.23	0.30	0.38	0.43
0.15	0.23	0.30	0.38	0.43
0.13	0.20	0.28	0.35	0.40
0.18	0.25	0.33	0.40	0.45
0.15	0.23	0.30	0.38	0.43
0.15	0.23	0.30	0.38	0.43
0.13	0.20	0.28	0.35	0.40
0.10	0.18	0.25	0.33	0.38
0.15 ❖	0.23	0.25	0.30	0.38
0.13 ❖	0.20	0.23	0.28	0.35
0.10 ❖	0.18	0.20	0.25	0.30
0.20 ❖	0.28	0.35	0.40	0.45
0.15 ❖	0.25	0.30	0.35	0.40
0.13 ❖	0.23	0.28	0.30	0.35
0.10	0.18	0.23	0.28	0.33
0.10	0.18	0.23	0.28	0.33
0.17 ❖	0.22	0.29	0.35	0.40
0.14 ❖	0.19	0.27	0.30	0.35
0.13 ❖	0.17	0.22	0.26	0.30
0.11 ❖	0.14	0.20	0.22	0.25
0.11 ❖	0.15	0.19	0.23	0.27
0.09 ❖	0.13	0.18	0.20	0.23
0.20	0.30	0.38	0.48	0.58
0.18	0.28	0.33	0.43	0.53
0.15	0.23	0.30	0.38	0.45
0.13	0.20	0.28	0.33	0.38
0.13	0.18	0.25	0.28	0.33
0.25	0.38	0.45	0.50	0.55
0.23	0.33	0.40	0.45	0.50
0.10	0.15	0.25	0.30	0.36
0.20	0.28	0.36	0.45	0.50
0.13	0.20	0.25	0.36	0.42
0.10	0.15	0.18	0.25	0.33
0.15	0.23	0.28	0.38	0.45
0.05 ❖	0.08	0.10	0.15	0.25
0.10 ❖	0.18	0.23	0.28	0.33
0.10 ❖	0.15	0.20	0.25	0.30
0.10 ❖	0.18	0.23	0.28	0.33
0.10 ❖	0.15	0.20	0.25	0.30
0.17 ❖	0.22	0.29	0.35	0.40
0.14 ❖	0.19	0.27	0.30	0.35
0.07	0.12	0.20	0.25	0.30
0.05	0.10	0.15	0.20	0.25
0.04	0.08	0.12	0.16	0.20
0.10 ❖	0.18	0.23	0.28	0.33
0.08 ❖	0.15	0.20	0.23	0.28

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

T-A FLAT BOTTOM | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	HSS Grade	Speed (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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	SC	29	41	38	47
		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, S-3, etc.	150 - 200	SC	21	29	27	33
		200 - 250	SC	15	24	23	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
K	SG / Nodular Cast Iron	185 - 275	SC	15	24	21	28
		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
N	Cast Aluminum	260 - 320	SC	24	37	32	43
		120 - 150	HSS	46	67	59	77
	Wrought Aluminum	150 - 200	HSS	40	59	53	68
		200 - 220	HSS	34	53	46	61
	Aluminum Bronze	220 - 260	SC	29	46	38	53
		260 - 320	SC	24	37	32	43
	Brass	100	HSS	46	67	59	78
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	60	SC	35	45	40	53
		140 - 220	SC	7	10	9	13
	Titanium Alloy	220 - 310	SC	6	9	7	10
		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
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC	—	—	—	—
		500	SC	—	—	—	—
		600	N/A	—	—	—	—
	Hardened Steel	300 - 400	SC	13	20	18	24
		400 - 500	SC	8	12	10	13

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data		•	Adjustment Value	=	Recommendation for Deep Holes
Speed	50 m/min	•	0.75	=	37.5 m/min
Feed	0.20 mm/rev	•	0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

T-A FLAT BOTTOM | HIGH-SPEED STEEL

Y/Z Series	Feed Rate (mm/rev) by Diameter				
	0 Series	1 Series	2 Series	3 Series	4 Series
9.50 mm - 12.97 mm	12.98 mm - 17.67 mm	17.53 mm - 24.40 mm	24.41 mm - 35.06 mm	34.37 mm - 47.82 mm	46.99 mm - 65.30 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
0.13 ❖	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
0.13 ❖	0.18	0.20	0.25	0.30	0.36
0.10 ❖	0.15	0.18	0.23	0.25	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
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
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
0.08 ❖	0.13	0.18	0.20	0.27	0.38
0.06 ❖	0.10	0.15	0.18	0.23	0.28

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

T-A FLAT BOTTOM | CARBIDE

ISO	Material	Hardness (BHN)	Carbide Grade	Speed (m/min)			
				TiN	TiAlN	TiCN	AM200®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	K20 (C2)	82	110	98	126
		150 - 200	K20 (C2)	73	94	85	110
		200 - 250	K20 (C2)	67	88	76	102
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	K20 (C2)	79	102	94	117
		125 - 175	K20 (C2)	67	88	76	102
		175 - 225	K20 (C2)	61	81	70	93
		225 - 275	K20 (C2)	55	70	64	81
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	K20 (C2)	67	88	76	102
		175 - 225	K20 (C2)	61	81	72	93
		225 - 275	K20 (C2)	55	70	61	81
		275 - 325	K20 (C2)	46	61	53	70
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	K20 (C2)	64	85	75	99
		175 - 225	K20 (C2)	59	79	67	91
		225 - 275	K20 (C2)	55	70	61	81
		275 - 325	K20 (C2)	52	66	58	76
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	K20 (C2)	44	58	50	67
		225 - 300	K20 (C2)	41	52	47	59
		300 - 350	K20 (C2)	37	47	41	55
		350 - 400	K20 (C2)	30	41	37	47
	Structural Steel A36, A285, A516, etc.	100 - 150	K20 (C2)	62	81	72	93
		150 - 250	K20 (C2)	52	66	58	76
		250 - 350	K20 (C2)	47	61	53	70
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	K20 (C2)	41	58	49	67
		200 - 250	K20 (C2)	30	44	37	50
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	43	56	50	64
		275 - 350	K20 (C2)	33	43	38	49
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	28	37	33	40
		185 - 275	K20 (C2)	21	28	25	32
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	22	29	26	33
K	SG / Nodular Cast Iron	185 - 275	K20 (C2)	17	22	19	26
		120 - 150	K20 (C2)	82	120	108	137
		150 - 200	K20 (C2)	70	104	87	119
		200 - 220	K20 (C2)	61	94	79	108
		220 - 260	K20 (C2)	55	81	67	93
N	Cast Aluminum	260 - 320	K20 (C2)	47	70	58	81
		30	K20 (C2)	160	228	198	-
	Wrought Aluminum	180	K20 (C2)	79	122	107	-
		30	K20 (C2)	292	368	328	390
	Aluminum Bronze	180	K20 (C2)	195	245	220	260
		100 - 200	K20 (C2)	73	95	85	105
	Brass	200 - 250	K20 (C2)	55	81	68	87
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	K20 (C2)	112	160	138	185
		60	K20 (C2)	68	105	85	117
	Titanium Alloy	140 - 220	K20 (C2)	21	27	23	32
		220 - 310	K20 (C2)	15	21	18	24
		140 - 220	K20 (C2)	26	33	28	40
	Aerospace Alloy S82	220 - 310	K20 (C2)	21	29	25	30
		185 - 275	K20 (C2)	43	37	50	40
H	Wear Plate Hardox®, AR400, T-1, etc.	275 - 350	K20 (C2)	33	28	38	32
		400	K20 (C2)	20	31	26	39
		500	K20 (C2)	13	23	18	31
	Hardened Steel	600	K20 (C2)	10	19	14	25
		300 - 400	K20 (C2)	30	38	34	41
		400 - 500	K20 (C2)	18	22	20	33

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data • Adjustment Value = Recommendation for Deep Holes		
	Speed	50 m/min • 0.75	= 37.5 m/min
Feed	0.20 mm/rev	• 0.90	= 0.18 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Metric (mm)

T-A FLAT BOTTOM | CARBIDE

Feed Rate (mm/rev) by Diameter			
Y/Z Series 9.50 mm - 12.97 mm	0 Series 12.98 mm - 17.67 mm	1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm
0.17	0.26	0.32	0.39
0.15	0.24	0.30	0.35
0.13	0.22	0.28	0.32
0.17 ❖	0.22	0.28	0.37
0.15 ❖	0.22	0.28	0.35
0.13 ❖	0.19	0.26	0.32
0.11 ❖	0.19	0.26	0.32
0.15	0.22	0.28	0.35
0.13	0.19	0.26	0.32
0.13	0.19	0.26	0.32
0.11	0.17	0.24	0.30
0.15	0.22	0.28	0.35
0.13	0.19	0.26	0.32
0.13	0.19	0.26	0.32
0.11	0.17	0.24	0.30
0.09	0.15	0.22	0.28
0.13 ❖	0.19	0.22	0.26
0.11 ❖	0.17	0.19	0.24
0.09 ❖	0.15	0.17	0.22
0.17 ❖	0.24	0.30	0.35
0.13 ❖	0.22	0.28	0.30
0.11 ❖	0.19	0.25	0.26
0.09	0.15	0.19	0.24
0.09	0.15	0.19	0.24
0.15 ❖	0.20	0.25	0.30
0.13 ❖	0.18	0.23	0.25
0.13 ❖	0.17	0.21	0.25
0.11 ❖	0.15	0.19	0.21
0.10	0.14	0.17	0.20
0.08 ❖	0.12	0.15	0.17
0.17	0.26	0.32	0.41
0.15	0.24	0.28	0.38
0.13	0.19	0.26	0.32
0.11	0.17	0.24	0.28
0.11	0.15	0.22	0.24
0.22	0.32	0.41	0.43
0.19	0.28	0.35	0.39
0.12	0.18	0.23	0.25
0.10	0.16	0.20	0.22
0.10	0.16	0.20	0.29
0.08	0.12	0.14	0.20
0.12	0.18	0.22	0.30
0.04 ❖	0.06	0.08	0.12
0.09 ❖	0.15	0.19	0.24
0.09 ❖	0.13	0.17	0.22
0.08 ❖	0.14	0.17	0.20
0.08 ❖	0.12	0.15	0.18
0.15 ❖	0.17	0.25	0.30
0.13 ❖	0.15	0.23	0.25
0.06 ❖	0.10	0.16	0.20
0.04 ❖	0.08	0.12	0.16
0.03 ❖	0.06	0.10	0.13
0.08 ❖	0.14	0.18	0.22
0.06 ❖	0.12	0.16	0.18

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

T-A DIAMOND COATED | CARBIDE

ISO	Material	Carbide Grade	Speed (m/min) Diamond Coating	Feed Rate (mm/rev) by Diameter			
				Y/Z Series 9.50 mm - 12.97 mm	0 Series 12.98 mm - 17.67 mm	1 Series 17.53 mm - 24.40 mm	2 Series 24.41 mm - 35.06 mm
A30 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	Aluminum	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
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

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data		Adjustment Value	=	Recommendation for Deep Holes
Speed	50 m/min	0.75	=	37.5 m/min
Feed	0.20 mm/rev	0.90	=	0.18 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 available through our Application Engineering department. See adjustment examples above.

⚠ 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 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: appeng@alliedmachine.com.

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or additional markings.

A30



Recommended Drilling Data | Imperial (in)

GEN2 T-A | HIGH-SPEED STEEL

		Hardness (BHN)	HSS Grade	Speed (SFM)		Feed Rate (IPR) by Diameter	
ISO	Material			TiN	AM200®	Y/Z Series 0.3740" - 0.5109"	O Series 0.5110" - 0.6959"
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, S-3, etc.	150 - 200	SC	80	125	0.004	0.007
		200 - 250	SC	60	105	0.004	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
K	SG / Nodular 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 Aluminum	30	HSS	600	—	0.009	0.015
		180	HSS	300	—	0.008	0.013
	Wrought Aluminum	30	HSS	600	900	0.005	0.013
		180	HSS	300	650	0.005	0.007
	Aluminum 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
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	
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

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data • Adjustment Value = Recommendation for Deep Holes		
	Speed	200 SFM	• 0.75 = 150 SFM
Feed	0.008 IPR	• 0.90	= 0.007 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Imperial (in)

GEN2 T-A | HIGH-SPEED STEEL

Feed Rate (IPR) by Diameter				
1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"	3 Series 1.3530" - 1.8829"	4 Series 1.8500" - 2.5709"	5 - 8 Series 2.4560" - 4.5070"
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	0.014	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
0.016	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
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	0.009	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

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

GEN2 T-A | CARBIDE

ISO	Material	Hardness (BHN)	Carbide Grade	Speed (SFM)
				AM300®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	K35 (C1)	480
		150 - 200	K35 (C1)	415
		200 - 250	K35 (C1)	390
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	K35 (C1)	450
		125 - 175	K35 (C1)	390
		175 - 225	K35 (C1)	355
		225 - 275	K35 (C1)	310
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	K35 (C1)	390
		175 - 225	K35 (C1)	355
		225 - 275	K35 (C1)	310
		275 - 325	K35 (C1)	265
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	K35 (C1)	375
		175 - 225	K35 (C1)	345
		225 - 275	K35 (C1)	310
		275 - 325	K35 (C1)	285
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	K35 (C1)	255
		225 - 300	K35 (C1)	230
		300 - 350	K35 (C1)	205
		350 - 400	K35 (C1)	185
	Structural Steel A36, A285, A516, etc.	100 - 150	K35 (C1)	355
		150 - 250	K35 (C1)	285
		250 - 350	K35 (C1)	265
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	K35 (C1)	255
		200 - 250	K35 (C1)	195
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	240
		275 - 350	K20 (C2)	180
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	240
		185 - 275	K20 (C2)	180
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	125
K	SG / Nodular Cast Iron	185 - 275	K20 (C2)	100
		120 - 150	K20 (C2)	500
		150 - 200	K20 (C2)	480
		200 - 220	K20 (C2)	430
		220 - 260	K20 (C2)	370
N	Cast Aluminum	260 - 320	K20 (C2)	335
		30	K20 (C2)	975
	Wrought Aluminum	180	K20 (C2)	730
		30	K20 (C2)	1385
	Aluminum Bronze	180	K20 (C2)	975
		100 - 200	K20 (C2)	360
	Brass	200 - 250	K20 (C2)	300
		100	K20 (C2)	650
S	Copper	60	K20 (C2)	420
		140 - 220	K20 (C2)	120
	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	220 - 310	K20 (C2)	95
		140 - 220	K20 (C2)	140
	Titanium Alloy	220 - 310	K20 (C2)	110
		185 - 275	K20 (C2)	240
H	Aerospace Alloy S82	275 - 350	K20 (C2)	180
		400	K20 (C2)	150
	Wear Plate Hardox®, AR400, T-1, etc.	500	K20 (C2)	120
		600	K20 (C2)	100
	Hardened Steel	300 - 400	K35 (C1)	150
		400 - 500	K35 (C1)	120

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data	•	Adjustment Value	=	Recommendation for Deep Holes
Speed	200 SFM	•	0.75	=	150 SFM
Feed	0.008 IPR	•	0.90	=	0.007 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Imperial (in)

GEN2 T-A | CARBIDE

Feed Rate (IPR) by Diameter			
Y/Z Series 0.3740" - 0.5109"	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"
0.008	0.012	0.016	0.019
0.007	0.011	0.015	0.017
0.006	0.010	0.014	0.016
0.008 ❖	0.010	0.014	0.018
0.007 ❖	0.010	0.014	0.017
0.006 ❖	0.009	0.013	0.016
0.005 ❖	0.009	0.013	0.016
0.007	0.010	0.014	0.017
0.006	0.009	0.013	0.016
0.006	0.009	0.013	0.016
0.005	0.008	0.012	0.015
0.007	0.010	0.014	0.017
0.006	0.009	0.013	0.016
0.006	0.009	0.013	0.016
0.005	0.008	0.012	0.015
0.004	0.007	0.011	0.014
0.006 ❖	0.009	0.011	0.013
0.005 ❖	0.008	0.010	0.012
0.004 ❖	0.007	0.009	0.011
0.008 ❖	0.011	0.015	0.017
0.006 ❖	0.010	0.013	0.015
0.005 ❖	0.009	0.012	0.013
0.007	0.007	0.010	0.012
0.007	0.007	0.010	0.012
0.007 ❖	0.009	0.012	0.014
0.006 ❖	0.008	0.011	0.012
0.006 ❖	0.007	0.009	0.012
0.005 ❖	0.006	0.008	0.009
0.005 ❖	0.007	0.008	0.010
0.004 ❖	0.006	0.007	0.009
0.008	0.012	0.015	0.019
0.007	0.011	0.013	0.017
0.006	0.009	0.012	0.015
0.005	0.008	0.011	0.013
0.005	0.007	0.010	0.011
0.009	0.015	0.018	0.023
0.008	0.013	0.016	0.020
0.005	0.013	0.016	0.020
0.005	0.007	0.012	0.014
0.006	0.009	0.012	0.015
0.005	0.007	0.009	0.011
0.007	0.011	0.013	0.018
0.003 ❖	0.004	0.007	0.010
0.004 ❖	0.007	0.009	0.011
0.004 ❖	0.006	0.008	0.010
0.004 ❖	0.007	0.008	0.011
0.003 ❖	0.006	0.007	0.009
0.005	0.006	0.007	0.009
0.004 ❖	0.005	0.006	0.008
0.003 ❖	0.005	0.008	0.010
0.002 ❖	0.004	0.006	0.008
0.001 ❖	0.003	0.005	0.006
0.004	0.006	0.009	0.011
0.003 ❖	0.005	0.008	0.010

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

T-A | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	HSS Grade	Speed (SFM)			Feed Rate (IPR) by Diameter	
				TiN	TiAlN	TiCN	Y/Z Series 0.3740" - 0.5109"	O Series 0.5110" - 0.6959"
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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	SC, PC	110	155	145	0.003	0.006
		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, S-3, etc.	150 - 200	SC	80	110	105	0.004
		200 - 250	SC, PC	60	90	85	0.004	0.006
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	
K	SG / Nodular 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 Aluminum	30	HSS	600	850	750	0.008	0.013
		180	HSS	300	450	400	0.008	0.013
	Wrought Aluminum	30	HSS	600	850	750	0.004	0.006
		180	HSS	300	450	400	0.008	0.013
	Aluminum 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	
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	
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	N/A	—	—	—	—	—
	Hardened Steel	300 - 400	PC	50	95	70	0.003 ❖	0.006
400 - 500		PC	35	45	40	0.002 ❖	0.005	

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

Data	•	Adjustment Value	=	Recommendation for Deep Holes
Speed	200 SFM	• 0.75	=	150 SFM
Feed	0.008 IPR	• 0.90	=	0.007 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 available through our Application Engineering department. See adjustment examples above.



Recommended Drilling Data | Imperial (in)

T-A | HIGH-SPEED STEEL

Feed Rate (IPR) by Diameter				
1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"	3 Series 1.3530" - 1.8829"	4 Series 1.8500" - 2.5709"	5 - 8 Series 2.4560" - 4.5070"
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
0.011	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
0.016	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
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
0.008	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

NOTE: For diameters over 4.5070" please reach out to our application engineering department.

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

T-A | CARBIDE

		Hardness (BHN)	Carbide Grade	Speed (SFM)		
ISO	Material			TiN	TiAlN	TiCN
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	P40 (C5)	320	420	375
		150 - 200	P40 (C5)	280	360	325
		200 - 250	P40 (C5)	260	340	295
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	P40 (C5)	300	390	360
		125 - 175	P40 (C5)	260	340	295
		175 - 225	P40 (C5)	240	310	270
		225 - 275	P40 (C5)	210	270	245
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	P40 (C5)	260	340	295
		175 - 225	P40 (C5)	240	310	275
		225 - 275	P40 (C5)	210	270	235
		275 - 325	P40 (C5)	180	230	205
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	P40 (C5)	250	325	285
		175 - 225	P40 (C5)	230	300	260
		225 - 275	P40 (C5)	210	270	235
		275 - 325	P40 (C5)	200	250	225
	325 - 375	P40 (C5)	170	220	195	
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	P40 (C5)	160	200	180
		300 - 350	P40 (C5)	140	180	160
		350 - 400	P40 (C5)	120	160	140
	Structural Steel A36, A285, A516, etc.	100 - 150	P40 (C5)	240	310	275
		150 - 250	P40 (C5)	200	250	225
		250 - 350	P40 (C5)	180	230	205
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	P40 (C5)	160	220	190
		200 - 250	P40 (C5)	120	170	145
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	160	210	185
		275 - 350	K20 (C2)	120	160	140
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	160	210	185
		185 - 275	K20 (C2)	120	160	140
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	80	110	95
185 - 275	K20 (C2)	60	80	70		
K	SG / Nodular Cast Iron	120 - 150	K20 (C2), K10 (C3)	320	460	415
		150 - 200	K20 (C2), K10 (C3)	270	400	335
		200 - 220	K20 (C2), K10 (C3)	240	360	305
		220 - 260	K20 (C2), K10 (C3)	210	310	260
		260 - 320	K20 (C2), K10 (C3)	180	270	225
N	Cast Aluminum	30	K20 (C2)	1200	1500	1330
		180	K20 (C2)	800	1000	900
	Wrought Aluminum	30	K20 (C2)	1200	1500	1330
		180	K20 (C2)	800	1000	900
	Aluminum Bronze	100 - 200	K20 (C2)	275	360	325
		200 - 250	K20 (C2)	210	305	260
Brass	100	K20 (C2)	425	600	520	
Copper	60	K20 (C2)	260	390	325	
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	K20 (C2)	80	105	90
		220 - 310	K20 (C2)	60	85	70
	Titanium Alloy	140 - 220	K20 (C2)	100	125	105
		220 - 310	K20 (C2)	80	110	90
	Aerospace Alloy S82	185 - 275	K20 (C2)	160	210	185
275 - 350	K20 (C2)	120	160	140		
H	Wear Plate Hardox®, AR400, T-1, etc.	400	P40 (C5)	75	115	100
		500	P40 (C5)	50	85	70
		600	P40 (C5)	35	75	55
	Hardened Steel	300 - 400	P40 (C5)	110	140	130
400 - 500	P40 (C5)	65	85	75		

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data • Adjustment Value = Recommendation for Deep Holes		
	Speed	200 SFM	• 0.75 = 150 SFM
Feed	0.008 IPR	• 0.90	= 0.007 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 available through our Application Engineering department. See adjustment examples above.



T-A | CARBIDE

Y/Z Series 0.3740" - 0.5109"	Feed Rate (IPR) by Diameter			
	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"	3 Series 1.3530" - 1.8829"
0.008	0.012	0.015	0.018	0.021
0.007	0.011	0.014	0.016	0.019
0.006	0.010	0.013	0.015	0.017
0.008 ❖	0.010	0.013	0.017	0.019
0.007 ❖	0.010	0.013	0.016	0.018
0.006 ❖	0.009	0.012	0.015	0.017
0.005 ❖	0.009	0.012	0.015	0.017
0.007	0.010	0.013	0.016	0.018
0.006	0.009	0.012	0.015	0.017
0.006	0.009	0.012	0.015	0.017
0.005	0.008	0.011	0.014	0.016
0.007	0.010	0.013	0.016	0.018
0.006	0.009	0.012	0.015	0.017
0.006	0.009	0.012	0.015	0.017
0.005	0.008	0.011	0.014	0.016
0.004	0.007	0.010	0.013	0.015
0.006 ❖	0.009	0.010	0.012	0.015
0.005 ❖	0.008	0.009	0.011	0.014
0.004 ❖	0.007	0.008	0.010	0.012
0.008 ❖	0.011	0.014	0.016	0.018
0.006 ❖	0.010	0.012	0.014	0.016
0.005 ❖	0.009	0.011	0.012	0.014
0.004	0.007	0.009	0.011	0.013
0.004	0.007	0.009	0.011	0.013
0.007 ❖	0.008	0.011	0.014	0.016
0.006 ❖	0.007	0.010	0.012	0.014
0.005 ❖	0.007	0.009	0.010	0.012
0.004 ❖	0.006	0.008	0.009	0.010
0.004 ❖	0.007	0.008	0.009	0.011
0.003 ❖	0.006	0.007	0.008	0.009
0.008	0.012	0.015	0.019	0.023
0.007	0.011	0.013	0.017	0.021
0.006	0.009	0.012	0.015	0.018
0.005	0.008	0.011	0.013	0.015
0.005	0.007	0.010	0.011	0.013
0.010	0.013	0.018	0.020	0.022
0.009	0.013	0.016	0.018	0.020
0.004	0.006	0.010	0.012	0.014
0.008	0.013	0.014	0.018	0.020
0.005	0.008	0.010	0.014	0.017
0.004	0.007	0.007	0.010	0.013
0.006	0.009	0.011	0.015	0.018
0.002 ❖	0.003	0.004	0.006	0.010
0.004 ❖	0.007	0.009	0.011	0.013
0.004 ❖	0.006	0.008	0.010	0.012
0.004 ❖	0.007	0.009	0.011	0.013
0.004 ❖	0.006	0.008	0.010	0.012
0.007 ❖	0.006	0.011	0.014	0.016
0.006 ❖	0.008	0.010	0.012	0.014
0.003 ❖	0.006	0.008	0.010	0.012
0.002 ❖	0.005	0.006	0.008	0.010
0.001 ❖	0.004	0.005	0.006	0.008
0.004 ❖	0.006	0.009	0.011	0.013
0.003 ❖	0.005	0.008	0.009	0.011

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

T-A FLAT BOTTOM | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	HSS Grade	Speed (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
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	SC	95	135	125	155
		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, S-3, etc.	150 - 200	SC	70	95	90	110
		200 - 250	SC	50	80	75	95
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
K	SG / Nodular Cast Iron	185 - 275	SC	50	80	70	90
		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
N	Cast Aluminum	260 - 320	SC	80	120	105	140
		120 - 150	HSS	150	220	195	255
	Wrought Aluminum	150 - 200	HSS	130	195	175	225
		200 - 220	HSS	110	175	150	205
	Aluminum Bronze	220 - 260	SC	95	150	125	175
		260 - 320	SC	80	120	105	140
	Brass	100	HSS	150	220	190	250
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	60	SC	115	150	130	170
		140 - 220	SC	25	35	30	40
	Titanium Alloy	220 - 310	SC	20	30	25	35
		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
H	Wear Plate Hardox®, AR400, T-1, etc.	400	SC	—	—	—	—
		500	SC	—	—	—	—
		600	N/A	—	—	—	—
	Hardened Steel	300 - 400	SC	45	65	60	80
		400 - 500	SC	25	40	35	45

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data • Adjustment Value = Recommendation for Deep Holes		
	Speed	200 SFM	• 0.75 = 150 SFM
Feed	0.008 IPR	• 0.90	= 0.007 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 available through our Application Engineering department. See adjustment examples above.



T-A FLAT BOTTOM | HIGH-SPEED STEEL

Y/Z Series 0.3740" - 0.5109"	Feed Rate (mm/rev) by Diameter				
	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"	3 Series 1.3530" - 1.8829"	4 Series 1.8500" - 2.5709"
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
0.005 ❖	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
0.007	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
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
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
0.003 ❖	0.005	0.007	0.008	0.011	0.015
0.002 ❖	0.004	0.006	0.007	0.009	0.011

A30

⚠ 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 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

T-A FLAT BOTTOM | CARBIDE

ISO	Material	Hardness (BHN)	Carbide Grade	Speed (SFM)			
				TiN	TiAlN	TiCN	AM200®
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	K20 (C2)	270	380	325	425
		150 - 200	K20 (C2)	240	320	280	375
		200 - 250	K20 (C2)	220	300	260	350
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	K20 (C2)	260	345	315	410
		125 - 175	K20 (C2)	220	300	260	350
		175 - 225	K20 (C2)	200	280	235	320
		225 - 275	K20 (C2)	180	240	215	285
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	K20 (C2)	220	300	260	350
		175 - 225	K20 (C2)	200	280	240	320
		225 - 275	K20 (C2)	180	240	210	285
		275 - 325	K20 (C2)	150	210	180	240
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	K20 (C2)	215	290	250	340
		175 - 225	K20 (C2)	200	270	230	320
		225 - 275	K20 (C2)	180	230	205	290
		275 - 325	K20 (C2)	175	215	190	280
	High-Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	K20 (C2)	145	190	170	230
		225 - 300	K20 (C2)	140	170	160	220
		300 - 350	K20 (C2)	120	160	140	190
		350 - 400	K20 (C2)	100	145	120	160
	Structural Steel A36, A285, A516, etc.	100 - 150	K20 (C2)	205	265	240	325
		150 - 250	K20 (C2)	170	215	200	270
		250 - 350	K20 (C2)	155	200	180	240
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	K20 (C2)	140	190	160	220
		200 - 250	K20 (C2)	100	150	120	160
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	K20 (C2)	140	180	165	210
		275 - 350	K20 (C2)	110	140	125	160
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	K20 (C2)	90	120	110	130
		185 - 275	K20 (C2)	70	90	80	105
	Super Duplex Stainless Steel	135 - 185	K20 (C2)	70	95	85	110
K	SG / Nodular Cast Iron	185 - 275	K20 (C2)	55	70	60	85
		120 - 150	K20 (C2)	270	405	360	450
		150 - 200	K20 (C2)	230	350	290	390
		200 - 220	K20 (C2)	200	320	260	350
		220 - 260	K20 (C2)	180	270	220	300
N	Cast Aluminum	260 - 320	K20 (C2)	160	240	200	265
		30	K20 (C2)	520	750	650	—
	Wrought Aluminum	180	K20 (C2)	260	400	350	—
		30	K20 (C2)	950	1200	1070	1270
	Aluminum Bronze	180	K20 (C2)	630	800	715	850
		100 - 200	K20 (C2)	240	310	280	340
	Brass	200 - 250	K20 (C2)	180	265	220	285
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	100	K20 (C2)	370	520	450	600
		60	K20 (C2)	220	345	280	380
	Titanium Alloy	140 - 220	K20 (C2)	70	90	80	110
		220 - 310	K20 (C2)	50	70	60	80
	Aerospace Alloy S82	140 - 220	K20 (C2)	85	110	90	130
H	Wear Plate Hardox®, AR400, T-1, etc.	220 - 310	K20 (C2)	70	95	80	100
		185 - 275	K20 (C2)	140	120	165	130
		275 - 350	K20 (C2)	110	90	125	105
	Hardened Steel	300 - 400	K20 (C2)	100	125	110	135
		400 - 500	K20 (C2)	60	75	65	110

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

Deep Hole Drilling Speed and Feed Adjustment Values

	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 (3XL)

	Data	•	Adjustment Value	=	Recommendation for Deep Holes
Speed	200 SFM	•	0.75	=	150 SFM
Feed	0.008 IPR	•	0.90	=	0.007 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 available through our Application Engineering department. See adjustment examples above.



T-A FLAT BOTTOM | CARBIDE

Feed Rate (IPR) by Diameter			
Y/Z Series 0.3740" - 0.5109"	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"
0.007	0.010	0.013	0.015
0.006	0.009	0.012	0.014
0.005	0.009	0.011	0.013
0.007 ❖	0.009	0.011	0.014
0.006 ❖	0.009	0.011	0.014
0.005 ❖	0.008	0.010	0.013
0.004 ❖	0.008	0.010	0.013
0.006	0.009	0.011	0.014
0.005	0.008	0.010	0.013
0.005	0.008	0.010	0.013
0.004	0.007	0.009	0.012
0.006	0.009	0.011	0.014
0.005	0.008	0.010	0.013
0.005	0.008	0.010	0.013
0.004	0.007	0.009	0.012
0.003	0.006	0.009	0.011
0.005 ❖	0.008	0.009	0.010
0.004 ❖	0.007	0.008	0.009
0.003 ❖	0.006	0.007	0.009
0.007 ❖	0.009	0.012	0.014
0.005 ❖	0.009	0.010	0.012
0.004 ❖	0.008	0.009	0.010
0.003	0.006	0.008	0.009
0.003	0.006	0.008	0.009
0.006 ❖	0.008	0.010	0.012
0.005 ❖	0.007	0.009	0.010
0.005 ❖	0.007	0.008	0.010
0.004 ❖	0.006	0.007	0.009
0.004 ❖	0.006	0.007	0.008
0.003 ❖	0.005	0.006	0.007
0.007	0.010	0.013	0.016
0.006	0.009	0.011	0.014
0.005	0.008	0.010	0.013
0.004	0.007	0.009	0.011
0.004	0.006	0.009	0.009
0.009	0.013	0.016	0.017
0.008	0.012	0.014	0.015
0.005	0.007	0.009	0.010
0.004	0.006	0.008	0.009
0.004	0.006	0.008	0.011
0.003	0.005	0.006	0.008
0.005	0.006	0.008	0.012
0.002 ❖	0.002	0.003	0.005
0.003 ❖	0.006	0.008	0.009
0.003 ❖	0.005	0.007	0.009
0.003 ❖	0.005	0.006	0.008
0.003 ❖	0.004	0.005	0.007
0.006 ❖	0.006	0.010	0.012
0.005 ❖	0.005	0.009	0.010
0.003 ❖	0.004	0.006	0.008
0.002 ❖	0.003	0.005	0.006
0.001 ❖	0.002	0.004	0.005
0.004 ❖	0.006	0.007	0.009
0.003 ❖	0.005	0.006	0.007

A30

⚠ 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 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: appeng@alliedmachine.com.

**Recommended Drilling Data | Imperial (in)****T-A DIAMOND COATED | CARBIDE**

ISO	Material	Carbide Grade	Speed (SFM) Diamond Coating	Feed Rate (IPR) by Diameter			
				Y/Z Series 0.3740" - 0.5109"	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"
A30 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	Aluminum	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

❖ 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.

$$200 \bullet 0.75 = 150 \text{ SFM}$$

$$0.008 \bullet 0.90 = 0.007 \text{ IPR}$$

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 available through our Application Engineering department. See adjustment examples above.

⚠ 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 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: appeng@alliedmachine.com.

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

**Coolant Recommendations | Metric (mm)****T-A | HIGH-SPEED STEEL**

ISO	Material	Pressure or Flow Rate	Y/Z Series	0 Series	1 Series	2 Series	3 Series	4 Series	5 - 8 Series
			9.50 mm - 12.97 mm	12.98 mm - 17.67 mm	17.53 mm - 24.40 mm	24.41 mm - 35.06 mm	34.37 mm - 47.82 mm	46.99 mm - 65.30 mm	62.38 mm - 114.48 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, 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, 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
M	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, 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
	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
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 Aluminum	BAR	14.5	12.4	15.8	11	8.6	3.5	5.5
		LPM	10	14	23	34	61	125	159
	Wrought Aluminum	BAR	14.5	12.4	15.8	11	8.6	3.5	5.5
		LPM	10	14	23	34	61	125	159
	Aluminum 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
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
H		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98	125
	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

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

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.

$$12 \times 3 = 36 \text{ bar}$$

$$22 \times 3 = 66 \text{ LPM}$$

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.

⚠ 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 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: appeng@alliedmachine.com.



Coolant Recommendations | Metric (mm)

T-A | CARBIDE

ISO	Material	Pressure or Flow Rate	Y/Z Series	0 Series	1 Series	2 Series	3 Series
			9.50 mm - 12.97 mm	12.98 mm - 17.67 mm	17.53 mm - 24.40 mm	24.41 mm - 35.06 mm	34.37 mm - 47.82 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, 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, 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
M	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, S-3, etc.	BAR	15	5	5	3	3
		LPM	10.4	9.1	13.6	19.7	36.5
	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
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 Aluminum	BAR	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77
	Wrought Aluminum	BAR	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77
	Aluminum 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
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
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

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

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.

$$12 \bullet 3 = 36 \text{ bar}$$

$$22 \bullet 3 = 66 \text{ LPM}$$

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.

⚠ 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 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: appeng@alliedmachine.com.



Coolant Recommendations | Imperial (in)

T-A | HIGH-SPEED STEEL

ISO	Material	Pressure or Flow Rate	Y/Z Series	0 Series	1 Series	2 Series	3 Series	4 Series	5 - 8 Series
			0.3740" - 0.5109"	0.5110" - 0.6959"	0.6900" - 0.9609"	0.9610" - 1.3809"	1.3530" - 1.8829"	1.8500" - 2.5709"	2.4560" - 4.5070"
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, 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, 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
M	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, 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
K	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
N	Super Duplex Stainless Steel	PSI	171	86	75	55	51	29	45
		GPM	3	3	4	6	10	26	31
S	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
H	Cast Aluminum	PSI	210	180	230	159	125	51	80
		GPM	3	4	6	9	16	33	42
	Wrought Aluminum	PSI	210	180	230	159	125	51	80
		GPM	3	4	6	9	16	33	42
	Aluminum 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
H	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
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

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

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.

$$150 \times 3 = 450 \text{ PSI} \quad 2.4 \times 3 = 7.2 \text{ GPM}$$

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.

⚠ 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 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: appeng@alliedmachine.com.



Coolant Recommendations | Imperial (in)

T-A | CARBIDE

ISO	Material	Pressure or Flow Rate	Y/Z Series 0.3740" - 0.5109"	0 Series 0.5110" - 0.6959"	1 Series 0.6900" - 0.9609"	2 Series 0.9610" - 1.3809"	3 Series 1.3530" - 1.8829"
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, etc.	PSI	180	105	105	110	115
		GPM	2.5	2.9	4.4	8	15
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 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
M	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, S-3, etc.	PSI	155	60	55	40	35
		GPM	2.4	2.2	3.2	5	8
	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
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 Aluminum	PSI	350	319	315	284	200
		GPM	4	5	8	12	20
	Wrought Aluminum	PSI	350	319	315	284	200
		GPM	4	5	8	12	20
	Aluminum 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
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
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

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

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.

$$150 \times 3 = 450 \text{ PSI} \quad 2.4 \times 3 = 7.2 \text{ GPM}$$

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.

⚠ 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 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: appeng@alliedmachine.com.



Technical Formulas

Formulas

1.	RPM	= (3.82 • SFM) / DIA
<i>where:</i>		
	RPM	= revolutions per minute (rev/min)
	SFM	= speed (ft/min)
	DIA	= diameter of drill (inch)
2.	IPM	= RPM • IPR
<i>where:</i>		
	IPM	= inches per minute (in/min)
	RPM	= revolutions per minute (rev/min)
	IPR	= feed rate (in/rev)
3.	SFM	= RPM • 0.262 • DIA
<i>where:</i>		
	SFM	= speed (ft/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (inch)
4.	Thrust	= 153,700 • IPR • DIA • K_m
<i>where:</i>		
	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 • DIA²
<i>where:</i>		
	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)

Formulas

1.	RPM	= (318.47 • m/min) / DIA
<i>where:</i>		
	RPM	= revolutions per minute (rev/min)
	m/min	= speed (m/min)
	DIA	= diameter of drill (mm)
2.	mm/min	= RPM • mm/rev
<i>where:</i>		
	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
<i>where:</i>		
	m/min	= speed (m/min)
	RPM	= revolutions per minute (rev/min)
	DIA	= diameter of drill (mm)
4.	Thrust	= 154 • (mm/rev) • DIA • K_m
<i>where:</i>		
	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 • DIA²)/218604.8
<i>where:</i>		
	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 (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
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
Aluminum Alloy	–	0.22
Magnesium Alloy	–	0.16
High-Temperature Alloys	–	1.44
Titanium Alloy	–	0.72

Material Constants

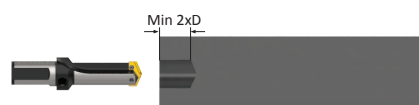
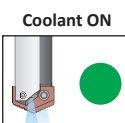
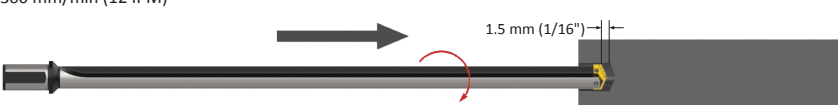
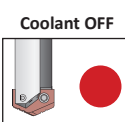
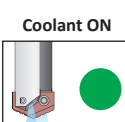
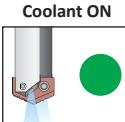
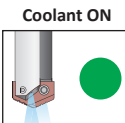
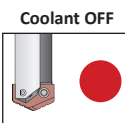
Type of Material	Hardness	K _m (kPa)
Plain Carbon and Alloy Steel	85 - 200 BHN	5.45
	200 - 275 BHN	6.48
	275 - 375 BHN	6.89
	375 - 425 BHN	7.93
Stainless Steels	135 - 275 BHN	6.48
	30 - 45 RC	7.45
Cast Iron	100 - 200 BHN	3.45
	200 - 300 BHN	7.45
Copper Alloy	20 - 80 RB	2.96
	80 - 100 RB	4.96
Aluminum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

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.”



Deep Hole Drilling Guidelines

For Lengths Greater Than 9xD (Standard Plus, Extended, Long, Long Plus, XL, 3XL, and Special Lengths)

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. Utilize a pilot drill with the same or larger included point angle.	 
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.	 
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 one second dwell is required to meet full speed before feeding.	 
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.	 
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.	 
6. Drill Retract ⚠️ 50 RPM max	Reduce speed to a maximum of 50 RPM before retracting from the hole.	 

⚠️ 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 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: appeng@alliedmachine.com.



Troubleshooting Guide

	Potential Problem																						
	Accelerated corner wear	Barber pole	Bell-mouthed 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	
⚠ Use of Standard, Standard Plus, Extended, Long, Long Plus, XL, and 3XL holders See page 146 for Deep Hole Drilling guidelines			2	3			7		9				13	14			17					● 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							● 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			● 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								● 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 workpiece support.			2		4		7			10	11				15				18			● Provide additional support for the workpiece. 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	● 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 holders more than 50 RPM unless it is engaged with the workpiece or fixture.

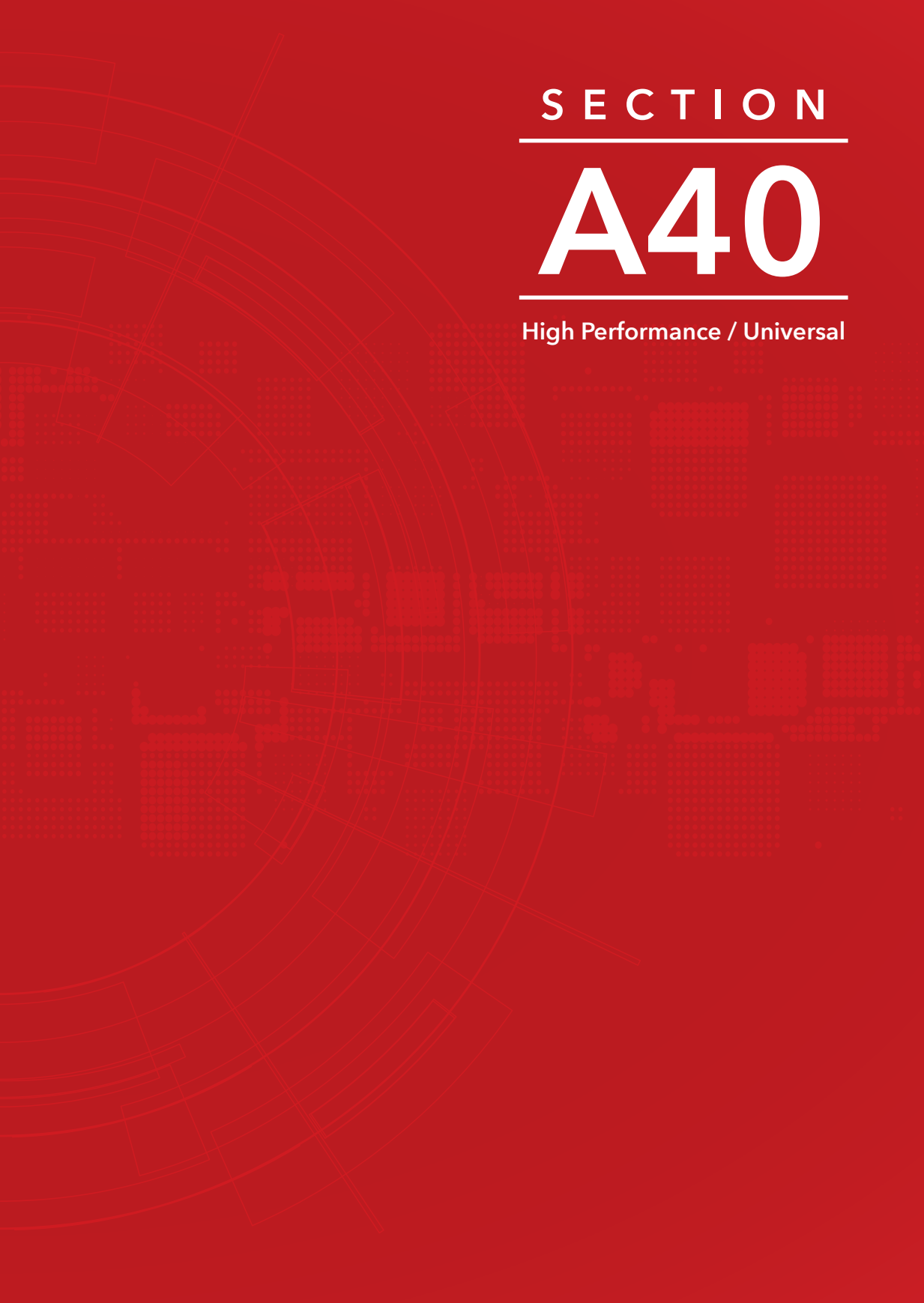
Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department: appeng@alliedmachine.com.



Troubleshooting Guide

Setup Condition	Potential Problem																					Possible Solutions
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
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			• 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	• 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 microstructure or foreign particles (forgings and castings that have not been normalized or annealed, poorly prepared steel, flame cut parts and sand casting)				4		6				10		12	13				16		19			• Compare performance of other tools for similar wear problems, which may indicate poor microstructure. Anneal or normalize parts to improve microstructure for machining. • To improve tool life in materials with poor microstructure, 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	• 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: 5 - 6 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			• 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												• Use tougher grade of T-A® (from carbide to cobalt to HSS). See wear versus toughness chart on page A30: 10. • Increase rigidity of setup.

A30

The background is a solid red color. Overlaid on this are several concentric circles and a grid of thin, light red lines. The circles are centered on the left side of the page and expand towards the right. The grid lines are horizontal and vertical, creating a subtle pattern across the entire page.

SECTION

A40

High Performance / Universal

High Performance & Universal

0.9688" - 8.5000"



High Performance and Universal

The Universal spade drill is the original design that launched Allied Machine into the holemaking industry. After the T-A® was introduced, customers who already owned the Universal style holders wanted the same benefits offered by the T-A without having to invest in an entirely new system.

The High Performance (HP) insert was created to provide similar performance as the T-A. The HP insert (along with an adapter for larger sizes) fits into existing Universal style holders.

When the customers speak, we listen.

Since the Beginning

- ▶ Utilizes ANSI specs.
- ▶ High Performance inserts for T-A benefits in Universal holders.

Applicable Industries

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

Reference Icons

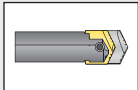
The following icons will appear throughout the catalog to help you navigate between products.



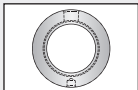
High Performance / Universal Inserts
Refers to the range of inserts that connect with the corresponding holders.



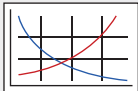
Universal Insert Coating Options
Details and overview of the different coatings available for Universal spade drill inserts.



High Performance / Universal 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 RCA part.



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

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



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

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

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

Table of Contents

Introduction Information

System Overview	
Inserts	3
Holders	4
Product Nomenclature	5

Drill Series

A Series: 0.9688" - 1.3750"	
High Performance Inserts	7
Universal Inserts	7
High Performance / Universal Insert Holders	8
B Series: 1.2500" - 1.7500"	
High Performance Inserts	9
Universal Inserts	9
High Performance / Universal Insert Holders	10
C Series: 1.5000" - 2.3750"	
High Performance Inserts	11
Universal Inserts	12
High Performance / Universal Insert Holders	13
D Series: 2.0000" - 2.8750"	
Universal Inserts	15
Universal Insert Holders	16
E Series: 2.5000" - 3.3750"	
Universal Inserts	17
Universal Insert Holders	18
F Series: 3.0000" - 3.8750"	
Universal Inserts	19
Universal Insert Holders	20
G Series: 3.5000" - 4.5000"	
Universal Inserts	21
Universal Insert Holders	22
H Series: 4.0000" - 8.5000"	
H ¹ - H ² Universal Inserts	23
H ³ - H ⁹ Universal Inserts	24
Universal Insert Holders	25

Accessories

Blade-Loc Drill Insert Holders Pipe Plugs	27
Rotary Coolant Adapters (RCA)	28

Regrind Charts

Universal Inserts	29
-------------------	----

Technical Information

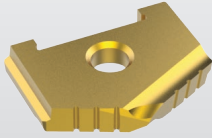
High Performance	
Recommended Drilling Data	31
Coolant Recommendations	32
Universal	
Recommended Drilling Data	33
Coolant Recommendations	34
Deep Hole Drilling Guidelines	35



System Overview

Inserts

High Performance Inserts



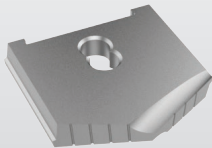
A - C Series

High Performance Inserts

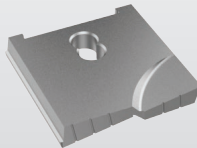
- Increase production 100 - 500% compared to uncoated Universal spade drill inserts.
- Fit into Universal style holders.
- Available in TiN and TiAlN coatings.
- Single-piece design (A - C series) eliminates the need for adapters, which maximizes tool performance in these smaller sizes.

A40

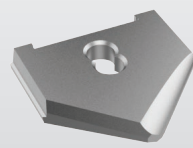
Universal Inserts



130° CPM-M4



Flat Bottom



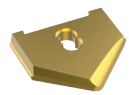
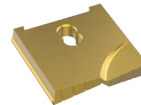
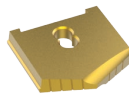
90° Spot and Chamfer

Universal Inserts

- Standard inserts stocked uncoated.
- Also available in TiN, TiAlN, and TiCN coatings, which improve tool life when compared to uncoated inserts.

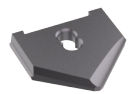
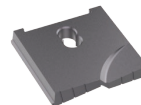
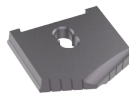
TiN Coating

Ordering Code: T Example: 10224-0116**T**



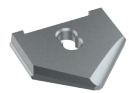
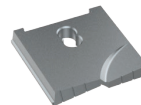
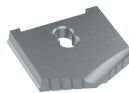
TiAlN Coating

Ordering Code: A Example: 10224-0116**A**



TiCN Coating

Ordering Code: N Example: 10224-0116**N**





System Overview

Holders



Straight Shank Holders

- Stub (#125)
- Short (#150)
- Short (#100)
- Standard (#200)
- Long (#250)



Taper Shank Holders

- Short (#300)
- Short (#300 TSC)
- Short (#400 SR)
- Standard (#500 SR)
- Long (#600 SR)
- XL (#700 SR)

A40



Product Nomenclature

High Performance Spade Drill Inserts

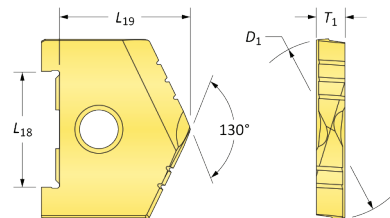
1	02	8	T	—	0406
	Material	Series	Coating		Diameter (by 1/32")
	02 = High-speed steel	1 = A series 2 = B series 3 = C series	T = TiN A = TiAlN N = TiCN		0406 = Inch 4.3593 = Decimal

Universal Spade Drill Inserts

1	02	8	4	—	0406	T
	Insert Style	Series	Material		Diameter (by 1/32")	Coating
	02 = 130° Spade 04 = Flat Bottom 12 = 90° Spot & Chamfer	1 = A series 2 = B series 3 = C series 4 = D series 5 = E series 6 = F series 7 = G series 8 = H1 - H2 series 9 = H3 - H9 series	4 = High-speed steel (SPM-M4 HSS)		0406 = Fractional 4.3593 = Decimal	Blank = Uncoated T = TiN A = TiAlN N = TiCN

Reference Key

Symbol	Attribute
D_1	Insert diameter
L_{18}	Holder locating area
L_{19}	Reference length



Series	A	B	C	D	E
$D_{1 \text{ Max}}$	0.9688"	1.2500"	1.5000"	2.0000"	2.5000"
$D_{1 \text{ Min}}$	1.2500"	1.7500"	2.3750"	2.8750"	3.3750"

Series	F	G	H1 - H2	H3 - H9
$D_{1 \text{ Max}}$	3.0000"	3.5000"	4.0000"	5.1250"
$D_{1 \text{ Min}}$	3.8750"	4.5000"	5.0000"	8.5000"



Product Nomenclature

High Performance / Universal Spade Drill Insert Holders

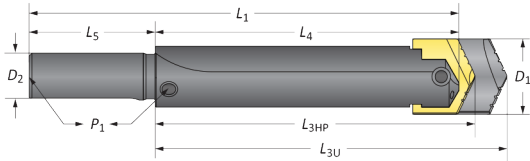
2	22	8	1 -	004
Classification		Series		Shank Designator
Straight Shank		1 = A		Straight Shank
02 = Stub #125 (NC)		2 = B		0750 = 0.750"
04 = Short #150 (NC)		3 = C		1000 = 1.000"
06 = Short #100 (C)		4 = D		1250 = 1.250"
08 = Standard #200 (C)		5 = E		1500 = 1.500"
10 = Long #250 (C) ⚠		6 = F		2000 = 2.000"
		7 = G		3000 = 3.000"
		8 = H		
Taper Shank				Taper Shank
14 = Short #300 (NC)				0002 = #2 MT
15 = Short #300 (TSC)				0003 = #3 MT
16 = Short #400 SR (RCA)				0004 = #4 MT
18 = Standard #500 SR (RCA)				0005 = #5 MT
20 = Long #600 SR (RCA) ⚠				0006 = #6 MT
22 = XL #700 SR SR (RCA) ⚠				

C = Coolant NC = No Coolant TSC = Through-Shank Coolant RCA = Rotary Coolant Adapter

A40

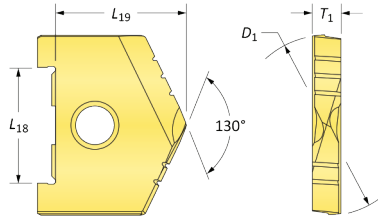
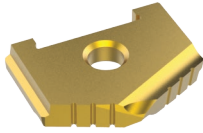
Reference Key

Symbol	Attribute
D_1	Insert diameter
D_2	Shank diameter
L_1	Overall length
L_{3HP}	Reference length (High Performance)
L_{3U}	Reference length (Universal)
L_4	Flute length
L_5	Shank length
P_1	Pipe tap

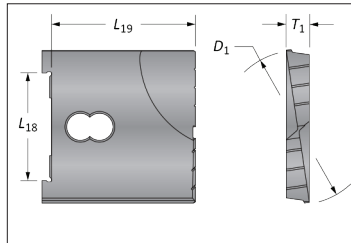
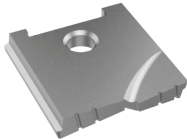
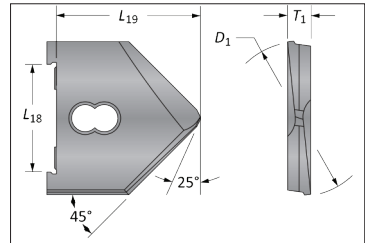


**A Series: 0.9688" - 1.3750"**

High Performance and Universal Inserts

**High Performance Inserts**

Series	D ₁ inch		Inserts				
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.	Part No.
					TiN	TiAlN	TiCN
A	0.9688	31/32	3/4	7/8	1021T-0031	1021A-0031	1021N-0031
	1.0000	1	3/4	7/8	1021T-0100	1021A-0100	1021N-0100
	1.0313	1-1/32	3/4	7/8	1021T-0101	1021A-0101	1021N-0101
	1.0625	1-1/16	3/4	7/8	1021T-0102	1021A-0102	1021N-0102
	1.0938	1-3/32	3/4	7/8	1021T-0103	1021A-0103	1021N-0103
	1.1250	1-1/8	3/4	7/8	1021T-0104	1021A-0104	1021N-0104
	1.1563	1-5/32	3/4	7/8	1021T-0105	1021A-0105	1021N-0105
	1.1875	1-3/16	3/4	7/8	1021T-0106	1021A-0106	1021N-0106
A Oversize	1.2188	1-7/32	3/4	7/8	1021T-0107	1021A-0107	1021N-0107
	1.2500	1-1/4	3/4	7/8	1021T-0108	1021A-0108	1021N-0108
	1.2813	1-9/32	3/4	7/8	1021T-0109	1021A-0109	1021N-0109
	1.3125	1-5/16	3/4	7/8	1021T-0110	1021A-0110	1021N-0110
	1.3438	1-11/32	3/4	7/8	1021T-0111	1021A-0111	1021N-0111
	1.3750	1-3/8	3/4	7/8	1021T-0112	1021A-0112	1021N-0112

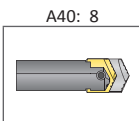
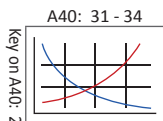
**Flat Bottom****90° Spot & Chamfer****Universal Inserts**

Series	D ₁ inch		Inserts			
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.
					Uncoated	Uncoated
A	1.0000	1	3/4	1-5/32	10414-0100	—
	1.0625	1-1/16	3/4	1-5/32	10414-0102	—
	1.1250	1-1/8	3/4	1-5/32	10414-0104	—
	1.1875	1-3/16	3/4	1-5/32	10414-0106	—
	1.2500	1-1/4	3/4	1-5/32	10414-0108	11214-0108

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

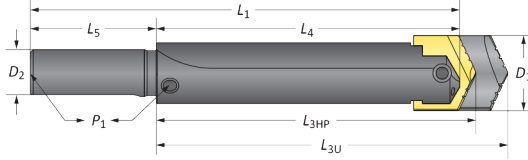
Inch:	1-3/64", High Performance (A series), TiN = 1021T-1.0469
Decimal:	1.2125", High Performance (A series), TiN = 1021T-1.2125





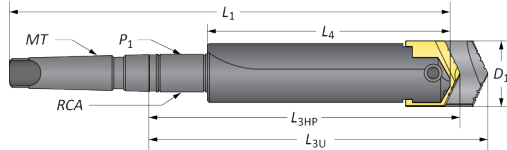
A Series: 0.9688" - 1.3750"

High Performance / Universal Insert Holders



Straight Shank Holders

Body						Shank				
Length	L_{3HP}	L_{3U}	L_4	L_1	L_5	D_2	P_1	Style	Part No.	
Short	3.250	3.531	3.000	6.500	3.500	3/4	—	#150	20411-0750	
Short	3.250	3.531	3.000	6.500	3.500	1	—	#150	20411-1000	
Short	3.250	3.531	3.000	6.500	3.500	1	1/8 NPT	#100	20611-1000	
Short	3.250	3.531	3.000	6.500	3.500	1-1/2	1/8 NPT	#100	20611-1500	
Standard	8.000	8.281	7.750	11.250	3.500	3/4	1/8 NPT	#200	20811-0750	
Standard	8.000	8.281	7.750	11.250	3.500	1	1/8 NPT	#200	20811-1000	
Standard	8.000	8.281	7.750	11.250	3.500	1-1/2	1/8 NPT	#200	20811-1500	
Long	15.250	15.531	15.000	18.500	3.500	1	1/8 NPT	#250	21011-1000	



Taper Shank Holders

	Body					Shank				Part No.
	Length	L_{3HP}	L_{3U}	L_4	L_1	MT	P_1	RCA	Style	
	Short	3.437	3.719	3.000	6.875	#3 MT	—	—	#300	21411-0003
	Short	3.500	3.719	3.000	7.875	#4 MT	—	—	#300	21411-0004
	Short	3.437	3.719	3.000	6.875	#3 MT	—	—	#300 TSC	21511-0003*
I	Short	5.188	5.469	3.000	9.563	#4 MT	1/4 NPT	2T-4SR	#400 SR	21611-0004
	Standard	9.938	10.219	7.750	14.313	#4 MT	1/4 NPT	2T-4SR	#500 SR	21811-0004
	Long	17.188	17.469	15.000	21.563	#4 MT	1/4 NPT	2T-4SR	#600 SR	22011-0004
	XL	23.188	23.469	21.000	27.563	#4 MT	1/4 NPT	2T-4SR	#700 SR	22211-0004

*Through-shank coolant, coolant inlet diameter = 1/4".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
1.250	2.500	1.375	3/8" - 16	1/4 NPT	2T-4SR	Kit Part No.	Replacements
						2T1-4SR	2T1-4OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

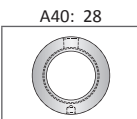
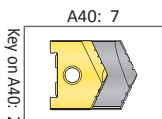
Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
Part No.	Key	Part No.	Key	Part No.	Key	Part No.	Key
772074-1	5/64"	—	—	710004-1	5/32"	710006-1	7/32"

ⓘ = Imperial (in)

Ⓜ = Metric (mm)

O-rings sold in packs of 10.

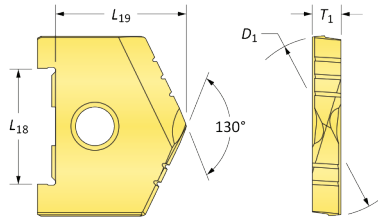
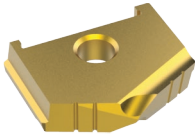


WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



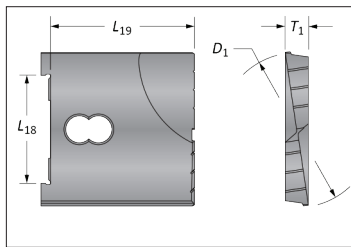
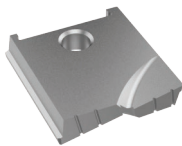
B Series: 1.2500" - 1.7500"

High Performance and Universal Inserts

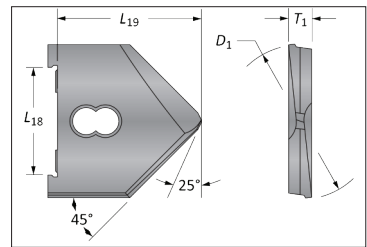


High Performance Inserts

Series	D ₁ inch		Inserts				
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.	Part No.
					TiN	TiAlN	TiCN
B	1.2500	1-1/4	1-1/16	1-3/32	1022T-0108	1022A-0108	1022N-0108
	1.2813	1-9/32	1-1/16	1-3/32	1022T-0109	1022A-0109	1022N-0109
	1.3125	1-5/16	1-1/16	1-3/32	1022T-0110	1022A-0110	1022N-0110
	1.3438	1-11/32	1-1/16	1-3/32	1022T-0111	1022A-0111	1022N-0111
	1.3750	1-3/8	1-1/16	1-3/32	1022T-0112	1022A-0112	1022N-0112
	1.4063	1-13/32	1-1/16	1-3/32	1022T-0113	1022A-0113	1022N-0113
	1.4375	1-7/16	1-1/16	1-3/32	1022T-0114	1022A-0114	1022N-0114
	1.4688	1-15/32	1-1/16	1-3/32	1022T-0115	1022A-0115	1022N-0115
B Oversize	1.5000	1-1/2	1-1/16	1-3/32	1022T-0116	1022A-0116	1022N-0116
	1.5313	1-17/32	1-1/16	1-3/32	1022T-0117	1022A-0117	1022N-0117
	1.5625	1-9/16	1-1/16	1-3/32	1022T-0118	1022A-0118	1022N-0118
	1.5938	1-19/32	1-1/16	1-3/32	1022T-0119	1022A-0119	1022N-0119
	1.6250	1-5/8	1-1/16	1-3/32	1022T-0120	1022A-0120	1022N-0120
	1.6563	1-21/32	1-1/16	1-3/32	1022T-0121	1022A-0121	1022N-0121
	1.6875	1-11/16	1-1/16	1-3/32	1022T-0122	1022A-0122	1022N-0122
	1.7188	1-23/32	1-1/16	1-3/32	1022T-0123	1022A-0123	1022N-0123
	1.7500	1-3/4	1-1/16	1-3/32	1022T-0124	1022A-0124	1022N-0124



Flat Bottom



90° Spot & Chamfer

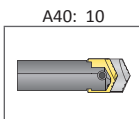
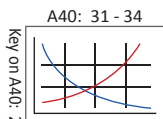
Universal Inserts

Series	D ₁ inch		Inserts		Flat Bottom 	90° Spot & Chamfer 
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.
					Uncoated	Uncoated
B	1.2500	1-1/4	1-1/16	1-13/32	10424-0108	—
	1.3125	1-5/16	1-1/16	1-13/32	10424-0110	—
	1.3750	1-3/8	1-1/16	1-13/32	10424-0112	—
	1.4375	1-7/16	1-1/16	1-13/32	10424-0114	—
	1.5000	1-1/2	1-1/16	1-13/32	10424-0116	11224-0116

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

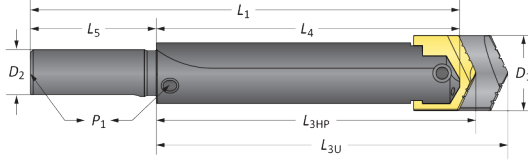
Inch:	1-21/64", High Performance (B series), TiN = 1022T-1.3281
Decimal:	1.4500", High Performance (B series), TiN = 1022T-1.4500





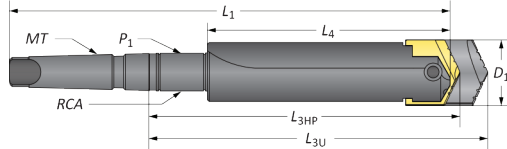
B Series: 1.2500" - 1.7500"

High Performance / Universal Insert Holders



Straight Shank Holders

Body						Shank				
Length	L_{3HP}	L_{3U}	L_4	L_1	L_5	D_2	P_1	Style	Part No.	
Short	3.781	4.094	3.500	7.000	3.500	1	—	#150	20421-1000	
Short	3.781	4.094	3.500	7.000	3.500	1	1/4 NPT	#100	20621-1000	
Short	3.781	4.094	3.500	7.000	3.500	1-1/4	1/4 NPT	#100	20621-1250	
Short	3.781	4.094	3.500	7.000	3.500	1-1/2	1/4 NPT	#100	20621-1500	
Standard	8.406	8.719	8.125	11.625	3.500	1	1/4 NPT	#200	20821-1000	
Standard	8.406	8.719	8.125	11.625	3.500	1-1/4	1/4 NPT	#200	20821-1250	
Standard	8.406	8.719	8.125	11.625	3.500	1-1/2	1/4 NPT	#200	20821-1500	
Long	15.281	15.594	15.000	18.500	3.500	1-1/4	1/4 NPT	#250	⚠ 21021-1250	



Taper Shank Holders

	Body					Shank				Part No.
	Length	L_{3HP}	L_{3U}	L_4	L_1	MT	P_1	RCA	Style	
①	Short	3.969	4.281	3.500	7.375	#3 MT	—	—	#300	21421-0003
	Short	4.031	4.344	3.500	8.375	#4 MT	—	—	#300	21421-0004
	Short	4.031	4.344	3.500	8.375	#4 MT	—	—	#300 TSC	21521-0004*
	Short	5.719	6.031	3.500	10.063	#4 MT	1/4 NPT	2T-4SR	#400 SR	21621-0004
	Standard	10.344	10.656	8.125	14.688	#4 MT	1/4 NPT	2T-4SR	#500 SR	21821-0004
	Long	17.219	17.531	15.000	21.563	#4 MT	1/4 NPT	2T-4SR	#600 SR	22021-0004
	XL	24.219	24.531	22.000	28.563	#4 MT	1/4 NPT	2T-4SR	#700 SR	22221-0004

*Through-shank coolant, coolant inlet diameter = 5/16".

Rotary Coolant Adapter (RCA) and Accessories

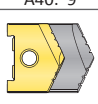
ID	OD	L_1	Driving Rod Thread	P_1	Part No.	Kit Part No.	RCA O-Rings
1.250	2.500	1.375	3/8" - 16	1/4 NPT	2T-4SR	2T1-4SR	2T1-4OR-10
1.750	3.000	1.375	3/8" - 16	1/4 NPT	2T-5SR	2T1-5SR	2T1-5OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

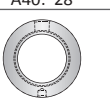
Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
Part No.	Key	Part No.	Key	Part No.	Key	Part No.	Key
772098-1	3/16"	—	—	710006-1	7/32"	710006-1	7/32"

Key on A40: 2



A40: 28



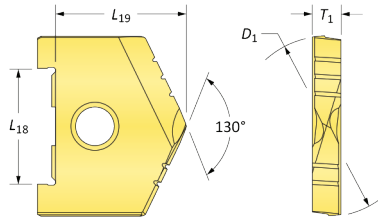
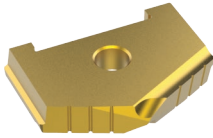
WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

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

O-rings sold in packs of 10.

**C Series: 1.5000" - 2.3750"**

High Performance Inserts



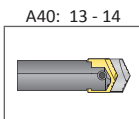
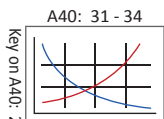
A40

Series	D ₁ inch		Inserts		 Part No.	 Part No.	 Part No.
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	TIN	TiAlN	TiCN
C	1.5000	1-1/2	1-1/4	1-19/64	1023T-0116	1023A-0116	1023N-0116
	1.5313	1-17/32	1-1/4	1-19/64	1023T-0117	1023A-0117	1023N-0117
	1.5625	1-9/16	1-1/4	1-19/64	1023T-0118	1023A-0118	1023N-0118
	1.5938	1-19/32	1-1/4	1-19/64	1023T-0119	1023A-0119	1023N-0119
	1.6250	1-5/8	1-1/4	1-19/64	1023T-0120	1023A-0120	1023N-0120
	1.6563	1-21/32	1-1/4	1-19/64	1023T-0121	1023A-0121	1023N-0121
	1.6875	1-11/16	1-1/4	1-19/64	1023T-0122	1023A-0122	1023N-0122
	1.7188	1-23/32	1-1/4	1-19/64	1023T-0123	1023A-0123	1023N-0123
	1.7500	1-3/4	1-1/4	1-19/64	1023T-0124	1023A-0124	1023N-0124
	1.7813	1-25/32	1-1/4	1-19/64	1023T-0125	1023A-0125	1023N-0125
	1.8125	1-13/16	1-1/4	1-19/64	1023T-0126	1023A-0126	1023N-0126
	1.8438	1-27/32	1-1/4	1-19/64	1023T-0127	1023A-0127	1023N-0127
	1.8750	1-7/8	1-1/4	1-19/64	1023T-0128	1023A-0128	1023N-0128
	1.9063	1-29/32	1-1/4	1-19/64	1023T-0129	1023A-0129	1023N-0129
C Oversize	1.9375	1-15/16	1-1/4	1-19/64	1023T-0130	1023A-0130	1023N-0130
	1.9688	1-31/32	1-1/4	1-19/64	1023T-0131	1023A-0131	1023N-0131
	2.0000	2	1-1/4	1-19/64	1023T-0200	1023A-0200	1023N-0200
	2.0313	2-1/32	1-1/4	1-19/64	1023T-0201	1023A-0201	1023N-0201
	2.0625	2-1/16	1-1/4	1-19/64	1023T-0202	1023A-0202	1023N-0202
	2.0938	2-3/32	1-1/4	1-19/64	1023T-0203	1023A-0203	1023N-0203
	2.1250	2-1/8	1-1/4	1-19/64	1023T-0204	1023A-0204	1023N-0204
	2.1563	2-5/32	1-1/4	1-19/64	1023T-0205	1023A-0205	1023N-0205
	2.1875	2-3/16	1-1/4	1-19/64	1023T-0206	1023A-0206	1023N-0206
	2.2188	2-7/32	1-1/4	1-19/64	1023T-0207	1023A-0207	1023N-0207
	2.2500	2-1/4	1-1/4	1-19/64	1023T-0208	1023A-0208	1023N-0208
	2.2813	2-9/32	1-1/4	1-19/64	1023T-0209	1023A-0209	1023N-0209
	2.3125	2-5/16	1-1/4	1-19/64	1023T-0210	1023A-0210	1023N-0210
	2.3438	2-11/32	1-1/4	1-19/64	1023T-0211	1023A-0211	1023N-0211
	2.3750	2-3/8	1-1/4	1-19/64	1023T-0212	1023A-0212	1023N-0212

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

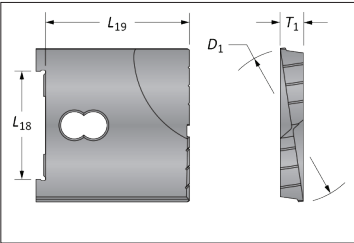
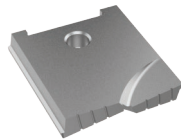
Inch:	1-63/64", High Performance (C series), TiN = 1023T-1.9844
Decimal:	1.9763", High Performance (C series), TiN = 1023T-1.9763



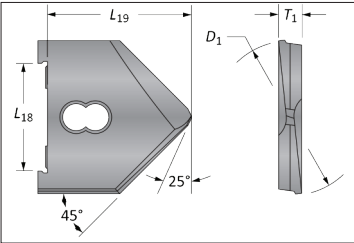


C Series: 1.5000" - 2.3750"

Universal Inserts



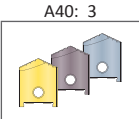
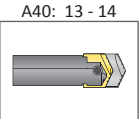
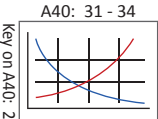
Flat Bottom



90° Spot & Chamfer

Series	D_1 inch		Inserts		Flat Bottom	90° Spot & Chamfer
					 Part No.	 Part No.
	Decimal	Fractional Equivalent	L_{18}	L_{19}	Uncoated	Uncoated
C	1.5000	1-1/2	1-1/4	2	10434-0116	—
	1.5625	1-9/16	1-1/4	2	10434-0118	—
	1.6250	1-5/8	1-1/4	2	10434-0120	—
	1.6875	1-11/16	1-1/4	2	10434-0122	—
	1.7500	1-3/4	1-1/4	2	10434-0124	—
	1.8125	1-13/16	1-1/4	2	10434-0126	—
	1.8750	1-7/8	1-1/4	2	10434-0128	—
	1.9375	1-15/16	1-1/4	2	10434-0130	—
	2.0000	2	1-1/4	2	10434-0200	11234-0200

A40

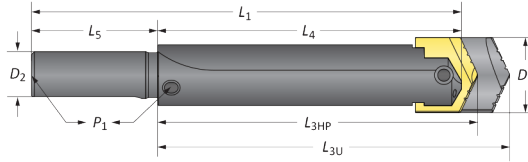


Inserts sold in quantities of 1.



C Series: 1.5000" - 2.3750"

High Performance / Universal Insert Holders



Straight Shank Holders

Body						Shank				Part No.
Length	L_{3HP}	L_{3U}	L_4	L_1	L_5	D_2	P_1	Style		
Stub	2.297	3.000	2.000	6.000	4.000	1-1/2	—	#125	20231-1500	
Short	4.297	5.000	4.000	8.000	4.000	1-1/4	—	#150	20431-1250	
Short	4.297	5.000	4.000	8.000	4.000	1-1/4	1/4 NPT	#100	20631-1250	
Short	4.297	5.000	4.000	8.000	4.000	1-1/2	1/4 NPT	#100	20631-1500	
Standard	8.797	9.500	8.500	12.500	4.000	1-1/4	1/4 NPT	#200	20831-1250	
Standard	8.797	9.500	8.500	12.500	4.000	1-1/2	1/4 NPT	#200	20831-1500	
Long	18.297	19.000	18.000	22.000	4.000	1-1/2	1/4 NPT	#250	21031-1500	

A40

Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
Part No.	Key	Part No.	Key	Part No.	Key	Part No.	Key
772074-1	5/64"	—	—	710004-1	5/32"	710006-1	7/32"

i = Imperial (in)

m = Metric (mm)

O-rings sold in packs of 10.

A40: 11 - 12

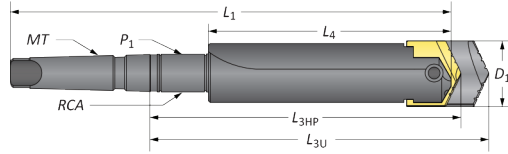


WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



C Series: 1.5000" - 2.3750"

High Performance / Universal Insert Holders



Taper Shank Holders

Body						Shank				
Length	L_{3HP}	L_{3U}	L_4	L_1	MT	P_1	RCA	Style	Part No.	
Short	4.547	5.250	4.000	8.875	#4 MT	—	—	#300	21431-0004	
Short	4.547	5.250	4.000	8.875	#4 MT	—	—	#300 TSC	21531-0004*	
Short	4.547	5.250	4.000	10.125	#5 MT	—	—	#300 TSC	21531-0005*	
Short	6.234	6.938	4.000	10.563	#4 MT	1/4 NPT	2T-4SR	#400 SR	21631-0004	
①	Standard	10.734	11.438	8.500	15.063	#4 MT	1/4 NPT	2T-4SR	#500 SR	21831-0004
	Standard	10.734	11.438	8.500	16.313	#5 MT	1/4 NPT	2T-5SR	#500 SR	21831-0005
	Long	20.234	20.938	18.000	24.563	#4 MT	1/4 NPT	2T-4SR	#600 SR	⚠ 22031-0004
	Long	20.234	20.938	18.000	25.813	#5 MT	1/4 NPT	2T-5SR	#600 SR	⚠ 22031-0005
	XL	28.234	28.938	26.000	32.563	#4 MT	1/4 NPT	2T-4SR	#700 SR	⚠ 22231-0004
	XL	28.234	28.938	26.000	33.813	#5 MT	1/4 NPT	2T-5SR	#700 SR	⚠ 22231-0005

*Through-shank coolant, coolant inlet diameter = 5/16".

A40

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
1.250	2.500	1.375	3/8" - 16	1/4 NPT	2T-4SR	2T1-4SR	2T1-4OR-10
1.750	3.000	1.375	3/8" - 16	1/4 NPT	2T-5SR	2T1-5SR	2T1-5OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

Connection Accessories

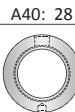
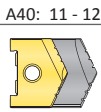
Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
				Part No.	Key	Part No.	Key
772100-1	3/16"	—	—	710006-1	7/32"	710006-1	7/32"

i = Imperial (in)

m = Metric (mm)

O-rings sold in packs of 10.

Key on A40: 2

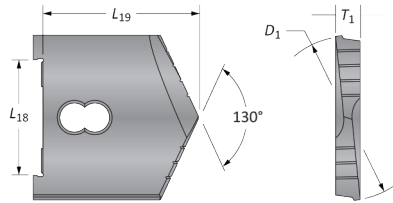
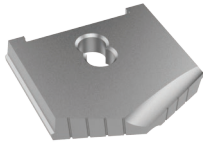


WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



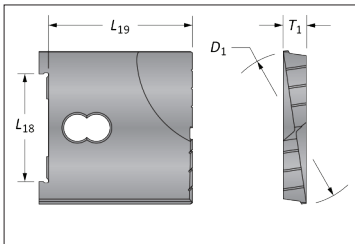
D Series: 2.0000" - 2.8750"

Universal Inserts

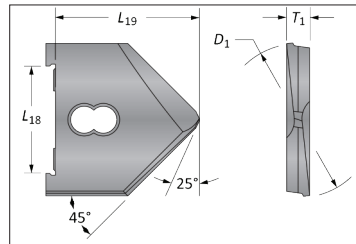


A40

Series	D ₁ inch		Inserts			Flat Bottom	90° Spot & Chamfer
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.	Part No.
					Uncoated	Uncoated	Uncoated
D	2	2.0000	1-3/4	2-3/8	10244-0200	10444-0200	—
	2-1/32	2.0313	1-3/4	2-3/8	10244-0201	—	—
	2-1/16	2.0625	1-3/4	2-3/8	10244-0202	10444-0202	—
	2-3/32	2.0938	1-3/4	2-3/8	10244-0203	—	—
	2-1/8	2.1250	1-3/4	2-3/8	10244-0204	10444-0204	—
	2-5/32	2.1563	1-3/4	2-3/8	10244-0205	—	—
	2-3/16	2.1875	1-3/4	2-3/8	10244-0206	10444-0206	—
	2-7/32	2.2188	1-3/4	2-3/8	10244-0207	—	—
	2-1/4	2.2500	1-3/4	2-3/8	10244-0208	10444-0208	—
	2-9/32	2.2813	1-3/4	2-3/8	10244-0209	—	—
	2-5/16	2.3125	1-3/4	2-3/8	10244-0210	10444-0210	—
	2-11/32	2.3438	1-3/4	2-3/8	10244-0211	—	—
	2-3/8	2.3750	1-3/4	2-3/8	10244-0212	10444-0212	—
	2-13/32	2.4063	1-3/4	2-3/8	10244-0213	—	—
	2-7/16	2.4375	1-3/4	2-3/8	10244-0214	10444-0214	—
	2-15/32	2.4688	1-3/4	2-3/8	10244-0215	—	—
D Oversize	2-1/2	2.5000	1-3/4	2-3/8	10244-0216	10444-0216	11244-0216
	2-17/32	2.5313	1-3/4	2-3/8	10244-0217	—	—
	2-9/16	2.5625	1-3/4	2-3/8	10244-0218	—	—
	2-19/32	2.5938	1-3/4	2-3/8	10244-0219	—	—
	2-5/8	2.6250	1-3/4	2-3/8	10244-0220	—	—
	2-21/32	2.6563	1-3/4	2-3/8	10244-0221	—	—
	2-11/16	2.6875	1-3/4	2-3/8	10244-0222	—	—
	2-23/32	2.7188	1-3/4	2-3/8	10244-0223	—	—
	2-3/4	2.7500	1-3/4	2-3/8	10244-0224	—	—
	2-25/35	2.7813	1-3/4	2-3/8	10244-0225	—	—
	2-13/16	2.8125	1-3/4	2-3/8	10244-0226	—	—
	2-27/32	2.8438	1-3/4	2-3/8	10244-0227	—	—
	2-7/8	2.8750	1-3/4	2-3/8	10244-0228	—	—



Flat Bottom

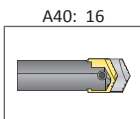
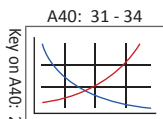


90° Spot & Chamfer

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

Inch:	2-21/64", Universal (D series), 130° CPM-M4 = 10244-2.3281
Decimal:	2.4500", Universal (D series), 130° CPM-M4 = 10244-2.4500



A40: 16

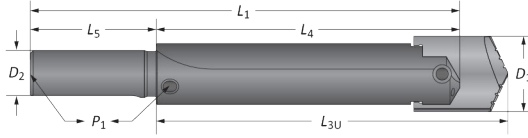


A40: 3



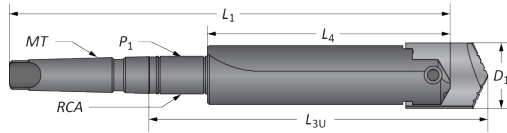
D Series: 2.0000" - 2.8750"

Universal Insert Holders



Straight Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	L ₅	D ₂	P ₁		
i	Stub	3.250	2.250	6.250	4.000	1-1/2	—	#125	20241-1500
	Short	5.500	4.500	8.500	4.000	1-1/2	—	#150	20441-1500
	Short	5.500	4.500	8.500	4.000	1-1/2	1/4 NPT	#100	20641-1500
	Standard	10.000	9.000	13.000	4.000	1-1/2	1/4 NPT	#200	20841-1500
	Long	19.000	18.000	22.000	4.000	1-1/2	1/4 NPT	#250	21041-1500



Taper Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	MT	P ₁	RCA		
i	Short	5.750	4.500	9.375	#4 MT	—	—	#300	21441-0004
	Short	5.750	4.500	10.625	#5 MT	—	—	#300	21441-0005
	Short	5.750	4.500	9.375	#4 MT	—	—	#300 TSC	21541-0004*
	Short	7.438	4.500	11.063	#4 MT	1/4 NPT	2T-4SR	#400 SR	21641-0004
	Standard	11.938	9.000	15.563	#4 MT	1/4 NPT	2T-4SR	#500 SR	21841-0004
	Standard	11.938	9.000	16.813	#5 MT	1/4 NPT	2T-5SR	#500 SR	21841-0005
	Long	20.938	18.000	24.563	#4 MT	1/4 NPT	2T-4SR	#600 SR	22041-0004
	Long	20.938	18.000	25.813	#5 MT	1/4 NPT	2T-5SR	#600 SR	22041-0005
	XL	30.938	28.000	34.563	#4 MT	1/4 NPT	2T-4SR	#700 SR	22241-0004
	XL	30.938	28.000	35.813	#5 MT	1/4 NPT	2T-5SR	#700 SR	22241-0005

*Through-shank coolant, coolant inlet diameter = 5/16".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
1.250	2.500	1.375	3/8" - 16	1/4 NPT	2T-4SR	2T1-4SR	2T1-4OR-10
1.750	3.000	1.375	3/8" - 16	1/4 NPT	2T-5SR	2T1-5SR	2T1-5OR-10

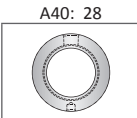
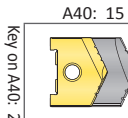
Refer to page A40: 28 for proper RCA assembly and safety information.

Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
				Part No.	Key	Part No.	Key
772160-1	7/16"	724050-1	1/8"	710006-1	7/32"	710006-1	7/32"

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

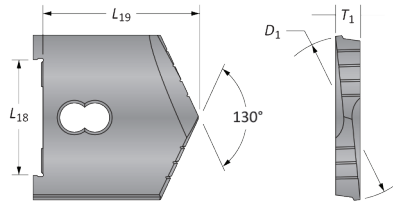
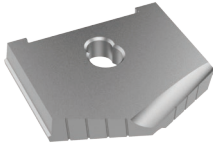
O-rings sold in packs of 10.



WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. 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.

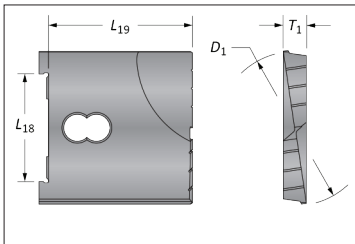
**E Series: 2.5000" - 3.3750"**

Universal Inserts

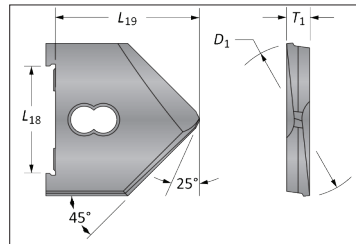


A40

Series	D ₁ inch		Inserts				
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Part No.	Part No.	Part No.
					Uncoated	Uncoated	Uncoated
E	2-1/2	2.5000	2-1/16	2-5/8	10254-0216	10454-0216	—
	2-17/32	2.5313	2-1/16	2-5/8	10254-0217	—	—
	2-9/16	2.5625	2-1/16	2-5/8	10254-0218	10454-0218	—
	2-19/32	2.5938	2-1/16	2-5/8	10254-0219	—	—
	2-5/8	2.6250	2-1/16	2-5/8	10254-0220	10454-0220	—
	2-21/32	2.6563	2-1/16	2-5/8	10254-0221	—	—
	2-11/16	2.6875	2-1/16	2-5/8	10254-0222	10454-0222	—
	2-23/32	2.7188	2-1/16	2-5/8	10254-0223	—	—
	2-3/4	2.7500	2-1/16	2-5/8	10254-0224	10454-0224	—
	2-25/32	2.7813	2-1/16	2-5/8	10254-0225	—	—
	2-13/16	2.8125	2-1/16	2-5/8	10254-0226	10454-0226	—
	2-27/32	2.8438	2-1/16	2-5/8	10254-0227	—	—
	2-7/8	2.8750	2-1/16	2-5/8	10254-0228	10454-0228	—
	2-29/32	2.9063	2-1/16	2-5/8	10254-0229	—	—
	2-15/16	2.9375	2-1/16	2-5/8	10254-0230	10454-0230	—
	2-31/32	2.9688	2-1/16	2-5/8	10254-0231	—	—
E Oversize	3	3.0000	2-1/16	2-5/8	10254-0300	10454-0300	11254-0300
	3-1/32	3.0313	2-1/16	2-5/8	10254-0301	—	—
	3-1/16	3.0625	2-1/16	2-5/8	10254-0302	—	—
	3-3/32	3.0938	2-1/16	2-5/8	10254-0303	—	—
	3-1/8	3.1250	2-1/16	2-5/8	10254-0304	—	—
	3-5/32	3.1563	2-1/16	2-5/8	10254-0305	—	—
	3-3/16	3.1875	2-1/16	2-5/8	10254-0306	—	—
	3-7/32	3.2188	2-1/16	2-5/8	10254-0307	—	—
	3-1/4	3.2500	2-1/16	2-5/8	10254-0308	—	—
	3-9/32	3.2813	2-1/16	2-5/8	10254-0309	—	—
	3-5/16	3.3125	2-1/16	2-5/8	10254-0310	—	—
	3-11/32	3.3438	2-1/16	2-5/8	10254-0311	—	—
	3-3/8	3.3750	2-1/16	2-5/8	10254-0312	—	—



Flat Bottom

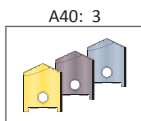
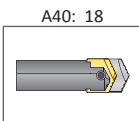
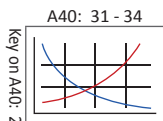


90° Spot & Chamfer

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

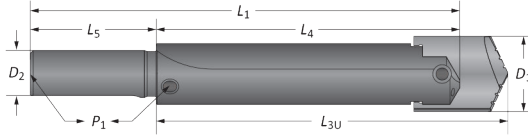
Inch:	2-63/64", Universal (E series), 130° CPM-M4 = 10254-2.9844
Decimal:	2.9763", Universal (E series), 130° CPM-M4 = 10254-2.9763





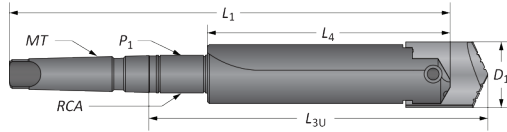
E Series: 2.5000" - 3.3750"

Universal Insert Holders



Straight Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	L ₅	D ₂	P ₁		
i	Stub	3.563	2.500	6.500	4.000	2	—	#125	20251-2000
	Short	6.063	5.000	9.000	4.000	1-3/4	—	#150	20451-1750
	Short	6.063	5.000	9.000	4.000	1-3/4	1/2 NPT	#100	20651-1750
	Standard	11.063	10.000	14.000	4.000	2	1/2 NPT	#200	20851-2000
	Long	21.063	20.000	24.000	4.000	2	1/2 NPT	#250	21051-2000



Taper Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	MT	P ₁	RCA		
i	Short	6.313	5.000	9.875	#4 MT	—	—	#300	21451-0004
	Short	6.313	5.000	11.125	#5 MT	—	—	#300	21451-0005
	Short	6.313	5.000	11.125	#5 MT	—	—	#300 TSC	21551-0005*
	Short	8.626	5.000	13.438	#5 MT	1/2 NPT	2T-6SR	#400 SR	21651-0005
	Standard	13.626	10.000	18.438	#5 MT	1/2 NPT	2T-6SR	#500 SR	21851-0005
	Long	23.626	20.000	28.438	#5 MT	1/2 NPT	2T-6SR	#600 SR	22051-0005
	XL	33.626	30.000	38.438	#5 MT	1/2 NPT	2T-6SR	#700 SR	22251-0005

*Through-shank coolant, coolant inlet diameter = 3/8".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
2.250	3.750	1.750	1/2" - 13	1/2 NPT	2T-6SR	2T1-6SR	2T1-6OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

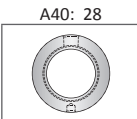
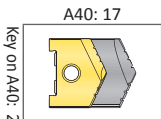
Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
				Part No.	Key	Part No.	Key
772232-1	3/8"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"

i = Imperial (in)

m = Metric (mm)

O-rings sold in packs of 10.

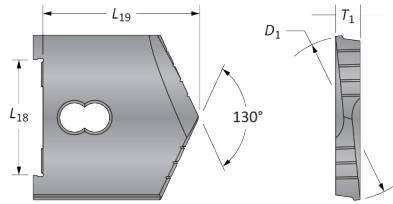
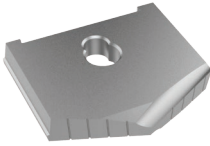


WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.



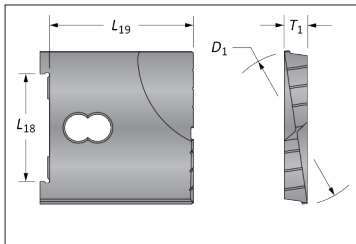
F Series: 3.0000" - 3.8750"

Universal Inserts

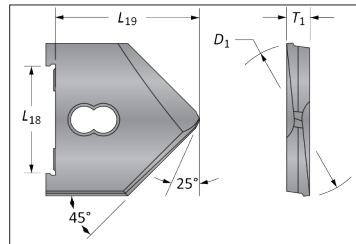


A40

Series	D ₁ inch		Inserts				
					Part No.	Part No.	Part No.
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Uncoated	Uncoated	Uncoated
F	3	3.0000	2-5/8	3-1/8	10264-0300	10464-0300	—
	3-1/32	3.0313	2-5/8	3-1/8	10264-0301	—	—
	3-1/16	3.0625	2-5/8	3-1/8	10264-0302	10464-0302	—
	3-3/32	3.0938	2-5/8	3-1/8	10264-0303	—	—
	3-1/8	3.1250	2-5/8	3-1/8	10264-0304	10464-0304	—
	3-5/32	3.1563	2-5/8	3-1/8	10264-0305	—	—
	3-3/16	3.1875	2-5/8	3-1/8	10264-0306	10464-0306	—
	3-7/32	3.2188	2-5/8	3-1/8	10264-0307	—	—
	3-1/4	3.2500	2-5/8	3-1/8	10264-0308	—	—
	3-9/32	3.2813	2-5/8	3-1/8	10264-0309	—	—
	3-5/16	3.3125	2-5/8	3-1/8	10264-0310	10464-0310	—
	3-11/32	3.3438	2-5/8	3-1/8	10264-0311	—	—
	3-3/8	3.3750	2-5/8	3-1/8	10264-0312	—	—
	3-13/32	3.4063	2-5/8	3-1/8	10264-0313	—	—
	3-7/16	3.4375	2-5/8	3-1/8	10264-0314	10464-0314	—
	3-15/32	3.4688	2-5/8	3-1/8	10264-0315	—	—
3-1/2	3.5000	2-5/8	3-1/8	10264-0316	10464-0316	11264-0316	
F Oversize	3-17/32	3.5313	2-5/8	3-1/8	10264-0317	—	—
	3-9/16	3.5625	2-5/8	3-1/8	10264-0318	—	—
	3-19/32	3.5938	2-5/8	3-1/8	10264-0319	—	—
	3-5/8	3.6250	2-5/8	3-1/8	10264-0320	—	—
	3-21/32	3.6563	2-5/8	3-1/8	10264-0321	—	—
	3-11/16	3.6875	2-5/8	3-1/8	10264-0322	—	—
	3-23/32	3.7188	2-5/8	3-1/8	10264-0323	—	—
	3-3/4	3.7500	2-5/8	3-1/8	10264-0324	—	—
	3-25/32	3.7813	2-5/8	3-1/8	10264-0325	—	—
	3-13/16	3.8125	2-5/8	3-1/8	10264-0326	—	—
	3-27/32	3.8438	2-5/8	3-1/8	10264-0327	—	—
	3-7/8	3.8750	2-5/8	3-1/8	10264-0328	—	—



Flat Bottom

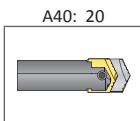
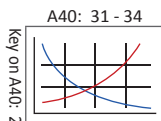


90° Spot & Chamfer

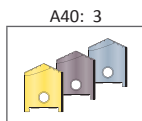
Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

Inch:	3-21/64", Universal (F series), 130° CPM-M4 = 10264-3.3281
Decimal:	3.4500", Universal (F series), 130° CPM-M4 = 10264-3.4500



A40: 20

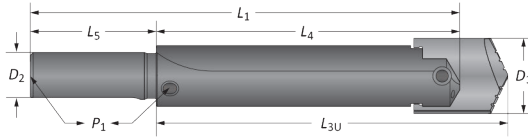


A40: 3



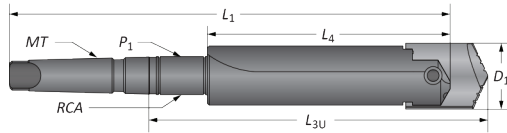
F Series: 3.0000" - 3.8750"

Universal Insert Holders



Straight Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	L ₅	D ₂	P ₁		
i	Stub	4.000	2.750	6.750	4.000	2-1/2	—	#125	20261-2500
	Short	6.750	5.500	9.500	4.000	2	—	#150	20461-2000
	Short	6.750	5.500	9.500	4.000	2	1/2 NPT	#100	20661-2000
	Short	6.750	5.500	9.500	4.000	2-1/2	1/2 NPT	#100	20661-2500
	Standard	12.750	11.500	15.500	4.000	2	1/2 NPT	#200	20861-2000
	Long	21.250	20.000	24.000	4.000	2-1/2	1/2 NPT	#250	21061-2500



Taper Shank Holders

	Body				Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	MT	P ₁	RCA		
i	Short	7.000	5.500	11.625	#5 MT	—	—	#300	21461-0005
	Short	7.000	5.500	11.625	#5 MT	—	—	#300 TSC	21561-0005*
	Short	9.313	5.500	13.938	#5 MT	1/2 NPT	2T-6SR	#400 SR	21661-0005
	Standard	15.313	11.500	19.938	#5 MT	1/2 NPT	2T-6SR	#500 SR	21861-0005
	Long	23.813	20.000	28.438	#5 MT	1/2 NPT	2T-6SR	#600 SR	22061-0005
	XL	36.813	33.000	41.438	#5 MT	1/2 NPT	2T-6SR	#700 SR	22261-0005

*Through-shank coolant, coolant inlet diameter = 3/8".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
2.250	3.750	1.750	1/2" - 13	1/2 NPT	2T-6SR	2T1-6SR	2T1-6OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

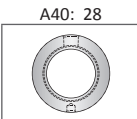
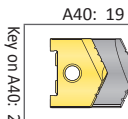
Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
				Part No.	Key	Part No.	Key
772272-1	7/16"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"

i = Imperial (in)

m = Metric (mm)

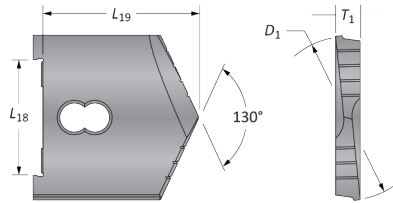
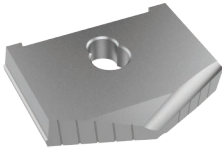
O-rings sold in packs of 10.



WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. 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.

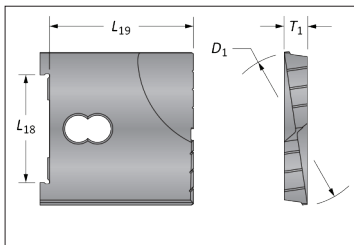
**G Series: 3.5000" - 4.5000"**

Universal Inserts

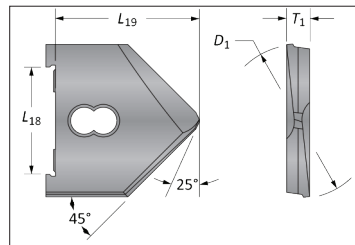


A40

Series	D ₁ inch		Inserts		 Part No.	Flat Bottom  Part No.
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Uncoated	Uncoated
G	3-1/2	3.5000	3-1/16	3-3/8	10274-0316	10474-0316
	3-17/32	3.5313	3-1/16	3-3/8	10274-0317	—
	3-9/16	3.5625	3-1/16	3-3/8	10274-0318	10474-0318
	3-19/32	3.5938	3-1/16	3-3/8	10274-0319	—
	3-5/8	3.6250	3-1/16	3-3/8	10274-0320	10474-0320
	3-21/32	3.6563	3-1/16	3-3/8	10274-0321	—
	3-11/16	3.6875	3-1/16	3-3/8	10274-0322	10474-0322
	3-23/32	3.7188	3-1/16	3-3/8	10274-0323	—
	3-3/4	3.7500	3-1/16	3-3/8	10274-0324	10474-0324
	3-25/32	3.7813	3-1/16	3-3/8	10274-0325	—
	3-13/16	3.8125	3-1/16	3-3/8	10274-0326	10474-0326
	3-27/32	3.8438	3-1/16	3-3/8	10274-0327	—
	3-7/8	3.8750	3-1/16	3-3/8	10274-0328	10474-0328
	3-29/32	3.9063	3-1/16	3-3/8	10274-0329	—
	3-15/16	3.9375	3-1/16	3-3/8	10274-0330	10474-0330
	3-31/32	3.9688	3-1/16	3-3/8	10274-0331	—
G Oversize	4	4.0000	3-1/16	3-3/8	10274-0400	10474-0400
	4-1/16	4.0625	3-1/16	3-3/8	10274-0402	—
	4-1/8	4.1250	3-1/16	3-3/8	10274-0404	—
	4-3/16	4.1875	3-1/16	3-3/8	10274-0406	—
	4-1/4	4.2500	3-1/16	3-3/8	10274-0408	—
	4-5/16	4.3125	3-1/16	3-3/8	10274-0410	—
	4-3/8	4.3750	3-1/16	3-3/8	10274-0412	—
	4-7/16	4.4375	3-1/16	3-3/8	10274-0414	—
	4-1/2	4.5000	3-1/16	3-3/8	10274-0416	—



Flat Bottom

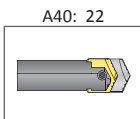
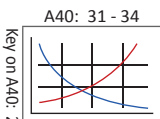


90° Spot & Chamfer

Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

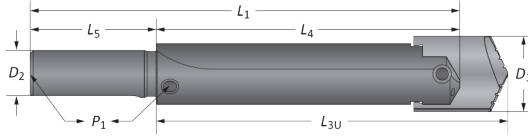
Inch:	3-63/64", Universal (G series), 130° CPM-M4 = 10274-3.9844
Decimal:	3.9763", Universal (G series), 130° CPM-M4 = 10274-3.9763





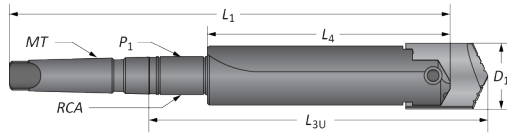
G Series: 3.5000" - 4.5000"

Universal Insert Holders



Straight Shank Holders

	Body			Shank				Style	Part No.
	Length	L_{3U}	L_4	L_1	L_5	D_2	P_1		
i	Short	7.438	6.000	11.000	2-1/2	5.000	1/2 NPT	#100	20671-2500
	Standard	14.438	13.000	18.000	2-1/2	5.000	1/2 NPT	#200	20871-2500



Taper Shank Holders

	Body			Shank			Style	Part No.
	Length	L_{3U}	L_4	L_1	MT	P_1	RCA	
i	Short	7.688	6.000	12.125	#5 MT	—	—	#300 21471-0005
	Short	7.688	6.000	12.125	#5 MT	—	—	#300 TSC 21571-0005*
	Short	10.000	6.000	14.438	#5 MT	1/2 NPT	2T-6SR	#400 SR 21671-0005
	Standard	17.000	13.000	21.438	#5 MT	1/2 NPT	2T-6SR	#500 SR 21871-0005
	Long	28.000	24.000	32.438	#5 MT	1/2 NPT	2T-6SR	#600 SR 22071-0005
	XL	41.000	37.000	45.438	#5 MT	1/2 NPT	2T-6SR	#700 SR 22271-0005

*Through-shank coolant, coolant inlet diameter = 3/8".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L_1	Driving Rod Thread	P_1	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
2.250	3.750	1.750	1/2" - 13	1/2 NPT	2T-6SR	2T1-6SR	2T1-6OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
Part No.	Key	Part No.	Key	Straight Shank		MT Shank (with RCA)	
				Part No.	Key	Part No.	Key
772312-1	5/8"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"

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

O-rings sold in packs of 10.

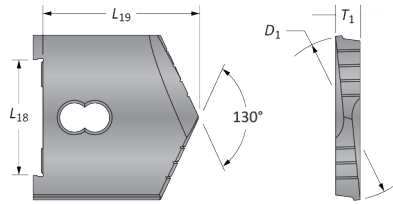
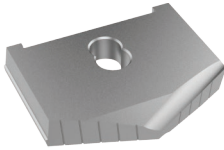
A40: 21



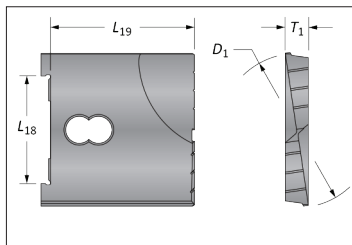
A40: 28



WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. 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.

**H Series: 4.0000" - 8.5000"**H¹ - H² Universal Inserts | Diameter Range: 4.0000" - 5.0000"**H¹ - H² Universal Inserts**

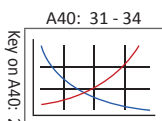
Series	D ₁ inch		Inserts		 Part No.	Flat Bottom  Part No.
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Uncoated	Uncoated
H ¹	4	4.0000	3-1/2	3-11/16	10284-0400	10484-0400
	4-1/16	4.0625	3-1/2	3-11/16	10284-0402	—
	4-1/8	4.1250	3-1/2	3-11/16	10284-0404	10484-0404
	4-3/16	4.1875	3-1/2	3-11/16	10284-0406	—
	4-1/4	4.2500	3-1/2	3-11/16	10284-0408	10484-0408
	4-5/16	4.3125	3-1/2	3-11/16	10284-0410	—
	4-3/8	4.3750	3-1/2	3-11/16	10284-0412	10484-0412
	4-7/16	4.4375	3-1/2	3-11/16	10284-0414	—
H ²	4-1/2	4.5000	3-1/2	3-11/16	10284-0416	10484-0416
	4-9/16	4.5625	3-1/2	3-11/16	10284-0418	—
	4-5/8	4.6250	3-1/2	3-11/16	10284-0420	10484-0420
	4-11/16	4.6875	3-1/2	3-11/16	10284-0422	—
	4-3/4	4.7500	3-1/2	3-11/16	10284-0424	10484-0424
	4-13/16	4.8125	3-1/2	3-11/16	10284-0426	—
	4-7/8	4.8750	3-1/2	3-11/16	10284-0428	10484-0428
	4-15/16	4.9375	3-1/2	3-11/16	10284-0430	—
	5	5.0000	3-1/2	3-11/16	10284-0500	10484-0500

**Flat Bottom**

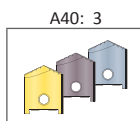
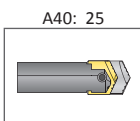
Inserts sold in quantities of 1.

Sizes not shown are available upon request. Example:

Inch:	4-21/64", Universal (H1 series), 130° CPM-M4 = 10284-4.3281
Decimal:	4.4500", Universal (H1 series), 130° CPM-M4 = 10284-4.4500



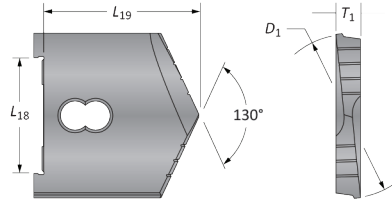
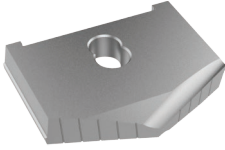
Key on A40: 2





H Series: 4.0000" - 8.5000"

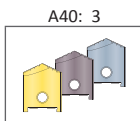
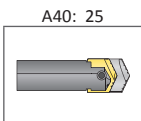
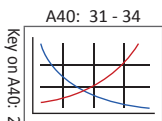
H³ - H⁹ Universal Inserts | Diameter Range: 5.0001" - 8.5000"



H³ - H⁹ Universal Inserts

Series	D ₁ inch		Inserts		Part No.
	Decimal	Fractional Equivalent	L ₁₈	L ₁₉	Uncoated
H ³	5-1/8	5.1250	3-1/2	3-11/16	10294-0504
	5-1/4	5.2500	3-1/2	3-11/16	10294-0508
	5-3/8	5.3750	3-1/2	3-11/16	10294-0512
	5-1/2	5.5000	3-1/2	3-11/16	10294-0516
H ⁴	5-5/8	5.6250	3-1/2	3-11/16	10294-0520
	5-3/4	5.7500	3-1/2	3-11/16	10294-0524
	5-7/8	5.8750	3-1/2	3-11/16	10294-0528
	6	6.0000	3-1/2	3-11/16	10294-0600
H ⁵	6-1/8	6.1250	3-1/2	3-11/16	10294-0604
	6-1/4	6.2500	3-1/2	3-11/16	10294-0608
	6-3/8	6.3750	3-1/2	3-11/16	10294-0612
	6-1/2	6.5000	3-1/2	3-11/16	10294-0616
H ⁶	6-5/8	6.6250	3-1/2	3-11/16	10294-0620
	6-3/4	6.7500	3-1/2	3-11/16	10294-0624
	6-7/8	6.8750	3-1/2	3-11/16	10294-0628
	7	7.0000	3-1/2	3-11/16	10294-0700
H ⁷	7-1/8	7.1250	3-1/2	3-11/16	10294-0704
	7-1/4	7.2500	3-1/2	3-11/16	10294-0708
	7-3/8	7.3750	3-1/2	3-11/16	10294-0712
	7-1/2	7.5000	3-1/2	3-11/16	10294-0716
H ⁸	7-5/8	7.6250	3-1/2	3-11/16	10294-0720
	7-3/4	7.7500	3-1/2	3-11/16	10294-0724
	7-7/8	7.8750	3-1/2	3-11/16	10294-0728
	8	8.0000	3-1/2	3-11/16	10294-0800
H ⁹	8-1/8	8.1250	3-1/2	3-11/16	10294-0804
	8-1/4	8.2500	3-1/2	3-11/16	10294-0808
	8-3/8	8.3750	3-1/2	3-11/16	10294-0812
	8-1/2	8.5000	3-1/2	3-11/16	10294-0816

A40



Inserts sold in quantities of 1.

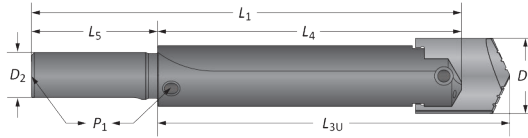
Sizes not shown are available upon request. Example:

Inch:	5-21/64", Universal (H3 series), 130° CPM-M4 = 10294-5.3281
Decimal:	5.4500", Universal (H3 series), 130° CPM-M4 = 10294-5.4500



H Series: 4.0000" - 8.5000"

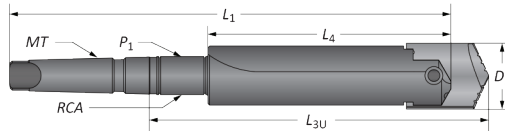
Universal Insert Holders



Straight Shank Holders

	Body			Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	L ₅	D ₂		
i	Short	8.562	7.000	13.000	2-1/2	6.000	1/2 NPT	20681-2500
	Standard	16.562	15.000	21.000	2-1/2	6.000	1/2 NPT	20881-2500

A40



Taper Shank Holders

	Body			Shank			Style	Part No.
	Length	L _{3U}	L ₄	L ₁	MT	P ₁	RCA	
i	Short	8.812	7.000	13.125	#5 MT	—	-	21481-0005
	Short	11.125	7.000	15.438	#5 MT	1/2 NPT	2T-6SR	21681-0005
	Standard	19.125	15.000	23.438	#5 MT	1/2 NPT	2T-6SR	21881-0005
	Standard	19.187	15.000	25.875	#6 MT	1/2 NPT	2T-55SR	21881-0006
	Long	28.187	24.000	34.875	#6 MT	1/2 NPT	2T-55SR	22081-0006
	XL	44.187	40.000	50.875	#6 MT	1/2 NPT	2T-55SR	22281-0006

*Through-shank coolant, coolant inlet diameter = 3/8".

Rotary Coolant Adapter (RCA) and Accessories

ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.	RCA O-Rings	
						Kit Part No.	Replacements
2.250	3.750	1.750	1/2" - 13	1/2 NPT	2T-6SR	2T1-6SR	2T1-6OR-10
2.500	4.000	1.750	1/2" - 13	1/2 NPT	2T-55SR	2T1-55SR	2T1-55OR-10

Refer to page A40: 28 for proper RCA assembly and safety information.

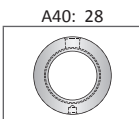
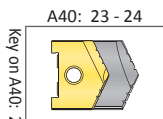
Connection Accessories

Clamping Screw		Blade-Loc Screw		Pipe Plug			
				Straight Shank		MT Shank (with RCA)	
Part No.	Key	Part No.	Key	Part No.	Key	Part No.	Key
772312-1	5/8"	724062-1	3/16"	710010-1	3/8"	710010-1	3/8"

i = Imperial (in)

m = Metric (mm)

O-rings sold in packs of 10.



WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 35 for deep hole drilling guidelines in this section of the catalog. 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.



Notes

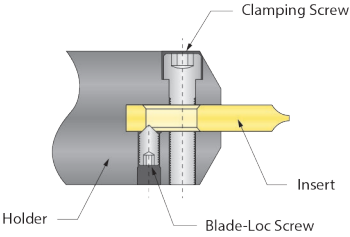
This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin, dark gray lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The background is white, and the grid lines are evenly spaced both horizontally and vertically.

A40



Accessories

Blade-Loc Drill Insert Holders | Pipe Plugs



Blade-Loc Drill Holders - Universal

- Helps align the spade drill while locking it in place.
- Protects against tool movement during the drilling cycle and when the tool is being retracted from the hole.
- Standard feature in D - H series holders.

Connection Accessories

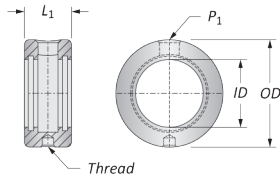
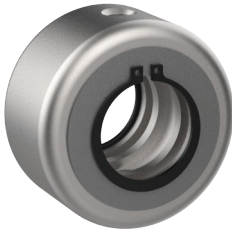
Series	 Clamping Screw		 Blade-Loc Screw		Pipe Plug			
	Part No.		Part No.		Straight Shank		MT Shank (with RCA)	
	Part No.	Key	Part No.	Key	Part No.	Key	Part No.	Key
A	772074-1	5/64"	—	—	710004-1	5/32"	710006-1	7/32"
B	772098-1	3/16"	—	—	710006-1	7/32"	710006-1	7/32"
C	772100-1	3/16"	—	—	710006-1	7/32"	710006-1	7/32"
D	772160-1	7/16"	724050-1	1/8"	710006-1	7/32"	710006-1	7/32"
E	772232-1	3/8"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"
F	772272-1	7/16"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"
G	772312-1	5/8"	724050-1	1/8"	710010-1	3/8"	710010-1	3/8"
H	772312-1	5/8"	724062-1	3/16"	710010-1	3/8"	710010-1	3/8"

A40



Accessories

Rotary Coolant Adapters (RCA)



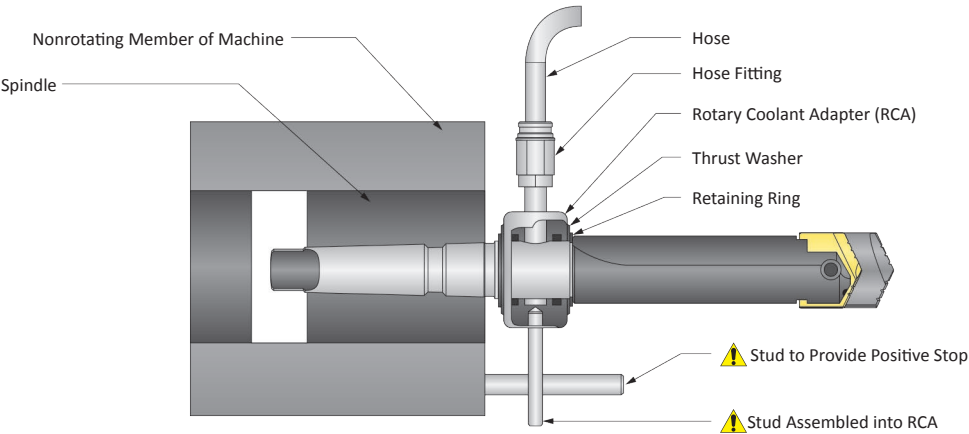
Holder Series	ID	OD	L ₁	Driving Rod Thread	P ₁	Part No.*	Max Recommended RPM	RCA O-Rings	
								Kit Part No.**	Replacements
A, B, C, D	1.250	2.500	1.375	3/8" - 16	1/4 NPT	⚠ 2T-4SR	2000	2T1-4SR	2T1-4OR-10
B, C, D	1.750	3.000	1.375	3/8" - 16	1/4 NPT	⚠ 2T-5SR	1500	2T1-5SR	2T1-5OR-10
E, F, G, H	2.250	3.750	1.750	1/2" - 13	1/2 NPT	⚠ 2T-6SR	1100	2T1-6SR	2T1-6OR-10
H	2.500	4.000	1.750	1/2" - 13	1/2 NPT	⚠ 2T-5SR	1100	2T1-5SR	2T1-5OR-10

*RCA comes complete with (1) RCA, (2) O-rings, (2) snap rings, and (2) thrust washers.

**RCA Repair Kit includes (2) O-rings, (2) snap rings, and (2) thrust washers.

NOTE: Max recommended pressure is 600 PSI (42 bar).

NOTE: Recommendations above are based on water and oil based coolants.



i = Imperial (in)

m = Metric (mm)

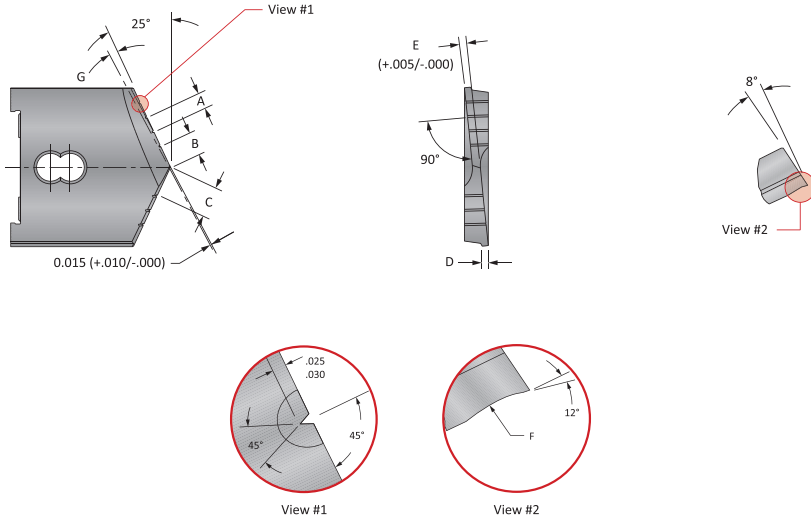
O-rings sold in packs of 10.

⚠ 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.



Regrind Charts

Universal Inserts



A40

Universal (130°) Spade Drill Inserts

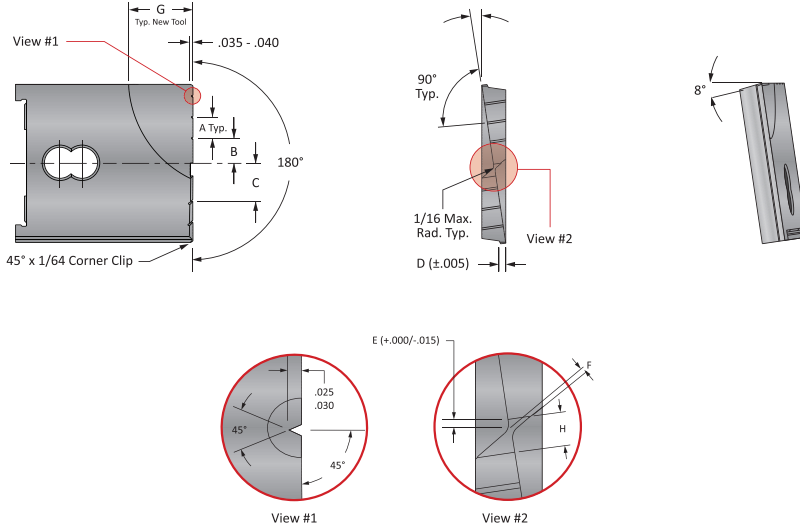
Series	Insert Thickness	Size Range	A	B	C	D	E	F	G
D	3/8	2 - 2-7/8	0.250	0.375	0.500	0.100	0.120	3/8	3°
E	7/16	2-1/2 - 3-3/8	0.300	0.437	0.587	0.100	0.140	3/8	3°
F	1/2	3 - 3-7/8	0.350	0.437	0.612	0.125	0.170	3/8	3°
G	5/8	3-1/2 - 4-1/2	0.350	0.500	0.675	0.140	0.200	3/8	3°
H ¹ - H ²	11/16	4 - 5	0.400	0.500	0.700	0.165	0.225	1/2	3°
H ³	11/16	5-1/8 - 5-1/2	0.500	0.500	0.750	0.185	0.250	1/2	3°
H ⁴ - H ⁹	11/16	5-5/8 - 8-1/2	0.500	0.500	0.750	0.185	0.250	1/2	2°

NOTE: Maintain cutting edges of the tool within 0.001" T.I.R.



Regrind Charts

Universal Inserts



Flat Bottom Spade Drill Inserts

Series	Insert Thickness	Size Range	A	B	C	D	E	F	G	H
A	3/16	31/32 - 1-3/8	0.150	0.250	0.325	0.065	1/64 - 1/32	0.075	7/16	1/8
B	9/32	1-1/4 - 1-3/4	0.200	0.250	0.350	0.070	1/64 - 1/32	0.075	1/2	1/8
C	5/16	1-1/2 - 2-3/8	0.200	0.250	0.350	0.080	1/32 - 3/64	0.075	5/8	1/8
D	3/8	2 - 2-7/8	0.300	0.375	0.525	0.100	1/32 - 3/64	0.129	7/8	3/16
E	7/16	2-1/2 - 3-3/8	0.300	0.375	0.525	0.100	1/32 - 1/16	0.129	1-1/8	3/16
F	1/2	3 - 3-7/8	0.300	0.500	0.650	0.125	1/32 - 1/16	0.156	1-1/4	1/4
G	5/8	3-1/2 - 4-1/2	0.400	0.500	0.700	0.140	1/32 - 1/16	0.156	1-1/2	1/4
H ¹ - H ²	11/16	4 - 5	0.500	0.500	0.750	0.165	1/32 - 1/16	0.156	1-1/2	1/4

NOTE: Grind cutting edge 0.005" above center line at the center of the new tool.

NOTE: Maintain flatness and height across the cutting edges of the tool within 0.001" T.I.R.



Recommended Drilling Data | Imperial (in)

HIGH PERFORMANCE | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	Speed (SFM)			Feed Rate (IPR) by Diameter			
			TiN	TiAlN	TiCN	A Series 1" - 1-1/4"	B - C Series 1-1/4" - 2"	C - E Series 2" - 3"	E - H Series 3" - 5"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	200	280	260	0.016	0.020	0.023	0.028
		150 - 200	180	260	235	0.016	0.020	0.023	0.028
		200 - 250	160	240	210	0.016	0.020	0.023	0.028
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	170	250	220	0.015	0.019	0.023	0.027
		125 - 175	160	240	210	0.015	0.019	0.023	0.027
		175 - 225	150	225	195	0.014	0.018	0.021	0.024
		225 - 275	140	210	180	0.014	0.018	0.021	0.024
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	160	240	210	0.015	0.019	0.023	0.027
		175 - 225	150	225	195	0.014	0.018	0.021	0.024
		225 - 275	140	210	180	0.014	0.018	0.021	0.024
		275 - 325	130	195	170	0.012	0.016	0.019	0.022
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	150	210	195	0.014	0.017	0.019	0.022
		175 - 225	140	195	180	0.014	0.017	0.019	0.022
		225 - 275	130	180	170	0.014	0.017	0.019	0.022
		275 - 325	120	170	155	0.012	0.015	0.017	0.020
		325 - 375	110	155	145	0.012	0.015	0.017	0.020
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	80	110	100	0.010	0.014	0.017	0.020
		300 - 350	60	85	80	0.010	0.014	0.017	0.020
		350 - 400	50	70	65	0.009	0.012	0.015	0.018
	Structural Steel A36, A285, A516, etc.	100 - 150	140	200	180	0.014	0.018	0.021	0.026
		150 - 250	120	170	155	0.012	0.016	0.019	0.024
		250 - 350	100	140	130	0.010	0.014	0.017	0.020
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	80	110	105	0.010	0.012	0.015	0.017
		200 - 250	60	90	85	0.010	0.012	0.015	0.017
M	Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185	75	105	95	0.011	0.014	0.016	0.020
		185 - 275	60	90	80	0.010	0.012	0.014	0.018
K	Cast Iron	120 - 150	170	250	220	0.020	0.024	0.027	0.030
		150 - 200	150	225	195	0.018	0.022	0.025	0.028
		200 - 220	130	195	170	0.016	0.018	0.021	0.024
		220 - 260	110	165	145	0.012	0.014	0.017	0.020
		260 - 320	90	135	120	0.009	0.012	0.014	0.016
N	Aluminum	30	600	850	750	0.020	0.022	0.025	0.025
		180	300	450	400	0.018	0.022	0.025	0.025
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	30	40	35	0.010	0.012	0.015	—
		220 - 310	25	35	30	0.008	0.010	0.012	—

A40

Deep Hole Drilling Speed and Feed Adjustment Values

	Holder Length	
	Long	XL
Speed	0.90	0.80
Feed	—	0.90

Recommended Speed and Feed Example (XL)

Data		• Adjustment Value	= Recommendation for Deep Holes
Speed	200 SFM	• 0.80	= 160 SFM
Feed	0.016 IPR	• 0.90	= 0.014 IPR

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

- When using holders without support bushing, use a short length 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: appeng@alliedmachine.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. See adjustment examples above.



Coolant Recommendations | Imperial (in)

HIGH PERFORMANCE HIGH-SPEED STEEL						
			Data by Diameter			
ISO	Material	Data Metrics	A Series 1" - 1-1/4"	B - C Series 1-1/4" - 2"	C - E Series 2" - 3"	E - H Series 3" - 5"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	Hardness (BHN)	100 - 250	100 - 250	100 - 250	100 - 250
		Coolant Pressure (PSI)	105 - 150	55 - 75	45 - 60	35 - 45
		Coolant Volumetric Flow Rate (GPM)	6.3 - 7.6	15 - 18	31 - 36	47 - 53
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	Hardness (BHN)	85 - 275	85 - 275	85 - 275	85 - 275
		Coolant Pressure (PSI)	80 - 115	45 - 55	35 - 45	30 - 35
		Coolant Volumetric Flow Rate (GPM)	5.5 - 6.6	14 - 15	28 - 31	43 - 46
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	Hardness (BHN)	125 - 325	125 - 325	125 - 325	125 - 325
		Coolant Pressure (PSI)	70 - 100	40 - 50	35 - 40	30 - 35
		Coolant Volumetric Flow Rate (GPM)	5.2 - 6.2	13 - 15	28 - 30	43 - 46
	Alloy Steel 4140, 5140, 8640, etc.	Hardness (BHN)	125 - 375	125 - 375	125 - 375	125 - 375
		Coolant Pressure (PSI)	60 - 85	30 - 40	30 - 35	25 - 30
		Coolant Volumetric Flow Rate (GPM)	4.8 - 5.7	11 - 13	26 - 28	39 - 43
	High-Strength Alloy 4340, 4330V, 300M, etc.	Hardness (BHN)	225 - 400	225 - 400	225 - 400	225 - 400
		Coolant Pressure (PSI)	25 - 30	20 - 25	20 - 25	20 - 25
		Coolant Volumetric Flow Rate (GPM)	3.1 - 3.4	9 - 10	21 - 23	35 - 39
Structural Steel A36, A285, A516, etc.	Hardness (BHN)	100 - 350	100 - 350	100 - 350	100 - 350	
	Coolant Pressure (PSI)	50 - 70	30 - 35	25 - 30	25 - 30	
	Coolant Volumetric Flow Rate (GPM)	4.4 - 5.2	11 - 12	23 - 26	39 - 43	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	Hardness (BHN)	150 - 250	150 - 250	150 - 250	150 - 250	
	Coolant Pressure (PSI)	25 - 30	20 - 25	20 - 25	20 - 25	
	Coolant Volumetric Flow Rate (GPM)	3.1 - 3.4	9 - 10	21 - 23	35 - 43	
M	Stainless Steel 303, 416, 420, 17-4 PH, etc.	Hardness (BHN)	135 - 275	135 - 275	135 - 275	135 - 275
		Coolant Pressure (PSI)	50 - 65	30 - 35	25 - 30	25 - 30
		Coolant Volumetric Flow Rate (GPM)	4.4 - 5.0	11 - 12	23 - 26	39 - 43
K	Cast Iron	Hardness (BHN)	120 - 320	120 - 320	120 - 320	120 - 320
		Coolant Pressure (PSI)	40 - 50	25 - 30	25 - 30	20 - 25
		Coolant Volumetric Flow Rate (GPM)	3.9 - 4.4	10 - 11	23 - 26	35 - 43
N	Aluminum	Hardness (BHN)	30 - 180	30 - 180	30 - 180	30 - 180
		Coolant Pressure (PSI)	150 - 220	80 - 115	60 - 80	55 - 70
		Coolant Volumetric Flow Rate (GPM)	7.6 - 9.1	19 - 22	36 - 42	59 - 66
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	Hardness (BHN)	140 - 310	140 - 310	140 - 310	140 - 310
		Coolant Pressure (PSI)	35 - 40	25 - 30	25 - 30	—
		Coolant Volumetric Flow Rate (GPM)	3.6 - 3.9	10 - 11	23 - 26	—

A40

Deep Hole Drilling Coolant Adjustment Values

	1. Holder Length	
	Long	XL
Pressure and Flow	1.3	2

Recommended Coolant Example (XL)

	Data	•	Adjustment Value	=	Recommendation for Deep Holes
Pressure	150 PSI	•	2	=	300 PSI
Flow	6.3 GPM	•	2	=	12.6 GPM

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

- When using holders without support bushing, use a short length 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: appeng@alliedmachine.com.

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at the recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the HP/Universal drilling system will still function at reduced penetration rates. Contact our Application Engineering department for more specific recommendations of coolant requirements and/or speeds and feeds.



Recommended Drilling Data | Imperial (in)

UNIVERSAL | HIGH-SPEED STEEL

ISO	Material	Hardness (BHN)	SFM	Feed Rate (IPR) by Diameter			
				A Series 1" - 1-1/4"	B - C Series 1-1/4" - 2"	C - E Series 2" - 3"	E - H Series 3" - 5"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	100	0.014	0.016	0.020	0.024
		150 - 200	90	0.013	0.015	0.019	0.022
		200 - 250	80	0.012	0.014	0.018	0.020
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	80	0.012	0.015	0.018	0.020
		125 - 175	75	0.012	0.014	0.017	0.020
		175 - 225	60	0.010	0.014	0.016	0.018
		225 - 275	55	0.010	0.013	0.016	0.018
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	65	0.010	0.014	0.018	0.020
		175 - 225	60	0.010	0.014	0.016	0.020
		225 - 275	50	0.008	0.013	0.016	0.018
		275 - 325	45	0.008	0.012	0.014	0.016
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	60	0.010	0.014	0.018	0.020
		175 - 225	55	0.010	0.014	0.016	0.020
		225 - 275	45	0.008	0.013	0.016	0.018
		275 - 325	35	0.008	0.012	0.014	0.016
		325 - 375	30	0.008	0.012	0.014	0.016
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	40	0.008	0.012	0.014	0.016
		300 - 350	30	0.006	0.010	0.014	0.016
		350 - 400	25	0.006	0.008	0.014	0.016
	Structural Steel A36, A285, A516, etc.	100 - 150	70	0.012	0.016	0.018	0.020
		150 - 250	60	0.010	0.014	0.016	0.018
		250 - 350	50	0.008	0.012	0.014	0.016
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	50	0.009	0.011	0.014	0.016
		200 - 250	40	0.008	0.010	0.013	0.015
M	Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185	45	0.008	0.012	0.015	0.018
		185 - 275	35	0.007	0.010	0.013	0.016
K	Cast Iron	120 - 150	100	0.016	0.020	0.022	0.025
		150 - 200	80	0.015	0.018	0.020	0.022
		200 - 220	70	0.011	0.014	0.018	0.020
		220 - 260	60	0.008	0.012	0.015	0.017
		260 - 320	45	0.008	0.010	0.012	0.014
N	Aluminum	30	275	0.018	0.026	0.032	0.042
		180	200	0.018	0.026	0.032	0.042
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 220	20	0.008	0.010	0.012	—
		220 - 310	15	0.007	0.009	0.011	—

A40

Deep Hole Drilling Speed and Feed Adjustment Values

	Holder Length	
	Long	XL
Speed	0.90	0.80
Feed	—	0.90

Recommended Speed and Feed Example (XL)

Data		• Adjustment Value	= Recommendation for Deep Holes
Speed	100 SFM	• 0.80	= 80 SFM
Feed	0.016 IPR	• 0.90	= 0.014 IPR

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

- When using holders without support bushing, use a short length 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: appeng@alliedmachine.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. See adjustment examples above.



Coolant Recommendations | Imperial (in)

UNIVERSAL | HIGH-SPEED STEEL

ISO	Material	Data Metrics	Data by Diameter			
			A Series 1" - 1-1/4"	B - C Series 1-1/4" - 2"	C - E Series 2" - 3"	E - H Series 3" - 5"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	Hardness (BHN)	100 - 250	100 - 250	100 - 250	100 - 250
		Coolant Pressure (PSI)	40	25	25	20
		Coolant Volumetric Flow Rate (GPM)	3.9	10	23	35
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	Hardness (BHN)	85 - 275	85 - 275	85 - 275	85 - 275
		Coolant Pressure (PSI)	30	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.4	9	21	35
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	Hardness (BHN)	125 - 325	125 - 325	125 - 325	125 - 325
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35
	Alloy Steel 4140, 5140, 8640, etc.	Hardness (BHN)	125 - 375	125 - 375	125 - 375	125 - 375
		Coolant Pressure (PSI)	20	20	20	20
		Coolant Volumetric Flow Rate (GPM)	2.8	9	21	35
	High-Strength Alloy 4340, 4330V, 300M, etc.	Hardness (BHN)	225 - 400	225 - 400	225 - 400	225 - 400
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35
M	Structural Steel A36, A285, A516, etc.	Hardness (BHN)	100 - 350	100 - 350	100 - 350	100 - 350
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	Hardness (BHN)	150 - 250	150 - 250	150 - 250	150 - 250
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35
	Stainless Steel 303, 416, 420, 17-4 PH, etc.	Hardness (BHN)	135 - 275	135 - 275	135 - 275	135 - 275
		Coolant Pressure (PSI)	25	25	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	10	21	35
	Cast Iron	Hardness (BHN)	120 - 320	120 - 320	120 - 320	120 - 320
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35
	Aluminum	Hardness (BHN)	30 - 180	30 - 180	30 - 180	30 - 180
		Coolant Pressure (PSI)	55	35	30	30
		Coolant Volumetric Flow Rate (GPM)	4.6	12	26	40
	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	Hardness (BHN)	140 - 310	140 - 310	140 - 310	140 - 310
		Coolant Pressure (PSI)	25	20	20	20
		Coolant Volumetric Flow Rate (GPM)	3.1	9	21	35

A40

Deep Hole Drilling Coolant Adjustment Values

	1. Holder Length	
	Long	XL
Pressure and Flow	1.3	2

Recommended Coolant Example (XL)

	Data	•	Adjustment Value	=	Recommendation for Deep Holes
Pressure	150 PSI	•	2	=	300 PSI
Flow	6.3 GPM	•	2	=	12.6 GPM

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

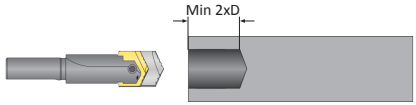
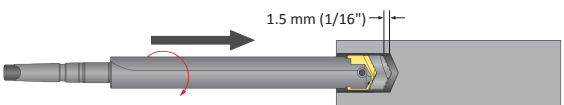
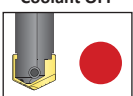
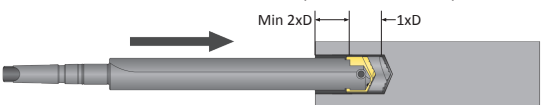
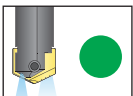
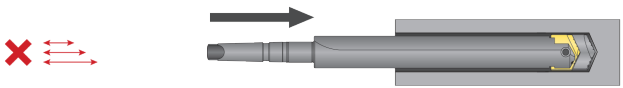
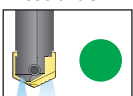
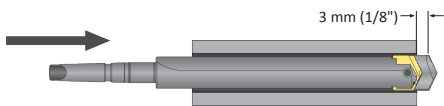
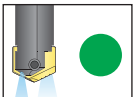
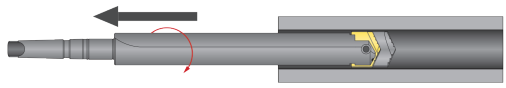
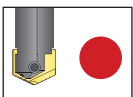
- When using holders without support bushing, use a short length holder to establish an initial hole that is a minimum of 2 diameters deep.
 - Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.
- Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department: appeng@alliedmachine.com.

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at the recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the HP/Universal drilling system will still function at reduced penetration rates. Contact our Application Engineering department for more specific recommendations of coolant requirements and/or speeds and feeds.



Deep Hole Drilling Guidelines

For Lengths Greater Than 9xD (Standard Plus, Extended, Long, Long Plus, XL, 3XL, and Special Lengths)

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. Utilize 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 
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 one second dwell is required to meet full speed before feeding. 	Coolant ON 
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 

⚠️ WARNING

Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short length 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.

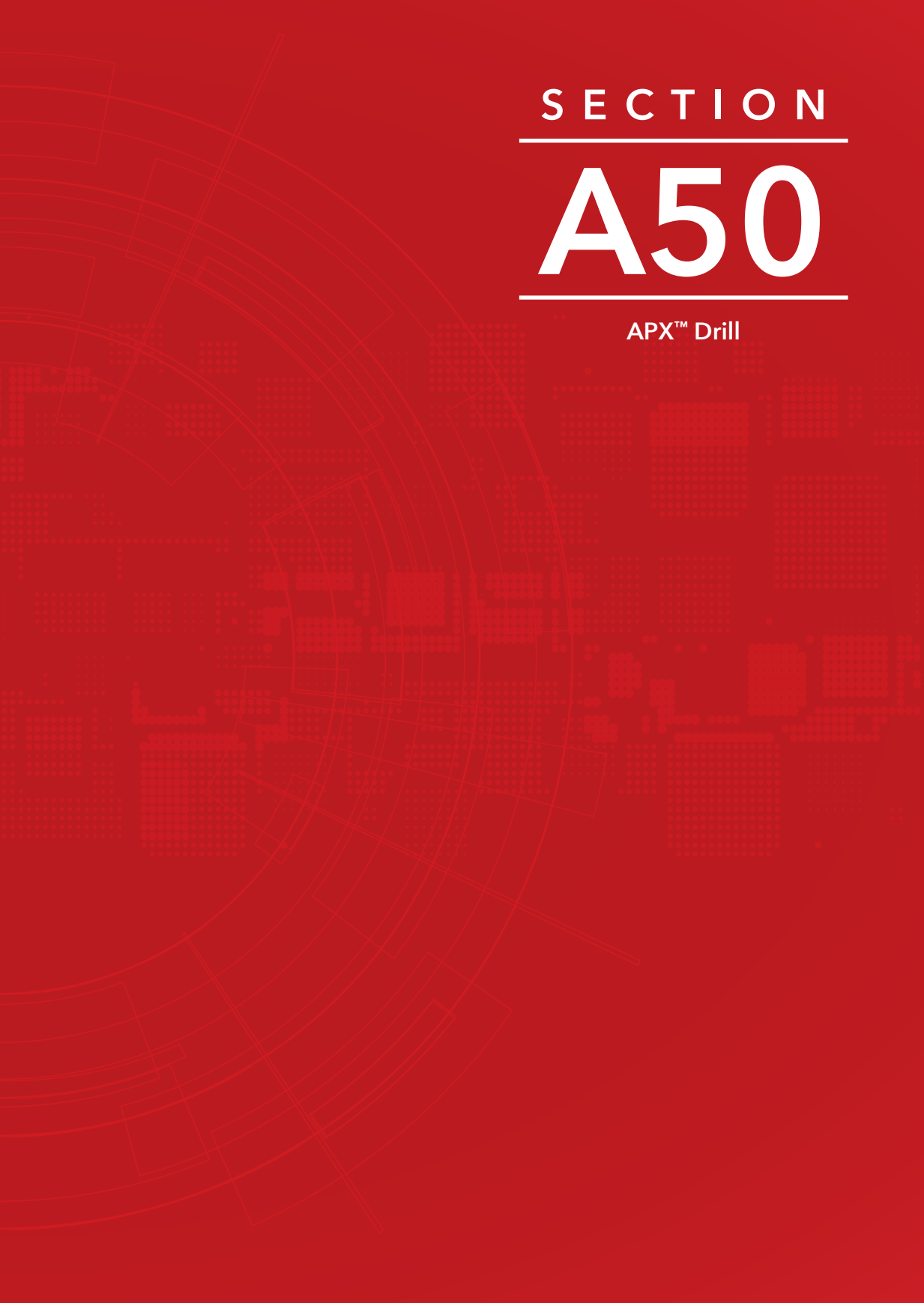
Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department: appeng@alliedmachine.com.



Notes

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A40

The background of the entire page is a solid red color. Overlaid on this background is a complex geometric pattern. It consists of several concentric circles that are centered on the left side of the page. These circles are intersected by a series of straight lines that radiate from the center, creating a grid-like structure. The lines and circles are a lighter shade of red than the background, creating a subtle but intricate pattern.

SECTION

A50

APX™ Drill

APX™ Drill

33.00 mm - 101.60 mm (1.2991" - 4.0001")



APX Drill

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.

Deep hole/Large diameter | Reliable performance

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

Applicable Industries



Aerospace



Agriculture



Automotive



Defense



General Production



Heavy Equipment



Marine



Oil and Gas



Renewable Energy/ Energy



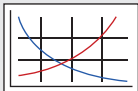
Structural Steel Fabricator



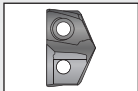
Tool, Mold, and Die

Reference Icons

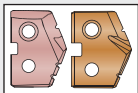
The following icons will appear throughout the catalog to help you navigate between products.



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 T-A Pro® pilot insert options for each APX drill series.



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

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



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

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

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

Table of Contents

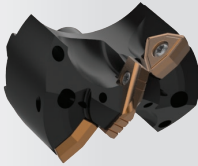
Introduction Information	
System Overview	3
Product Nomenclature	6
Drill Series	
33 Series: 33.00 mm - 37.99 mm (1.2991" - 1.4958")	
Heads	7
33 Series: 33.00 mm - 37.99 mm (1.2991" - 1.4958")	
Holders	8
38 Series: 38.00 mm - 43.99 mm (1.4959" - 1.7320")	
Heads	9
38 Series: 38.00 mm - 43.99 mm (1.4959" - 1.7320")	
Holders	10
44 Series: 44.00 mm - 50.99 mm (1.7321" - 2.0076")	
Heads	11
44 Series: 44.00 mm - 50.99 mm (1.7321" - 2.0076")	
Holders	12
51 Series: 51.00 mm - 56.99 mm (2.0077" - 2.2438")	
Heads	13
51 Series: 51.00 mm - 56.99 mm (2.0077" - 2.2438")	
Holders	14
57 Series: 57.00 mm - 62.99 mm (2.2439" - 2.4801")	
Heads	15
Holders	16
63 Series: 63.00 mm - 69.99 mm (2.4802" - 2.7557")	
Heads	17
Holders	18
70 Series: 70.00 mm - 75.99 mm (2.7558" - 2.9919")	
Heads	19
Holders	20
76 Series: 76.00 mm - 82.99 mm (2.9920" - 3.2675")	
Heads	21
Holders	22
83 Series: 83.00 mm - 88.99 mm (3.2676" - 3.5037")	
Heads	23
Holders	24
89 Series: 89.00 mm - 94.99 mm (3.5038" - 3.7399")	
Heads	25
Holders	26
95 Series: 95.00 mm - 101.60 mm (3.7400" - 4.0001")	
Heads	27
Holders	28
Recommended Drilling Data	
Metric (mm)	29
Imperial (in)	31
Technical Information	
Metric Standard Pilot Cross Reference	33
Deep Hole Drilling Guidelines	34



System Overview

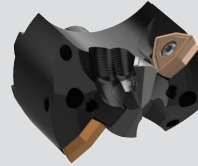
Series	33	38	44	51	57
					
D ₁ mm	33.00 - 37.99	38.00 - 43.99	44.00 - 50.99	51.00 - 56.99	57.00 - 62.99
D ₁ inch	1.2991 - 1.4958	1.4959 - 1.7320	1.7321 - 2.0076	2.0077 - 2.2438	2.2439 - 2.4801
ISO Material					
IC Insert Size (mm)	7.94	9.53	9.53, 12.70	12.70, 14.29	14.29
IC Insert Size (inch)	5/16	3/8	3/8, 1/2	1/2, 9/16	9/16
Cutting Style	Double Effective	Double Effective	Double Effective	Double Effective	Double Effective
Wear Pads	✗	✗	✗	✗	✗
Holders					
Drill Depth (mm)	131.4 - 397.4	149.3 - 457.3	169.7 - 526.7	180.3 - 579.2	197.4 - 638.4
Drill Depth (inch)	5.174 - 15.646	5.878 - 18.003	6.681 - 20.735	7.097 - 22.805	7.772 - 25.133
Pilot Insert Series					
T-A	0, 1	0, 1	1	1	1, 2
GEN3SYS XT Pro	—	15, 17, 18, 20	17, 18, 22	18, 20, 22	22, 24, 26

A50



T-A® Style Head

- Utilizes 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® Style Head

- Utilizes both GEN3SYS XT and 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



System Overview

63	70	76	83	89	95
					
63.00 - 69.99	70.00 - 75.99	76.00 - 82.99	83.00 - 88.99	89.00 - 94.99	95.00 - 101.60
2.4802 - 2.7557	2.7558 - 2.9919	2.9920 - 3.2675	3.2676 - 3.5037	3.5038 - 3.7399	3.7400 - 4.0001
					
14.29	9.53	12.70	12.70	14.29	14.29
9/16	3/8	1/2	1/2	9/16	9/16
Double Effective	Single Effective	Single Effective	Single Effective	Single Effective	Single Effective
X	✓	✓	✓	✓	✓
217.1 - 695.3	235.1 - 716.5	255.8 - 836.7	272.8 - 895.7	291.4 - 913.7	316.9 - 916.3
8.549 - 27.375	9.258 - 28.207	10.070 - 32.942	10.741 - 35.262	11.474 - 35.971	12.477 - 36.077
2	2	2	2	2	2
26, 29, 32	29	29	32	29	32

Assembly Instructions



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

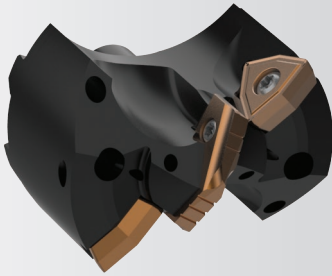
Series	Screw	Driver	Torque
33 - 63	75020-IP20-1	 8IP-20	678 N-cm (60 in-lb)
70 - 95	78027-IP30-1	 8IP-30B	2825 N-cm (250 in-lb)

A50



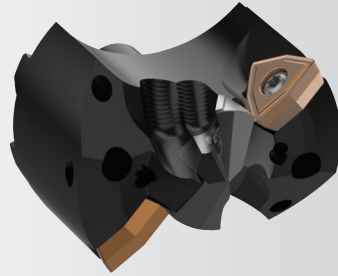
System Overview

T-A® Style Pilot Inserts



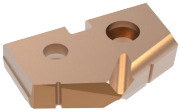
T-A Pro®

GEN3SYS® Style Pilot Inserts

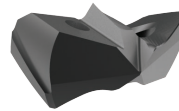


GEN3SYS® XT Pro

A50



- Serves as the perfect solution for high penetration drilling applications where chip formation and tool life are critical.
- Utilizes material-specific geometries for ISO material classes:
P M K N X



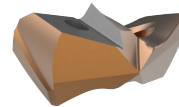
- Combines a coating and geometry specifically designed to achieve optimal results in ISO material drilling applications:
P M K N

GEN2 T-A®



- Notch Point®, curved cutting edge, and cam ground clearance provide superior hole centering, lower drilling forces, and improved chip formation.
- Features Allied's exclusive AM300® and AM200® coatings for increased tool life.

GEN3SYS® XT



- Available in 4 geometries: Standard (XT), Austenitic Stainless Steel (AS), Cast Iron (CI) and Low Rake (LR).
- Provides excellent chip control, improved durability, and added stability.

T-A®



- Available in both high-speed steel and carbide options.
- Offers common industry coating options such as TiN, TiCN, TiAlN, as well as Allied's proprietary AM200 coating.
- Geometry, substrate, and coating options can be mixed and matched to target a specific need.



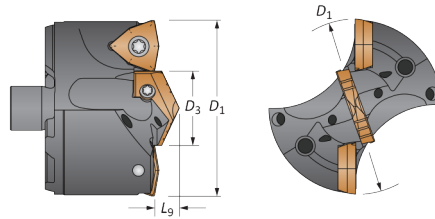
Product Nomenclature

APX Drill Heads

V	38	15	D	—	0116
	Series	Pilot Series	Effective Cutting		Major Diameter
33	70	T-A® Pilot Insert	D = Double effective S = Single effective		0116 = Fractional (in) 1.5153 = Decimal (in) 68 = Metric (mm)
38	76	GEN3SYS® XT Pro Pilot Insert			
44	83	00 = 0 series			
51	89	01 = 1 series			
57	95	02 = 2 series			
63		15 = 15 series			
		17 = 17 series			
		18 = 18 series			
		20 = 20 series			
		22 = 22 series			
		24 = 24 series			
		26 = 26 series			
		29 = 29 series			
		32 = 32 series			

Reference Key

Symbol	Attribute
D_1	Major cutting diameter
D_3	Pilot insert diameter
L_9	Pilot insert length

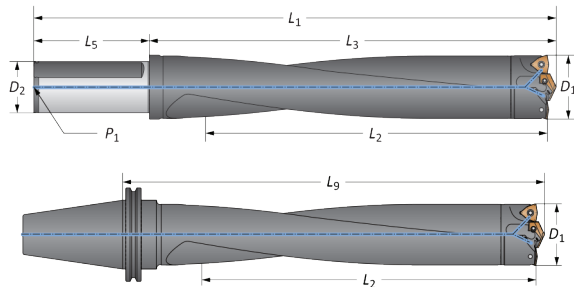


APX Drill Holders

W	38	05	H	—	200F
	Series	Drill Length	Flute Style		Shank
33	70	03 = 3xD	H = Helical		150F = 1-1/2" flanged straight shank
38	76	05 = 5xD			200F = 2" flanged straight shank
44	83	08 = 8xD ⚠			40FM = 40 mm flanged straight shank
51	89	10 = 10xD ⚠			50FM = 50 mm flanged straight shank
57	95				CV40 = CAT40 integral shank
63					CV50 = CAT50 integral shank

Reference Key

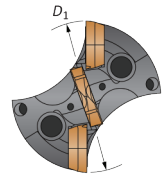
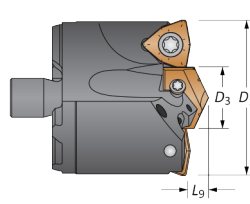
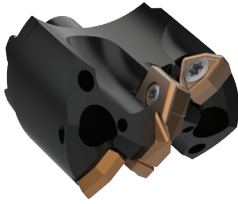
Symbol	Attribute
D_1	Major cutting diameter
D_2	Shank diameter
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_5	Shank length
L_9	Gauge Length
P_1	Rear pipe tap





33 Series: 33.00 mm - 37.99 mm (1.2991" - 1.4958")

Heads



T-A® Style Head

APX Heads

					T-A Style Head				
D_1			D_3		L_9			IC Insert Size	
mm	inch	Fractional	mm	inch	mm	inch	Part No.	mm	inch
33.00	1.2992	—	16.00	0.6299	5.6	0.221	V3300D-33	7.94	5/16
33.34	1.3125	1-5/16	16.00	0.6299	5.6	0.221	V3300D-0110	7.94	5/16
34.00	1.3386	—	18.00	0.7087	6.1	0.239	V3301D-34	7.94	5/16
34.13	1.3438	1-11/32	18.00	0.7087	6.1	0.239	V3301D-0111	7.94	5/16
34.93	1.3750	1-3/8	18.00	0.7087	6.1	0.239	V3301D-0112	7.94	5/16
35.00	1.3780	—	18.00	0.7087	6.1	0.239	V3301D-35	7.94	5/16
35.72	1.4063	1-13/32	18.00	0.7087	6.1	0.239	V3301D-0113	7.94	5/16
36.00	1.4173	—	20.00	0.7874	6.5	0.256	V3301D-36	7.94	5/16
36.51	1.4375	1-7/16	20.00	0.7874	6.5	0.256	V3301D-0114	7.94	5/16
37.00	1.4567	—	20.00	0.7874	6.5	0.256	V3301D-37	7.94	5/16
37.31	1.4688	1-15/32	20.00	0.7874	6.5	0.256	V3301D-0115	7.94	5/16

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head		
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)
33.00 - 33.99	1.2991 - 1.3383	16.00	0.6299	0	TA#0-16.00	1C10H-16-TC
34.00 - 35.99	1.3384 - 1.4171	18.00	0.7087	1	TA#1-18.00	1C11H-18-TC
36.00 - 37.99	1.4172 - 1.4958	20.00	0.7874	1	TA#1-20.00	1C11H-20-TC

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). Please note, X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
7.94	5/16	Standard	OP-05T308-1PW	OP-05T308-PW	OP-05T308-2PW	IS-10-1	8T-9	305 N-cm (27.0 in-lbs)
		High Rake	—	OP-05T308-PWHR	—			

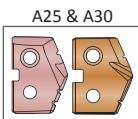
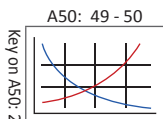
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
0	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

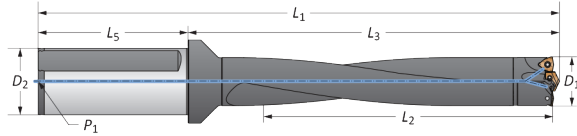
For nonstocked diameters, follow the below examples:

Metric	33 series, T-A (1 series), 34.25 mm	= V3301D-34.25
Inch	33 series, T-A (1 series), 1.3400"	= V3301D-1.3400



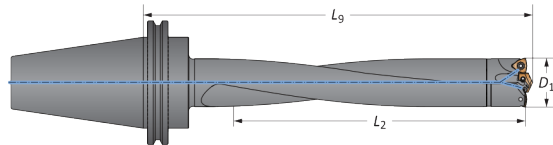
33 Series: 33.00 mm - 37.99 mm (1.2991" - 1.4958")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	131.4	167.4	237.4	70.0	40	1/4 BSPT	W3303H-40FM
	5xD	207.4	243.4	313.4	70.0	40	1/4 BSPT	W3305H-40FM
	8xD	321.4	357.4	427.4	70.0	40	1/4 BSPT	⚠ W3308H-40FM
	10xD	397.4	433.4	503.4	70.0	40	1/4 BSPT	⚠ W3310H-40FM
i	3xD	5.174	6.590	9.278	2.688	1-1/2	1/4 NPT	W3303H-150F
	5xD	8.166	9.582	12.270	2.688	1-1/2	1/4 NPT	W3305H-150F
	8xD	12.654	14.070	16.758	2.688	1-1/2	1/4 NPT	⚠ W3308H-150F
	10xD	15.646	17.062	19.750	2.688	1-1/2	1/4 NPT	⚠ W3310H-150F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	5.174	7.473	CAT40	W3303H-CV40
5xD	8.166	10.465	CAT40	W3305H-CV40
8xD	12.654	14.953	CAT40	⚠ W3308H-CV40
10xD	15.646	17.945	CAT40	⚠ W3310H-CV40
3xD	5.174	7.473	CAT50	W3303H-CV50
5xD	8.166	10.465	CAT50	W3305H-CV50
8xD	12.654	14.953	CAT50	⚠ W3308H-CV50
10xD	15.646	17.945	CAT50	⚠ 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 and page A50: 34 for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

m = Metric (mm)

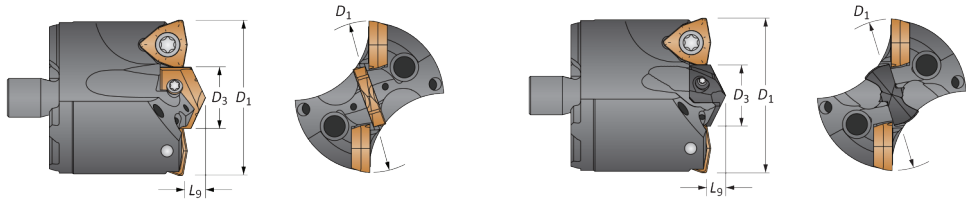
i = Imperial (in)

Mounting screws sold in multiples of 4.



38 Series: 38.00 mm - 43.99 mm (1.4959" - 1.7320")

Heads



T-A® Style Head

GEN3SYS® Style Head

APX Heads

D_1			D_3		T-A Style Head				GEN3SYS Style Head				IC Insert Size	
mm	inch	Fractional	mm	inch	L_9		Part No.	L_9		Part No.	mm		inch	
38.00	1.4961	—	15.88	5/8	5.7	0.226	V3800D-38	4.9	0.195	V3815D-38	9.53	3/8		
38.10	1.5000	1-1/2	15.88	5/8	5.7	0.226	V3800D-0116	4.9	0.195	V3815D-0116	9.53	3/8		
38.90	1.5313	1-17/32	15.88	5/8	5.7	0.226	V3800D-0117	4.9	0.195	V3815D-0117	9.53	3/8		
39.00	1.5354	—	15.88	5/8	5.7	0.226	V3800D-39	4.9	0.195	V3815D-39	9.53	3/8		
39.69	1.5625	1-9/16	15.88	5/8	5.7	0.226	V3800D-0118	4.9	0.195	V3815D-0118	9.53	3/8		
40.00	1.5748	—	17.46	11/16	6.1	0.240	V3800D-40	5.2	0.205	V3817D-40	9.53	3/8		
40.48	1.5938	1-19/32	17.46	11/16	6.1	0.240	V3800D-0119	5.2	0.205	V3817D-0119	9.53	3/8		
41.00	1.6142	—	17.46	11/16	6.1	0.240	V3800D-41	5.2	0.205	V3817D-41	9.53	3/8		
41.28	1.6250	1-5/8	17.46	11/16	6.1	0.240	V3800D-0120	5.2	0.205	V3817D-0120	9.53	3/8		
42.00	1.6535	—	19.05	3/4	6.5	0.254	V3801D-42	5.5	0.216	V3818D-42	9.53	3/8		
42.07	1.6563	1-21/32	19.05	3/4	6.5	0.254	V3801D-0121	5.5	0.216	V3818D-0121	9.53	3/8		
42.86	1.6875	1-11/16	19.05	3/4	6.5	0.254	V3801D-0122	5.5	0.216	V3818D-0122	9.53	3/8		
43.00	1.6929	—	20.64	13/16	6.8	0.268	V3801D-43	5.8	0.227	V3820D-43	9.53	3/8		
43.66	1.7188	1-23/32	20.64	13/16	6.8	0.268	V3801D-0123	5.8	0.227	V3820D-0123	9.53	3/8		

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
38.00 - 39.72	1.4959 - 1.5639	15.88	5/8	0	TA#0-15.50	1C10H-0020-TC	15	XT#15-15.88
39.73 - 41.30	1.5640 - 1.6261	17.46	11/16	0	TA#0-17.46	1C10H-0022-TC	17	XT#17-17.46
41.31 - 42.90	1.6262 - 1.6891	19.05	3/4	1	TA#1-19.05	1C11H-0024-TC	18	XT#18-19.05
42.91 - 43.99	1.6892 - 1.7320	20.64	13/16	1	TA#1-20.64	1C11H-0026-TC	20	XT#20-20.64

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). Please note, X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
9.53	3/8	Standard	OP-060408-1PW	OP-060408-PW	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
		High Rake	—	OP-060408-PWHR	—			

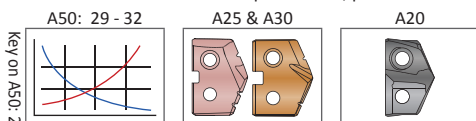
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
—	15	7247-IP7-1	8IP-7	84 N-cm (7.4 in-lbs)
0	17	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
1	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
	20			

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

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

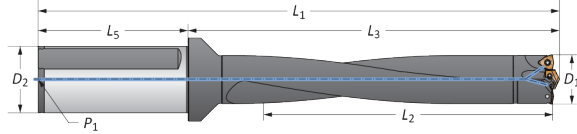
For nonstocked diameters, follow the below examples:

Metric	38 series, T-A (0 series), 41.25 mm	= V3800D-41.25
Inch	38 series, GEN3 (17 series), 1.6200"	= V3817D-1.6200



38 Series: 38.00 mm - 43.99 mm (1.4959" - 1.7320")

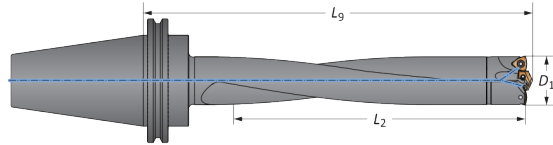
Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	149.3	195.7	265.7	70.0	40	1/4 BSPT	W3803H-40FM
	5xD	237.3	283.7	353.7	70.0	40	1/4 BSPT	W3805H-40FM
	8xD	369.3	415.7	485.7	70.0	40	1/4 BSPT	W3808H-40FM
	10xD	457.3	503.7	573.7	70.0	40	1/4 BSPT	W3810H-40FM
i	3xD	149.3	195.7	275.7	80.0	50	1/4 BSPT	W3803H-50FM
	5xD	237.3	283.7	363.7	80.0	50	1/4 BSPT	W3805H-50FM
	8xD	369.3	415.7	495.7	80.0	50	1/4 BSPT	W3808H-50FM
	10xD	457.3	503.7	583.7	80.0	50	1/4 BSPT	W3810H-50FM
i	3xD	5.878	7.704	10.392	2.688	1-1/2	1/4 NPT	W3803H-150F
	5xD	9.342	11.168	13.856	2.688	1-1/2	1/4 NPT	W3805H-150F
	8xD	14.539	16.365	19.053	2.688	1-1/2	1/4 NPT	W3808H-150F
	10xD	18.003	19.829	22.517	2.688	1-1/2	1/4 NPT	W3810H-150F
i	3xD	5.878	7.704	12.204	4.500	2	1/4 NPT	W3803H-200F
	5xD	9.342	11.168	15.668	4.500	2	1/4 NPT	W3805H-200F
	8xD	14.539	16.365	20.865	4.500	2	1/4 NPT	W3808H-200F
	10xD	18.003	19.829	24.329	4.500	2	1/4 NPT	W3810H-200F

A50



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	5.878	8.304	CAT40	W3803H-CV40
5xD	9.342	11.768	CAT40	W3805H-CV40
8xD	14.539	16.965	CAT40	W3808H-CV40
10xD	18.003	20.429	CAT40	W3810H-CV40
3xD	5.878	8.304	CAT50	W3803H-CV50
5xD	9.342	11.768	CAT50	W3805H-CV50
8xD	14.539	16.965	CAT50	W3808H-CV50
10xD	18.003	20.429	CAT50	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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

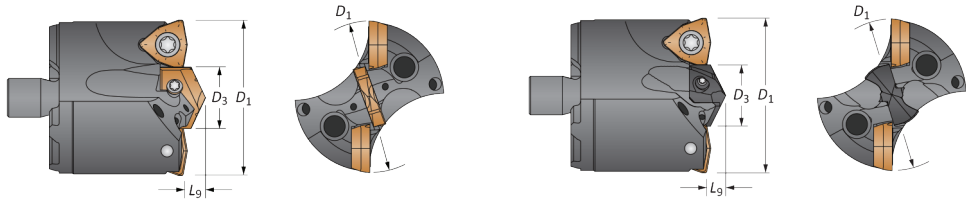
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



44 Series: 44.00 mm - 50.99 mm (1.7321" - 2.0076")

Heads



T-A® Style Head

GEN3SYS® Style Head

APX Heads

D ₁			D ₃		T-A Style Head			GEN3SYS Style Head			IC Insert Size	
mm	inch	Fractional	mm	inch	L ₉		Part No.	L ₉		Part No.	mm	inch
44.00	1.7323	—	22.23	7/8	7.2	0.282	V4401D-44	6.0	0.238	V4422D-44	9.53	3/8
44.45	1.7500	1-3/4	22.23	7/8	7.2	0.282	V4401D-0124	6.0	0.238	V4422D-0124	9.53	3/8
45.00	1.7717	—	22.23	7/8	7.2	0.282	V4401D-45	6.0	0.238	V4422D-45	9.53	3/8
45.25	1.7813	1-25/32	22.23	7/8	7.2	0.282	V4401D-0125	6.0	0.238	V4422D-0125	9.53	3/8
46.00	1.8110	—	23.81	15/16	7.5	0.296	V4401D-46	6.3	0.248	V4422D-46	9.53	3/8
46.04	1.8125	1-13/16	23.81	15/16	7.5	0.296	V4401D-0126	6.3	0.248	V4422D-0126	9.53	3/8
46.83	1.8438	1-27/32	23.81	15/16	7.5	0.296	V4401D-0127	6.3	0.248	V4422D-0127	9.53	3/8
47.00	1.8504	—	23.81	15/16	7.5	0.296	V4401D-47	6.3	0.248	V4422D-47	9.53	3/8
47.63	1.8750	1-7/8	23.81	15/16	7.5	0.296	V4401D-0128	6.3	0.248	V4422D-0128	9.53	3/8
48.00	1.8898	—	17.86	45/64	6.6	0.258	V4401D-48	5.7	0.223	V4417D-48	12.70	1/2
48.42	1.9063	1-29/32	17.86	45/64	6.6	0.258	V4401D-0129	5.7	0.223	V4417D-0129	12.70	1/2
49.00	1.9291	—	17.86	45/64	6.6	0.258	V4401D-49	5.7	0.223	V4417D-49	12.70	1/2
49.21	1.9375	1-15/16	17.86	45/64	6.6	0.258	V4401D-0130	5.7	0.223	V4417D-0130	12.70	1/2
50.00	1.9685	—	18.65	47/64	6.7	0.265	V4401D-50	5.8	0.228	V4418D-50	12.70	1/2
50.01	1.9688	1-31/32	18.65	47/64	6.7	0.265	V4401D-0131	5.8	0.228	V4418D-0131	12.70	1/2
50.80	2.0000	2	18.65	47/64	6.7	0.265	V4401D-0200	5.8	0.228	V4418D-0200	12.70	1/2

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro	T-A (-TC)	Pilot Series	XT Pro
44.00 - 45.26	1.7321 - 1.7820	22.23	7/8	1**	TA#1-22.23	1C11H-0028-TC	22	XT#22-22.23
45.27 - 47.90	1.7821 - 1.8860	23.81	15/16	1**	TA#1-23.81	1C11H-0030-TC	22	XT#22-23.81
47.91 - 49.99	1.8861 - 1.9683	17.86	45/64	1	TA#1-17.86	1C11H-703-TC	17	XT#17-17.86
50.00 - 50.99	1.9684 - 2.0076	18.65	47/64	1	TA#1-18.65	1C11H-734-TC	18	XT#18-18.65

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

**NOTE: Coordinating screw in accessory table below.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
9.53	3/8	Standard	OP-060408-1PW	OP-060408-PW	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
		High Rake	—	OP-060408-PWHR	—			
12.70	1/2	Standard	OP-080508-1PW	OP-080508-PW	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
		High Rake	—	OP-080508-PWHR	—			

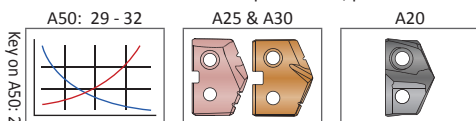
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
—	17	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
1	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
1**	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on pg. A50: 33.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

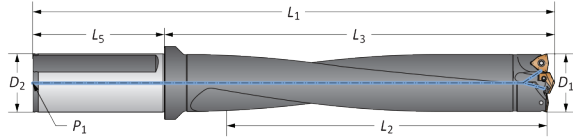
For nonstocked diameters, follow the below examples:

Metric	44 series, T-A (1 series), 47.25 mm	= V4401D-47.25
Inch	44 series, GEN3 (22 series), 1.8450"	= V4422D-1.8450



44 Series: 44.00 mm - 50.99 mm (1.7321" - 2.0076")

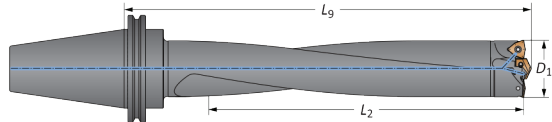
Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	169.7	216.9	286.9	70.0	40	1/4 BSPT	W4403H-40FM
	5xD	271.7	318.9	388.9	70.0	40	1/4 BSPT	W4405H-40FM
	8xD	424.7	471.9	541.9	70.0	40	1/4 BSPT	W4408H-40FM
	10xD	526.7	573.8	643.8	70.0	40	1/4 BSPT	W4410H-40FM
i	3xD	169.7	216.9	296.9	80.0	50	1/4 BSPT	W4403H-50FM
	5xD	271.7	318.9	398.9	80.0	50	1/4 BSPT	W4405H-50FM
	8xD	424.7	471.9	551.9	80.0	50	1/4 BSPT	W4408H-50FM
	10xD	526.7	573.8	653.8	80.0	50	1/4 BSPT	W4410H-50FM
i	3xD	6.681	8.538	11.226	2.688	1-1/2	1/4 NPT	W4403H-150F
	5xD	10.697	12.554	15.242	2.688	1-1/2	1/4 NPT	W4405H-150F
	8xD	16.720	18.577	21.265	2.688	1-1/2	1/4 NPT	W4408H-150F
	10xD	20.735	22.592	25.280	2.688	1-1/2	1/4 NPT	W4410H-150F
i	3xD	6.681	8.538	13.038	4.500	2	1/4 NPT	W4403H-200F
	5xD	10.697	12.554	17.054	4.500	2	1/4 NPT	W4405H-200F
	8xD	16.720	18.577	23.077	4.500	2	1/4 NPT	W4408H-200F
	10xD	20.735	22.592	27.092	4.500	2	1/4 NPT	W4410H-200F

A50



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_3		
3xD	6.681	9.253	CAT40	W4403H-CV40
5xD	10.697	13.269	CAT40	W4405H-CV40
8xD	16.720	19.292	CAT40	W4408H-CV40
10xD	20.735	23.307	CAT40	W4410H-CV40
3xD	6.681	9.253	CAT50	W4403H-CV50
5xD	10.697	13.269	CAT50	W4405H-CV50
8xD	16.720	19.292	CAT50	W4408H-CV50
10xD	20.735	23.307	CAT50	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 and page A50: 34 for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

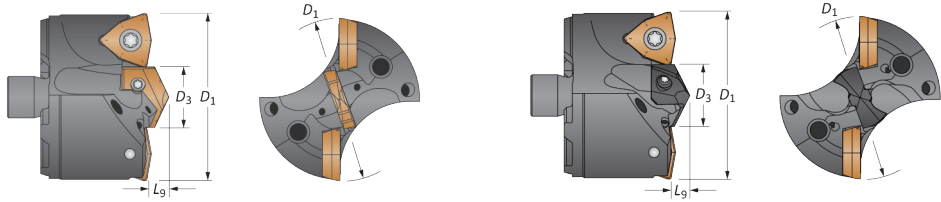
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



51 Series: 51.00 mm - 56.99 mm (2.0077" - 2.2438")

Heads



T-A® Style Head

GEN3SYS® Style Head

APX Heads

D_1			D_3		T-A Style Head			GEN3SYS Style Head			IC Insert Size	
mm	inch	Fractional	mm	inch	L_9		Part No.	L_9		Part No.	mm	inch
51.00	2.0079	—	19.84	25/32	7.0	0.275	V5101D-51	6.0	0.236	V5118D-51	12.70	1/2
51.60	2.0313	2-1/32	19.84	25/32	7.0	0.275	V5101D-0201	6.0	0.236	V5118D-0201	12.70	1/2
52.00	2.0472	—	19.84	25/32	7.0	0.275	V5101D-52	6.0	0.236	V5118D-52	12.70	1/2
52.39	2.0625	2-1/16	19.84	25/32	7.0	0.275	V5101D-0202	6.0	0.236	V5118D-0202	12.70	1/2
53.00	2.0866	—	21.43	27/32	7.3	0.289	V5101D-53	6.3	0.247	V5120D-53	12.70	1/2
53.18	2.0938	2-3/32	21.43	27/32	7.3	0.289	V5101D-0203	6.3	0.247	V5120D-0203	12.70	1/2
53.98	2.1250	2-1/8	21.43	27/32	7.3	0.289	V5101D-0204	6.3	0.247	V5120D-0204	12.70	1/2
54.00	2.1260	—	23.81	15/16	7.9	0.310	V5101D-54	6.7	0.263	V5122D-54	12.70	1/2
54.77	2.1563	2-5/32	23.81	15/16	7.9	0.310	V5101D-0205	6.7	0.263	V5122D-0205	12.70	1/2
55.00	2.1654	—	23.81	15/16	7.9	0.310	V5101D-55	6.7	0.263	V5122D-55	12.70	1/2
55.56	2.1875	2-3/16	23.81	15/16	7.9	0.310	V5101D-0206	6.7	0.263	V5122D-0206	12.70	1/2
56.00	2.2047	—	23.81	15/16	7.9	0.310	V5101D-56	6.7	0.263	V5122D-56	12.70	1/2
56.36	2.2188	2-7/32	20.64	13/16	7.3	0.288	V5101D-0207	6.3	0.247	V5120D-0207	14.29	9/16

A50

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
51.00 - 52.42	2.0077 - 2.0639	19.84	25/32	1	TA#1-19.84	1C11H-0025-TC	18	XT#18-19.84
52.43 - 53.99	2.0640 - 2.1257	21.43	27/32	1	TA#1-21.43	1C11H-0027-TC	20	XT#20-21.43
54.00 - 56.15	2.1258 - 2.2108	23.81	15/16	1**	TA#1-23.81	1C11H-0030-TC	22	XT#22-23.81
56.16 - 56.99	2.2109 - 2.2438	20.64	13/16	1	TA#1-20.64	1C11H-0026-TC	20	XT#20-20.64

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

**NOTE: Coordinating screw in accessory table below.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
12.70	1/2	Standard	OP-080508-1PW	OP-080508-PW	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
		High Rake	—	OP-080508-PWHR	—			
14.29	9/16	Standard	OP-090608-1PW	OP-090608-PW	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
		High Rake	—	OP-090608-PWHR	—			

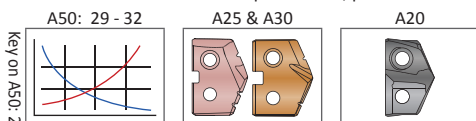
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
1	18	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
	20			
1**	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

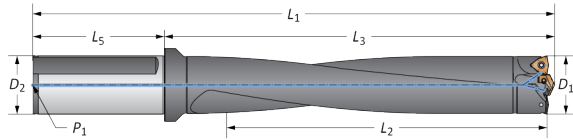
For nonstocked diameters, follow the below examples:

Metric	51 series, T-A (1 series), 53.25 mm	= V5101D-53.25
Inch	51 series, GEN3 (20 series), 2.1000"	= V5120D-2.1000



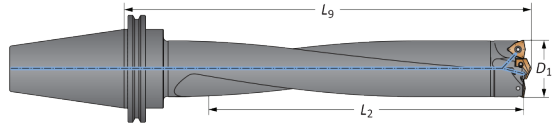
51 Series: 51.00 mm - 56.99 mm (2.0077" - 2.2438")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	180.3	225.6	305.6	80.0	50	1/4 BSPT	W5103H-50FM
	5xD	294.2	339.5	419.6	80.0	50	1/4 BSPT	W5105H-50FM
	8xD	465.2	510.5	590.6	80.0	50	1/4 BSPT	⚠ W5108H-50FM
	10xD	579.2	624.5	704.5	80.0	50	1/4 BSPT	⚠ W5110H-50FM
i	3xD	7.097	8.880	13.380	4.500	2	1/4 NPT	W5103H-200F
	5xD	11.585	13.368	17.868	4.500	2	1/4 NPT	W5105H-200F
	8xD	18.317	20.100	24.600	4.500	2	1/4 NPT	⚠ W5108H-200F
	10xD	22.805	24.588	29.088	4.500	2	1/4 NPT	⚠ W5110H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	7.097	9.732	CAT50	W5103H-CV50
5xD	11.585	14.220	CAT50	W5105H-CV50
8xD	18.317	20.952	CAT50	⚠ W5108H-CV50
10xD	22.805	25.440	CAT50	⚠ 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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

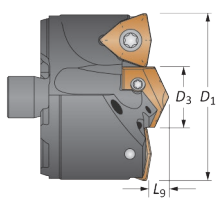
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.

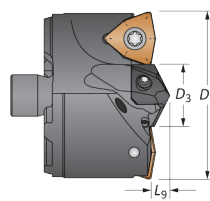
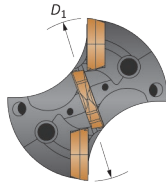


57 Series: 57.00 mm - 62.99 mm (2.2439" - 2.4801")

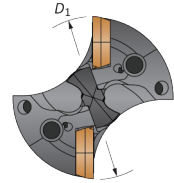
Heads



T-A® Style Head



GEN3SYS® Style Head



APX Heads

D_1			D_3		T-A Style Head			GEN3SYS Style Head			IC Insert Size	
mm	inch	Fractional	mm	inch	L_9		Part No.	mm	inch	Part No.	mm	inch
57.00	2.2441	—	23.02	29/32	7.9	0.309	V5701D-57	6.7	0.263	V5722D-57	14.29	9/16
57.15	2.2500	2-1/4	23.02	29/32	7.9	0.309	V5701D-0208	6.7	0.263	V5722D-0208	14.29	9/16
57.95	2.2813	2-9/32	23.02	29/32	7.9	0.309	V5701D-0209	6.7	0.263	V5722D-0209	14.29	9/16
58.00	2.2835	—	23.02	29/32	7.9	0.309	V5701D-58	6.7	0.263	V5722D-58	14.29	9/16
58.74	2.3125	2-5/16	23.02	29/32	7.9	0.309	V5701D-0210	6.7	0.263	V5722D-0210	14.29	9/16
59.00	2.3228	—	23.81	15/16	8.0	0.316	V5701D-59	6.8	0.269	V5722D-59	14.29	9/16
59.53	2.3438	2-11/32	23.81	15/16	8.0	0.316	V5701D-0211	6.8	0.269	V5722D-0211	14.29	9/16
60.00	2.3622	—	23.81	15/16	8.0	0.316	V5701D-60	6.8	0.269	V5722D-60	14.29	9/16
60.33	2.3750	2-3/8	23.81	15/16	8.0	0.316	V5701D-0212	6.8	0.269	V5722D-0212	14.29	9/16
61.00	2.4016	—	25.40	1	8.4	0.330	V5702D-61	7.1	0.280	V5724D-61	14.29	9/16
61.12	2.4063	2-13/32	25.40	1	8.4	0.330	V5702D-0213	7.1	0.280	V5724D-0213	14.29	9/16
61.91	2.4375	2-7/16	25.40	1	8.4	0.330	V5702D-0214	7.1	0.280	V5724D-0214	14.29	9/16
62.00	2.4409	—	26.99	1-1/16	8.7	0.344	V5702D-62	7.4	0.290	V5726D-62	14.29	9/16
62.71	2.4688	2-15/32	26.99	1-1/16	8.7	0.344	V5702D-0215	7.4	0.290	V5726D-0215	14.29	9/16

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
57.00 - 58.77	2.2439 - 2.3139	23.02	29/32	1	TA#1-23.02	1C11H-0029-TC	22	XT#22-23.02
58.78 - 60.35	2.3140 - 2.3761	23.81	15/16	1	TA#1-23.81	1C11H-0030-TC	22	XT#22-23.81
60.36 - 61.95	2.3762 - 2.4391	25.40	1	2	TA#2-25.40	1C12H-0100-TC	24	XT#24-25.40
61.96 - 62.99	2.4392 - 2.4801	26.99	1-1/16	2	TA#2-26.99	1C12H-0102-TC	26	XT#26-26.99

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
14.29	9/16	Standard	OP-090608-1PW	OP-090608-PW	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
		High Rake	—	OP-090608-PWHR	—			

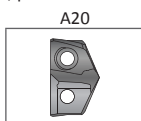
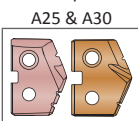
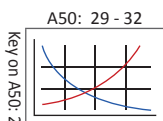
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
1	22 24	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

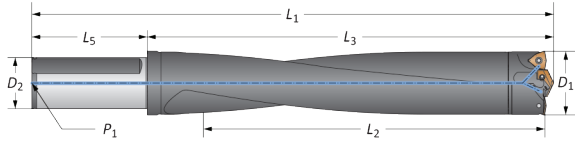
For nonstocked diameters, follow the below examples:

Metric	57 series, T-A (1 series), 60.25 mm	= V5701D-60.25
Inch	57 series, GEN3 (22 series), 2.3450"	= V5722D-2.3450



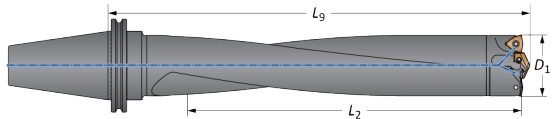
57 Series: 57.00 mm - 62.99 mm (2.2439" - 2.4801")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	197.4	242.7	322.7	80.0	50	1/4 BSPT	W5703H-50FM
	5xD	323.4	368.7	448.7	80.0	50	1/4 BSPT	W5705H-50FM
	8xD	512.4	557.7	637.7	80.0	50	1/4 BSPT	⚠ W5708H-50FM
	10xD	638.4	683.7	763.7	80.0	50	1/4 BSPT	⚠ W5710H-50FM
i	3xD	7.772	9.556	14.056	4.500	2	1/4 NPT	W5703H-200F
	5xD	12.732	14.516	19.016	4.500	2	1/4 NPT	W5705H-200F
	8xD	20.173	21.957	26.457	4.500	2	1/4 NPT	⚠ W5708H-200F
	10xD	25.133	26.917	31.417	4.500	2	1/4 NPT	⚠ W5710H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	7.772	10.528	CAT50	W5703H-CV50
5xD	12.732	15.489	CAT50	W5705H-CV50
8xD	20.173	22.929	CAT50	⚠ W5708H-CV50
10xD	25.133	27.890	CAT50	⚠ 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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

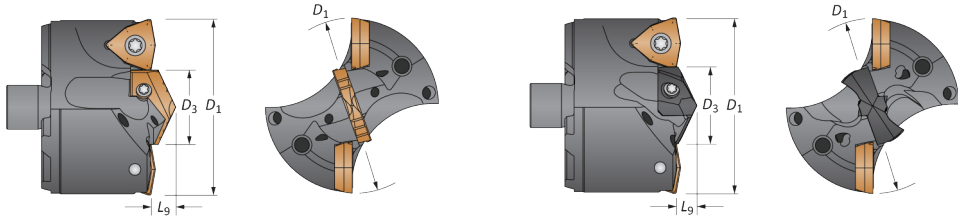
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



63 Series: 63.00 mm - 69.99 mm (2.4802" - 2.7557")

Heads



T-A® Style Head

GEN3SYS® Style Head

APX Heads

D_1			D_3		L_9			T-A Style Head			L_9			GEN3SYS Style Head		IC Insert Size	
mm	inch	Fractional	mm	inch	mm	inch	Part No.	mm	inch	Part No.	mm	inch	Part No.	mm	inch		
63.00	2.4803	—	28.58	1-1/8	9.1	0.358	V6302D-63	7.6	0.301	V6326D-63	14.29	9/16					
63.50	2.5000	2-1/2	28.58	1-1/8	9.1	0.358	V6302D-0216	7.6	0.301	V6326D-0216	14.29	9/16					
64.00	2.5197	—	28.58	1-1/8	9.1	0.358	V6302D-64	7.6	0.301	V6326D-64	14.29	9/16					
64.30	2.5313	2-17/32	28.58	1-1/8	9.1	0.358	V6302D-0217	7.6	0.301	V6326D-0217	14.29	9/16					
65.00	2.5591	—	28.58	1-1/8	9.1	0.358	V6302D-65	7.6	0.301	V6326D-65	14.29	9/16					
65.09	2.5625	2-9/16	30.16	1-3/16	9.4	0.372	V6302D-0218	7.9	0.312	V6329D-0218	14.29	9/16					
65.88	2.5938	2-19/32	30.16	1-3/16	9.4	0.372	V6302D-0219	7.9	0.312	V6329D-0219	14.29	9/16					
66.00	2.5984	—	30.16	1-3/16	9.4	0.372	V6302D-66	7.9	0.312	V6329D-66	14.29	9/16					
66.68	2.6250	2-5/8	30.16	1-3/16	9.4	0.372	V6302D-0220	7.9	0.312	V6329D-0220	14.29	9/16					
67.00	2.6378	—	31.75	1-1/4	9.8	0.386	V6302D-67	8.2	0.323	V6329D-67	14.29	9/16					
67.47	2.6563	2-21/32	31.75	1-1/4	9.8	0.386	V6302D-0221	8.2	0.323	V6329D-0221	14.29	9/16					
68.00	2.6772	—	31.75	1-1/4	9.8	0.386	V6302D-68	8.2	0.323	V6329D-68	14.29	9/16					
68.26	2.6875	2-11/16	31.75	1-1/4	9.8	0.386	V6302D-0222	8.2	0.323	V6329D-0222	14.29	9/16					
69.00	2.7165	—	33.34	1-5/16	10.1	0.400	V6302D-69	8.5	0.333	V6332D-69	14.29	9/16					
69.06	2.7188	2-23/32	33.34	1-5/16	10.1	0.400	V6302D-0223	8.5	0.333	V6332D-0223	14.29	9/16					
69.85	2.7500	2-3/4	33.34	1-5/16	10.1	0.400	V6302D-0224	8.5	0.333	V6332D-0224	14.29	9/16					

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
63.00 - 65.07	2.4802 - 2.5620	28.58	1-1/8	2	TA#2-28.58	1C12H-0104-TC	26	XT#26-28.58
65.08 - 66.70	2.5621 - 2.6261	30.16	1-3/16	2	TA#2-30.16	1C12H-0106-TC	29	XT#29-30.16
66.71 - 68.30	2.6262 - 2.6891	31.75	1-1/4	2	TA#2-31.75	1C12H-0108-TC	29	XT#29-31.75
68.31 - 69.99	2.6892 - 2.7557	33.34	1-5/16	2	TA#2-33.34	1C12H-0110-TC	32	XT#32-33.34

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
14.29	9/16	Standard	OP-090608-1PW	OP-090608-PW	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
		High Rake	—	OP-090608-PWHR	—			

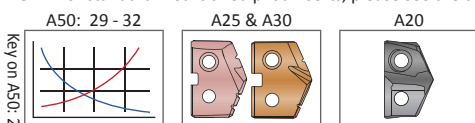
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	26	7495-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
	29			
	32			

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

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



IC inserts sold in multiples of 2.
Insert screws sold in multiples of 10.

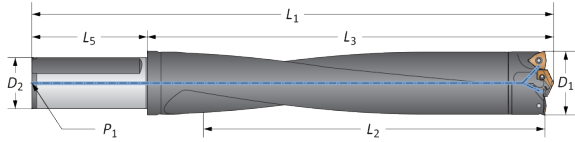
For nonstocked diameters, follow the below examples:

Metric	63 series, T-A (2 series), 66.25 mm	= V6302D-66.25
Inch	63 series, GEN3 (29 series), 2.5450"	= V6329D-2.5450



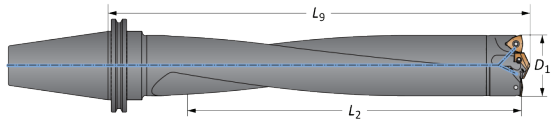
63 Series: 63.00 mm - 69.99 mm (2.4802" - 2.7557")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	217.1	262.6	342.6	80.0	50	1/4 BSPT	W6303H-50FM
	5xD	357.2	402.6	482.7	80.0	50	1/4 BSPT	W6305H-50FM
	8xD	567.1	612.6	692.6	80.0	50	1/4 BSPT	⚠ W6308H-50FM
	10xD	695.3	740.8	820.8	80.0	50	1/4 BSPT	⚠ W6310H-50FM
i	3xD	8.549	10.340	14.840	4.500	2	1/4 NPT	W6303H-200F
	5xD	14.061	15.852	20.352	4.500	2	1/4 NPT	W6305H-200F
	8xD	22.328	24.119	28.619	4.500	2	1/4 NPT	⚠ W6308H-200F
	10xD	27.375	29.166	33.666	4.500	2	1/4 NPT	⚠ W6310H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	8.549	11.430	CAT50	W6303H-CV50
5xD	14.061	16.942	CAT50	W6305H-CV50
8xD	22.328	25.209	CAT50	⚠ W6308H-CV50
10xD	26.785	29.665	CAT50	⚠ 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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

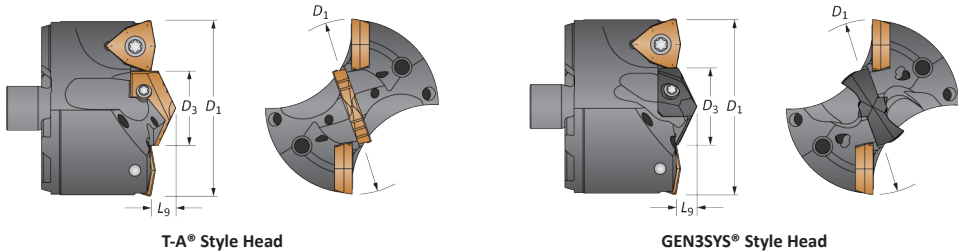
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



70 Series: 70.00 mm - 75.99 mm (2.7558" - 2.9919")

Heads



APX Heads

D ₁			D ₃			L ₉		T-A Style Head	L ₉		GEN3SYS Style Head	IC Insert Size	
mm	inch	Fractional	mm	inch		mm	inch	Part No.	mm	inch	Part No.	mm	inch
70.00	2.7559	—	30.96	1-7/32		9.1	0.358	V7002S-70	7.5	0.297	V7029S-70	9.53	3/8
71.44	2.8125	2-13/16	30.96	1-7/32		9.1	0.358	V7002S-0226	7.5	0.297	V7029S-0226	9.53	3/8
72.00	2.8346	—	30.96	1-7/32		9.1	0.358	V7002S-72	7.5	0.297	V7029S-72	9.53	3/8
73.03	2.8750	2-7/8	30.96	1-7/32		9.1	0.358	V7002S-0228	7.5	0.297	V7029S-0228	9.53	3/8
74.00	2.9134	—	30.96	1-7/32		9.1	0.358	V7002S-74	7.5	0.297	V7029S-74	9.53	3/8
74.61	2.9375	2-15/16	30.96	1-7/32		9.1	0.358	V7002S-0230	7.5	0.297	V7029S-0230	9.53	3/8

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
70.00 - 75.99	2.7558 - 2.9919	30.96	1-7/32	2	TA#2-30.96	1C12H-0107-TC	29	XT#29-30.96

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
9.53	3/8	Standard	OP-060408-1PW	OP-060408-PW	OP-060408-2PW	73595-IP15-1	8IP-15	465 N-cm (41.0 in-lbs)
9.53	3/8	High Rake	—	OP-060408-PWHR	—			

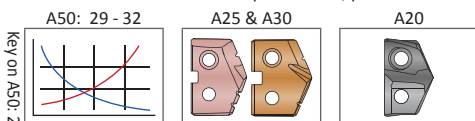
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



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.

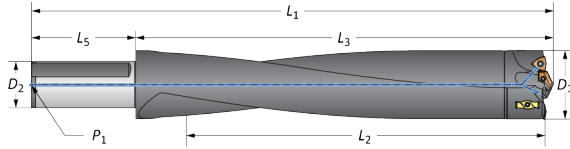
For nonstocked diameters, follow the below examples:

Metric	70 series, T-A (2 series), 73.25 mm	= V7002S-73.25
Inch	70 series, GEN3 (29 series), 2.8450"	= V7029S-2.8450



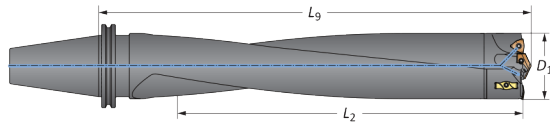
70 Series: 70.00 mm - 75.99 mm (2.7558" - 2.9919")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	235.1	269.1	349.1	80.0	50	1/4 BSPT	W7003H-50FM
	5xD	387.1	421.1	501.1	80.0	50	1/4 BSPT	W7005H-50FM
	8xD	615.1	649.1	729.1	80.0	50	1/4 BSPT	⚠ W7008H-50FM
	10xD	716.5	750.4	830.4	80.0	50	1/4 BSPT	⚠ W7010H-50FM
i	3xD	9.258	10.594	15.094	4.500	2	1/4 NPT	W7003H-200F
	5xD	15.242	16.578	21.078	4.500	2	1/4 NPT	W7005H-200F
	8xD	24.218	25.554	30.054	4.500	2	1/4 NPT	⚠ W7008H-200F
	10xD	28.207	29.543	34.043	4.500	2	1/4 NPT	⚠ W7010H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	9.258	12.219	CAT50	W7003H-CV50
5xD	15.242	18.203	CAT50	W7005H-CV50
8xD	24.218	27.179	CAT50	⚠ W7008H-CV50
10xD	27.080	29.948	CAT50	⚠ W7010H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

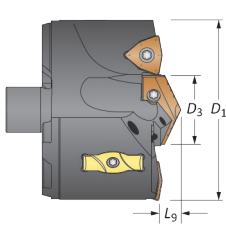
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.

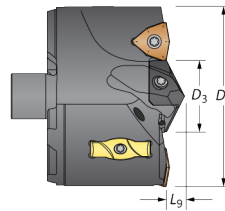
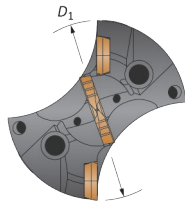


76 Series: 76.00 mm - 82.99 mm (2.9920" - 3.2675")

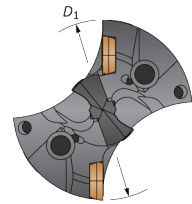
Heads



T-A® Style Head



GEN3SYS® Style Head



APX Heads

D ₁			D ₃			L ₉		T-A Style Head		GEN3SYS Style Head		IC Insert Size	
mm	inch	Fractional	mm	inch	mm	inch	mm	inch	Part No.	mm	inch	mm	inch
76.00	2.9921	—	30.96	1-7/32	9.5	0.373			V7602S-76	7.9	0.311	12.70	1/2
76.20	3.0000	3	30.96	1-7/32	9.5	0.373			V7602S-0300	7.9	0.311	12.70	1/2
77.79	3.0625	3-1/16	30.96	1-7/32	9.5	0.373			V7602S-0302	7.9	0.311	12.70	1/2
78.00	3.0709	—	30.96	1-7/32	9.5	0.373			V7602S-78	7.9	0.311	12.70	1/2
79.38	3.1250	3-1/8	30.96	1-7/32	9.5	0.373			V7602S-0304	7.9	0.311	12.70	1/2
80.00	3.1496	—	30.96	1-7/32	9.5	0.373			V7602S-80	7.9	0.311	12.70	1/2
80.96	3.1875	3-3/16	30.96	1-7/32	9.5	0.373			V7602S-0306	7.9	0.311	12.70	1/2
82.00	3.2283	—	30.96	1-7/32	9.5	0.373			V7602S-82	7.9	0.311	12.70	1/2
82.55	3.2500	3-1/4	30.96	1-7/32	9.5	0.373			V7602S-0308	7.9	0.311	12.70	1/2

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
76.00 - 82.99	2.9920 - 3.2675	30.96	1-7/32	2	TA#2-30.96	1C12H-0107-TC	29	XT#29-30.96

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
12.70	1/2	Standard	OP-080508-1PW	OP-080508-PW	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
		High Rake	—	OP-080508-PWHR	—			

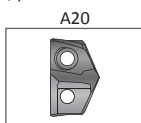
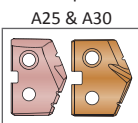
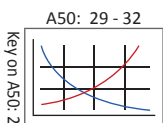
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on pg. A50: 33.



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.

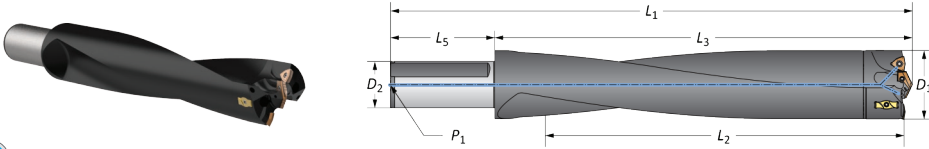
For nonstocked diameters, follow the below examples:

Metric	76 series, T-A (2 series), 79.25 mm	= V7602S-79.25
Inch	76 series, GEN3 (29 series), 3.1450"	= V7629S-3.1450



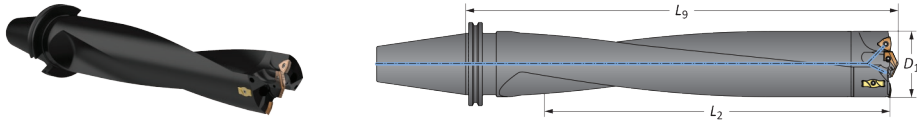
76 Series: 76.00 mm - 82.99 mm (2.9920" - 3.2675")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	255.8	292.4	372.4	80.0	50	1/4 BSPT	W7603H-50FM
	5xD	421.8	458.4	538.4	80.0	50	1/4 BSPT	W7605H-50FM
	8xD	670.7	707.4	787.4	80.0	50	1/4 BSPT	⚠ W7608H-50FM
	10xD	836.7	873.4	953.4	80.0	50	1/4 BSPT	⚠ W7610H-50FM
i	3xD	10.070	11.513	16.013	4.500	2	1/4 NPT	W7603H-200F
	5xD	16.605	18.048	22.548	4.500	2	1/4 NPT	W7605H-200F
	8xD	26.407	27.850	32.350	4.500	2	1/4 NPT	⚠ W7608H-200F
	10xD	32.942	34.385	38.885	4.500	2	1/4 NPT	⚠ W7610H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	10.070	12.888	CAT50	W7603H-CV50
5xD	16.605	19.422	CAT50	W7605H-CV50
8xD	26.407	29.225	CAT50	⚠ W7608H-CV50
10xD	32.942	35.760	CAT50	⚠ W7610H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	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 and page A50: 34 for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

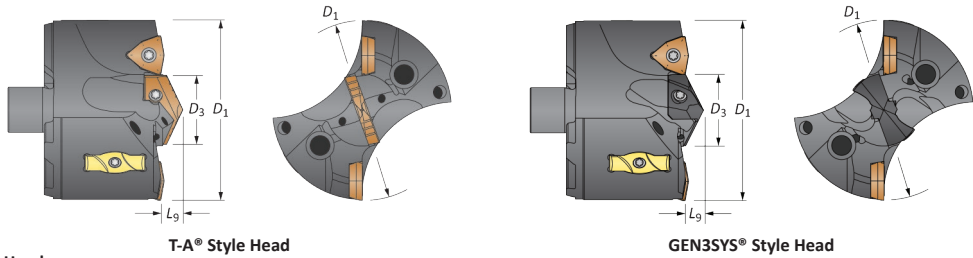
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



83 Series: 83.00 mm - 88.99 mm (3.2676" - 3.5037")

Heads



APX Heads

D ₁			D ₃			L ₉		T-A Style Head		GEN3SYS Style Head		IC Insert Size	
mm	inch	Fractional	mm	inch	mm	inch	mm	inch	Part No.	mm	inch	mm	inch
84.00	3.3071	—	34.93	1-3/8	10.4	0.408			V83025-84	8.6	0.338	12.70	1/2
84.14	3.3125	3-5/16	34.93	1-3/8	10.4	0.408			V83025-0310	8.6	0.338	12.70	1/2
85.73	3.3750	3-3/8	34.93	1-3/8	10.4	0.408			V83025-0312	8.6	0.338	12.70	1/2
86.00	3.3858	—	34.93	1-3/8	10.4	0.408			V83025-86	8.6	0.338	12.70	1/2
87.31	3.4375	3-7/16	34.93	1-3/8	10.4	0.408			V83025-0314	8.6	0.338	12.70	1/2
88.00	3.4646	—	34.93	1-3/8	10.4	0.408			V83025-88	8.6	0.338	12.70	1/2
88.90	3.5000	3-1/2	34.93	1-3/8	10.4	0.408			V83025-0316	8.6	0.338	12.70	1/2

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
83.00 - 88.99	3.2676 - 3.5037	34.93	1-3/8	2	TA#2-34.93	1C12H-0112-TC	32	XT#32-34.93

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
mm	inch		K35 (C1)	P35 (C5)	K25 (C2)			
12.70	1/2	Standard	OP-080508-1PW	OP-080508-PW	OP-080508-2PW	74012-IP15-1	8IP-15	690 N-cm (61.0 in-lbs)
		High Rake	—	OP-080508-PWHR	—			

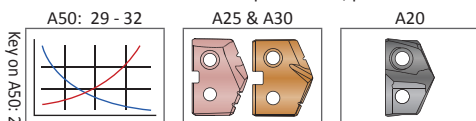
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



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.

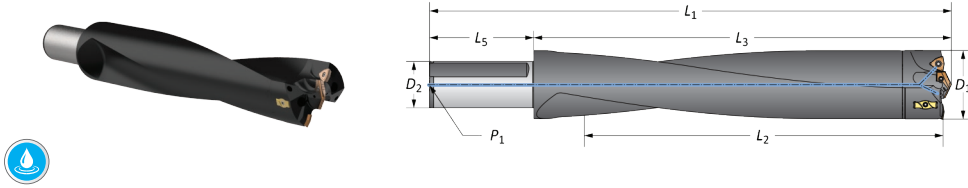
For nonstocked diameters, follow the below examples:

Metric	83 series, T-A (2 series), 86.25 mm	= V83025-86.25
Inch	83 series, GEN3 (32 series), 3.3250"	= V83325-3.3250



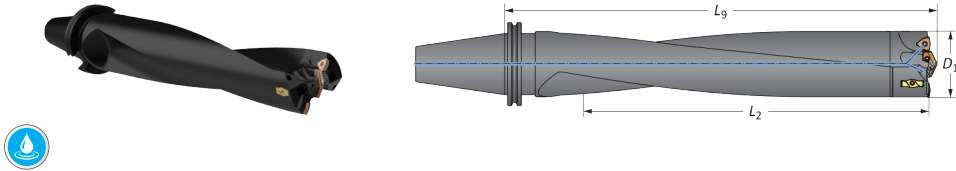
83 Series: 83.00 mm - 88.99 mm (3.2676" - 3.5037")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	272.8	312.6	392.6	80.0	50	1/4 BSPT	W8303H-50FM
	5xD	450.8	490.6	570.6	80.0	50	1/4 BSPT	W8305H-50FM
	8xD	710.8	750.5	830.5	80.0	50	1/4 BSPT	⚠ W8308H-50FM
	10xD	895.7	935.4	1015.4	80.0	50	1/4 BSPT	⚠ W8310H-50FM
i	3xD	10.741	12.307	16.807	4.500	2	1/4 NPT	W8303H-200F
	5xD	17.747	19.313	23.813	4.500	2	1/4 NPT	W8305H-200F
	8xD	27.982	29.548	34.048	4.500	2	1/4 NPT	⚠ W8308H-200F
	10xD	35.262	36.828	41.328	4.500	2	1/4 NPT	⚠ W8310H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	10.741	13.682	CAT50	W8303H-CV50
5xD	17.747	20.687	CAT50	W8305H-CV50
8xD	27.102	30.042	CAT50	⚠ W8308H-CV50
10xD	35.262	38.203	CAT50	⚠ W8310H-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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

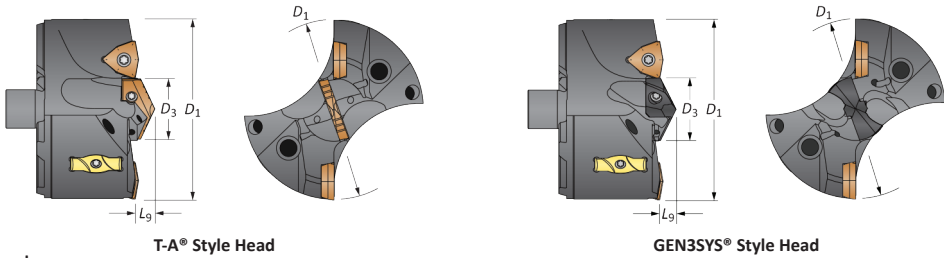
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



89 Series: 89.00 mm - 94.99 mm (3.5038" - 3.7399")

Heads



APX Heads

D ₁			D ₃		T-A Style Head			GEN3SYS Style Head			IC Insert Size	
mm	inch	Fractional	mm	inch	L ₉		Part No.	L ₉		Part No.	mm	inch
90.00	3.5433	—	31.75	1-1/4	9.8	0.386	V89025-90	8.2	0.323	V89295-90	14.29	9/16
90.49	3.5625	3-9/16	31.75	1-1/4	9.8	0.386	V89025-0318	8.2	0.323	V89295-0318	14.29	9/16
92.00	3.6220	—	31.75	1-1/4	9.8	0.386	V89025-92	8.2	0.323	V89295-92	14.29	9/16
92.08	3.6250	3-5/8	31.75	1-1/4	9.8	0.386	V89025-0320	8.2	0.323	V89295-0320	14.29	9/16
93.66	3.6875	3-11/16	31.75	1-1/4	9.8	0.386	V89025-0322	8.2	0.323	V89295-0322	14.29	9/16
94.00	3.7008	—	31.75	1-1/4	9.8	0.386	V89025-94	8.2	0.323	V89295-94	14.29	9/16

Pilot Inserts

D ₁ Range		D ₃		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
89.00 - 94.99	3.5038 - 3.7399	31.75	1-1/4	2	TA#2-31.75	1C12H-0108-TC	29	XT#29-31.75

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
			K35 (C1)	P35 (C5)	K25 (C2)			
14.29	9/16	Standard	OP-090608-1PW	OP-090608-PW	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
		High Rake	—	OP-090608-PWHR	—			

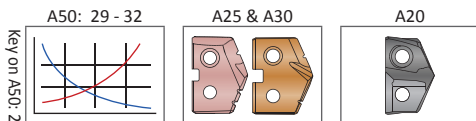
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



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.

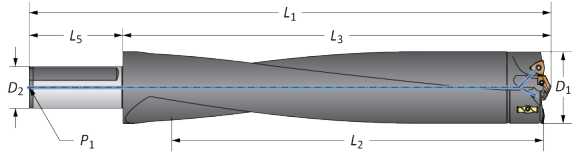
For nonstocked diameters, follow the below examples:

Metric	89 series, T-A (2 series), 91.25 mm	= V89025-91.25
Inch	89 series, GEN3 (29 series), 3.6500"	= V89295-3.6500



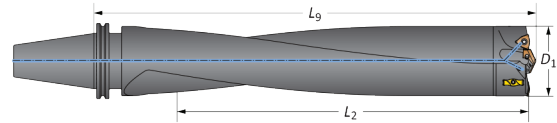
89 Series: 89.00 mm - 94.99 mm (3.5038" - 3.7399")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	291.4	333.6	413.6	80.0	50	1/4 BSPT	W8903H-50FM
	5xD	481.4	523.6	603.6	80.0	50	1/4 BSPT	W8905H-50FM
	8xD	708.1	750.3	830.3	80.0	50	1/4 BSPT	⚠ W8908H-50FM
	10xD	913.7	955.9	1035.9	80.0	50	1/4 BSPT	⚠ W8910H-50FM
i	3xD	11.474	13.135	17.635	4.500	2	1/4 NPT	W8903H-200F
	5xD	18.954	20.615	25.115	4.500	2	1/4 NPT	W8905H-200F
	8xD	27.879	29.540	34.040	4.500	2	1/4 NPT	⚠ W8908H-200F
	10xD	35.971	37.632	42.132	4.500	2	1/4 NPT	⚠ W8910H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	11.474	14.510	CAT50	W8903H-CV50
5xD	18.954	21.990	CAT50	W8905H-CV50
8xD	26.999	30.035	CAT50	⚠ W8908H-CV50
10xD	35.971	39.007	CAT50	⚠ W8910H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

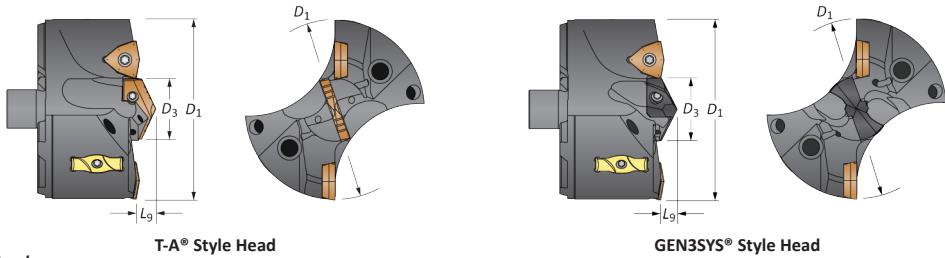
m = Metric (mm)
i = Imperial (in)

Mounting screws sold in multiples of 4.



95 Series: 95.00 mm - 101.60 mm (3.7400" - 4.0001")

Heads



APX Heads

D_1			D_3		T-A Style Head			GEN3SYS Style Head			IC Insert Size	
mm	inch	Fractional	mm	inch	L_9			L_9				
			mm	inch	mm	inch	Part No.	mm	inch	Part No.	mm	inch
95.25	3.7500	3-3/4	34.93	1-3/8	10.5	0.414	V9502S-0324	8.7	0.344	V9532S-0324	14.29	9/16
96.00	3.7795	—	34.93	1-3/8	10.5	0.414	V9502S-96	8.7	0.344	V9532S-96	14.29	9/16
96.84	3.8125	3-13/16	34.93	1-3/8	10.5	0.414	V9502S-0326	8.7	0.344	V9532S-0326	14.29	9/16
98.00	3.8583	—	34.93	1-3/8	10.5	0.414	V9502S-98	8.7	0.344	V9532S-98	14.29	9/16
98.43	3.8750	3-7/8	34.93	1-3/8	10.5	0.414	V9502S-0328	8.7	0.344	V9532S-0328	14.29	9/16
100.00	3.9370	—	34.93	1-3/8	10.5	0.414	V9502S-100	8.7	0.344	V9532S-100	14.29	9/16
100.01	3.9375	3-15/16	34.93	1-3/8	10.5	0.414	V9502S-0330	8.7	0.344	V9532S-0330	14.29	9/16
101.60	4.0000	4	34.93	1-3/8	10.5	0.414	V9502S-0400	8.7	0.344	V9532S-0400	14.29	9/16

Pilot Inserts

D_1 Range		D_3		T-A Style Head			GEN3SYS Style Head	
mm	inch	mm	inch	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
95.00 - 101.60	3.7400 - 4.0001	34.93	1-3/8	2	TA#2-34.93	1C12H-0112-TC	29	XT#32-34.93

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

IC Inserts - AM300® Coated

Size		Geometry	Part No.			Insert Screw	Insert Driver	Admissible Tightening Torque*
			K35 (C1)	P35 (C5)	K25 (C2)			
14.29	9/16	Standard	OP-090608-1PW	OP-090608-PW	OP-090608-2PW	75014-IP20-1	8IP-20	1370 N-cm (121.0 in-lbs)
		High Rake	—	OP-090608-PWHR	—			

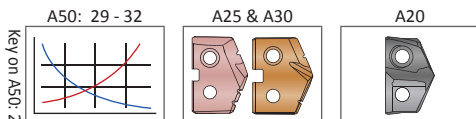
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
2	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.

NOTE: For standard metric sized pilot inserts, please see the cross reference on **pg. A50: 33**.



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.

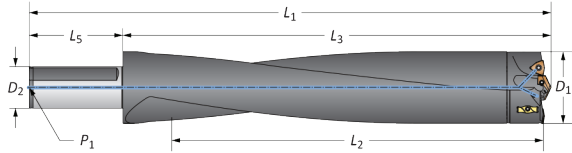
For nonstocked diameters, follow the below examples:

Metric	95 series, T-A (2 series), 100.25 mm	= V9502S-100.25
Inch	95 series, GEN3 (32 series), 3.9450"	= V9532S-3.9450



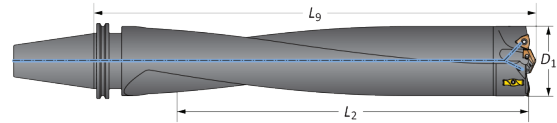
95 Series: 95.00 mm - 101.60 mm (3.7400" - 4.0001")

Holders



Straight Shank

	Length	Body			Shank			Part No.
		L_2	L_3	L_1	L_5	D_2	P_1	
m	3xD	316.9	362.8	442.8	80.0	50	1/4 BSPT	W9503H-50FM
	5xD	520.1	566.0	646.0	80.0	50	1/4 BSPT	W9505H-50FM
	8xD	712.0	756.7	836.7	80.0	50	1/4 BSPT	⚠ W9508H-50FM
	10xD	916.3	962.3	1042.3	80.0	50	1/4 BSPT	⚠ W9510H-50FM
i	3xD	12.477	14.285	18.785	4.500	2	1/4 NPT	W9503H-200F
	5xD	20.477	22.285	26.785	4.500	2	1/4 NPT	W9505H-200F
	8xD	27.982	29.790	34.290	4.500	2	1/4 NPT	⚠ W9508H-200F
	10xD	36.077	37.885	42.385	4.500	2	1/4 NPT	⚠ W9510H-200F



CAT Integral Shank

Length	Body		Shank	Part No.
	L_2	L_9		
3xD	12.477	15.660	CAT50	W9503H-CV50
5xD	20.477	23.660	CAT50	W9505H-CV50
8xD	27.102	30.285	CAT50	⚠ W9508H-CV50
10xD	36.077	39.260	CAT50	⚠ W9510H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Driver	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 and page **A50: 34** for deep hole drilling guidelines in this section of the catalog. 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: appeng@alliedmachine.com.

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

Mounting screws sold in multiples of 4.



Recommended Drilling Data | Metric (mm)

APX DRILL					
ISO	Material	Hardness (BHN)	Outboard Insert		Feed Rate (mm/rev)
			Speed (m/min)	Pilot Style	7.94 mm IC
					33 Series 33.00 mm - 37.99 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	137 - 229	T-A/GEN3SYS	0.15 - 0.28
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	137 - 229	T-A/GEN3SYS	0.15 - 0.28
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	137 - 229	T-A/GEN3SYS	0.15 - 0.28
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	122 - 213	T-A/GEN3SYS	0.13 - 0.18
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	91 - 152	T-A/GEN3SYS	0.13 - 0.15
	Structural Steel A36, A285, A516, etc.	100 - 350	137 - 229	T-A/GEN3SYS	0.15 - 0.20
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	91 - 152	T-A/GEN3SYS	0.13 - 0.15
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	91 - 152	T-A/GEN3SYS	0.15 - 0.20
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	91 - 152	T-A/GEN3SYS	0.13 - 0.18
	Super Duplex Stainless Steel	135 - 275	76 - 137	T-A/GEN3SYS	0.10 - 0.15
K	SG / Nodular Cast Iron	120 - 320	152 - 244	T-A/GEN3SYS	0.13 - 0.23
N	Cast Aluminum	30 - 180	183 - 244	T-A/GEN3SYS	0.23 - 0.30
	Wrought Aluminum	30 - 180	183 - 244	T-A/GEN3SYS	0.18 - 0.28
	Aluminum Bronze	100 - 250	123 - 213	T-A/GEN3SYS	0.13 - 0.18
	Brass	30 - 100	244	T-A/GEN3SYS	0.15 - 0.20
	Copper	60	213	T-A/GEN3SYS	0.05 - 0.13
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	61 - 122	T-A	0.10 - 0.13
	Titanium Alloy	140 - 310	91 - 152	T-A	0.13 - 0.18
	Aerospace Alloy S82	185 - 350	122 - 183	T-A/GEN3SYS	0.10 - 0.15
H	Wear Plate Hardox®, AR400, T-1, etc.	400 - 600	91 - 152	T-A	0.07 - 0.13
	Hardened Steel	300 - 500	91 - 152	T-A	0.10 - 0.13

Coolant Recommendations

Series	33	38	44	51	57	63	70	76	83	89	95
Pressure (BAR)	24	21	19	17	16	14	10	7	7	7	7
Flow Rate (LPM)	38	38	45	68	76	83	95	106	114	125	125

Calculations

Value	m/min	RPM	mm/min
Formula	$RPM \cdot 0.003 \cdot \text{Diameter}$	$(m/min \cdot 318.47) / \text{Diameter}$	$RPM \cdot mm/rev$

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.

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:

- Do not rotate tool more than 50 RPM unless it is engaged with the workpiece or fixture.
Refer to page A50: 34 for Deep Hole Drilling Guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



Recommended Drilling Data | Metric (mm)

APX DRILL					
Feed Rate (mm/rev)					
9.53 mm IC	12.70 mm IC	14.29 mm IC	9.53 mm IC	12.70 mm IC	14.29 mm IC
38 - 44 Series 38.00 mm - 47.89 mm	44 - 51 Series 47.90 mm - 56.15 mm	51 - 63 Series 56.16 mm - 69.99 mm	70 Series 70.00 mm - 75.99 mm	76 - 83 Series 76.00 mm - 88.99 mm	89 - 95 Series 89.00 mm - 101.60 mm
0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
0.13 - 0.23	0.18 - 0.25	0.18 - 0.28	0.13 - 0.23	0.15 - 0.25	0.15 - 0.25
0.13 - 0.18	0.13 - 0.20	0.15 - 0.23	0.13 - 0.18	0.13 - 0.20	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
0.13 - 0.18	0.18 - 0.23	0.20 - 0.25	0.13 - 0.18	0.15 - 0.23	0.18 - 0.25
0.18 - 0.23	0.20 - 0.25	0.23 - 0.28	0.13 - 0.18	0.18 - 0.23	0.18 - 0.25
0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.10 - 0.20	0.15 - 0.25	0.15 - 0.25
0.13 - 0.18	0.18 - 0.23	0.18 - 0.23	0.10 - 0.18	0.15 - 0.23	0.18 - 0.25
0.15 - 0.25	0.20 - 0.30	0.25 - 0.30	0.20 - 0.25	0.23 - 0.28	0.25 - 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
0.20 - 0.30	0.25 - 0.36	0.25 - 0.36	0.15 - 0.23	0.20 - 0.28	0.20 - 0.30
0.13 - 0.20	0.18 - 0.25	0.23 - 0.28	0.15 - 0.23	0.18 - 0.25	0.20 - 0.30
0.18 - 0.23	0.20 - 0.25	0.23 - 0.30	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25
0.08 - 0.15	0.15 - 0.20	0.20 - 0.25	0.08 - 0.15	0.15 - 0.20	0.15 - 0.20
0.10 - 0.18	0.15 - 0.23	0.18 - 0.23	0.10 - 0.15	0.13 - 0.18	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
0.13 - 0.18	0.15 - 0.20	0.15 - 0.20	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
0.10 - 0.15	0.15 - 0.20	0.18 - 0.23	0.08 - 0.13	0.10 - 0.15	0.10 - 0.15
0.13 - 0.15	0.15 - 0.20	0.15 - 0.20	0.08 - 0.13	0.10 - 0.20	0.10 - 0.20

A50

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- Do not rotate tool more than 50 RPM unless it is engaged with the workpiece or fixture.

Refer to page A50: 34 for Deep Hole Drilling Guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

APX DRILL

ISO	Material	Hardness (BHN)	Outboard Insert		Feed Rate (IPR)
			Speed (SFM)	Pilot Style	5/16" IC 33 Series 1.2992" - 1.4960"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	450 - 750	T-A/GEN3SYS	0.006 - 0.011
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	450 - 750	T-A/GEN3SYS	0.006 - 0.011
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	450 - 750	T-A/GEN3SYS	0.006 - 0.011
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	400 - 700	T-A/GEN3SYS	0.005 - 0.007
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	300 - 500	T-A/GEN3SYS	0.005 - 0.006
	Structural Steel A36, A285, A516, etc.	100 - 350	450 - 750	T-A/GEN3SYS	0.006 - 0.008
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	300 - 500	T-A/GEN3SYS	0.005 - 0.006
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	300 - 500	T-A/GEN3SYS	0.006 - 0.008
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	300 - 500	T-A/GEN3SYS	0.005 - 0.007
	Super Duplex Stainless Steel	135 - 275	250 - 450	T-A/GEN3SYS	0.004 - 0.006
K	SG / Nodular Cast Iron	120 - 320	500 - 800	T-A/GEN3SYS	0.005 - 0.009
N	Cast Aluminum	30 - 180	600 - 800	T-A/GEN3SYS	0.009 - 0.012
	Wrought Aluminum	30 - 180	600 - 800	T-A/GEN3SYS	0.007 - 0.011
	Aluminum Bronze	100 - 250	400 - 700	T-A/GEN3SYS	0.005 - 0.007
	Brass	30 - 100	800	T-A/GEN3SYS	0.006 - 0.008
	Copper	60	700	T-A/GEN3SYS	0.002 - 0.005
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	200 - 400	T-A	0.004 - 0.005
	Titanium Alloy	140 - 310	300 - 500	T-A	0.005 - 0.007
	Aerospace Alloy S82	185 - 350	400 - 600	T-A/GEN3SYS	0.004 - 0.006
H	Wear Plate Hardox®, AR400, T-1, etc.	400 - 600	300 - 500	T-A	0.003 - 0.005
	Hardened Steel	300 - 500	300 - 500	T-A	0.004 - 0.005

Coolant Recommendations

Series	33	38	44	51	57	63	70	76	83	89	95
Pressure (PSI)	350	300	275	250	225	200	150	100	100	100	100
Flow Rate (GPM)	10	10	12	18	20	22	25	28	30	33	33

Calculations

Value	SFM	RPM	IPM
Formula	$RPM \bullet 0.262 \bullet \text{Diameter}$	$(SFM \bullet 3.82) / \text{Diameter}$	$RPM \bullet IPR$

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.

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:

- Do not rotate tool more than 50 RPM unless it is engaged with the workpiece or fixture.
Refer to page A50: 34 for Deep Hole Drilling Guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

APX DRILL					
Feed Rate (IPR)					
3/8" IC	1/2" IC	9/16" IC	3/8" IC	1/2" IC	9/16" IC
38 - 44 Series 1.4961" - 1.8859"	44 - 51 Series 1.8860" - 2.2109"	51 - 63 Series 2.2110" - 2.7558"	70 Series 2.7559" - 2.9920"	76 - 83 Series 2.9921" - 3.5038"	89 - 95 Series 3.5039" - 4.0000"
0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
0.007 - 0.012	0.009 - 0.012	0.009 - 0.012	0.006 - 0.010	0.007 - 0.011	0.007 - 0.012
0.005 - 0.009	0.007 - 0.010	0.007 - 0.011	0.005 - 0.009	0.006 - 0.010	0.006 - 0.010
0.005 - 0.007	0.005 - 0.008	0.006 - 0.009	0.005 - 0.007	0.005 - 0.008	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
0.005 - 0.007	0.007 - 0.009	0.008 - 0.010	0.005 - 0.007	0.006 - 0.009	0.007 - 0.010
0.007 - 0.009	0.008 - 0.010	0.009 - 0.011	0.005 - 0.007	0.007 - 0.009	0.007 - 0.010
0.006 - 0.008	0.007 - 0.009	0.008 - 0.010	0.004 - 0.008	0.006 - 0.010	0.006 - 0.010
0.005 - 0.007	0.007 - 0.009	0.007 - 0.009	0.004 - 0.007	0.006 - 0.009	0.007 - 0.010
0.006 - 0.010	0.008 - 0.012	0.010 - 0.012	0.008 - 0.010	0.009 - 0.011	0.010 - 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
0.008 - 0.012	0.010 - 0.014	0.010 - 0.014	0.006 - 0.009	0.008 - 0.011	0.008 - 0.012
0.005 - 0.008	0.007 - 0.010	0.009 - 0.011	0.006 - 0.009	0.007 - 0.010	0.008 - 0.012
0.007 - 0.009	0.008 - 0.010	0.009 - 0.012	0.006 - 0.008	0.007 - 0.009	0.008 - 0.012
0.003 - 0.006	0.006 - 0.008	0.008 - 0.010	0.006 - 0.008	0.006 - 0.008	0.006 - 0.008
0.004 - 0.007	0.006 - 0.009	0.007 - 0.009	0.004 - 0.006	0.005 - 0.007	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
0.005 - 0.007	0.006 - 0.008	0.006 - 0.008	0.004 - 0.006	0.005 - 0.007	0.005 - 0.007
0.004 - 0.006	0.006 - 0.008	0.007 - 0.009	0.003 - 0.005	0.004 - 0.006	0.004 - 0.006
0.005 - 0.006	0.006 - 0.008	0.006 - 0.008	0.003 - 0.005	0.004 - 0.006	0.004 - 0.006

A50

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

- Do not rotate tool more than 50 RPM unless it is engaged with the workpiece or fixture.
Refer to page A50: 34 for Deep Hole Drilling Guidelines in this section of the catalog. 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: appeng@alliedmachine.com.



Metric Standard Pilot Cross Reference

Pilot Inserts

APX Series	D ₁ Range		T-A® Style Head			GEN3SYS® Style Head	
	mm	Fractional	Pilot Series	T-A Pro®	T-A (-TC)	Pilot Series	XT Pro
33	33.00 - 33.99	1.2991 - 1.3383	0	TA#0-16.00	1C10H-16-TC	—	—
	34.00 - 35.99	1.3384 - 1.4171	1	TA#1-18.00	1C11H-18-TC	—	—
	36.00 - 37.99	1.4172 - 1.4958	1	TA#1-20.00	1C11H-20-TC	—	—
38	38.00 - 39.72	1.4959 - 1.5639	0	TA#0-15.90	1C10H-15.9-TC	15	XT#15-15.90
	39.73 - 41.30	1.5640 - 1.6261	0	TA#0-17.50	1C10H-17.5-TC	17	XT#17-17.50
	41.31 - 42.90	1.6262 - 1.6891	1	TA#1-19.50	1C11H-19.5-TC	18	XT#18-19.50
	42.91 - 43.99	1.6892 - 1.7320	1	TA#1-21.00	1C11H-21-TC	20	XT#20-21.00
44	44.00 - 45.26	1.7321 - 1.7820	1**	TA#1-23.00	1C11H-23-TC	22	XT#22-23.00
	45.27 - 47.90	1.7821 - 1.8860	1**	TA#1-24.00	1C11H-24-TC	22	XT#22-23.80
	47.91 - 49.99	1.8861 - 1.9683	1	TA#1-18.00	1C11H-18-TC	17	XT#17-17.90
	50.00 - 50.99	1.9684 - 2.0076	1	TA#1-19.00	1C11H-19-TC	18	XT#18-19.00
51	51.00 - 52.42	2.0077 - 2.0639	1	TA#1-20.00	1C11H-20-TC	18	XT#18-19.80
	52.43 - 53.99	2.0640 - 2.1257	1**	TA#1-21.50	1C11H-21.5-TC	20	XT#20-21.50
	54.00 - 56.15	2.1258 - 2.2108	1**	TA#1-24.00	1C11H-24-TC	22	XT#22-23.80
	56.16 - 56.99	2.2109 - 2.2438	1**	TA#1-21.00	1C11H-21-TC	20	XT#20-21.00
57	57.00 - 58.77	2.2439 - 2.3139	1	TA#1-23.00	1C11H-23-TC	22	XT#22-23.00
	58.78 - 60.35	2.3140 - 2.3761	1	TA#1-24.00	1C11H-24-TC	22	XT#22-23.80
	60.36 - 61.95	2.3762 - 2.4391	2	TA#2-25.50	1C12H-25.5-TC	24	XT#24-25.50
	61.96 - 62.99	2.4392 - 2.4801	2	TA#2-27.00	1C12H-27-TC	26	XT#26-27.00
63	63.00 - 65.07	2.4802 - 2.5620	2	TA#2-28.50	1C12H-28.5-TC	26	XT#26-28.50
	65.08 - 66.70	2.5621 - 2.6261	2	TA#2-31.00	1C12H-31-TC	29	XT#29-31.00
	66.71 - 68.30	2.6262 - 2.6891	2	TA#2-32.00	1C12H-32-TC	29	XT#29-31.80
	68.31 - 69.99	2.6892 - 2.7557	2	TA#2-34.00	1C12H-34-TC	32	XT#32-34.00
70	70.00 - 75.99	2.7558 - 2.9919	2	TA#2-31.00	1C12H-31-TC	29	XT#29-31.00
76	76.00 - 82.99	2.9920 - 3.2675	2	TA#2-31.00	1C12H-315-TC	29	XT#29-31.00
83	83.00 - 88.99	3.2676 - 3.5037	2	TA#2-35.00	1C12H-35-TC	32	XT#32-35.00
89	89.00 - 94.99	3.5038 - 3.7399	2	TA#2-32.00	1C12H-32-TC	29	XT#29-31.80
95	95.00 - 101.60	3.7400 - 4.0001	2	TA#2-35.00	1C12H-35-TC	29	XT#32-35.00

#: Denotes ISO material/geometry (P= steel, M= stainless steel, K= cast iron, N= nonferrous, and X= high-speed steel substrate). X is only available in T-A Pro inserts.

**NOTE: coordinating screw in accessory table below.

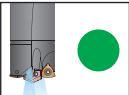
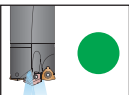
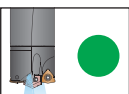
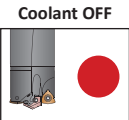
Pilot Accessories

T-A Series	GEN3SYS Series	Insert Screws	Insert Driver	Admissible Tightening Torque*
—	15	7247-IP7-1	8IP-7	84 N-cm (7.4 in-lbs)
0	17	72567-IP8-1	8IP-8	175 N-cm (15.5 in-lbs)
1	18 20	7375-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
1**	22 24	739-IP9-1	8IP-9	305 N-cm (27.0 in-lbs)
2	26 29 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.



Deep Hole Drilling Guidelines

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.	Coolant OFF 
2. Feed-in 75% Speed 50% Feed	Drill 19.05 mm (0.75") deep at 75% recommended speed and 50% recommended feed to establish the hole.	Coolant ON 
3. 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 
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 break out more than 3.00 mm (0.125") past the full diameter of the drill.	Coolant ON 
5. Drill Retract  50 RPM max	Reduce speed to a maximum of 50 RPM before retracting from the hole.	Coolant OFF 

A50

 WARNING Tool failure can cause serious injury. To prevent:

- Do not rotate tool 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: appeng@alliedmachine.com.



SECTION

A55

4TEX® Drill

4TEX[®] Drill

12.00 mm - 47.00 mm (0.472" - 1.850")



4TEX Drill

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.

Don't Let Your Machine Slow You Down

- Improved hole size and finish.
- Superior chip evacuation.
- Increased penetration rates.

Applicable Industries

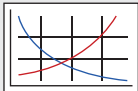
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Oil and Gas
-  Renewable Energy/ Energy
-  Structural Steel Fabricator
-  Tool, Mold, and Die

Reference Icons

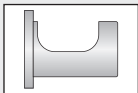
The following icons will appear throughout the catalog to help you navigate between products.



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



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



Eccentric Sleeves
Refers to the corresponding eccentric sleeve for the holder.



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

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



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

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

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

Table of Contents

Introduction Information	
Safety Information	3
Case Study	4
Insert Information	5
System Overview	7
Product Nomenclature	8
Drill Series	
03 Series: 12.00 mm - 13.49 mm (0.472" - 0.531")	9
04 Series: 13.50 mm - 15.49 mm (0.532" - 0.610")	10
05 Series: 15.50 mm - 18.49 mm (0.611" - 0.728")	
Metric Shank	11
Imperial Shank	12
06 Series: 18.50 mm - 21.99 mm (0.728" - 0.866")	
Metric Shank	13
Imperial Shank	14
07 Series: 22.00 mm - 26.49 mm (0.867" - 1.043")	
Metric Shank	15
Imperial Shank	16
09 Series: 26.50 mm - 31.99 mm (1.044" - 1.259")	
Metric Shank	17
Imperial Shank	19
11 Series: 32.00 mm - 38.99 mm (1.260" - 1.535")	
Metric Shank	21
Imperial Shank	23
14 Series: 39.00 mm - 47.00 mm (1.536" - 1.850")	
Metric Shank	25
Imperial Shank	27
Eccentric Sleeves	29
Technical Information	
Cutting Diameter and Center Height Adjustment	30
Recommended Drilling Data	
Metric (mm)	33
Imperial (in)	35
Insert Geometry Recommendations	37
Troubleshooting	38



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 minimize 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 catalog 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 minimize 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 minimize 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 catalog, 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 disk** is created as tool breakout occurs.
- ⚠ Proper personal protective equipment must be used to prevent injury (e.g. wear cut-resistant gloves).





Case Study

4TEX® DRILL INDEXABLE CARBIDE



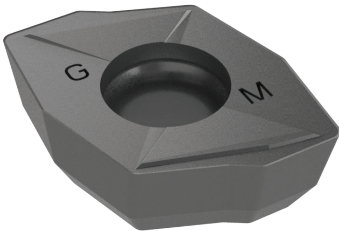
Pump Bodies | Ductile Iron

A55

Hole Ø: 29.36 mm (1.1560")
Hole Depth: 50.80 mm (2.0000")

Holder, 2xD length: D2091156I-125F
Insert, K (cast iron): 4T-09T306-K

K - Cast Iron



- ✓ 400% increase in tool life.
- ✓ 59% decrease in cycle time.



RPM



SPEED



FEED IN



CYCLE TIME



TOOL LIFE

Competitor

991

91.44 m/min
(300 SFM)

0.04 mm/rev
(0.0015 IPR)

1 min 20 sec

56 holes

Allied

770

71.02 m/min
(233 SFM)

0.12 mm/rev
(0.0048 IPR)

32 sec

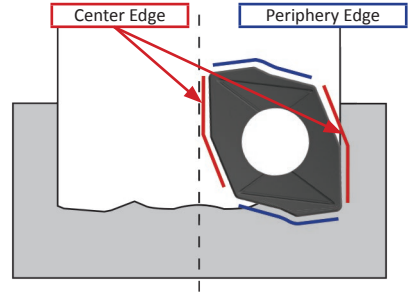
280 holes



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:



180°

A55

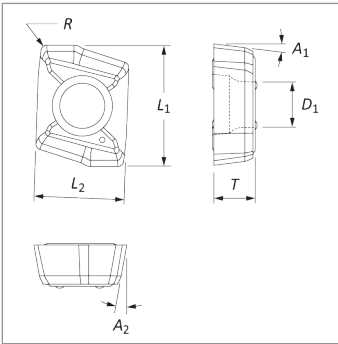
ISO	Geometry	Coating	Description
P	General Rake	AM480	A general purpose geometry that provides excellent chip formation in most steels including free-machining, medium- and high-carbon steels. A P30 carbide substrate for improved toughness and AM480 coating, a proprietary wear-resistant multilayer PVD 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-resistant proprietary multilayer PVD coating.
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.
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.



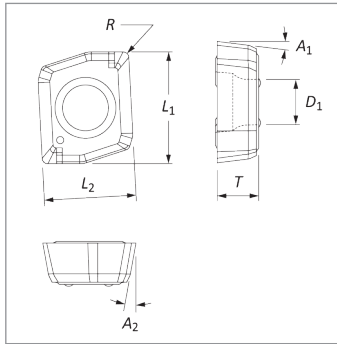
Insert Information

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°	 Style 3
14	4T-140408-x	17.99	14.40	4.88	5.76	0.80	13°	7°	

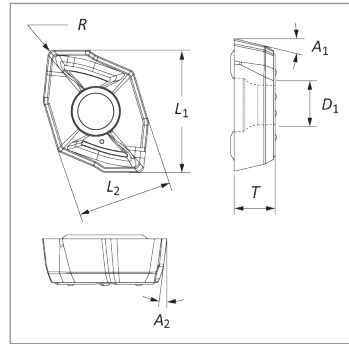
Style 1



Style 2



Style 3

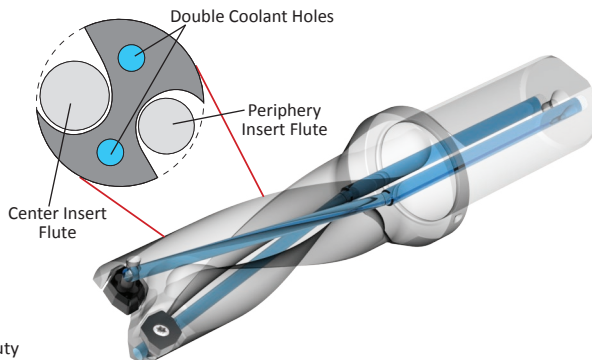




System Overview

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.

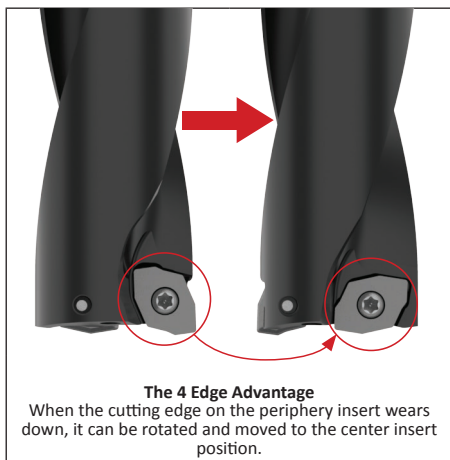


DESIGNED TO GIVE YOU **IMPROVED** HOLE SIZE AND STRAIGHTNESS

- 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 improves 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.

A55

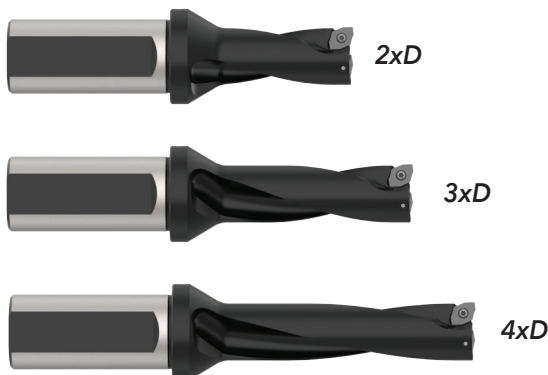
LONGER TOOL LIFE



The 4 Edge Advantage

When the cutting edge on the periphery insert wears down, it can be rotated and moved to the center insert position.

AVAILABLE **LENGTHS**





Product Nomenclature

4TEX Drill Holders

D4	03	1200	M	—	075	F
Drill Length	Series	Diameter*	Diameter Style		Shank Diameter	Shank Style
D2 = 2xD	03 09	1200 = 12 mm	M = Metric		Metric	FM = Metric flanged shank
D3 = 3xD	04 11	0750 = 0.075"	I = Imperial		Imperial	F = Imperial flanged shank
D4 = 4xD	05 14					
	06					
	07					
					20 = 20 mm 25 = 25 mm 32 = 32 mm 40 = 40 mm	075 = 0.075" 100 = 1.000" 125 = 1.250" 150 = 1.500"

*Ordering Nonstocked Diameters:

Nonstocked diameters are available upon request. Please refer to price list for applicable process fees.

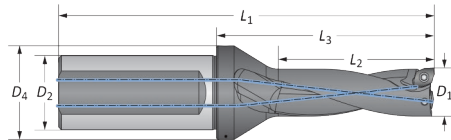
Ordering example:

Metric: 03 Series (12.65 mm) = D2031265M-20FM

Inch: 03 Series (Ø 0.480") = D2030480I-075F

Reference Key

Symbol	Attribute
D_1	Drill diameter
D_2	Shank diameter
D_4	Flange diameter
L_1	Assembled overall length
L_2	Drill depth
L_3	Reference length



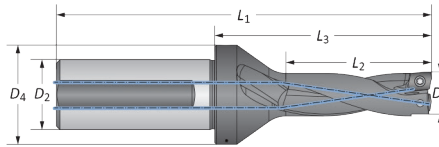
Series Details

Series		3 Series	4 Series	5 Series	6 Series	7 Series	9 Series	11 Series	14 Series
Cutter $\varnothing$	mm	12.00 - 13.49	13.50 - 15.49	15.50 - 18.49	18.50 - 21.99	22.00 - 26.49	26.50 - 31.99	32.00 - 38.99	39.00 - 47.00
	inch	0.472 - 0.531	0.532 - 0.610	0.611 - 0.728	0.728 - 0.866	0.867 - 1.043	1.044 - 1.259	1.260 - 1.535	1.536 - 1.850
Shank $\varnothing$	mm	20.00	20.00	25.00	25.00	25.00	32.00	40.00	40.00
	inch	0.750	0.750	1.000	1.000	1.000	1.250	1.500	1.500
Insert Prefix		4T-030203C-x	4T-040203-x	4T-05T203-x	4T-06T204-x	4T-070305-x	4T-09T306-x	4T-11T306-x	4T-140408-x
		4T-030203P-x							
# of Inserts		2	2	2	2	2	2	2	2



03 Series: 12.00 mm - 13.49 mm (0.472" - 0.531")

Holders



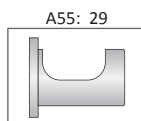
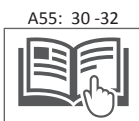
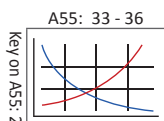
Length		D ₁		Body			Shank		Max Offset	Part No.
		mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
m	2xD	12.00	0.472	24.00	45.40	88.40	20.00	27.00	0.50	D2031200M-20FM
		12.50	0.492	25.00	46.40	89.40	20.00	27.00	0.40	D2031250M-20FM
		12.70	0.500	25.40	46.40	89.40	20.00	27.00	0.35	D2030500I-20FM
		13.00	0.512	26.00	47.40	90.40	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
i	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	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	Center	4T-030203C-M			
M	Periphery	4T-030203P-M			
K	Center	4T-030203C-K			
	Periphery	4T-030203P-K			
N	Center	4T-030203C-N			
	Periphery	4T-030203P-N			
H	Center	4T-030203C-H			
	Periphery	4T-030203P-H			

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)

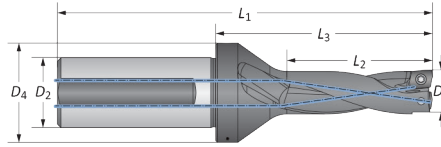
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



04 Series: 13.50 mm - 15.49 mm (0.532" - 0.610")

Holders



Length		D ₁		Body			Shank		Max Offset	Part No.
		mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
m	2xD	13.50	0.531	27.00	48.40	91.40	20.00	27.00	20.00	D2041350M-20FM
		14.00	0.551	28.00	49.40	92.40	20.00	27.00	20.00	D2041400M-20FM
		14.29	0.563	28.55	49.40	92.40	20.00	27.00	20.00	D2040562I-20FM
		14.50	0.571	29.00	50.40	93.40	20.00	27.00	20.00	D2041450M-20FM
		15.00	0.591	30.00	51.40	94.40	20.00	27.00	20.00	D2041500M-20FM
	3xD	13.50	0.531	40.50	61.90	104.90	20.00	27.00	20.00	D3041350M-20FM
		14.00	0.551	42.00	63.40	106.40	20.00	27.00	20.00	D3041400M-20FM
		14.29	0.563	42.82	63.40	106.40	20.00	27.00	20.00	D3040562I-20FM
		14.50	0.571	43.50	64.90	107.90	20.00	27.00	20.00	D3041450M-20FM
		15.00	0.591	45.00	66.40	109.40	20.00	27.00	20.00	D3041500M-20FM
	4xD	13.50	0.531	54.00	75.40	118.40	20.00	27.00	20.00	D4041350M-20FM
		14.00	0.551	56.00	77.40	120.40	20.00	27.00	20.00	D4041400M-20FM
		14.29	0.563	57.10	77.40	120.40	20.00	27.00	20.00	D4040562I-20FM
		14.50	0.571	58.00	79.40	122.40	20.00	27.00	20.00	D4041450M-20FM
		15.00	0.591	60.00	81.40	124.40	20.00	27.00	20.00	D4041500M-20FM
i	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

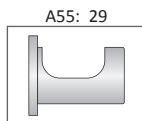
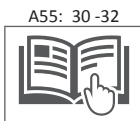
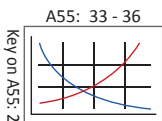
A55

IC Inserts

ISO	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 M	4T-040203-M			
K	4T-040203-K			
N	4T-040203-N			
H	4T-040203-H			

Expected Hole Tolerances

Length	mm	in
2xD	- 0.004 + 0.008	- 0.10 + 0.20
3xD	- 0.004 + 0.008	- 0.10 + 0.20
4xD	- 0.004 + 0.010	- 0.10 + 0.25



m = Metric (mm)

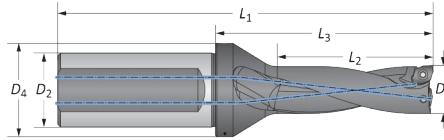
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



05 Series: 15.50 mm - 18.49 mm (0.611" - 0.728")

Holders



Metric Shank

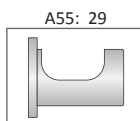
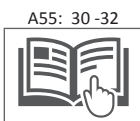
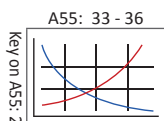
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	15.50	0.610	31.00	54.50	108.50	25.00	32.00	0.80	D2051550M-25FM
	15.88	0.625	31.75	54.50	108.50	25.00	32.00	0.70	D2050625I-25FM
	16.00	0.630	32.00	55.50	109.50	25.00	32.00	0.70	D2051600M-25FM
	16.50	0.650	33.00	56.50	110.50	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	25.00	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
	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	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 M	4T-05T203-M			
K	4T-05T203-K			
N	4T-05T203-N			
H	4T-05T203-H			

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: 2

Ⓜ = Metric (mm)

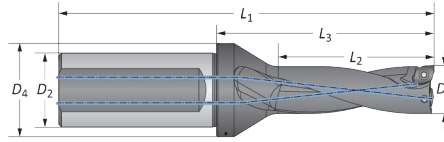
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



05 Series: 15.50 mm - 18.49 mm (0.611" - 0.728")

Holders



Imperial Shank

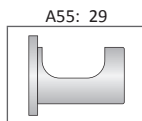
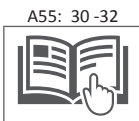
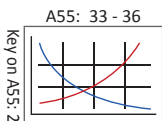
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	15.50	0.610	1.220	2.146	4.272	1.000	1.260	0.031	D2051550M-100F
	15.88	0.625	1.250	2.146	4.272	1.000	1.260	0.029	D2050625I-100F
	16.00	0.630	1.260	2.185	4.311	1.000	1.260	0.028	D2051600M-100F
	16.50	0.650	1.299	2.224	4.350	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
3xD	18.00	0.709	1.417	2.343	4.469	1.000	1.260	0.008	D2051800M-100F
	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
4xD	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
	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
4xD	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	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 M	4T-05T203-M			
K	4T-05T203-K			
N	4T-05T203-N			
H	4T-05T203-H			

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: 2

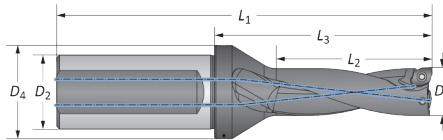
m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



06 Series: 18.50 mm - 21.99 mm (0.728" - 0.866")

Holders



Metric Shank

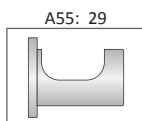
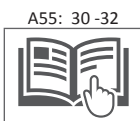
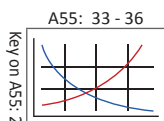
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	18.50	0.728	37.00	58.40	112.40	25.00	32.00	0.90	D2061850M-25FM
	19.00	0.748	38.00	59.40	113.40	25.00	32.00	0.80	D2061900M-25FM
	19.05	0.750	38.10	59.40	113.40	25.00	32.00	0.80	D2060750I-25FM
	19.43	0.765	38.86	59.41	113.41	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	21.50	0.846	43.00	64.40	118.40	25.00	32.00	0.20	D2062150M-25FM
	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
4xD	21.00	0.827	63.00	84.40	138.40	25.00	32.00	0.30	D3062100M-25FM
	21.50	0.846	64.50	85.90	139.90	25.00	32.00	0.20	D3062150M-25FM
	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	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 M	4T-06T204-M			
K	4T-06T204-K			
N	4T-06T204-N			
H	4T-06T204-H			

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)

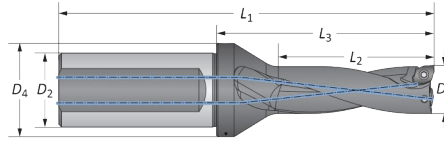
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



06 Series: 18.50 mm - 21.99 mm (0.728" - 0.866")

Holders



Imperial Shank

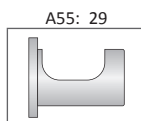
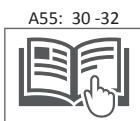
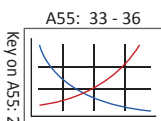
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	18.50	0.728	1.457	2.299	4.425	1.000	1.260	0.035	D2061850M-100F
	19.00	0.748	1.496	2.339	4.465	1.000	1.260	0.031	D2061900M-100F
	19.05	0.750	1.500	2.339	4.465	1.000	1.260	0.031	D2060750I-100F
	19.43	0.765	1.530	2.339	4.465	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	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 M	4T-06T204-M			
K	4T-06T204-K			
N	4T-06T204-N			
H	4T-06T204-H			

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)

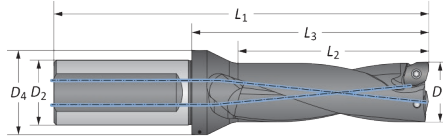
= Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



07 Series: 22.00 mm - 26.49 mm (0.867" - 1.043")

Holders



Metric Shank

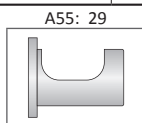
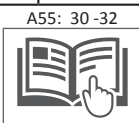
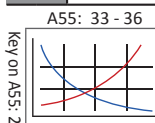
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	22.00	0.866	44.00	64.90	118.90	25.00	33.00	1.20	D2072200M-25FM
	22.22	0.875	44.45	64.90	118.90	25.00	33.00	1.10	D2070875I-25FM
	22.50	0.886	45.00	65.90	119.90	25.00	33.00	1.00	D2072250M-25FM
	23.00	0.906	46.00	66.90	120.90	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	0.740	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	25.50	1.004	51.00	71.90	125.90	25.00	33.00	0.30	D2072550M-25FM
	26.00	1.024	52.00	72.90	126.90	25.00	33.00	0.20	D2072600M-25FM
	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	0.740	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
4xD	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
	25.50	1.004	76.50	97.00	151.00	25.00	33.00	0.30	D3072550M-25FM
	26.00	1.024	78.00	99.00	153.00	25.00	33.00	0.20	D3072600M-25FM
	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	0.740	D4070937I-25FM

IC Inserts

ISO	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 M	4T-070305-M			
K	4T-070305-K			
N	4T-070305-N			
H	4T-070305-H			

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: 2

m = Metric (mm)

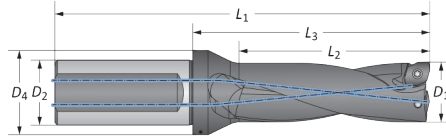
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



07 Series: 22.00 mm - 26.49 mm (0.867" - 1.043")

Holders



Imperial Shank

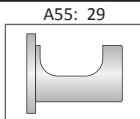
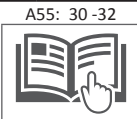
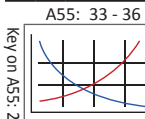
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	22.00	0.866	1.732	2.555	4.681	1.000	1.299	0.047	D2072200M-100F
	22.22	0.875	1.750	2.555	4.681	1.000	1.299	0.043	D2070875I-100F
	22.50	0.886	1.772	2.594	4.720	1.000	1.299	0.039	D2072250M-100F
	23.00	0.906	1.811	2.634	4.760	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	25.50	1.004	2.008	2.831	4.957	1.000	1.299	0.012	D2072550M-100F
	26.00	1.024	2.047	2.870	4.996	1.000	1.299	0.008	D2072600M-100F
	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
4xD	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
	25.50	1.004	3.012	3.835	5.961	1.000	1.299	0.012	D3072550M-100F
	26.00	1.024	3.071	3.894	6.020	1.000	1.299	0.008	D3072600M-100F
	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
4xD	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
	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	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 M	4T-070305-M			
K	4T-070305-K			
N	4T-070305-N			
H	4T-070305-H			

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



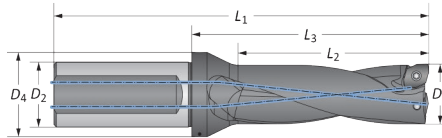
Ⓜ = Metric (mm)

Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.

**09 Series: 26.50 mm - 31.99 mm (1.044" - 1.259")**

Holders



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
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	41.00	0.97	D2092950M-32FM
	30.00	1.181	60.00	82.70	141.70	32.00	41.00	0.80	D2093000M-32FM
	30.15	1.187	60.30	82.70	141.70	32.00	41.00	0.82	D2091187I-32FM
	30.50	1.201	61.00	83.70	142.70	32.00	41.00	0.74	D2093050M-32FM
	31.00	1.220	62.00	84.70	143.70	32.00	41.00	0.60	D2093100M-32FM
	31.50	1.240	63.00	85.70	144.70	32.00	41.00	0.50	D2093150M-32FM
	31.75	1.250	63.50	85.70	144.70	32.00	41.00	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	41.00	0.97	D3092950M-32FM
	30.00	1.181	90.00	112.70	171.70	32.00	41.00	0.80	D3093000M-32FM
	30.15	1.187	90.45	112.70	171.70	32.00	41.00	0.82	D3091187I-32FM
	30.50	1.201	91.50	114.20	173.20	32.00	41.00	0.74	D3093050M-32FM
	31.00	1.220	93.00	115.70	174.70	32.00	41.00	0.60	D3093100M-32FM
	31.50	1.240	94.50	117.00	176.20	32.00	41.00	0.50	D3093150M-32FM
	31.75	1.250	95.25	117.20	176.20	32.00	41.00	0.50	D3091250I-32FM

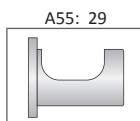
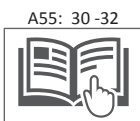
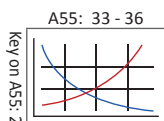
A55

IC Inserts

ISO	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			
K	4T-09T306-K			
N	4T-09T306-N			
H	4T-09T306-H			

Expected Hole Tolerances

Length	mm	in
2xD	- 0.15	- 0.006
	+ 0.25	+ 0.010
3xD	- 0.15	- 0.006
	+ 0.25	+ 0.010
4xD	- 0.15	- 0.006
	+ 0.30	+ 0.012



Key on A55: 2

M = Metric (mm)

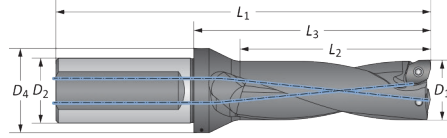
I = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



09 Series: 26.50 mm - 31.99 mm (1.044" - 1.259")

Holders



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
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	41.00	0.97	D4092950M-32FM
	30.00	1.181	120.00	142.70	201.70	32.00	41.00	0.80	D4093000M-32FM
	30.15	1.187	120.60	142.70	201.70	32.00	41.00	0.82	D4091187I-32FM
	30.50	1.201	122.00	144.70	203.70	32.00	41.00	0.74	D4093050M-32FM
	31.00	1.220	124.00	146.70	205.70	32.00	41.00	0.60	D4093100M-32FM
	31.50	1.240	126.00	148.70	207.70	32.00	41.00	0.50	D4093150M-32FM
	31.75	1.250	127.00	148.70	207.70	32.00	41.00	0.50	D4091250I-32FM

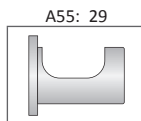
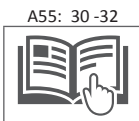
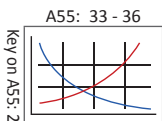
IC Inserts

ISO	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			
K	4T-09T306-K			
N	4T-09T306-N			
H	4T-09T306-H			

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



m = Metric (mm)

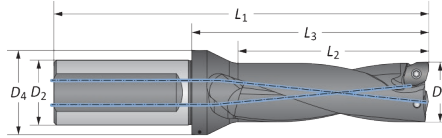
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



09 Series: 26.50 mm - 31.99 mm (1.044" - 1.259")

Holders



Imperial Shank

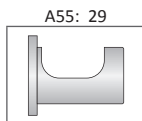
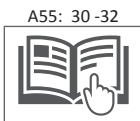
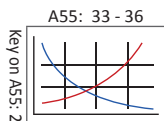
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	26.50	1.043	2.087	2.980	5.303	1.250	1.614	0.066	D2092650M-125F
	27.00	1.063	2.126	3.020	5.343	1.250	1.614	0.063	D2092700M-125F
	27.50	1.083	2.165	3.059	5.382	1.250	1.614	0.057	D2092750M-125F
	28.00	1.102	2.205	3.098	5.421	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	1.614	0.038	D2092950M-125F
	30.00	1.181	2.362	3.256	5.579	1.250	1.614	0.031	D2093000M-125F
	30.15	1.187	2.374	3.256	5.579	1.250	1.614	0.032	D2091187I-125F
	30.50	1.201	2.402	3.295	5.618	1.250	1.614	0.029	D2093050M-125F
	31.00	1.220	2.441	3.335	5.657	1.250	1.614	0.024	D2093100M-125F
	31.50	1.240	2.480	3.374	5.697	1.250	1.614	0.020	D2093150M-125F
	31.75	1.250	2.500	3.374	5.697	1.250	1.614	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	1.614	0.038	D3092950M-125F
	30.00	1.181	3.543	4.437	6.760	1.250	1.614	0.031	D3093000M-125F
	30.15	1.187	3.561	4.437	6.760	1.250	1.614	0.032	D3091187I-125F
	30.50	1.201	3.602	4.496	6.819	1.250	1.614	0.029	D3093050M-125F
	31.00	1.220	3.661	4.555	6.878	1.250	1.614	0.024	D3093100M-125F
	31.50	1.240	3.720	4.614	6.937	1.250	1.614	0.020	D3093150M-125F
	31.75	1.250	3.750	4.614	6.937	1.250	1.614	0.019	D3091250I-125F

IC Inserts

ISO	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			
K	4T-09T306-K			
N	4T-09T306-N			
H	4T-09T306-H			

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: 2

m = Metric (mm)

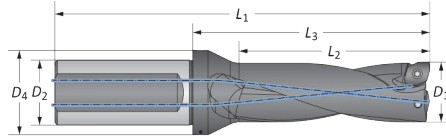
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



09 Series: 26.50 mm - 31.99 mm (1.044" - 1.259")

Holders



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
i 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	1.614	0.038	D4092950M-125F
	30.00	1.181	4.724	5.618	7.941	1.250	1.614	0.031	D4093000M-125F
	30.15	1.187	4.748	5.618	7.941	1.250	1.614	0.032	D4091187I-125F
	30.50	1.201	4.803	5.697	8.020	1.250	1.614	0.029	D4093050M-125F
	31.00	1.220	4.882	5.776	8.098	1.250	1.614	0.024	D4093100M-125F
	31.50	1.240	4.961	5.854	8.177	1.250	1.614	0.020	D4093150M-125F
	31.75	1.250	5.000	5.854	8.177	1.250	1.614	0.019	D4091250I-125F

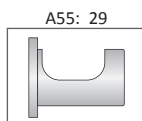
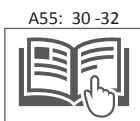
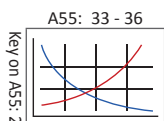
IC Inserts

ISO	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			
K	4T-09T306-K			
N	4T-09T306-N			
H	4T-09T306-H			

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



m = Metric (mm)

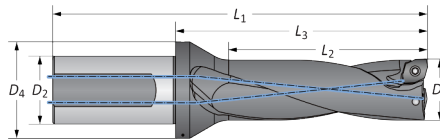
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



11 Series: 32.00 mm - 38.99 mm (1.260" - 1.535")

Holders



Metric Shank

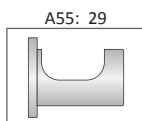
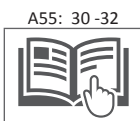
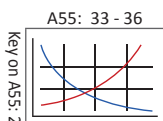
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	32.00	1.260	64.00	100.40	169.40	40.00	54.00	2.20	D2113200M-40FM
	32.50	1.280	65.00	100.40	169.40	40.00	54.00	2.05	D2113250M-40FM
	33.00	1.299	66.00	102.40	171.40	40.00	54.00	1.90	D2113300M-40FM
	33.32	1.312	66.65	102.40	171.40	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-150FM

IC Inserts

ISO	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 M	4T-11T306-M			
K	4T-11T306-K			
N	4T-11T306-N			
H	4T-11T306-H			

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



Ⓜ = Metric (mm)

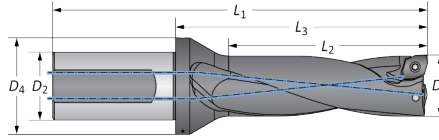
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



11 Series: 32.00 mm - 38.99 mm (1.260" - 1.535")

Holders



Metric Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
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

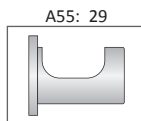
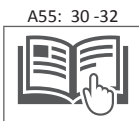
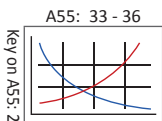
IC Inserts

ISO	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 M	4T-11T306-M			
K	4T-11T306-K			
N	4T-11T306-N			
H	4T-11T306-H			

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



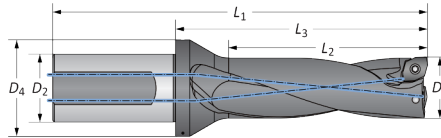
m = Metric (mm)
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



11 Series: 32.00 mm - 38.99 mm (1.260" - 1.535")

Holders



Imperial Shank

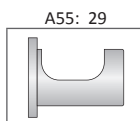
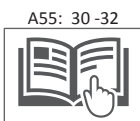
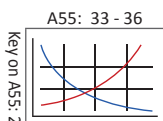
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	32.00	1.260	2.520	3.953	6.669	1.500	2.126	0.087	D2113200M-150F
	32.50	1.280	2.559	3.953	6.669	1.500	2.126	0.081	D2113250M-150F
	33.00	1.299	2.598	4.031	6.748	1.500	2.126	0.075	D2113300M-150F
	33.32	1.312	2.624	4.031	6.748	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	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 M	4T-11T306-M			
K	4T-11T306-K			
N	4T-11T306-N			
H	4T-11T306-H			

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: 2

= Metric (mm)

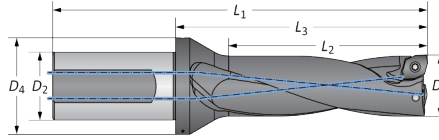
= Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



11 Series: 32.00 mm - 38.99 mm (1.260" - 1.535")

Holders



Imperial Shank

Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
i 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

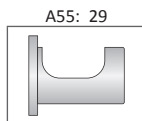
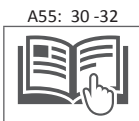
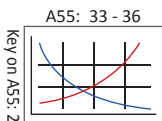
IC Inserts

ISO	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 M	4T-11T306-M			
K	4T-11T306-K			
N	4T-11T306-N			
H	4T-11T306-H			

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



m = Metric (mm)

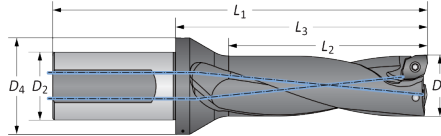
i = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



14 Series: 39.00 mm - 47.00 mm (1.536" - 1.850")

Holders



Metric Shank

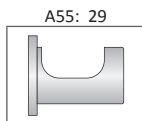
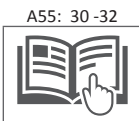
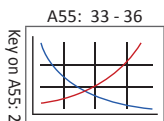
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	39.00	1.535	78.00	110.40	179.40	40.00	54.00	2.80	D2143900M-40FM
	39.50	1.555	79.00	110.40	179.40	40.00	54.00	2.66	D2143950M-40FM
	39.67	1.562	79.40	110.40	179.40	40.00	54.00	2.61	D2141562I-40FM
	40.00	1.575	80.00	112.40	181.40	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
3xD	47.00	1.850	94.00	126.40	195.40	40.00	59.00	0.80	D2144700M-40FM
	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	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			
K	4T-140408-K			
N	4T-140408-N			
H	4T-140408-H			

Expected Hole Tolerances

Length	mm	in
2xD	- 0.20	- 0.008
	+ 0.30	+ 0.012
3xD	- 0.20	- 0.008
	+ 0.30	+ 0.012
4xD	- 0.20	- 0.008
	+ 0.35	+ 0.014



Ⓜ = Metric (mm)

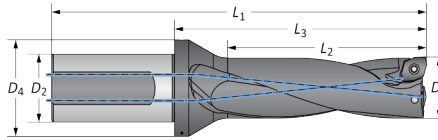
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



14 Series: 39.00 mm - 47.00 mm (1.536" - 1.850")

Holders



Metric Shank

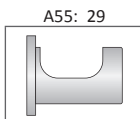
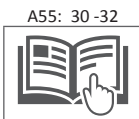
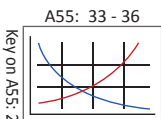
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
3xD	43.50	1.713	130.50	161.40	230.40	40.00	59.00	1.65	D3144350M-40FM
	44.00	1.732	132.00	164.40	233.40	40.00	59.00	1.50	D3144400M-40FM
	44.45	1.750	133.35	164.40	233.40	40.00	59.00	1.41	D3141750I-40FM
	44.50	1.752	133.50	164.40	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
4xD	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
	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	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			
K	4T-140408-K			
N	4T-140408-N			
H	4T-140408-H			

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



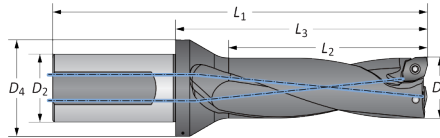
M = Metric (mm)

I = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.

**14 Series: 39.00 mm - 47.00 mm (1.536" - 1.850")**

Holders



Imperial Shank

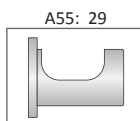
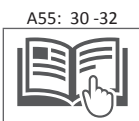
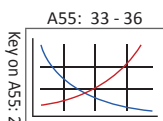
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
2xD	39.00	1.535	3.071	4.346	7.063	1.500	2.126	0.110	D2143900M-150F
	39.50	1.555	3.110	4.346	7.063	1.500	2.126	0.105	D2143950M-150F
	39.67	1.562	3.124	4.346	7.063	1.500	2.126	0.103	D2141562I-150F
	40.00	1.575	3.150	4.425	7.142	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	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			
K	4T-140408-K			
N	4T-140408-N			
H	4T-140408-H			

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: 2

M = Metric (mm)

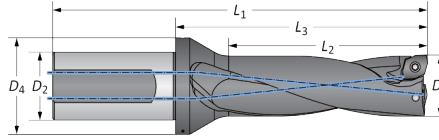
I = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



14 Series: 39.00 mm - 47.00 mm (1.536" - 1.850")

Holders



Imperial Shank

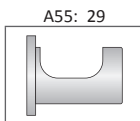
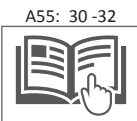
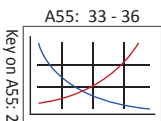
Length	D ₁		Body			Shank		Max Offset	Part No.
	mm	in	L ₂	L ₃	L ₁	D ₂	D ₄		
3xD	43.50	1.713	5.138	6.354	9.071	1.500	2.323	0.065	D3144350M-150F
	44.00	1.732	5.197	6.472	9.189	1.500	2.323	0.059	D3144400M-150F
	44.45	1.750	5.250	6.472	9.189	1.500	2.323	0.055	D3141750I-150F
	44.50	1.752	5.256	6.472	9.189	1.500	2.323	0.055	D3144450M-150F
	45.00	1.772	5.315	6.591	9.307	1.500	2.323	0.051	D3144500M-150F
	45.50	1.791	5.374	6.591	9.307	1.500	2.323	0.045	D3144550M-150F
	46.00	1.811	5.433	6.709	9.425	1.500	2.323	0.039	D3144600M-150F
	46.02	1.812	5.436	6.709	9.425	1.500	2.323	0.040	D3141812I-150F
4xD	46.50	1.831	5.492	6.709	9.425	1.500	2.323	0.036	D3144650M-150F
	47.00	1.850	5.551	6.827	9.543	1.500	2.323	0.031	D3144700M-150F
	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	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			
K	4T-140408-K			
N	4T-140408-N			
H	4T-140408-H			

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: 2

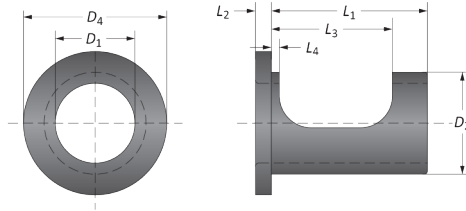
Ⓜ = Metric (mm)
Ⓢ = Imperial (in)

IC inserts sold in quantities of 10.
Insert screws sold in quantities of 10.



Accessories

Eccentric Sleeves



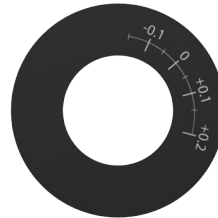
	Sleeve Dimensions							Part No.	Adjustment Range	
	D ₁	D ₂	D ₄	L ₂	L ₃	L ₄	L ₁		Diameter*	Center Height
m	25.00	32.00	49.00	6.00	39.00	2.50	54.00	SLEEVE-25FM	-0.20 to +0.40	-0.15 to +0.20
	32.00	40.00	58.00	6.00	43.00	2.50	59.00	SLEEVE-32FM	-0.20 to +0.40	-0.15 to +0.20
	40.00	50.00	74.00	6.00	49.00	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.

A55



Milling Applications
Peripheral Adjustment Position

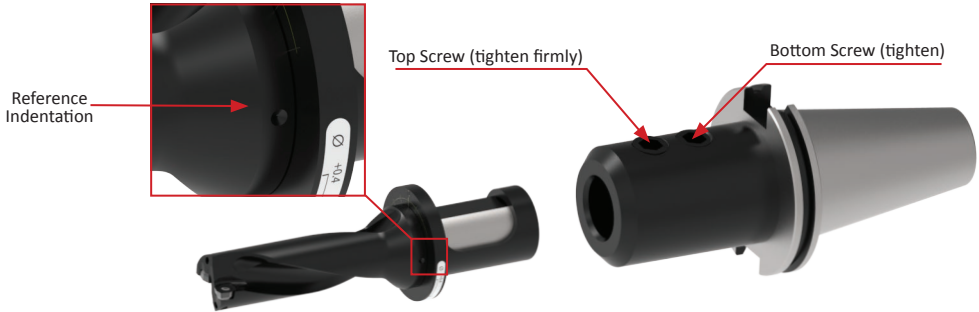


Lathe Applications
Front Adjustment Position



Cutting Diameter and Center Height Adjustment

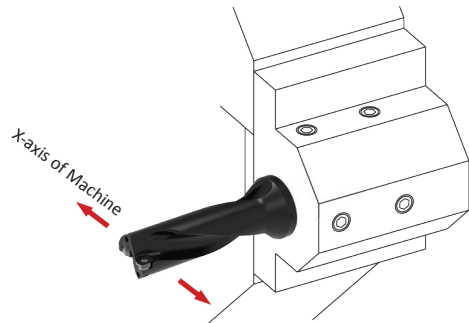
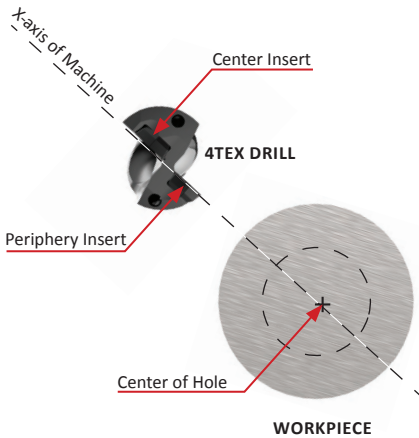
Milling and Lathe Diameter Adjustments



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

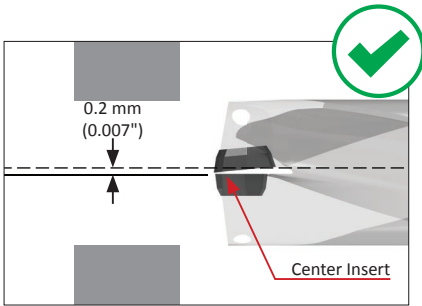
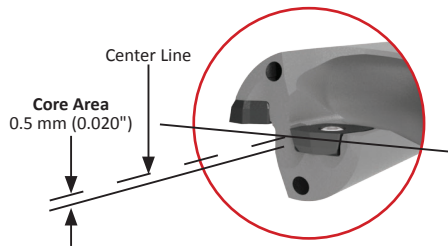
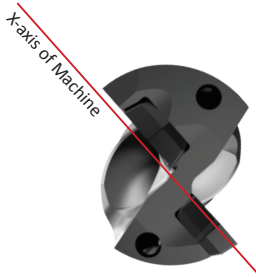
1. Assemble the 4TEX drill into the lathe turret with the top face of the inserts parallel to the x-axis of the machine. This will allow for the diameter offsets to be made using the lathe's x-axis.
2. To increase the nominal diameter, offset the x-axis so the periphery insert moves away from the center 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.



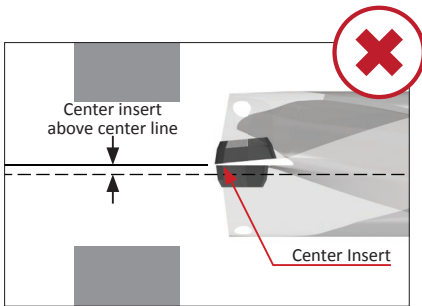
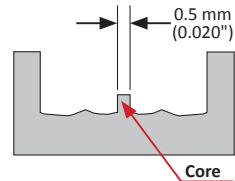
Cutting Diameter and Center Height Adjustment

Center Height Alignment: Proper Center Line Position



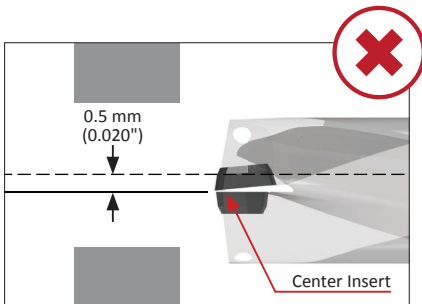
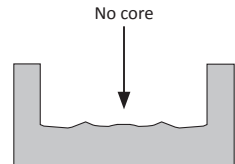
Proper Center Height Alignment

- The correct center height alignment will position the center insert 0.2 mm (0.007") below the center line.



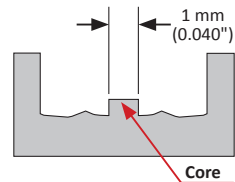
Center Insert Above the Center Line

- This will cause fracturing of the center insert.
- Requires center height adjustment.



Center Insert Too Far Below Center Line

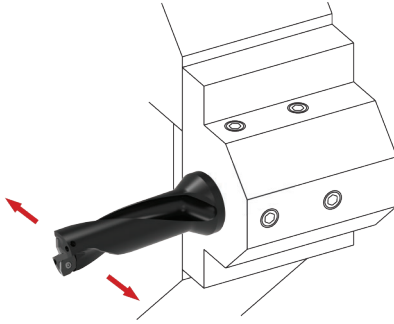
- This will cause the drill to interfere with the drilled hole.
- This will impede chip evacuation on the periphery insert.
- Requires center height adjustment.





Cutting Diameter and Center Height Adjustment

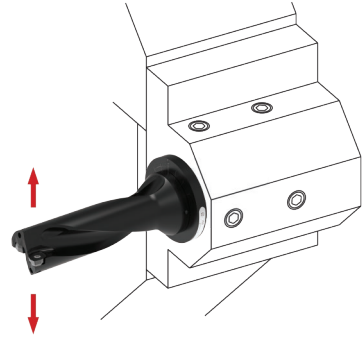
Center Height Alignment: How to Correct Issues



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)

4TEX DRILL					
ISO	Material	Hardness (BHN)	Speed (m/min)		
			P	K	H
			M		N
			AM480	AM485	TiCN
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	125 - 365	125 - 365	—
		150 - 200	125 - 305	125 - 305	—
		200 - 250	125 - 245	125 - 245	—
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	125 - 305	125 - 305	—
		125 - 175	125 - 305	125 - 305	—
		175 - 225	125 - 245	125 - 245	—
		225 - 275	125 - 245	125 - 245	—
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	100 - 245	100 - 245	—
		175 - 225	100 - 245	100 - 245	—
		225 - 275	100 - 245	100 - 245	—
		275 - 325	100 - 245	100 - 185	—
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	100 - 245	—	—
		175 - 225	100 - 245	—	—
		225 - 275	100 - 245	—	—
		275 - 325	100 - 245	—	—
		325 - 375	100 - 245	—	—
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	100 - 165	—	—
		300 - 350	100 - 185	—	—
		350 - 400	100 - 185	—	—
	Structural Steel A36, A285, A516, etc.	100 - 150	100 - 185	100 - 185	—
		150 - 250	100 - 185	100 - 185	—
		250 - 350	100 - 185	—	—
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	85 - 185	85 - 185	—
		200 - 250	85 - 185	—	—
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	75 - 185	75 - 215	—
		275 - 350	75 - 145	75 - 155	—
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	75 - 185	75 - 215	—
		185 - 275	75 - 145	75 - 155	—
	Super Duplex Stainless Steel	135 - 185	75 - 185	75 - 215	—
K	Nodular, Grey, Ductile Cast Iron	120 - 150	90 - 245	—	—
		150 - 200	90 - 245	—	—
		200 - 220	90 - 155	—	—
		220 - 260	80 - 125	—	—
		260 - 320	80 - 125	—	—
N	Cast Aluminum	30	—	—	245 - 610
		180	—	—	245 - 610
	Wrought Aluminum	30	—	—	245 - 610
		180	—	—	245 - 610
	Aluminum Bronze	100 - 200	150 - 305	—	150 - 305
		200 - 250	150 - 305	—	150 - 305
	Brass	100	150 - 305	—	150 - 305
S	Copper	60	—	—	150 - 305
	High-Temp Alloy* Hastelloy® B, Inconel® 600, etc.	140 - 220	30 - 80	30 - 80	—
		220 - 310	30 - 60	30 - 60	—
	Titanium Alloy*	140 - 220	40 - 155	40 - 155	—
		220 - 310	40 - 90	40 - 90	—
H	Aerospace Alloy* S82	185 - 275	30 - 80	30 - 80	—
		275 - 350	30 - 60	31 - 60	—
	Wear Plate Hardox®, AR400, T-1, etc.	400	30 - 60	—	—
		500	30 - 60	—	—
	Hardened Steel	600	30 - 60	—	—
		300 - 400	30 - 60	—	—
		400 - 500	30 - 60	—	—

*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.



Recommended Drilling Data | Metric (mm)

4TEX DRILL			
Feed Rate (mm/rev) by Diameter - 2xD, 3xD**			
03, 04 series 12.00 mm - 15.49 mm	05 series 15.50 mm - 18.49 mm	06, 07 series 18.50 mm - 26.49 mm	09, 11, 14 series 26.50 mm - 47.00 mm
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15

*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.



Recommended Drilling Data | Imperial (in)

4TEX DRILL

ISO Material		Hardness (BHN)	Speed (SFM)				
			P	K	H	M	N
			AM480			AM485	TiCN
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	400 - 1200			400 - 1200	—
		150 - 200	400 - 1000			400 - 1000	—
		200 - 250	400 - 800			400 - 800	—
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	400 - 1000			400 - 1000	—
		125 - 175	400 - 1000			400 - 1000	—
		175 - 225	400 - 800			400 - 800	—
		225 - 275	400 - 800			400 - 800	—
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	330 - 800			330 - 800	—
		175 - 225	330 - 800			330 - 800	—
		225 - 275	330 - 800			330 - 800	—
		275 - 325	330 - 600			330 - 600	—
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	330 - 800			—	—
		175 - 225	330 - 800			—	—
		225 - 275	330 - 800			—	—
		275 - 325	330 - 800			—	—
		325 - 375	330 - 800			—	—
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	330 - 600			—	—
		300 - 350	330 - 600			—	—
		350 - 400	330 - 600			—	—
	Structural Steel A36, A285, A516, etc.	100 - 150	330 - 600			330 - 600	—
		150 - 250	330 - 600			330 - 600	—
		250 - 350	330 - 600			—	—
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	270 - 600			270 - 600	—
		200 - 250	270 - 600			—	—
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	240 - 600			240 - 700	—
		275 - 350	240 - 470			240 - 500	—
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	240 - 600			240 - 700	—
		185 - 275	240 - 470			240 - 500	—
	Super Duplex Stainless Steel	135 - 185	240 - 600			240 - 700	—
		185 - 275	240 - 470			240 - 500	—
K	Nodular, Grey, Ductile Cast Iron	120 - 150	300 - 800			—	—
		150 - 200	300 - 800			—	—
		200 - 220	300 - 500			—	—
		220 - 260	270 - 400			—	—
		260 - 320	270 - 400			—	—
N	Cast Aluminum	30	—			—	800 - 2000
		180	—			—	800 - 2000
	Wrought Aluminum	30	—			—	800 - 2000
		180	—			—	800 - 2000
	Aluminum Bronze	100 - 200	500 - 1000			—	500 - 1000
		200 - 250	500 - 1000			—	500 - 1000
Brass	100	500 - 1000			—	500 - 1000	
Copper	60	—			—	500 - 1000	
S	High-Temp Alloy* Hastelloy® B, Inconel® 600, etc.	140 - 220	100 - 250			100 - 250	—
		220 - 310	100 - 200			100 - 200	—
	Titanium Alloy*	140 - 220	140 - 500			140 - 500	—
		220 - 310	140 - 300			140 - 300	—
	Aerospace Alloy* S82	185 - 275	100 - 250			100 - 250	—
275 - 350		100 - 200			100 - 200	—	
H	Wear Plate Hardox®, AR400, T-1, etc.	400	100 - 200			—	—
		500	100 - 200			—	—
		600	100 - 200			—	—
	Hardened Steel	300 - 400	100 - 300			—	—
		400 - 500	100 - 200			—	—

*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: appeng@alliedmachine.com.



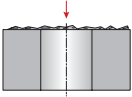
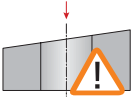
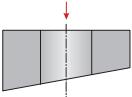
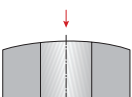
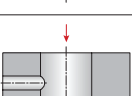
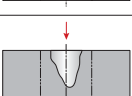
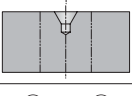
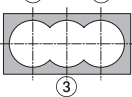
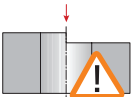
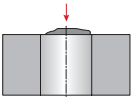
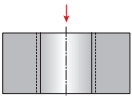
Insert Geometry Recommendations

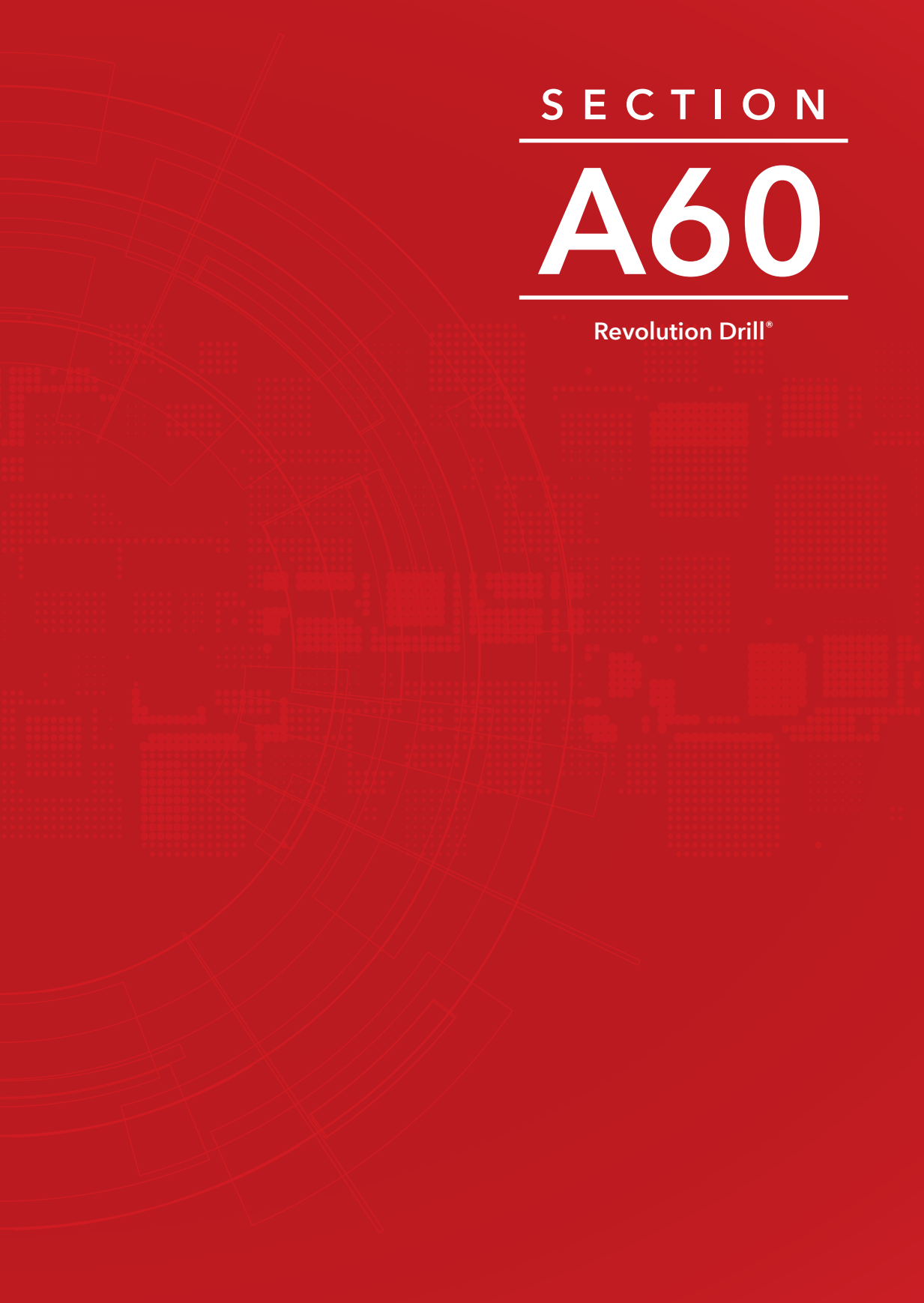
4TEX DRILL							
ISO	Material	Hardness (BHN)	Geometry				
			P	M	K	N	H
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	○	●			
		150 - 200	●	○			
		200 - 250	●	○			
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	○	●			
		125 - 175	○	●			
		175 - 225	○	●			
		225 - 275	●	○			
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	○	●			
		175 - 225	○	●			
		225 - 275	●	○			
		275 - 325	●				○
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	○	●			
		175 - 225	●	○			
		225 - 275	●				○
		275 - 325	●				○
		325 - 375	○				●
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	●				
		300 - 350	○				●
		350 - 400	○				●
	Structural Steel A36, A285, A516, etc.	100 - 150	○	●			
		150 - 250	○	●			
		250 - 350	●				○
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 200	●	○			
		200 - 250	●				○
M	Stainless Steel 400 Series 416, 420, etc.	185 - 275	○	●			
		275 - 350	○	●			
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	○	●			
		185 - 275	○	●			
	Super Duplex Stainless Steel	135 - 185	○	●			
K	Nodular, Grey, Ductile Cast Iron	185 - 275	○	●			
		275 - 350	○	●			
		135 - 185	○	●			
		185 - 275	○	●			
		275 - 350	○	●			
N	Cast Aluminum	120 - 150	●				
		150 - 200	●				
	Wrought Aluminum	200 - 220	●				
		220 - 260					
	Aluminum Bronze	260 - 320					
	Brass					●	
	Copper					●	
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	30				●	
		180				●	
	Titanium Alloy	30				●	
		180				●	
	Aerospace Alloy S82	100 - 200	○			●	
		200 - 250	○			●	
H	Wear Plate Hardox®, AR400, T-1, etc.	100	○			●	
		60				●	
						●	
	Hardened Steel	300 - 400	○				●
		400 - 500	○				●
							●

● Best ○ Good



Troubleshooting

1.		Starting on Uneven Surfaces Reduce entry feed by 50% if necessary.
2.		Starting on Angled Surfaces - Reduce entry feed by 20 - 50%. - Use lower rake geometry if insert chipping occurs.
3.		Angled Bore Exit - Reduce entry feed by 50% on breakout. - Use tough insert and stable corner radius.
4.		Starting on Convex Surfaces - Reduce entry feed by 50%. - Use lower rake geometry if insert chipping occurs.
5.		Drilling Through a Cross Hole - Reduce feed rate 50% if necessary. - Use good coolant flow and monitor chip packing. - Use lower rake geometry if insert chipping occurs.
6.		Drilling on a Groove or Large Centering Box - Reduce entry feed. - Use lower rake geometry for center insert.
7.		Chain Drilling - Use good coolant flow. - Reduce feed rate by 50% for interrupted cut. - Use lower rake geometry if insert chipping occurs.
8.		Starting on an Edge - Reduce entry feed rate by 50%. - Use lower rake geometry if insert chipping occurs.
9.		Starting on a Welded Seam - Reduce entry feed rate by 50%. - Use lower rake geometry if insert chipping occurs.
10.		Drilling Through Stacked Plates Not recommended.
11.		Opening an Existing Hole Use flood coolant.
12.		Adjustable - For mills, use eccentric sleeve with end mill holder. - For lathes, use x-axis to adjust offset ϕ. NOTE: Refer to maximum offset ϕ in data tables.



SECTION

A60

Revolution Drill®

Revolution Drill®

47.63 mm - 101.60 mm (1.8750" - 4.0000")



Revolution Drill

The Revolution Drill has an innovative design that allows for adjustability of 5.10 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.

Large Scale Innovation

- ▶ Drills from solid.
- ▶ Drill depths up to 4.5xD.
- ▶ Excellent chip control.

Applicable Industries

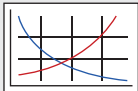
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Marine
-  Oil and Gas
-  Renewable Energy/ Energy
-  Structural Steel Fabricator
-  Tool, Mold, and Die

Reference Icons

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



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



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



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

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



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

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

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

Table of Contents

Introduction Information

System Overview	
Features & Benefits	3
Product Overview	4
Setup Instructions	5
Product Nomenclature	6

Drill Series

34 Series: 47.63 mm - 50.80 mm (1.8750" - 2.0000")	
Straight Shank	7
CAT Integral Shank	8
36 Series: 50.80 mm - 55.88 mm (2.0000" - 2.2000")	
Straight Shank	9
CAT Integral Shank	10
38 Series: 55.88 mm - 60.96 mm (2.2000" - 2.4000")	
Straight Shank	11
CAT Integral Shank	12
42 Series: 60.96 mm - 66.04 mm (2.4000" - 2.6000")	
Straight Shank	13
CAT Integral Shank	14
44 Series: 66.04 mm - 71.12 mm (2.6000" - 2.8000")	
Straight Shank	15
CAT Integral Shank	16
46 Series: 71.12 mm - 76.20 mm (2.8000" - 3.0000")	
Straight Shank	17
CAT Integral Shank	18
48 Series: 76.20 mm - 81.28 mm (3.0000" - 3.2000")	
Straight Shank	19
CAT Integral Shank	20
52 Series: 81.28 mm - 86.36 mm (3.2000" - 3.4000")	
Straight Shank	21
CAT Integral Shank	22
54 Series: 86.36 mm - 91.44 mm (3.4000" - 3.6000")	
Straight Shank	23
CAT Integral Shank	24
56 Series: 91.44 mm - 96.52 mm (3.6000" - 3.8000")	
Straight Shank	25
CAT Integral Shank	26
58 Series: 96.52 mm - 101.60 mm (3.8000" - 4.0000")	
Straight Shank	27
CAT Integral Shank	28

Recommended Drilling Data

Metric (mm)	29
Imperial (in)	30



System Overview

Features & Benefits

Revolution Drill

Series	Diameter Range		Length-to-Diameter Ratio					Shank Options			Inserts per Cartridge
	Metric (mm)	Imperial (in)	1.0xD	2.2xD	2.5xD	3.5xD	4.5xD	Straight	CAT40	CAT50	
34	47.63 - 50.80	1.8750 - 2.0000		●		●	●	●	●	●	2
36	50.80 - 55.88	2.0000 - 2.2000		●		●	●	●	●	●	2
38	55.88 - 60.96	2.2000 - 2.4000		●		●	●	●	●	●	2
42	60.96 - 66.04	2.4000 - 2.6000		●		●	●	●	●	●	2
44	66.04 - 71.12	2.6000 - 2.8000		●		●		●		●	3
46	71.12 - 76.20	2.8000 - 3.0000		●		●		●		●	3
48	76.20 - 81.28	3.0000 - 3.2000	●		●			●		●	3
52	81.28 - 86.36	3.2000 - 3.4000	●		●			●		●	3
54	86.36 - 91.44	3.4000 - 3.6000	●		●			●		●	3
56	91.44 - 96.52	3.6000 - 3.8000	●		●			●		●	4
58	96.52 - 101.60	3.8000 - 4.0000	●		●			●		●	4

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)

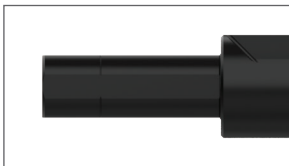
A60



Body Lengths

- 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)

Shank Options



Straight Shank
(all series)



CAT40 Shank
(34, 36, 38, 42 series)

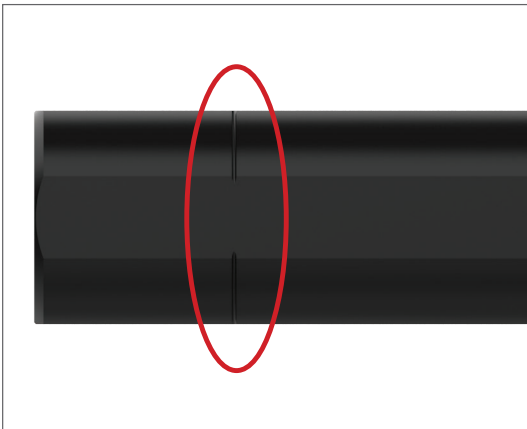
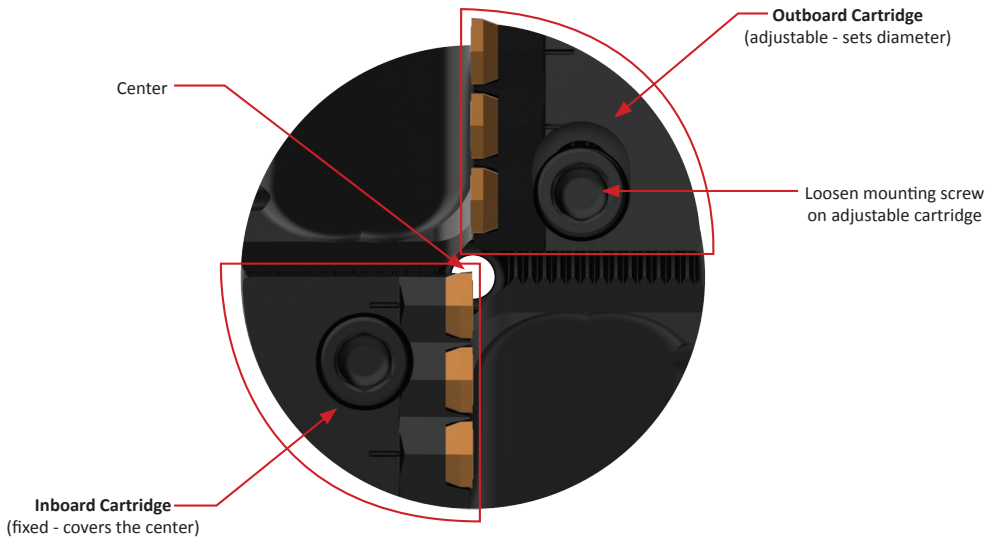


CAT50 Shank
(all series)



System Overview

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.

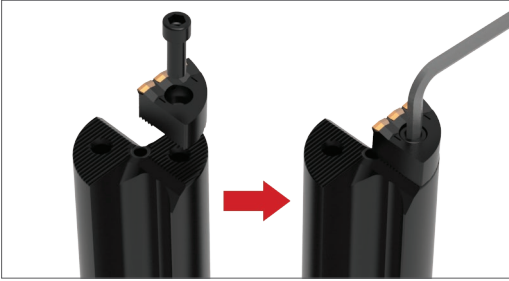


A60



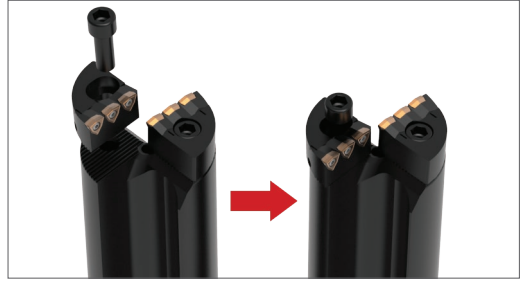
System Overview

Setup Instructions



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.



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.



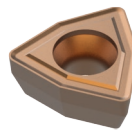
Step 4:

Tighten the mounting screw to 15-19 N-m (11-14 ft-lbf).

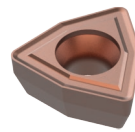
A60

IC Inserts

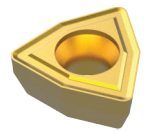
- The design allows for excellent chip control and aggressive penetration rates.
- The proprietary AM200® and AM300® coatings increase tool life above competitors' premium coatings.
- The same inserts are used for both Revolution Drill® and Opening Drill® products.



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.
----------------	--



Product Nomenclature

Revolution Drill Holders

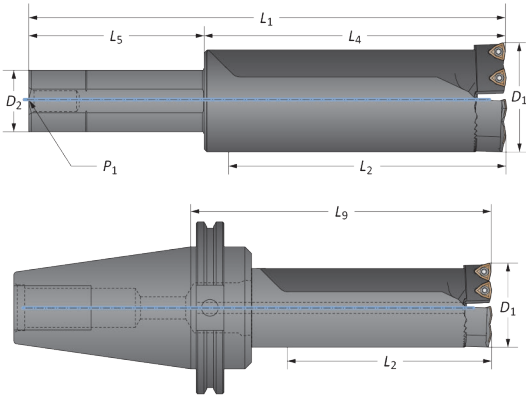
R	34	X	22	—	150L
Drill Style	Series		Drill Length		Shank Style
R = Standard SP = Stacked Plate	34 36 38 42 44 46	48 52 54 56 58	10 = 1.0xD 22 = 2.2xD 25 = 2.5xD 35 = 3.5xD 45 = 4.5xD		150L = 1.500 Ø straight 200L = 2.000 Ø straight 40M = 40 mm ISO 9766 50M = 50 mm ISO 9766 CV40 = CAT40 CV50 = CAT50

Revolution Drill & Opening Drill Inserts

OP	—	05	T3	08	—	1	H	HR
		IC Type	Thickness	Radius		Carbide Grade	Shank Style	Geometry
		05 = 5/16"	T3 = 5/32"	08 = 1/32"		Blank = P35 (C5) 1 = K35 (C1) 2 = K25 (C2)	P = AM300® H = AM200® T = TiN A = TiAlN N = TiCN U = Uncoated	Blank = General Purpose HR = High Rake

Reference Key

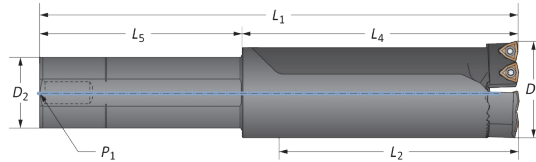
Symbol	Attribute
D ₁	Drill diameter range
D ₂	Shank diameter
L ₁	Overall length
L ₂	Maximum drill depth
L ₄	Holder length
L ₅	Shank length
L ₉	Gauge length
P ₁	Rear pipe tap





34 Series: 47.63 mm - 50.80 mm (1.8750" - 2.0000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L_2	L_4	L_1	D_2	L_5	P_1		
m	Standard	2.2xD	114.9	139.2	209.2	40	70.0	—	R34X22-40M	C34-...
		3.5xD	178.4	202.7	272.7	40	70.0	—	R34X35-40M	
		4.5xD	229.2	253.5	323.5	40	70.0	—	R34X45-40M	
	Stacked Plate	2.2xD	114.9	139.4	209.4	40	70.0	—	SP34X22-40M	C34SP-...
i	Standard	2.2xD	4.525	5.481	9.481	1-1/2	4.000	1/4 NPT	R34X22-150L	C34-...
		3.5xD	7.025	7.981	11.981	1-1/2	4.000	1/4 NPT	R34X35-150L	
		4.5xD	9.025	9.981	13.981	1-1/2	4.000	1/4 NPT	R34X45-150L	
	Stacked Plate	2.2xD	4.525	5.488	9.488	1-1/2	4.000	1/4 NPT	SP34X22-150L	C34SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

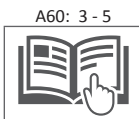
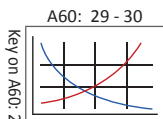
Cartridges

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					
SP34...	C34SP-FIX	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

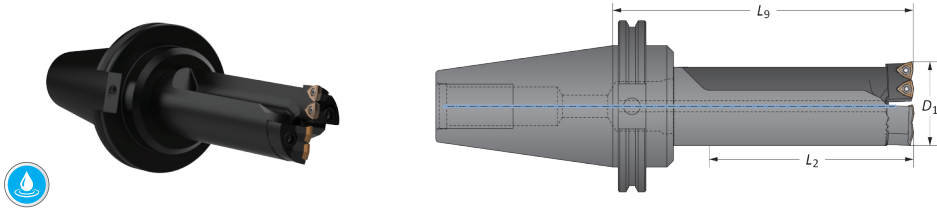
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



34 Series: 47.63 mm - 50.80 mm (1.8750" - 2.0000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.		Cartridges
		L_2	L_9	CAT40	CAT50	
Standard	2.2xD	4.525	6.856	R34X22-CV40	R34X22-CV50	C34-...
	3.5xD	7.025	9.356	R34X35-CV40	R34X35-CV50	
	4.5xD	9.025	11.356	R34X45-CV40	R34X45-CV50	
Stacked Plate	2.2xD	4.525	6.863	SP34X22-CV40	SP34X22-CV50	C34SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

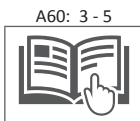
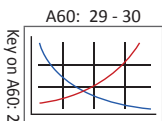
Cartridges

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					
SP34...	C34SP-FIX	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

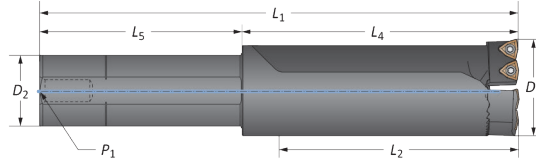
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



36 Series: 50.80 mm - 55.88 mm (2.0000" - 2.2000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	2.2xD	126.0	151.9	221.9	40	70.0	—	R36X22-40M	C36-...
		3.5xD	195.8	221.8	291.8	40	70.0	—	R36X35-40M	
		4.5xD	253.0	278.9	348.9	40	70.0	—	R36X45-40M	
	Stacked Plate	2.2xD	126.0	152.1	222.1	40	70.0	—	SP36X22-40M	C36SP-...
i	Standard	2.2xD	4.959	5.982	9.982	1-1/2	4.000	1/4 NPT	R36X22-150L	C36-...
		3.5xD	7.709	8.732	12.732	1-1/2	4.000	1/4 NPT	R36X35-150L	
		4.5xD	9.959	10.982	14.982	1-1/2	4.000	1/4 NPT	R36X45-150L	
	Stacked Plate	2.2xD	4.959	5.988	9.988	1-1/2	4.000	1/4 NPT	SP36X22-150L	C36SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

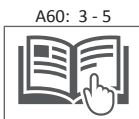
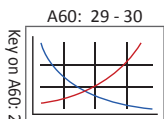
Cartridges

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					
SP36...	C36SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

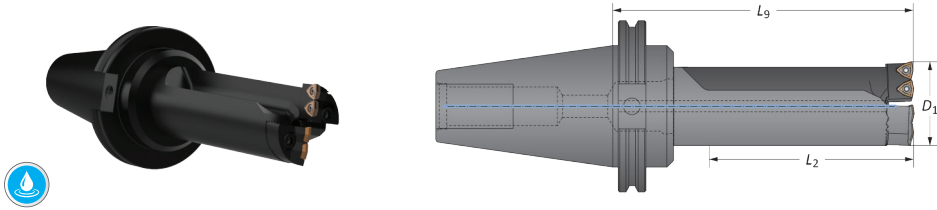
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



36 Series: 50.80 mm - 55.88 mm (2.0000" - 2.2000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.		Cartridges
		L_2	L_9	CAT40	CAT50	
Standard	2.2xD	4.959	7.357	R36X22-CV40	R36X22-CV50	C36-...
	3.5xD	7.709	10.107	R36X35-CV40	R36X35-CV50	
	4.5xD	9.959	12.357	R36X45-CV40	R36X45-CV50	
Stacked Plate	2.2xD	4.959	7.363	SP36X22-CV40	SP36X22-CV50	C36SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

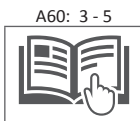
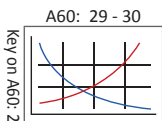
Cartridges

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					
SP36...	C36SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

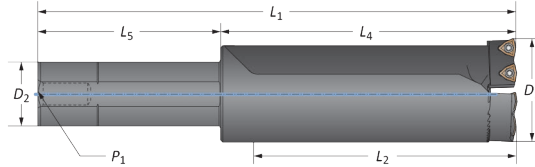
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



38 Series: 55.88 mm - 60.96 mm (2.2000" - 2.4000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	2.2xD	138.7	164.6	234.6	40	70.0	—	R38X22-40M	C38-...
		3.5xD	214.9	240.8	310.8	40	70.0	—	R38X35-40M	
		4.5xD	278.4	304.3	374.3	40	70.0	—	R38X45-40M	
	Stacked Plate	2.2xD	138.7	164.8	234.8	40	70.0	—	SP38X22-40M	C38SP-...
i	Standard	2.2xD	5.459	6.482	10.482	1-1/2	4.000	1/4 NPT	R38X22-150L	C38-...
		3.5xD	8.459	9.482	13.482	1-1/2	4.000	1/4 NPT	R38X35-150L	
		4.5xD	10.959	11.982	15.982	1-1/2	4.000	1/4 NPT	R38X45-150L	
	Stacked Plate	2.2xD	5.459	6.488	10.488	1-1/2	4.000	1/4 NPT	SP38X22-150L	C38SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

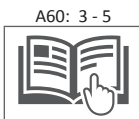
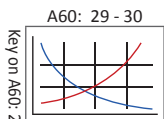
Cartridges

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					
SP38...	C38SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

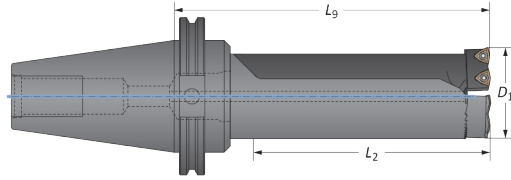
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



38 Series: 55.88 mm - 60.96 mm (2.2000" - 2.4000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.		Cartridges
		L ₂	L ₉	CAT40	CAT50	
Standard	2.2xD	5.459	7.857	R38X22-CV40	R38X22-CV50	C38-...
	3.5xD	8.459	10.857	R38X35-CV40	R38X35-CV50	
	4.5xD	10.959	13.357	R38X45-CV40	R38X45-CV50	
Stacked Plate	2.2xD	5.459	7.863	SP38X22-CV40	SP38X22-CV50	C38SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

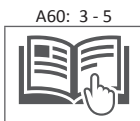
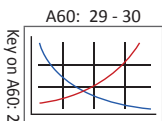
Cartridges

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					
SP38...	C38SP-FIX	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

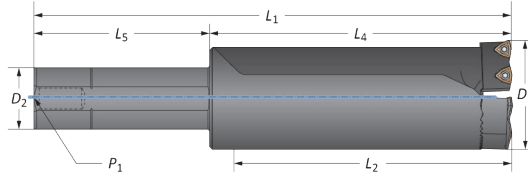
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



42 Series: 60.96 mm - 66.04 mm (2.4000" - 2.6000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	2.2xD	144.9	174.2	244.2	40	70.0	—	R42X22-40M	C42-...
		3.5xD	233.8	263.1	333.1	40	70.0	—	R42X35-40M	
		4.5xD	297.3	326.6	396.6	40	70.0	—	R42X45-40M	
	Stacked Plate	2.2xD	144.9	177.9	247.9	40	70.0	—	SP42X22-40M	C42SP-...
i	Standard	2.2xD	5.704	6.859	10.859	1-1/2	4.000	1/4 NPT	R42X22-150L	C42-...
		3.5xD	9.204	10.359	14.359	1-1/2	4.000	1/4 NPT	R42X35-150L	
		4.5xD	11.704	12.859	16.859	1-1/2	4.000	1/4 NPT	R42X45-150L	
	Stacked Plate	2.2xD	5.704	7.005	11.005	1-1/2	4.000	1/4 NPT	SP42X22-150L	C42SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

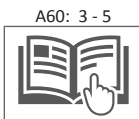
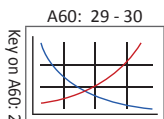
Cartridges

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					
SP42...	C42SP-FIX	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

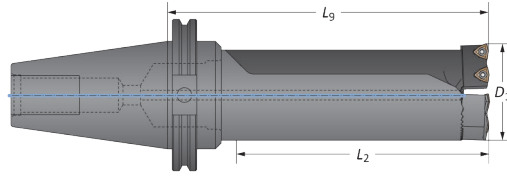
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



42 Series: 60.96 mm - 66.04 mm (2.4000" - 2.6000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.		Cartridges
		L_2	L_9	CAT40	CAT50	
Standard	2.2xD	5.704	8.234	R42X22-CV40	R42X22-CV50	C42-...
	3.5xD	9.204	11.734	R42X35-CV40	R42X35-CV50	
	4.5xD	11.704	14.234	R42X45-CV40	R42X45-CV50	
Stacked Plate	2.2xD	5.704	8.380	SP42X22-CV40	SP42X22-CV50	C42SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

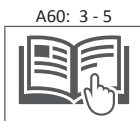
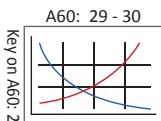
Cartridges

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					
SP42...	C42SP-FIX	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

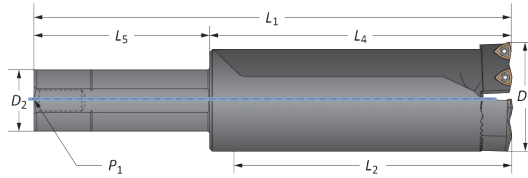
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



44 Series: 66.04 mm - 71.12 mm (2.6000" - 2.8000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	2.2xD	157.6	193.4	263.4	40	70.0	—	R44X22-40M	C44-...
		3.5xD	252.9	288.6	358.6	40	70.0	—	R44X35-40M	
	Stacked Plate	2.2xD	157.6	197.1	267.1	40	70.0	—	SP44X22-40M	C44SP-...
i	Standard	2.2xD	6.206	7.614	11.614	1-1/2	4.000	1/4 NPT	R44X22-150L	C44-...
		3.5xD	9.956	11.364	15.364	1-1/2	4.000	1/4 NPT	R44X35-150L	
	Stacked Plate	2.2xD	6.206	7.760	11.760	1-1/2	4.000	1/4 NPT	SP44X22-150L	C44SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

Cartridges

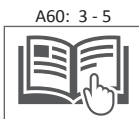
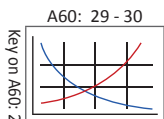
Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R44...	C44-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44-ADJ					
SP44...	C44SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A60



m = Metric (mm)

i = Imperial (in)

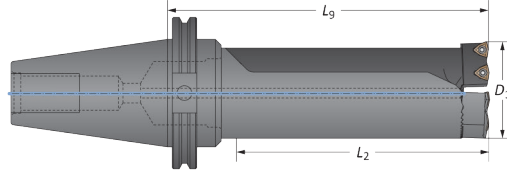
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



44 Series: 66.04 mm - 71.12 mm (2.6000" - 2.8000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L_2	L_9	CAT50	
Standard	2.2xD	6.206	8.989	R44X22-CV50	C44-...
	3.5xD	9.956	12.739	R44X35-CV50	
Stacked Plate	2.2xD	6.206	9.135	SP44X22-CV50	C44SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

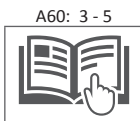
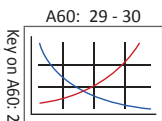
Cartridges

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					
SP44...	C44SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

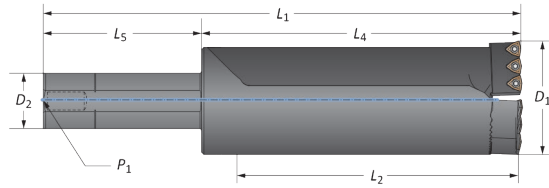
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



46 Series: 71.12 mm - 76.20 mm (2.8000" - 3.0000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	2.2xD	170.4	206.2	276.2	40	70.0	—	R46X22-40M	C46-...
		3.5xD	265.6	301.4	371.4	40	70.0	—	R46X35-40M	
	Stacked Plate	2.2xD	170.4	210.0	280.0	40	70.0	—	SP46X22-40M	C46SP-...
i	Standard	2.2xD	6.707	8.117	12.117	1-1/2	4.000	1/4 NPT	R46X22-150L	C46-...
		3.5xD	10.457	11.867	15.867	1-1/2	4.000	1/4 NPT	R46X35-150L	
	Stacked Plate	2.2xD	6.707	8.266	12.266	1-1/2	4.000	1/4 NPT	SP46X22-150L	C46SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

Cartridges

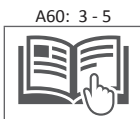
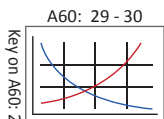
Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R46...	C46-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46-ADJ					
SP46...	C46SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A60



m = Metric (mm)

i = Imperial (in)

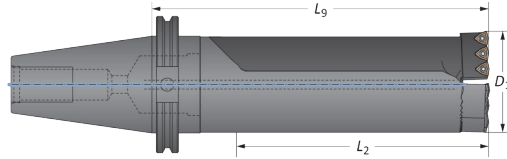
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



46 Series: 71.12 mm - 76.20 mm (2.8000" - 3.0000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L_2	L_9	CAT50	
Standard	2.2xD	6.707	9.492	R46X22-CV50	C46-...
	3.5xD	10.457	13.242	R46X35-CV50	
Stacked Plate	2.2xD	6.707	9.641	SP46X22-CV50	C46SP-...

NOTE: Holder includes cartridges; however, inserts are sold separately.

Cartridges

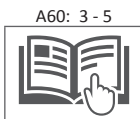
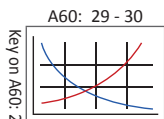
Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R46...	C46-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46-ADJ					
SP46...	C46SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A60



m = Metric (mm)

i = Imperial (in)

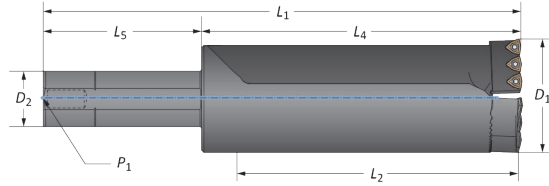
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



48 Series: 76.20 mm - 81.28 mm (3.0000" - 3.2000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L_2	L_4	L_1	D_2	L_5	P_1		
m	Standard	1.0xD	80.2	117.4	197.4	50	80.0	—	R48X10-50M	C48-...
		2.5xD	200.9	238.0	318.1	50	80.0	—	R48X25-50M	
	Stacked Plate	1.0xD	80.2	122.5	202.5	50	80.0	—	SP48X10-50M	C48SP-...
		2.5xD	200.9	243.1	323.1	50	80.0	—	SP48X25-50M	
i	Standard	1.0xD	3.158	4.622	9.122	2	4.500	1/4 NPT	R48X10-200L	C48-...
		2.5xD	7.908	9.372	13.872	2	4.500	1/4 NPT	R48X25-200L	
	Stacked Plate	1.0xD	3.158	4.821	9.321	2	4.500	1/4 NPT	SP48X10-200L	C48SP-...
		2.5xD	7.908	9.571	14.071	2	4.500	1/4 NPT	SP48X25-200L	

NOTE: Holder includes cartridges; however, inserts are sold separately.

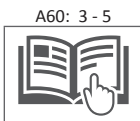
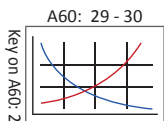
Cartridges

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					
SP48...	C48SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

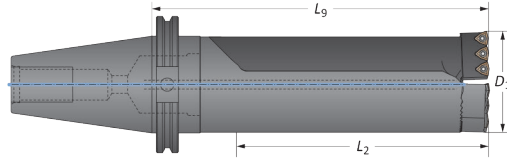
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



48 Series: 76.20 mm - 81.28 mm (3.0000" - 3.2000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L ₂	L ₉	CAT50	
Standard	1.0xD	3.158	5.997	R48X10-CV50	C48-...
	2.5xD	7.908	10.747	R48X25-CV50	
Stacked Plate	1.0xD	3.158	6.196	SP48X10-CV50	C48SP-...
	2.5xD	7.908	10.946	SP48X25-CV50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

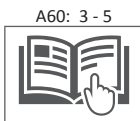
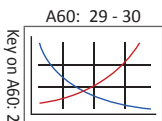
Cartridges

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					
SP48...	C48SP-FIX	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

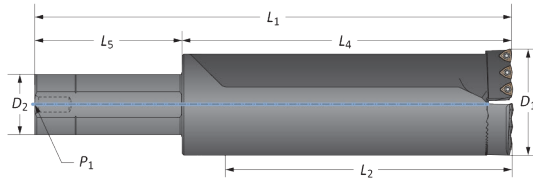
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



52 Series: 81.28 mm - 86.36 mm (3.2000" - 3.4000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	1.0xD	86.7	130.2	210.2	50	80.0	—	R52X10-50M	C52-...
		2.5xD	213.7	257.2	337.2	50	80.0	—	R52X25-50M	
	Stacked Plate	1.0xD	86.7	135.3	215.3	50	80.0	—	SP52X10-50M	C52SP-...
		2.5xD	213.7	262.3	342.3	50	80.0	—	SP52X25-50M	
i	Standard	1.0xD	3.414	5.125	9.625	2	4.500	1/4 NPT	R52X10-200L	C52-...
		2.5xD	8.414	10.125	14.625	2	4.500	1/4 NPT	R52X25-200L	
	Stacked Plate	1.0xD	3.414	5.326	9.826	2	4.500	1/4 NPT	SP52X10-200L	C52SP-...
		2.5xD	8.414	10.326	14.826	2	4.500	1/4 NPT	SP52X25-200L	

NOTE: Holder includes cartridges; however, inserts are sold separately.

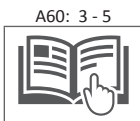
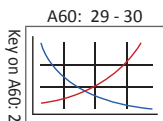
Cartridges

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					
SP52...	C52SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

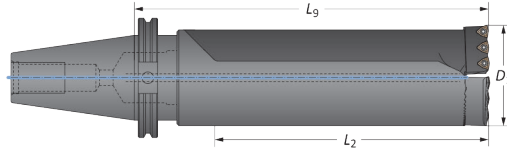
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



52 Series: 81.28 mm - 86.36 mm (3.2000" - 3.4000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L ₂	L ₉	CAT50	
Standard	1.0xD	3.414	6.500	R52X10-CV50	C52-...
	2.5xD	8.414	11.500	R52X25-CV50	
Stacked Plate	1.0xD	3.414	6.701	SP52X10-CV50	C52SP-...
	2.5xD	8.414	11.701	SP52X25-CV50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

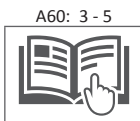
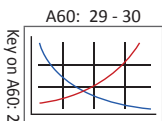
Cartridges

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					
SP52...	C52SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

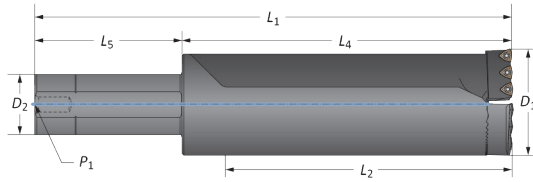
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



54 Series: 86.36 mm - 91.44 mm (3.4000" - 3.6000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	1.0xD	92.9	136.5	216.5	50	80.0	—	R54X10-50M	C54-...
		2.5xD	226.3	269.9	349.9	50	80.0	—	R54X25-50M	
	Stacked Plate	1.0xD	92.9	141.6	221.6	50	80.0	—	SP54X10-50M	C54SP-...
		2.5xD	226.3	275.0	355.0	50	80.0	—	SP54X25-50M	
i	Standard	1.0xD	3.659	5.375	9.875	2	4.500	1/4 NPT	R54X10-200L	C54-...
		2.5xD	8.909	10.625	15.125	2	4.500	1/4 NPT	R54X25-200L	
	Stacked Plate	1.0xD	3.659	5.576	10.076	2	4.500	1/4 NPT	SP54X10-200L	C54SP-...
		2.5xD	8.909	10.826	15.326	2	4.500	1/4 NPT	SP54X25-200L	

NOTE: Holder includes cartridges; however, inserts are sold separately.

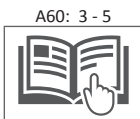
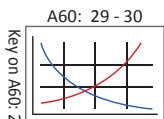
Cartridges

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					
SP54...	C54SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

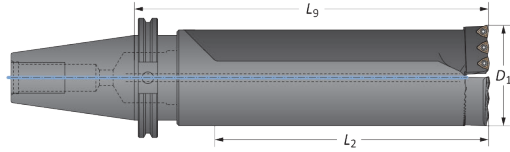
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



54 Series: 86.36 mm - 91.44 mm (3.4000" - 3.6000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L ₂	L ₉	CAT50	
Standard	1.0xD	3.659	6.751	R54X10-CV50	C54-...
	2.5xD	8.909	12.000	R54X25-CV50	
Stacked Plate	1.0xD	3.659	6.951	SP54X10-CV50	C54SP-...
	2.5xD	8.909	12.201	SP54X25-CV50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

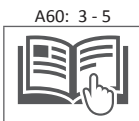
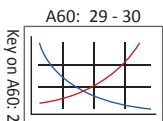
Cartridges

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					
SP54...	C54SP-FIX	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

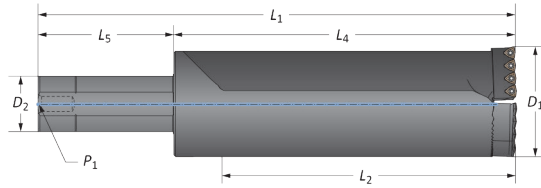
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



56 Series: 91.44 mm - 96.52 mm (3.6000" - 3.8000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	1.0xD	98.6	149.4	229.4	50	80.0	—	R56X10-50M	C56-...
		2.5xD	238.3	289.1	369.1	50	80.0	—	R56X25-50M	
	Stacked Plate	1.0xD	98.6	154.4	234.4	50	80.0	—	SP56X10-50M	C56SP-...
		2.5xD	238.3	294.1	374.1	50	80.0	—	SP56X25-50M	
i	Standard	1.0xD	3.882	5.880	10.380	2	4.500	1/4 NPT	R56X10-200L	C56-...
		2.5xD	9.382	11.380	15.880	2	4.500	1/4 NPT	R56X25-200L	
	Stacked Plate	1.0xD	3.882	6.079	10.579	2	4.500	1/4 NPT	SP56X10-200L	C56SP-...
		2.5xD	9.382	11.579	16.079	2	4.500	1/4 NPT	SP56X25-200L	

NOTE: Holder includes cartridges; however, inserts are sold separately.

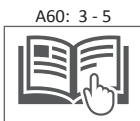
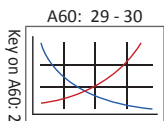
Cartridges

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					
SP56...	C56SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

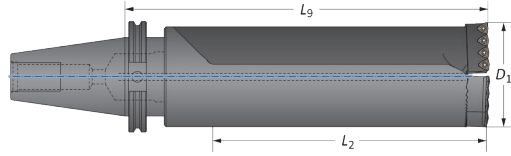
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



56 Series: 91.44 mm - 96.52 mm (3.6000" - 3.8000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L ₂	L ₉	CAT50	
Standard	1.0xD	3.882	7.255	R56X10-CV50	C56-...
	2.5xD	9.382	12.755	R56X25-CV50	
Stacked Plate	1.0xD	3.882	7.454	SP56X10-CV50	C56SP-...
	2.5xD	9.382	12.954	SP56X25-CV50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

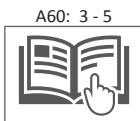
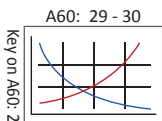
Cartridges

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					
SP56...	C56SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

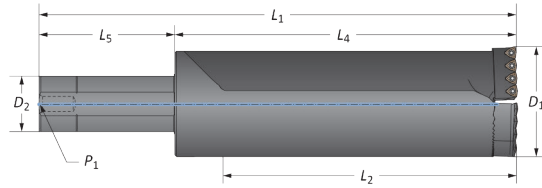
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



58 Series: 96.52 mm - 101.60 mm (3.8000" - 4.0000")

Straight Shank Holders



Straight Shank

	Style	Length	Holder			Shank			Part No.	Cartridges
			L ₂	L ₄	L ₁	D ₂	L ₅	P ₁		
m	Standard	1.0xD	98.6	149.4	229.4	50	80.0	—	R58X10-50M	C58-...
		2.5xD	251.0	301.8	381.8	50	80.0	—	R58X25-50M	
	Stacked Plate	1.0xD	98.6	154.5	234.5	50	80.0	—	SP58X10-50M	C58SP-...
		2.5xD	251.0	306.9	386.9	50	80.0	—	SP58X25-50M	
i	Standard	1.0xD	3.882	5.883	10.383	2	4.500	1/4 NPT	R58X10-200L	C58-...
		2.5xD	9.882	11.883	16.383	2	4.500	1/4 NPT	R58X25-200L	
	Stacked Plate	1.0xD	3.882	6.082	10.582	2	4.500	1/4 NPT	SP58X10-200L	C58SP-...
		2.5xD	9.882	12.082	16.582	2	4.500	1/4 NPT	SP58X25-200L	

NOTE: Holder includes cartridges; however, inserts are sold separately.

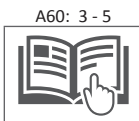
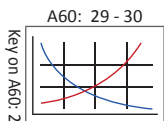
Cartridges

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					
SP58...	C58SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

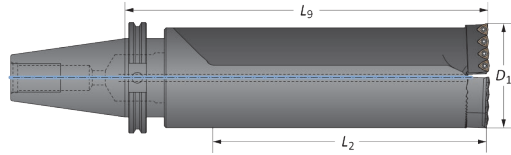
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



58 Series: 96.52 mm - 101.60 mm (3.8000" - 4.0000")

Holders with Integrated CAT Shank



CAT Integral Shank

Style	Length	Holder		Part No.	Cartridges
		L ₂	L ₉	CAT50	
Standard	1.0xD	3.882	7.258	R58X10-CV50	C58-...
	2.5xD	9.882	13.258	R58X25-CV50	
Stacked Plate	1.0xD	3.882	7.457	SP58X10-CV50	C58SP-...
	2.5xD	9.882	13.457	SP58X25-CV50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

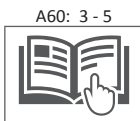
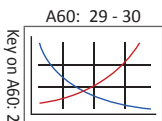
Cartridges

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					
SP58...	C58SP-FIX	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58SP-ADJ					

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)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.

**Recommended Drilling Data | Metric (mm)**

REVOLUTION DRILL						
ISO Material		Hardness (BHN)	 AM300®	 AM200®	 TiN	Feed Rate (mm/rev)
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, etc.	85 - 275	259 - 381	244 - 351	198 - 259	0.08 - 0.17
	Medium-Carbon Steel 1030, 1040, 1050, 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, S-3, etc.	150 - 250	122 - 244	107 - 213	76 - 198	0.06 - 0.13
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 Aluminum	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Wrought Aluminum	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
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	76 - 137	76 - 107	46 - 91	0.06 - 0.11

A60

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
Stainless Steel 400 Series	185 - 350	7.45
Stainless Steel 300 Series	135 - 275	6.48
Super Duplex Stainless Steel	135 - 275	6.48
Nodular, Ductile Cast Iron	120 - 320	4.48
Grey Cast Iron	120 - 320	5.17
Cast Aluminum	30 - 180	2.76
Wrought Aluminum	30 - 180	2.76
Aluminum Bronze	100 - 250	3.45
Brass	100	2.41
Copper	60	2.07
High-Temperature Alloy	140 - 310	9.93
Titanium Alloy	140 - 310	4.97
Aerospace Alloy	185 - 350	4.48
Wear Plate	400 - 600	11.04
Hardened Steel	300 - 500	9.66

Formulas

1.	RPM = $(318.31 \cdot \text{m/min}) / \text{DIA}$ RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA = diameter of drill (mm)
2.	HP = $(\text{DIA}^2 \cdot \text{mm/rev} \cdot \text{RPM} \cdot \text{K}_m) / 181,018$ 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 = $148.78 \cdot \text{mm/rev} \cdot \text{DIA} \cdot \text{K}_m$ Thrust = axial thrust (N) mm/rev = feed rate (mm/rev) DIA = diameter of drill (mm) K _m = specific cutting energy (kPa)
4.	Torque = $(\text{kW} \cdot 9549.3) / \text{RPM}$ Torque = torque (N·m) 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."

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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

Revolution Drill						
			Speed (SFM)			
ISO	Material	Hardness (BHN)				Feed Rate (IPR)
			AM300®	AM200®	TiN	
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 250	900 - 1300	850 - 1200	700 - 900	0.0035 - 0.0070
	Low-Carbon Steel 1010, 1020, 1025, etc.	85 - 275	850 - 1250	800 - 1150	650 - 850	0.0030 - 0.0065
	Medium-Carbon Steel 1030, 1040, 1050, 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	0.0030 - 0.0050
	Structural Steel A36, A285, A516, etc.	100 - 350	850 - 1050	800 - 950	650 - 850	0.0030 - 0.0065
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	400 - 800	350 - 700	250 - 650	0.0025 - 0.0050
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	600 - 850	550 - 750	400 - 650	0.0030 - 0.0060
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	600 - 850	550 - 750	400 - 650	0.0030 - 0.0060
	Super Duplex Stainless Steel	135 - 275	500 - 750	450 - 650	300 - 550	0.0020 - 0.0050
K	Nodular, Grey, Ductile Cast Iron	120 - 320	700 - 900	650 - 800	500 - 700	0.0040 - 0.0080
N	Cast Aluminum	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.0060 - 0.0120
	Wrought Aluminum	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.0060 - 0.0120
	Brass	30 - 100	950 - 1350	900 - 1250	750 - 1100	0.0050 - 0.0090
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	250 - 450	250 - 350	150 - 300	0.0025 - 0.0050

Material Constants

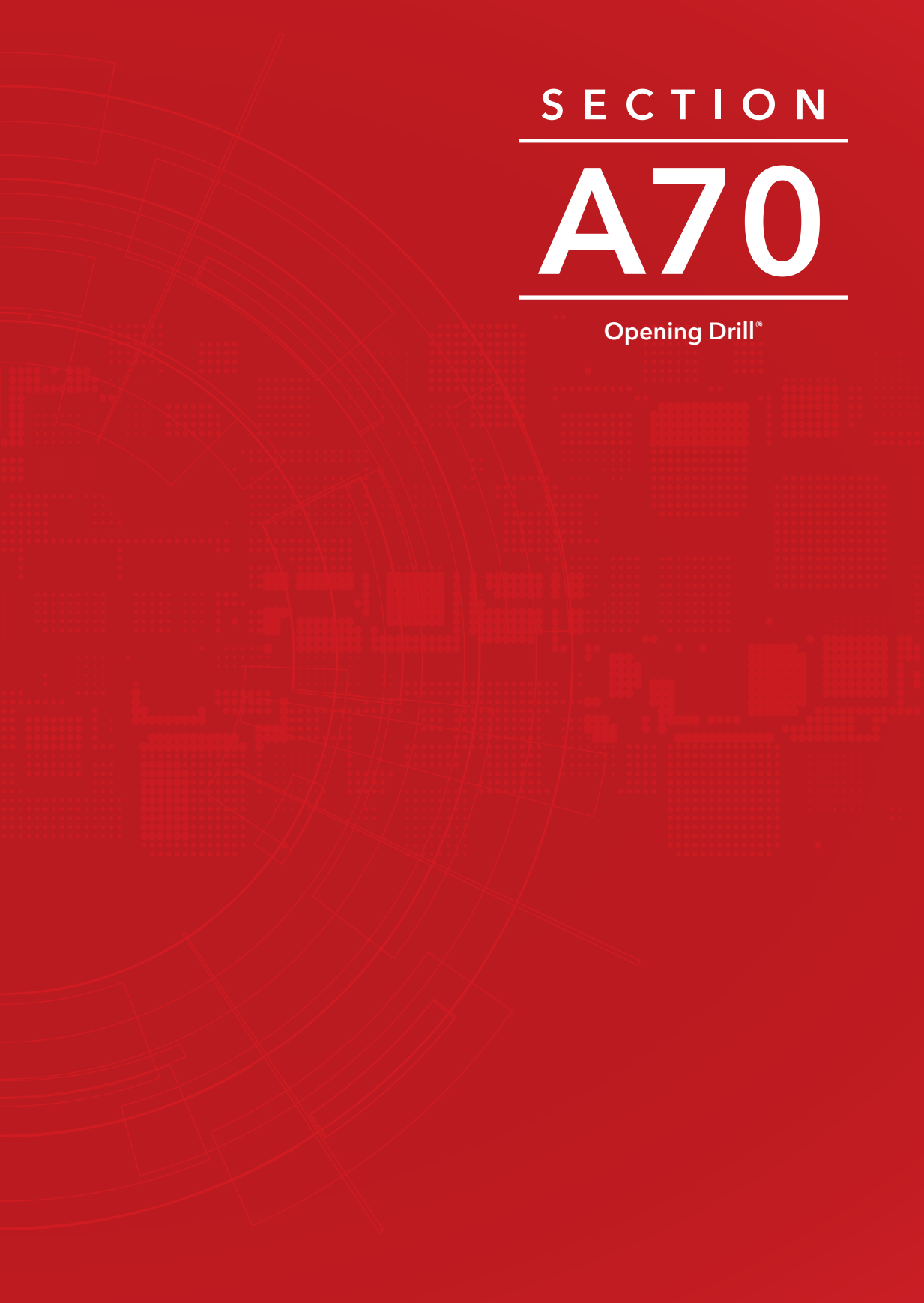
Type of Material	Hardness (BHN)	K _m (lbs/in ²)
Free-Machining Steel	100 - 250	0.75
Low-Carbon Steel	85 - 275	0.85
Medium-Carbon Steel	125 - 325	0.90
Alloy Steel	125 - 375	1.00
High-Strength Steel	225 - 400	1.15
Structural Steel	100 - 350	1.00
Tool Steel	150 - 250	0.90
Stainless Steel 400 Series	185 - 350	1.08
Stainless Steel 300 Series	135 - 275	0.94
Super Duplex Stainless Steel	135 - 275	0.94
Nodular, Ductile Cast Iron	120 - 320	0.65
Grey Cast Iron	120 - 320	0.75
Cast Aluminum	30 - 180	0.40
Wrought Aluminum	30 - 180	0.40
Aluminum Bronze	100 - 250	0.50
Brass	100	0.35
Copper	60	0.30
High-Temperature Alloy	140 - 310	1.44
Titanium Alloy	140 - 310	0.72
Aerospace Alloy	185 - 350	0.70
Wear Plate	400 - 600	1.60
Hardened Steel	300 - 500	1.40

Formulas

1.	RPM = $(3.82 \cdot \text{SFM}) / \text{DIA}$
	RPM = revolutions per minute (rev/min)
	SFM = speed (ft/min)
	DIA = diameter of drill (inch)
2.	HP = $(0.6676 \cdot \text{DIA}^2 \cdot \text{IPR} \cdot \text{RPM} \cdot K_m) / 0.80$
	HP = 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 = $148,500 \cdot \text{IPR} \cdot \text{DIA} \cdot K_m$
	Thrust = axial thrust (lbs)
	IPR = feed rate (in/rev)
	DIA = diameter of drill (inch)
	K _m = specific cutting energy (lbs/in ²)
4.	Torque = $(\text{HP} \cdot 5252) / \text{RPM}$
	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: appeng@alliedmachine.com.



SECTION

A70

Opening Drill®

Opening Drill®

50.80 mm - 142.75 mm (2.0000" - 5.6200")



Opening Drill

The Opening Drill is an extremely effective tool designed to enlarge existing holes. It is available in nine different shank styles: Straight, ABS 63, CAT V40, CAT V50, 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.

Need larger holes | No problem

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

Applicable Industries

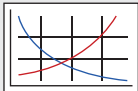
-  Aerospace
-  Agriculture
-  Automotive
-  Defense
-  General Production
-  Heavy Equipment
-  Marine
-  Oil and Gas
-  Renewable Energy/ Energy
-  Structural Steel Fabricator
-  Tool, Mold, and Die

Reference Icons

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



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



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



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

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



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

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

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

Table of Contents

Introduction Information

System Overview	
Features & Benefits	3
Product Overview	4
Setup Instructions	5
Product Nomenclature	6

Drill Series

Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")	
Straight Shank	7
CAT Integral Shank	8
BT Integral Shank	9
HSK Integral Shank	10
ABS63 Integral Shank	11
DIN50 Integral Shank	12

Recommended Drilling Data

Metric (mm)	13
Imperial (in)	14
Minimum Pilot Hole Diameter	15



System Overview

Features & Benefits



2 Inserts
(OP1 - OP3 series)



3 Inserts
(OP4 series)

Features & Benefits

- Opens an existing hole in a single operation.
- Can be used as a rotating or stationary tool.
- Can be used in rough boring operations.
- Smooth cutting action and quiet operations in lathes and mills.
- Unique design enables larger holes to be made on low horsepower machines.
- Ignores core shifts up to 3.18 mm (1/8") providing straight and true holes without the need for boring.

	OP1	OP2	OP3	OP4
	47.63 mm - 50.80 mm 1.8750" - 2.0000"	47.63 mm - 50.80 mm 1.8750" - 2.0000"	47.63 mm - 50.80 mm 1.8750" - 2.0000"	47.63 mm - 50.80 mm 1.8750" - 2.0000"
Straight (mm)	40	40	40	50
Straight (in)	1.500	1.500	1.500	2.000
HSK63*	●	●	●	●
HSK100	●	●	●	●
BT40*	●	●	●	●
BT50	●	●	●	●
CAT40*	●	●	●	●
CAT50	●	●	●	●
ABS63*	●	●	●	●
DIN50	●	●	●	●
Inserts per Cartridge	2	2	2	3

*Long length not available for OP4 series.

Shank Options



Straight



CAT40



CAT50



BT40



BT50



HSK63



HSK100



DIN50



ABS63

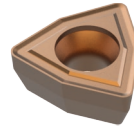


System Overview

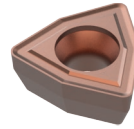
Product Overview

IC Inserts

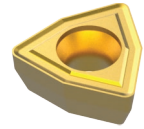
- The design allows for excellent chip control and aggressive penetration rates.
- The proprietary AM200® and AM300® coatings increase tool life above competitors' premium coatings.
- The same inserts are used for both Revolution Drill® and Opening Drill® products.



AM300®



AM200®



TiN

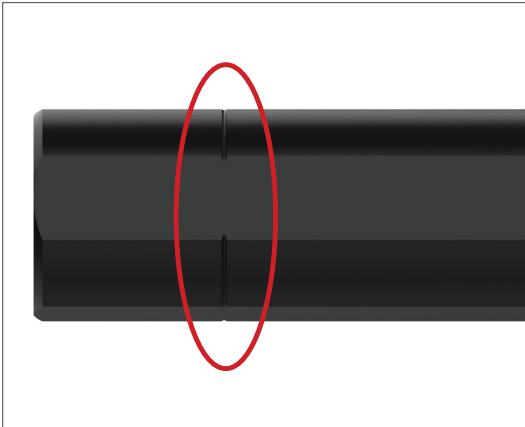
Insert Application Recommendations

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.
----------------	--



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.



A70



System Overview

Setup Instructions



Step 1:

Loosen the mounting screws on both cartridges.



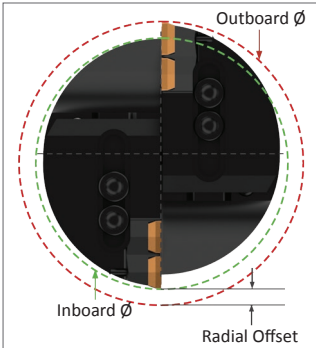
Step 2:

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 - 5.08 mm (0.200" - 0.160") 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).

System Overview

Product Nomenclature

Opening Drill Holders

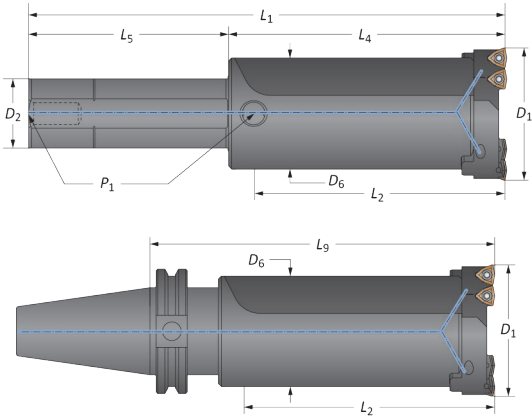
OP1	–	1S	–	SS1.5	
Series		Drill Length		Shank Style	
OP1		1S = Short		40M = 40 mm straight	BT40 = BT40
OP2		1L = Long		50M = 50 mm straight	BT50 = BT50
OP3				SS1.5 = 1.500 Ø straight	CV40 = CAT40
OP4				SS2.0 = 2.000 Ø straight	CV50 = CAT50
				HSK63 = HSK 63A/C	ABS63 = ABS63
				HSK100 = HSK 100A/C	DV50 = DIN50

Revolution Drill & Opening Drill Inserts

OP	–	05	T3	08	–	1	H	HR
		IC Type	Thickness	Radius		Carbide Grade	Shank Style	Geometry
		05 = 5/16"	T3 = 5/32"	08 = 1/32"		Blank = P35 (C5) 1 = K35 (C1) 2 = K25 (C2)	P = AM300® H = AM200® T = TiN A = TiAlN N = TiCN U = Uncoated	Blank = General Purpose HR = High Rake

Reference Key

Symbol	Attribute
D ₁	Drill diameter range
D ₂	Shank diameter
D ₆	Body diameter
L ₁	Overall length
L ₂	Maximum drill depth
L ₄	Holder length
L ₅	Shank length
L ₉	Gauge length
P ₁	Rear pipe tap

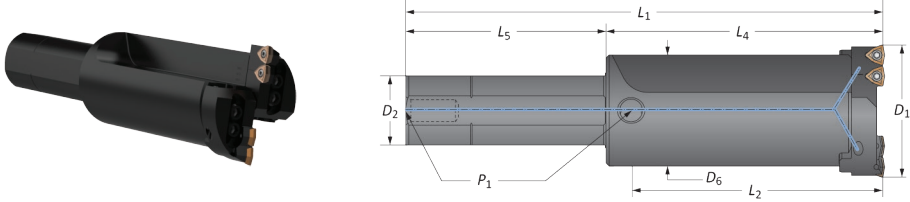


A70



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

Straight Shank



	D_1 Range	Length	Holder				Shank			Part No.	Cartridges
			D_6	L_2	L_4	L_1	D_2	L_3	P_1		
m	50.80 - 63.50	Short	46.7	83.5	104.4	174.4	40	70.0	—	OP1-1S-40M	OP1-WC05
		Long	46.7	140.6	161.6	231.6	40	70.0	—	OP1-1L-40M	
	63.50 - 76.20	Short	56.4	118.5	141.2	211.3	40	70.0	—	OP2-1S-40M	OP2-WC05
		Long	56.4	194.7	217.4	287.5	40	70.0	—	OP2-1L-40M	
	76.20 - 104.65	Short	71.3	129.9	153.9	224.0	40	70.0	—	OP3-1S-40M	OP3-WC05
		Long	71.3	231.5	255.5	325.6	40	70.0	—	OP3-1L-40M	
	104.65 - 142.75	Short	88.9	127.4	153.9	234.0	50	80.0	—	OP4-1S-50M	OP4-WC05
		Long	88.9	267.1	293.6	373.7	50	80.0	—	OP4-1L-50M	
i	2.0000 - 2.5000	Short	1.840	3.286	4.112	8.112	1-1/2	4.000	1/4 NPT	OP1-1S-SS1.5	OP1-WC05
		Long	1.840	5.536	6.362	10.362	1-1/2	4.000	1/4 NPT	OP1-1L-SS1.5	
	2.5000 - 3.0000	Short	2.220	4.666	5.561	9.561	1-1/2	4.000	1/4 NPT	OP2-1S-SS1.5	OP2-WC05
		Long	2.220	7.666	8.561	12.561	1-1/2	4.000	1/4 NPT	OP2-1L-SS1.5	
	3.0000 - 4.1200	Short	2.806	5.114	6.061	10.061	1-1/2	4.000	1/4 NPT	OP3-1S-SS1.5	OP3-WC05
		Long	2.806	9.114	10.061	14.061	1-1/2	4.000	1/4 NPT	OP3-1L-SS1.5	
	4.1200 - 5.6200	Short	3.500	5.017	6.061	10.561	2	4.500	1/4 NPT	OP4-1S-SS2.0	OP4-WC05
		Long	3.500	10.517	11.561	16.061	2	4.500	1/4 NPT	OP4-1L-SS2.0	

NOTE: 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

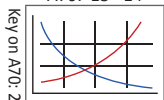
IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws*	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rate	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A70: 13 - 14

A70: 3 - 4



m = Metric (mm)

i = Imperial (in)

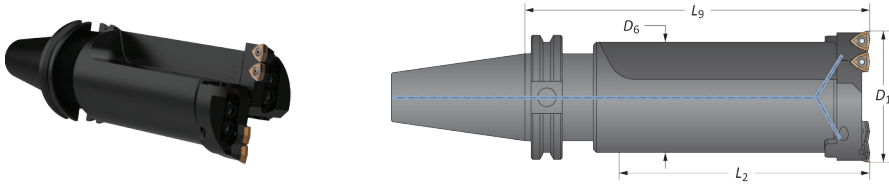
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

CAT Integral Shank



CAT40 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
2.0000 - 2.5000	Short	1.840	3.286	5.487	OP1-1S-CV40	OP1-WC05
	Long	1.840	5.536	7.737	OP1-1L-CV40	
2.5000 - 3.0000	Short	2.220	4.666	6.936	OP2-1S-CV40	OP2-WC05
	Long	2.220	7.666	9.936	OP2-1L-CV40	
3.0000 - 4.1200	Short	2.806	5.114	7.436	OP3-1S-CV40	OP3-WC05
	Long	2.806	9.114	11.436	OP3-1L-CV40	
4.1200 - 5.6200	Short	3.500	5.017	7.436	OP4-1S-CV40	OP4-WC05

NOTE: Holder includes cartridges; however, inserts are sold separately.

CAT50 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
2.0000 - 2.5000	Short	1.840	3.286	5.487	OP1-1S-CV50	OP1-WC05
	Long	1.840	5.536	7.737	OP1-1L-CV50	
2.5000 - 3.0000	Short	2.220	4.666	6.936	OP2-1S-CV50	OP2-WC05
	Long	2.220	7.666	9.936	OP2-1L-CV50	
3.0000 - 4.1200	Short	2.806	5.114	7.436	OP3-1S-CV50	OP3-WC05
	Long	2.806	9.114	11.436	OP3-1L-CV50	
4.1200 - 5.6200	Short	3.500	5.017	7.436	OP4-1S-CV50	OP4-WC05
	Long	3.500	10.517	12.936	OP4-1L-CV50	

NOTE: 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

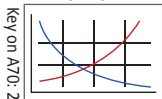
IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws*	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A70: 13 - 14

A70: 3 - 4



m = Metric (mm)

i = Imperial (in)

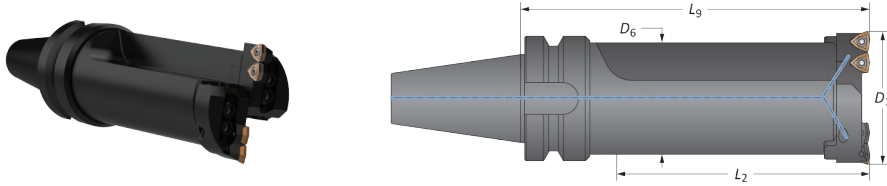
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

BT Integral Shank



BT40 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	139.4	OP1-1S-BT40	OP1-WC05
	Long	46.7	140.6	196.5	OP1-1L-BT40	
63.50 - 76.20	Short	56.4	118.5	176.2	OP2-1S-BT40	OP2-WC05
	Long	56.4	194.7	252.4	OP2-1L-BT40	
76.20 - 104.65	Short	71.3	129.9	188.9	OP3-1S-BT40	OP3-WC05
	Long	71.3	231.5	290.5	OP3-1L-BT40	
104.65 - 142.75	Short	88.9	127.4	188.9	OP4-1S-BT40	OP4-WC05

NOTE: Holder includes cartridges; however, inserts are sold separately.

BT50 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	148.9	OP1-1S-BT50	OP1-WC05
	Long	46.7	140.6	206.0	OP1-1L-BT50	
63.50 - 76.20	Short	56.4	118.5	185.7	OP2-1S-BT50	OP2-WC05
	Long	56.4	194.7	261.9	OP2-1L-BT50	
76.20 - 104.65	Short	71.3	129.9	198.4	OP3-1S-BT50	OP3-WC05
	Long	71.3	231.5	300.0	OP3-1L-BT50	
104.65 - 142.75	Short	88.9	127.4	198.4	OP4-1S-BT50	OP4-WC05
	Long	88.9	267.1	338.1	OP4-1L-BT50	

NOTE: Holder includes cartridges; however, inserts are sold separately.

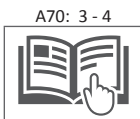
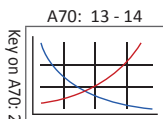
Cartridges

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		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rate	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

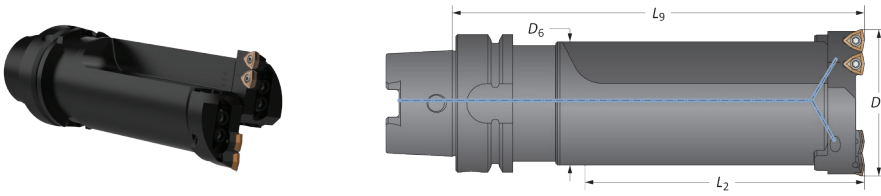
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

HSK Integral Shank



HSK63 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	150.1	OP1-1S-HSK63	OP1-WC05
	Long	46.7	140.6	207.3	OP1-1L-HSK63	
63.50 - 76.20	Short	56.4	118.5	186.9	OP2-1S-HSK63	OP2-WC05
	Long	56.4	194.7	263.1	OP2-1L-HSK63	
76.20 - 104.65	Short	71.3	129.9	199.6	OP3-1S-HSK63	OP3-WC05
	Long	71.3	231.5	301.2	OP3-1L-HSK63	
104.65 - 142.75	Short	88.9	127.4	199.6	OP4-1S-HSK63	OP4-WC05

NOTE: Holder includes cartridges; however, inserts are sold separately.

HSK100 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	152.6	OP1-1S-HSK100	OP1-WC05
	Long	46.7	140.6	209.8	OP1-1L-HSK100	
63.50 - 76.20	Short	56.4	118.5	189.4	OP2-1S-HSK100	OP2-WC05
	Long	56.4	194.7	265.6	OP2-1L-HSK100	
76.20 - 104.65	Short	71.3	129.9	202.1	OP3-1S-HSK100	OP3-WC05
	Long	71.3	231.5	303.7	OP3-1L-HSK100	
104.65 - 142.75	Short	88.9	127.4	202.1	OP4-1S-HSK100	OP4-WC05
	Long	88.9	267.1	341.8	OP4-1L-HSK100	

NOTE: Holder includes cartridges; however, inserts are sold separately.

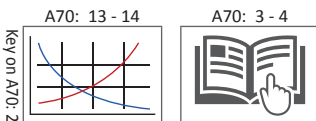
Cartridges

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		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

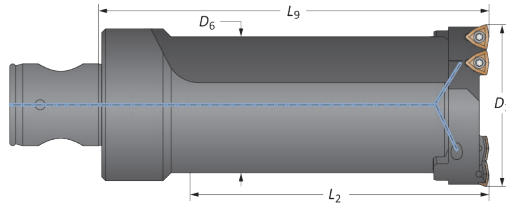
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

ABS63 Integral Shank



ABS63 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	141.3	OP1-1S-ABS63	OP1-WC05
	Long	46.7	140.6	198.5	OP1-1L-ABS63	
63.50 - 76.20	Short	56.4	118.5	160.3	OP2-1S-ABS63	OP2-WC05
	Long	56.4	194.7	236.5	OP2-1L-ABS63	
76.20 - 104.65	Short	71.3	129.9	173.0	OP3-1S-ABS63	OP3-WC05
	Long	71.3	231.5	274.6	OP3-1L-ABS63	
104.65 - 142.75	Short	88.9	127.4	173.0	OP4-1S-ABS63	OP4-WC05

NOTE: Holder includes cartridges; however, inserts are sold separately.

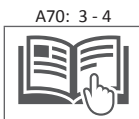
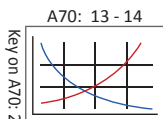
Cartridges

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		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rate	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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)

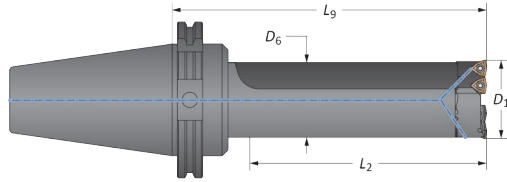
Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.



Opening Drill: 50.80 mm - 142.75 mm (2.0000" - 5.6200")

DIN50 Integral Shank



DIN50 Shanks

D ₁ Range	Length	Holder			Part No.	Cartridges
		D ₆	L ₂	L ₉		
50.80 - 63.50	Short	46.7	83.5	139.4	OP1-1S-DV50	OP1-WC05
	Long	46.7	140.6	196.6	OP1-1L-DV50	
63.50 - 76.20	Short	56.4	118.5	176.3	OP2-1S-DV50	OP2-WC05
	Long	56.4	194.7	252.5	OP2-1L-DV50	
76.20 - 104.65	Short	71.3	129.9	189.0	OP3-1S-DV50	OP3-WC05
	Long	71.3	231.5	290.6	OP3-1L-DV50	
104.65 - 142.75	Short	88.9	127.4	189.0	OP4-1S-DV50	OP4-WC05
	Long	88.9	267.1	328.7	OP4-1L-DV50	

NOTE: 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

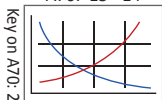
IC Inserts

Carbide Grade	Geometry	Part No.			Insert Screws*	Driver
		AM300®	AM200®	TiN		
P35 (C5)	Standard	OP-05T308-P	OP-05T308-H	OP-05T308-T	IS-10-1	8T-9
K35 (C1)		OP-05T308-1P	OP-05T308-1H	OP-05T308-1T		
K25 (C2)		OP-05T308-2P	OP-05T308-2H	—		
P35 (C5)	High Rake	OP-05T308-PHR	OP-05T308-HHR	—	IS-10-1	8T-9

*Admissible Tightening Torque: 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.

A70: 13 - 14

A70: 3 - 4



m = Metric (mm)

i = Imperial (in)

Mounting and adjusting screws sold in quantities of 4.

IC inserts and insert screws sold in quantities of 10.

**Recommended Drilling Data | Metric (mm)****OPENING DRILL**

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, etc.	85 - 275	259 - 381	244 - 351	198 - 259	0.08 - 0.17
	Medium-Carbon Steel 1030, 1040, 1050, 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, S-3, etc.	150 - 250	122 - 244	107 - 213	76 - 198	0.06 - 0.13
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 Aluminum	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
	Wrought Aluminum	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
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	76 - 137	76 - 107	46 - 91	0.06 - 0.11

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
Stainless Steel 400 Series	185 - 350	7.45
Stainless Steel 300 Series	135 - 275	6.48
Super Duplex Stainless Steel	135 - 275	6.48
Nodular, Ductile Cast Iron	120 - 320	4.48
Grey Cast Iron	120 - 320	5.17
Cast Aluminum	30 - 180	2.76
Wrought Aluminum	30 - 180	2.76
Aluminum Bronze	100 - 250	3.45
Brass	100	2.41
Copper	60	2.07
High-Temperature Alloy	140 - 310	9.93
Titanium Alloy	140 - 310	4.97
Aerospace Alloy	185 - 350	4.48
Wear Plate	400 - 600	11.04
Hardened Steel	300 - 500	9.66

Formulas

1.	RPM = $(318.31 \cdot \text{m/min}) / \text{DIA}_f$ RPM = revolutions per minute (rev/min) m/min = speed (m/min) DIA _f = finish diameter of drill (mm)
2.	kW = $((\text{DIA}_f^2 - \text{DIA}_p^2) \cdot \text{mm/rev} \cdot \text{RPM} \cdot \text{K}_m) / 205,154$ 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 = $148.78 \cdot \text{mm/rev} \cdot (\text{DIA}_f - \text{DIA}_p) \cdot \text{K}_m$ Thrust = axial thrust (N) IPR = feed rate (mm/rev) DIA _f = finish diameter of drill (mm) DIA _p = pre-drill diameter (mm) K _m = specific cutting energy (kPa)
4.	Torque = $(\text{kW} \cdot 9549.3) / \text{RPM}$ Torque = torque (N-m) 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: appeng@alliedmachine.com.



Recommended Drilling Data | Imperial (in)

OPENING DRILL

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 - 0.0070
	Low-Carbon Steel 1010, 1020, 1025, etc.	85 - 275	850 - 1250	800 - 1150	650 - 850	0.0030 - 0.0065
	Medium-Carbon Steel 1030, 1040, 1050, 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	0.0030 - 0.0050
	Structural Steel A36, A285, A516, etc.	100 - 350	850 - 1050	800 - 950	650 - 850	0.0030 - 0.0065
	Tool Steel H-13, H-21, A-4, S-3, etc.	150 - 250	400 - 800	350 - 700	250 - 650	0.0025 - 0.0050
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	600 - 850	550 - 750	400 - 650	0.0030 - 0.0060
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	600 - 850	550 - 750	400 - 650	0.0030 - 0.0060
	Super Duplex Stainless Steel	135 - 275	500 - 750	450 - 650	300 - 550	0.0020 - 0.0050
K	Nodular, Grey, Ductile Cast Iron	120 - 320	700 - 900	650 - 800	500 - 700	0.0040 - 0.0080
N	Cast Aluminum	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.0060 - 0.0120
	Wrought Aluminum	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.0060 - 0.0120
	Brass	30 - 100	950 - 1350	900 - 1250	750 - 1100	0.0050 - 0.0090
S	High-Temp Alloy Hastelloy® B, Inconel® 600, etc.	140 - 310	250 - 450	250 - 350	150 - 300	0.0025 - 0.0050

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
Stainless Steel 400 Series	185 - 350	1.08
Stainless Steel 300 Series	135 - 275	0.94
Super Duplex Stainless Steel	135 - 275	0.94
Nodular, Ductile Cast Iron	120 - 320	0.65
Grey Cast Iron	120 - 320	0.75
Cast Aluminum	30 - 180	0.40
Wrought Aluminum	30 - 180	0.40
Aluminum Bronze	100 - 250	0.50
Brass	100	0.35
Copper	60	0.30
High-Temperature Alloy	140 - 310	1.44
Titanium Alloy	140 - 310	0.72
Aerospace Alloy	185 - 350	0.70
Wear Plate	400 - 600	1.60
Hardened Steel	300 - 500	1.40

Formulas

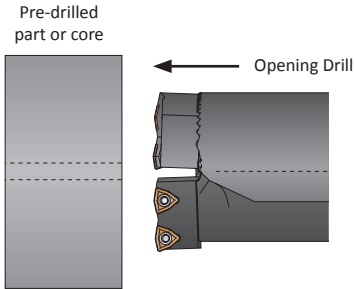
1.	RPM = $(3.82 \cdot \text{SFM}) / \text{DIA}_f$
	RPM = revolutions per minute (rev/min)
	SFM = speed (ft/min)
	DIA _f = finish diameter of drill (inch)
2.	HP = $(0.5891 \cdot (\text{DIA}_f^2 - \text{DIA}_p^2) \cdot \text{IPR} \cdot \text{RPM} \cdot \text{K}_m) / 0.80$
	HP = tool power (HP)
	DIA _f = 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 = $148,500 \cdot \text{IPR} \cdot (\text{DIA}_f - \text{DIA}_p) \cdot \text{K}_m$
	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)
4.	Torque = $(\text{HP} \cdot 5252) / \text{RPM}$
	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: appeng@alliedmachine.com.



Minimum Pilot Hole Diameter



Metric Minimum Pilot Hole Diameter

$$\text{Minimum Pilot Hole Diameter} = \text{Finish Diameter} - C$$

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 mm - 47.75 = 22.10 mm

m	Opening Drill Series	Drill Diameter Range	C
	OP1	50.80 - 63.50	47.75
	OP2	63.50 - 76.20	47.75
	OP3	76.20 - 104.65	47.75
	OP4	104.65 - 142.75	68.07

Imperial Minimum Pilot Hole Diameter

$$\text{Minimum Pilot Hole Diameter} = \text{Finish Diameter} - C$$

To open an existing diameter hole to 2.7500" diameter, an OP2 tool would be used. The minimum pilot hole diameter would be:
2.7500" - 1.880 = 0.8700"

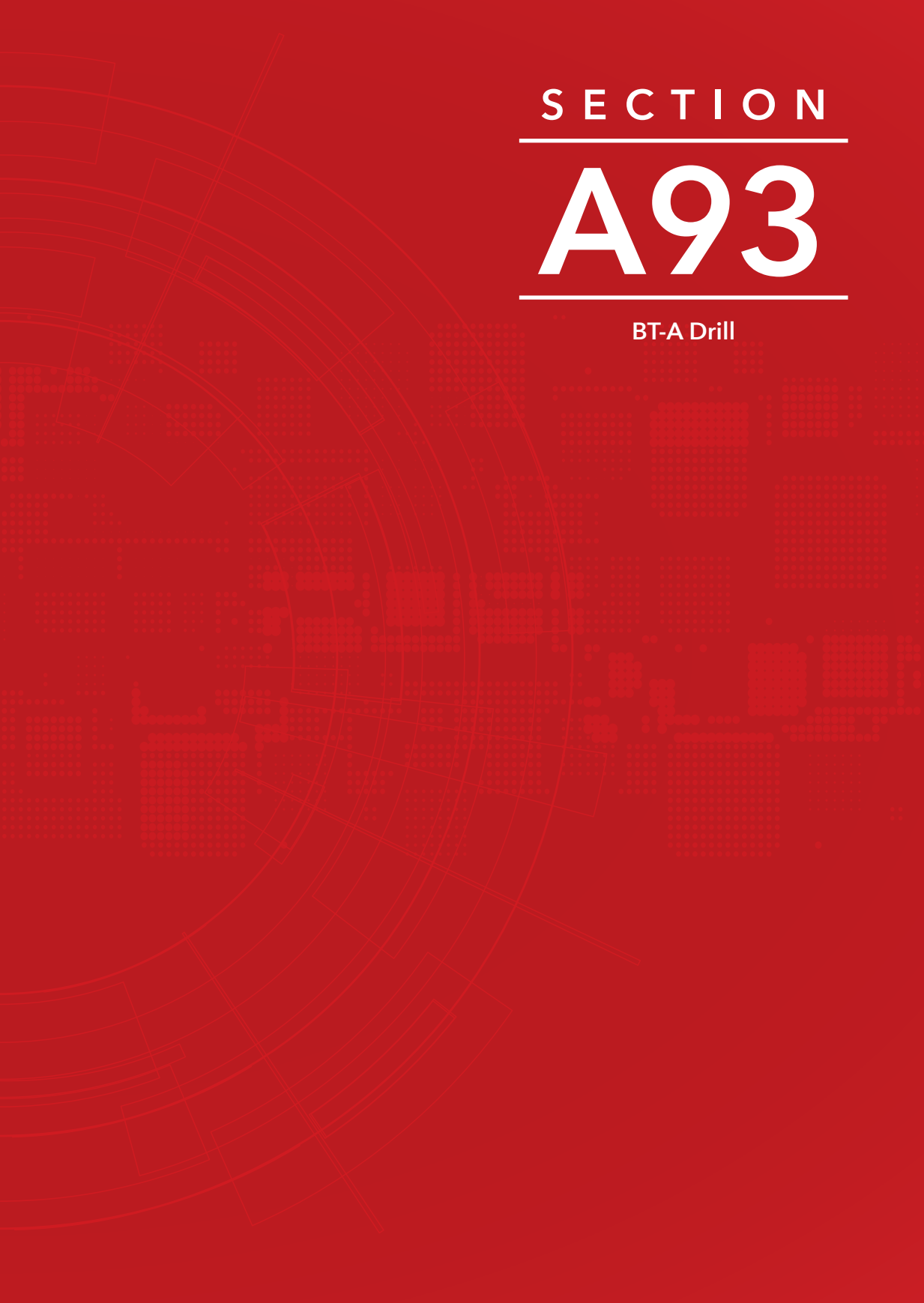
i	Opening Drill Series	Drill Diameter Range	C
	OP1	2.0000 - 2.5000	1.880
	OP2	2.5000 - 3.0000	1.880
	OP3	3.0000 - 4.1200	1.880
	OP4	4.1200 - 5.6200	2.680



Notes

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The paper is otherwise completely blank, with no margins, text, or other markings.

A70

The background of the entire page is a solid red color. Overlaid on this are faint, light-red geometric patterns. On the left side, there are several concentric circles of varying radii. Across the entire page, there is a grid of small squares, some of which are filled with a darker red color, creating a pixelated or digital effect.

SECTION

A93

BT-A Drill

BT-A Drill

12.98 mm - 47.82 mm (0.5110" - 1.8829")



BT-A (STS) Deep Hole Machining System

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 utilizing 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.

Material Ejection with Efficiency

- ▶ Excellent hole size and finish.
- ▶ Optimizes chip evacuation.
- ▶ Up to 2x the penetration rate of traditional BTA heads.

Applicable Industries



Aerospace



Defense



Heavy Equipment



Oil and Gas



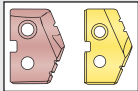
Renewable Energy/ Energy



Tool, Mold, and Die

Reference Icons

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



T-A® Inserts
Refers to the range of inserts that connect with the corresponding holders.

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



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

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

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

Table of Contents

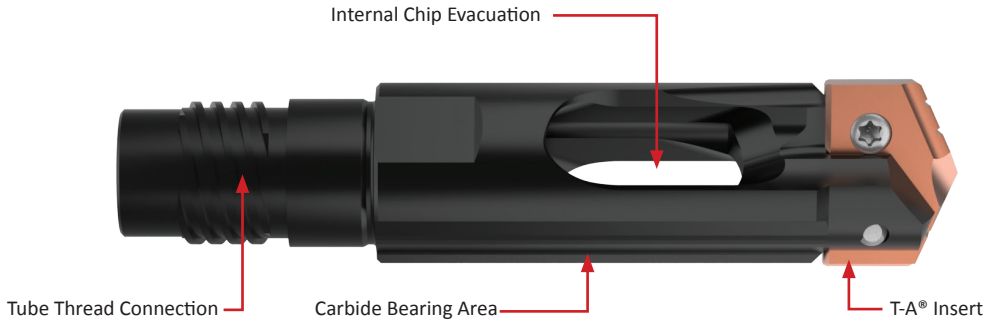
Introduction Information	
System Overview	3
Product Nomenclature.....	4
Drill Series	
0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959").....	5
1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609").....	6
2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809").....	7
3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829").....	8



System Overview

BTA Machining

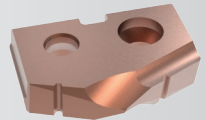
BTA machining is the reverse of typical gun drilling systems. The BT-A drill is a drill head consisting of a holder body and a replaceable tip T-A® insert. The drill head threads into an STS (single tube system) cylindrical tube with a diameter smaller than the drill head. The difference in diameter forms an annular area between the hole and the tube OD. This allows high-volume coolant to be directed to the cutting edge.



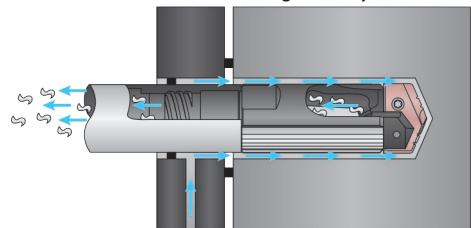
- ✓ **Improve hole straightness**
with the laser clad bearing area.
- ✓ **Eliminate the need for resharping**
with replaceable cutting edges.
- ✓ **Reduce your inventory**
with the replaceable T-A® feature.
- ✓ **Compatibility**
heads are compatible with standard BTA-STS systems.
- ✓ **Balanced cutting forces.**
- ✓ **Patented design.**

T-A Insert: BT-A Geometry (-BT)

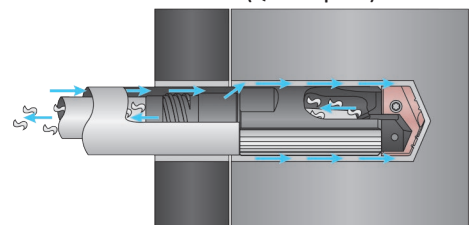
- Low thrust web geometry reduces z-axis requirements.
- Lip geometry identical to the tiny chip (-TC) for improved chip formation.
- Polished cutting surface eliminates material buildup.



BT-A Single Tube System



BT-A Double Tube (Ejector) System (Quoted Special)



A93

2x INCREASE in
penetration rates
over traditional BTA heads

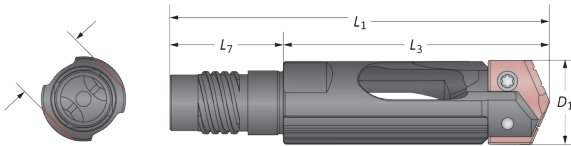
Product Nomenclature

BT-A Head

BTA	2	804					-	1.1299
	Series	Tube Size						Diameter
	0	794	798	802	806	810		25.00 = Metric
	1	795	799	803	807	811		0.7344 = Inch
	2	796	800	804	808			
	3	797	801	805	809			

Reference Key

Symbol	Attribute
D_1	Drill insert range
L_1	Overall length
L_3	Holder reference length
L_5	Shank length

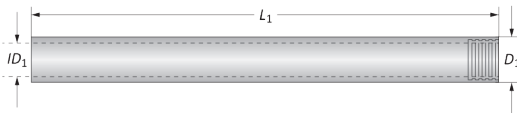


BT-A Tube

BTAT	—	804					—	63
		Tube Size						Length
		794	798	802	806	810		63 = Standard
		795	799	803	807	811		102 = Long
		796	800	804	808			
		797	801	805	809			

Reference Key

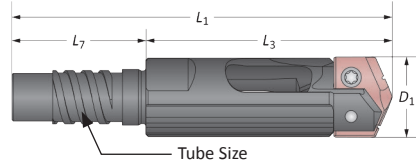
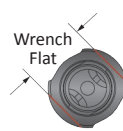
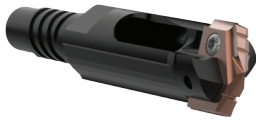
Symbol	Attribute
D_6	Body diameter
ID_1	Internal diameter
L_1	Overall length



A93

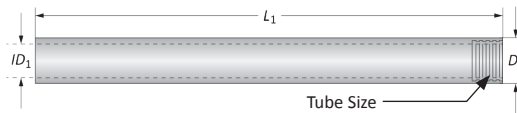


0 Series: 12.98 mm - 17.67 mm (0.5110" - 0.6959")



Heads

	Tube Size	D_1	Holder				Carbide: K35 (C1)  Part No. AM200®	Wrench Flat (mm)
			L_3	L_1	L_5	Part No.		
m	794	12.98 - 13.61	43.36	66.37	23.01	BTA0-794-XX.XX	1C10H-XXXX-BT	11
	795	13.61 - 14.63	44.63	67.64	23.01	BTA0-795-XX.XX	1C10H-XXXX-BT	12
	796	14.63 - 15.62	45.90	69.90	24.00	BTA0-796-XX.XX	1C10H-XXXX-BT	13
	797	15.62 - 16.71	45.90	69.90	24.00	BTA0-797-XX.XX	1C10H-XXXX-BT	14
	798	16.71 - 17.70	45.26	69.27	24.00	BTA0-798-XX.XX	1C10H-XXXX-BT	15
i	794	0.5110 - 0.5359	1.7070	2.6130	0.9060	BTA0-794-X.XXXX	1C10H-XXXX-BT	11
	795	0.5360 - 0.5759	1.7570	2.6630	0.9060	BTA0-795-X.XXXX	1C10H-XXXX-BT	12
	796	0.5760 - 0.6149	1.8070	2.7520	0.9450	BTA0-796-X.XXXX	1C10H-XXXX-BT	13
	797	0.6150 - 0.6579	1.8070	2.7520	0.9450	BTA0-797-X.XXXX	1C10H-XXXX-BT	14
	798	0.6580 - 0.6969	1.7820	2.7270	0.9450	BTA0-798-X.XXXX	1C10H-XXXX-BT	15



Tubes

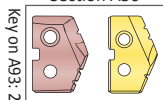
Tube Size	Metric (mm)		Imperial (in)		Tube Length	L_1		Part No.
	D_6	ID_1	D_6	ID_1		Metric (cm)	Imperial (in)	
794	11.00	7.00	0.4331	0.2756	Short	160	63	BTAT794-63
					Long	260	102	BTAT794-102
795	12.00	8.00	0.4724	0.3150	Short	160	63	BTAT795-63
					Long	260	102	BTAT795-102
796	13.00	8.50	0.5118	0.3346	Short	160	63	BTAT796-63
					Long	260	102	BTAT796-102
797	14.00	9.00	0.5512	0.3543	Short	160	63	BTAT797-63
					Long	260	102	BTAT797-102
798	15.00	10.00	0.5906	0.3937	Short	160	63	BTAT798-63
					Long	260	102	BTAT798-102

Connection Accessories

Insert Series	D_1	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	0.5110 - 0.6093	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
0.5	0.6094 - 0.6959	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.

Section A30



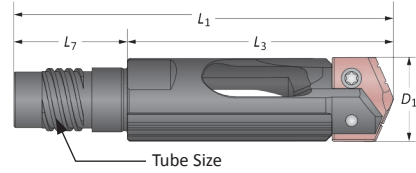
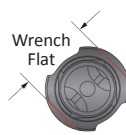
m = Metric (mm)

i = Imperial (in)

Screws sold in multiples of 10.

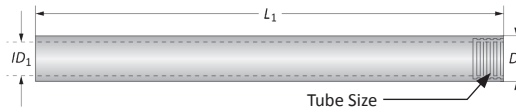


1 Series: 17.53 mm - 24.40 mm (0.6900" - 0.9609")



Heads

	Tube Size	D_1	Holder			Part No.	Carbide: K35 (C1)	Wrench Flat (mm)
			L_3	L_1	L_5		Part No. AM200®	
m	799	17.70 - 18.92	58.17	83.16	24.00	BTA1-799-XX.XX	1C11H-XXXX-BT	16
	800	18.92 - 20.01	58.80	86.79	28.00	BTA1-800-XX.XX	1C11H-XXXX-BT	17
	801	20.02 - 21.82	59.44	89.94	30.51	BTA1-801-XX.XX	1C11H-XXXX-BT	18
	802	21.82 - 24.10	60.71	93.70	32.99	BTA1-802-XX.XX	1C11H-XXXX-BT	19
	803	24.10 - 24.41	63.88	96.88	32.99	BTA1-803-XX.XX	1C11H-XXXX-BT	21
i	799	0.6970 - 0.7449	2.2900	3.2740	0.9840	BTA1-799-X.XXXX	1C11H-XXXX-BT	16
	800	0.7450 - 0.7879	2.3150	3.4170	1.1020	BTA1-800-X.XXXX	1C11H-XXXX-BT	17
	801	0.7880 - 0.8589	2.3400	3.5410	1.2010	BTA1-801-X.XXXX	1C11H-XXXX-BT	18
	802	0.8590 - 0.9489	2.3900	3.6890	1.2990	BTA1-802-X.XXXX	1C11H-XXXX-BT	19
	803	0.9490 - 0.9609	2.5150	3.8140	1.2990	BTA1-803-X.XXXX	1C11H-XXXX-BT	21



Tubes

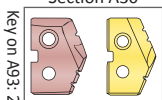
Tube Size	Metric (mm)		Imperial (in)		Tube Length	L_1		Part No.
	D_6	ID_1	D_6	ID_1		Metric (cm)	Imperial (in)	
799	16.00	10.50	0.6299	0.4134	Short	160	63	BTAT799-63
					Long	260	102	BTAT797-102
800	17.00	11.50	0.6693	0.4528	Short	160	63	BTAT800-63
					Long	260	102	BTAT800-102
801	18.00	12.00	0.7087	0.4724	Short	160	63	BTAT801-63
					Long	260	102	BTAT801-102
802	20.00	13.00	0.7874	0.5118	Short	160	63	BTAT802-63
					Long	260	102	BTAT802-102
803	22.00	14.00	0.8661	0.5512	Short	160	63	BTAT803-63
					Long	260	102	BTAT803-102

Connection Accessories

Insert Series	D_1	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	0.6900 - 0.8593	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	305 N-cm (27.0 in-lbs)
1.5	0.8594 - 0.9609	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.

Section A30



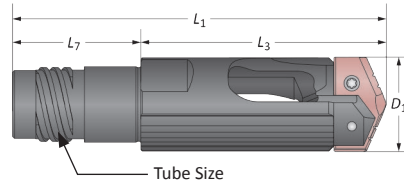
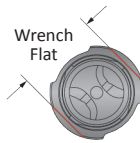
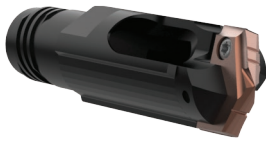
m = Metric (mm)

i = Imperial (in)

Screws sold in multiples of 10.

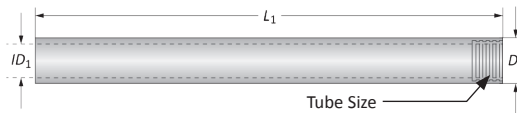


2 Series: 24.41 mm - 35.06 mm (0.9610" - 1.3809")



Heads

	Tube Size	D_1	Holder			Part No.	Carbide: K35 (C1)	Wrench Flat (mm)
			L_3	L_1	L_5		 Part No. AM200®	
m	803	24.41 - 26.41	78.49	111.48	32.99	BTA2-803-XX.XX	1C12H-XXXX-BT	21
	804	26.42 - 28.70	75.95	103.94	28.00	BTA2-804-XX.XX	1C12H-XXXX-BT	22
	805	28.70 - 31.01	75.44	111.43	35.99	BTA2-805-XX.XX	1C12H-XXXX-BT	25
	806	31.01 - 33.32	77.85	113.84	35.99	BTA2-806-XX.XX	1C12H-XXXX-BT	27
	807	33.32 - 35.05	77.85	113.84	35.99	BTA2-807-XX.XX	1C12H-XXXX-BT	30
i	803	0.9610 - 1.0399	3.0900	4.3890	1.2990	BTA2-803-X.XXXX	1C12H-XXXX-BT	21
	804	1.0400 - 1.1299	2.9900	4.0920	1.1020	BTA2-804-X.XXXX	1C12H-XXXX-BT	22
	805	1.1300 - 1.2209	2.9700	4.3870	1.4170	BTA2-805-X.XXXX	1C12H-XXXX-BT	25
	806	1.2210 - 1.3119	3.0650	4.4820	1.4170	BTA2-806-X.XXXX	1C12H-XXXX-BT	27
	807	1.3120 - 1.3800	3.0650	4.4820	1.4170	BTA2-807-X.XXXX	1C12H-XXXX-BT	30



Tubes

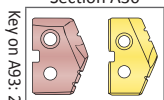
Tube Size	Metric (mm)		Imperial (in)		Tube Length	L_1		Part No.
	D_6	ID_1	D_6	ID_1		Metric (cm)	Imperial (in)	
803	22.00	14.00	0.8661	0.5512	Short	160	63	BTAT803-63
					Long	260	102	BTAT803-102
804	24.00	15.50	0.9449	0.6102	Short	160	63	BTAT804-63
					Long	260	102	BTAT804-102
805	26.00	17.00	1.0236	0.6693	Short	160	63	BTAT805-63
					Long	260	102	BTAT805-102
806	28.00	18.50	1.1024	0.7283	Long	260	102	BTAT806-102
807	30.00	20.00	1.1811	0.7874	Long	260	102	BTAT807-102

Connection Accessories

Insert Series	D_1	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
2	0.9610 - 1.3809	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.

Section A30

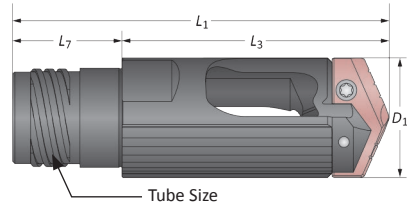
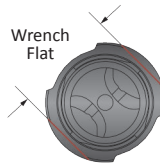


m = Metric (mm)
i = Imperial (in)

Screws sold in multiples of 10.

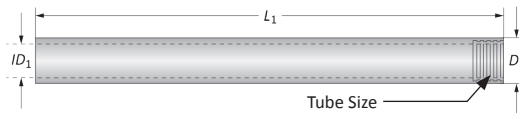


3 Series: 34.37 mm - 47.82 mm (1.3530" - 1.8829")



Heads

	Tube Size	D_1	L_3	Holder			Carbide: K35 (C1)  Part No. AM200®	Wrench Flat (mm)
				L_1	L_5	Part No.		
m	807	34.37 - 36.22	96.82	132.82	35.99	BTA3-807-XX.XX	1C13H-XXXX-BT	30
	808	36.22 - 39.62	100.00	144.45	44.45	BTA3-808-XX.XX	1C13H-XXXX-BT	32
	809	39.62 - 43.00	103.17	146.18	43.00	BTA3-809-XX.XX	1C13H-XXXX-BT	36
	810	43.00 - 47.01	101.90	144.91	43.00	BTA3-810-XX.XX	1C13H-XXXX-BT	41
	811	47.02 - 47.83	103.17	146.18	43.00	BTA3-811-XX.XX	1C13H-XXXX-BT	41
i	807	1.3530 - 1.4259	3.8120	5.2290	1.4170	BTA3-807-X.XXXX	1C13H-XXXX-BT	30
	808	1.4260 - 1.5599	3.9370	5.6870	1.7500	BTA3-808-X.XXXX	1C13H-XXXX-BT	32
	809	1.5600 - 1.6929	4.0620	5.7550	1.6930	BTA3-809-X.XXXX	1C13H-XXXX-BT	36
	810	1.6930 - 1.8509	4.0120	5.7050	1.6930	BTA3-810-X.XXXX	1C13H-XXXX-BT	41
	811	1.8510 - 1.8829	4.0620	5.7550	1.6930	BTA3-811-X.XXXX	1C13H-XXXX-BT	41



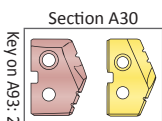
Tubes

Tube Size	Metric (mm)		Imperial (in)		Tube Length	L_1		Part No.
	D_6	ID_1	D_6	ID_1		Metric (cm)	Imperial (in)	
807	30.00	20.00	1.1811	0.7874	Long	260	102	BTAT807-102
808	33.00	23.00	1.2992	0.9055	Long	260	102	BTAT808-102
809	36.00	25.00	1.4173	0.9843	Long	260	102	BTAT809-102
810	39.00	28.00	1.5354	1.1024	Long	260	102	BTAT810-102
811	43.00	31.00	1.6929	1.2205	Long	260	102	BTAT811-102

Connection Accessories

Insert Series	D_1	Insert Screws	Nylon Locking Screws	Insert Driver	Admissible Tightening Torque*
3	1.3530 - 1.8829	7495-IP15-1	7495N-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.



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

Screws sold in multiples of 10.

Guaranteed Test / Demo Application Form

Distributor PO #

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

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

Distributor Information

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

End User Information

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

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

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

Application Information

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

Machine Information

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

Coolant Information

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

Requested Tooling

QTY	Item Number

QTY	Item Number



**ALLIED MACHINE
& ENGINEERING**

Allied Machine & Engineering
120 Deeds Drive
Dover, OH 44622

Telephone: (330) 343-4283
Toll Free USA & Canada: (800) 321-5537
Email: info@alliedmachine.com



ALLIED MACHINE & ENGINEERING

Warranty Information



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

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

Complete information as to operating conditions, machine, setup, and the application of cutting fluid should accompany any product returned for inspection. This warranty shall not apply to any Allied Machine products which have been subjected to misuse, abuse, improper operating conditions, improper machine setup or improper application of cutting fluid or which have been repaired or altered if such repair or alteration, in the judgement of Allied Machine, would adversely affect the performance of the product.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Allied Machine shall have no liability or responsibility for any claim, whether in contract, tort or otherwise, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery or use of any product sold hereunder, in excess of the cost of replacement or repair as provided herein.

Allied Machine shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for economic losses of any kind or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform this agreement.

ALL PRICES, DELIVERIES, DESIGNS, AND MATERIALS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



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



Wohlhaupter GmbH is registered to ISO 9001:2015 by QUACERT.



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

United States

Allied Machine & Engineering

120 Deeds Drive
Dover OH 44622
United States

Allied Machine & Engineering

485 W Third Street
Dover OH 44622
United States

Phone:

+1.330.343.4283

Toll Free (US & CA):

800.321.5537

Toll Free (US & CA):

800.223.5140

Europe

Allied Machine & Engineering Co.

(Europe) Ltd

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

Phone:

+44 (0) 1384 400 900

Wohlhaupter® GmbH

Maybachstrasse 4
72636 Frickenhausen
Germany

Phone:

+49 (0) 7022 408-0

Asia

Wohlhaupter® India Pvt. Ltd.

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

Phone:

+91 (0) 11.41827044

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

Wohlhaupter GmbH is registered to **ISO 9001:2015** by QUACERT.

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

Copyright © 2026 Allied Machine and Engineering Corp. – All rights reserved. All trademarks designated with the ® symbol are registered in the United States and other countries.

A00-DRL | Publish Date: Sep. 01, 2026



**ALLIED MACHINE
& ENGINEERING**

WOHLHAUPTER®

Holemaking Solutions for Today's Manufacturing

www.alliedmachine.com